Falls County

Mitigation Action Plan

Falls County
and the Cities of
Lott, Marlin, and Rosebud

DEVELOPED BY THE FALLS COUNTY MITIGATION PLANNING COMMITTEE
December 27, 2013

Table of Contents

EXECUTIVE SUMMARY **4**
National Flood Insurance Program 4
Demographics 5
Mitigation Action Plan Structure 9

SECTION I - ADOPTION **10**

SECTION II - AUTHORITY **10**

SECTION III - PURPOSE **11**

SECTION IV – ORGANIZING ASSETS **12**
Table 1 – Name & Jurisdiction Served by Individuals on the FCMPC 13
Diagram 2 illustrates the FCMPC structure. 14
Diagram 2 – Falls County Mitigation Plan Committee Hierarchy 14
Establishing an Open Public Process 15

SECTION V – ASSESSING RISKS **20**
Floods 21
Windstorms 22
Table 4 - Beaufort Wind Scale 22
Tornadoes 23
Table 5: The Enhanced Fujita (EF) Scale 24
Figure 1 – Map of Tornado Alley 25
Wildfires 25
Table 6 - Keetch-Byram Drought Index 26
Drought 27
Table 7 - Palmer Drought Severity Index (PDSI) 28
Extreme Heat 28
Figure 2 – Heat Index Chart 29
Hail 29
Table 8 - NWS/TORRO Hail Scale 30
Winter Storms 31
Figure 3 – Wind Chill Chart 31
Table 9 – Summary of Hazard Profiles 32
Floods – 37
Floods 37
Windstorms 38
Tornadoes 40
Wildfire 41
Drought 53
Extreme Heat 54
Hail 55
Winter Storms 56

History of Infrastructure Damage by Hazard Agent **58**
Flooding 58
Windstorms 59

Tornados 60
Wildfires 60
Drought 61
Extreme Heat 63
Hail 63
Winter Storms 64

Development Trends 66

Past Mitigation 66

Incorporated Planning Mechanisms 67

SECTION VI – DEVELOP MITIGATION ACTION PLAN 69
Action Plan/Cost Benefit Review 70
Existing Authorities, Policies, Programs, and Resources 70
Mitigation Action Items – Floods 75
Mitigation Action Items – Windstorms & Tornadoes 82
Mitigation Action Items – Wildfires 88
Mitigation Action Items – Drought 94
Mitigation Action Items – Extreme Heat 99
Mitigation Action Items – Hail 103
Mitigation Action Items – Winter Storms 109

Monitoring 117

Evaluating 117
Updating 118

SECTION VII - RESOURCES 120

SECTION VIII – APPENDICES 121
Appendix 1 121
Appendix 2 122
Appendix 3 123
Appendix 4 128

EXECUTIVE SUMMARY

Falls County and the Cities of Lott, Marlin, and Rosebud Mitigation Action Plan (MAP) are intended to protect citizens, property, and local economies from natural hazards. The mitigation action plan's sole purpose is to take actions based on a solid understanding of the community's vulnerabilities and reduce the impacts of those hazards that are most likely to strike. In addition to developing an outline for proactive actions, this MAP enables Falls County and its participating jurisdictions to apply for pre and post-disaster mitigation funding that would otherwise be unavailable. This funding would assist the communities to implement their desired goals and objectives summarized in this plan.

This MAP, an update of the Heart of Texas Council of Governments Regional Hazard Mitigation Action Plan, also serves the purpose of augmenting regional goals and objectives as established by the Heart of Texas Council of Governments (HOTCOG). The Falls County and the Cities of Lott, Marlin, and Rosebud MAP links broad ideas set by the Heart of Texas Council of Governments to city strategic and action-oriented tasks.

Hereafter when referencing the Falls County and the Cities of Lott, Marlin, and Rosebud Mitigation Action Plan as a whole it will be the intent that it includes all jurisdictions within Falls County and the Cities of Lott, Marlin, and Rosebud.

National Flood Insurance Program

Flooding is a significant hazard in Falls County. Currently, all jurisdictions participating in this MAP are part of the National Flood Insurance Program (NFIP). These jurisdictions have experienced 28 flooding and flash flooding events between January 1, 1996 and April 30, 2013. There are ***no repetitive loss properties*** in the planning area. Each participating jurisdiction has identified an individual responsible for the enforcement of floodplain management requirements, including regulating all and substantially improved construction Special Flood Hazard Areas (SFHAs); floodplain identification, including local requests for map updates, if needed and by taking a comprehensive approach to floodplain management and by encouraging the community residents and prospective home builders and land developers to be aware of their floodplain risks and they are encouraged to purchase and retain a flood insurance policy to protect themselves from the financial impacts of flooding. See Appendix 4 for FIRMETTES.

Demographics

Geography	
Bordering Counties:	**N. By McLennan County** **E. by Limestone Counties** **S. by Milam & Robertson Counties** **W. by Bell County**
Falls County's Center is at:	**31°15' North latitude** **96°54' West Longitude**
Altitude:	**300 to 500 Feet**
Average Temperature:	**39° to 93° F**
Soils:	**Loamy and Sandy Surface** **Clayey or Loamy Subsoils**
Major Mineral Deposits:	**None**
Average Growing Season:	**257 days**
Average Rain Fall:	**33-34 inches**
Water:	**The Brazos River bisects the county. Water supplies for the county are provided by Lake Marlin for the City of Marlin and immediately surrounding areas. Wells provide another source of water for much of the county.**

Austin, K. E. (2013). *Handbook of Texas Online*. Retrieved from the Texas State Historical Association: http://www.thsaonline.org/handbook/online/articles/hcf01.

CENSUS POPULATION		
County Population		
Estimated 2011		17,845
Census 2010		17,866
Census 2000		18,576
Census 1900		33,342
Overall population has:		Decreased
General Population of Falls County and Cities Participating in This Plan		
Unincorporated Falls County:		9,838
Lott:		744
Marlin:		5,876
Rosebud:		1,408
Total of Falls County		17,866
GENERAL INFORMATION		
County Size in Square Miles		
Land Area:		765.5
Water Area:		8.4
Total Area		773.8
Population Density (Per Square Mile)		
2010		23.34
DEMOGRAPHICS		
Ethnicity (2011)		
Percent Hispanic:		21.4%
Race (2011)		
Percent White:		71.5%
Percent African American:		25.8%
Percent American Indian and Alaska Native Alone:		0.9%
Percent Asian Alone:		0.4%
Percent Native Hawaiian and Other Pacific Islander Alone:		0.1%
Percent Multi-Racial:		1.4%
Age (2011)		
17 and Under:		21.5%
65 and Older		16.5%
85 and Older:		2.1%
Median Age:		40.0 Years
Income		
Per Capita Income, 2011		$28,073
Median Per Capita Income, 2011 (Census):		$33,125
Poverty, 2011 (Census)		
Percent of Population in Poverty:		26.3%
Percent of Population under 18:		34.4%
Average Wage Per Job (BEA)		
2011:		$30,202
County Finances		
Total County Tax Rate:		$1.313000

Total Market Value:		**$1,143,179,176**
Total Appraised Value Available for County Taxation:		**$537,560,216**
Total Actual Levy:		**$7,058,166**

Source: County Information Project; Texas Association of Counties, Online: http://www.txcip.org/tac/census/profile.php?fips=48145

HOUSEHOLD INFORMATION AND EDUCATION	
Living in same house in 2007-2011, percent age 1 and above, 2011	**88.2%**
Foreign born persons, percent, 2011	**4.9%**
Language other than English spoken at home, percent age 5 and above, 2011	**15.5%**
High school graduates, percent of persons age 25 and above, 2011	**76.3%**
Bachelor's degree or higher, percent of person age 25+, 2011	**11.7%**
Mean travel time to work (minutes), workers age 16 and above, 2011	**24.7 minutes**
Housing units, 2011	**7,702**
Homeownership rate, 2007 – 2011	**70.2%**
Housing units in multi-unit structures, percent, 2007-2011	**9.9%**
Median value of owner-occupied housing units, 2007-2011	**$61,200**

Source: U.S. Census Bureau, Quick Facts, Online: http://quickfacts.census.gov/qdf/states/48/48145.html

INDUSTRY OF EMPLOYMENT		
Type of Industry	**Number Employed**	**Percentage Employed**
Employed Civilian Population 16 years and Over:	**6,359**	**100**
Agriculture, Forestry, Fishing and Hunting, and Mining:	**480**	**7.5**
Construction:	**500**	**7.9**
Manufacturing:	**908**	**14.3**
Wholesale Trade:	**216**	**3.4**
Retail Trade:	**642**	**10.1**
Transportation, Warehouse, and Utilities:	**351**	**5.5**
Information:	**83**	**1.3**
Finance, Insurance, Real State, Rental and Leasing:	**272**	**4.3**
Professional, Scientific, Management, Administrative, and waste Management:	**233**	**3.6**
Educational, Health and Social Services	**1,460**	**23.0**
Arts, Entertainment, Recreation, Accommodation and Food Services:	**249**	**3.9**
Other Services (except public administration):	**474**	**7.5**
Public Administration:	**491**	**7.7**

Source: Texas State Data Center & Office of the State Demographer: Table 21 Percent of Employed Persons by Industry of Employment for the State of Texas and Counties in Texas, 2010, Online: http://txsdc.utsa.edu/Resources/Decennial/2000/DP2_4/County/tab-021.txt

Mitigation Action Plan Structure

The following provides an outline and brief explanation on how to read and understand this plan. The sections are:

Section I – Adoption

Identifies who adopted the plan.

Section II – Authorities

Representatives of Falls County and its participating jurisdictions are represented on the Falls County Mitigation Planning Committee (FCMPC).

Section III – Purpose

Explains why the plan was written and identifies neighboring jurisdictions that donated time and data to the plan.

Section IV – Organizing Assets

Shows how the plan was organized, participants, and how the plan will be revised:

- Establishing the Mitigation Action Team – Identifies the process Falls County and its participating jurisdictions undertook to establish their mitigation action team.
- Establishing an Open Public Process – Identifies the process Falls County and its participating jurisdictions undertook to increase public participation as this MAP underwent development. Community meetings are identified and discussed here.

Section V – Assessing Risks

Identifies, explains, and analyzes hazards and their impacts on Falls County

- Hazards – Hazards that affect Falls County and its participating jurisdictions are identified.
- History of Local Hazards – Historical and statistical information pertaining to specific hazards.
- Risk Summary – Community priorities on specific hazards.
- Vulnerability Worksheets – A graphical representation of the vulnerability of hazards.
- Survey Results – Results of the community survey to rate hazards that impact the community.
- Demographics – Identifies relevant population, geographical, demographics, and economic data for Falls County and its participating jurisdictions.
- Loss Estimates - An estimation of the impact each hazard would have on critical and special facilities within Falls County and its participating jurisdictions.
- Past Mitigation - A comprehensive look at previous mitigation projects for Falls County and its participating jurisdictions.
- Development Trends – Analysis of a community's growth.

Section VI – Develop Mitigation Action Plan

- Mitigation Goals and Objectives – Overall, long-term strategies and short-term tactics are identified which led to the development of specific mitigation actions.
- Mitigation Actions – Actions taken by communities to lessen the impact of hazards.

Section VII – Resources

Section VIII – Appendices

SECTION I - ADOPTION

The Falls County and its participating jurisdictions MAP was formally adopted on the following date(s):

- Falls County, Resolution, #, date
- City of Lott, Resolution, #, date
- City of Marlin, Resolution, #, date
- City of Rosebud, Resolution, #, date

SECTION II - AUTHORITY

This Mitigation Action Plan has yet to be adopted by Falls County and its participating jurisdictions. The evidence of local adoption by Falls County and its participating jurisdictions officials will be sent to Texas Division of Emergency Management once all jurisdictions have passed resolutions of adoption for the Falls County MAP. The MAP has been developed to be in accordance with current state and federal rules and regulations governing local MAPs and shall be routinely monitored to ensure compliance with the following provisions, rules, and regulations:

Federal and State Level Authority:

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, an enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390)

FEMA's Interim Final Rule published in the Federal Register on February 26, 2002, at 44 CFR Part 201.

Texas Department of Public Safety, Division of Emergency Management; the State of Texas Hazard Analysis document; Annex P; and Checklist P.

Local Level Authority:

This guidance addresses Local Mitigation Plan requirements for local governments, which are defined at 44 CFR §201.2 as: *any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.*

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U.S.C. 5165, as amended by the Disaster Mitigation Act of 2000 (DMA) (P.L. 106-390), provides for States, Tribes, and local governments to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning. The National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 *et seq*, reinforced the need and requirement for mitigation plans, linking flood mitigation assistance programs to State, Tribal and Local Mitigation Plans.

FEMA has implemented the various hazard mitigation planning provisions through regulations at 44 CFR Part 201. These reflect the need for States, Tribal, and local governments to closely coordinate mitigation planning and implementation efforts, and describes the requirement for a State Mitigation

Plan as a condition of pre- and post-disaster assistance, as well as the mitigation plan requirement for local and Tribal governments as a condition of receiving FEMA hazard mitigation assistance.

The regulations governing the mitigation planning requirements for local mitigation plans are published under 44 CFR §201.6. Under 44 CFR §201.6, local governments must have a FEMA-approved Local Mitigation Plan in order to apply for and/or receive project grants under the following hazard mitigation assistance programs: Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance (FMA), Severe Repetitive Loss (SRL)

SECTION III - PURPOSE

The Falls County and the Cities of Lott, Marlin, and Rosebud MAP was created in order to save lives and reduce injuries, prevent or reduce property damage, reduce economic losses, minimize social dislocation, minimize agricultural losses, ensure that critical facilities in functional order, protect infrastructure from damage, protect mental health, lessen legal liability of government and public officials and provide positive political consequences for governmental action.

Falls County

- City of Lott
- City of Marlin
- City of Rosebud

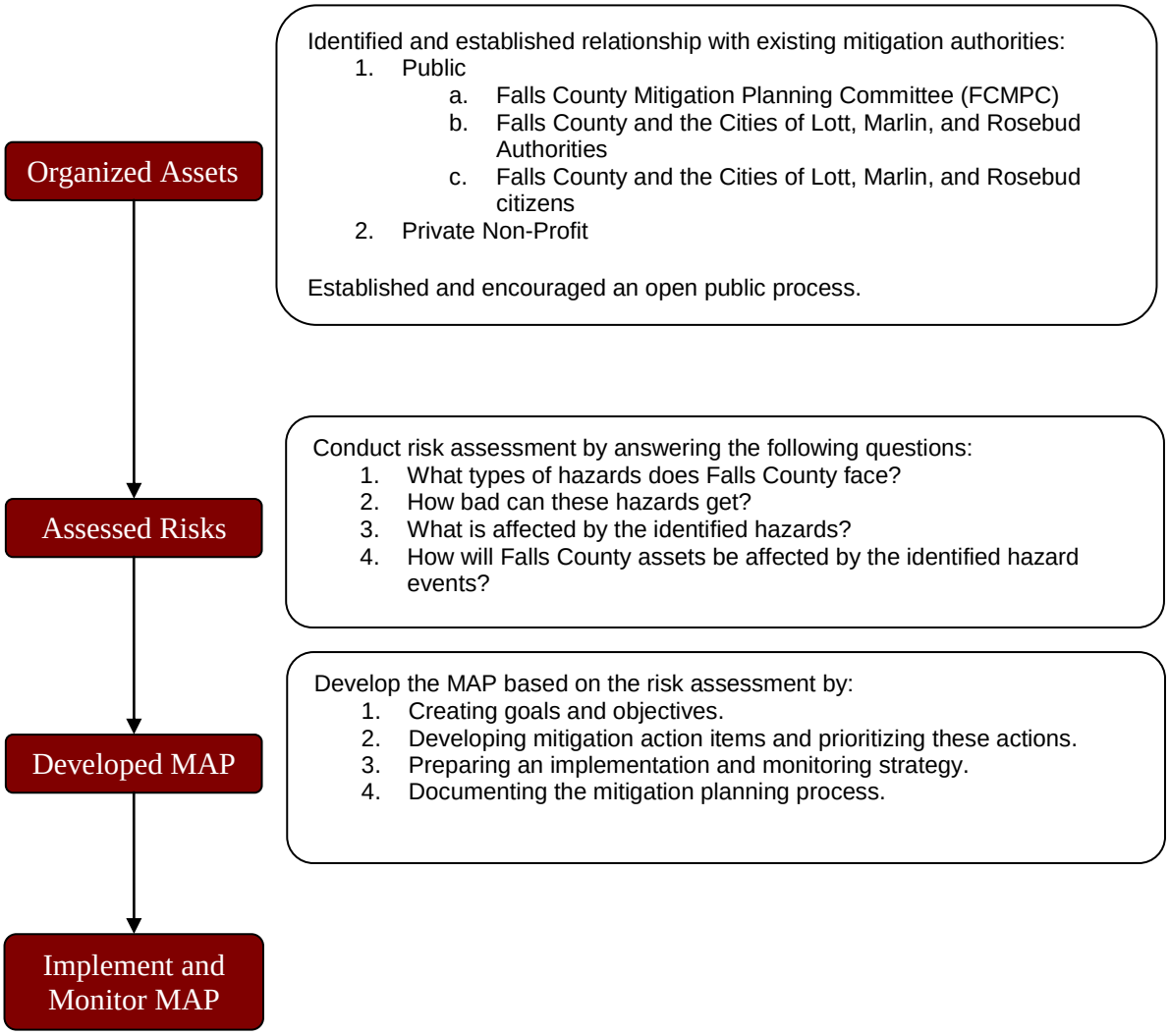
The objective of Falls County and the Cities of Lott, Marlin, and Rosebud MAP is to fulfill the requirements of the Hazard Mitigation Grant, Pre-Disaster Mitigation Program and National Flood Mitigation Fund.

SECTION IV – ORGANIZING ASSETS

Introduction

This MAP represents Falls County and its participating jurisdictions. This MAP was developed in accordance with the provisions of the Disaster Mitigation Act of 2000 (Public Law 106-390), the Pre-Disaster Mitigation Grant Program (44 CFR, Part 206), and the planning standards adopted by the Texas Division of Emergency Management. The MAP process for Falls County and its participating jurisdictions is illustrated in *Diagram 1*.

Diagram 1 – Falls County MAP Process



Establishing the Mitigation Action Team

Organized

Identified and established relationship with existing mitigation authorities:

1. Public
    a. Falls County Mitigation Planning Committee (FCMPC)
    b. Falls County and the Cities of Lott, Marlin, and Rosebud Authorities
    c. Falls County and the Cities of Lott, Marlin, and Rosebud Citizens
2. Private Non-Profit

Established and encouraged an open public process.

The first two concerns for Falls County and its participating jurisdictions when identifying and establishing a relationship with the HOTCOG was; 1) getting official support for the MAP process; and, 2) encouraging public participation, including the participation of regional, state and federal entities, during meetings of the FCMPC.

To address the first issue there needed to be a consensus on how the FCMPC was going to be set up and how it was going to function. *Table 1* provides the name and jurisdiction of each representative present on the FCMPC.

Table 1 – Name & Jurisdiction Served by Individuals on the FCMPC

Falls County Mitigation Plan Committee	
Representative	**Jurisdictions served by Representative**
Judge Falls County	Falls County
EMC	Falls County
Mayor	City of Lott
Fire Chief	City of Lott
Fire Chief	City of Marlin
City Manager	City of Rosebud
Supervisor, Capital EMS	Private Sector

To increase stakeholder buy-in, the FCMPC held a public meeting that the FCMPC representatives from Falls County and its participating jurisdictions attended which explained the MAP process to civil servants, elected officials, and the general public. The workshop gave those in attendance information on the following:

- What is mitigation and why do we need it?
- What is the difference between nonstructural and structural mitigation?
- What is the process of creating a mitigation action plan?
- The benefits and costs involved with mitigation measures.
- The positive political consequences of mitigation actions.
- The legal liabilities for civil servants and elected officials concerning hazards in their community.

Dates of original Mitigation Workshop:

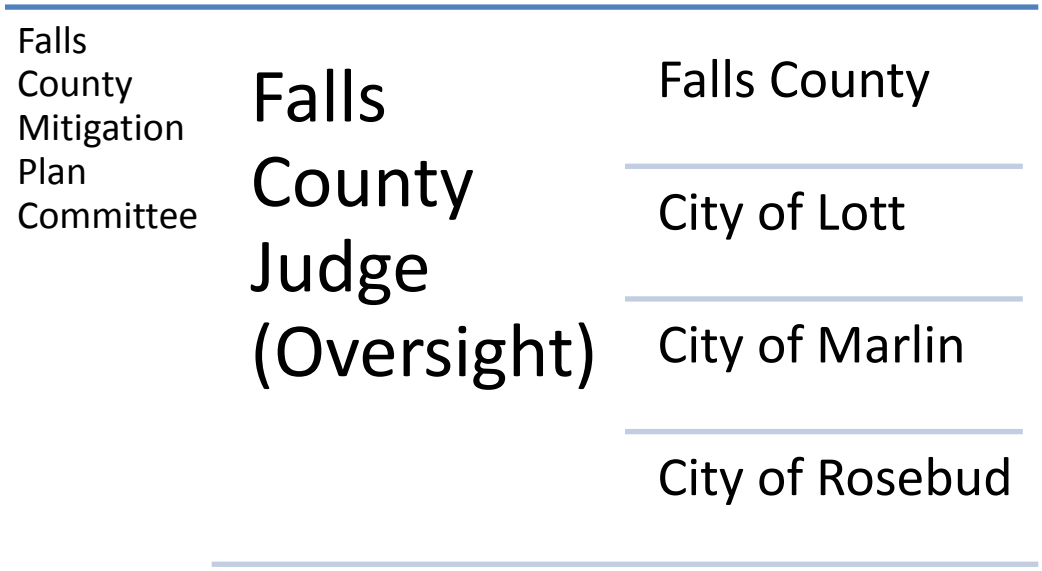
- December 8, 2010 (*Sign In sheet is attached as Appendix 1.)*

During the workshop, the FCMPC representatives from Falls County and its participating jurisdictions discussed and negotiated the expected outputs (e.g., this MAP) and outcomes (i.e., increases in the level of safety for Falls County citizens) with the HOTCOG representative as well as with representatives from the other jurisdictions represented on the FCMPC. One area of concern for Falls County and its participating jurisdictions was the creation of a reasonable timeline to complete the MAP. The HOTCOG representative reassured the Falls County and its participating jurisdictions representatives that a MAP could be completed in a timely fashion. Another issue brought up at these workshops was the question of leadership. That is, who would lead the development of this MAP at the staff level? In the end, the Falls County EMC agreed to provide oversight and leadership during the development of the MAP while coordinating with the Cities of Lott, Marlin, and Rosebud. The decision was also made for each jurisdiction to provide constant and meaningful input to the countywide MAP. This meant that the Falls County and its participating jurisdictions representatives on the FCMPC would be responsible for amassing data, reviewing drafts, and editing drafts of the MAP as they pertained to their jurisdiction. The general public expressed concerns about individual hazards such as tornadoes and flooding. The Falls County and its participating jurisdictions representatives suggested several mitigation actions the jurisdictions could take to alleviate their concerns. For example, the FCMPC representative spoke some time about safe-room projects.

On January 11, 2011, representatives from the FCMPC held a meeting with the Falls County Commissioners in order to discuss the MAP. The HOTCOG representative and County EMC discussed the mitigation planning process and the need for planning and public input.

***Diagram 2* illustrates the FCMPC structure.**

Diagram 2 – Falls County Mitigation Plan Committee Hierarchy



Establishing an Open Public Process

In order to ensure that the public would be involved in the planning process, the FCMPC decided to give Falls County and its participating jurisdictions citizens general membership on the FCMPC. The general membership teams served as an advising body to the members of the FCMPC. General membership was extended to all citizens of Falls County and its participating jurisdictions who came and/or were invited to public meetings.

Who was Involved?

The general membership team represented a cross-section of Falls County and its participating jurisdictions society and included, but was not limited to:

Falls County Emergency Management Coordinator
Falls County Judge
Falls County Commissioner's Court
Mayor for the City of Lott
Fire Chief for the City of Lott
Police Chief for the City of Lott
Mayor for the City of Marlin
City Manager for the City of Marlin
Fire Chief for the City of Marlin
Police Chief for the City of Marlin
Mayor for the City of Rosebud
City Manager for the City of Rosebud
Fire Chief for the City of Rosebud
Police Chief for the City of Rosebud
Emergency Management Coordinator for the City of Rosebud

Falls County and its participating jurisdictions also received input from Independent School Districts within the county, Capital EMS, and citizens from Falls County and its participating jurisdictions. (*See Appendix 1 public meeting sign in sheet).* Organizations and jurisdictions unable to attend the public meeting were contacted independently by a representative from the FCMPC to solicit input and additional participation. The following stakeholders were solicited for input:

Agency	Title
Falls County	Emergency Management Coordinator
Falls County	Commissioner – Precinct 1
Falls County	Commissioner – Precinct 2
Falls County	Commissioner – Precinct 3
Falls County	Commissioner – Precinct 4
Falls County	County Judge
Falls County	Justice of the Peace – Precinct 1
Falls County	Justice of the Peace – Precinct 2
Falls County	Justice of the Peace – Precinct 3
Falls County	Justice of the Peace – Precinct 4
City of Lott	Emergency Management Coordinator
Lott Volunteer Fire Department	Fire Chief
City of Marlin	Emergency Management Coordinator
Marlin Fire Department	Fire Chief
City of Rosebud	Emergency Management Coordinator

Rosebud Volunteer Fire Department	Fire Chief
Capital EMS	Director of Operations

From the start, an open dialogue was established between the Falls County and its participating jurisdictions governing bodies and all sectors of the public to create this MAP. This open forum; 1) allowed an exchange of ideas and concerns regarding hazard mitigation between public officials and the community at large to occur; and, 2) helped establish community and official support for the mitigation actions that are outlined in this plan. This open forum consisted of three separate components: public meetings, community surveys, and placing one copy of the rough draft in the county court house and court house annex for public viewing.

Public Meetings

As a grassroots effort to get the public involved in the MAP process, the FCMPC, in coordination with Falls County and its participating jurisdictions set up a countywide meeting. This meeting was held during the development-phase of the MAP process and addressed the following topics:

- What is Mitigation and why is it important for your community?
- Difference between Structural and Nonstructural Mitigation?
- What is a Hazard?
- What hazards are the communities concerned with?
- Development of the Mitigation Action Plan and why it is important.

In addition to the jurisdictions of Falls County and their residents, neighboring jurisdictions, local and regional entities were also made aware of the meeting and encouraged to attend and participate. The Heart of Texas Council of Governments agreed to support mitigation efforts wherever possible within the county. The HOTCOG agreed to allow the use of its regional preparedness website to post the MAP and other pertinent information in support of Falls County and its jurisdictions' mitigation efforts. Additionally, these entities were requested to complete a survey and submit it back to the county. The survey findings are identified in Appendix 3. Each jurisdiction provided representation of its governing authorities, including those entities with taxation and developmental authorities. The table below identifies those neighboring jurisdictions, local, and regional entities that were invited to participate and what input was provided by the jurisdiction or entity.

Agency/Jurisdiction	Title	Input Provided
Falls County	Emergency Management Coordinator	Coordinated meetings; historical hazard occurrences for unincorporated areas of Falls County; hazard analysis for each hazard considered, provided; past mitigation activities and planning efforts within the county
Falls County	Commissioner – Precinct 1	Description of past hazard impacts on precinct; encouraged support for planning activities and public involvement for precinct; development of mitigation actions for the county
Falls County	Commissioner – Precinct 2	Description of past hazard impacts on precinct; encouraged support for planning activities and public involvement for precinct; development of mitigation actions for the county
Falls County	Commissioner – Precinct 3	Description of past hazard impacts on precinct; encouraged support for planning activities and public involvement for precinct; development of mitigation actions for the county

Falls County	Commissioner – Precinct 4	Description of past hazard impacts on precinct; encouraged support for planning activities and public involvement for precinct; development of mitigation actions for the county
Falls County	County Judge	Description of importance of mitigation planning and activities for the county; encouraged support for planning activities and public involvement for county and all county offices
Falls County	Justice of the Peace – Precinct 1	No input provided
Falls County	Justice of the Peace – Precinct 2	No input provided
Falls County	Justice of the Peace – Precinct 3	No input provided
Falls County	Justice of the Peace – Precinct 4	No input provided
Falls County	Sheriff	No input provided
City of Lott	Emergency Management Coordinator	Historical hazard occurrences for City of Lott; past mitigation activities and planning efforts for the City of Lott; development of mitigation actions for City of Lott
Lott VFD	Fire Chief	Development of mitigation actions for City of Lott and county
City of Marlin	Emergency Management Coordinator	Historical hazard occurrences for City of Marlin; past mitigation activities and planning efforts for the City of Marlin; development of mitigation actions for City of Marlin
Marlin FD	Fire Chief	Development of mitigation actions for City of Marlin and county
City of Rosebud	Emergency Management Coordinator	Historical hazard occurrences for City of Rosebud; past mitigation activities and planning efforts for the City of Rosebud; development of mitigation actions for City of Rosebud
Rosebud VFD	Fire Chief	Development of mitigation actions for City of Rosebud and county
Capital EMS	Director of Operations	No input provided
Heart of Texas COG	Emergency Preparedness Planner	GIS/mapping support; assistance in facilitating planning process; development of mitigation actions for all participating jurisdictions; FHBM and wildfire risk maps
Heart of Texas RAC	Preparedness Planner	Impact of hazards to medical facilities and the population
Falls Community Hospital	Safety Manager	No input provided
Limestone County	Emergency Management Coordinator	Hazard profiles for Limestone County
McLennan County	Emergency Management Coordinator	Hazard profiles for McLennan County
Bell County	Emergency Management Coordinator	No input provided
Milam County	Emergency Management Coordinator	No input provided
Robertson County	Emergency Management Coordinator	No input provided

Rosebud-Lott ISD	Superintendent	Past hazard impacts to school facilities; development of mitigation actions for Cities of Rosebud and Lott; development of mitigation actions for unincorporated areas of the county
Chilton ISD	Superintendent	No input provided
Marlin ISD	Superintendent	Past hazard impacts to school facilities; development of mitigation actions for the City of Marlin
Westphalia ISD	Superintendent	No input provided
ESC Region 12	Safe Schools Coordinator	Impact of hazards to school districts within the region; development of mitigation actions for all participating jurisdictions

The Falls County EMC, representing the FCMPC, presented draft copies of the MAP to each of the participating jurisdictions. He explained the MAP and requested that a copy be made available to the public. He also asked for those individuals within each jurisdiction with emergency management responsibilities to review the MAP and provide any additional desired input.

Public Notice of the MAP public meeting was posted at the Falls County Courthouse and was distributed to each participating jurisdiction for posting on January 18, 2011, (Notice of Public Meeting is located in Appendix 2).

The Public Meeting was held at the Marlin City Hall, 101 Fortune Street, Marlin, Texas 76661, on January 18, 2011 at 6:00 PM.

Each person attending the meeting completed surveys and those results, along with original survey questions, are included as Appendix 3.

Surveys

The second way in which Falls County and its participating jurisdictions, in coordination with the FCMPC, engaged the public was through surveys. Each member of the FCMPC was given a survey to pass out among the citizens of their jurisdictions. Appendix 3 contains the survey and report of survey responses

Placing a Copy of the Rough Draft in the County Court House

A copy of the Rough Draft of the MAP was placed in the County Court House for public viewing and comment. Once the MAP is approved by FEMA, an approved copy will be placed in the Court House and City Halls for public access.

Incorporation of Existing Plans, Studies, and Report

A wide array of existing plans, studies, and reports were reviewed and incorporated into the MAP. Emergency management plans were incorporated by assigning the responsibility for mitigation actions to existing organizational structures with emergency management roles. Furthermore, emergency management plans provided a baseline capability assessment for use in developing mitigation actions. Existing fire, building, floodplain, and electrical codes and ordinances were identified by each jurisdiction and incorporated into the plan accordingly. Existing master plans and economic development statistics were utilized to develop loss estimates and the need for specific mitigation actions.

