
Pre-Hazard Mitigation Plan

Terrell County, Dawson, Sasser, Parrott, and
Bronwood

Mitigation Plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The planning process is as important as the plan itself. It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters. Hazard mitigation is sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.

Prepared with assistance from:



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CHAPTER 1 – INTRODUCTION

Summary of Changes: There were very few changes to Chapter One.

- The methodology changed somewhat because this is an update to a plan.
- An executive committee was formed to handle all aspects of the plan instead of forming subcommittees.
- The Enhanced Fujita scale has been added to replace its predecessor

I. PROBLEM STATEMENT, PURPOSE, AUTHORITY, AND NEED

Terrell County, Georgia is susceptible to natural and technological hazards that have the possibility of causing serious threat to the health and security of the county's citizens. The cost of response to and recovery from potential disasters can be lessened when attention is turned to mitigating impacts and effects before they happen. Each year weather-related disasters in the United States cause approximately 500 deaths and approximately \$14 billion in property damage.¹ As the nation's communities continue to expand, carrying with them physical development farther across the landscape, the number of people and developed properties in the path of natural hazards increases significantly. Consequently, the loss of life and property suffered by victims has increased with each disaster, and survivors of these calamities turn to government for redress, increasing the financial burden placed on the nation's taxpayers. In an effort to reduce such losses communities are being prompted to identify how, where and why they are susceptible to natural disasters, and take measures to mitigate, or reduce/eliminate exposure to them and the loss of life and property that so frequently occurs.

Preparation of this document is Terrell County's response to the Disaster Mitigation Act of 2000, an amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance Act. This law authorizes release of federal financial assistance to communities that have experienced a disaster of such severity as to receive a presidential declaration. Simply stated, the referenced amendment establishes an additional eligibility requirement; after November 1, 2004, to be eligible for federal financial disaster assistance a community must not only have been declared a disaster area by the president of the United States, but *must have prepared and adopted a federally approved pre-disaster mitigation plan.*

¹ National Oceanic and Atmospheric Administration

This is not to suggest that mitigation is novel to the community. In recent years Terrell County has been among the state's more aggressive communities in planning and implementing preparedness activities. The current effort expands upon those of previous years by placing an increased emphasis on reducing the losses which commonly occur as a result of disaster so the cost of response and recovery will also be less. The importance of such efforts was clearly manifested locally in April 2009 with the devastating tornadoes that struck the county.

This plan is not intended as a comprehensive identification and assessment of all potential hazards; only those deemed most likely to occur. It is recognized the community could be assailed by a disaster not addressed herein. Neither does it address the local impacts which may result from a disaster occurring elsewhere, such as the burden placed on a community because of its location on a hurricane evacuation route.

II. METHODOLOGY, PARTICIPANTS, PROCESS

In April 2012, the Southwest Georgia Regional Commission (SWGRC) began working with Terrell County to update the Pre-Hazard Mitigation Plan. The commission staff formed a committee at the Pre-Hazard Mitigation Plan Kickoff Meeting on April 12th, 2012 consisting of EMA/EMS personnel, Administrators and health department officials. It was at this meeting that the newly formed committee decided that since this was an update to the plan, subcommittees would not be necessary because most of the data had already been assembled from the current plan and needed minor updating and tweaking to be usable. The committee that had worked on the previous plan was a diverse group consisting of members from most of the jurisdictions, so the product they had developed was a good base for this update. All five jurisdictions participated before. Each section of the plan was scrutinized by the SWGRC and the executive committee to assess the current content and offer additions/alternatives based on the new requirements of FEMA and community goals. Other local documents were scrutinized to determine if any inconsistencies exist. These documents include Terrell County's Comprehensive Plan (including Parrott, Bronwood, Dawson and Sasser), the City of Dawson's Comprehensive plan, Terrell County's Emergency Operations Plan and the Southwest Georgia Regional Plan.

As is customary, the comprehensive plan addressed community facilities; most, if not all, of which were identified in this document as critical facilities. Some issues, such as flood plains, were addressed in the natural resources section but have since been updated by FEMA. The local comprehensive plan is scheduled for update by October 31st, 2014.

The emergency operations plan (EOP) was also reviewed and portions were used for preparation of this document. It was found, however, that the LEOP is less concerned about mitigation and more about response, which is the whole point of the plan so much of it although informative proved not very useful in the mitigation plan. A copy of the EOP may be found in Appendix C.

Numerous other sources were used in the course of plan preparation, including the Georgia Department of Natural Resources, Georgia Forestry Commission, Georgia Tornado Database, National Climatic Data Center, National Weather Service, newspaper articles, and interviews with numerous local sources. The 2011 Georgia Hazard Mitigation Strategy was also reviewed, and although informative, not enough information specific to Terrell County could be gleaned for inclusion. Flood Mitigation Assistance Plans and Flood Insurance Studies do not exist for Terrell County and could not be reviewed. The Community Wildfire Protection Plan was reviewed and although wildfire is not a high priority hazard, many aspects of it can be tied to drought conditions and have been incorporated into this plan.

In June 2012, a HMPC was convened consisting of various department heads and personnel representing Terrell County, Dawson, Parrott, Sasser and Bronwood. This group began examining the existing document and analyzing its contents. Each section of the plan was reviewed and analyzed to determine if the contents are still valid and whether the contents need to be updated. The Local Hazard, Risk, and Vulnerability section was scrutinized to determine the top disasters that face Terrell County and it was found that tornados are the biggest threat to Terrell County. The prioritized list of hazards affecting Terrell County and the Cities of Dawson, Sasser, Parrott and Bronwood has not changed.

According to the Community Wildfire Protection Plan, wildfires are a threat to Terrell County in a sense but the committee felt that due to the sparse population in Terrell County the damages incurred to both life and property (buildings) were low enough to not be too concerned. The committee is aware of the potential loss off cropland and still maintains that the priority is low.

Technological hazards were reviewed by the HMPC and, although still a threat, the situation relative to this threat in Terrell County has not changed and being prepared for these hazards and how to react to these types of hazards is handled within the Terrell County Local Emergency Operations Plan.

The goals and objectives were reviewed by the HMPC to first determine whether the goals had changed and if so to what degree. The objectives and tasks were then reviewed based on the following basic criteria:

- Is the objective or task still in line with the goals?
- Are the objectives and tasks appropriate for accomplishing the goal?
- Are the tasks associated with each objective cost effective?
- Are there more efficient ways to accomplish the stated goal and objective?

The Plan Maintenance section was reviewed based on the following criteria:

- Are action steps being overlooked?
- Is measurable progress being made towards goals?
- Is the plan maintenance section cost effective?

There were no changes made to this section because it was determined that the criteria were being met.

After changes had been proposed, the SWGRC looked at the newest requirements for PHMP from FEMA and GEMA and how to reassemble the plan with proposed changes into an initial draft to be presented to GEMA for comments. At this time a public hearing was held to allow public comment.

Executive Committee – comprised of EMA Director, Public Works, Fire and Police Departments, Terrell County Health Department and elected officials.

In general, the Executive Committee convened once every 30 days during their months of activity, although some activity extended beyond a month.

Billy McClung – Terrell County Fire/EMA Director

Charlotte Law – Director, Terrell County Health Department

Jeff Tucker – Public Works Director, City of Sasser

James Hamby – Director, Terrell County EMS

Edward Harvey – Fire Chief, Terrell County Fire Department

Lee Trice – Firefighter, Bronwood Fire Department

John Flourney – Firefighter, Bronwood Fire Department

Ed Wade – Mayor, City of Parrott

Barney Parnacott, City Manager, City of Dawson

Steve O'Neil – Southwest Georgia Regional Commission

The Southwest Georgia Regional Commission assisted the committees with data collection, research and analysis, facilitated all committee meetings and public hearings, compiled an extensive cartographic digital database, including GPS collection of critical facilities, and compiled the final written document.

Letters, emails and phone calls were used to contact each jurisdiction and invite them to participate in the Hazard Mitigation Planning process and at the very least send a representative to be a part of the committee. Neighboring counties were invited to provide input at public hearings and before the plan was submitted to GEMA. A copy of the "Invitation to Review" letter is located in Appendix E. Because of their responsibility for promoting the general public welfare and providing emergency response services, there was a very strong local government interest and involvement in plan development from the cities of Dawson, Parrott, Bronwood and Sasser.

Two publicly advertised hearings will be held during plan development. The first hearing was held during the plan development phase October 4th 2012 at the Board of Commissioners Chambers to inform the general public of the effort and to invite comment and participation. There were two committee members present and no attendees from the general public. The second hearing was held August 23rd, 2013 at the Terrell County Board of Commissioners Chamber, to provide a status report and to again solicit public input. There were 3 attendees.

III. ORGANIZATION

A detailed analysis of each of five natural hazards is presented in Chapter 2. The analyses consist of a description of the hazard and the damage potential, historical frequency and probability of future occurrence, an inventory of assets exposed to the hazard and an estimate of the loss which the community could reasonably be expected to incur, land use patterns as they relate to each hazard, and any aspects of hazards which may be unique to any of the jurisdictions. Technological hazards are addressed in Chapters 3 and 5 in this plan. Presented in Chapter 4 is an itemized list of goals, objectives, tasks and action steps which are proposed for implementation to mitigate likely adverse impacts of specific hazard events. This part of the plan also identifies, prioritizes, and suggests funding sources for hazard mitigation activities. Chapter 6 describes how the plan will be implemented and maintained. Chapter 7 consists of a concluding statement, followed by appendices.

IV. HAZARD RISK VULNERABILITY (HRV) SUMMARY

This plan identifies and assesses community risks to certain natural hazards and identifies how to reduce exposure to them. The assessment provides the factual basis for activities proposed to reduce losses, including a description of the type, location, and extent of natural hazards deemed most likely to befall Terrell County. Reference was made to the historical record to compile information on previous events and for use in estimating the probability of hazard recurrence.

Vulnerability includes a summary of past events and their impacts. This is quantified by describing the types and numbers of existing and future buildings, infrastructure, and critical facilities located in identified hazard prone/susceptible areas. Estimates of the potential dollar losses that could reasonably be expected to result from another specified hazard event are also presented.

Land uses and development trends were reviewed for the purpose of identifying mitigation options that can be considered in future land use decisions to reduce each jurisdiction's specific risk.

