

Collin County Local Mitigation Strategy



Chapter One Multi-Jurisdictional Planning Process

Collin County Local Mitigation Strategy Planning Process The Collin County Local Mitigation Strategy (CoLMS) was created in order to comply with current federal and state hazard mitigation plan regulations in compliance with the following rules and regulations: Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390) Federal Emergency Management Administration’s Interim Final Rule, published in the Federal Register on February 26, 2002, at 44 CFR Part 201.



The CoLMS is comprised of the following participating jurisdictions:

- Unincorporated Collin County
- Allen
- Frisco
- Lavon
- Lucas
- Wylie

Each jurisdiction participated by having a Hazard Mitigation Team (HMT). The HMT from each jurisdiction participated in the Local Mitigation Strategy. The Emergency Preparedness Department at the North Central Texas Council of Governments participated in the CoLMS by assisting with the compilation of jurisdictional information and by assisting with preparation for the submission of the CoLMS. CoLMS representatives participated in Regional Mitigation Strategy meetings held on December 18, 2006, January 25, 2007, and May 23, 2007 located at the North Central Texas Council of Governments (NCTCOG). With two Collin County Local Mitigation Strategy Working Group Meetings held on January 7, 2009, January 21, 2009, April 2, 2009, and several other meetings held throughout Collin County on September 18, 2009, October 2, 2009, and October 14, 2009.

CoLMS Planning Process Points of Contact The following are the point of contacts during the CoLMS planning process from December 2006-October 2009:

- Unincorporated Collin County
 - Collin County Assistant Emergency Management Coordinator
- City of Allen
 - Emergency Management Coordinator
- City of Frisco
 - Emergency Management Specialist
- City of Lavon
 - City Manager
- City of Lucas
 - Emergency Administration Assistant
- City of Wylie
 - Emergency Management Specialist

Participating Jurisdiction Population Profiles

“Collin County is a unique blend of new leading edge urban mixed with traditional rural... a great quality of life with a business/technology friendly environment... a little bit country and a little bit cosmopolitan... making Collin County an enviable something-for-anyone home in the heart of North Texas.” http://www.co.collin.tx.us/living/for_visitors.jsp



	Final Census 4/1/2000	Estimated Population 1/1/2008	Estimated Population 1/1/2009	Growth Rate 2008-2009
Unincorporated	36,382	52,000	53,300	2.5%
Allen	43,554	78,850	80,400	1.97%
Frisco	33,714	97,600	100,800	3.28%
Lavon	387	1,950	2,250	15.38%
Lucas	2,890	5,150	5,350	3.88%
Wylie	15,132	37,000	38,300	3.51%

North Central Texas Council of Governments Research and Information Services 2009 Current Population Estimates

Collin County Local Mitigation Strategy Plan Organization The Collin County Local Mitigation Strategy is organized into six chapters which satisfy the mitigation planning requirements in 44 CFR Part 201.

Chapter One Multi-Jurisdiction Planning Process Describes the process and organization of the Collin County Multi-Jurisdictional Mitigation Action Plan (Collin County Local Mitigation Strategy)

Chapter Two Planning Process Describes the individual mitigation planning processes for each participating jurisdiction satisfying requirements §201.6(b) and §201.6(6)(1).

Chapter Three Hazard Analysis Describes the hazards identified, known national extent scales, location of hazards, previous events, and jurisdictional profiles satisfying requirements §201.6(c)(2)(i), §201.6(c)(2)(ii), §201.6(c)(2)(ii)(A), §201.6(c)(2)(ii)(B), §201.6(c)(2)(ii)(C), and §201.6(c)(2)(iii).