Writing the Plan

Development and coordination for the plan was conducted by FCMPC. Plan development was discussed at public meetings of the FCMPC. The MAP Committee first reviewed methodology for risk assessment, hazard mitigation goals and objectives and determined that no changes were needed. The committee then reviewed the original potential mitigation activities. Some of the original proposed mitigation actions were replaced with new or modified proposed actions. The Mitigation activities were evaluated and prioritized. The MAP committee reviewed each project with a

benefit cost review to determine if the benefit of the project were greater than the cost. This was followed by draft review and approval.

How Each Jurisdiction Participated in the Planning Process

Falls County and the jurisdictions participating in this plan participated in the process by which this plan was developed. The table below identifies how each jurisdiction participated:

Jurisdiction	How the Jurisdiction Participated
Falls County	• Coordinated all countywide meetings • Provided representation at mitigation workshop • Provided representation at public meeting • Provided data on existing plans, policies, ordinances, and codes • Provided historical data on hazards • Provided jurisdiction-specific mitigation actions • Made stakeholder/public surveys available to the public • Communicated regularly with participating jurisdictions in order to ensure continued participation • Made draft plan available at courthouse for public view and comment
City of Lott	• Provided representation at mitigation workshop • Provided representation at public meeting • Provided data on existing plans, policies, ordinances, and codes • Provided historical data on hazards • Provided jurisdiction-specific mitigation actions • Made stakeholder/public surveys available to the public • Communicated regularly with Falls County, providing additional information upon request
City of Marlin	• Provided representation at mitigation workshop • Provided representation at public meeting • Provided data on existing plans, policies, ordinances, and codes • Provided historical data on hazards • Provided jurisdiction-specific mitigation actions • Made stakeholder/public surveys available to the public • Communicated regularly with Falls County, providing additional information upon request
City of Rosebud	• Provided representation at mitigation workshop • Provided representation at public meeting • Provided data on existing plans, policies, ordinances, and codes • Provided historical data on hazards • Provided jurisdiction-specific mitigation actions • Made stakeholder/public surveys available to the public • Communicated regularly with Falls County, providing additional information upon request

SECTION V – ASSESSING RISKS

Introduction

Falls County and its participating jurisdictions wanted a plan that would be a living, functional document.

Assessed Risks

Conduct risk assessment by answering the following questions:

1. What types of hazards does Falls County and the Cities of Lott, Marlin, and Rosebud face?
2. How bad can these hazards get?
3. What is affected by the identified hazards?
4. How will Falls County and the Cities of Lott, Marlin, and Rosebud assets be affected by the identified hazard events?

What Types Of Hazards Does Falls County and its Participating Jurisdictions Face?

Eight hazards were identified as possible threats to Falls County and its participating jurisdictions. The hazard identification was based upon a review of historical records, national data sources; Flood Insurance Rate maps (FIRMs), official reports, and discussions with local, regional, state, and federal experts. The hazard agents are as follows:

- Tornadoes
- Hail
- Windstorms
- Flood
- Winter storm
- Drought
- Extreme Heat
- Wildfire

Some of these hazards are interconnected (e.g., drought creates more fuel for wildfires) and some hazards may be characterized as elements of a broader hazard agent. For example, planners omit lengthy narratives on thunderstorms, as wind and hail, which are common during thunderstorms, are addressed at length in this MAP. It should be noted that some hazards, such as severe winter storms, may impact a large area yet cause little damage, while other hazards, such as a tornadoes, may impact a small area but cause extensive damage.

Floods

Flooding is a significant hazard in Falls County and its participating jurisdictions. As an ongoing effort to address this problem, all jurisdictions have participated in the ***National Flood Insurance Program (NFIP)*** *since 1980.* ***The jurisdictions participating in this plan have never had a repetitive loss property.*** While there have been a small number floods in Falls County, floods can range up to five feet deep and 150 feet wide in excess of a mile long according to local sources. Jurisdictions can expect flooding in excess of five feet in depth. Therefore the extent of flooding is uniform throughout the planning area.

The periodic flooding of lands adjacent to rivers, streams, and shorelines (land known as floodplain) is a natural and inevitable occurrence that can be expected to take place based upon established recurrence intervals. The recurrence interval of a flood is defined as the average time interval, in years, expected between a flood event of a particular magnitude and an equal or larger flood. Flood magnitude increases with increasing recurrence interval. Flood frequency is the chance of occurrence in a given year, which is the percentage of the probability of flooding each year. For example, the 100-year flood has a 1 percent chance of occurring in any given year. Floods generally result from excessive precipitation, and can be classified under two categories:

- General Floods - Precipitation over a given river basin for an extended period of time.
- Flash Floods - The product of heavy localized precipitation in a short time over a given location.

General floods are usually long-term events that may last for several days. The primary types of general flooding include riverine, coastal, and urban flooding. Riverine flooding is a function of excessive precipitation levels and water runoff volumes within the watershed of a stream or river. Falls County is subject to a limited amount of riverine flooding. Urban flooding occurs where man-made development has obstructed the natural flow of water and decreased the ability of natural groundcover to absorb and retain surface water runoff.

Flash flooding events usually occur from within minutes or hours of heavy amounts of rainfall, or from a sudden release of water held by an ice jam. Flash flooding is the most significant cause of flooding in the planning area. Most flash flooding in the Falls County area is caused by slow moving thunderstorms or by heavy rains associated with large air masses. The flash flooding hazard may be compounded by extraneous factors. For example, a drought may exacerbate the flash flooding risk. In drought conditions the topsoil has difficulty in soaking up rainwater causing a higher risk of flash flooding. Although flash flooding occurs often along mountain streams, it is also common in urbanized areas where much of the ground is covered by impervious surfaces. Flash flood waters move at very high speeds—"walls" of water can reach heights of 10 to 20 feet. Flash flood waters and the accompanying debris can uproot trees, roll boulders, destroy buildings, and obliterate bridges and roads. The severity of a flooding event is determined by the following:

- A combination of stream and river basin topography and physiography.
- Precipitation and weather patterns.
- Recent soil moisture conditions.
- The degree of vegetative clearing.

Windstorms

Windstorms, which may be a part of broader thunderstorms, may include straight-line winds, down-, micro-, and macro-burst. These destructive elements may be described as follows:

- Straight-Line Winds – Winds that move forward along the ground in a straight-line fashion. Lines of thunderstorms can produce straight-line winds with wind speeds that can exceed 100 mph. What makes a straight-line wind not a tornado is the fact that these winds do not rotate as they do in a tornado event. A straight-line wind can uproot trees and destroy buildings. When straight-line winds are accompanied by hail it can destroy roofs, crops, and other vegetation.

- Downburst - Strong downdrafts of air in a single thunderstorm that accelerates as it pushes downward. There are two types of downburst called microburst and macro-burst.
  Micro-Burst - A short-lived wind event
  Macro-Burst - A longer-lived downburst event that has the ability of producing extensive damage across areas larger than 2.5 miles. Macro-burst are capable of producing strong winds 2.5 miles in diameter.

A review of Storm Event data shows that high winds are a frequent occurrence in Falls County and its participating jurisdictions. It is not an infrequent occurrence for a windstorm to register near 50 knot winds.

The highest value on the Beaufort Wind Scale classifies winds in excess of 64 knots as a force 12 event. A force 12 wind is described as "Seldom experienced on land, trees broken or uprooted, [with] considerable structural damage." The Beaufort Wind Scale, depicted in *Table 4*, shows wind speeds and the effects of winds on land. This scale may be used for thunderstorms and windstorms. The jurisdictions can expect windstorms in excess of 50 knots. Therefore the extent of Wind Storm is uniform throughout the planning area.

Table 4 - Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft. taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft., whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft., white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft.) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft.), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft.) with	Seldom experienced on land, trees

			overhanging crests, sea white densely blown foam, heavy rolling, lowered visibility	with broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft.) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft., sea completely white with driving spray, visibility greatly reduced	

Source: www.spc.noaa.gov

Tornadoes

Each year, an average of over 1,000 tornadoes is reported nationwide, resulting in an average of 80 deaths and 1,500 injuries (Texas Tech Weather Statistics, 2010). They are more likely to occur during the spring and early summer months of March through June and can occur at any time of day, but are likely to form in the late afternoon and early evening. Most Tornadoes are a few dozen yards wide and touch down briefly, but even small short-lived tornadoes can inflict tremendous damage. Highly destructive tornadoes may carve out a path over a mile wide and several miles long. Tornadoes may be described as follows:

- Tornado - A violent windstorm characterized by a twisting, funnel-shaped, cloud extending to the ground. Tornadoes are most often generated by thunderstorm activity when cool, dry, air intersects and overrides a layer of warm, moist, air forcing the warm air to rise rapidly.

- Waterspout - Weak tornado that forms over warm water. These tornadoes are most common along the Gulf Coast and southeastern states. Waterspouts are typically weak and short-lived. Because they are so common, most go unreported unless they cause damage.

According to the National Weather Service, tornado wind speeds normally range from 40 to more than 300 miles per hour. The most violent tornadoes have rotating winds of 250 miles per hour or more and are capable of causing extreme destruction and turning normally harmless objects into deadly missiles.

The damage caused by a tornado is a result of the high wind velocity and wind-blown debris, accompanied by lightning or large hail. Tornado destruction ranges from light to incredible depending on the intensity, size, and duration of the tornado. Typically, tornados cause the greatest damages to structures of light construction such as mobile homes, and tend to remain localized in impact.

The Enhanced Fujita (EF) Scale for tornadoes was developed to measure tornado strength and associated damages; it became operational on February 1, 2007. The EF Scale has the same basic design as the original Fujita scale, six categories from zero to five representing increasing degrees of damage. It was revised to reflect better examinations of tornado damage surveys, so as to align wind speeds more closely with associated storm damage. The new scale takes into account how most structures are designed, and is thought to be a much more accurate representation of the surface wind speeds in the most violent tornadoes.

The EF Scale portrayed in *Table 5* is representative of the damage from tornadoes this community has faced in the past and will no doubt face in the future. As a tool, the EF Scale allows planners to gauge the potential damage associated with future tornadoes. Historical data could be used with the EF Scale to improve the accuracy of these predictions.

Tornadoes have ranged from EF-0 to EF-1 in Falls County; jurisdictions can expect tornadoes from EF-0 to EF-1. Therefore the extent of Tornado is uniform throughout the planning area.

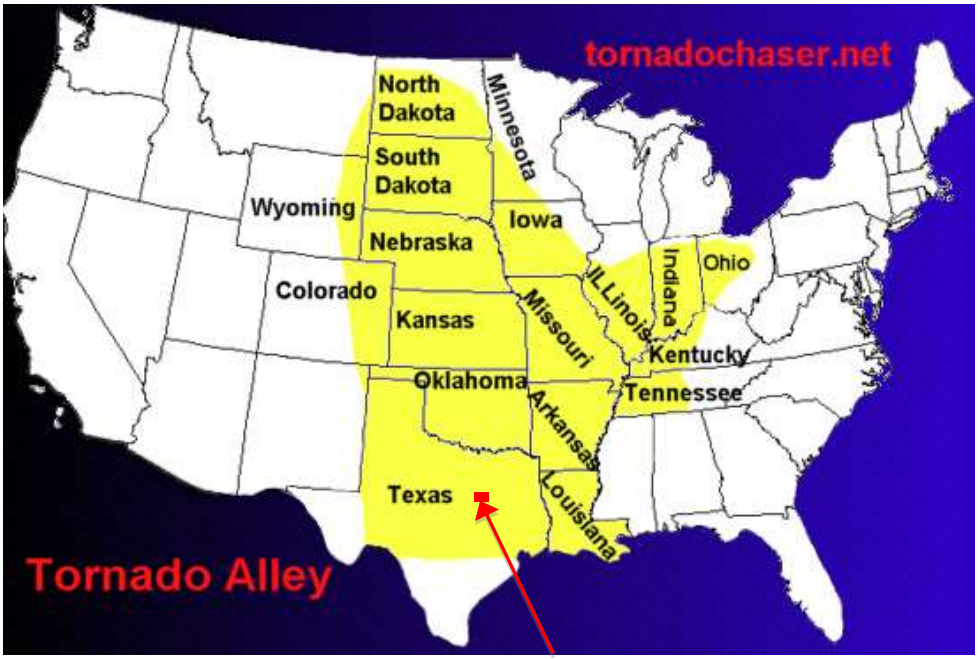
Table 5: The Enhanced Fujita (EF) Scale

Enhanced Fujita (EF) Scale		
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: www.spc.noaa.gov

Falls County and its participating jurisdictions are considered to be a part of Tornado Alley. Tornado Alley is an area in the United States where the most intense tornadoes are likely to occur. Tornado Alley has the highest recorded number of EF4 and EF5 tornadoes. *Figure 1* illustrates where Tornado Alley lies within the continental United States.

Figure 1 – Map of Tornado Alley



Source: www.tornadochaser.net

Wildfires

Wildfires are part of the natural management of the Earth's ecosystems, but may also be caused by human factors. Over 80 percent of forest fires are started by negligent human behavior such as smoking in wooded areas or improperly extinguishing campfires. These fires are usually signaled by dense smoke that fills the area for miles around. Wildfires may be described as follows:

- Wildfire - A fire occurring in a wild land area (e.g., grasslands, forests, brush lands). An exception to this definition is a prescribed burn.

- Prescription Burning ("Controlled Burning") – The process of igniting fires under selected conditions, in accordance with strict parameters. For example, this fire may be undertaken by land management agencies is.

There are three classes of wild land fires: surface fire, ground fire, and crown fire.

1. Surface Fire – A fire that burns along the floor of a forest, moving slowly and killing or damaging trees. This is the most common wildfire.

2. Ground Fire ("Muck Fire") – Fire that is usually started by lightning or human carelessness and burns on or below the forest floor.

3. Crown Fire – Fire that spreads rapidly by wind and moves quickly by jumping along the tops of trees.

State and local governments can impose fire safety regulations on home sites and developments to help curb wildfire. Land treatment measures such as fire access roads, water storage, helipads, safety zones, buffers, firebreaks, fuel breaks, and fuel management can be designed as part of an overall fire defense system to aid in fire control. Fuel management, prescribed burning, and cooperative land management planning can also be encouraged to reduce fire hazards.

Fire probability depends on local weather conditions, outdoor activities such as camping, debris burning, and construction, and the degree of public cooperation with fire prevention measures. Drought conditions and other natural disasters (e.g., tornadoes, hurricanes, etc.) increase the probability of wildfires by producing fuel in both urban and rural settings. Fire probability may be determined by using the Keetch-Byram Drought Index (KBDI).

The KBDI is a mathematical system for relating current and recent weather conditions to potential or expected fire behavior. This system was originally developed for the southeastern United States and is based primarily on recent rainfall patterns. The KBDI presented in *Table 6* is the most widely used drought index system by fire managers in the south. It is also one of the only drought index systems specifically developed to equate the effects of drought with potential fire activities. The result of this system is a drought index number ranging from 0 to 800 that accurately describes the amount of moisture that is missing. A rating of zero defines the point where there is no moisture deficiency and 800 is the maximum drought possible.

Wildfires have a unique and variable impact within the county. Wildfires commonly result in substantial economic losses to the farming community as they engulf acre after acre. However, as wildfires encroach into the Wildfire Urban Interface, potential losses transition from cash crops to homes, businesses, and much of the county's critical infrastructure.

The extent of acreage burned during wildfires ranged from 80 acres to 600 acres; therefore the extent of wildfire is uniform across the planning area.

Table 6 - Keetch-Byram Drought Index

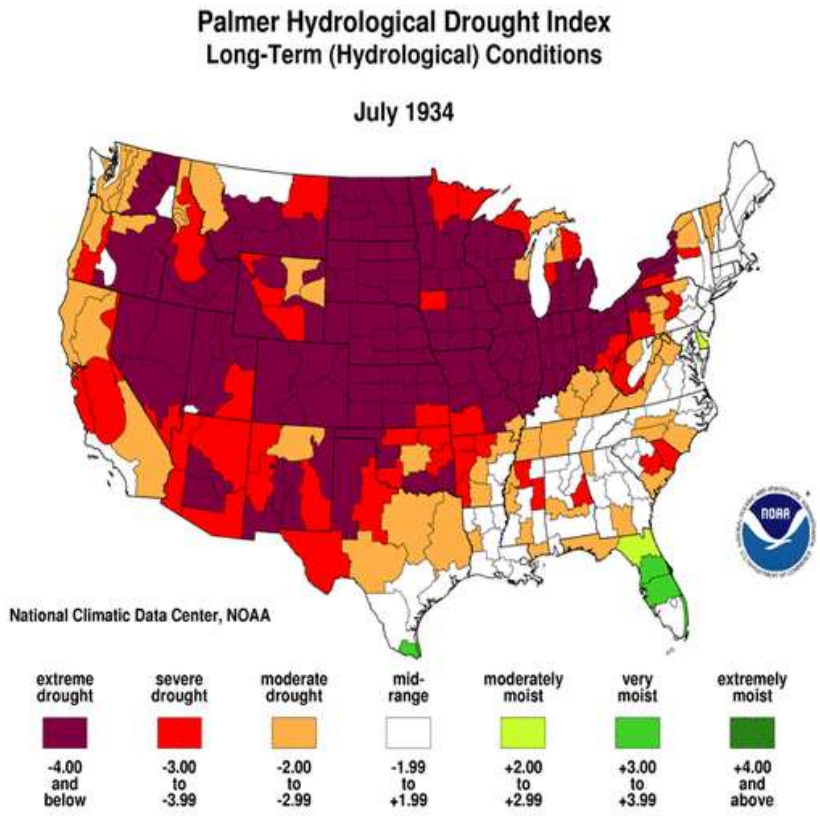
Keetch-Byram Drought Index	
Drought Index #	**Potential Fire Behavior**
0 - 200	Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.
200 - 400	Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.
400 - 600	Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.
600 - 800	Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn thorough the night and heavier fuels will actively burn and contribute to fire intensity.

Source: http://www.wfas.us/content/view/32/49/

Drought

In the 1930s-1950s the United States experienced a great drought called the "Dust Bowl." The planning area received damaging dust storms from that event which economically devastated the farming community (Dust Bowl drought condition map shown below). Drought may be described as follows:

- Drought - A natural climatic condition caused by an extended period of limited rainfall that occurs naturally in a broad geographic area. High temperatures, high winds, and low humidity can worsen drought conditions, and can make areas more susceptible to wildfire. Human demands and actions can also hasten drought-related impacts.



Droughts are frequently classified as one of following four types:

- Meteorological – Drought defined by the level of "dryness" when compared to an average, or normal amount of precipitation over a given period of time.

- Agricultural - Agricultural droughts relate common characteristics of drought to their specific agricultural-related impacts. Emphasis tends to be placed on factors such as soil water deficits, water needs based on differing stages of crop development, and water reservoir levels.

- Hydrological - Hydrological drought is directly related to the effect of precipitation shortfalls on surface and groundwater supplies. Human factors, particularly changes in land use, can alter the hydrologic characteristics of a basin.

- Socio-economic - Socio-economic drought is the result of water shortages that limit the ability to supply water dependent products in the marketplace.

In 1965, Wayne Palmer developed an index to "measure the departure of the moisture supply". Palmer based his index on the supply-and-demand concept of the water balance equation, taking into account more than only the

precipitation deficit at specific locations. The objective of the Palmer Drought Severity Index (PDSI), as this index is now called, is to provide a measurement of moisture conditions that were "standardized" so that comparisons using the index could be made between locations and between months. The PDSI displayed in *Table 7* is based on precipitation and temperature. The PDSI can therefore be applied to any site for which sufficient precipitation and temperature data is available. The PDSI varies roughly between -4.0 and +4.0. Weekly PDSI values are calculated for the climate divisions during every growing season and are on the Internet from the Climate Prediction Center.

Periods of drought occur on a frequent basis throughout the planning area with the PDSI values ranging from 0 to -3.89. The jurisdictions can expect droughts with PDSI values ranging from 0 to -3.89 therefore; the extent of drought is uniform across the planning area.

Table 7 - Palmer Drought Severity Index (PDSI)

PDSI Classifications for Dry and Wet Periods	
4.00 or more	Extremely wet
3.00 to 3.99	Very wet
2.00 to 2.99	Moderately wet
1.00 to 1.99	Slightly wet
0.50 to 0.99	Incipient wet spell
0.49 to -0.49	Near normal
-0.50 to -0.99	Incipient dry spell
-1.00 to -1.99	Mild drought
-2.00 to -2.99	Moderate drought
-3.00 to -3.99	Severe drought
-4.00 or less	Extreme drought

Source: http://drought.unl.edu/whatis/indices.htm

Extreme Heat

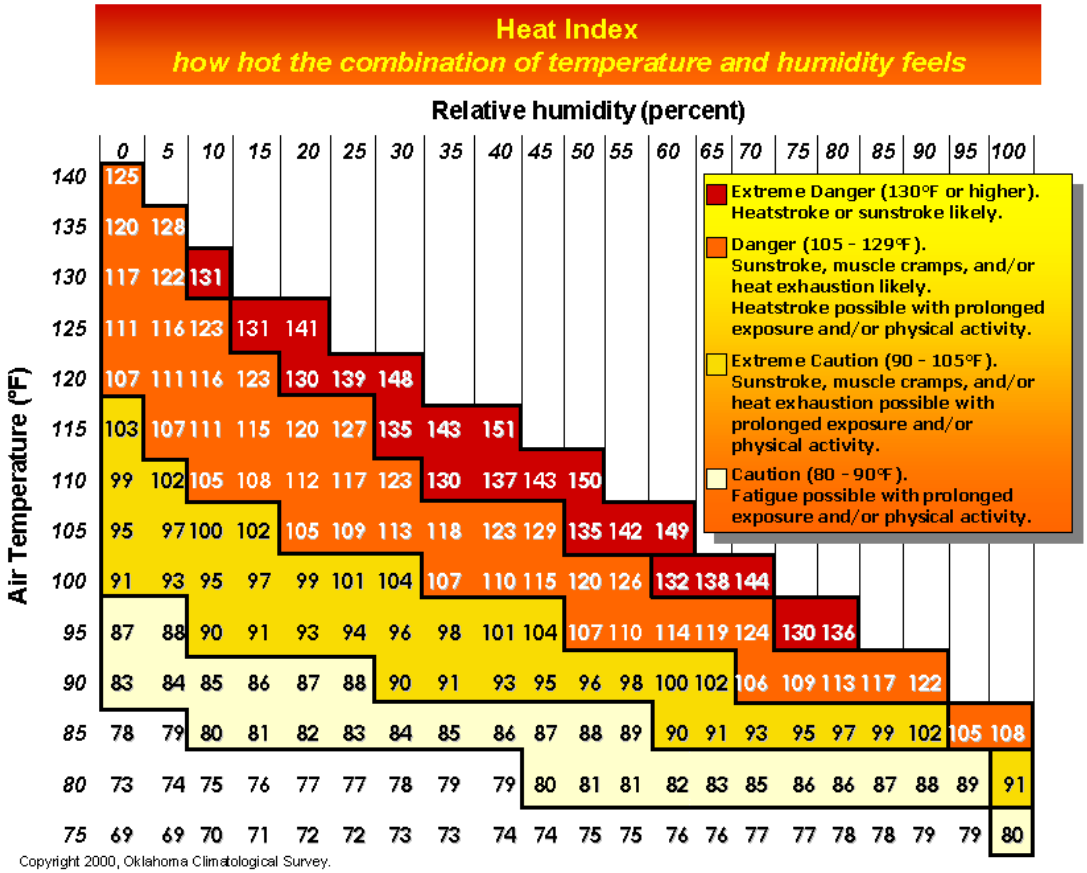
While drought mostly impacts land and water resources, extreme heat can pose a significant risk to humans. Extreme heat can be defined as follows:

- Extreme Heat - Temperatures that hover 10 degrees or more above the average high temperature for any particular geographic region. These temperatures usually last for prolonged periods of time and are often accompanied by high humidity.

Under normal conditions, the human body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed and the body must work much harder to maintain a normal temperature. Due to the nature of extreme heat, its effects are similar throughout the entire planning area. *Figure 2* below depicts a Heat Index by which Falls County and its participating jurisdictions may project the impact of extreme heat hazards.

Based on past history and local testimony, the jurisdictions can anticipate temperatures extremes up to 114 degrees. Therefore the threat of Extreme Heat is uniform across the planning area.

Figure 2 – Heat Index Chart



Hail

Hailstorms are an outgrowth of severe thunderstorms. People outdoors would be the most likely victims during a hailstorm, but the biggest threat would come from large hailstones and damage they would cause to property. Hail may be characterized as follows:

- Hail - Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to the rapid rising of warm air 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 as balls or irregularly shaped masses of ice greater than 0.75 in. (1.91 cm) in diameter.

The size of hailstones is a direct function of the size and severity of the storm. High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a function of the intensity of heating at the Earth's surface. Higher temperature gradients relative to elevation above the surface result in increased suspension time and hailstone size.

Falls County and its participating jurisdictions experience hailstorms on an annual basis. Many thunderstorms contain large hail that would be classified on the NWS/TORRO scale as H4 to H5, resulting in widespread damage. The Combined NOAA/TORRO Hailstorm Intensity Scales outlined in *Table 8* below describes hail hazards according to size code (H0 – H10). This scale may be used during preliminary damage assessments in order to determine which mitigation action to proceed with.

The extent of Hail in the planning area has been recorded as high as 1.75 inches, H5, on the Torro Hail Scale. The jurisdictions can expect hailstones with Torro Values ranging from H0 to H5. Therefore, the extent of hail is uniform throughout the planning area.

Table 8 - NWS/TORRO Hail Scale

Combined NOAA/TORRO Hailstorm Intensity Scales				
Size Code	**Intensity Category**	**Typical Hail Diameter (inches)**	**Approximate Size**	**Typical Damage Impacts**
H0	Hard Hail	up to 0.33	Pea	No damage
H1	Potentially Damaging	0.33-0.60	Marble or Mothball	Slight damage to plants, crops
H2	Potentially Damaging	0.60-0.80	Dime or grape	Significant damage to fruit, crops, vegetation
H3	Severe	0.80-1.20	Nickel to Quarter	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	1.2-1.6	Half Dollar to Ping Pong Ball	Widespread glass damage, vehicle bodywork damage
H5	Destructive	1.6-2.0	Silver dollar to Golf Ball	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	2.0-2.4	Lime or Egg	Aircraft bodywork dented, brick walls pitted
H7	Very destructive	2.4-3.0	Tennis ball	Severe roof damage, risk of serious injuries
H8	Very destructive	3.0-3.5	Baseball to Orange	Severe damage to aircraft bodywork
H9	Super Hailstorms	3.5-4.0	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	4+	Softball and up	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Sources: www.noaa.gov and www.torro.org

Winter Storms

Falls County and its participating jurisdictions are no stranger to winter storms. Our winter storms produce ice, sleet and some snow. Winter storms may be described as follows:

- Winter Storm – Winter storms can range from a moderate snow downfall over a period of a few hours to blizzard conditions with blinding wind-driven snow downfalls that lasts for several days. Some winter storms may be large enough to affect several states, while others may affect only a single community. Many winter storms are accompanied by low temperatures and/ or blowing snow, which can severely impair visibility. Winter storms may include snow, sleet, freezing rain, or a mix of these wintry forms of precipitation.
- Sleet - Raindrops that freeze into ice pellets before reaching the ground. Sleet usually bounces off surfaces it strikes and does not stick to objects; however, sleet can accumulate like snow and cause a hazard to motorists.
- Freezing Rain - Rain that falls on a surface with a temperature below freezing, forming a glaze of ice. Even small accumulations of ice can cause a significant hazard, especially on power lines and trees.
- Ice storms occur when freezing rain falls and freezes immediately upon impact. Communications and power can be disrupted for days, and even small accumulations of ice may cause extreme hazards to motorists and pedestrians.
- Freeze is weather marked by low temperatures, especially when below the freezing point (zero degrees Celsius or thirty-two degrees Fahrenheit). Agricultural production is seriously affected when temperatures remain below the freezing point.

The wind chill temperature you have undoubtedly heard of is simply a measure of how cold the wind makes real air temperature feel to the human body. Since wind can dramatically accelerate heat loss from the body, a blustery 30° day would feel just as cold as a calm day with 0° temperatures. The Wind Chill Chart depicted in *Figure 3* was created in 1870, and on November 1, 2001, the National Weather Service released a more scientifically accurate equation, which Falls County and its participating jurisdictions use today. Here is a chart for calculating wind chill. Please note that the Wind Chill Chart is not applicable in calm winds or when the temperature is over 50°. Again, the Wind Chill Chart helps planners and emergency managers project the effects of winter storms on the community

Four to seven inches of snow was estimated over the entire county, with the highest totals over the northern half of the county. Four to eight inches was estimated in the planning area. Jurisdictions can expect winter storms that have an excess of 4-8 inches of snow and extreme low temperatures ranging from 15 to 32 degrees Fahrenheit. Therefore the extent of Winter Storm is uniform throughout the planning area.

Figure 3 – Wind Chill Chart

Wind Chill Chart

Wind (mph) \ Temperature (°F)	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	29	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times: 30 minutes, 10 minutes, 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperature (°F) V= Wind Speed (mph)

Effective 11/01/01

Source: National Weather Service and NOAA

How Bad Can These Hazards Get?

Falls County and its participating jurisdictions took the eight identified hazards and profiled them. These hazard profiles are based on, among other things, the severity of impact, probability of occurrence, warning time, seasonal patterns, cascading potential, and existing warning systems associated with the eight hazards. Falls County is rural and agricultural/ranching based economy, as are the rest of the jurisdictions within the county. Therefore, they share the same susceptibility to hazards as the incorporated jurisdictions. However, flooding impacts the county differently than Lott, Marlin, and Rosebud. This is related to the lack of manufacturing in the county and the prevalence of agriculture/ranching as the basis for the county economy. Floods would tend to have more of an economic impact due to crop/livestock loss than a financial loss due to the loss or damage of buildings. While in the Cities of Lott, Marlin, and Rosebud, the economic loss would be from damage to homes and businesses. *Table 9* summarizes these data.

Table 9 – Summary of Hazard Profiles

Table 9 Legend		
Column Name	**Metric**	**Description**
Probability of Occurrence	Highly Likely	Event probable in the next year
	Likely	Event probable in next 3 years
	Occasional	Event possible in next 5 years
	Unlikely	Event possible in next 10 years
Potential Severity	Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more • More than 50% of property destroyed or with major damage
	Major	• Injuries and/or illnesses result in permanent disability • Complete shutdown of critical facilities for at least two weeks • More than 25 percent of property destroyed or with major damage
	Minor	• Injuries and/or illnesses do not result in permanent disability • Complete shutdown of critical facilities for more than 1 week • More than 10 percent of property destroyed or with major damage
	Limited	• Injuries and/or illnesses are treatable with first aid • Minor quality of life lost • Shutdown of critical facilities and services for 24 hours or less • Less than 10 percent of property destroyed or with major damage.
Risk Level	Very High	People and facilities located in known risk areas
	High	People and facilities located in areas that have previously experienced impacts from hazard and/or are in areas where impacts from hazards are both possible and probable (e.g. 500 year floodplain, fringe areas along

		waterways, “tornado alley”, etc.)
	Limited	People and facilities located in areas that have low frequency history of impacts from hazards and/or are in areas where impact is possible but not probable.
	Minimal	People and facilities located in areas with no history of occurrence of hazards and/or in areas where impact is not possible or probable.