Based on these assessments a blueprint for reducing potential losses was developed, incorporating expansion and improvement on existing authorities, policies, programs and resources. The blueprint includes goals and objectives to reduce or avoid long-term vulnerabilities to hazards. The end product is a prioritized action plan with specific steps to achieve stated goals. This, in turn, is supplemented with a maintenance process to monitor, evaluate, and update the mitigation plan within a five-year timeframe. The following hazards are addressed in this:

- Tornado
- Drought
- Flood
- Thunderstorm Winds
- Extreme Heat

Each hazard is identified in Chapters 2 and 3. The impact and past occurrences of each hazard are discussed as well how each jurisdiction is affected. Included are particular vulnerabilities in Terrell County and an estimate of potential losses due to damage from each hazard.

V. LOCAL MITIGATION GOALS AND OBJECTIVES

This plan will serve as guidance for Terrell County and the Cities of Dawson, Sasser, Parrott and Bronwood in coordinating and implementing hazard mitigation policies, programs, and projects. This plan will be periodically updated and revised in order to facilitate and direct the ongoing implementation of hazard mitigation activities. Through the preparation of this plan and the implementation of the associated Action Plan, the community plans to achieve the following goals:

- GOAL #1 Ensure the public health and safety of the citizens of Terrell County
- GOAL #2 To facilitate responsible development in Terrell County and incorporated areas so as to reduce or eliminate the potential impacts of disasters
- GOAL #3 To enhance public awareness and understanding of disaster preparedness
- GOAL #4 To extend and increase public awareness of flood insurance as a mitigative measure
- GOAL #5 To enhance post-disaster response and recovery activities

VI. MULTI-JURISDICTIONAL CONSIDERATIONS

This document has been developed for unincorporated Terrell County and the Cities of Dawson, Sasser, Parrott and Bronwood. The plan includes an identification and analysis of a comprehensive range of specific mitigation actions needed to reduce the adverse effects of specific hazards in each jurisdiction. With few exceptions, each jurisdiction is susceptible to the same natural hazards. However, where applicable some specific mitigation actions have been identified for each jurisdiction.

VII. ADOPTION, IMPLEMENTATION, MONITORING AND EVALUATION

The Terrell County Pre-Disaster Mitigation Plan will be formally adopted (see following page) by the Terrell County Board of Commissioners and the City Councils of Cities of Dawson, Sasser, Parrott and Bronwood after receiving notification from the Georgia Emergency Management Agency that the plan complied with applicable federal regulations.

Presented in Chapter 6 is a description of plan implementation, monitoring, evaluation, and update activities, public participation, and the process of incorporating mitigation into other planning and administrative functions of the five local governments. This section details the process that will ensure the Terrell County Pre-Disaster Mitigation Plan becomes an integral part of local governance and life in the community.

<u>Milestone</u>	<u>Number of Days to Complete</u>
Initial Planning Meeting for stakeholders	1 day
Identify repetitive loss structures	30 days
Establish a property flood mitigation priority program	30 days
Identify project structures	30 days
Determine mitigation measures for each repetitive loss structure	30 days
Complete Draft Mitigation Plan	30 days
Public Hearing for Review and Comments	30 days
Present Final Mitigation Plan for Approval	15 days
Submit Plan to GEMA for Review	30 days
Submit Plan to FEMA for Review	30 days
Formal Approval and Adoption of Plan	15 days
Implement Changes from FEMA and GEMA Review	15 days
Implementation of Plan	Ongoing
Evaluation of Plan	March - Annually
Update of Plan (Informal – not submitted to GEMA)	May - Annually
Update of Plan (Formal – submitted to GEMA)	May – 2019

CHAPTER 2 - NATURAL HAZARD, RISK AND VULNERABILITY (HRV) SUMMARY

Summary of changes:

- The Enhanced Fujita scale has been added to replace its predecessor
- All Hazard event tables have been updated to account for storms in the years since creation of the plan.
- Values for critical facilities have been updated.
- GMIS report data has been updated/included in the appendix

I. NATURAL HAZARD – TORNADO

A. Hazard Identification

A tornado is a violently rotating column of air extending from a thunderstorm to the ground, usually spawned when the weather is warm, humid and unsettled; conditions common to the local area. Severe weather conditions, such as a thunderstorm or hurricane, can produce a tornado. Tremendous destruction can occur with the combined action of strong winds (some at speeds in excess of 250 mph) and the impact of wind-borne debris. Damage paths can be in excess of one mile wide and fifty miles long. Although the path may be erratic, storm movement is usually from southwest to northeast. Tornadoes most often occur between 3 and 8 p.m., but may occur at any time of day or night. The official tornado season lasts from March-August with a peak in March-May, but they can occur anywhere, any time of year. Advance planning and quick response are keys to surviving a tornado. Information gleaned from the National Climatic Data Center, The Tornado Project and local newspapers revealed the following history of tornadic activity in the community.

Enhanced Fujita (EF) Scale Rating System for Tornado Strength

Scale	Wind speed		Relative frequency	Potential damage	
	mph	km/h			
EF0	65–85	105–137	53.5%	<p>Light damage.</p> <p>Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.</p> <p>Confirmed tornadoes with no reported damage (i.e. those that remain in open fields) are always rated EF0.</p>	
EF1	86–110	138–178	31.6%	<p>Moderate damage.</p> <p>Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.</p>	
EF2	111–135	179–218	10.7%	<p>Considerable damage.</p> <p>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.</p>	
EF3	136–165	219–266	3.4%	<p>Severe damage.</p> <p>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.</p>	
EF4	166–200	267–322	0.7%	<p>Devastating damage.</p> <p>Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.</p>	
EF5	>200	>322	<0.1%	<p>Explosive damage.</p> <p>Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (300 ft); steel reinforced concrete structure badly damaged; high-rise buildings have significant structural deformation.</p>	

Figure 1. In the USA and some other countries, on February 1, 2007, the Fujita scale was decommissioned in favor of what these scientists believe is a more accurate Enhanced Fujita Scale, which replaces it. The EF Scale is thought to improve on the F-scale on many counts—it accounts for different degrees of damage that occur with different types of structures, both man-made and natural. The expanded and refined damage indicators and degrees of damage standardize what was somewhat ambiguous. It also is thought to provide a much better estimate for wind speeds, and sets no upper limit on the wind speeds for the strongest level, EF5. *Source: NOAA's National Weather Service, Storm Prediction Center*

B. Hazard Profile

All geographical areas of the county are susceptible to the randomness of tornadic activity. Although there have not been any such hazards of disaster proportions to befall the community for well over a half century, small storms have nevertheless been present, and climatic conditions were conducive for others to occur as has been evidenced by the issuance of tornado warnings and watches. Terrell County typically see's damage from tornados ranging from simple wind damage, to roof damage and large trees uprooted these are reflected in the magnitude of events to hit Terrell County which ranges from F0 to F2 on the older Fujita Scale (EF0 to EF2 on the Enhanced Fajita Scale). Based solely on the historic trend analysis (Appendix A – Hazard Frequencies Table, Page 25) of available data, the community has a 12.07% chance of experiencing a tornado event any given year. The information was not broken down by jurisdiction because accurate data does not exist that would permit that to happen. Information gleaned from the National Climatic Data Center revealed the following history of tornadic activity in the community.

BGN_DATE	BGN_TIME	COUNTYNAME	STATE	EVTYPE	F	DEATHS	INJURIES	PROPDMG	CrD
12/05/54	1610	TERRELL	GA	TORNADO	2	0	0	25K	0
04/27/64	0800	TERRELL	GA	TORNADO	0	0	0	25K	0
01/11/72	0700	TERRELL	GA	TORNADO	1	0	0	25K	0
12/31/73	1640	TERRELL	GA	TORNADO	1	0	0	250K	0
05/03/84	0910	TERRELL	GA	TORNADO	1	0	1	250K	0
05/21/90	1530	TERRELL	GA	TORNADO	1	0	0	250K	0
04/10/09	11:24:00 PM	TERRELL	GA	TORNADO	1	0	0	300K	0

Source: National Climatic Data Center

** Specific injury data not available*

Terrell County has had 7 tornado events in the last 56 years that have caused injuries and property loss. The tornadoes have ranged in magnitude from F0 to F2 and have caused upwards of \$1.125 million in property damage.

C. Community Exposure

The random, sudden and violent natures of the tornado place all residents and all physical development throughout the community at risk. The critical facilities identified in Terrell County and its cities are schools, governmental facilities, fire and emergency medical facilities, water and wastewater treatment facilities and solid waste sites. The Terrell County Pre-Disaster Planning Team used GIS, E-911

information, related websites, GEMA's online database, and other modeling tools to map the county's critical facilities and determine which are most likely to be affected by tornadoes. This, of course, includes all the community's critical infrastructure, identified in Appendix A. According to the critical facilities inventory report (wind) and Worksheet #3A, the most damage in terms of dollars would be in the residential sector. There is a potential of \$517.1 million in damage to structures and \$28.9 million in damage to critical facilities. The data for worksheet 3A was from the tax digest and has been broken down by jurisdiction. For more specifics on this data please see in Appendix D - for Worksheet #3A Inventory of Assets - Tornado. The Critical Facilities Inventory is in Appendix A (Page 22).

D. Estimate of Potential Losses

Two formats prescribed by the Georgia Emergency Management Agency were used in estimating potential losses: the Georgia Mitigation Information System (GMIS) and the Assets Worksheet. Data input for the Critical Facilities Inventory included the replacement value of each critical facility identified. The value of the critical facilities in Terrell County is \$28.9 million. All of the facilities are subject to damage from tornadoes. This information can be reviewed in detail in Worksheet #3A - Tornado, Appendix D. Population data is presented in Appendix B.

Terrell County and its municipalities are susceptible to wind speeds ranging from 90 mph to 99 mph.

E. Land Use and Development Trends

Because of the random nature of tornadoes the entire community is at risk. Consequently, there are not any local land use or development trends applicable to the tornado hazard. Building codes are enforced in Terrell County and the cities of Dawson, Sasser, Parrott and Bronwood. Wind speed threshold for new construction in the county and its cities is 99 mph. The rural/agricultural nature of Terrell County suggests that if a tornado touched down in the county that the losses would likely be minimal, whereas if a tornado touched down in any of the municipalities within the county, the losses would be very drastic.

There are no new or planned structures/buildings/infrastructure/developments that would be considered critical or non-critical facilities planned for Terrell County or the cities of Dawson, Sasser, Parrott and Bronwood that would be subject to other requirements above and beyond that of the adopted building codes.