Chapter Four Mitigation Goals and Actions Describes the county-wide goals established by the Collin County Local Mitigation Strategy and the Mitigation Action Items for each jurisdiction satisfying requirements §201.6(c)(3), §201.6(c)(3)(i), §201.6(c)(3)(ii), §201.6(c)(3)(iii), and §201.6(c)(3)(iv),

Chapter Five Plan Maintenance Process Describes the monitoring, evaluating, updating, plan incorporation, and future public updates for each participating jurisdiction satisfying requirements §201.6(c)(4)(i), §201.6(c)(4)(ii), and §201.6(c)(4)(iii).

Attachment A Documentation from planning meetings

Attachment B Documentation from public meetings

Attachment C Sample Resolution

The NCTCOG Emergency Preparedness Department, in conjunction with the Environment and Development Department, the Transportation Department, and the Research and Information Systems Department, facilitated the Regional Mitigation Strategy. The CoLMS Participation Map identifies the jurisdictions within Collin County. The Regional Mitigation Strategy Map identifies all participating jurisdictions.

Collin County Local Mitigation Strategy Plan Maintenance Process The Collin County Local Mitigation Strategy will continue to collaborate as a planning group in coordination with the North Central Texas Council of Governments Emergency Preparedness Department. Primary contact will be through emails and conference calls with a strategy meeting to occur at least annually. The NCTCOG Emergency Preparedness Department will lead the plan maintenance and update process by:

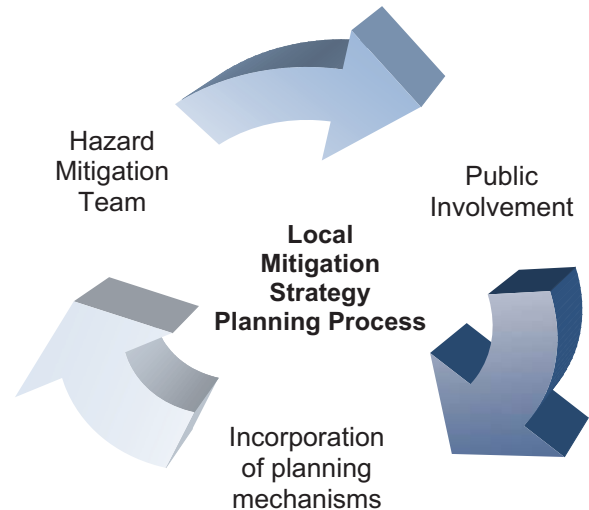
- Assisting jurisdictional Hazard Mitigation Teams in updating their individual contributions to the CoLMS
- Assisting interested jurisdictions in Collin County who would like to begin the mitigation planning process
- Facilitating CoLMS meetings and disseminating information
- Collaborating data for the county-wide sections
- Requesting updates and status reports on planning mechanisms
- Requesting updates and status reports on mitigation action projects
- Assisting jurisdictions in implementing mitigation goals and action projects
- Assisting jurisdictions in mitigation grants
- Providing mitigation training opportunities
- Maintaining documentation of local adoption resolutions for the Collin County Local Mitigation Strategy

Collin County Local Mitigation Strategy Adoption Once the Collin County Local Mitigation Strategy has received FEMA “Approval Pending Local Adoption” each participating jurisdiction will take the CoLMS to their Commissioners’ Courts or City Councils for final public comment and local adoption. A copy of the resolution will be inserted into the CoLMS and held on file at the North Central Texas Council of Governments.

Chapter Two: Planning Process

Chapter Two of the Collin County Local Mitigation Strategy describes the comprehensive planning and open public process utilized by the participating jurisdictions within Collin County during the plan development and through to plan completion. The jurisdictions involved developed an integrated approach specific to each jurisdiction that provided for not only hazard mitigation teams and management input, but also an opportunity for the public to comment on the plan. The development of the Local Mitigation Strategy was orchestrated so as to provide an opportunity for neighboring communities, local and regional agencies involved in mitigation activities, and agencies that have the authority to regulate

development, as well as businesses, academia, and other private and non-profit interested to be involved in the planning process. This planning process also included review and incorporation of other existing plans, documents, and studies related to reducing the effects of natural disasters, so as to avoid duplication and streamline hazard mitigation efforts. The following is the outline:



2.1 Collin County Unincorporated Area

2-3

The Collin County Unincorporated Area provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the Unincorporated County, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.2 City of Allen

2-5

The City of Allen provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the City, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.3 City of Frisco

2-7

The City of Frisco provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the City, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.4 City of Lavon

2-9

The City of Lavon provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the City, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.5 City of Lucas 2-10

The City of Lucas provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the City, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.6 City of Wylie 2-11

The City of Wylie provides a narrative description of the **planning process** that was followed in order to develop the local mitigation strategy which also includes an indication of **public involvement** in the current planning process for the City, as well as describes the **review and incorporation of existing plans**, reports, and technical information to ensure a comprehensive process.

2.1 Collin County Unincorporated Area



Planning Process The Collin County Hazard Mitigation Plan was developed in accordance with the provisions of the Disaster Mitigation Act of 2000 (Public Law 106-390), 44 Code of Federal Regulations Part 206.

Collin County followed an open tactic to the mitigation planning process. From the start, a multi-organizational approach was established and planning partners were identified. The planning partners identified included governmental agencies at various levels, private sector organizations, and community-based associations who comprised the Hazard Mitigation Team, planning efforts were coordinated by the Collin County Emergency Manager. The multi-jurisdictional method to planning helped ensure a strong foundation for future mitigation efforts.

The Collin County Hazard Mitigation Team assessed the vulnerability to identified natural hazards by reviewing historical records and vulnerabilities, developed mitigation goals from which the objectives and mitigation actions were derived. The goals, objectives, and actions are based on the county's existing capabilities and the ability to enhance their capabilities to reduce or eliminate the threat to the identified natural hazards. Identified mitigation actions were prioritized using specific considerations. A major resource was the North Central Texas Council of Governments' documents: Mitigation Strategies for Hydrologic Hazards and Mitigation Strategies for Geologic, Severe Weather and Climatic Hazards. The steps used to develop the mitigation plan included: Assessing Vulnerability, Developing Mitigation Goals and Objectives, Identifying and Prioritizing Mitigation Actions, Preparing an Implementation Strategy, and Maintenance of the Plan.

The plan was developed by the Collin County Homeland Security Department with participation by the Hazard Mitigation Team. The Hazard Mitigation Team is a multi-disciplined team consisting of representation from numerous departments and stakeholder groups, as described in the FEMA guidance. Throughout plan development the hazard mitigation team identified hazards within Collin County and each hazard was discussed in the hazard analysis. Each team member provided input and guidance from their experience and subject matter expert during the development of the plan.

The following groups/organizations were represented in the Hazard Mitigation Team:

- American Red Cross, Emergency Services Specialist
- Association of Contingency Planners, President of North Texas Chapter
- City of Wylie, Assistant Fire Chief
- Collin County Department of Engineering, County Engineer
- Collin County Department of Homeland Security, Director
- Collin County Department of Homeland Security, Emergency Management
- Collin County Development Services, Division Manager
- Collin County GIS/Rural Addressing, GIS Analyst
- Collin County Grants Development Officer
- Collin County Public Information Officer
- Collin County Historical Society, President
- Collin County Local Emergency Planning Committee, Chairman
- Collin County Public Works, Equipment Services
- Collin County Assistant Flood Plain Manager
- Electronic Data Systems, Contingency Planner
- Farm Bureau Insurance, Investigator
- North Texas Municipal Water District, Operations Coordinator
- Presbyterian Hospital of Plano, Emergency Preparedness Manager
- Texas Cooperative Extension, County Extension Agent
- TXU Energy Delivery Company, District Manager
- United States Department of Agriculture, District Conservationist

- U.S. Army Corps of Engineers, Park Ranger

Collin County's Emergency Management Plan, Annex P - Hazard Mitigation, identifies the Director of Engineering as the Hazard Mitigation Coordinator for the County.