Hazard	Sector	Probability of Occurrence	Warning Time	Potential Severity	Risk Level	Priority *
Tornadoes	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	X Substantial ❑ Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	1
Tornadoes	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	X Substantial ❑ Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	1
Tornadoes	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	X Substantial ❑ Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	1
Tornadoes	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	X Substantial ❑ Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	1
Hail	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	2
Hail	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	2

Hail	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	2
Hail	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	X Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	2
Windstorms	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None X 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	3
Windstorms	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None X 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	3
Windstorms	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None X 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	3
Windstorms	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None X 3 to 6 hours ❑ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High X High ❑ Limited ❑ Minimal	3
Floods	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial X Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	4
Floods	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial X Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	4

Floods	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial X Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	4
Floods	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial X Major ❑ Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	4
Winter Storms	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	5
Winter Storms	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	5
Winter Storms	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	5
Winter Storms	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours X 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	5
Drought	*Falls County*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	6
Drought	*City of Lott*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	6

Drought	*City of Marlin*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	6
Drought	*City of Rosebud*	❑ Highly Likely X Likely ❑ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor ❑ Limited	❑ Very High X High ❑ Limited ❑ Minimal	6
Extreme Heat	*Falls County*	❑ Highly Likely X Likely □ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor □ Limited	❑ Very High X High ❑ Limited ❑ Minimal	7
Extreme Heat	*City of Lott*	❑ Highly Likely X Likely □ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor □ Limited	❑ Very High X High ❑ Limited ❑ Minimal	7
Extreme Heat	*City of Marlin*	❑ Highly Likely X Likely □ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor □ Limited	❑ Very High X High ❑ Limited ❑ Minimal	7
Extreme Heat	*City of Rosebud*	❑ Highly Likely X Likely □ Occasional ❑ Unlikely	❑ Minimal or None ❑ 3 to 6 hours ❑ 6 to 12 hours X More than 12 hours	❑ Substantial ❑ Major X Minor □ Limited	❑ Very High X High ❑ Limited ❑ Minimal	7
Wildfires	*Falls County*	❑ Highly Likely ❑ Likely X Occasional □ Unlikely	X Minimal or None ❑ 3 to 6 hours □ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	8
Wildfires	*City of Lott*	❑ Highly Likely ❑ Likely X Occasional □ Unlikely	X Minimal or None ❑ 3 to 6 hours □ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	8

Wildfires	*City of Marlin*	❑ Highly Likely ❑ Likely X Occasional □ Unlikely	X Minimal or None ❑ 3 to 6 hours □ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	8
Wildfires	*City of Rosebud*	❑ Highly Likely ❑ Likely X Occasional □ Unlikely	X Minimal or None ❑ 3 to 6 hours □ 6 to 12 hours ❑ More than 12 hours	❑ Substantial ❑ Major ❑ Minor X Limited	❑ Very High ❑ High X Limited ❑ Minimal	8

** Scaled from 1 to 8, with 1 being the highest level priority*

Floods –

Flooding
Currently Falls County and its participating jurisdictions are prone to flooding. See Firmettes in Appendix 4.

Floods

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major X	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. ❑ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	Late Fall through Spring.

List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected:

- National Weather Service
- Federal Emergency Management Agency

Probable Duration:

- Minutes to Hours

Warning Time (Potential Speed of Onset):

❑ Minimal (or no) warning. X 3 to 6 hours warning. □ 6 to 12 hours warning. ❑ More than 12 hours warning.
Cascading Potential: • Downed Trees, washed out roads and bridges, damaged buildings, displaced personnel, utility outages, slower response times (emergency services), city personal diverted from normal everyday duties
Existing Warning Systems: • Media Outlets • Emergency Alert System • Emergency Notification System
Vulnerable Structures Affected by Floods:
Critical Facility:
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by a flood. FIRMETTES are provided in Appendix 4.

Windstorms

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited X	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. ❑ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	Any time of year
List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected: • National Weather Service • Federal Emergency Management Agency	
Probable Duration: • Minutes to Hours	
Warning Time (Potential Speed of Onset):	
❑ Minimal (or no) warning. X 3 to 6 hours warning. □ 6 to 12 hours warning. ❑ More than 12 hours warning.	
Cascading Potential: • Downed Trees and damaged buildings, displaced personnel, utility outages, slower response times (emergency services), city personnel diverted from normal everyday duties	
Existing Warning Systems: • Media Outlets • Emergency Alert System • Emergency Notification System	
Vulnerable Structures Affected by Windstorms:	
Critical Facility:	
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department	
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by a windstorm.	

Tornadoes

Potential Severity Of Impact:	
Substantial X	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
X Highly likely: Event probable in next year. ❑ Likely: Event probable in next 3 years. ❑ Occasional: Event possible in next 5 years. □ Unlikely: Event possible in next 10 years.	Tornados can happen at any time of the year, however most tornados within the planning area happen in April, June and September periods.

List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected:

- National Weather Service Statistics
- Federal Emergency Management Agency

Probable Duration:

- Initial Impact – Minutes (varies)

Warning Time (Potential Speed of Onset):

X Minimal (or no) warning.
❑ 3 to 6 hours warning.
❑ 6 to 12 hours warning.
□ More than 12 hours warning.

Cascading Potential:

- Possible shut down of facilities and business, health facilities overwhelmed, possible need for shelter, disrupt essential services

Existing Warning Systems:

- Media Outlets
- Emergency Alert System
- Emergency Notification System
- Fire and Police Department equipped with Public Addressing System

Vulnerable Structures Affected by Tornadoes:

Critical Facility:

Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by any particular tornado.

Wildfire

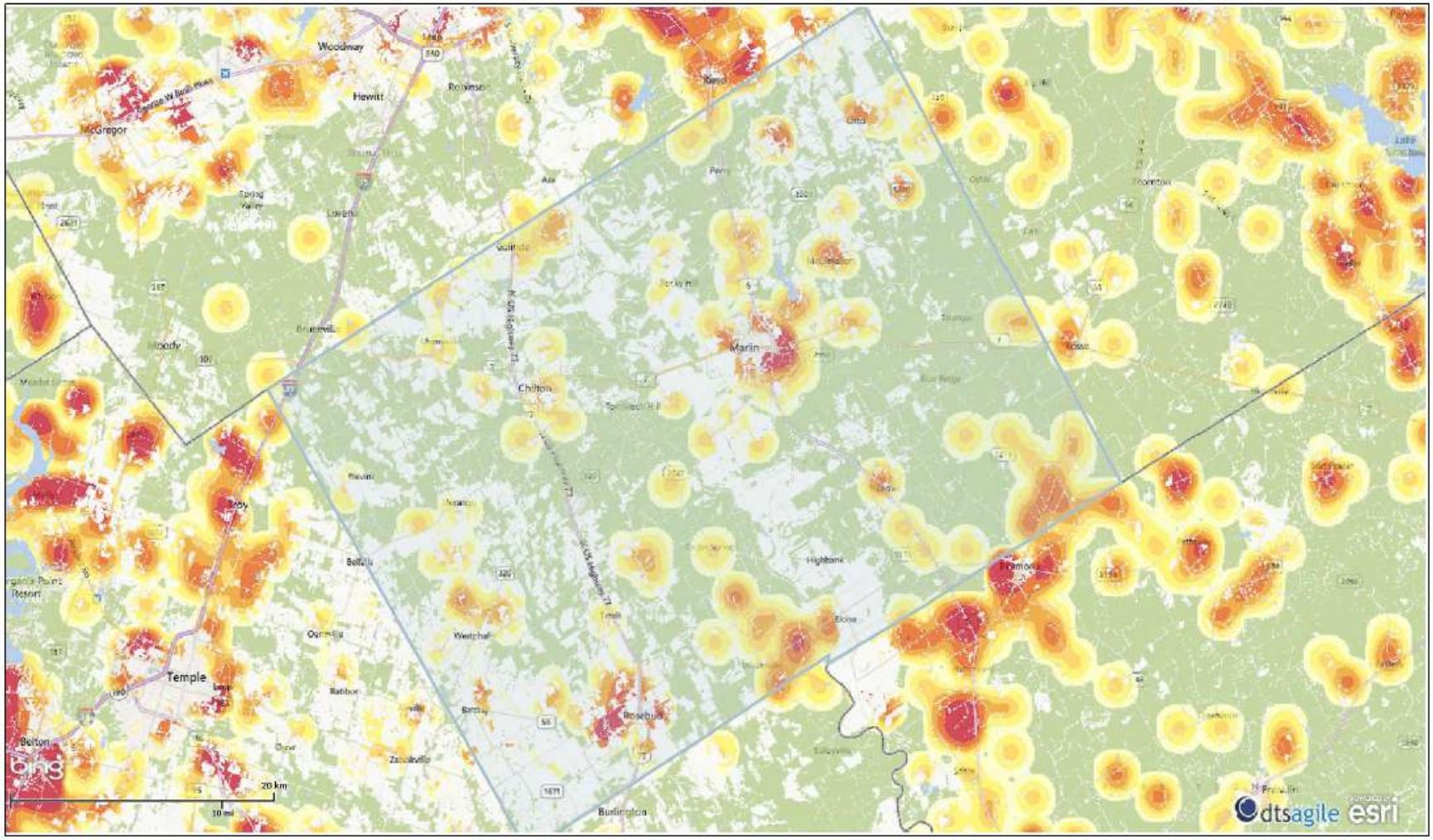
Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited X	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. ❑ Likely: Event probable in next 3 years. X Occasional: Event possible in next 5 years. □ Unlikely: Event possible in next 10 years.	Summer- however Wildfires can happen in winter months Frequency and severity increased by prolonged drought
List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected: • National Weather Service • Texas Forest Service	
Probable Duration: • Hours and Days	

Warning Time (Potential Speed of Onset):
X Minimal (or no) warning. ❑ 3 to 6 hours warning. □ 6 to 12 hours warning. ❑ More than 12 hours warning.
Cascading Potential: • People with breathing problems will be affected, manpower shortage, loss of property and businesses
Existing Warning Systems: • Media Outlets • Emergency Alert System • Emergency Notification System • Fire and Police Department equipped with Public Addressing System
Vulnerable Structures Affected by Wildfire:
Critical Facility:
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: Although Falls County and its participating jurisdictions are prone to drought-induced wildfires, much of the threat is mitigated through agriculture and farming. The current NFFL Fuel Model consists of tall grass interspersed with mesquite hard wood. According to the National Climatic Data Center, no Wildfire events were reported in Falls County, Texas between 01/01/1996 and 04/30/2013. The likelihood of a wildfire occurring or burning onto an area is depicted in the fire map below. The incorporated areas, including the 3 participating cities, are most susceptible to wild land urban interface, as depicted in the maps below. Other impacted areas are the small communities east and southeast of Marlin and the areas west of Rosebud. The maps below identify the expected magnitude for wildfires in each participating jurisdiction. The maps also identify the wildland urban interface, or the areas where humans and their structures meet and/or intermix with wildland fuels. These maps demonstrate that wildland fires are not only a possibility for all participating jurisdictions, but also that such wildland fires possess the potential to be substantially intense, thereby necessitating mitigation actions to be implemented.

Wildfire Threat - Falls County

Likelihood of a wildfire starting based on historical ignition patterns



Report Created:
10/04/2013 11:30 AM

Texas Wildfire Risk Assessment 2010

www.texaswildfirerisk.com

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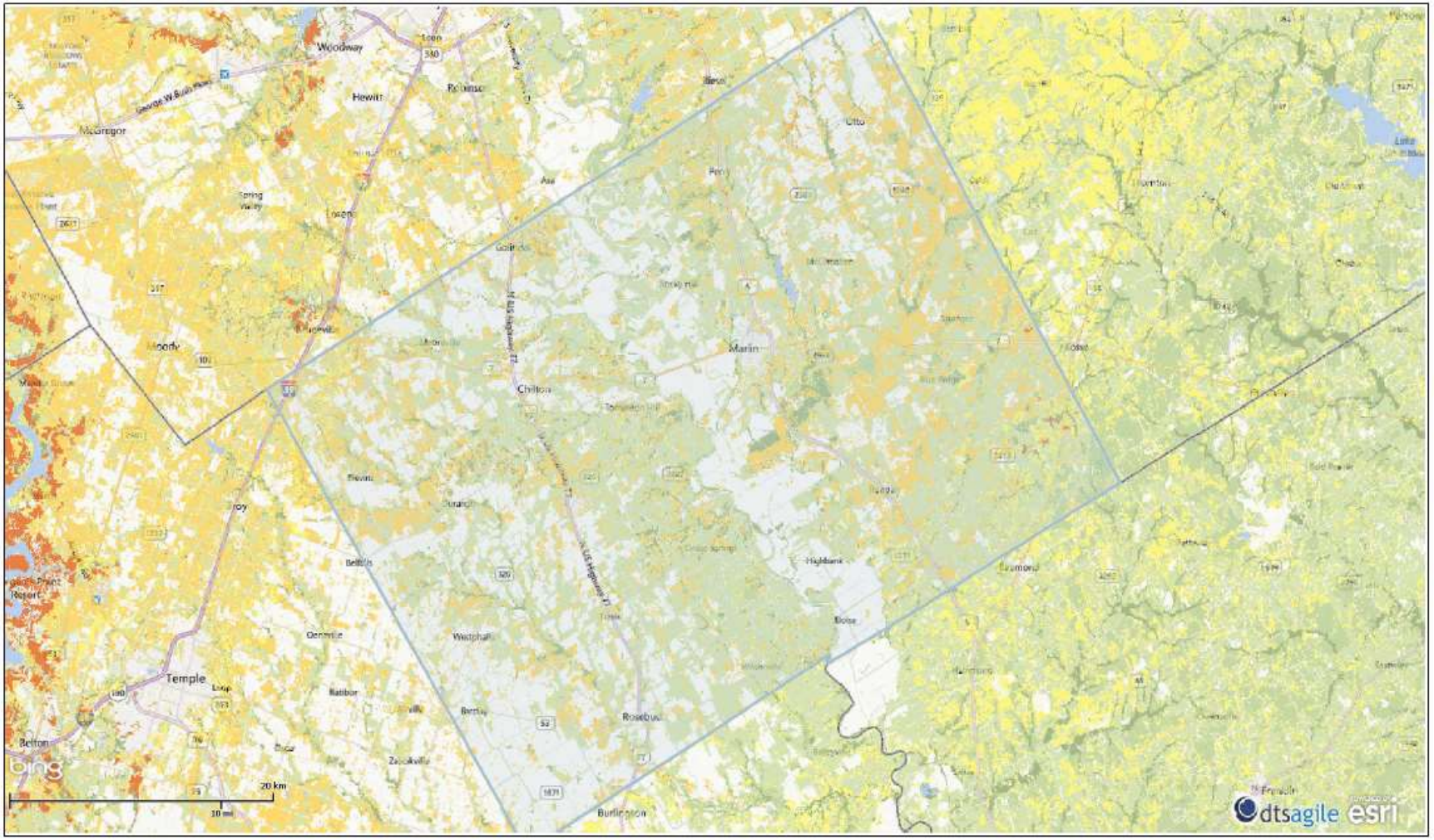
Characteristic Fire Intensity Scale - Falls County

Quantifies the potential fire intensity for an area by orders of magnitude



Report Created:
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Texas Wildfire Risk Assessment 2010

www.texaswildfirerisk.com

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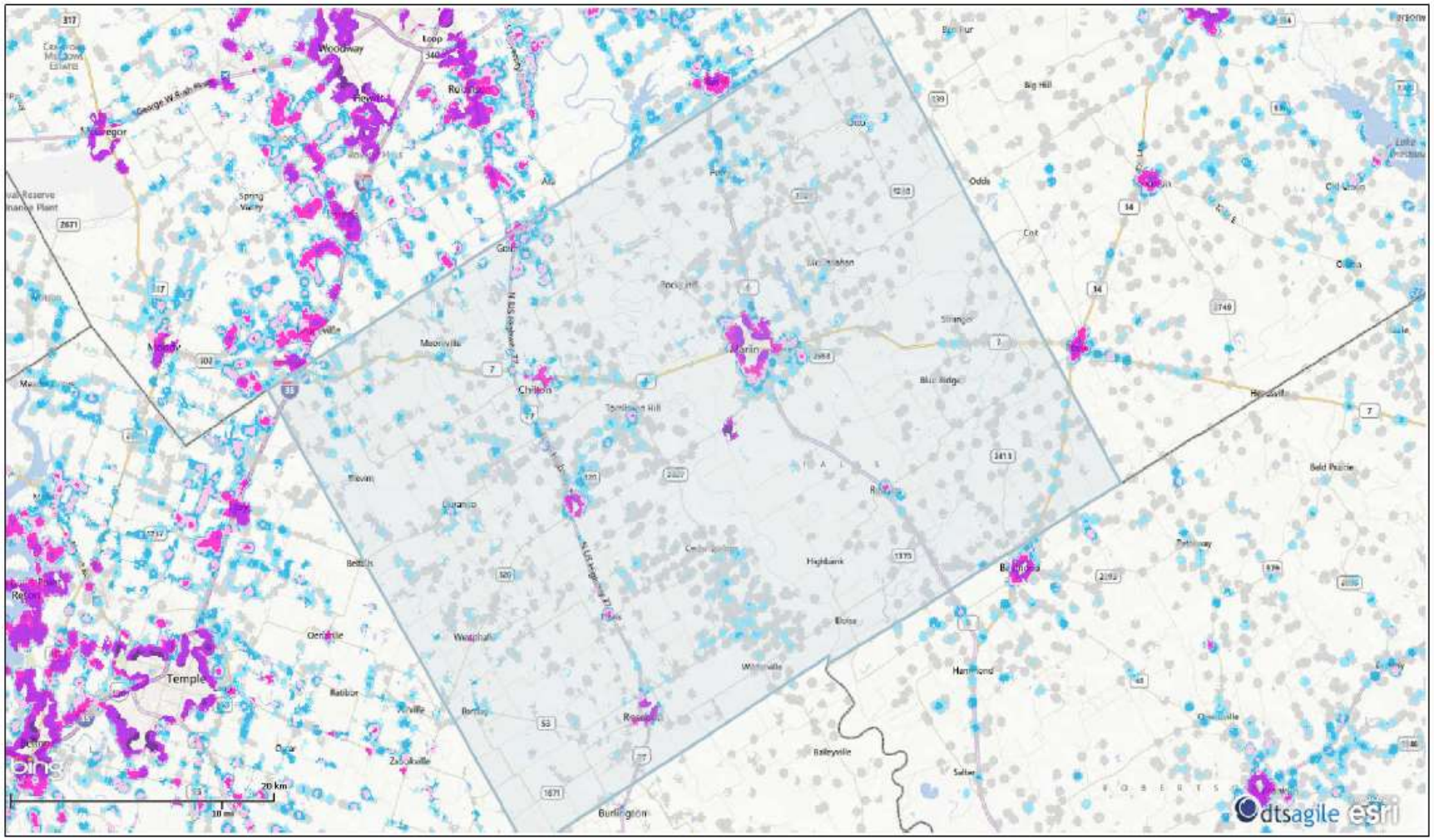
Wildland Urban Interface (WUI) - Falls County

Depicts where humans and their structures meet or intermix with wildland fuels



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10/04/2013 11:32 AM

Texas Wildfire Risk Assessment 2010

www.texaswildfirerisk.com

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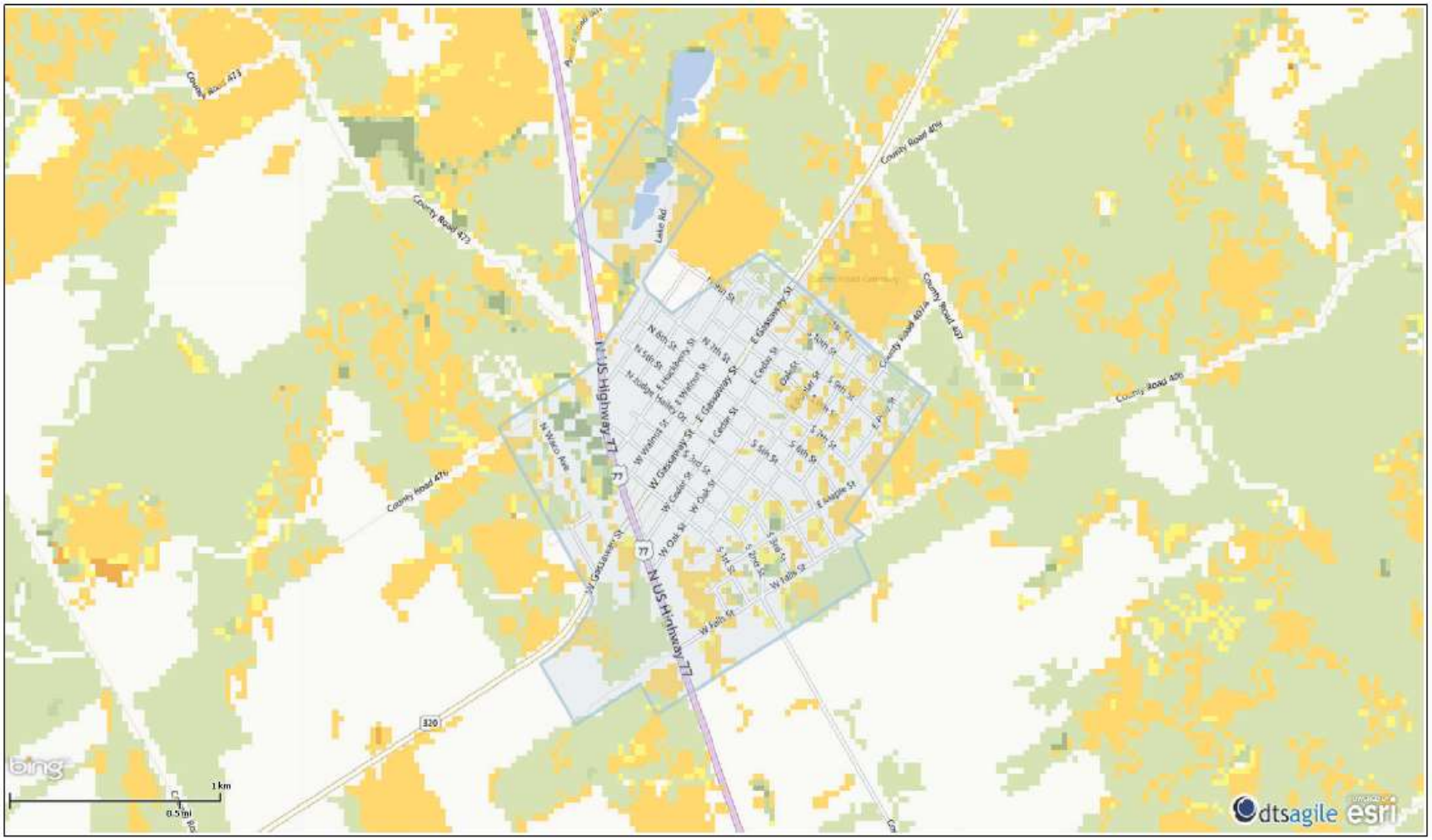
Characteristic Fire Intensity Scale - Lott, TX

Quantifies the potential fire intensity for an area by orders of magnitude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County Road 470
County Road 471
County Road 471a
County Road 427
County Road 470
N US Highway 77
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W Cedar St
W Oak St
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N Waco Ave
E Gatesway St
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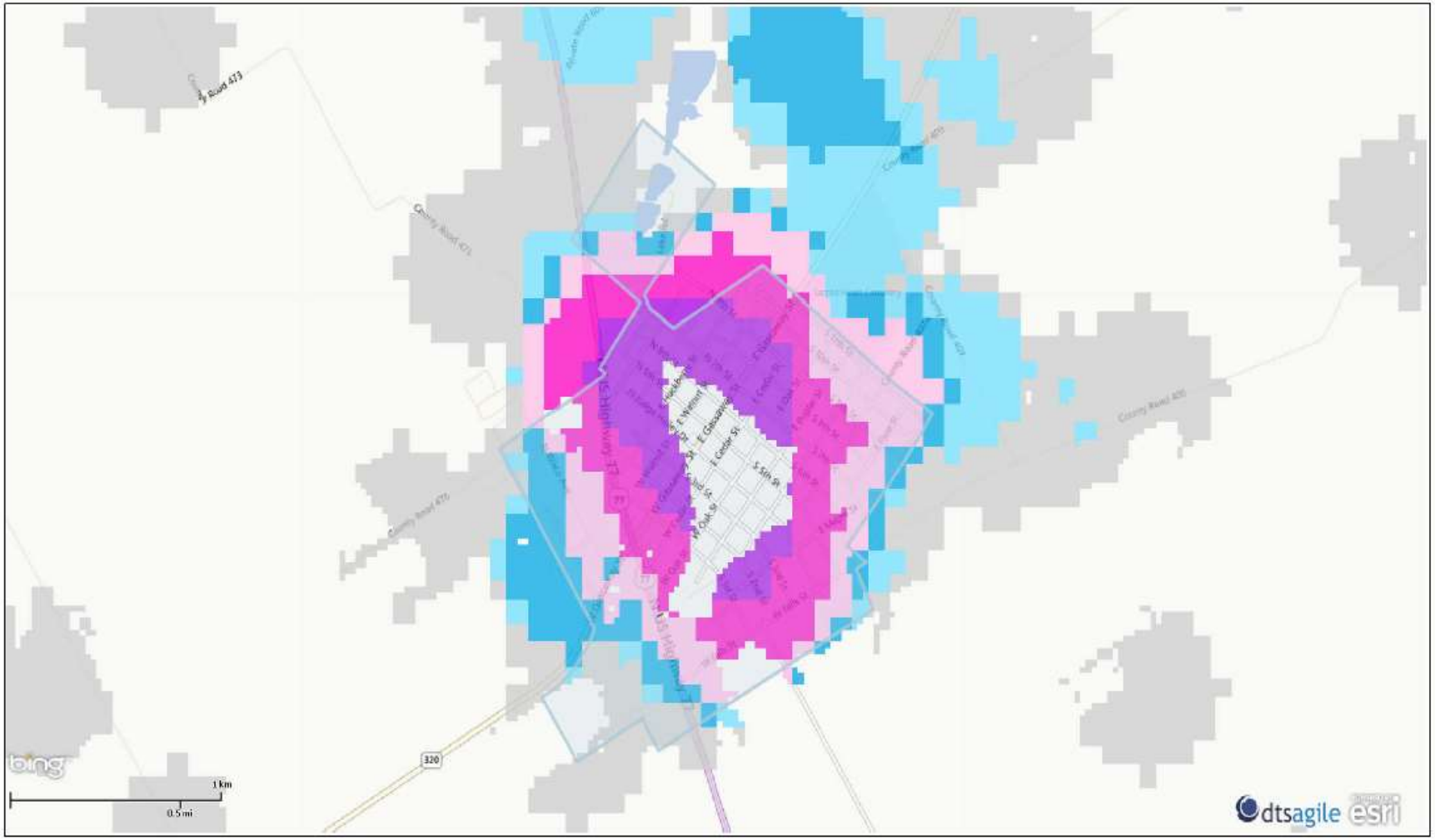
Wildland Urban Interface (WUI) - Lott, TX

Depicts where humans and their structures meet or intermix with wildland fuels



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Texas Wildfire Risk Assessment 2010

www.texaswildfirerisk.com

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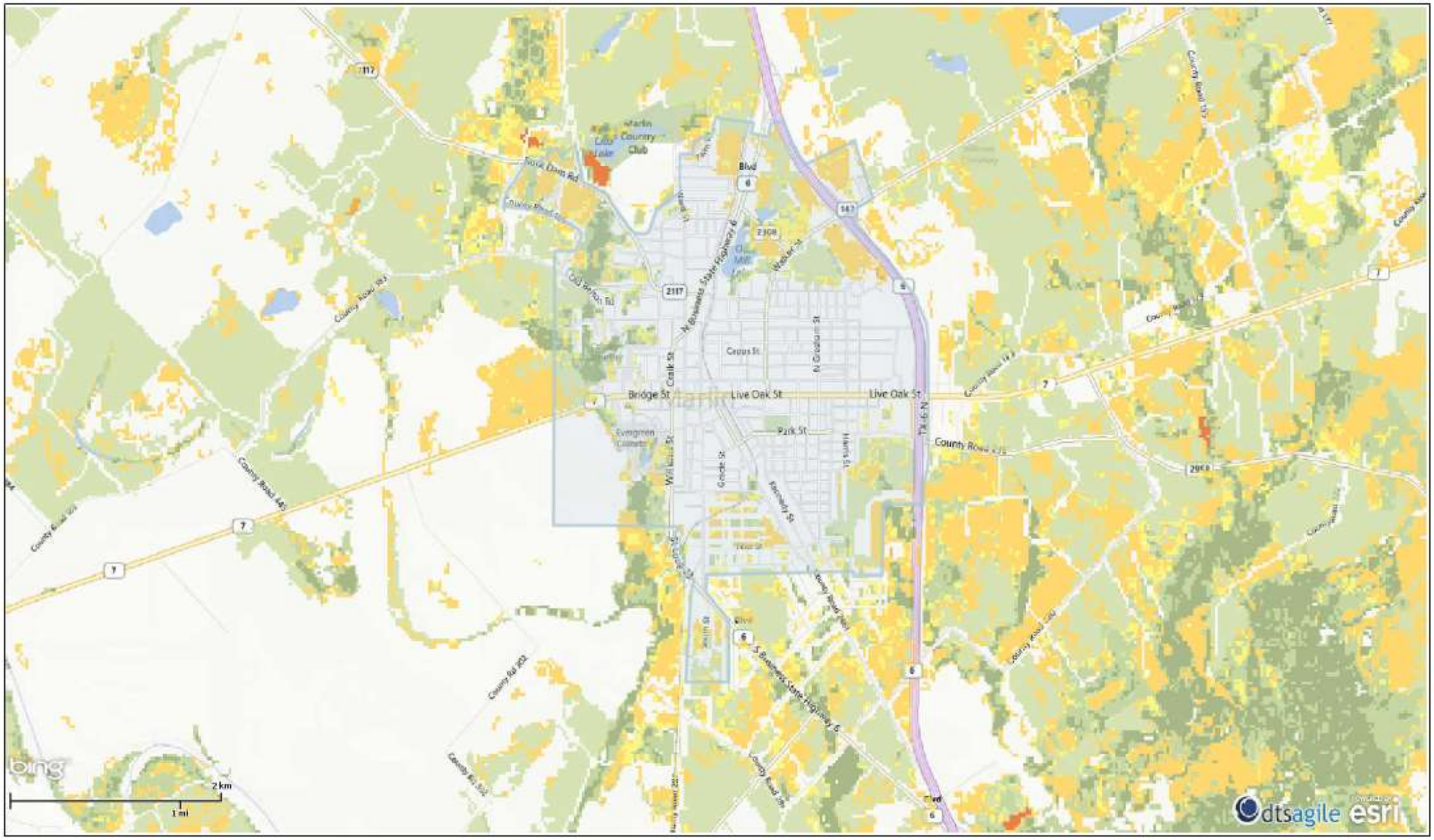
Characteristic Fire Intensity Scale - Marlin, TX

Quantifies the potential fire intensity for an area by orders of magnitude



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Wildland Urban Interface (WUI) - Marlin, TX