F. Multi-Jurisdictional Differences

The Terrell County Pre Disaster Mitigation Plan assessed each community to determine if there was a variation in risk from tornadoes. From the assessment it was determined there is no variation in risk of a tornado event in any jurisdiction, or at any location that differs from the risk facing the entire community. Tornadoes are statistically more likely to hit the unincorporated Terrell County because it occupies proportionally more land area than the cities within. Pre-disaster mitigation measures relevant to tornadoes are applicable throughout Terrell County. A map of each jurisdiction as it related to tornadoes is located in Appendix A (Terrell County Critical Facilities Map Images – Tornado, Page 7-11).

G. Hazard, Risk and Vulnerability Summary

Tornadoes can strike anywhere in the community, at any time of day and any time of year, with suddenness and with great intensity as a result of weather conditions common to the area. The current state of technology cannot prevent such hazards from occurring. Development regulations can be modified to protect structures from these events, and reduce the loss of property and life. Education and public awareness is another important step in preventing loss from tornadoes and high winds. The community must prepare in advance, and be able to respond quickly and appropriately to such an event.

No changes have occurred Terrell County with regards to development, population, infrastructure, etc. that would increase or decrease the community's vulnerability to tornadoes since the previous plan was approved.

II. NATURAL HAZARD – DROUGHT

A. Hazard Identification

A drought is a prolonged period without rain which progresses in stages. The first stage, meteorological drought, occurs when precipitation falls below normal levels and is usually expressed as a rainfall deficit, e.g., inches below normal. Stage two, agricultural drought, occurs when the amount of moisture in the soil no longer meets the needs of a particular crop. When meteorological drought occurs at a critical time of year it can result in water deficient topsoil, which may hinder germination and reduce crop yield. This type drought is usually measured in soil

moisture levels and can be devastating to agricultural communities. (The accompanying table indicates the frequency of stage two conditions in the community over the past two and one-half decades.)

Hydrological drought is the third stage. This occurs when surface and subsurface (ground) water supplies fall below normal levels due to prolonged meteorological drought. Indicators include decreased stream flow rates, lake elevations and groundwater levels. Hydrological drought can be detrimental to the environment, upsetting the hydrologic cycle and impacting fish, wildlife and plant species. If this persists long enough, demand for water may exceed supply, leading to the fourth stage – socio-economic drought. This stage (considered extreme for Terrell County) can take many months, or even years to develop, often with devastating social and economic consequences. Future severity can also be determined by the Palmer Drought Severity Index (PDSI). The Palmer Index is most effective in determining long term drought—a matter of several months—and is not as good with short-term forecasts (a matter of weeks). It uses a 0 as normal, and drought is shown in terms of minus numbers; for example, minus 2 is moderate drought, minus 3 is severe drought, and minus 4 is extreme drought. According to the Palmer index for Terrell County, times of severe drought reach -4 to -5.5 on the chart and these numbers can be used to estimate the extent or potential strength for droughts in store for Terrell County in the future. The Palmer Index is a measurement of dryness based on recent precipitation and temperature and is the unofficial measure of drought conditions. The Palmer Drought Index is based on a supply-and-demand model of soil moisture. Supply is comparatively straightforward to calculate, but demand is more complicated as it depends on many factors - not just temperature and the amount of moisture in the soil but hard-to-calibrate factors including evapotranspiration and recharge rates.

B. Hazard Profile

Drought is a widespread weather pattern affecting a much larger area than any single community. Hence, drought affects the entire community, primarily economically because critical facilities are not directly susceptible to adverse impacts of such an event. Generally, the population is not at risk from physical harm, except in the latter stages of a severe drought. In the drought of 2000-2002, private wells began to run dry in the county. In addition during drought, Terrell County is susceptible to local wildfires which tax the local fire departments. Over the past half century the historical record documented eight drought events. No deaths or injuries were recorded. A few of these events from 2000 to 2002 were likely one extended drought period and because of this it is not possible to make any accurate statistical predictions regarding drought frequency or extent. Other such

events are known to have occurred earlier, but supporting documentation could not be located. Based on straight-line extrapolation from the documented record of Local Agricultural Drought Declarations (see Section A), the community has a 46.67% chance of experiencing a drought in any given year (Appendix A – Hazard Frequencies Table, Page 25).

Drought Events	Date	Damage	
		Property	Crop
Statewide	1954	0	NA
Statewide	1980	0	NA
Statewide	1986	0	NA
94 Georgia Counties	1997	0	46.5M
Statewide	2000	0	307M
Statewide	2001	0	NA
Statewide	2002	0	NA
South Georgia	2010	0	NA

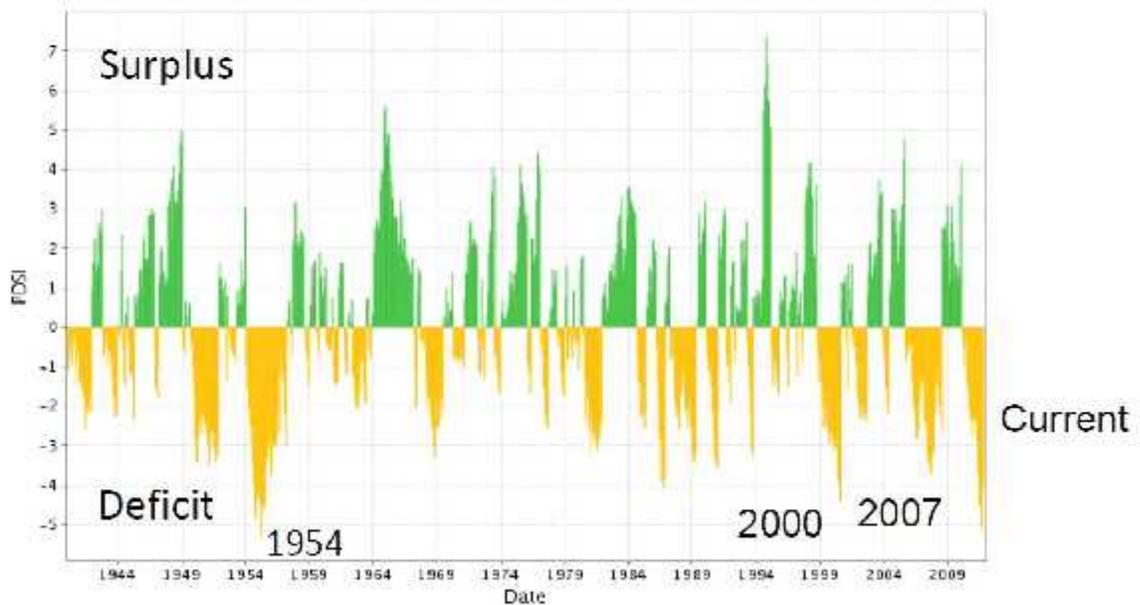
Source: National Climatic Data Center

** Made by the Governor on recommendation of agriculture service agencies*

Many other counties were included; No damage estimates available

Drought History

Southwestern Georgia Drought Severity



Data from: NCDC, Georgia region 7

C. Community Exposure

The nature of drought is such that the entire community is affected, primarily economically. Generally, neither the population nor critical facilities are at risk of physical harm, except in the latter stages of a severe drought. South Georgia has been under drought conditions since October, 2010. It is widely understood that droughts are cyclical and the drought conditions will undoubtedly return and Terrell County and its municipalities are taking the threat seriously and being proactive in preparing for the next drought cycle. According to the critical facilities inventory report (drought) and Worksheet #3A, the most damage in terms of dollars would be in the agricultural sector. There is a potential of \$517.1 million in damage to structures including \$28.9 million in critical facilities. The data for worksheet 3A was from the tax digest and has been broken down by jurisdiction so what is shown includes both Terrell County and the cities within. For more specifics on this data please see in Appendix D - for Worksheet #3A Inventory of Assets - Drought. The Critical Facilities data is in Appendix A (Critical Facilities Inventory - Drought/Extreme Heat, Page 23)

D. Estimate of Potential Loss

Two formats prescribed by the Georgia Emergency Management Agency were used in estimating potential losses: the Georgia Mitigation Information System (GMIS) and the Assets Worksheet. Generally, neither the population nor critical facilities are at risk of physical harm, except in the latter stages of a severe drought, which the community was exposed to in 2000. These deep wells are generally not affected until the late or “critical” stages of drought. Agriculture crops are most directly affected by drought, and their loss can impose a severe economic burden on the local economy. Crop loss data was sought but found not to be reliable. Within the community it is common knowledge that the past two decades of drought conditions have contributed to a significant reduction in the number of local farmers. This information can be reviewed in detail in Worksheet #3A – Drought/Extreme Heat, Appendix D.

E. Land Use and Development Trends

In Terrell County, the agriculture sector is most at risk to drought, and the community relies heavily on the agricultural economy. Over three fourths of the land area is classified as prime farmland; compared to 21% of the state land area.

There are no new or planned structures/buildings/infrastructure/developments that would be considered critical or non-critical facilities planned for Terrell County or the cities within that would be subject to other requirements above and beyond that of the adopted building codes.

F. Multi-Jurisdictional Differences

While the physical impact of drought related losses occurs in the unincorporated area of the community, the resulting economic impact is felt community-wide. Because of the relative size of agriculture in the local economy, whatever affects production has a direct and immediate effect on the community. A map of each jurisdiction as it related to drought is located in Appendix A (Terrell County Critical Facilities Map Images – Drought/Extreme Heat, Page 17-21).

G. Hazard, Risk and Vulnerability Summary

Drought does not have the sudden, violent impact on a community characteristic of a storm. A significant reduction from normal rainfall levels will first be felt by the agricultural community, and because agriculture comprises such a large share of the local economy, whatever affects production has a direct and immediate effect on the

well-being of the community. Because conventional agriculture is so dependent on water, the community's front-line of defense against drought rests on the farmer. Yet, the producer's percentage return on economic investment is among the lowest of any economic sector, increasing the difficulty of maintaining a strong front-line defense. The community should identify additional ways to reduce economic dependence on agriculture.

No changes have occurred Terrell County with regards to development, population, infrastructure, etc. that would increase or decrease the community's vulnerability to drought since the previous plan was approved.