Public Involvement Collin County held two public meetings in conjunction with the Commissioner's Court meetings. A press release was issued on July 20, 2004 for two public meetings. The meetings were held on August 11, 2004 at 12:00 pm and at 6:00 pm in the Collin County Commissioner's Courtroom on the 6th floor of the county courthouse located at 210 S. McDonald St. in McKinney, TX. A representative from the Collin County Homeland Security Department gave a presentation. The public, including neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties, was offered an opportunity to comment on the process and to review the draft list of major hazards and mitigation actions. The Hazard Mitigation Team welcomed public comments.

Collin County is committed to involving the public directly in the review and update of the Hazard Mitigation Action Plan. Copies of the plan will be kept at the Collin County Department of Homeland Security for public inspection and review. The Collin County Department of Homeland Security is located at 4300 Community Avenue, in McKinney, Texas.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation Collin County reviewed several local existing planning mechanisms when developing the mitigation plan. The local planning mechanisms that were reviewed were Subdivision Regulations, Floodplain Court Order, and On-Site Sewage Facility Court Order for control development in the unincorporated areas of the county. The Subdivision Regulations are in accordance with the Texas Local Government Code Chapter 232. Collin County Commissioner's Court Order No. 92-623-07-13 adopted the latest available versions of the International Fire Code, Uniform Fire Code Standards, International Building Code (currently 2003), International Building Code Standards (currently 2003), International Plumbing Code (currently using 2000), the National Electrical Code (currently 2005), and the National Fire Protection Association Standard 101.

These plans were incorporated into the mitigation planning process by each section of the Hazard Mitigation Team and their respective area of expertise.

Collin County recognizes the importance of incorporating the requirements of the mitigation plan into other planning mechanisms. The Hazard Mitigation Action Plan will be included in the Emergency Operations Plan as an Appendix and/or Attachment because of the synergistic relationship between the documents.

2.2 City of Allen



Planning Process The City of Allen will manage the Hazard Mitigation Plan as a current document with goals, objectives, and actions that are implemented on a yearly basis for the function of risk reduction. The planning process is characterized as a long-term, on-going process. The primary products of this process are an annual evaluation document and a multi-year work plan for mitigation actions. Administration and

implementation include the monitoring and evaluation of the effectiveness of the mitigation efforts, the capturing of opportunities, and the changing of the community.

Mitigation goals and objectives were prepared to reduce or avoid long-term vulnerabilities to identified hazards. The Hazard Mitigation Team held a meeting to review and analyze the risk assessment that was performed for Collin County. The team developed goals and objectives based on the risk assessment and selected those that were determined to be the greatest benefit in hazard reduction to the community.

The primary agencies involved in developing the Hazard Mitigation Plan are the Planning Department, the Community Services Department (Public Works), Fire Department (Emergency Management), and the Finance Department. These departments formed the Mitigation Implementation Committee and served as implementation planners. This committee was convened by the Director of Planning who led the community effort in risk reduction. The committee will monitor the progress of the mitigation program and select and prioritize action items for implementation. Each member of the Hazard Mitigation Team provided departmental information that was pertinent to the vulnerability assessment and identifying mitigation action items. The committee consulted and worked with the following departments in an effort to improve and implement the plan:

Hazard Mitigation Coordinator	Planning Director
Public Awareness/Education	EMC
Emergency Preparedness and Response	EMC
Disaster Recovery	EMC
Floodplain Management	Floodplain Manager
Engineering Services	City Engineer
Damage Assessment	Chief Building Official
Volunteer Services	Finance Director
Water Treatment	Community Services
Wastewater Treatment	Community Services
Drainage/Flood Control	Community Services
Public Health	Environmental Health
Legislative Representation/Liaison	Assistant City Manager
Building Codes and Permits	Chief Building Official
Zoning Regulations	Planning Director
Legal Services	City Attorney
Development Planning	Planning Director
Subdivision Regulations	Planning Director
Fiscal/Funding Resources	Finance Director
Tax Assessment	Central Appraisal District
Septic Tank/Sanitation Standards	Environmental Health
Environmental Protection	Environmental Health
Land Use Planning	Planning Director
Property Condemnation	Chief Building Official
Land Acquisition	City Engineer
Historical Preservation	Planner
Parks and Wildlife	Parks Director