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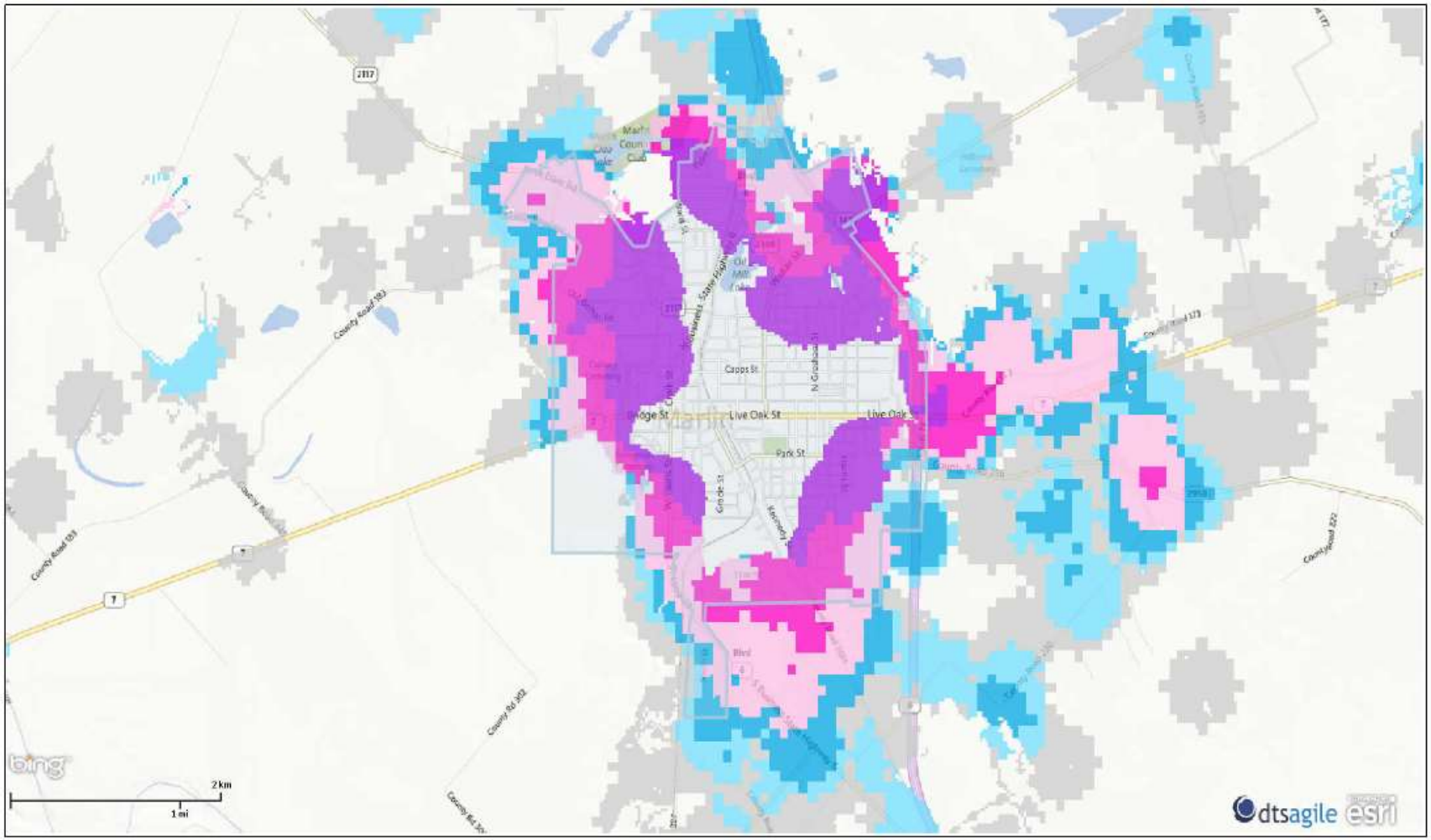

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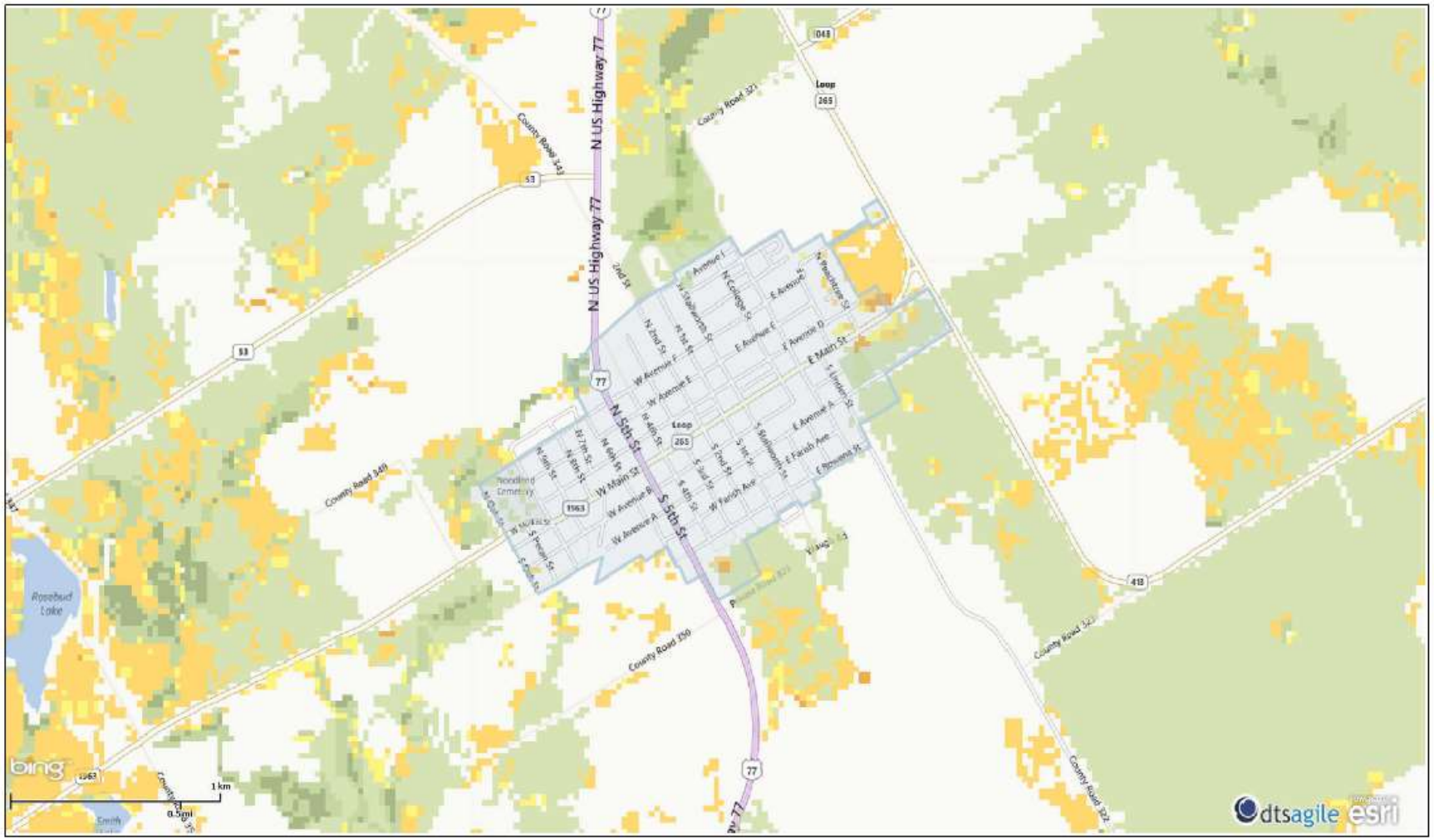
Characteristic Fire Intensity Scale - Rosebud, TX

Quantifies the potential fire intensity for an area by orders of magnitude



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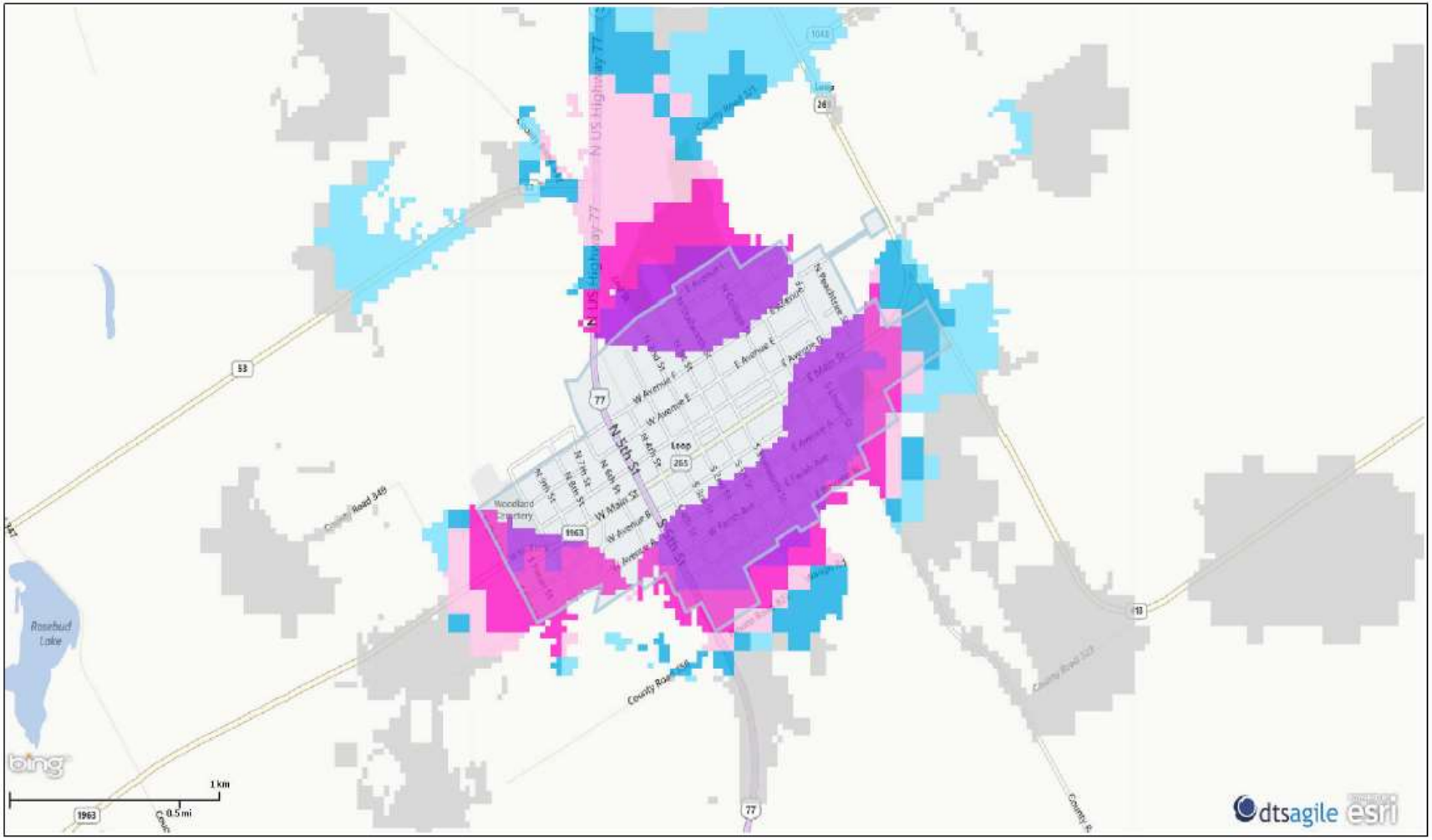
Wildland Urban Interface (WUI) - Rosebud, TX

Depicts where humans and their structures meet or intermix with wildland fuels



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Wildfire Threat

- 1 (Low)
- 2
- 3 (Moderate)
- 4
- 5 (High)
- 6
- 7 (Very High)

Characteristic Fire Intensity Scale

- 1 (Very Low)
- 1.5
- 2 (Low)
- 2.5
- 3 (Moderate)
- 3.5
- 4 (High)
- 4.5
- 5 (Very High)

Wildland Urban Interface (WUI)

- 1 - LT 1 hs/40 ac
- 2 - 1 hs/40 to 1 hs/20 ac
- 3 - 1 hs/20 to 1 hs/10 ac
- 4 - 1 hs/10 to 1 hs/5 ac
- 5 - 1 hs/5 to 1 hs/2 ac
- 6 - 1 hs/2 to 3 hs/ac
- 7 - GT 3 hs/ac

Drought

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor X	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. □ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	Any Season, intensity increases during summer months

List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected:

- National Weather Service
- Federal Emergency Management Agency

Probable Duration:

- Months to Years

Warning Time (Potential Speed of Onset):

❑ Minimal (or no) warning.
❑ 3 to 6 hours warning.
❑ 6 to 12 hours warning.
X More than 12 hours warning.

Cascading Potential:

- Water Shortage, Crop Failure, Unemployment, Business Shutdown

Existing Warning Systems:

- Media Outlet
- National Weather Service

Vulnerable Structures Affected by Drought:

Critical Facility:

Falls County Courthouse
Falls Community Hospital
Lott City Hall
Lott Volunteer Fire Department
Marlin ISD
Marlin Water Treatment Plant
Marlin City Hall
Marlin Police Department
Marlin Fire Department
Marlin Volunteer Fire Department
Rosebud-Lott ISD

Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by any particular drought.

Extreme Heat

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor X	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. □ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	Summer (May-October)

List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected: • National Weather Service • Federal Emergency Management Agency • Local Hospitals
Probable Duration: • 1 day to several months
Warning Time (Potential Speed of Onset):
❑ Minimal (or no) warning. ❑ 3 to 6 hours warning. ❑ 6 to 12 hours warning. X More than 12 hours warning.
Cascading Potential: • Elderly And Homebound Individuals May Need Assistance • Heat Stroke Victims • Power Shortages • Water Shortages
Existing Warning Systems: • Media Outlet

Vulnerable Structures Affected by Extreme Heat:
Critical Facility:
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by any particular extreme heat event

Hail

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited X	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. □ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	Year round
List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected: • National Weather Service • Federal Emergency Management Agency	
Probable Duration: • Minutes-Hours	

Warning Time (Potential Speed of Onset):
X Minimal (or no) warning. □ 3 to 6 hours warning. ❑ 6 to 12 hours warning. ❑ More than 12 hours warning.
Cascading Potential: • Traffic Hazard, Slower Response Time (Emergency Services), Damaged Vehicles, Damaged Buildings, Possible Injuries
Existing Warning Systems: • Media Outlets • Emergency Alert System
Vulnerable Structures Affected by Hail:
Critical Facility:
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by any particular hailstorm.

Winter Storms

Potential Severity Of Impact:	
Substantial	• Multiple deaths • Complete shutdown of facilities for 30 days or more. • More than 50 percent of property destroyed or with major damage.
Major	• Injuries and/or illnesses result in permanent disability. • Complete shutdown of critical facilities for at least 2 weeks. • More than 25 percent of property destroyed or with major damage.
Minor	• Injuries and/or illnesses do not result in permanent disability. • Complete shutdown of critical facilities for more than 1 week. • More than 10 percent of property destroyed or with major damage.
Limited X	• Injuries and/or illnesses are treatable with first aid. • Minor quality of life lost. • Shutdown of critical facilities and services for 24 hours or less. • Less than 10 percent of property destroyed or with major damage.

Probability of Occurrence:	Seasonal Pattern:
❑ Highly likely: Event probable in next year. X Likely: Event probable in next 3 years. □ Occasional: Event possible in next 5 years. ❑ Unlikely: Event possible in next 10 years.	November – March
List Source Documents, Studies, Maps, Etc., That Identify Areas Potentially Affected: • National Weather Service • Federal Emergency Management Agency	
Probable Duration: • Days	
Warning Time (Potential Speed of Onset):	
❑ Minimal (or no) warning. ❑ 3 to 6 hours warning. X 6 to 12 hours warning. ❑ More than 12 hours warning.	
Cascading Potential: • Possible Need For Shelters, Elderly And Homebound Will Need Assistance, Power Outages, Traffic Hazards, Slower Response Times (Emergency Services)	
Existing Warning Systems: • Media Outlets • Emergency Notification System	
Vulnerable Structures Affected by Winter Storms:	
Critical Facility:	
Falls County Courthouse Falls Community Hospital Lott City Hall Lott Volunteer Fire Department Marlin ISD Marlin Water Treatment Plant Marlin City Hall Marlin Police Department Marlin Fire Department Marlin Volunteer Fire Department Rosebud-Lott ISD Chilton ISD Rosebud City Offices Rosebud Police Department Rosebud Volunteer Fire Department	
Comments/Discussion: All areas of Falls County and its participating jurisdictions have an equal chance of being impacted by any particular winter storm.	

What is affected by the Identified Hazards?

An inventory was taken of special and critical facilities within Falls County and its participating jurisdictions. These are key facilities that the cities and county need in order to sustain themselves during a disaster. Critical facilities are the following: fire, rescue, police, communication, hospitals and direction and control facilities. Special facilities are the following: schools, health care facilities, prisons, and jails, unique historical or other cultural resources. These facilities are also more at risk in a disaster due to special populations and confidential information, therefore they are more vulnerable. Falls County and its participating jurisdictions also identified businesses that are important for economic survival to the local economies. At-risk facilities are identified in each hazard profile to better determine the potential

impact a particular hazard may have on critical and special facilities within the county. Falls County and its participating jurisdictions planners provide the following data in order to better determine the potential impact a particular hazard may have on critical and special facilities. Infrastructure, demographic, and development data receive examination throughout this section.

History of Infrastructure Damage by Hazard Agent

Flooding

Flood Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	08/10/2005	10:42	CST	Flood		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/10/2005	12:05	CST	Flood		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Flash Flooding Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
NORTH PRAIRIE	FALLS CO.	TX	08/31/1996	18:10	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/04/1997	11:00	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	05/24/1997	16:20	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	12/20/1997	20:40	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	12/20/1997	20:40	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	01/04/1998	21:54	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	01/04/1998	22:00	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	01/05/1998	03:15	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	01/05/1998	20:30	CST	Flash Flood		0	0	50.00K	0.00K
MARLIN	FALLS CO.	TX	01/06/1998	17:42	CST	Flash Flood		0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	10/09/2003	09:00	CST	Flash Flood		0	0	15.00K	0.00K
LOTT	FALLS CO.	TX	05/13/2004	07:26	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	05/13/2004	08:45	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	06/26/2004	21:45	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	08/09/2005	09:05	CST	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	08/10/2005	05:05	CST	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/06/2006	01:55	CST	Flash Flood		0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	01/13/2007	13:56	CST-6	Flash Flood		0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/12/2007	05:00	CST-6	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/26/2007	09:00	CST-6	Flash Flood		0	0	0.00K	0.00K

MARLIN	FALLS CO.	TX	06/26/2007	20:45	CST-6	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	06/27/2007	17:18	CST-6	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	07/03/2007	16:30	CST-6	Flash Flood		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	07/05/2007	10:46	CST-6	Flash Flood		0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	08/19/2008	05:40	CST-6	Flash Flood		0	0	50.00K	0.00K
MARLIN	FALLS CO.	TX	04/18/2009	09:00	CST-6	Flash Flood		0	0	10.00K	0.00K
Totals:								0	0	125.00K	0.00K

Windstorms

Thunderstorm Wind Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
WESTPHALIA	FALLS CO.	TX	09/18/1996	15:15	CST	Thunderstorm Wind		0	0	5.00K	0.00K
WESTPHALIA	FALLS CO.	TX	11/07/1996	01:10	CST	Thunderstorm Wind	61 kts.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	11/07/1996	01:25	CST	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	11/07/1996	01:35	CST	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/01/1997	23:20	CST	Thunderstorm Wind		0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	03/02/1997	00:05	CST	Thunderstorm Wind		0	0	5.00K	0.00K
REAGAN	FALLS CO.	TX	04/25/1997	14:05	CST	Thunderstorm Wind		0	0	5.00K	0.00K
LOTT	FALLS CO.	TX	05/24/1997	16:00	CST	Thunderstorm Wind		0	0	10.00K	0.00K
REAGAN	FALLS CO.	TX	06/22/1997	16:15	CST	Thunderstorm Wind	52 kts.	0	0	0.00K	0.00K
PERRY	FALLS CO.	TX	03/08/1999	11:05	CST	Thunderstorm Wind		0	0	2.00K	0.00K
MARLIN	FALLS CO.	TX	04/13/1999	23:23	CST	Thunderstorm Wind		0	0	2.00K	0.00K
CHILTON	FALLS CO.	TX	03/02/2000	22:00	CST	Thunderstorm Wind		0	0	1.00K	0.00K
BARCLAY	FALLS CO.	TX	03/26/2000	18:32	CST	Thunderstorm Wind		0	0	10.00K	0.00K
ROSEBUD	FALLS CO.	TX	03/26/2000	18:40	CST	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
WESTPHALIA	FALLS CO.	TX	03/26/2000	19:00	CST	Thunderstorm Wind		0	0	50.00K	0.00K
MARLIN	FALLS CO.	TX	05/05/2000	15:25	CST	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/05/2001	18:50	CST	Thunderstorm Wind	52 kts. E	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	03/30/2002	12:20	CST	Thunderstorm Wind		0	0	5.00K	0.00K
CHILTON	FALLS CO.	TX	06/26/2002	17:31	CST	Thunderstorm Wind	50 kts. E	0	0	1.00K	0.00K
SATIN	FALLS CO.	TX	05/01/2003	19:45	CST	Thunderstorm Wind	52 kts. ES	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	06/12/2003	17:55	CST	Thunderstorm Wind	61 kts. ES	0	0	0.00K	0.00K
BLEVINS	FALLS CO.	TX	08/22/2003	15:22	CST	Thunderstorm Wind	61 kts. ES	0	0	10.00K	0.00K
MARLIN	FALLS CO.	TX	08/11/2004	14:38	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/08/2005	06:32	CST	Thunderstorm Wind	52 kts. ES	0	0	0.00K	0.00K

ROSEBUD	FALLS CO.	TX	04/20/2006	19:45	CST	Thunderstorm Wind	50 kts. ES	0	0	5.00K	0.00K
MARLIN	FALLS CO.	TX	05/06/2006	00:43	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	06/22/2006	15:00	CST	Thunderstorm Wind	50 kts. ES	0	0	5.00K	0.00K
MARLIN	FALLS CO.	TX	08/06/2006	17:06	CST	Thunderstorm Wind	50 kts. ES	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	06/14/2007	12:36	CST-6	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
STRANGER	FALLS CO.	TX	05/07/2008	19:08	CST-6	Thunderstorm Wind	61 kts. MG	0	0	0.00K	0.00K
WESTPHALIA	FALLS CO.	TX	05/14/2008	06:00	CST-6	Thunderstorm Wind	61 kts. EG	0	0	75.00K	0.00K
LOTT	FALLS CO.	TX	02/10/2009	22:05	CST-6	Thunderstorm Wind	66 kts. EG	0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	08/23/2009	16:00	CST-6	Thunderstorm Wind	61 kts. EG	0	0	15.00K	0.00K
BELVINS	FALLS CO.	TX	05/20/2010	21:03	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
DURANGO	FALLS CO.	TX	05/20/2010	21:22	CST-6	Thunderstorm Wind	61 kts. EG	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	09/18/2011	23:30	CST-6	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
ELOISE	FALLS CO.	TX	03/20/2012	01:15	CST-6	Thunderstorm Wind	50 kts. EG	0	0	0.00K	0.00K
Totals:								0	0	216.00K	0.00K

Tornados

Tornado Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

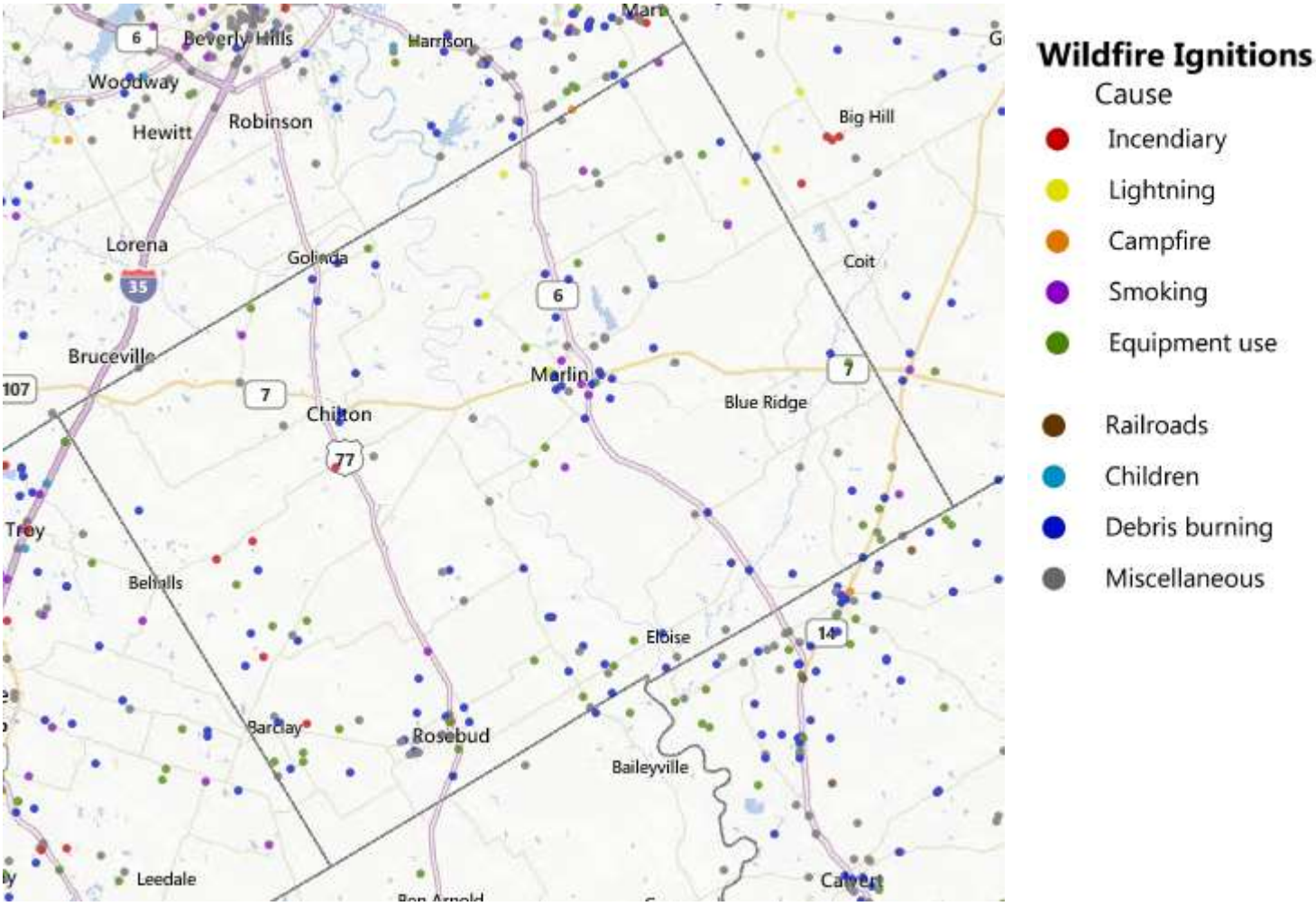
Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
WESTPHALIA	FALLS CO.	TX	09/15/1996	07:45	CST	Tornado	F1	0	0	30.00K	0.00K
WESTPHALIA	FALLS CO.	TX	09/19/1996	22:15	CST	Tornado	F0	0	0	0.00K	0.00K
CHILTON	FALLS CO.	TX	01/04/1998	20:59	CST	Tornado	F0	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	03/30/2002	12:51	CST	Tornado	F0	0	0	1.00K	0.00K
MARLIN	FALLS CO.	TX	03/21/2005	18:05	CST	Tornado	F0	0	0	0.00K	0.00K
PERRY	FALLS CO.	TX	09/08/2010	16:55	CST-6	Tornado	EF0	0	0	0.00K	0.00K
Totals:								0	0	31.00K	0.00K

Wildfires

Wildfire Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	0.00K	0.00K

Wildfire Ignitions – 2005 through 2009 (Texas Forest Service)



Drought

Drought Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/1996	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	07/01/1998	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2000	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	09/01/2000	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	11/01/2005	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/01/2005	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K

FALLS (ZONE)	FALLS (ZONE)	TX	02/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	03/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	06/06/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	07/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	09/01/2006	00:00	CST	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	06/24/2008	00:00	CST-6	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	07/01/2008	00:00	CST-6	Drought		0	0	0.00K	25.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2008	00:00	CST-6	Drought		0	0	0.00K	15.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/01/2009	00:00	CST-6	Drought		0	0	0.00K	10.00K
FALLS (ZONE)	FALLS (ZONE)	TX	03/01/2009	00:00	CST-6	Drought		0	0	0.00K	10.00K
FALLS (ZONE)	FALLS (ZONE)	TX	04/01/2009	00:00	CST-6	Drought		0	0	0.00K	35.00K
FALLS (ZONE)	FALLS (ZONE)	TX	07/01/2009	00:00	CST-6	Drought		0	0	0.00K	7.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2009	00:00	CST-6	Drought		0	0	0.00K	10.00K
FALLS (ZONE)	FALLS (ZONE)	TX	09/01/2009	00:00	CST-6	Drought		0	0	0.00K	5.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/12/2010	00:00	CST-6	Drought		0	0	0.00K	7.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/01/2011	01:00	CST-6	Drought		0	0	0.00K	3.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/01/2011	00:00	CST-6	Drought		0	0	0.00K	5.00K
FALLS (ZONE)	FALLS (ZONE)	TX	03/01/2011	00:00	CST-6	Drought		0	0	0.00K	5.00K
FALLS (ZONE)	FALLS (ZONE)	TX	04/01/2011	00:00	CST-6	Drought		0	0	0.00K	40.00K
FALLS (ZONE)	FALLS (ZONE)	TX	05/01/2011	00:00	CST-6	Drought		0	0	0.00K	17.00K
FALLS (ZONE)	FALLS (ZONE)	TX	06/01/2011	00:00	CST-6	Drought		0	0	0.00K	40.00K
FALLS (ZONE)	FALLS (ZONE)	TX	07/01/2011	00:00	CST-6	Drought		0	0	0.00K	40.00K
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2011	00:00	CST-6	Drought		0	0	0.00K	50.00K
FALLS (ZONE)	FALLS (ZONE)	TX	09/01/2011	00:00	CST-6	Drought		0	0	0.00K	30.00K
FALLS (ZONE)	FALLS (ZONE)	TX	10/01/2011	00:00	CST-6	Drought		0	0	0.00K	20.00K
FALLS (ZONE)	FALLS (ZONE)	TX	11/01/2011	00:00	CST-6	Drought		0	0	0.00K	15.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/01/2011	00:00	CST-6	Drought		0	0	0.00K	15.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/01/2012	00:00	CST-6	Drought		0	0	0.00K	10.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/01/2012	00:00	CST-6	Drought		0	0	0.00K	3.00K
FALLS (ZONE)	FALLS (ZONE)	TX	03/01/2012	00:00	CST-6	Drought		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	11/20/2012	00:00	CST-6	Drought		0	0	0.00K	2.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/01/2012	00:00	CST-6	Drought		0	0	0.00K	2.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/01/2013	00:00	CST-6	Drought		0	0	0.00K	3.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/01/2013	00:00	CST-6	Drought		0	0	0.00K	1.00K
Totals:								0	0	0.00K	425.00K

Extreme Heat

Extreme Heat Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	08/01/2011	06:00	CST-6	Excessive Heat		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Hail

Hail Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
MARLIN	FALLS CO.	TX	03/24/1996	20:20	CST	Hail	0.88 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	04/12/1996	20:25	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/19/1996	19:55	CST	Hail	1.75 in.	0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	04/19/1996	20:50	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/28/1996	18:45	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MOORESVILLE	FALLS CO.	TX	09/19/1996	21:38	CST	Hail	1.00 in.	0	0	0.00K	0.00K
DURANGO	FALLS CO.	TX	09/19/1996	21:55	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	03/01/1997	23:35	CST	Hail	1.75 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	04/04/1997	19:45	CST	Hail	0.75 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	04/25/1997	14:05	CST	Hail	0.75 in.	0	0	0.00K	0.00K
BLEVINS	FALLS CO.	TX	05/27/1997	12:39	CST	Hail	0.75 in.	0	0	0.00K	0.00K
BLEVINS	FALLS CO.	TX	05/27/1997	13:06	CST	Hail	4.50 in.	0	0	0.00K	0.00K
CHILTON	FALLS CO.	TX	10/23/1997	09:15	CST	Hail	0.75 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	01/05/1998	19:30	CST	Hail	0.75 in.	0	0	0.00K	0.00K
PERRY	FALLS CO.	TX	02/18/1998	19:55	CST	Hail	1.75 in.	0	0	0.00K	0.00K
CEGO	FALLS CO.	TX	03/12/1999	14:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	03/12/1999	15:13	CST	Hail	0.75 in.	0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	04/04/1999	12:40	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/04/1999	13:30	CST	Hail	0.75 in.	0	0	0.00K	0.00K
ROSEBUD	FALLS CO.	TX	03/26/2000	18:40	CST	Hail	0.88 in.	0	0	0.00K	0.00K
WESTPHALIA	FALLS CO.	TX	03/26/2000	19:00	CST	Hail	1.75 in.	0	0	0.00K	0.00K
WESTPHALIA	FALLS CO.	TX	04/02/2000	18:37	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/02/2000	19:00	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MOORESVILLE	FALLS CO.	TX	04/02/2000	19:37	CST	Hail	1.00 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	05/05/2000	15:10	CST	Hail	1.00 in.	0	0	0.00K	0.00K

REAGAN	FALLS CO.	TX	05/05/2000	15:39	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/12/2000	19:50	CST	Hail	0.75 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	03/30/2002	12:59	CST	Hail	1.25 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	12/30/2002	17:10	CST	Hail	0.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	05/01/2003	20:25	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	05/31/2004	19:14	CST	Hail	1.75 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	11/23/2004	06:45	CST	Hail	1.75 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/31/2005	18:06	CST	Hail	0.88 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/31/2005	18:09	CST	Hail	0.75 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/31/2005	18:29	CST	Hail	1.50 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/02/2006	10:15	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/25/2006	19:10	CST	Hail	1.00 in.	0	0	0.00K	0.00K
MARLIN	FALLS CO.	TX	04/25/2006	19:28	CST	Hail	1.75 in.	0	0	20.00K	0.00K
MARLIN	FALLS CO.	TX	04/03/2007	22:50	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	06/14/2007	12:36	CST-6	Hail	1.75 in.	0	0	2.00K	0.00K
NORTH PRAIRIE	FALLS CO.	TX	04/25/2008	16:53	CST-6	Hail	0.88 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	05/07/2008	18:47	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
NORTH PRAIRIE	FALLS CO.	TX	05/20/2010	21:20	CST-6	Hail	1.75 in.	0	0	1.00K	0.00K
CHILTON	FALLS CO.	TX	05/20/2010	21:20	CST-6	Hail	1.75 in.	0	0	5.00K	0.00K
NORTH PRAIRIE	FALLS CO.	TX	10/24/2010	16:06	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
OTTO	FALLS CO.	TX	10/24/2010	16:48	CST-6	Hail	1.75 in.	0	0	7.00K	0.00K
CHILTON	FALLS CO.	TX	03/26/2011	19:11	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
LOTT	FALLS CO.	TX	03/26/2011	19:15	CST-6	Hail	0.75 in.	0	0	0.00K	0.00K
REAGAN	FALLS CO.	TX	03/26/2011	19:46	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
PERRY	FALLS CO.	TX	04/26/2011	21:01	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
STRANGER	FALLS CO.	TX	04/03/2012	17:11	CST-6	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:								0	0	35.00K	0.00K

Winter Storms

Winter Storm Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	11/24/1996	14:00	CST	Winter Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/25/2000	00:00	CST	Winter Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/12/2000	18:00	CST	Winter Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/25/2000	00:00	CST	Winter Storm		0	0	0.00K	0.00K

FALLS (ZONE)	FALLS (ZONE)	TX	12/31/2000	00:00	CST	Winter Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/24/2003	11:20	CST	Winter Storm		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Winter Weather Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	01/12/1997	20:00	CST	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	0.00K	0.00K

Heavy Snow Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	01/01/2001	00:00	CST	Heavy Snow		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	02/23/2010	08:00	CST-6	Heavy Snow		0	0	25.00K	0.00K
Totals:								0	0	25.00K	0.00K

Ice Storm Events – 1/1/1996 through 4/30/2013 (National Climatic Data Center)

Location	County/Zone	St.	Date	Time	T.Z.	Type	Mag	Dth	Inj	PrD	CrD
FALLS (ZONE)	FALLS (ZONE)	TX	01/07/1997	22:00	CST	Ice Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	12/22/1998	00:00	CST	Ice Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	11/29/2001	01:55	CST	Ice Storm		0	0	0.00K	0.00K
FALLS (ZONE)	FALLS (ZONE)	TX	01/17/2007	05:00	CST-6	Ice Storm		0	0	10.00K	0.00K
Totals:								0	0	10.00K	0.00K

Development Trends

Falls County and the Cities of Lott, Marlin and Rosebud Development Trends
The Texas State Demographer projects the population of Falls County to grow from 17,866, as recorded in the 2010 Census, to 18,851 in 2050, an increase of 5.5 percent. This projection dims in comparison to the anticipated 115.2 percent increase in population for the State of Texas within the same time period. Currently, Falls County and the City of Marlin do not meet the criteria of being a small and impoverished community. The Cities of Lott and Rosebud, however, do meet the criteria.