III. NATURAL HAZARD – FLOOD

A. Hazard Identification

The overflow of rivers and streams onto normally dry lands due to severe storms or torrential rains is often a secondary impact of tropical storms or hurricanes. Among the most common factors affecting the extent of flooding are: topography, ground saturation, rainfall intensity and duration, soil type, drainage, drainage patterns, basin size, vegetative cover and development density/impervious surfaces. Flooding may occur slowly as the result of an extended rain or storm event, or as the result of a flash flood sometimes causing dam failure.

B. Hazard Profile

Terrell County has seen four flash flood events in the past 18 years. Several rivers and creeks run through the county, though they do not cause Terrell as much damage as flash flooding. The cities of Dawson, Sasser, Parrott and Bronwood suffer the most from flash flooding. Low elevation areas within those cities flood very quickly due to stormwater drainage problems.

Using detailed analysis and modeling, FEMA determines the base flood elevation (BFE), which is the predicted flood water elevation above mean sea level. Habitable areas of any new construction must begin above this level. For instance, a property in a B zone with a BFE of 2 feet would need the first habitable floor (generally, a floor with a bedroom) to be raised 2 feet or more. No BFE's have been determined for Terrell County. However, using the data from the USGS monitoring site near Dawson, Georgia (USGS 02350900) a statistical extent of flood depth can be

determined. The following table shows historical river crests with an average crest height of 15.86 ft.

Historical Crests for Kinchafoonee Creek at 11 miles E of Dawson at Pinewood Rd in Lee County				
		Date	Crest (ft)	
	1	7/7/1994	26.56	
	2	3/10/1998	21.59	
	3	3/5/1966	20.46	
	4	3/20/1990	20.44	
	5	12/7/1973	20.03	
	6	3/29/2005	19.53	
	7	4/6/1960	19.45	
	8	3/5/1991	16.18	
	9	4/3/2009	15.67	
	10	2/21/1995	15.21	
	11	2/27/2013	15.05	
	12	4/3/1993	14.58	
	13	2/12/1995	14.51	
	14	5/14/1991	14.41	
	15	2/3/1991	14.25	
	16	1/9/1993	14.05	
	17	11/29/1992	13.23	
	18	1/13/1993	13.17	
	19	11/30/1994	13.12	
	20	1/23/1987	11.96	
	21	4/12/2003	10.66	
	22	6/8/2003	10.52	
	23	5/24/2003	10.28	

Average = 15.86 ft

Terrell County Flood Events						
BGN_DATE	COUNTYNAME	EVTTYPE	FATALITIES	INJURIES	PROPDMG(K)	CROPDMG(K)
04-Jul-94	TERRELL	FLASH FLOOD	0	0	5	50
01-Mar-98	TERRELL	FLASH FLOOD	0	0	250	0
11-Jul-05	TERRELL	FLASH FLOOD	0	0	300	0
08-Jun-07	TERRELL	FLASH FLOOD	0	0	0	0

Source: National Climate Data Center

Input of available data suggests a 16.6% probability of a flood event in any given year (Appendix A – Hazard Frequencies Table, Page 25). This data cannot be broken down by jurisdiction because all flooding occurred in the County and not in the jurisdiction themselves and therefore was reported as such.

C. Community Exposure

The Terrell County Pre-Disaster Mitigation Plan identifies critical facilities located in the County that are susceptible to individual hazards. A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the County, or fulfills important public safety, emergency response, or disaster recovery functions.

Jurisdiction	Date Currency	Participating in FIRM
Terrell County	9/2/09	YES
Dawson	9/2/09	YES
Bronwood	N/A	NO
Parrott	N/A	NO
Sasser	NA	NO

The critical facilities identified in Terrell County are schools, governmental facilities, fire and emergency medical facilities, water and wastewater treatment facilities and solid waste sites. According to the critical facilities inventory report (flood) and Worksheet #3A, the most damage from flood would not be extensive as in

surrounding counties due to minimal development in floodplain areas. The total value of non-critical structures in flood hazard areas is \$6.2 million. There are no critical facilities located in the floodplain in Terrell County or any of the cities within. The data for worksheet 3A was from the tax digest and has been broken down by jurisdiction. For more specifics on this data please see in Appendix D - for Worksheet #3A Inventory of Assets – Flood. The Critical Facilities data is in Appendix A (Critical Facilities Inventory– Flood, Page 24)

Accurate data does not exist to allow probability of flooding to be determined with regards to any particular jurisdiction.

The Terrell County Pre-Disaster Mitigation Plan used GIS, FIRM maps, related websites, and other modeling tools to map the county’s critical facilities and determine which are most likely to be affected by flood. No base flood elevations (BFE’s) have been determined for Terrell County.

- The analysis revealed that the portion of the County that is most likely to experience damage from flooding are the areas that are located in the 100-year Floodplain according to the FIRM map. A 100-year flood would have an impact on a large portion of the county in the Ichawaynotchaway Creek and Chickasawhatchee Creek floodplain areas. This area was greatly affected during the 1998 flood. Also flash floods in low lying areas within the county which typically occur during the summer can cause property damage.

There no repetitive loss properties in Terrell County.

D. Estimate of Potential Loss

Specific areas in Terrell County continue to be at risk. The risk in the county is mostly damage to agriculture assets but the risk in the cities is the damage to residential and commercial assets. Also there are several residential areas in the county that are at risk by being located in or near a floodplain. Because of floodplain ordinance enforcement fewer properties will be adversely affected by any future flood event. The Cities of Dawson, Sasser, and Bronwood are usually affected by flash flooding due to stormwater overload. The detailed estimate of potential losses is outlined in APPENDIX D – Worksheet #3A Inventory of Assets - Flood.

E. Land Use and Development Trends

Land Use is an important tool that provides local government the opportunity to inventory existing land use patterns and trends; to determine future patterns of growth, based on community needs and desires; and to develop goals, policies and strategies for land use that strike a balance between effective and efficient delivery of public services, protection/preservation of vulnerable natural and historic resources, and respect for individual property rights. The planning process in any community involves making decisions between alternatives in various phases of the community's development. As an essential component of the Land Use Plan, it is necessary to formulate general objectives and recommendations that embody the community's goals, as well as sound planning principles and concepts.

Residential and commercial areas still exist in the floodplains in the Cities of Dawson, Sasser and Bronwood but these areas are not experiencing any marked increase in development. The floodplain areas along the various tributaries of Ichawaynochaway and Chicksawatchee Creeks in the county contain residential structures but only minor development has occurred. Most current development, especially residential, is located outside floodplain areas. This is due in part to the floodplain ordinances that are being enforced by Terrell County and the cities within.

Development in Terrell County is concentrated in and around the Cities of Dawson, Sasser, Parrott, and Bronwood. There are a number of developed properties throughout the county but the density is very sparse. Mitigative actions for existing properties are generally the responsibility of the homeowner and, depending on the work, may require a building permit.

There are no new or planned structures/buildings/infrastructure/developments that would be considered critical or non-critical facilities planned for Terrell County or the cities within that would be subject to other requirements above and beyond that of the adopted building codes.

F. Multi-Jurisdictional Differences

The Terrell County plan includes the Cities of Dawson, Sasser, Parrott and Bronwood. This multi-jurisdictional plan required review of the county and each

city individually for each hazard to determine if there were special concerns or mitigation measures required. Maps of each jurisdiction as related to floods are in Appendix A Flood/Terrell County Critical Facilities Map Images – Flood (Page 12-16).

The Cities of Dawson, Sasser, Bronwood and unincorporated Terrell County all contain floodplain areas. This means that all four jurisdictions have to respond to this hazard and are treated the same in this plan. **The cities of Bronwood, Parrott, and Sasser do not participate in the National Flood Insurance Program.** Bronwood and Sasser have very little area in the floodplain and have opted to adopt a local model flood ordinance to mitigate the potential effects of flooding in their communities. The city of Parrott has no floodplains within their boundaries and does not feel it necessary to do anything to mitigate the effects of flooding. Maps of each jurisdiction as related to flood are in Appendix A Flood/Terrell County Critical Facilities Map Images - Flood.

G. Hazard, Risk and Vulnerability Summary

Floods have the most impact on Terrell County, both in terms of monetary damage and interruption of services. Requiring development to occur in a more educated manner in flood prone areas is one of the first and easiest steps to take to prevent loss of property and life from this hazard. Education and public awareness is one other key step to make homeowners aware of risks and safeguards available to protect them. Nothing has changed with regards to the overall vulnerability of the community's to this hazard.

IV. NATURAL HAZARD – THUNDERSTORM WINDS

A. Hazard Identification

Thunderstorm winds are generally short in duration involving straight-line winds (as opposed to a rotating column of air) and/or gusts in excess of 50 mph. This hazard tends to affect areas of softwood trees, a feature common in the community, areas with exposed improvements and infrastructure, and above ground utilities. These winds can cause power outages, transportation and economic disruptions, significant property damage and pose a high risk of injuries and loss of life.

B. Hazard Profile

All areas of the county have experienced damage from thunderstorm winds. Although there have not been any such hazards of “disaster” proportions, it is the most common natural hazard to befall the community. Terrell County lies entirely in the 90-99 mph wind zone. Examples of local damages include forests, trees blown onto homes, commercial establishments and power lines, moving semi-trailer trucks blown off the highway, roofs torn off buildings and signs blown off businesses. The historic record as compiled by the National Climatic Data Center documents 44 thunderstorm events over the past 54 years. The data cannot be broken down by jurisdiction because the initial data was classified by County only. No deaths or injuries were documented and property damage reportedly totaled \$347,000. Extrapolating from the past half century of available data, the community has a 81.5% probability of experiencing thunderstorm winds any given year (Appendix A- Hazard Frequencies Table, Page 25).