Flood Insurance
Drainage District
Business/Industry
Council of Government
Data Processing Services
Mapping Services
GIS Services
Grant Writing/Management
Urban/Regional Planning
Chamber of Commerce

Floodplain Manager
Community Services
Chamber Emergency Preparedness Network
Environmental Resources
IT Director
GIS Manager
GIS Manager
Sr. Accountant
Planning Director
Director

Public Involvement Public workshops were held on June 24, 2004 and June 30, 2004 at Allen City Hall for citizens and other interested groups to provide input on the Local Mitigation Strategy through comment and written survey. There were a total of six attendees to these workshops who were given an opportunity to complete a survey which was utilized in the vulnerability assessment and prioritize actions to be taken in the future. Public notices were posted in newspapers and on the city's website about upcoming workshops and to solicit input from the public including, local businesses, non-profit businesses, academia, and other interested parties. The City of Allen plans to hold regular public meetings to keep the community informed on mitigation and what is being implemented to increase community preparedness. (See attached sign-in sheets from both meetings and survey)

All communities, local businesses, non-profit businesses, academia, and other interested parties were invited to participate in the public meetings on June 24 and June 30. They were informed of these meeting through posts in the newspapers and on the city's website.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation The City of Allen examined existing studies and comprehensive plans in its research for hazard mitigation goals and action items. The City of Allen coordinated the Local Mitigation Strategy with the Capital Improvement Plan, the comprehensive planning process, and other city processes as necessary. These documents, as well as pertinent new documents, will be evaluated annually for multi-year work plan mitigation actions to incorporate into the Hazard Mitigation Plan. The current documents that have been reviewed are:

Allen Land Development Code Nov 2002 Planning Dept Allen City Hall – Planning Department & Web Site
City of Allen Comprehensive Plan March 2003 Planning Dept Allen City Hall - Planning Department 7 Web Site
City of Allen Emergency Management Plan Jan 2004 Fire Department Allen Fire Administration & City Web Site & EOC
NOAA Storm Ready Designation – 2003-2006 June 2003 NOAA – Ft Worth Office NOAA – Ft. Worth & Allen Fire Department
Public Participation Survey & Workshop Results June 2004 Fire Department Allen Fire Administration
Master Flood Prevention Plan April 1991 Engineering Dept Allen City Hall - Engineering Department

2.3 City of Frisco



Planning Process A Hazard Mitigation Team was coordinated, formed, and tasked with the development of a Hazard Mitigation Plan for the City of Frisco. The Hazard Mitigation Team is composed of members from the following city departments:

- Emergency Management Specialist
- Frisco Fire Department
- GIS Specialist
- Floodplain Manager
- Engineering Services
- Public Works Department

The team met, shared information, and reviewed existing plans and projects in order to create the Hazard Mitigation Action Plan. Members of the Hazard Mitigation Team provided department specific information about risk, vulnerability, and mitigation for the hazards addressed in the plan. The planning process identified potential hazards, evaluated previous hazards, and identified mitigation strategies designed to decrease the City's overall vulnerability to future natural disasters. Incorporating the City's Millennium Plan also provided valuable information about future development and land uses to prevent potential loss and destruction.

Mitigation actions were discussed and identified by the Hazard Mitigation Team. An action plan was developed identifying proposed actions, benefits, the responsible organizations, implementation timeline, estimated costs, related objectives to the actions, and potential funding sources. The Hazard Mitigation Team developed a list of potential mitigation actions and then evaluated and prioritized them to produce the list of mitigation actions included in this plan. Considerations for inclusion into the plan were actions that can help meet mitigation objectives, existing capabilities to implement the action, and the impact the hazards will have on the community.