A small, impoverished community must meet all of the following criteria:

1. Must be a community of 3,000 or fewer individuals that is identified by the State as a rural community, and is not a remote area within the corporate boundaries of a larger city
2. Must be economically disadvantaged, with residents having an average per capita annual income not exceeding 80 percent of the national per capita income, based on best available data (The Department of Commerce, Bureau of Economic Analysis (BEA) website states that the per capita personal income for the United States in 2003 was $27,334. (80% of $27,334 is $21,839)
3. Must have a local unemployment rate that exceeds by one percentage point or more the most recently reported, average yearly national unemployment rate. (According to the U.S. Bureau of Labor Statistics (USBL), the current average unemployment rate for 2012 is 4.6 percent.

Small and Impoverished Communities	***Yes***	**No**
Falls County		**X**
City of Lott	**X**	
City of Marlin		**X**
City of Rosebud	**X**	

Past Mitigation

This section of the plan includes a comprehensive look at past mitigation attempts by Falls County and its participating jurisdictions. This includes an evaluation of the following: Hazard Mitigation Grant Program (HMGP), Public Assistance Program Projects, Project Impact, Pre-Disaster Mitigation, Current building Codes, Floodplain Management Ordnances/Orders, and Building Code Effectiveness Grading Report.

Hazard Mitigation Grant Program Projects (HMGP)

Falls County received funding for the completion of this plan development through the Hazard Mitigation Grant Program in 2010.

Past Disaster Declarations/Public Assistance Program Grant

Falls County, nor any participating jurisdiction, has ever received a Public Assistance Program Grant.

Project Impact, Pre-Disaster Mitigation, Hurricane Property Protection Mitigation

Falls County, nor any participating jurisdiction, has not received funding from Project Impact, Pre-Disaster Mitigation, and Hurricane Property Protection Mitigation funding. Falls County and the participating jurisdictions are not located anywhere near the coast line.

Current Building and Fire Codes

Falls County and the Cities of Lott and Rosebud do not enforce building or fire codes. The City of Marlin enforces the following building and fire codes:

- 2000 International Codes; Building, Fire, Residential, Plumbing, Mechanical, Gas
- 2000 International National Electric Code
- 2000 International Residential Code
- National Flood Insurance Program and Community Rating System

The responsibility of ensuring compliance with the code lies with the Code Enforcement Officer at each city. The permitting process starts with a citizen purchasing a building permit. At the time of purchase the building dimensions are given and inspected by Code Enforcement Officer. The Code Enforcement Officer then follows up with a site visit to make sure building are in compliance with international code, city codes and the National Flood Insurance Program. There have been no building variances given in the last 12 months.

Emergency Operations Plans

Existing Emergency Operations Plans are at Intermediate Level, as defined by state planning standards. Falls County coordinated the development of the Emergency Operations Plan and serves as the plan's Primary Jurisdiction. The cities participating in this plan are signatories and secondary jurisdictions on the County's Emergency Operations Plan.

Flood Plain Ordinances / Orders

Currently, all jurisdictions participating in this plan are a part of the National Flood Insurance Program. Code enforcement officers in each jurisdiction are to ensure that perspective land developers adhere to the National Flood Insurance Program. See the above building and fire code for NFIP permitting process. There have been no building variances given in the last 12 months.

Building Code Effectiveness Grading Report (BCEGS)

Currently, Falls County and the Cities of Lott and Rosebud do not have building codes.

The City of Marlin could not obtain the BCEGS before this plan was finished but they do adhere to the following code:

- 2000 International Codes; Building, Fire, Residential, Plumbing, Mechanical, Gas
- 2000 International Electric Code
- 2000 International Residential Code
- National Flood Insurance Program and Community Rating System

The responsibility of ensuring enforcement of the code lies with the jurisdiction's Code Enforcement Officers by way of a permitting process.

Incorporated Planning Mechanisms

In summary, the following plans and activities were reviewed along with building codes, community development plans, master plans, floodplain management ordnances/orders, Building Code Effectiveness Grading Report, City of Austin MAP, Hardeman County MAP, Hill County MAP, and the Tarrant County Hazard Mitigation Action Plan when creating this MAP. The information was incorporated into this MAP by identifying hazards, mitigation goals, and timelines for improvement. All plans, including the Falls County/Cities of Lott, Marlin, and Rosebud Emergency Operations Plan will be incorporated by modification of this MAP and/or linking the mitigation action plan to these and other pertinent documents by way of the implementation of new or revising current policies, plans, and procedures. The Falls County MAP has incorporated some features from other plans, ordnances/orders, and various technical information and input as deemed pertinent and relevant that may range from a mitigation action to a well crafted turn of phrase.

National Flood Insurance Program and Community Rating System

The responsibility of ensuring compliance with the code lies with the participating jurisdiction's Code Enforcement officer. The permitting process starts with a citizen purchasing a building permit. At the time of purchase, the building dimensions are given and inspected by the Code Enforcement Officer. The Code Enforcement Officer then follows up with a site visit to make sure the buildings are in compliance with international code, city codes and the National Flood Insurance Program. There have been no building variances given in the last 12 months. There are no repetitive loss properties in the planning area.

SECTION VI – DEVELOP MITIGATION ACTION PLAN

Introduction

Falls County and its participating jurisdictions are committed to implementing and sustaining a dynamic MAP. In this spirit, Falls County and the participating jurisdictions developed a mission statement, in coordination with the FCMPC:

> *Communities uniting together to become partners in disaster sustainable development that includes a safe, secure environment for future generations.*

Developed MAP

Develop the MAP based on the risk assessment by:
1. Creating goals and objectives.
2. Developing mitigation action items and prioritizing these actions.
3. Preparing an implementation and monitoring strategy.
4. Documenting the mitigation planning process.

Falls County and its participating jurisdictions will integrate the requirement of the mitigation plan, including those actions developed in this section, into other planning mechanisms when actions are appropriate for the given plan. Plans that will integrate the mitigation plan requirements include master plans, community development plans, capital improvement plans, and other such planning documents.

How Were Mitigation Actions Developed?

First, Falls County and its participating jurisdictions formulated mitigation goals and objectives, in coordination with the FCMPC, to reduce or eliminate the long-term risk to human life and property from each significant hazard. The following is a list of these goals and objectives:

Goal 1: Protect public health and safety
- Objective 1.1: Advise the public about health and safety precautions to guard against injury and loss of life from hazards.
- Objective 1.2: Maximize the utilization of the latest technology to provide adequate warning, communication, and mitigation of hazards events.
- Objective 1.3: Reduce the danger to, and enhance protection of, dangerous areas during hazard events.
- Objective 1.4: Protect critical facilities and services.

Goal 2: Protect existing and new properties
- Objective 2.1: Reduce repetitive losses to the National Flood Insurance Program
- Objective 2.2: Use the most cost-effective approaches to protect existing and new building and public infrastructure from hazards.
- Objective 2.3: Enact and enforce regulatory measures to ensure that development will not put people in harm's way or increase threats to existing and new properties.

Goal 3: Increase public understanding, support, and demand for hazard mitigation
- Objective 3.1: Increase public awareness of the full range of natural and man-made hazards they face.
- Objective 3.2: Educate the public on actions they can take to prevent or reduce the loss of life or property from all hazards.
- Objective 3.3: Publicize and encourage the adoption of appropriate hazard mitigation measures.
- Objective 3.4: Encourage public policy to promote mitigation activities among the local jurisdictions.

Goal 4: Promote growth in a sustainable manner.
- Objective 4.1: Incorporate hazard mitigation into the long-range planning and development activities
- Objective 4.2: Promote beneficial uses of hazardous areas while expanding open space and recreational opportunities

- Objective 4.3: Utilize regulatory approaches to prevent creation of future hazards to life and property

Goal 5: Maximize the use of outside sources of funding
- Objective 5.1: Maximize the use of outside sources of funding
- Objective 5.2: Maximize participation of property owners in protecting their properties
- Objective 5.3: Maximize insurance coverage to provide financial protection against hazard events
- Objective 5.4: Prioritize mitigation projects, based on cost effectiveness and starting with those sites facing the greatest threat to life, health and property.

The goals and objectives of this MAP reflect similar goals to those found in the State of Texas Mitigation Plan and those of the National Flood Insurance Program. This similarity is not intentional. It is, however understandable that the goals established through these three separate efforts are similar because of the similar purposes of the NFIP, the State of Texas's MAP, and the Falls County and its participating jurisdictions MAP. Once the goals and objectives were identified, the participating jurisdictions, in coordination with the FCMPC, went through an extensive review of past mitigation activities. Planners felt that the only way to plan for the future was to understand what mitigation actions had been pursued in the past. NFIP-compliant mitigation actions are identified within the "Flooding" actions below.

Action Plan/Cost Benefit Review

When elected officials and representatives chose what mitigation actions they would support they took the following into account:
- Past Hazard Mitigation Activities
- Cost benefit review
- Comments and Concerns of Falls County Citizens
- County Wide Meetings
- Community Surveys
- Comments left by citizens on the draft MAP
- Hazard/Vulnerabilities Analyses
- Loss Estimates

Each mitigation action was developed by identifying several possible actions, conducting a benefit-cost review for each action, identifying organizations responsible for each action, identifying objectives relevant to actions, creating an implementation schedule, and prioritizing potential funding sources for each action. Prioritizing potential funding sources involved identifying the name, authority, and funding source of each program. Representatives of the participating jurisdictions, in coordination with the FCMPC and members of the public, chose what mitigation actions would go into this MAP. Three criterions were used to prioritize mitigation actions:
- Local Politics
- Local Budgeting Constraints
- Understanding of Jurisdiction and FCMPC Objectives

Mitigation action priorities were set by the FCMPC general membership. Again, general membership is made up of the community at large from the participating communities.

Existing Authorities, Policies, Programs, and Resources

Falls County and all participating jurisdictions possess the authority to accomplish hazard mitigation under the authorities identified in Section 2 of this MAP. Regulatory authorities consist of the building, floodplain, fire, and electrical codes and ordinances that have been enacted by the jurisdictions, as identified in Section 5. Annual budgets and grant funds, as available, provide the funding resources for mitigation within the county. It should be noted, however, that budgetary resources are extremely limited for all participating jurisdictions; therefore there is an increased reliance on grant funding. Each jurisdiction has taxing authority to support mitigation, however no taxation directly focused on mitigation has occurred in the past. Local resources, including response agencies, emergency management personnel, and public works officials, continually seek to develop sustainable relationships

within the county to support mitigation activity. Furthermore, these local resources participate actively in local, countywide, and regional planning efforts to support all facets of emergency management, including mitigation.

Incorporation of the MAP into Other Planning Mechanisms

Falls County and all participating jurisdictions recognize the importance of incorporating hazard mitigation into the full range of community planning activities. Existing and future planning mechanisms must integrate mitigation in order to influence the built environment to be safe and more resilient to the hazards faced by each jurisdiction. Furthermore, only through the integration of mitigation into such planning mechanisms can the participating jurisdictions ensure the sustainability of their communities. The table below identifies the process by which participating jurisdictions will integrate the requirements of the mitigation plan into existing and future planning mechanisms, as well as those responsible for implementation, and the anticipated date of implementation:

Planning Mechanism	How MAP will be Incorporated
Comprehensive/General Plans	Hazard identification, risk assessment information, and hazard mitigation goals will be included in the language of the comprehensive/general plan. Additionally, a hazard mitigation matrix will be included as an appendix to the plan to track where and how mitigation is integrated throughout each element of the plan. Responsibility for Implementation: City Administration/County Commissioners Scheduled Review: every five years Anticipated Implementation Date: February 2015 Applicable Jurisdictions: Falls County, City of Marlin
Zoning Ordinances and Municipal Codes	Zoning ordinances will be updated over time to guide development away from the most hazard prone areas. Land use ordinances will be updated to restrict the use of land that is considered to be substantially more hazardous than other area, such as in flood prone areas. Floodplain ordinances will be maintained and updated as required by the NFIP. Municipal codes will be updated in order to ensure that construction and electrical standards being used are those that offer the most protection from the hazards identified by the jurisdiction. Responsibility for Implementation: City Administration/County Commissioners Scheduled Review: annually Anticipated Implementation Date: June 2014 Applicable Jurisdictions: All participating jurisdictions

Capital Improvement and Infrastructure Programs	The placement and design of critical facilities, including fire stations, water and wastewater treatment plants, and sewer lines, will be determined based on community need as well as the consideration of mitigation efforts identified in the MAP, including the continued functioning of the facility and the location of the facility in relation to hazard-prone areas. Funding through such programs will also be considered for use in carrying out identified mitigation actions. Responsibility for Implementation: City Administration/County Commissioners Scheduled Review: every five years Anticipated Implementation Date: April 2016 Applicable Jurisdictions: Falls County, City of Marlin
Area Plans	Hazard identification and the prevalence of hazard within specific areas will be included in such plans. The recognition of such hazards and their prevalence will form the foundation of area plans and guide the policies relating to the plan and the area(s) encompassed by the plan. Responsibility for Implementation: City Administration Scheduled Review: every five years Anticipated Implementation Date: November 2014 Applicable Jurisdictions: City of Marlin
Stormwater Management Plans	The development of stormwater management infrastructure will be based on flooding risks as identified in flood-prone areas, such as documented on the jurisdiction's FIRM. Responsibility for Implementation: Public Works/County Commissioners Scheduled Review: every five years Anticipated Implementation Date: October 2016 Applicable Jurisdictions: Falls County, City of Marlin, City of Rosebud
Wastewater Management Plans	Such plans shall incorporate flood protection for pump stations located in flood-prone areas and the installment of stations in areas not subject to the flood hazard. Responsibility for Implementation: Public Works Scheduled Review: every five years Applicable Jurisdictions: City of Lott, City of Marlin, City of Rosebud

Park, Recreation, and Open Space Plans	Such plans shall be updated to assist in mitigation efforts by directing development away from hazard-prone areas. One such example would be to utilize open-space in flood-prone areas to divert development into areas with less or no risk of flooding. Responsibility for Implementation: Public Works Scheduled Review: every five years Anticipated Implementation Date: June 2015 Applicable Jurisdictions: City of Marlin
Transportation Plans	Plans will incorporate hazard-prone areas into planning practices in order to ensure that new development is not induced in high hazard areas by the development of new transportation infrastructure. Responsibility for Implementation: City Administration/County Commissioners Scheduled Review: every five years Anticipated Implementation Date: November 2014 Applicable Jurisdictions: Falls County
Economic Development Plans	Structural and other protective measures will be included as recommendations for commercial developments. Mitigation goals will be incorporated into such plans to guide private investment to areas that are less vulnerable to known hazards. Economic Development Plan goals will mirror the MAPs focus on protecting and sustaining the community through sound development practices, including the encouragement of a diverse economic base that is not overly reliant on businesses or industries that are particularly vulnerable to the impacts of disaster. Responsibility for Implementation: Economic Development Corporation Scheduled Review: every two years Anticipated Implementation Date: March 2015 Applicable Jurisdictions: Falls County, City of Marlin, City of Rosebud
Emergency Operations Plans	Such plans will incorporate the MAPs analysis of potential natural or manmade hazard threats to the community that may result in an emergency or disaster operation. Responsibility for Implementation: Office of Emergency Management/City Administration Scheduled Review: every five years Anticipated Implementation Date: June 2014 Applicable Jurisdictions: All participating jurisdictions

Post-Disaster Recovery and Reconstruction Plans	Housing and business area reconstruction and economic development metrics within long-term recovery planning will incorporate the MAPs hazard analysis in order to encourage enhanced resiliency and discourage reconstruction in hazard-prone areas. Such plans will also integrate long-term hazard mitigation goals as identified in the MAP. Responsibility for Implementation: County Commissioners Scheduled Review: every five years Anticipated Implementation Date: February 2016 Applicable Jurisdictions: Falls County

Jurisdictional Hazard-specific Mitigation Action Items, by Hazard

Mitigation Action Items – Floods

NFIP-compliant mitigation actions are included in this section, as well as other actions identified by the participating jurisdictions.

Falls County	Implement a program to keep water runoff areas free of debris to allow rapid runoff of flood waters
Location:	Countywide
Objective(s) Addressed:	1.4, 2.1, 2.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$20,000.00
Potential Funding Source:	EMPG Grant Program, HMGP, Local Funds
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	12 months after securing funding
Effect on New Buildings	This action will reduce the effects of flooding on new buildings by ensuring that floodwaters can run off rapidly.
Effect on Existing Buildings	This action will reduce the effects of flooding on existing buildings by ensuring that floodwaters can run off rapidly.
Cost Effectiveness	Cost Effective – The cost of this project is relatively high but the potential benefits would be reducing the property damage to homes, schools, businesses and critical infrastructure due to flooding.
Discussion: The proposed project would remove any debris that would obstruct the rapid runoff of a flash flood or other flooding event. By ensuring appropriate runoff, flood waters would be substantially less likely to damage new and existing structures or flood roadways.	

Falls County	Implement an aggressive public education campaign targeted toward improving participation in the National Flood Insurance Program.
Location:	Countywide
Objective(s) Addressed:	2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.3
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, Local Funds
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	Increased participation in the National Flood Insurance Program will reduce uninsured and underinsured property losses for new buildings within the county due to flooding.
Effect on Existing Buildings	Increased participation in the National Flood Insurance Program will reduce uninsured and underinsured property losses for existing buildings within the county due to flooding.
Cost Effectiveness	Cost Effective – The cost of this project is low while providing a drastically increased potential to decrease property flood losses.
Discussion: Currently, the only advertisements for the NFIP are television and radio spots provided through the national FloodSmart program. Further supporting their initiatives through local public education activities would increase resident awareness of the NFIP. Increased awareness would likely lead to increased participation in the NFIP.	

Falls County	Flood proof critical facilities in A Zones, including attendant utility and sanitary facilities, to meet existing FEMA NFIP standards
Location:	A Zones
Objective(s) Addressed:	1.3, 2.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$500,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, Local Funds
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	New facilities within A Zones will be flood proof
Effect on Existing Buildings	Existing facilities within A Zones will be flood proof
Cost Effectiveness	Cost Effective – The cost of this project is low while providing a drastically increased potential to decrease property flood losses.
Discussion: Currently, critical facilities within A Zones are not flood proof. This action will ensure that all critical facilities in such zones are retrofitted to be flood proof and watertight below the base flood elevation	

City of Lott	Transform city-owned properties in flood-prone areas into open-space parks
Location:	Low areas south of Walnut Street
Objective(s) Addressed:	1.3, 2.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$120,000
Potential Funding Source:	PDM Grant, HMGP Grant
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of flooding on new buildings by preventing the construction of new structures in flood-prone areas.
Effect on Existing Buildings	This action will reduce the effects of flooding on existing buildings by removing existing structures that are in flood-prone areas.
Cost Effectiveness	Cost Effective – The cost of this project is high but the potential benefits would be reducing the property damage due to flooding.
Discussion: This action would decrease property damage in a flood-prone area of the city. By preventing new construction in this area and converting it to open-space parks, property losses due to flooding would be effectively mitigated in this area. This project would consist of relocation and possibly demolition, as allowed under the NFIP's eligible mitigation measures, in order to remove existing structures from the properties.	

City of Lott	Implement an aggressive public education campaign targeted toward improving participation in the National Flood Insurance Program.
Location:	Citywide
Objective(s) Addressed:	2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.3
Priority (High, Medium, Low):	High
Estimated Cost:	$2,500.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	Increased participation in the National Flood Insurance Program will reduce uninsured and underinsured property losses for new buildings within the county due to flooding.
Effect on Existing Buildings	Increased participation in the National Flood Insurance Program will reduce uninsured and underinsured property losses for existing buildings within the county due to flooding.
Cost Effectiveness	Cost Effective – The cost of this project is low while providing a drastically increased potential to decrease property flood losses.
Discussion: Currently, the only advertisements for the NFIP are television and radio spots provided through the national FloodSmart program. Further supporting their initiatives through local public education activities would increase resident awareness of the NFIP. Increased awareness would likely lead to increased participation in the NFIP.	

City of Lott	Require flood hazard disclosure statements that identify past flooding damages for any property within the city prior to selling or transferring ownership of the property.
Location:	Citywide
Objective(s) Addressed:	2.1, 2.2, 2.3, 4.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	General Fund
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months
Effect on New Buildings	This action would require that property owners identify past flooding impacts on the property before being allowed to build new buildings, thereby increasing both the awareness of the property owner of flooding risks and the probability that flood-resistant measures will be incorporated.
Effect on Existing Buildings	This action will reduce property losses by ensuring that property owners and potential buyers of the property are aware of the past losses and flooding risk, increasing the probability that flood-resistant measures will be incorporated.
Cost Effectiveness	Cost Effective – There is no cost for this project outside of administrative staff time. However, the potential benefits would be in ensuring that property owners are aware of the flooding risk that they face.
Discussion: By ensuring that residents and property owners are aware of their risk of flood-related damages, thereby increasing the likelihood that they will seek additional insurance coverage or implement flood mitigating measures. This regulatory action would serve as a mechanism for public education to ensure that flooding risks are reduced.	

City of Marlin	Relocate or flood proof critical facilities in A Zones, including attendant utility and sanitary facilities, to meet existing FEMA NFIP standards
Location:	A Zones
Objective(s) Addressed:	1.3, 2.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$500,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, Local Funds
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	New facilities within A Zones will be flood proof
Effect on Existing Buildings	Existing facilities within A Zones will be retrofitted to be flood proof or else relocated outside of the A Zones
Cost Effectiveness	Cost Effective – The cost of this project is low while providing a drastically increased potential to decrease property flood losses.
Discussion: Currently, critical facilities within A Zones are not flood proof. This action will ensure that all critical facilities in such zones are relocated outside of the zones or else retrofitted to be flood proof and watertight below the base flood elevation if the structure cannot be relocated.	

City of Marlin	Purchase and install metal warning signs that show areas prone to flash flooding.
Location:	Citywide
Objective(s) Addressed:	1.1, 1.2, 1.3, 2.2, 3.1, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$7,000.00
Potential Funding Source:	PDM Grant, EMPG Grant, HMGP Grant
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	12 months after securing funding
Effect on New Buildings	This action will reduce the effects of flooding on new buildings by increasing awareness of flood-prone areas within the city.
Effect on Existing Buildings	This action will reduce the effects of flooding on existing buildings by reminding the citizens of the danger of flooding and to take proactive measures to protect life and property.
Cost Effectiveness	Cost Effective – The cost of this project is low but the potential benefits would be reducing the property damage and potential loss of life due to flooding.
Discussion: This would increase public awareness of flood hazards within the city while also reducing the potential for loss of life during flooding events.	

City of Marlin	Catalog, evaluate, and update any floodplain regulations within the City to comply with the latest FEMA regulations
Location:	Citywide
Objective(s) Addressed:	1.3, 2.1, 2.2, 2.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months
Effect on New Buildings	New buildings would be required to conform to the latest floodplain regulations, which would prevent building from being constructed in flood-prone areas and decrease property losses due to flooding.
Effect on Existing Buildings	Existing buildings would be required to conform to existing and updated floodplain regulations, which would decrease property losses due to flooding and prevent reconstruction in flood-prone areas.
Cost Effectiveness	Cost Effective – There is no cost for this project while having the benefit of reducing property damage due to flooding.
Discussion: This would prevent future construction of non-flood hardened structures in flood-prone areas. The prevention of such construction would decrease future property losses to floods.	

City of Rosebud	Deepen and widen drainage ditches to eliminate flooding hazards.
Location:	All roads west of 5th Street
Objective(s) Addressed:	1.3, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$75,000.00
Potential Funding Source:	PDM Grant, HMGP Grant, EMPG Grant
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	Deeper and wider drainage ditches would allow for rapid runoff of storm water from properties with new buildings.
Effect on Existing Buildings	Deeper and wider drainage ditches would allow for rapid runoff of storm water from properties with existing buildings.
Cost Effectiveness	Cost Effective – The cost of this project is high but the potential benefits would be reducing property damage due to flooding.
Discussion: This would minimize the possible effects of flooding in a low-lying area by ensuring the rapid water runoff can occur safely without damaging new or existing structures.	

City of Rosebud	Establish coordinated flood warning education and outreach program for residents.
Location:	Citywide
Objective(s) Addressed:	1.1, 2.1, 2.2, 3.1, 3.2, 3.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	PDM Grant, EMPG Grant
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	Owners of new buildings would be more aware of their flooding risks and the potential mitigation actions that they can implement to reduce flooding losses.
Effect on Existing Buildings	Owners of existing buildings would be more aware of their flooding risks and the potential mitigation actions that they can implement to reduce flooding losses.
Cost Effectiveness	Cost Effective – The cost of this project is low and the potential benefits would be reducing the property damage due to flooding by effectively educating residents on flood risks and appropriate prevention measures.
Discussion: This action would ensure that residents with new or existing structures are aware of the risk of flooding and what steps they can take to minimize or negate the likelihood of flooding damages.	

City of Rosebud	Catalog, evaluate, and update any floodplain regulations within the City to comply with the latest FEMA regulations
Location:	Citywide
Objective(s) Addressed:	1.3, 2.1, 2.2, 2.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months
Effect on New Buildings	New buildings would be required to conform to the latest floodplain regulations, which would prevent building from being constructed in flood-prone areas and decrease property losses due to flooding.
Effect on Existing Buildings	Existing buildings would be required to conform to existing and updated floodplain regulations, which would decrease property losses due to flooding and prevent reconstruction in flood-prone areas.
Cost Effectiveness	Cost Effective – There is no cost for this project while having the benefit of reducing property damage due to flooding.
Discussion: This would prevent future construction of non-flood hardened structures in flood-prone areas. The prevention of such construction would decrease future property losses to floods.	

City of Rosebud	Relocate or flood proof critical facilities in A Zones, including attendant utility and sanitary facilities, to meet existing FEMA NFIP standards
Location:	A Zones
Objective(s) Addressed:	1.3, 2.3, 4.1, 4.2, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$500,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, Local Funds
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	New facilities within A Zones will be flood proof
Effect on Existing Buildings	Existing facilities within A Zones will be retrofitted to be flood proof or else relocated outside of the A Zones
Cost Effectiveness	Cost Effective – The cost of this project is low while providing a drastically increased potential to decrease property flood losses.
Discussion: Currently, critical facilities within A Zones are not flood proof. This action will ensure that all critical facilities in such zones are relocated outside of the zones or else retrofitted to be flood proof and watertight below the base flood elevation if the structure cannot be relocated.	

Mitigation Action Items – Windstorms & Tornadoes

As windstorms influence the same or similar types of hazards as tornadoes, including the threat to life and the destruction of property, mitigation actions identified for tornadoes will be effective in mitigating windstorm hazards as well.

Falls County	Develop and Implement the Storm Ready Program from the National Weather Service
Objective(s) Addressed:	1.1,1.2, 2.1, 2.2, 3.1, 3.2,3.3, 3.4, 4.3, 5.2, 5.3, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$1,500.00
Potential Funding Source:	General Fund
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is relatively high but the benefits would be to potentially reduce the risk of lives lost due to tornados.
Discussion: This program helps arm America's communities with the communication and safety skills needed to save lives and property–before and during the event. Storm Ready helps community leaders and emergency managers strengthen local safety programs. StormReady communities are better prepared to save lives from the onslaught of severe weather through better planning, education, and awareness. No community is storm proof, but StormReady can help communities save lives.	