BGN_DATE	BGN_TIME	COUNTYNAME	STATE	EVTTYPE	F	DEATHS	INJURIES	PROPDMG	CROPDMG
04/09/58	1600	TERRELL	GA	TSTM WIND		0	0	0	0
05/20/59	1230	TERRELL	GA	TSTM WIND		0	0	0	0
05/16/62	1940	TERRELL	GA	TSTM WIND		0	0	0	0
06/21/64	1700	TERRELL	GA	TSTM WIND		0	0	0	0
06/28/69	1400	TERRELL	GA	TSTM WIND		0	0	0	0
08/31/87	1515	TERRELL	GA	TSTM WIND		0	0	0	0
05/04/88	1230	TERRELL	GA	TSTM WIND		0	0	0	0
11/15/89	2120	TERRELL	GA	TSTM WIND		0	0	0	0
11/16/89	0100	TERRELL	GA	TSTM WIND		0	0	0	0
03/17/90	0200	TERRELL	GA	TSTM WIND		0	0	0	0
05/05/90	0605	TERRELL	GA	TSTM WIND		0	0	0	0
07/08/90	1900	TERRELL	GA	TSTM WIND		0	0	0	0
07/08/90	1930	TERRELL	GA	TSTM WIND		0	0	0	0
12/03/90	1230	TERRELL	GA	TSTM WIND		0	0	0	0
03/03/91	0945	TERRELL	GA	TSTM WIND		0	0	0	0
04/05/91	1625	TERRELL	GA	TSTM WIND		0	0	0	0
04/09/91	1645	TERRELL	GA	TSTM WIND		0	0	0	0
05/01/91	1407	TERRELL	GA	TSTM WIND		0	0	0	0
07/22/91	1820	TERRELL	GA	TSTM WIND		0	0	0	0
07/22/91	1905	TERRELL	GA	TSTM WIND		0	0	0	0
03/30/92	1745	TERRELL	GA	TSTM WIND		0	0	0	0

07/04/94	1515	TERRELL	GA	THUNDERS TORM WIND		0	0	5K	0
07/16/95	2030	TERRELL	GA	THUNDERS TORM WINDS		0	0	3K	0
12/01/96	07:05:00 AM	TERRELL	GA	TSTM WIND		0	0	0	0
06/14/97	05:02:00 PM	TERRELL	GA	TSTM WIND		0	0	0.5K	0
10/25/97	03:30:00 PM	TERRELL	GA	TSTM WIND		0	0	50K	0
06/05/98	06:15:00 PM	TERRELL	GA	TSTM WIND		0	0	80K	20K
01/18/99	03:15:00 AM	TERRELL	GA	TSTM WIND		0	0	8K	0
07/23/00	04:00:00 PM	TERRELL	GA	TSTM WIND		0	0	1K	0
12/16/00	05:00:00 PM	TERRELL	GA	TSTM WIND		0	0	1K	0
12/16/00	05:55:00 PM	TERRELL	GA	TSTM WIND		0	0	10K	0
06/04/01	04:45:00 PM	TERRELL	GA	TSTM WIND		0	0	50K	0
01/19/02	05:20:00 PM	TERRELL	GA	TSTM WIND		0	0	15K	0
06/04/02	04:09:00 PM	TERRELL	GA	TSTM WIND		0	0	0.5K	0
08/20/02	08:10:00 PM	TERRELL	GA	TSTM WIND		0	0	2K	0
12/24/02	08:45:00 AM	TERRELL	GA	TSTM WIND		0	0	100K	0
05/10/06	05:53:00 PM	TERRELL	GA	TSTM WIND		0	0	1K	0
08/08/06	05:20:00 PM	TERRELL	GA	TSTM WIND		0	0	10K	0

02/06/08	12:55:00 PM	TERRELL	GA	THUNDERS TORM WIND	0	0	5K	0
06/09/08	19:40:00 PM	TERRELL	GA	THUNDERS TORM WIND	0	0	0	0
07/22/08	15:50:00 PM	TERRELL	GA	THUNDERS TORM WIND	0	0	0	0
03/28/09	09:25:00 AM	TERRELL	GA	THUNDERS TORM WIND	0	0	0	0
03/28/09	08:58:00 AM	TERRELL	GA	THUNDERS TORM WIND	0	0	0	0

National Climatic Data Center

C. Community Exposure

The random, sudden and violent natures of thunderstorms place all residents and all physical development throughout the community at risk. The critical facilities identified in Terrell County and its cities are schools, governmental facilities, fire and emergency medical facilities, water and wastewater treatment facilities and solid waste sites. The Terrell County Pre-Disaster Planning Team used GIS, E-911 information, related websites, GEMA's online database, and other modeling tools to map the county's critical facilities and determine which are most likely to be affected by thunderstorms. This, of course, includes all the community's critical infrastructure, identified in Appendix A. According to the critical facilities inventory report (Thunderstorm) and Worksheet #3A, the most damage in terms of dollars would be in the residential sector. There is a potential of \$517.1 million in damage to structures and \$28.9 million in damage to critical facilities. The data for worksheet 3A was from the tax digest and has been broken down by jurisdiction. For more specifics on this data please see in Appendix D - for Worksheet #3A Inventory of Assets – Thunderstorms. The Critical Facilities Inventory is in Appendix A (Page 22).

The critical facilities identified in Terrell County and the cities within are schools, governmental facilities, fire and emergency medical facilities, and water system. While there was no damage to critical facilities from the thunderstorms winds listed in the data above electricity to those facilities can be severely affected for long periods of time in thunderstorm events due to wind damage and/or lightning. This creates a need for electricity to be restored quickly either through repairing the

power lines or obtaining fuel powered generators. This, of course, includes all the community's critical infrastructure, identified in Appendix A.

D. Estimate of Potential Losses

Two formats prescribed by the Georgia Emergency Management Agency were used in estimating potential losses: the Georgia Mitigation Information System (GMIS) and the Assets Worksheet. Data input for the Critical Facilities Inventory included the replacement value of each critical facility identified. This information can be viewed in Appendix A (Critical Facilities – Wind Hazard Pg 22). According to the critical facilities inventory the replacement value totals \$28.9 million and there was no total for functional use value.

Terrell County and its municipalities are susceptible to wind speeds ranging from 90 mph to 99 mph.

E. Land Use and Development Trends

Because of the random nature of thunderstorms the entire community is at risk. Consequently, there are not any local land use or development trends applicable to the thunderstorm hazard. Building codes are enforced in Terrell County and all the cities. Wind speed threshold for new construction in Terrell County and its cities is 99 mph. The Wind Hazard Scores are based on the 2000 International Building Code, figure 1609 contours showing 3 second gust wind speeds with a 50 year return interval. The Northwest portion of the state scored an additional point for the 250 mph community tornado shelter design zone according to FEMA publications.

There are no new or planned structures/buildings/infrastructure/developments that would be considered critical or non-critical facilities planned for Terrell County or the cities within that would be subject to other requirements above and beyond that of the adopted building codes.

F. Multi-Jurisdictional Differences

The Terrell County Pre Disaster Mitigation Plan assessed each community to determine if there was a variation in risk from thunderstorms. From the assessment it was determined there is no variation in risk of a thunderstorm event in any jurisdiction, or at any location that differs from the risk facing the entire community. The municipalities within Terrell County may not receive as much

damage as Terrell County but because the development is more concentrated there is more of a probability for flying debris to cause more damage. The county is subject to building codes that requires structures to withstand the 99 mph wind speed threshold which is indicated on the critical facilities map. The critical facilities map of each jurisdiction as it related to thunderstorm winds is located in Appendix A (Terrell County Critical Facilities Map Images – Thunderstorm, Page 7-11).

G. Hazard, Risk and Vulnerability Summary

Thunderstorm winds are the community's most common natural hazard event, and have demonstrated the ability to strike anywhere at any time. The current state of technology cannot prevent such hazards from occurring. The community must prepare in advance, and be able to respond quickly and intelligently to such an event.

No changes have occurred Terrell County with regards to development, population, infrastructure, etc. that would increase or decrease the community's vulnerability to thunderstorm winds since the previous plan was approved.

V. NATURAL HAZARD – EXTREME HEAT

A. Hazard Identification

High temperatures sustained over an extended period of time may cause heat-related injuries or deaths, especially to infants and young children, the elderly, persons with disabilities, and migrant and/or seasonal farm workers and other outdoor laborers. The body of an adult is over half water, and for babies the percentage is over 75%. Normal daily water loss must be replaced by what we eat (food contains a lot of water) and drink, but the average adult does not consume enough water. In cold weather an adult should consume two pints of water daily, and in warm weather that increases to one gallon; eight times the cold weather consumption requirement. Hot weather tends to diminish appetite, reducing one source of water intake, and insufficient water consumption over a period of time leads to gradual dehydration. Vital organs like the kidneys, brain and heart can't function without a certain minimum of water, and unless the deficit is corrected death can occur.

B. Hazard Profile

There is very little historical information that could be located concerning the hazard. The National Climate Data Center lists no events of extreme heat for Terrell County. However, the recent world wide trend in extreme weather patterns and global warming, in conjunction with local demographics and general climate patterns which increase community exposure are in the aggregate interpreted as increasing the probability that the community will experience an extreme heat event. Also the climate becomes subtropical during the summer months with high temperatures and high humidity. The average high temperature of the month of July and August for Terrell County is 92.7 and 92.6 degrees respectively. The situation is considered extreme when temperatures reach 100+ for an extended period of time. There are no recorded events of extreme heat therefore probability of an event occurring could not be calculated.

C. Community Exposure

A larger proportion of the local population is more susceptible to heat stress than is true across the state. While the proportional size of the local infant and young children (<5 years of age) population is very similar to the state, the local elderly, disabled, and migrant and/or seasonal farm workers and other outdoor laborer proportions all exceed state levels. In addition, the community has lower

educational attainment and income levels than the state average. These latter factors increase community exposure to injury and death from extreme heat as these segments of the population are more difficult to inform and get to follow heat-stress avoidance measures, and/or are less likely to get relief (via air conditioning) from extended periods of extreme heat. The community's critical infrastructure is not particularly susceptible to damage from extreme heat. For more specifics on this data please see in Appendix D - for Worksheet #3A Inventory of Assets – Extreme Heat. The Critical Facilities data is in Appendix A (Critical Facilities Inventory – Drought and Extreme Heat Page 23)

D. Estimate of Potential Loss

Extreme heat is primarily a threat to residents, as critical facilities are not particularly susceptible. A reliable estimation of injuries and deaths is impossible to develop in absence of specifying event conditions, e.g., suddenness of onset, extreme in temperature, humidity and duration of the event. Consequently, for present purposes no such estimate is developed.

E. Land Use and Development Trends

Land Use is an important tool that provides local government the opportunity to inventory existing land use patterns and trends; to determine future patterns of growth, based on community needs and desires; and to develop goals, policies and strategies for land use that strike a balance between effective and efficient delivery of public services, protection/preservation of vulnerable natural and historic resources, and respect for individual property rights. The planning process in any community involves making decisions between alternatives in various phases of the community's development. As an essential component of the Land Use Plan, it is necessary to formulate general objectives and recommendations that embody the community's goals, as well as sound planning principles and concepts.