Public Involvement During the planning process, an effort was made to solicit public input through electronic mail sent to citizens, in addition to the phone calls and e-mails to members of our Mitigation Planning Team. The interested citizens group submitted their suggestions via phone and/or e-mail to the Emergency Management Specialist who incorporated the public input into the plan as necessary.

These entities were represented by the "interested citizens" group which consists of 78 individuals from throughout the community. This "interested citizens" group is comprised of individuals from the community who represent local businesses, non-profits, and academia.

Once a draft was completed, a public notice was placed on the local cable channel and on the City's Fire Department website for two weeks inviting citizens, neighboring communities, agencies, businesses, academia, nonprofits, and all interested parties to review the draft and submit comments and/or questions to the Emergency Manager.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation Several existing plans and projects were analyzed while compiling information to create the Hazard Mitigation Action Plan. Plans such as the Capital Improvement Plan, National Flood Insurance Program, and Building and Zoning Codes were reviewed to prevent additional risks and vulnerabilities. The City's Millennium Plan provided information about future development and land use as well. The existing documents were reviewed and pertinent information was incorporated into the plan as necessary.

2.4 City of Lavon



Planning Process Recognizing the value and importance found in the Code of Federal Regulations (CFR) Title 44, Chapter 1, Part 201, The City of Lavon chose to participate in the Collin County Local Mitigation Strategy Multi-Jurisdictional Hazard Mitigation Action Plan in early 2009. In effort to have the most comprehensive approach to assessing vulnerability, the City of Lavon began developing their Hazard mitigation Team and collaborating with the Collin County Local Mitigation Strategy working group. They began identifying goals and objectives, as well as developing a solid range of mitigating action items in order to fully address the hazards identified. The Hazard Mitigation Team was established and assembled in order to see the contribution of the City of Lavon to the Collin County Local Mitigation Strategy through.

The City of Lavon Hazard Mitigation Team consisted of the following:

- City Manger
- Director of Public Works
- Development and Services Coordinator
- Administrative Assistant to the City Manager

The team was led by the City Manager. The Director of Public Works was named the Hazard Mitigation Coordinator. The Hazard Mitigation Team assed the vulnerabilities utilizing data provided by Collin County as well as through specific local and area of expertise knowledge.

Public Involvement As the City of Lavon began the planning progression; efforts were made to ensure the public was involved in all aspects of the process. The Citizens, Non-Profits, Businesses, Academia, and Interested Parties were invited to comment during the planning phase or provide suggestions to the Local Mitigation Strategy and Hazard Mitigation Team at the October 13, 2009 City Council Meeting. The City Council Meeting Agenda was posted on City Website as well as posted on the city's front door, and posted at the bulletin board at the post office, thus meeting all the state law requirements. Businesses in the community were also given agendas to post in their windows.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation The City of Lavon Hazard Mitigation Team consulted several city documents and incorporated future planning projects into the Local Mitigation Strategy in order to streamline the planning and overall effectiveness of the process. Individual members of the team also presented action items and they were evaluated by the team for inclusion in the plan. The City utilized the recently passed floodplain ordinance and new drainage ditch requirement ordinances as a cornerstone of the National Flood Insurance program Compliance portion of the Local Mitigation Strategy, as well as incorporated the city Master Drainage Plan as an assessment tool for projects in the form of future permits, developments, and detention or retention ponds.

2.5 City of Lucas



Planning Process The City of Lucas appointed a Mitigation Planner to form a Hazard Mitigation Team comprised of the following:

- Captain, Fire Department
- Public Works Supervisor,
- Public Works Director
- City Manager
- Emergency Administration Assistant
- Fire Chief
- Building Official

The Hazard Mitigation Team assessed the City of Lucas' vulnerabilities to the natural hazards as outlined in Chapter 3. Once the vulnerability was established the HMT identified Mitigation Action Items which would reduce their vulnerability. The HMT corresponded through phone calls, emails, and one meeting on October 2, 2009. Each member provided information in regards to their respective departments' plans and codes in effort to incorporate mitigation planning into all relevant aspects of the City of Lucas. The Fire Chief was appointed as the Mitigation Coordinator.