Falls County	Construct a hardened "Community Safe Room"
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,500,000.00
Potential Funding Source:	PDM, HMGP, EMPG
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Three years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the loss of life from tornados.
Discussion: By constructing a Community "Safe Room" the County will be providing emergency shelter for its citizens who are unable to afford the cost of building a safe room for themselves, such as the elderly, disabled and the poor. This project will save untold numbers of lives in the area where the safe room is located.	

Falls County	Retrofit existing buildings and implement design and construction for community shelters and/or public facilities.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, HMGP, SHSP
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of tornados on new buildings by adding and strengthening the shelters in the buildings.
Effect on Existing Buildings	This action will reduce the effects of tornados on existing buildings by adding and strengthening the shelters in the buildings.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of tornados.
Discussion: Utilizing current specifications through FEMA publications, "safe" rooms will be installed at centralized critical facility locations	

City of Lott	Incorporate building codes that require wind-resistant construction techniques
Objective(s) Addressed:	1.3, 2.1, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	Medium
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	New buildings would be required to implement wind-resistant construction techniques that minimize damages from high winds and tornadoes.
Effect on Existing Buildings	This action would require existing buildings permitted for major modifications or repairs to implement wind-resistant construction techniques to mitigate damages from high winds and tornadoes.
Cost Effectiveness	Cost Effective – There is no cost for the project outside of administrative staff time and the benefits would be to potentially reduce the damage to new and existing buildings from windstorms and tornados.
Discussion: This action would utilize regulatory measures to improve the structural capability for new and existing buildings to withstand windstorms and tornadoes. Currently no building codes within the city require the implementation of wind-resistant construction methods.	

City of Lott	Develop and implement processes to ensure continued operation of utility infrastructure in easements and rights of ways remain free of obstruction from excessive debris and brush.
Objective(s) Addressed:	1.3, 1.4, 2.1, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$30,000.00
Potential Funding Source:	HMGP, SHSP, PDM Grant, EMPG Grant, Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action would prevent the loss of utility and communication services to new buildings by reducing the likelihood of power and telephone outages due to downed lines caused by falling tree branches and other debris.
Effect on Existing Buildings	This action would prevent the loss of utility and communication services to existing buildings by reducing the likelihood of power and telephone outages due to downed lines caused by falling tree branches and other debris.
Cost Effectiveness	Cost Effective – The cost of this project is relatively high but the benefits would be to potentially reduce the loss of utility service and damage to new and existing buildings by reducing the potential for debris damage.
Discussion: The implementation of processes to ensure that tree branches, dead trees, and brush are cleared from utility infrastructure and rights of way would prevent much of the loss of utilities during windstorms and tornadoes. The reduction of potential debris also reduces the risk of damage to new and existing buildings.	

City of Marlin	Establish and conduct public education activities on the removal of potential debris near homes and businesses
Objective(s) Addressed:	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.3, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	General Fund, EMPG, HMGP, PDM
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will reduce the effects of tornados and windstorms on new buildings by educating the owners on the most up to date methods of removing potential debris surrounding their home or business.
Effect on Existing Buildings	This action will reduce the effects of tornados and windstorms on existing buildings by educating the owners on the most up to date methods for the removal of potential debris surrounding their home or business.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the damages caused by tornadoes and windstorms.
Discussion: By educating the public on effective debris reduction techniques, including the removal of trees and branches over structures and the effective storage of outdoor furniture and items, potential damages from these items when blown by the severe winds produced by windstorms or tornadoes will be reduced.	

City of Marlin	Establish a community forum to identify and address residential tornado and windstorm mitigation needs.
Objective(s) Addressed:	1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.3, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	This action will provide the owners of new buildings a mechanism to identify and address mitigation needs within the City, including structural modifications, land use planning, and regulatory measures.
Effect on Existing Buildings	This action will provide the owners of existing buildings a mechanism to identify and address mitigation needs within the City, including structural modifications, land use planning, and regulatory measures.
Cost Effectiveness	Cost Effective – The cost of this project is low, as the only cost is that of city administrative staff time, as compared to the potential benefits of reducing the risk to lives and property from tornados and windstorms.
Discussion: The use of a community forum increases public education and awareness of tornado and windstorm hazards while providing a mechanism for property owners and residents to discuss and share mitigation activities that they can incorporate to reduce the potential for the loss of life and property from tornadoes and windstorms.	

City of Marlin	Incorporate building codes that require wind-resistant construction techniques
Objective(s) Addressed:	1.3, 2.1, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	Medium
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	New buildings would be required to implement wind-resistant construction techniques that minimize damages from high winds and tornadoes.
Effect on Existing Buildings	This action would require existing buildings permitted for major modifications or repairs to implement wind-resistant construction techniques to mitigate damages from high winds and tornadoes.
Cost Effectiveness	Cost Effective – There is no cost for the project outside of administrative staff time and the benefits would be to potentially reduce the damage to new and existing buildings from windstorms and tornados.
Discussion: This action would utilize regulatory measures to improve the structural capability for new and existing buildings to withstand windstorms and tornadoes. Currently no building codes within the city require the implementation of wind-resistant construction methods.	

City of Rosebud	Implement the utilization of advanced warning systems to notify residents of approaching windstorms and tornadoes
Objective(s) Addressed:	1.1, 1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$15,000.00
Potential Funding Source:	General Fund, EMPG, HMGP, PDM
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the potential for loss of life caused by tornadoes and windstorms.
Discussion: Currently, the City relies on the county to alert its citizens on approaching storms. By establishing an agreement with the County, officials with the City of Rosebud would have the capability to alert its residents of approaching weather hazards, including tornadoes and windstorms, without the delay in contacting the County.	

City of Rosebud	Implement local ordinances to require that utility lines from utility poles to residential and commercial structures be buried
Objective(s) Addressed:	1.3, 2.1, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	The burial of utility lines from the service pole to the new building will reduce the damages caused by debris from tornadoes and windstorms
Effect on Existing Buildings	Existing buildings permitted for structural modification would be required to bury utility lines in order to reduce potential damages from debris caused by tornadoes and windstorms
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the potential for property damage caused by tornadoes and windstorms.
Discussion: No city ordinances require the burial of utility lines. The implementation of such ordinances would decrease property damage by preventing the shearing of utility lines from new and existing structures. Furthermore, this would prevent the potential for loss of life due to electrocution by downed lines that are sheared from structures as a result of tornadoes and windstorms.	

Mitigation Action Items – Wildfires

Falls County	Develop a county wildfire protection plan that addresses the specific wildfire-related concerns within each jurisdiction as well as the unincorporated areas and established actions to be implemented to reduce vulnerability and risk to wildfire losses.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$25,000
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, HMGP, SHSP
Lead Agency/Department Responsible:	Emergency Management/Volunteer Fire Depts.
Implementation Schedule:	2 years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through the education of how to protect buildings from wildfire
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through the education of how to protect buildings from wildfire
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Wildfire mitigation measures are not widely known in rural areas such as Falls County. Developing a plan of action through working relationships with other agencies to include the Texas Forest Service would decrease the impact wildfires would have on the county through a more aggressive approach to combating the wildfires. The plan should contain specific actions to be taken that will decrease vulnerability and risk to wildfire losses, such as fuel reduction measures and other actions.	

Falls County	Create and implement a program to educate the public about reducing the fuel load around homes and buildings.
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	General Fund, EMPG, HMGP, SHSP, PDM
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings by ensuring that the fuel loads for wildfires are not around buildings.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings by ensuring that the fuel load for wildfires are not around buildings.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: This program would be to create and implement a program to educate the public through local print media and the internet about reducing the fuel load around homes and buildings.	

Falls County	Install fuels reduction and fire resistant landscaping at critical facilities.
Objective(s) Addressed:	1.1, 1.4, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000
Potential Funding Source:	General Fund, PDM Grant Program, HMGP, SHSP
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings by ensuring the fuel for a wildfire is not near a building.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings by ensuring the fuel for a wildfire is not near a building.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Wildfire mitigation measures are not widely known in rural areas such as Falls County. This action will increase that knowledge and reduce the effects of wildfires with the potential decrease of damage to critical infrastructure. Installing fire resistant landscaping would cut down on the potential for wildfires around critical county-owned facilities.	

Falls County	Develop and design a program that places smoke detectors in the homes of the senior citizens and children
Objective(s) Addressed:	1.1, 1.2, 1.4, 5.1, 5.2, 5.4
Hazards(s) Addressed:	Wildfires
Priority (High, Medium, Low):	High
Estimated Cost:	$15,000.00
Potential Funding Source:	EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	County Fire Association
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through the installation of smoke alarms in buildings to improve advanced warning times.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through the installation of smoke alarms in buildings to improve advanced warning times.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Wildfire mitigation measures are not widely known in the unincorporated areas of Falls County. Installation of smoke alarms in all buildings would greatly increase the safety factor of the county through a more aggressive approach to combating the wildfires and preventing the loss of life due to wildfires.	

City of Lott	Lessen fire sources on public lands near residences by reducing the sources of ignition
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$3,000.00
Potential Funding Source:	General Fund
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	6 months
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings by removing sources of ignition from public lands near the buildings.
Effect on Existing Buildings	This action will not reduce the effects of wildfire on existing buildings by removing fuels and sources of ignitions from public lands near the buildings.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: This program would remove ignition sources and fuel loads on public property near residential areas. This would decrease the likelihood of occurrence of wildfire damage to new and existing buildings while minimizing the impact to life safety.	

City of Lott	Create and implement a program to educate the public about reducing the fuel load around homes and buildings.
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000.00
Potential Funding Source:	General Fund, EMPG, HMGP, SHSP, PDM
Lead Agency/Department Responsible:	Volunteer Fire Department
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings by ensuring that the fuel loads for wildfires are not around buildings.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings by ensuring that the fuel load for wildfires are not around buildings.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: This program would be to create and implement a program to educate the public through local print media and the internet about reducing the fuel load around homes and buildings.	

City of Marlin	Develop and design a program that places smoke detectors in the homes of the senior citizens and children
Objective(s) Addressed:	1.1, 1.2, 1.4, 5.1, 5.2, 5.4
Hazards(s) Addressed:	Wildfires
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through the installation of smoke alarms in buildings.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through the installation of smoke alarms in buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Wildfire mitigation measures are not widely known in small towns such as the City of Marlin. Installation of smoke alarms in all buildings would greatly increase the safety factor on the city through a more aggressive approach to combating the wildfires and preventing the loss of life due to wildfires.	

City of Marlin	Establish a vegetation management program to reduce the availability of dense fuels that contribute to wildfires
Objective(s) Addressed:	1.3, 1.4, 2.1, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$15,000.00
Potential Funding Source:	EMPG Grant Program, HMGP, SHSP, PDM
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings by removing large fuel loads that are present within the city.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings by removing large fuel loads that are present within the city.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Wildfire mitigation measures are not widely known in small towns such as the City of Marlin. By managing vegetation within the city and removing large fuel loads that contribute to wildfires, the likelihood of occurrence for wildfire will be decreased.	

City of Marlin	Conduct public education initiatives that target property owners and focus on the reduction and modification of wildfire fuels
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	Volunteer Fire Department/Fire Department
Implementation Schedule:	6 months are funding is secured
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through public education on the reduction and modification of wildfire fuels.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through public education on the reduction and modification of wildfire fuels
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: By educating residents on the reduction, removal, or modification of wildfire fuels around homes and businesses, the effects of wildfire on these properties will be reduced.	

City of Rosebud	Establish a fuel modification plan that addresses the modification of wildfire fuels within the wild land urban interface
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 4.1, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	EMPG Grant Program, HMGP, SHSP
Lead Agency/Department Responsible:	City Maintenance Department/Volunteer Fire Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through long-term reduction of wildfire fuels.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through long-term reduction of wildfire fuels
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: Establishing and implementing a plan for the long-term reduction and modification of wildfire fuels in the wild land urban interface will provide long-term mitigation of wildfire damages by reducing fuel loads and implementing heat-resistant vegetation that slows the movement of wildfires through the area.	

City of Rosebud	Conduct public education initiatives that target property owners and focus on the reduction and modification of wildfire fuels
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	Volunteer Fire Department
Implementation Schedule:	6 months are funding is secured
Effect on New Buildings	This action will reduce the effects of wildfire on new buildings through public education on the reduction and modification of wildfire fuels.
Effect on Existing Buildings	This action will reduce the effects of wildfire on existing buildings through public education on the reduction and modification of wildfire fuels
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of wildfire.
Discussion: By educating residents on the reduction, removal, or modification of wildfire fuels around homes and businesses, the effects of wildfire on these properties will be reduced.	

Mitigation Action Items – Drought

Falls County	Create and implement a public education program on drought for the unincorporated areas of the county regarding water conservation and drought resistant landscaping.
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$400.00
Potential Funding Source:	General Fund
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	One year after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings directly and could impact the building through future water conservation measures.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings directly and will impact the building through water conservation measures.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: During times of drought, the demand for potable water may exceed the capacity to produce sufficient potable water for domestic, sanitation and fire protection. The educational materials that will be displayed would educate the public about water conservation measures that they can take that would help ensure a sufficient supply of potable water for the public and Fire service.	

Falls County	Develop and implement a drought contingency plan to include water conservation and mandatory water rationing.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$5,000.00
Potential Funding Source:	Local funds, SHSP, HMGP, PDM, EMPG
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will not reduce the effects of drought on new buildings directly but could impact the building through future building codes.
Effect on Existing Buildings	This action will not reduce the effects of drought on existing buildings directly but could impact the building through future building codes.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: During times of drought, the demand for potable water may exceed the capacity to produce sufficient potable water for domestic, sanitation and fire protection. The drought contingency plan provides the ability to regulate the use of potable water for non-essential uses.	

City of Lott	Develop brochure to inform citizens on water conservation and safety precautions.
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$1,000
Potential Funding Source:	Local funds, HMGP, PDM, SHSP, EMPG
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	One year after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: Brochures would be developed from information from state and federal agencies by the City Administration, printed by the city and distributed to citizens through a mass mailing; they would also be on hand at public buildings.	

City of Lott	Develop and implement a drought contingency plan to include water conservation and mandatory water rationing.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000.00
Potential Funding Source:	Local funds, HMGP, PDM, EMPG, SHSP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: During times of drought, the demand for potable water for drinking, sanitation, Fire protection, may exceed the city's capacity to produce sufficient quantity. The drought contingency plan provides the ability to regulate the use of potable water for non-essential uses.	

City of Marlin	Plant drought resistant plants and trees around critical city facilities.
Objective(s) Addressed:	1.4, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$25,000.00
Potential Funding Source:	Local funds, PDM, HMGP
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: During times of drought, the demand for potable water for drinking, sanitation, Fire protection, may exceed the city's capacity to produce sufficient quantity. The planting of drought resistant plants and trees around critical facilities will reduce the demand for potable water for landscaping purposes.	

City of Marlin	Utilize public information capabilities, including social media and printed media, to inform the public of the importance of water conservation and water rationing during drought conditions
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000.00
Potential Funding Source:	Local funds, EMPG, HMGP, PDM
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	1 year after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: Educating the public on the necessity for water conservation and rationing will decrease the consumption of water resources that rapidly become limited during drought.	

City of Rosebud	Promote xeriscaping and low-water consumption activities through public education programs
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000.00
Potential Funding Source:	Local funds, EMPG, HMGP, PDM
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	1 year after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation and xeriscaping practices.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation and xeriscaping practices.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: Educating the public on the necessity for water conservation and xeriscaping will decrease the consumption of water resources that rapidly become limited during drought.	

City of Rosebud	Establish incentive programs that promote soil health, preserve soil moisture, and help to minimize the loss of crops and topsoil during drought events
Objective(s) Addressed:	1.2, 2.2, 3.3, 3.4, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$40,000
Potential Funding Source:	Local funds, EMPG, HMGP, PDM
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	2 years after securing funding
Effect on New Buildings	No impact on new buildings
Effect on Existing Buildings	No impact on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: Agricultural losses make up most drought losses for the City. Utilizing an incentive program that encourages drought-resistant agricultural development and activities provides a mechanism to reduce the effects of drought within the area. The incentive program would require city approval for drought-reducing agricultural development plans. Residents and industries who gain approval from the city on the development of their land would receive a minor reduction in water service costs. Approved agricultural development plans would promote soil health, preserve soil moisture, and minimize the loss of crops and topsoil by defining and implementing irrigation methods and xeriscaping practices.	

City of Rosebud	Plant drought resistant plants and trees around critical city facilities.
Objective(s) Addressed:	1.4, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$25,000.00
Potential Funding Source:	Local funds, PDM, HMGP
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of drought on new buildings through increased awareness on water conservation.
Effect on Existing Buildings	This action will reduce the effects of drought on existing buildings through increased awareness on water conservation.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of drought.
Discussion: During times of drought, the demand for potable water for drinking, sanitation, Fire protection, may exceed the city's capacity to produce sufficient quantity. The planting of drought resistant plants and trees around critical facilities will reduce the demand for potable water for landscaping purposes.	

Mitigation Action Items – Extreme Heat

Falls County	Implement an extreme heat public awareness campaign to educate county residents about the effects and dangers of extreme heat.
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$1,000.00
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, HMGP, SHSP, local funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by educating residents about the effects and dangers of extreme heat.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by educating residents about the effects and dangers of extreme heat.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The project would increase public awareness and educate county residents about the effects and dangers of extreme heat and actions that can be taken to mitigate the effects.	

Falls County	Retrofit existing shelters into "Cooling Centers" for special needs populations.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000
Potential Funding Source:	HMGP, SHSP, PDM, EMPG
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by eliminating potential overloading of circuits and potential fire danger.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by eliminating potential overloading of circuits and potential fire danger.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The project would identify the centralized location, and retrofit the location with additional and more efficient air conditioners to better accommodate the facility.	

City of Lott	Install back-up power facilities at city-owned critical infrastructure.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000
Potential Funding Source:	PDM Grant Program, EMPG Grant Program, HMGP, SHSP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by eliminating damage to equipment and circuits from loss of power.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by eliminating damage to equipment and circuits from loss of power.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The installation of a generator at critical infrastructure would allow for continued operations during power outages that might occur from excessive heat events	

City of Lott	Retrofit City Hall to create "Cooling Shelters" for Special Needs populations.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$1,000,000.00
Potential Funding Source:	HMGP, SHSP, PDM Grant Program, EMPG Grant Program,
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by eliminating damage to equipment and circuits from loss of power.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The project would identify the centralized location with additional and more efficient air conditioners to better accommodate the facility so that it can be used as a cooling center for residents, particularly the at-risk population.	

City of Marlin	Install back-up power facilities at city-owned critical infrastructure.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000
Potential Funding Source:	SHSP, General Fund, PDM Grant Program, EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by eliminating damage to equipment and circuits from loss of power.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by eliminating damage to equipment and circuits from loss of power.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The installation of a generator would allow for continued operations during power outages that might occur during periods of extreme heat due to the heavy demand on the electrical grid, or from a windstorm and other disasters.	

City of Marlin	Implement a public education program to educate residents about life safety concerns during extreme heat events
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by educating the residents of new buildings on the health and safety concerns related to extreme heat events.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by educating the residents of existing buildings on the health and safety concerns related to extreme heat events.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: Educating the public about the risks associated with extreme heat events will reduce the potential for loss of life during such events.	

City of Rosebud	Implement a public education program to educate residents about life safety concerns during extreme heat events
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by educating the residents of new buildings on the health and safety concerns related to extreme heat events.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by educating the residents of existing buildings on the health and safety concerns related to extreme heat events.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: Educating the public about the risks associated with extreme heat events will reduce the potential for loss of life during such events.	

City of Rosebud	Install quick-connect emergency generator hookups for air conditioning backup at critical facilities during electrical outages that result from increased electricity demand due to extreme heat
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$70,000
Potential Funding Source:	SHSP, General Fund, PDM Grant Program, EMPG Grant Program, HMGP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of extreme heat on new buildings by eliminating damage to equipment and circuits from loss of power.
Effect on Existing Buildings	This action will reduce the effects of extreme heat on existing buildings by eliminating damage to equipment and circuits from loss of power.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: The installation of generator hookups would allow for continued operations during power outages that might occur during periods of extreme heat due to the heavy demand on the electrical grid, or from a windstorm and other disasters.	

Mitigation Action Items – Hail

Falls County	Install covered parking at county critical infrastructure to provide protection for county vehicles, employees, and residents from hail storms.
Objective(s) Addressed:	1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$60,000.00
Potential Funding Source:	HMGP, SHSP, Local funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of hail on new buildings by making the building more resistant to hail damage.
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: The project can be implemented by the County Commissioners and will provide great cost savings by preventing hail damage to county vehicles and potential injury to employees and residents by providing covered parking around critical infrastructure.	

Falls County	Install hail resistant roofing on critical infrastructure buildings.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$125,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of hail on new buildings by making the building less resistant to hail damage
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: Damage from hail can be underestimated, although not preventable, damage and life safety risks from this hazard can be lessened by installing hail-resistant roofing on county-owned critical infrastructure facilities	

City of Lott	Build public over-head shelters for hail storms throughout the city of Lott.
Objective(s) Addressed:	1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$100,000.00
Potential Funding Source:	HMGP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: This program will lessen the potential injury to the citizens of Lott by providing them basic over-head cover in the event that they are caught out in a hailstorm, thereby reducing the potential loss of life and injury. The shelters would be implemented as an extension of existing public buildings and be constructed in the form of covered gathering areas.	

City of Lott	Update existing websites and social media platforms to address common types of hail damage and injuries and how to prevent them
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	This action will reduce the effects of hail on new buildings by educating residents on how to make the building more resistant to hail damage.
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs by educating the public on how to prevent hail damage from occurring
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: This action will lessen the potential for property damage and injury by educating the public on ways to prevent such effects of hail	

City of Lott	Install hail resistant roofing on critical infrastructure buildings.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$125,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	Public Works/City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of hail on new buildings by making the building less resistant to hail damage
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: Damage from hail can be underestimated, although not preventable, damage and life safety risks from this hazard can be lessened by installing hail-resistant roofing on county-owned critical infrastructure facilities	

City of Lott	Incorporate standard operating procedures for the activation of existing emergency alert systems as storms with a high propensity for hail approach
Objective(s) Addressed:	1.3, 1.4, 2.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: Utilizing existing advanced warning systems to alert residents of potential hailstorms will reduce the potential for loss of life or injuries resulting from hailstorms	

City of Marlin	Update existing websites and social media platforms to address common types of hail damage and injuries and how to prevent them
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	This action will reduce the effects of hail on new buildings by educating residents on how to make the building more resistant to hail damage.
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs by educating the public on how to prevent hail damage from occurring
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: This action will lessen the potential for property damage and injury by educating the public on ways to prevent such effects of hail	

City of Marlin	Establish permit discounting mechanism to encourage the use of hardening products for roofing
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	New buildings will be more likely to be constructed with roofs capable of withstanding hail
Effect on Existing Buildings	Existing buildings will be more likely to be retrofitted with hail-resistant roofing
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: By encouraging the construction or replacement of roofing with hardened roofing materials, the damages from hail can be reduced on both new and existing buildings.	

City of Rosebud	Review local building codes to determine if revisions are necessary to increase requirements for hail-impact-resistant roofing and other materials
Objective(s) Addressed:	1.3, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	2 years
Effect on New Buildings	This action will reduce the effects of hail on new buildings by requiring they be more resistant to hail damage.
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings by requiring they be more resistant to hail damage
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: This action would enhance existing codes to incorporate hail-resistant construction requirements that decrease the potential for property damage due to hail.	

City of Rosebud	Implement a public education program to educate residents about life safety and property protection concerns related to hailstorms
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of hail on new buildings by educating the residents of new buildings on the health and safety concerns, as well as the structural protection measures available as they relate to hail events.
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings by educating the residents of new buildings on the health and safety concerns, as well as the structural protection measures available as they relate to hail events.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of extreme heat.
Discussion: Educating the public about the risks associated with hail events will reduce the potential for loss of life and damage to property during such events.	

City of Rosebud	Incorporate outdoor warning sirens
Objective(s) Addressed:	1.1, 1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$100,000.00
Potential Funding Source:	HMGP, PDM Grant Program, EMPG Grant Program, SHSP
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	18 months after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: The installation of outdoor warning sirens will drastically reduce the potential for injury and the loss of life resulting from hail. In addition to installing warning sirens, the city will develop a policy for using the sirens to provide early notification of severe weather events, including hail.	

City of Rosebud	Install hail resistant roofing on critical infrastructure buildings.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$125,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	Public Works/City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	This action will reduce the effects of hail on new buildings by making the building less resistant to hail damage
Effect on Existing Buildings	This action will reduce the effects of hail on existing buildings through less damage to buildings and defraying cost of repairs
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of hail.
Discussion: Damage from hail can be underestimated, although not preventable, damage and life safety risks from this hazard can be lessened by installing hail-resistant roofing on county-owned critical infrastructure facilities	

Mitigation Action Items – Winter Storms

Falls County	Establish a memoranda of understanding between the County and the Texas Department of Transportation to allow for the dissemination of warning messages on roadway signboards
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	Emergency Management
Implementation Schedule:	12 months
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The program will be used to purchase information signs to inform travelers of road conditions in other locations so they can make contingency plans. This will prevent travelers from becoming stranded between towns away from shelters.	

Falls County	Implement and conduct public education programs to inform residents of the dangers of winter storms
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$10,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will not reduce the effects of winter storm on new buildings.
Effect on Existing Buildings	This action will not reduce the effects of winter storms on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The programs would inform residents of the health and safety hazards caused by winter storms. By educating the public, the potential for loss of life, illness and injury will be decreased.	

Falls County	Establish procedures to maintain road sanding or salting capabilities during winter months when there is the greatest likelihood of winter storm events.
Objective(s) Addressed:	1.3, 1.4, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$60,000.00
Potential Funding Source:	HMGP, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	No effect on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The procedures would establish a capability for reducing the risk to life from severe weather events by ensuring that affected roads were sanded or salted when ice or snow accumulates.	

Falls County	Purchase back-up generators to maintain power to the courthouse.
Objective(s) Addressed:	1.2,1.4,2.2,5.1,5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$250,000.00
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing emergency power to the courthouse.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance citizen safety by providing emergency generator in the event of a winter storm that may make travel conditions too hazardous for staff to leave the courthouse. This project would also ensure the continuity of government, including emergency services, during winter storm events	

Falls County	Review and revise existing building codes to improve structural ability to withstand snow and ice weight
Objective(s) Addressed:	1.3, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Not applicable
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	12 months
Effect on New Buildings	New buildings will be required to conform to building codes that prevent structural damage due to snow and ice accumulation
Effect on Existing Buildings	Existing buildings that undergo major modification will be required to conform to building codes that prevent structural damage from snow and ice accumulation
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project will revise existing building standards to include winter storm mitigation measures. This will provide a mechanism for ensuring that buildings are capable of withstanding the normal snow and ice loading that can be expected within the unincorporated areas of the county.	

City of Lott	Implement and conduct public education programs to inform residents of the dangers of winter storms
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will not reduce the effects of winter storm on new buildings.
Effect on Existing Buildings	This action will not reduce the effects of winter storms on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The programs would inform residents of the health and safety hazards caused by winter storms. By educating the public, the potential for loss of life, illness and injury will be decreased.	

City of Lott	Purchase back-up generators to maintain power to the city hall and water/wastewater pump system.
Objective(s) Addressed:	1.2,1.4,2.2,5.1,5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$175,000.00
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration/Public Works
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing emergency power to the city hall and water/wastewater infrastructure.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance citizen safety by providing emergency generator in the event of a winter storm that may make travel conditions too hazardous for staff to leave the city hall. This project would also ensure the continuity of government, including emergency services, during winter storm events	

City of Lott	Enhance early warning system by providing targeted facilities with weather radios.
Objective(s) Addressed:	1.1, 1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$500.00
Potential Funding Source:	Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	2 months after securing funding
Effect on New Buildings	This project will mitigate the effects of winter storms on new buildings by providing early warning of Winter Storms thereby permitting owners to take appropriate measures to reduce the effects of the storm.
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing early warning of Winter Storms thereby permitting owners to take appropriate measures to reduce the effects of the storm.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance early warning system by providing weather radios to critical facilities that will allow appropriate measures to be taken to mitigate the potential damage that winter storms can cause.	

City of Marlin	Enhance early warning system by providing targeted facilities with weather radios.
Objective(s) Addressed:	1.1, 1.2, 2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$500.00
Potential Funding Source:	Local Funds
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	2 months after securing funding
Effect on New Buildings	This project will mitigate the effects of winter storms on new buildings by providing early warning of Winter Storms thereby permitting owners to take appropriate measures to reduce the effects of the storm.
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing early warning of Winter Storms thereby permitting owners to take appropriate measures to reduce the effects of the storm.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance early warning system by providing weather radios to critical facilities that will allow appropriate measures to be taken to mitigate the potential damage that winter storms can cause.	

City of Marlin	Purchase back-up generators to maintain power to city hall.
Objective(s) Addressed:	1.2,1.4,2.2, 5.1, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$85,000.00
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing emergency power to the Marlin City Hall.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance citizen safety by providing emergency generator in the event of a winter storm that may make travel conditions too hazardous for staff to leave City Hall. This project would also ensure the continuity of government, including emergency services, during winter storm events	

City of Marlin	Implement and conduct public education programs to inform residents of the dangers of winter storms
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will not reduce the effects of winter storm on new buildings.
Effect on Existing Buildings	This action will not reduce the effects of winter storms on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The programs would inform residents of the health and safety hazards caused by winter storms. By educating the public, the potential for loss of life, illness and injury will be decreased.	

City of Marlin	Establish road clearance and closure protocols to ensure that passable roads are deiced and hazardous roads are closed during winter storm events
Objective(s) Addressed:	1.3, 1.4, 2.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Local funds
Lead Agency/Department Responsible:	City Maintenance Department
Implementation Schedule:	12 months
Effect on New Buildings	This action will not reduce the effects of winter storm on new buildings.
Effect on Existing Buildings	This action will not reduce the effects of winter storms on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The program would establish standard operating practices that would ensure the protection of life and property by closing unsafe roads and deicing roads during winter storm events.	

City of Rosebud	Support and encourage the burial of power lines in new and existing subdivisions to alleviate downed power lines.
Objective(s) Addressed:	1.1, 3.1, 3.2, 3.3, 3.4, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Not applicable
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months
Effect on New Buildings	This project will mitigate the effects of winter storms on new buildings by preventing snow and ice from accumulating on nearby power lines and causing those lines to break.
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by preventing snow and ice from accumulating on nearby power lines and causing those lines to break.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to support and encourage utility provider decisions for the burial of power lines in new and existing subdivisions. This would alleviate the event of downed power lines due to ice accumulation during Winter Storms.	

City of Rosebud	Implement and conduct public education programs to inform residents of the dangers of winter storms
Objective(s) Addressed:	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 4.3, 5.1, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$2,000
Potential Funding Source:	HMGP, Local Funds, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	6 months after securing funding
Effect on New Buildings	This action will not reduce the effects of winter storm on new buildings.
Effect on Existing Buildings	This action will not reduce the effects of winter storms on existing buildings
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: The programs would inform residents of the health and safety hazards caused by winter storms. By educating the public, the potential for loss of life, illness and injury will be decreased.	

City of Rosebud	Implement vegetation management ordinances that require the removal of branches and limbs that are at risk of collapse under ice accumulation in order to prevent injury, loss of life, damage to property, or obstruction of roadways.
Objective(s) Addressed:	1.3, 2.2, 2.3, 3.4, 4.1, 4.3, 5.2, 5.4
Priority (High, Medium, Low):	High
Estimated Cost:	No cost
Potential Funding Source:	Not applicable
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Effect on New Buildings	This project will mitigate the effects of winter storms on new buildings by reducing damages from falling limbs, branches, and trees under ice loads
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by reducing damages from falling limbs, branches, and trees under ice loads
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project will implement an ordinance that required that property owners manage vegetation to ensure that trees, branches and limbs that are not capable of withstanding ice accumulation are removed so that they do not pose a risk to life or property.	