There are no new or planned structures/buildings/infrastructure/developments that would be considered critical or non-critical facilities planned for Terrell County or the cities of Dawson, Sasser, Parrott or Bronwood that would be subject to other requirements above and beyond that of the adopted building codes.

F. Multi-Jurisdictional Differences

The Terrell County Pre Disaster Mitigation Plan assessed each community to determine if there was a variation in risk from extreme heat. From the assessment it was determined there is no variation in risk of an extreme heat event in any

jurisdiction, or at any location that differs from the risk facing the entire community. The risk that is variable in extreme heat is how it affects vulnerable populations such as the elderly, disabled, and low income residents who may not have indoor cooling systems. Pre-disaster mitigation measures relevant to extreme heat are applicable throughout Terrell County. A map of each jurisdiction as it related to extreme heat is located in Appendix A (Terrell County Critical Facilities Map Images – Drought and Extreme Heat, Page A-17-21).

G. Hazard, Risk and Vulnerability Summary

The degree of community exposure by virtue of demographics and socio-economic factors to an extreme heat event is sufficient to result in significant resident injury and even death.

No changes have occurred Terrell County with regards to development, population, infrastructure, etc. that would increase or decrease the community's vulnerability to extreme heat since the previous plan was approved.

CHAPTER 3 – NATURAL HAZARD MITIGATION GOALS AND OBJECTIVES

Summary of changes:

- The status of Goals/Objectives/Action Steps from the previous plan is located in Appendix D.
- New objectives include: investigating a mass alert system, and identifying shelter locations in the unincorporated areas of Terrell County.

There were no changes in the community's overall priorities related to mitigation since the previous plan was completed. The Terrell County capabilities assessment is located in Appendix B.

I. NATURAL HAZARD – HIGH WINDS (TORNADOS, THUNDERSTORM WINDS, HURRICANES)

- A. Mitigation Goals** - A tornado has inflicted greater loss on the community than any other natural hazard. This is also the only hazard for which a loss of life was documented. The general public fails to appreciate how little time there is to respond to a sudden tornado strike, and how important it is that all parties be prepared at all times to respond correctly. Although thunderstorm winds do not reach the speed of tornadoes, there are many similarities in the damage caused by the two type hazards. Consequently, virtually all goals, objectives, tasks and action steps of the two hazards are interchangeable.

Goals and objectives were considered for all hazards regardless of whether or not they were prevalent to the area. The committee has decided to combine Thunderstorms and Thunderstorm Winds into one planning group, High Winds, with which the chapter will begin. The categories of Hurricanes and Tornadoes have been compressed into the category of High Winds because the mitigation alternatives identified for high wind act to mitigate dangers from both of these disasters. The overall goal of this community is to protect its citizens and its structures from the hazards recognized in this plan.

B. Range of Mitigation Options

1. Structural v Non-structural –
 - Public Service Announcements: periodic publications during hazard season
 - Develop early warning systems.

2. Existing Policies, Regulations, Ordinances and Land Use – The Pre-Disaster Planning Team reviewed the Terrell County Capabilities Assessment and the Thomas County Emergency Operations Plan, both of which can be found in Appendix C, to help identify and analyze the mitigation measures necessary for this hazard. The Terrell County Comprehensive Plan was also reviewed, but not used due to the information being outdated. The Comprehensive Plan is due to be updated in 2019 and will be reviewed and will include the work completed for the pre-disaster mitigation plan. All of the plans are comprised of the unincorporated areas of Terrell County, the City of Dawson, Sasser, Parrott and Bronwood.
3. Community Values, Historic and Special Considerations – The Pre-Disaster Planning Team has reviewed this hazard and concluded that there are no special considerations. Data on new and existing critical facilities have been covered in the goals and objectives.
4. Data on new buildings and infrastructure have been covered in the goals and objectives. Any new buildings and infrastructure will be built with tornado mitigation incorporated in the design. The mitigative actions for tornadoes include improved building codes, public awareness, warning systems, and strengthening critical facilities.
5. Data on existing buildings and infrastructure is shown in each hazard’s critical facility inventory in Appendix A. Any existing buildings and infrastructure will be improved with tornado mitigation incorporated into any renovations. The mitigative actions for tornadoes include improved building codes, public awareness, warning systems, and strengthening critical facilities.

C. Mitigation Strategy and Recommendations

Goal #1 Mitigating damage from a high wind event.

Objective 1 To limit the effects of high winds on the population of Terrell County by providing adequate warning to the populace of approaching tornados.

Task 1.1 Develop an early warning system for Terrell County and its cities.

Action Step 1.1.1 ***NEW***

Investigate the cost of a CodeRed system subscription for Terrell County and the cities within.

Category: Awareness/Early warning
Responsible Org: Terrell County EMA
Coordinating Org: Terrell County EMA
Timeline: 2013-2015
Cost: \$1.5 million
Funding Source: FEMA/Terrell County/State of Georgia

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

Action Step 1.1.2 ***NEW***

Purchase and Install new early warning systems for Sasser, Parrott and Bronwood

Category: Awareness/Early warning
Responsible Org: Terrell County EMA
Coordinating Org: Terrell County EMA
Timeline: 2013-2015
Cost: \$1.5 million
Funding Source: FEMA/Terrell County/State of Georgia

This action step benefit will be Sasser, Parrott and Bronwood with an estimated population of 774. The value of structures benefiting is \$30.9 million.

Task 1.2 Educating, informing and involving the public.

Action Step 1.2.1

To solicit comments from the public through public hearings or informational brochures, and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Category: Property Protection
Responsible Org: Terrell County EMA
Coordinating Org: Terrell County EMA

<u>Timeline:</u>	Daily
<u>Cost:</u>	Staff time
<u>Funding Source:</u>	Departmental Operating Budget
<u>Benefit:</u>	Prevent injuries during storms

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

Task 1.3 Continue reassessment of Critical Facilities in the hazard area.

Action Step 1.3.1 ***NEW***

Identify shelters in cities and develop a personal shelters plan for the unincorporated areas.

<u>Category:</u>	Property Protection
<u>Responsible Org:</u>	Terrell County EMA
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	Daily
<u>Cost:</u>	Staff time
<u>Funding Source:</u>	Departmental Operating Budget
<u>Benefit:</u>	Prevent injuries during storms

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

Action Step 1.3.2

To continue to monitor all critical facilities within the County and cities for susceptibility to high winds and to reassess mitigation options if any are found to be vulnerable.

<u>Category:</u>	Property Protection
<u>Responsible Org:</u>	Terrell County EMA
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	Daily

<u>Cost:</u>	Staff time
<u>Funding Source:</u>	Departmental Operating Budget
<u>Benefit:</u>	Prevent injuries during storms

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

D. Multi-Jurisdictional Strategy

The Terrell County plan includes the Cities of Dawson, Sasser, Parrott and Bronwood. This multi-jurisdictional plan required review of the county and each city individually for each hazard to determine if there were special concerns or mitigation measures required.

E. Local Public Information and Awareness Strategy

- Public Service Announcements: periodic publications during hazard season
- Exercises and practices for the public: target neighborhood groups, seniors, churches, service clubs, etc.

II. NATURAL HAZARD - DROUGHT

- A. Mitigation Goals** – The vitality of the local economy fluctuates with conditions in agriculture, and conditions in agriculture are driven by the timely and adequate availability of water. A shortage of this essential commodity at a critical time has a severely negative impact on the economy. Previous activities have been essentially concerned with water conservation. The current effort is primarily concerned with supplementing the availability of water, and identifying what can be done to reduce the adverse impact on the economy in the event a drought does occur.
- B. Range of Mitigation Options** -
1. Structural v Non-structural –
 - Minimize and monitor development in drought prone areas: requires close relationship with well drillers and Health Department to monitor development in drought prone areas in order to not tax aquifer and water resources.
 - Create and implement alert procedures and public education about water restrictions: requires education about water restrictions, understanding of risks as well as conservation practices.
 2. Existing Policies, Regulations, Ordinances and Land Use – The Pre-Disaster Planning Team reviewed the Terrell County Capabilities Assessment and the Terrell County Emergency Operations Plan, both of which can be found in Appendix C, to help identify and analyze the mitigation measures necessary for this hazard. The Comprehensive Plan is due to be updated in 2019 and will be reviewed and will include the work completed for the pre-disaster mitigation plan. All of the plans are comprised of the unincorporated areas of Terrell County, the Cities of Dawson, Sasser, Parrott and Bronwood.
 3. Community values, historic and special considerations - The Pre-Disaster Planning Team has reviewed this hazard and concluded that there are no special considerations. Data on new and existing critical facilities have been covered in the goals and objectives.
 4. Data on new buildings and infrastructure have been covered in the goals and objectives. Any new buildings and infrastructure will be built with drought mitigation incorporated in the design. The mitigative actions for drought include water conservation, improved fire fighting capabilities, and public awareness.
 5. Data on existing buildings and infrastructure is shown in each hazard's critical facility inventory in Appendix A. Any existing buildings and infrastructure will be improved with drought mitigation incorporated into

any renovations. The mitigative actions for drought include water conservation, improved fire fighting capabilities, and public awareness.

C. Mitigation Strategy and Recommendations

Goal #1 Maintain economic stability and growth during periods of drought

Objective 1 To limit the effects of drought on the population, government, and commerce in Terrell County.

Task 1.1 Take steps to reduce the repair, replacement, enhancement, or addition of wells in order for the county and its municipalities to withstand the effects of a prolonged drought or water shortage.

Action Step 1.1.1 ***NEW***

Pursue grants for well deepening of dry wells in time of drought.

<u>Category:</u>	Structural
<u>Responsible Org:</u>	Cooperative Extension Service
<u>Coordinating Org:</u>	Cooperative Extension Service
<u>Timeline:</u>	2013-2015
<u>Approximate Cost:</u>	Staff time
<u>Funding Source:</u>	Staff time
<u>Benefit:</u>	Maintaining adequate water supply

This action step benefit will be in the unincorporated areas with an estimated population of 9,319. The value of structures benefiting is \$350.7 million.