City of Rosebud	Purchase back-up generators to maintain power to the city hall.
Objective(s) Addressed:	1.2,1.4,2.2,5.1,5.4
Priority (High, Medium, Low):	High
Estimated Cost:	$175,000.00
Potential Funding Source:	HMGP, SHSP, General Fund, PDM Grant Program, EMPG Grant Program
Lead Agency/Department Responsible:	City Administration/Public Works
Implementation Schedule:	Two years after securing funding
Effect on New Buildings	No effect on new buildings
Effect on Existing Buildings	This project will mitigate the effects of winter storms on existing buildings by providing emergency power to the city hall.
Cost Effectiveness	Cost Effective – The cost of this project is low compared to the potential benefits of reducing the effects of a winter storm.
Discussion: This project is to enhance citizen safety by providing emergency generator in the event of a winter storm that may make travel conditions too hazardous for staff to leave the city hall. This project would also ensure the continuity of government, including emergency services, during winter storm events	

Monitoring

Within one year after the Falls County MAP is approved by FEMA, Falls County and its participating jurisdictions 's elected officials, in coordination with the FCMPC and the FCMPC general membership teams, will undertake formal review and evaluation of the hazards analysis and this MAP to ensure the documents remain current. New mitigation measures will be developed and included in the revised document as necessary. A full, formal review, evaluation, and update process will be initiated 3 years from expiration of the plan. Twenty-four months prior to the MAP's expiration the revised and updated plan will be submitted to TDEM for review. In the future, information in this plan will be incorporated into other existing plans and reports.

Falls County and its participating jurisdictions will update the information contained in the plan annually. A record of changes will be logged during this process.

Again, Falls County and the participating jurisdictions are committed to involving the public directly in the implementation and monitoring of this MAP. A copy of any updates will be kept current on the MAP viewable on the Heart of Texas Council of Government's Homeland Security Division regional preparedness website (http://www.hotready.com/) and available for public viewing and input.

The planning committee developed a procedure for review and updating the plan. Each department that has an action item in the plan or is responsible for mitigating disasters will be on the committee, including, but not limited to, the following departments:

- Emergency Planning
- Public Works
- Fire
- Police
- Streets
- Code Enforcement
- Public Information

The planning committee will review this MAP on an annual basis. The meetings will be held in February of each year and will be scheduled by the Emergency Management Coordinator for Falls County. Prior to the meetings, each department within Falls County and the participating jurisdictions will obtain reports from the persons who are responsible for the implementation of each action item. Each goal will be reviewed to determine if the action items have been completed or need to be revised. The departments will then review the reports and, if necessary suggest revisions and justifications for the revisions to the plan.

Monitoring Actions	Involved Parties	Date
Notify Departments of Review	Falls County Emergency Management Coordinator (EMC)	January (annually)
Evaluate/Review Plan	Falls County EMC and participating jurisdiction department heads	February (annually)
Hold Revisions Meeting	Falls County EMC and departments	March (annually if needed)
Update Plan	Falls County EMC	May (annually if needed)

Evaluating

Each department at the first of each year will evaluate the mitigation actions. After notification from the Falls County Emergency Management Coordinator each department will determine if any of their actions are still viable or need to be revised. Actions could be removed if they have been accomplished or are no longer viable for inclusion in the plan. If actions are accomplished by other means other than those noted in the mitigation plan, this will also need to be

documented in the plan. After evaluating the plan, departments will meet at the direction of the Falls County EMC to discuss the revisions. Revisions will then be forwarded to the Falls County Emergency Management Coordinator to update the plan.

Evaluating Actions	Involved Parties	Date
Notify Departments of Review	Falls County Emergency Management Coordinator (EMC)	January (annually)
Evaluate/Review Plan	Falls County EMC and city department heads	February (annually)
Hold Revisions Meeting	Falls County EMC and departments	March (annually if needed)
Update Plan	Falls County EMC	May (annually if needed)

Individuals within departments responsible for this MAP (as well as individuals responsible for the various plans mentioned in this MAP) shall use, but are not limited to using, the following criteria to evaluate:

Criteria	Yes	No	Solution
Are goals still applicable?			
Have any changes in the state or community made the goals obsolete or irrelevant?			
Do existing actions need to be reprioritized for implementation?			
Do the plan's priorities correspond with state priorities?			
Can actions be implemented with available resources?			

Source: Bringing the plan to life: Implementing the hazard mitigation plan, FEMA 386-4

Updating

The Mitigation Action Plan will be reviewed and evaluated annually and updated if revisions are needed. The MAP will be formally updated within the five year cycle to include new hazards and new mitigation actions. Also in the plan will be updated on the disposition of existing mitigation actions to see if they are still viable and if they need to stay in the plan or be removed. Revisions will then be forwarded to the Falls County Emergency Management Coordinator to update the plan. The plan revisions will be completed and returned to the TDEM Mitigation Section for review. If no changes to the plan are necessary, justification will be forwarded to the TDEM Mitigation Section.

A formal revision of the MAP will be done within the five-year cycle if no updates have been made before that time.

Updating Actions	Involved Parties	Date
Notify Departments of Review	Falls County Emergency Management Coordinator (EMC)	January (annually)
Evaluate/Review Plan	Falls County EMC and participating jurisdiction department heads	February (annually)
Hold Revisions Meeting	Falls County EMC and departments	March (annually if needed)
Solicit Public Opinion	Falls County EMC, departments, public	March (annually if needed)
Update Plan	Falls County EMC	May (annually if needed)
Submit to State/FEMA	Falls County EMC	24 months prior to plan expiration
Publish Plan Update	Falls County EMC	Upon formal approval by FEMA

Falls County and its participating jurisdictions' elected officials, in coordination with the FCMPC and the FCMPC general membership teams will be responsible for coordinating the implementation of actions identified in this MAP and undertaking other activities to reduce vulnerability and risks within Falls County and its participating jurisdictions. Participating jurisdictions will continue to evaluate the plan and identified actions annually and solicit public opinion regarding progress and future updates/revisions to the plan, as identified in the table above. The existence of this MAP will also be publicized in the local newspapers. All public input relating to the plan or identified actions shall be directed to a single point of contact. The point of contact for Falls County and all participating jurisdictions is the Falls County Emergency Management Coordinator. The County EMC's contact information shall be made available to the public.

SECTION VII - RESOURCES

American Society of Civil Engineers (ASCE), "Facts about Windstorms." Web site: www.windhazards.org/facts.cfm

Bureau of Reclamation, U.S. Department of the Interior. Web site: www.usbr.gov

Federal Emergency Management Agency (FEMA). Web site: www.fema.gov

National Climatic Data Center (NCDC), U.S. Department of Commerce, National Oceanic and Atmospheric Administration Web site http://www.ncdc.noaa.gov/

National Drought Mitigation Center, University of Nebraska-Lincoln Web site: www.drought.unl.edu/index.htm

National Severe Storms Laboratory (NSSL), U.S. Department of Commerce, National Oceanic and Atmospheric Administration Web site: www.nssl.noaa.gov

National Weather Service (NWS), U.S. Department of Commerce, National Oceanic and Atmospheric Administration Web site: www.nws.noaa.gov

Storm Prediction Center (SPC), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service Web site: www.spc.noaa.gov

The Tornado Project, St. Johnsbury, Vermont Web site: www.tornadoproject.com

Texas Tech University Weather, Lubbock, Texas http://depts.ttu.edu/weweb/research/debrisimpact/reports/dds.pdf

United States Geological Survey (USGS), U.S. Department of the Interior Web site: www.usgs.gov

SECTION VIII – APPENDICES

Appendix 1

Sign In Sheet from Public Meeting

MBW Enterprises
Falls County Hazard Mitigation Project Initiation Meeting

Wednesday, December 08, 2010

Please Print

Guest

Name	REPRESENTING	PHONE #	E-MAIL ADDRESS
JERRY KINDRED	FALLS COUNTY	254-883-3376	JERRY.KINDRED@CO.FALLS.TX.US
Boyce Wilson	MBW Enterprises	254-732-3690	Boyce.Wilson@HOT.RR.com
Eric Kuykendall	City of Rosebud	254-583-7926	city manager@rosebud tx.org
Patsy Fischer	City of Rosebud	254-583-7926	Mayor, City of Rosebud
R. Steven Sharp	Falls County	254-883-1426	
Curtis Keener	City of Marlin	254-883 1454	firechief@marlintx.net
EDWARD SLIVA	CITY OF LOTT	254-541-1479	dward.sliva@yahoo.com
William McDonald	City of Marlin	254-883-1450	City Mgr. w.mcdonald@marlintx.net

Appendix 2

Notice of Public Meeting

PUBLIC MEETING NOTICE

Falls County Hazard Mitigation Action Plan Update

Falls County and the cities of Lott, Marlin, and Rosebud are holding a public meeting as part of their efforts to develop a countywide hazard mitigation plan. The purpose of the public meeting is to solicit information from the public to help identify natural and man-made hazards affecting residents of the region and recommend actions to reduce the impact of those hazards.

Development of the countywide hazard mitigation plan is sponsored by the Falls County Office of Emergency Management. The Falls County Hazard Mitigation Plan will identify hazards facing participating communities, assesses risks, and recommend actions to reduce the risk of loss of life and property from those hazards. Hazards on which public input is sought include, but are not limited to: flooding, fire, drought, severe winter storms, tornadoes, windstorms, hailstorms, hazardous materials incidents, extreme heat, fuel pipeline accidents, and any other hazards of concern to residents. Members of the public are encouraged to attend and present their views.

FALLS COUNTY PUBLIC MEETING
January 18, 2011
6:00 PM
Marlin City Hall – Council Meeting Room
101 Fortune Street
Marlin, TX 76661

At the public meeting, an opportunity will be provided for the public to offer recommendations on hazards of concern and ways to reduce risks. If you cannot attend the public meeting, information about the plan can be obtained on the internet at http://www.mbwenterprises.net/fallscounty.

Questions about the plan should be addressed to MBW Enterprises, the consultant responsible for developing the plan update, at 254-749-0089 or by email at Boyce.wilson@mbwenterprises.net. You may also contact Jerry Kindred, the Falls County Emergency Management Coordinator, by email at Jerry.Kindred@falls.co.tx.us.

THIS NOTICE IS TO BE POSTED IN PUBLIC VIEW AT ALL CITY AND COUNTY FACILITIES

Appendix 3

Falls County and the Cities of Lott, Marlin, and Rosebud's Public Survey with Results

Dear Citizen,
We need your help! We are developing a mitigation plan to identify activities that could reduce our risk from natural disasters.

This questionnaire will help us understand your households' level of preparedness. The information you provide about your needs will help improve our community's readiness to respond in times of disasters.

Thank you for your participation.

Community Surveys

Falls County and Cities of Lott, Marlin, and Rosebud

Number of Surveys Printed for Distribution: 200
Number of Surveys Sent In: 12

MBW Enterprises
Professional Services & Consulting

PUBLIC PARTICIPATION SURVEY

FOR

HAZARD MITIGATION PLANNING

Falls County is currently engaged in a county-wide planning process to become less vulnerable to disasters, and your participation is important to us!

Local governments within the county are working together to prepare a *Falls County Hazard Mitigation Action Plan*. The purpose of this Plan is to identify and assess the county's disaster risks and determine how to best minimize or manage those risks. Upon completion, the Plan will be presented to each local governing body for adoption and then submitted to the Texas Division of Emergency Management and the Federal Emergency Management Agency for review and approval.

This survey provides an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand your hazard concerns and can lead to activities that will help lessen the impact of future hazard events.

Please help us by completing this survey and returning it to:

MBW Enterprises
ATTN: Boyce Wilson
812 Quarter Horse Trail
Waco, TX 76706
(254) 732-3690

If you have any questions regarding this survey or want to know more about the mitigation plan, please call or send an email to Boyce.Wilson@hot.rr.com.

1. **What city/county do you live in?** Falls County (8), Marlin (4)

2. **Have you ever experienced or been impacted by a disaster?**

   ☐ ☐ Yes (please explain):
   ☐ ☐ No (12)

3. **How concerned are you about the possibility of your community being impacted by a disaster?**

   ☐ ☐ Extremely concerned
   ☐ ☐ Somewhat concerned (3)
   ☐ ☐ Not concerned (9)

4. **Please select the hazard you think is the *highest threat* to your neighborhood (please select only one):**

   ☐ ☐ Dam Failure
   ☐ ☐ Drought (4)
   ☐ ☐ Earthquake
   ☐ ☐ Erosion
   ☐ ☐ Extreme Heat (3)
   ☐ ☐ Flood (1)
   ☐ ☐ Hail (1)
   ☐ ☐ Hazardous Materials
   ☐ ☐ Hurricane
   ☐ ☐ Land Subsidence
   ☐ ☐ Landslide
   ☐ ☐ Lightning
   ☐ ☐ Major Urban Fire
   ☐ ☐ Pipeline Failure
   ☐ ☐ Severe Winter Storm
   ☐ ☐ Terrorism
   ☐ ☐ Tornado / Wind Storm (3)
   ☐ ☐ Wild land Fire
   ☐ ☐ Other (please explain):

5. **Please select the hazard you think is the *second highest threat* to your neighborhood (please select only one):**

□□Dam Failure
□□Drought (1)
□□Earthquake
□□Erosion
□□Extreme Heat (2)
□□Flood
□□Hail (1)
□□Hazardous Materials
□□Hurricane
□□Land Subsidence
□□Landslide
□□Lightning
□□Major Urban Fire
□□Pipeline Failure
□□Severe Winter Storm (1)
□□Terrorism
□□Tornado / Wind Storm (3)
□□Wild land Fire (4)
□□Other (please explain):

6. **Is there another hazard not listed in this survey that you think is a wide-scale threat to your neighborhood?**

□□Yes (please explain):
□□No (12)

7. **Is your home located in a floodplain?**

□□Yes
□□No (7)
□□I don't know (5)

8. **Do you have flood insurance?**

□□Yes
□□No (12)
□□I don't know

   a. **If "No", why not?**

   □□Not located in floodplain (7)
   □□Too expensive (3)
   □□Not necessary because it never floods
   □□Not necessary because I'm elevated or otherwise protected (1)
   □□Never really considered it (1)
   □□Other (please explain):

9. **Have you taken any actions to make your home or neighborhood more resistant to hazards?**

□□Yes

□ □No (12)

a. If "Yes", please explain:

10. Are you interested in making your home or neighborhood more resistant to hazards?

□ □Yes (5)
□ □No (7)

11. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?

□ □Newspaper (1)
□ □Television (2)
□ □Radio
□ □Internet (2)
□ □Mail (6)
□ □Public workshops/meetings (1)
□ □Other (please explain):

12. In your opinion, what are some steps your local government could take to reduce or eliminate the risk of future hazard damages in your neighborhood?

No response (12)

13. A number of community-wide activities can reduce our risk from hazards. In general, these activities fall into one of the following six broad categories. Please tell us how important you think each one is for your community to consider pursuing.

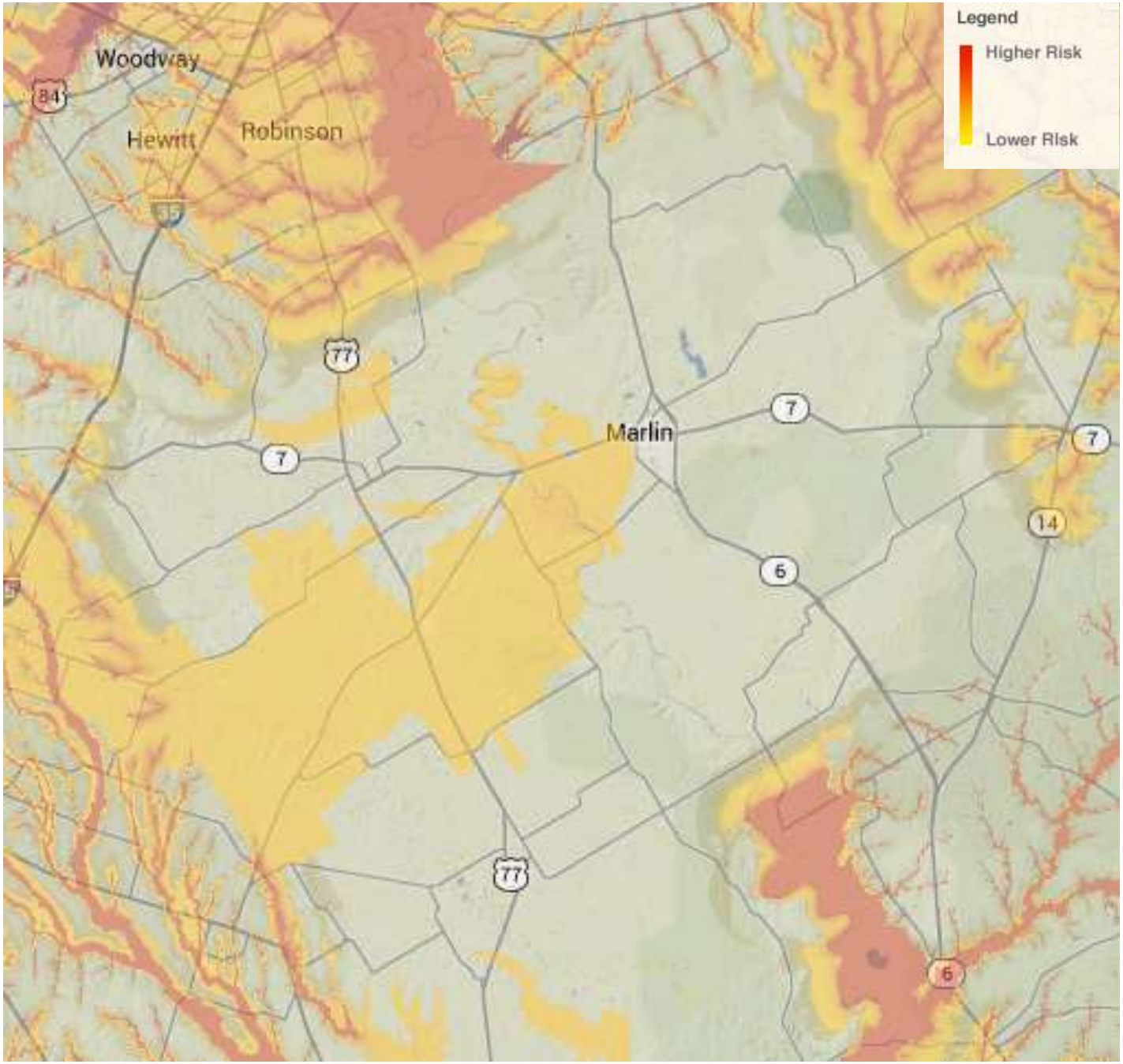
Category	Very Important	Somewhat Important	Not Important
1. Prevention Administrative or regulatory actions that influence the way land is developed and buildings are built. Examples include planning and zoning, building codes, open space preservation, and floodplain regulations.	3	5	3

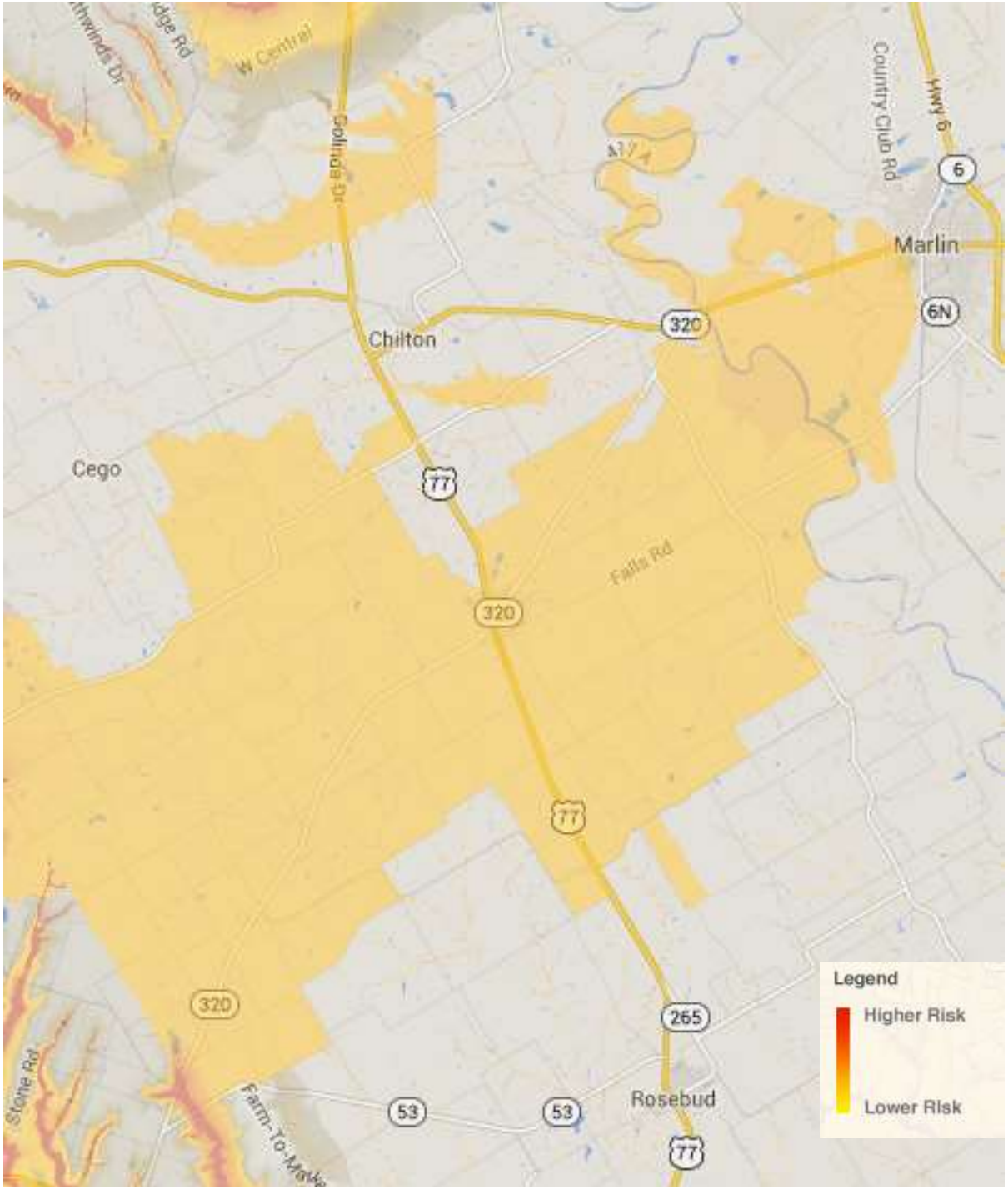
2. Property Protection Actions that involve the modification of existing buildings to protect them from a hazard or removal from the hazard area. Examples include acquisition, relocation, elevation, structural retrofits, and storm shutters.	2	4	5
3. Natural Resource Protection Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples include: floodplain protection, habitat preservation, slope stabilization, riparian buffers, and forest management.	4	5	2
4. Structural Projects Actions intended to lessen the impact of a hazard by modifying the natural progression of the hazard. Examples include dams, levees, seawalls, detention/retention basins, channel modification, retaining walls and storm sewers.	4	4	3
5. Emergency Services Actions that protect people and property during and immediately after a hazard event. Examples include warning systems, evacuation planning, emergency response training, and protection of critical emergency facilities or systems.	9	□	2
6. Public Education and Awareness Actions to inform citizens about hazards and the techniques they can use to protect themselves and their property. Examples include outreach projects, school education programs, library materials and demonstration events.	9	1	1

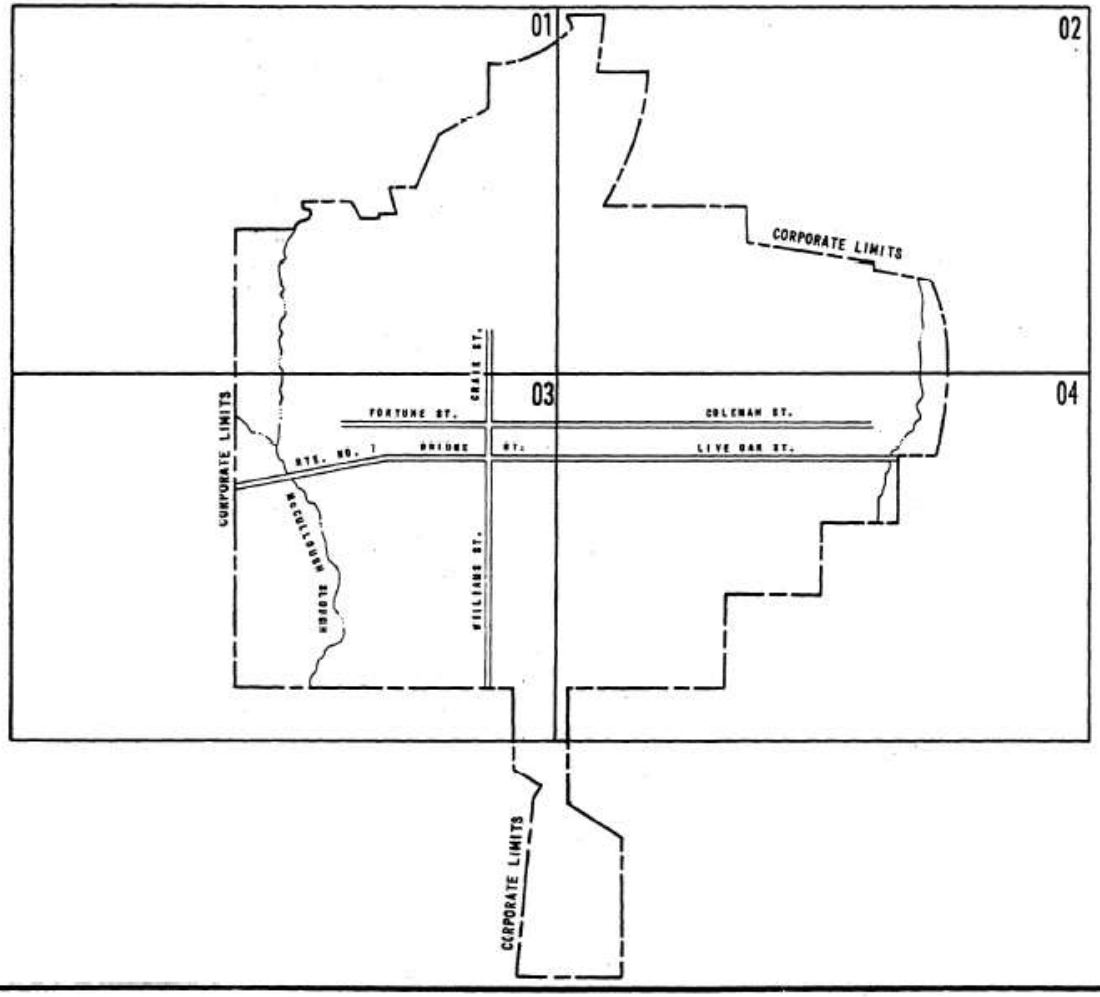
THANK YOU FOR YOUR PARTICIPATION!

Appendix 4

FIRMettes


Legend
Higher Risk
Lower Risk
Woodway
Hewitt
Robinson
Marlin
84
77
7
6
14


W Central
Collinda Dr
Country Club Rd
Hwy 6
6
Marlin
6N
320
Chilton
Cego
77
Falls Rd
320
77
320
265
Rosebud
53
53
77
Stone Rd
Legend
Higher Risk
Lower Risk



LEGEND

SPECIAL FLOOD HAZARD AREA WITH DATE OF IDENTIFICATION — ZONE A DATE

Note: These maps may not include all Special Flood Hazard Areas in the community. After a more detailed study, the Special Flood Hazard Areas shown on these maps may be modified, and other areas added.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE:

MAY 3, 1974

REVISION DATES:

4/30/78 : SHOW CURVILINEAR BOUNDARY, ADD SFHA, REDUCE SFHA, CHANGE COMMUNITY BOUNDARY.

Converted to a Flood Insurance Rate Map By Letter Effective 3/1/87.

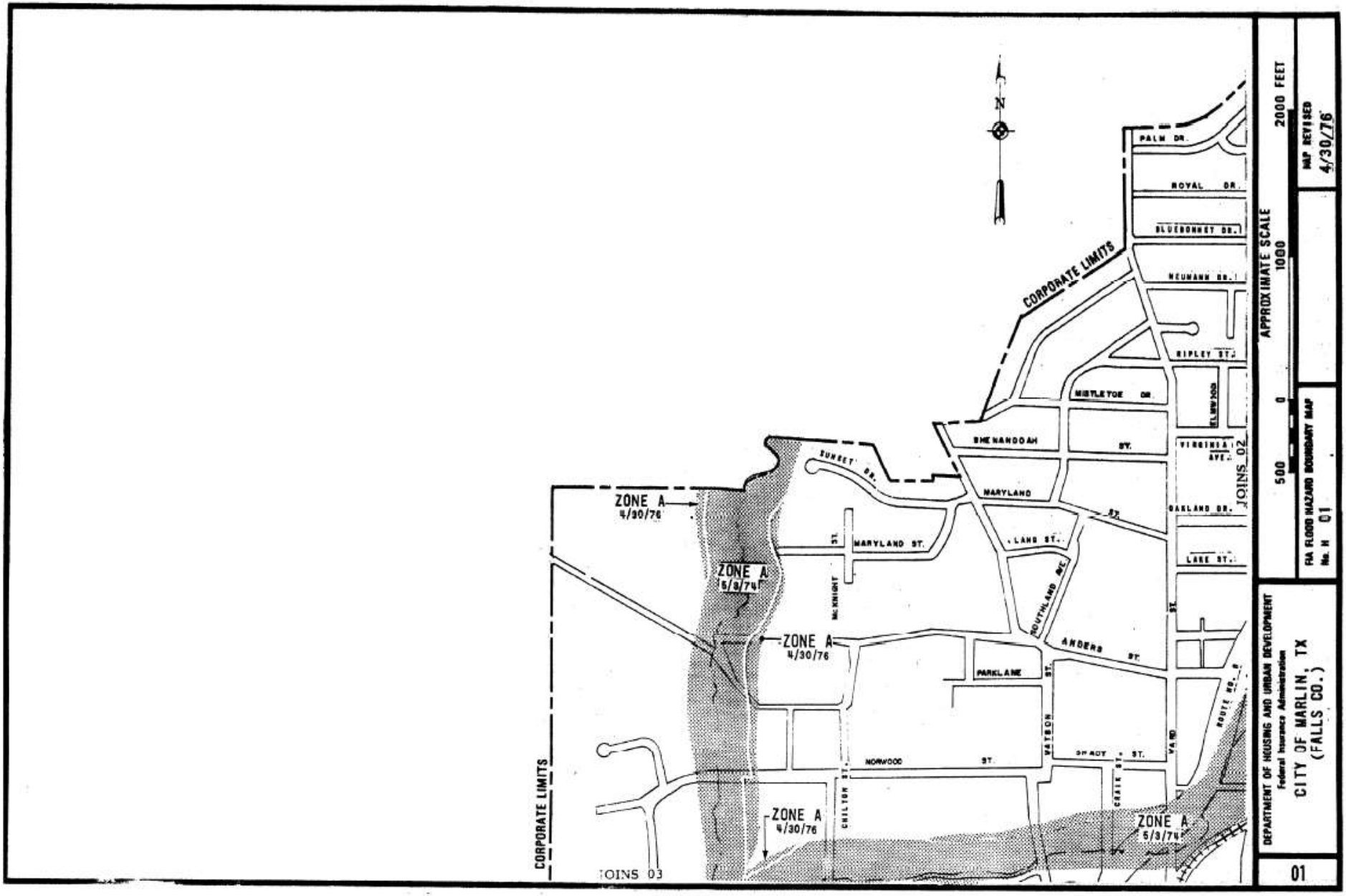
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

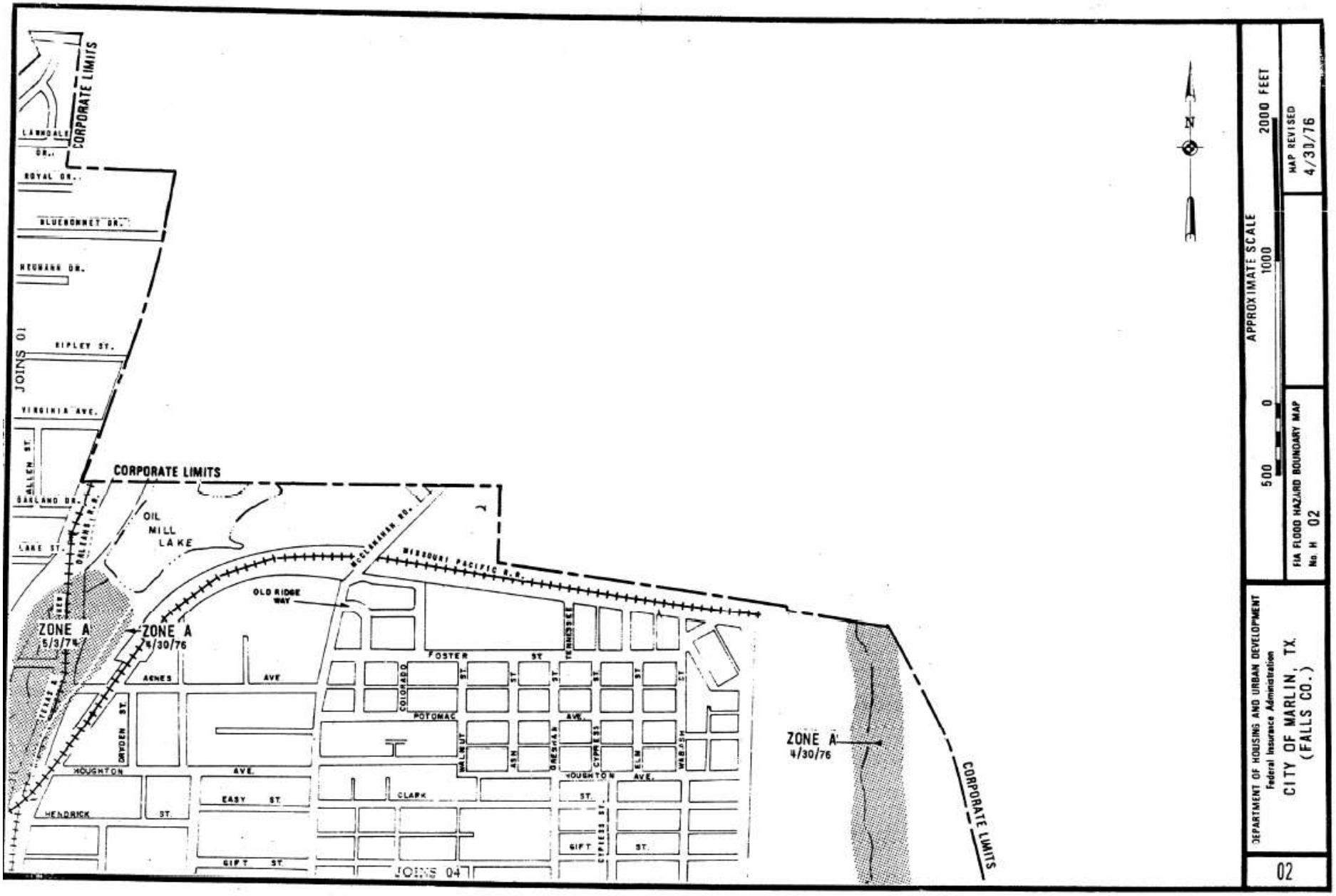
FLOOD HAZARD BOUNDARY MAP H - 01-04

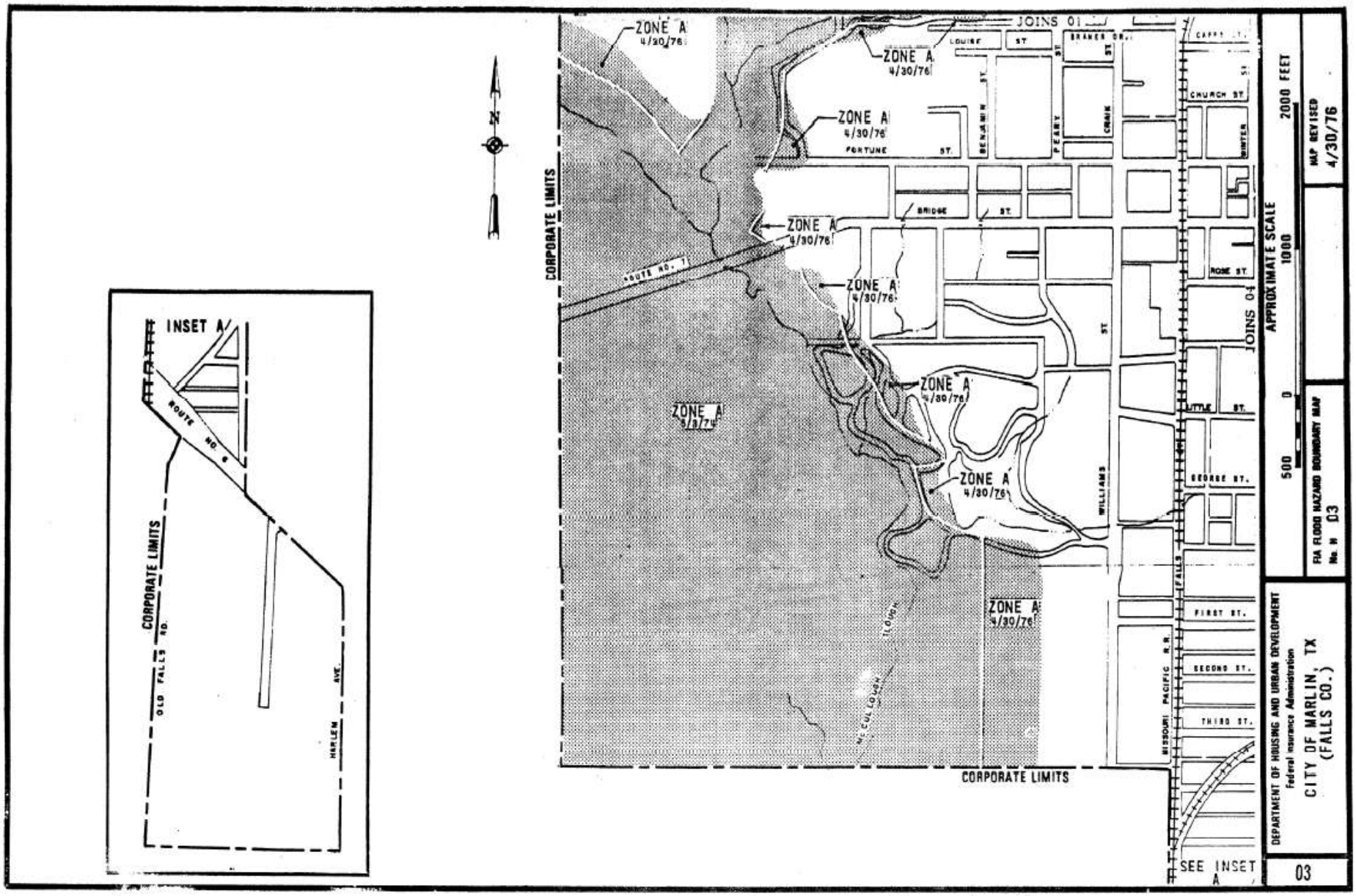
MAP INDEX

CITY OF MARLIN, TX
(FALLS CO.)

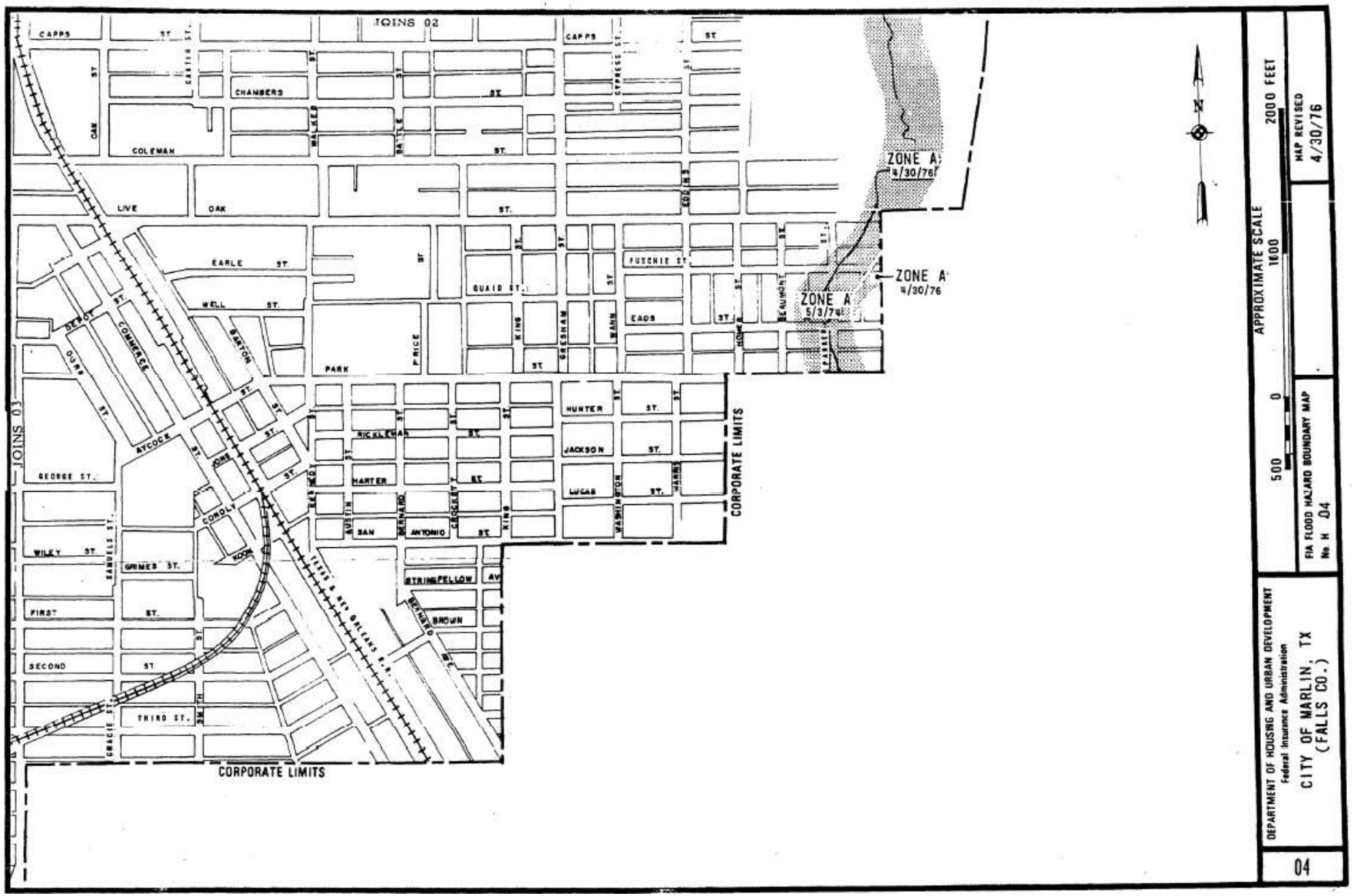
COMMUNITY NO. 480221 A B

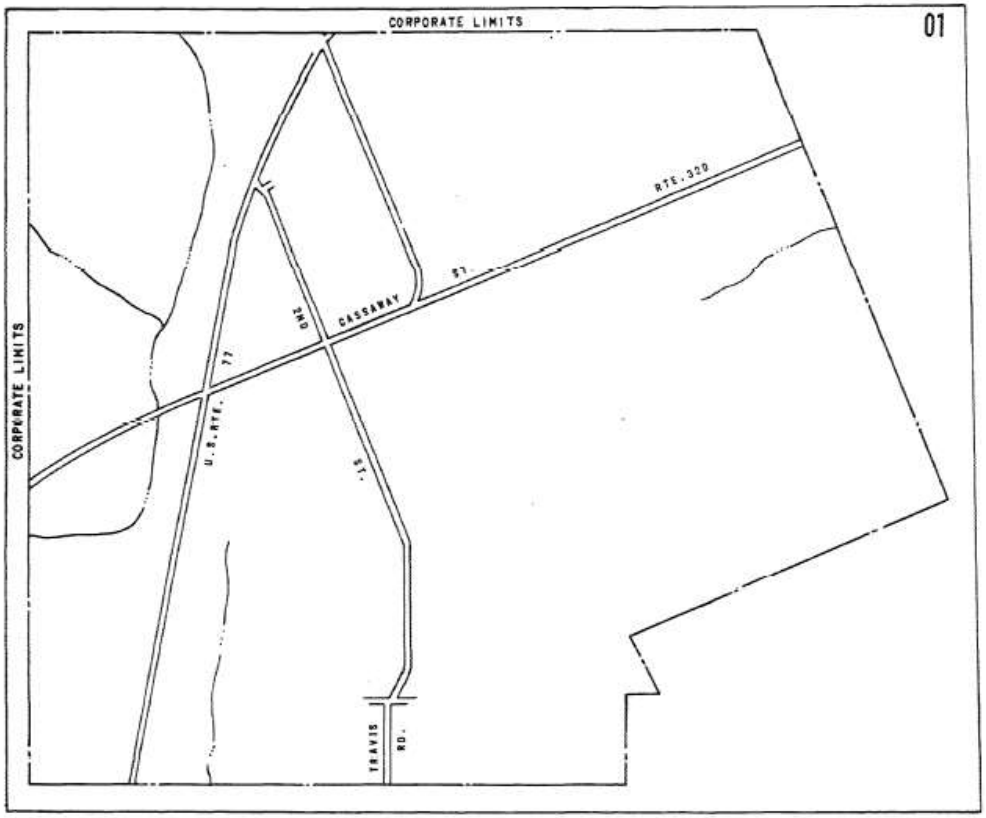

N
CORPORATE LIMITS
PALM DR.
ROYAL DR.
BLUEBONNET DR.
NEUMANN DR.
RIPLEY ST.
MISTLETOE DR.
ELMWOOD
SHENANDOAH
ST.
VIRGINIA AVE.
JOINS 02
SUNSET DR.
MARYLAND
ST.
OAKLAND DR.
LAKE ST.
ZONE A
4/30/76
MARYLAND ST.
LAND ST.
ZONE A
5/3/74
McKNIGHT ST.
SOUTHLAND AVE.
ZONE A
4/30/76
ANDERS ST.
PARKLANE
ST.
WATSON
NORWOOD
ST.
SHADY ST.
CRAIK ST.
WARD
ROUTE NO. 8
CHILTON ST.
ZONE A
4/30/76
ZONE A
5/3/74
CORPORATE LIMITS
JOINS 03
APPROXIMATE SCALE
500 0 1000 2000 FEET
MAP REVISED
4/30/76
FIA FLOOD HAZARD BOUNDARY MAP
No. H 01
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF MARLIN, TX
(FALLS CO.)
01


CORPORATE LIMITS
LAMMDALE DR.
ROYAL DR.
BLUEBONNET DR.
NEUMANN DR.
RIPLEY ST.
JOINS 01
VIRGINIA AVE.
GALLEN ST.
OAKLAND DR.
LAKE ST.
CORPORATE LIMITS
OIL MILL LAKE
MCCLANAHAN RD.
MISSOURI PACIFIC R.R.
OLD RIDGE WAY
ZONE A 5/3/76
ZONE A 4/30/76
AGNES AVE
FOSTER ST.
TENNESSEE ST.
COLORADO ST.
POTOMAC AVE.
WALNUT ST.
ASH ST.
DOGWOOD ST.
CYPRESS ST.
ELM ST.
WABASH ST.
DRYDEN ST.
HOUSTON AVE.
EASY ST.
CLARK ST.
HENDRICK ST.
GIFT ST.
JOINS 04
ZONE A 4/30/76
CORPORATE LIMITS
N
APPROXIMATE SCALE
500 0 1000 2000 FEET
MAP REVISED 4/30/76
FIA FLOOD HAZARD BOUNDARY MAP No. H 02
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF MARLIN, TX.
(FALLS CO.)
02



INSET A
ROUTE NO. 6
CORPORATE LIMITS
OLD FALLS RD.
HARLEM AVE.
ZONE A 4/30/76
ZONE A 5/3/74
JOINS 01
JOINS 04
CORPORATE LIMITS
ROUTE NO. 7
FORTUNE ST.
BRIDGE ST.
LOUISE ST
BENJAMIN ST.
PEARY ST.
CRAIK ST.
CHURCH ST.
WINTER ST.
ROSE ST.
LITTLE ST.
GEORGE ST.
FIRST ST.
SECOND ST.
THIRD ST.
WILLIAMS ST.
MISSOURI PACIFIC R.R.
FALLS
MCCULLOUGH
SEE INSET A
APPROXIMATE SCALE
500 0 1000 2000 FEET
FIA FLOOD HAZARD BOUNDARY MAP
No. H 03
MAP REVISED 4/30/76
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF MARLIN, TX
(FALLS CO.)
03


JOINS 02
JOINS 03
CAPPS ST.
CHAMBERS ST.
COLEMAN ST.
LIVE OAK ST.
EARLE ST.
WELL ST.
PARK ST.
QUAID ST.
FUSCHIE ST.
EADS ST.
HUNTER ST.
JACKSON ST.
LUCAS ST.
RICKLEMAN ST.
HARTER ST.
SAN ANTONIO ST.
STRINGFELLOW AV.
BROWN
GEORGE ST.
WILEY ST.
GRIMES ST.
FIRST ST.
SECOND ST.
THIRD ST.
DEPOT ST.
COMMERCE ST.
AYCOCK ST.
CONOLY ST.
KOON ST.
BARTON ST.
PRICE ST.
KING ST.
GRESHAM ST.
WANN ST.
HOMER ST.
BEAUMONT ST.
PARKER ST.
CARTER ST.
WALKER ST.
BATTLE ST.
CYPRESS ST.
EDDINS ST.
SAMUELS ST.
GRACIE ST.
SMITH ST.
AUSTIN ST.
BERNARD ST.
CROCKETT ST.
WASHINGTON ST.
HARRIS ST.
TEXAS & NEW ORLEANS R.R.
CORPORATE LIMITS
CORPORATE LIMITS
ZONE A
4/30/76
ZONE A
4/30/76
ZONE A
5/3/74
N
APPROXIMATE SCALE
500 0 1000 2000 FEET
MAP REVISED
4/30/76
FIA FLOOD HAZARD BOUNDARY MAP
No. H 04
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF MARLIN, TX
(FALLS CO.)
04



LEGEND

SPECIAL FLOOD HAZARD AREA WITH DATE OF IDENTIFICATION — ZONE A DATE

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CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE:
JULY 9,1976

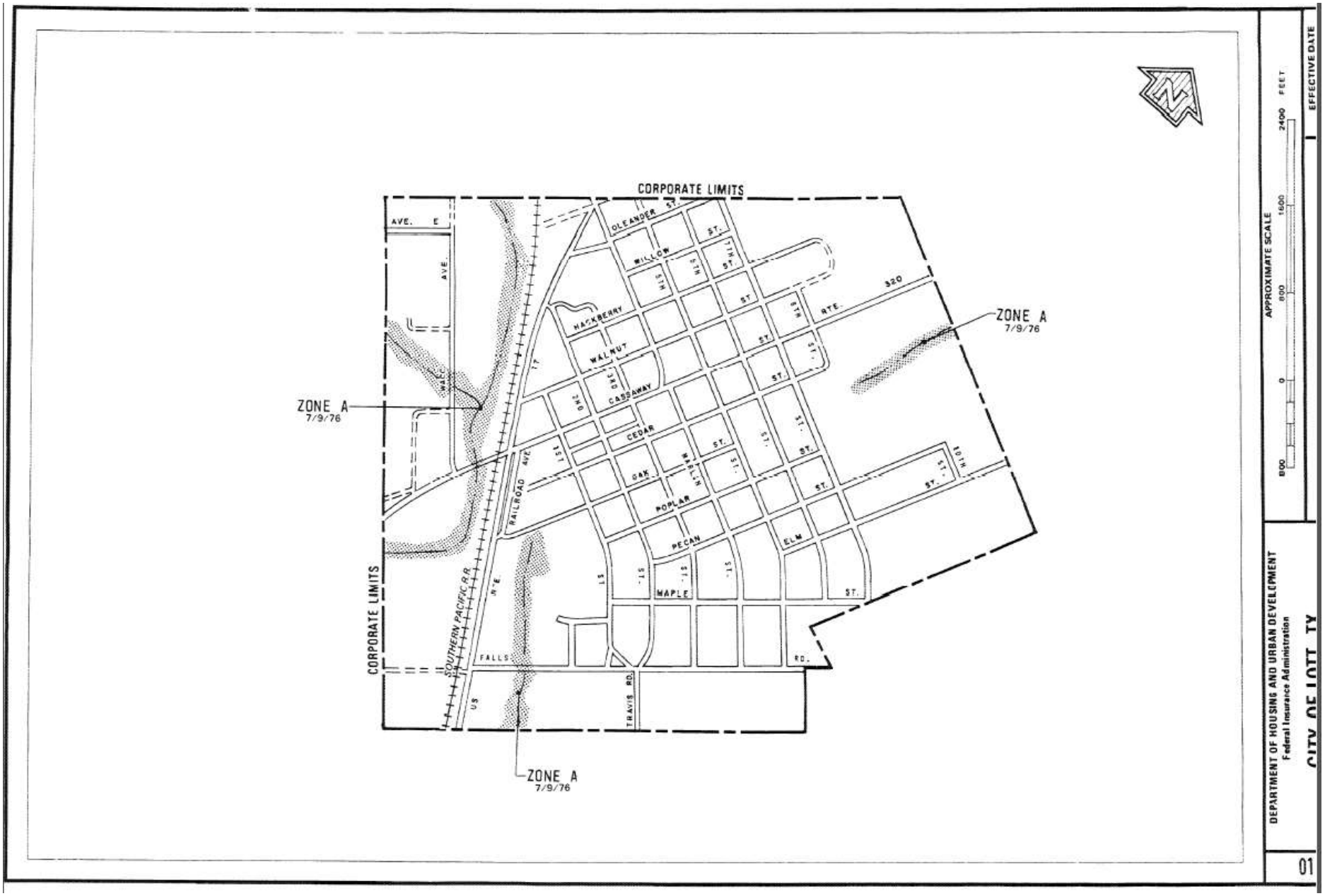
DEPARTMENT OF HOUSING AND URBAN DEVELOPMEN
Federal Insurance Administration

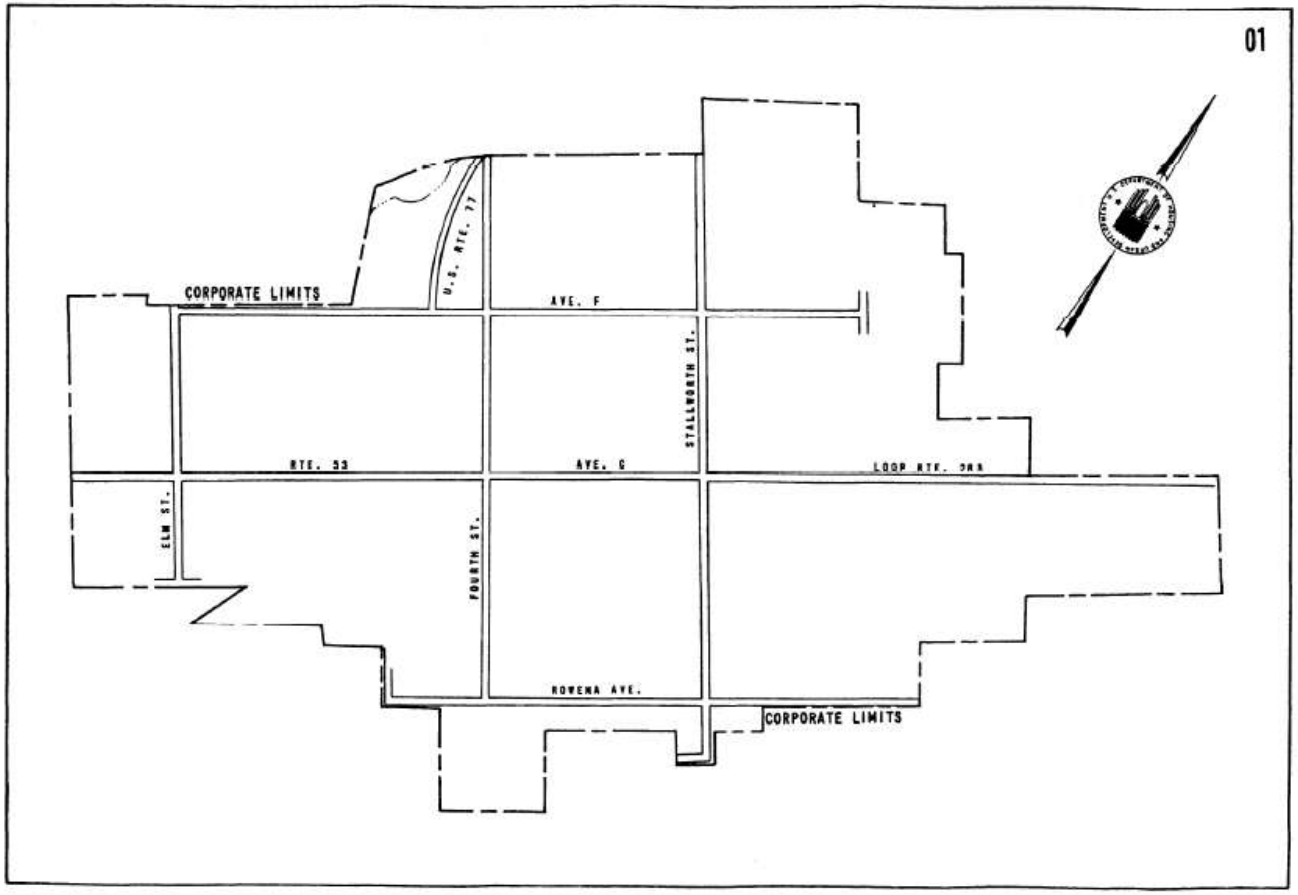
FLOOD HAZARD BOUNDARY MAP H - 01

MAP INDEX

CITY OF LOTT, TX
(FALLS CO.)

COMMUNITY NO. 480806


CORPORATE LIMITS
ZONE A
7/9/76
ZONE A
7/9/76
ZONE A
7/9/76
CORPORATE LIMITS
AVE. E
AVE.
OLEANDER ST.
WILLOW
HACKBERRY
WALNUT
CASSAWAY
CEDAR
OAK
POPLAR
PECAN
MAPLE
ELM
RTE. 320
RAILROAD AVE
SOUTHERN PACIFIC R.R.
FALLS
RD.
TRAVIS RD.
US
APPROXIMATE SCALE
800 0 800 1600 2400 FEET
EFFECTIVE DATE
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
01



LEGEND

SPECIAL FLOOD HAZARD AREA WITH DATE OF IDENTIFICATION — ZONE A DATE

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CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE:
OCTOBER 29, 1976

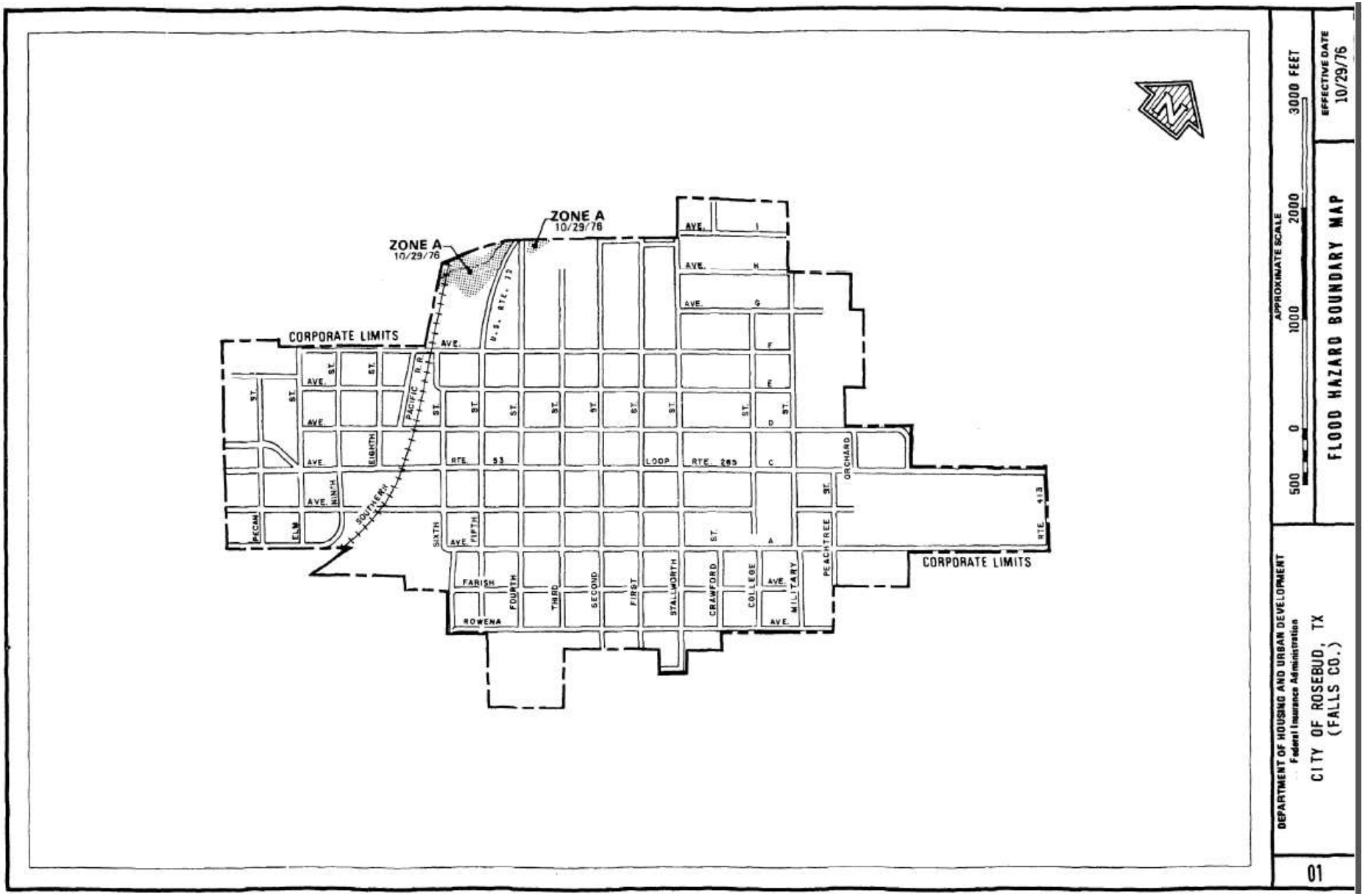
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

FLOOD HAZARD BOUNDARY MAP H - 01

MAP INDEX

CITY OF ROSEBUD, TX
(FALLS CO.)

COMMUNITY NO. 481119


ZONE A
10/29/76
ZONE A
10/29/76
CORPORATE LIMITS
CORPORATE LIMITS
U.S. RTE. 72
PACIFIC R.R.
SOUTHERN
RTE. 53
LOOP RTE. 285
RTE. 413
AVE.
ST.
EIGHTH
NINTH
PECAN
ELM
SIXTH
FIFTH
FARISH
ROWENA
FOURTH
THIRD
SECOND
FIRST
STALLWORTH
CRAWFORD
COLLEGE
MILITARY
PEACHTREE
ORCHARD
I
H
G
F
E
D
C
A
APPROXIMATE SCALE
500 0 1000 2000 3000 FEET
FLOOD HAZARD BOUNDARY MAP
EFFECTIVE DATE
10/29/76
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration
CITY OF ROSEBUD, TX
(FALLS CO.)
01