Task 2.1 Educate the public on the need to conserve water

Action Step 2.1.1

To solicit comments from the public through public hearings or informational brochures, and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

<u>Category:</u>	Prevention
<u>Responsible Org:</u>	Terrell County EMA
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	2013-2016
<u>Approximate Cost:</u>	\$10,000
<u>Funding Source:</u>	State and Federal
<u>Benefit:</u>	Improved public awareness

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

- D. Special Multi-Jurisdictional Strategy** – The Terrell County plan includes the Cities of Dawson, Sasser, Parrott and Bronwood. This multi-jurisdictional plan required review of the county and each city individually for each hazard to determine if there were special concerns or mitigation measures required.
- E. Public Information and Awareness Strategy** – Create and implement alert procedures and public education about water restrictions: requires education about water restrictions, understanding of risks as well as conservation practices.

III. NATURAL HAZARD - FLOOD

A. Mitigation Goals –

- To preserve the health and well being of the citizens of Terrell County as well as the Cities of Bronwood, Dawson, Parrott, and Sasser by taking steps to reduce the potential damage to population, structures, and agriculture caused by flooding.

B. Range of Mitigation Options

1. Structural and non-structural mitigation

Goal #1: Reduce the threat to the public health, safety and welfare from recurring flood events and reduce economic loss to public and private sectors from the same events.

- To reduce the impact of flooding by maintaining drainage ditches that experience recurring flooding.
- Enforce the floodplain ordinances in Terrell County and continue participation in National Flood Insurance Program (NFIP).

2. Existing policies, regulations, ordinances and land use

The Pre-Disaster Planning Team reviewed the Terrell County Capabilities Assessment and the Terrell County Emergency Operations Plan, both of which can be found in Appendix C, to help identify and analyze the mitigation measures necessary for this hazard. The Terrell County Comprehensive Plan was also reviewed, but not used due to the information being outdated. The Comprehensive Plan is due to be updated in 2019 and will be reviewed and will include the work completed for the pre-disaster mitigation plan. All of the plans are comprised of the unincorporated areas of Terrell County, the City of Dawson, Sasser, Parrott and Bronwood.

3. Community values, historic and special considerations

The Pre-Disaster Planning Team has reviewed this hazard and concluded that there are no special considerations. Data on new and existing critical facilities have been covered in the goals and objectives.

4. Data on new buildings and infrastructure have been covered in the goals and objectives. Any new buildings and infrastructure will be built with flood mitigation incorporated in the design. The mitigative actions are for the removal of development in floodplain areas.
5. Data on existing buildings and infrastructure is shown in each hazard's critical facility inventory in Appendix A. Any existing buildings and infrastructure will be improved with flood mitigation incorporated into any renovations. The mitigative actions are for the removal of development in floodplain areas.

C. Mitigation Strategy and Recommendations

Goal #1 Mitigating damage and disruption from flood related disasters

Objective 1 To limit flood damage and disruption in Terrell County by better preparedness.

Task 1.1 Review all development plans for compliance with local floodplain ordinance

Action Step 1.1.1 ***NEW***

Continue participation in the NFIP, including utilizing floodplain review checklist during plan review and enforcing local floodplain ordinances (where applicable)

<u>Category:</u>	Prevention	
<u>Responsible Org:</u>	Terrell County	Codes Enforcement
<u>Coordinating Org:</u>	Terrell County	Codes Enforcement
<u>Timeline:</u>	Daily	
<u>Cost:</u>	Staff time	
<u>Funding Source:</u>	Departmental	Operating Budget

Benefit: Prevent flooding damage to new construction

This action step benefit will be in floodplain areas in Terrell County, Dawson, Bronwood and Sasser with an estimated population of 104. The value of structures benefiting is \$6.2 million.

Action Step 1.1.2

To solicit comments from the public through public hearings or informational brochures, and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Category: Prevention
Responsible Org: Terrell County EMA
Coordinating Org: Terrell County EMA
Timeline: Daily
Cost: Staff time
Funding Source: Departmental Operating Budget
Benefit: Prevent flooding damage to new construction

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

Action Step 1.1.3 ***NEW***

Maintain and expand drainage ditches near floodprone areas.

Category: Prevention
Responsible Org: Terrell County EMA
Coordinating Org: Terrell County EMA
Timeline: Daily
Cost: Staff time
Funding Source: Departmental Operating Budget
Benefit: Prevent flooding damage to new construction

This action step benefit will be in floodplain areas in Terrell County, Dawson, Bronwood and Sasser with an estimated population of 104. The value of structures benefiting is \$6.2 million.

Action Step 1.1.4 ***NEW***

Continue to identify source(s) and apply for funds to “buy out” properties located in the FEMA-designated 100 year floodplain, and clear the floodplain of all development

<u>Category:</u>	Prevention
<u>Responsible Org:</u>	Terrell County and cities within.
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	2013-2016
<u>Cost:</u>	\$10,000,000
<u>Funding Source:</u>	FEMA
<u>Benefit:</u>	Preventing flood damage to structures

This action step benefit will be in floodplain areas in Terrell County, Dawson, Bronwood and Sasser with an estimated population of 104. The value of structures benefiting is \$6.2 million.

Task 1.2 Continue reassessment of critical facilities near the hazard areas

Action Step 1.2.1

Continue to monitor all critical facilities in the County near flood areas for susceptibility to flood and to reassess mitigation options if any are found to be vulnerable.

<u>Category:</u>	Prevention
<u>Responsible Org:</u>	Terrell County EMA
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	2013-2018
<u>Cost:</u>	\$50,000
<u>Funding Source:</u>	department operating budget

Benefit: Prevent flooding damage to critical facilities

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

D. Multi-Jurisdictional Strategy

Terrell County plan includes the Cities of Dawson, Sasser, Parrott and Bronwood. This multi-jurisdictional plan required review of the county and each city individually for each hazard to determine if there were special concerns or mitigation measures required. Terrell County has a number of floodplains that drain to Ichawaynochaway Creek, Chickasawhatchee Creek and the Kinchaffonee Creek. Tributaries of these Creeks extend into the cities of Dawson, Sasser and Bronwood and require these cities to be ever vigilant with the enforcement of floodplain ordinances.

E. Local Public Information and Awareness Strategy

To solicit comments from the public through public hearings or informational brochures, and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

IV. NATURAL HAZARD - EXTREME HEAT

A. Mitigation Goals – The community has already addressed, to some level, the needs identified for this particular hazard. However, a greater depth of planning is needed to facilitate prompt action in the event an extreme heat hazard occurs.

B. Range of Mitigation Options

1. Structural v Non-structural – There are facilities in the community which can be used to provide relief to victims of this hazard however they will likely require building modification. Most needs can be addressed by education, advanced community preparation and taking efforts to ensure essential services are not terminated unmercifully.

2. Existing Policies, Regulations, Ordinances and Land Use – There are state regulations governing the operating standards for emergency shelters. This plan proposes to increase the level of preparation and coordination between responsible entities and formalize local policy. It also calls for review of utility companies’ policy concerning power service cut-off during a hazard event.
3. Community Values, Historic and Special Considerations – No relevant values or considerations were identified.
4. Data on new buildings and infrastructure have been covered in the goals and objectives. Any new buildings and infrastructure will be built with extreme heat mitigation incorporated in the design. The mitigative actions for extreme heat include assisting with utility costs for low income population, provide air conditioned shelter, and public awareness.
5. Data on new buildings and infrastructure have been covered in the goals and objectives. Any new buildings and infrastructure will be built with extreme heat mitigation incorporated in the design. The mitigative actions for extreme heat include assisting with utility costs for low income population, provide air conditioned shelter, and public awareness.

C. Mitigation Strategy and Recommendations

Goal #1 To limit the effects of extreme heat on the population, government, and commerce in Terrell County.

Objective 1 Prevent electric power disconnection of lower income residents during periods of extreme heat due to inability to pay

Task 1.1 Educating, informing, and involving the public and identifying possible prevention measures.

Action Step 1.1.1

To solicit comments from the public through public hearings or informational brochures, and to obtain feedback that will be used in creating policies or procedures to reduce the impact of this hazard within the County.

Category:

Emergency Services

<u>Responsible Org:</u>	Terrell County EMA
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	2013
<u>Approximate Cost:</u>	Staff time
<u>Funding Source:</u>	N/A
<u>Benefit:</u>	Prevent heat related deaths

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

Action Step 1.1.2 ***NEW***

Construct/Identify shelters for vulnerable populations during heat waves.

<u>Category:</u>	Prevention
<u>Responsible Org:</u>	Terrell County EMA, Health Department
<u>Coordinating Org:</u>	Terrell County EMA
<u>Timeline:</u>	2013-2015
<u>Approximate Cost:</u>	Staff time
<u>Funding Source:</u>	EMA Operating Budget
<u>Benefit:</u>	Improved public awareness

This action step benefit will be countywide including all cities with an estimated population of 15,145. The value of structures benefiting is \$517.1 million.

D. Special Multi-Jurisdictional Strategy – Project implementation will apply throughout the community. Identified shelter facilities will likely be limited to the cities and four community areas in the county.

E. Public Information and Awareness – Information about this activity will be disseminated as part of the plan’s mitigation education efforts.

CHAPTER 4 – MITIGATION PLAN EXECUTION

Summary of Changes:

- The EMA director will be responsible for implementing and recommending updates to the plan on an annual basis.

I. IMPLEMENTATION

A. Administrative Actions

The chief elected official (mayor) and county commission chairman chief appointed officials (county administrator, city manager) of the five local jurisdictions are responsible for day-to-day administrative personnel and operations of their respective local governments, mitigation activities proposed herein, and their respective jurisdiction's responsibilities for plan implementation. It is these individuals who will present and recommend to the governing body policy changes, ordinance adoption, or initiate revisions in administrative procedures necessary to accomplish goals of this mitigation plan. These five individuals are responsible for ensuring that action steps specific to their jurisdiction are implemented, and reporting progress to the executive committee. The EMA Director is responsible for coordinating and supporting these activities, and generally overseeing plan implementation

B. Authority and Responsibility

The authority and responsibility for implementation of this plan is vested in the office of Emergency Management Director.

C. Prioritization

1. Emergency response personnel and local governmental staff updated an assessment of the community's ability to respond to any hazards that could seriously affect any of the five participating jurisdictions. These personnel have firsthand knowledge of local capabilities and see the interaction between responsible parties. Among the strongest findings gleaned from the capabilities assessment is the lack of information and coordination

between elected and appointed officials, and between emergency responders and private sector individuals/organizations with assigned emergency responsibilities. Because information is not only fundamental but essential to success in virtually every endeavor, priority in development of this plan has been placed on compiling and disseminating pertinent information, and coordinating the activities of partners in mitigation. Terrell County Emergency Management Agency will develop a library of mitigation materials and serve as a clearinghouse of information to be presented to the general public in numerous settings and forums, applied to local government activities and shared between local emergency response agencies. This activity is a non-structural mitigation measure; consisting of action steps less expensive to implement, with broader application irrespective of the type hazard, less expensive to maintain, and more adaptable for application to specific needs than structural measures. Since this is a non-structural measure with a wealth of information available on the subject matter, the greatest expense associated with this activity is expected to be staff time. As mentioned on page 1, the county has been aggressive in recent years in preparedness activities. The balance of plan action steps either supplement or complete active mitigation measures, or are best management practices.

More specifically, priorities were established as functions of time and cost. Actions which were deemed less costly and less time consuming to implement were given higher priority, while those of greater expense and requiring more time for implementation were rated lower.

2. Use of cost benefit – Of the action steps included in this plan, 75% involve compilation and/or dissemination of disaster-related information. A major benefit of such non-structural measures is their cost effectiveness; they are inexpensive to implement and maintain and have broad applicability. The balance of activity either supplements or completes preparedness measures initiated previously by the community, or are best management practices. The “high ticket” actions have a lower public benefit level and will take significantly longer periods of time to implement. These appear late in the list of priorities.
3. Use of other calculations – No other calculations were utilized.

4. Use of other review structure – No other review structure was utilized.

D. Incorporation of Pre-Disaster Mitigation into other plans/planning measures

Pursuant to Georgia law, local governments must prepare and adopt a comprehensive plan to maintain eligibility for state grants, loans and/or permits. All local jurisdictions are diligent in maintaining their “Qualified Local Government” status. Although the chief elected official of the jurisdiction is legally accountable for ensuring these plans are prepared in accordance with stringent state planning and procedural standards, and formally adopted, responsibility for ensuring this is accomplished is deferred to the chief administrative official. The previous hazard mitigation plan was reviewed during the update process of the comprehensive plan. At that time there was very little connection between the two documents, however the push is on to further incorporate hazard mitigation into comprehensive planning and during the next comprehensive plan update this will be done. The previous hazard mitigation plan was reviewed during the update process of the comprehensive plan. At that time there was very little connection between the two documents, however the push is on to further incorporate hazard mitigation into comprehensive planning and during the next comprehensive plan update this will be done. Annual review and evaluation of this mitigation plan will serve to facilitate incorporation of mitigation measures into daily management functions of the local governments as well as the comprehensive plans of the five communities, all scheduled to be updated no later than October 31, 2014. The Southwest Georgia Regional Commission has helped not only with preparation of this plan but has also been helping the communities comply with comprehensive and other planning requirements. In addition, digital maps prepared for this plan exceed the pre-disaster mitigation planning requirements. Much of the mapped information included here does not appear on any local data base, but is useful for revealing the relationships between planning, management and mitigation. This resource is intended to provide a valuable link between mitigation, planning and management functions of the local governments.

II. MONITORING AND EVALUATION

A. Method

Local monitoring and evaluation will occur annually. The EMA Director will review the plan at a local level to update administrative actions that have been taken, and revise the plan as needed. The EMA Director will maintain a current, written record of progress made with plan implementation. With the record of project information

recorded during the course of the year(s) it will be useful for the end-of-year evaluation (and five-year update). Once the five year update comes it will be very useful to have the written record of accomplishments and notes ready to be discussed and inserted into the updated plan. Assuming there is no change in the planning requirements; Terrell County will follow the same method as was done for this plan update, beginning around 2016. One of the first tasks of the EMA Director will be to determine the criteria to be used for evaluation of the plan. Included among these criteria should be:

- Do the goals and objectives continue to address expected conditions in Terrell County?
- Is the risk assessment still appropriate, or has the nature or magnitude of the hazard and/or vulnerability changed over time?
- Are current resources appropriate for implementing this plan?
- Have lead agencies participated as originally proposed?
- Have outcomes been adequate?
- What problems have occurred in the implementation process?
- Have member of the public been adequately involved in the process? Are their comments being heard?

B. Responsibility

The responsibility of monitoring, reviewing and updating the plan will be the Terrell County Emergency Agency in cooperation with all county agency and all departments in the cities of Dawson, Sasser, Parrott and Bronwood. The agency may involve other regional, state, and private entities to assist in updating the plan.

C. Timeframe

Upon formal plan adoption the EMA Director will organize and assign specific responsibilities for plan implementation. The EMA Director shall assess progress quarterly thereafter, and where necessary develop plan revisions or adjustments. The EMA Director shall perform a progress evaluation of annual progress in December. Based on the results of this evaluation appropriate steps will be taken to facilitate implementation during the subsequent year.

D. Reporting

Quarterly meetings between the EMA Director and the jurisdictions will be used as the reporting mechanism. Presentations by the EMA Director will keep the local

governments abreast of plan progress and any shortcomings in plan implementation. This time will be used to adjust or supplement the plan in the event of significant problems or difficulties, and will help maintain responsibility and accountability among the participants. The EMA Director will make periodic reports to the board of commissioners concerning implementation progress.

III. MULTI-JURISDICTIONAL STRATEGY AND CONSIDERATIONS

The Emergency Management Agency (EMA) is the authorized agent of the cities of Dawson, Sasser, Parrott, Bronwood and Terrell County for Pre-Disaster Mitigation planning. These officials are responsible for the administrative personnel and day-to-day operations of their respective local governments, mitigation activities proposed in the plan, and their respective jurisdiction's responsibilities for plan implementation. It is these individuals who will present and recommend to the governing body policy changes, ordinance adoption, or initiate revisions in administrative procedures necessary to accomplish goals of the mitigation plan. These individuals have responsibility for ensuring that action steps specific to their respective jurisdictions are implemented, and reporting progress to the executive committee.

IV. PLAN UPDATE AND MAINTENANCE

A. **Public involvement**

Many of the action steps identified in this plan require direct interaction with the general public. These occasions will be used not only to share critical information needed by the public, but to inform residents of local mitigation activities and to solicit public participation throughout the year. As an official creation of the county, meetings of the executive committee are "public". Consequently, all such meetings will be posted in advance of the meeting date, and the local print media will receive notification directly. The 2017 update of the plan is expected to bear little resemblance to the current document. For that reason, and because it is an official plan of all seven local jurisdictions, a publicly advertised hearing will be held at the beginning of the update process to inform the public and to solicit public participation. A second hearing will be held near the end of the update process for public comment.

Responsible officials of involved organizations and agencies should recommend revisions at any time and provide information periodically as to change of personnel and available resources which would bear on the provisions of this plan and its implementation.

To facilitate the goal of continued public involvement in the planning process, the EMA will assure that the following steps are taken:

- The public will be directly involved in the update and review of the plan as members of the Pre-Disaster Mitigation Planning Committee.
- Copies of the plan will be kept on hand at appropriate agencies throughout Terrell County. Contained in the plan is the address and phone number of the EMA employee responsible for keeping track of public comments on the plan.
- The plan will be available on the City/County's website, and will contain an e-mail address and phone number the public can use for submitting comments and concerns about the plan.
- A public meeting will be held annually to provide the public with a forum for expressing concerns, opinions, and ideas. The EMA will set meeting schedules and dates and use County resources to publicize and host this meeting.

B. Timeframe

It is not presently known what planning standards will apply to the 2017 plan update. Consequently, it is difficult to accurately predict the specific timetable which will be needed. The comprehensive plans of all seven local jurisdictions must be prepared, go through regional and state reviews and adopted by October 31, 2014. This means that this PHMP will once again be redone before a new comprehensive plan is done. Based on current assumptions of future mitigation planning standards, a committee structure and plan preparation process similar to that described in the introduction is proposed. The first of two publicly advertised hearings will be held in fall of 2013 at the beginning of the update process to inform the general public and solicit public participation. A second hearing will be held in late fall near the end of the update process for public comment prior to adoption by local governing bodies.

C. Reporting

The quarterly meetings of the executive committee will be used as the reporting mechanism. Presentations by the various responsible parties to this committee will not only update the EMA Director, but keep the full executive committee abreast of plan progress and any shortcomings in plan implementation. This time will be used to adjust, maintain or supplement the plan in the event of significant problems, difficulties or unanticipated success. This reporting method will help maintain responsibility and accountability among the participants. The EMA Director will make periodic reports to the board of commissioners concerning implementation progress. The chief elected or chief administrative officer of all local governments serves on the executive committee. These individuals will also report to their elected governing bodies progress made in plan implementation.

CHAPTER 5 – CONCLUSION

Summary of Changes:

- No Changes

I. SUMMARY

Local government adoption of this mitigation plan completes the third of four important steps. Resources have been organized to address the issues associated with hazard mitigation. Residents have identified the natural hazards most likely to affect the community and assessed the level of risk associated with each hazard. Included in this document are the numerous steps which must yet be taken to reduce community exposure to the natural hazards most likely to occur. The fourth step remains to be completed. It is believed that implementation of the action steps identified herein will make the community much safer in the event another natural disaster should occur. The community can capitalize on past successes in emergency preparedness to continue its efforts to provide for the health, safety and general well-being of the resident population.

II. REFERENCES

Publications

Numerous publications were utilized in compiling information for this plan. Each sub-committee's resources are indicated on the individual worksheets located in the appendices. Some publications used include:

1. The Albany Herald
2. The Thomasville Times Enterprise
3. Flood Insurance Rate Map (FIRM)
4. U.S. Geological Survey Water-Supply Paper

Numerous publications were utilized in compiling information for this plan. Each sub-committee's resources are indicated on the individual worksheets located in the appendices. Some websites used include:

1. GEMA
2. FEMA
3. NCDC

Web Sites -

<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~storms>

morgan@westegg.com

www.tornadoproject.com

<http://www.dnr.state.ga.us/dnr/environ/>

et.al.

Additional sources of information

The additional sources of information used in compiling this research were county records identifying past hazard events.

Georgia Department of Natural Resources

Georgia Forestry Commission

Georgia Tornado Database

National Climatic Data Center

National Weather Service

University of Georgia

Center for Agribusiness and Economic Development

1998-2000 Georgia Drought Report

USDA Farm Services Agency

Newspaper articles

Interviews with local sources

Terrell County Comprehensive Plan

City of Dawson Comprehensive Plan

City of Sasser Comprehensive Plan

City of Parrott Comprehensive Plan

City of Bronwood Comprehensive Plan

Terrell County Emergency Operations Plan 2011

et al.