Public Involvement Citizens, Non-Profits, Businesses, Academia, Interested Parties, and Neighboring Communities were invited to attend a public meeting on October 14, 2009 at 5:30 pm at the Lucas City Hall. A public meeting announcement was sent to the Mitigation Planning Points of Contact, posted on the City website, and posted on the window of City Hall. During this public meeting two council women attended.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation In order to coordinate all City efforts and prevent duplication of effort, the following plans were identified during the mitigation planning process: The Capital Improvement Plan, the Comprehensive Master Plan, the zoning and Thoroughfare Master Plan, and the International Building Codes of 2003 were also incorporated into the Local Mitigation Strategy. As of January 3, 2008 the City of Lucas is also a Storm Ready Community and this acknowledgment will further assist in reducing the vulnerabilities of natural hazards.

These plans were used to form a dynamic city mitigation strategy in order to collectively ensure that all areas of the city were actively engaged as well as to ensure that no other plans were contradicted. This planning method will warrant the City of Lucas develops an all encompassing and fully incorporated local mitigation strategy.

2.6 City of Wylie



Planning Process A hazard mitigation team was formed and given the task of developing a Hazard Mitigation Plan for the City of Wylie. Goals and objectives were set to reduce the long term effects of hazards to people and property. The City of Wylie is committed to developing a hazard analysis and mitigation plan for which will provide general guidance related to hazards within the community and an overview of mitigation efforts undertaken by the City of Wylie.

The city of Wylie developed a Hazard Mitigation Team to identify potential problematic conditions and outline corrective actions that the City of Wylie will consider to undertake to remedy the identified problems. Planning and implementation actions have been identified which are applicable to both pre-incident and post-incident situations.

The Hazard Mitigation Team consists of:

- Emergency Management Coordinator
- Emergency Management Specialist
- Collin County GIS
- City Engineer
- Public Works
- Floodplain Manager
- Wylie Fire Rescue
- CERT of Wylie

The Emergency Management Specialist will serve as the Hazard Mitigation Coordinator for most of the mitigation action projects. The Emergency Management specialist led the Hazard Mitigation Team through the planning process by collecting the specific data from each respective team member as it pertains to mitigation issues and hazard vulnerability in the City of Wylie. Each team member provided input and guidance in plan development.

The Local Mitigation Strategy was created through the sharing and reviewing of information provided by each city department. The Hazard Mitigation Team identified areas of vulnerability, prior hazard areas, and those currently at risk for natural disasters. Action items were discussed to reduce the vulnerability of the City in future disasters.

Mitigation actions were derived from the evaluation of the vulnerability information. Potential actions were proposed which would eliminate or reduce the long term effects of a hazard on the City of Wylie.

Public Involvement The public participation strategy relied upon several input tools for different circumstances to gather public input. Personal discussions to include word of mouth, city council meetings, and currently active Citizens Corps Programs were used, each with a purpose, be it to gather data, hear opinions, and help determine recommendations, or guide the plan process. These efforts were made in order to give all who are interested the opportunity to comment. Though no concerns or opinions were expressed

The City of Wylie's Citizens, Non-Profits, Businesses, Academia, Interested Parties, and Neighboring Communities were invited to voice concerns and issues at Mitigation Public Meeting held on October 20, 2009 from 1:00 to 5:00 pm at the Wylie Fire Administration Office. Notices were posted in advance at the Wylie City Hall.

While an opportunity was given for the City of Wylie's Citizens, Non-Profits, Businesses, Academia, Interested Parties, and Neighboring Communities to attend comment on the plan, there was no interest or attendance.

During November 5-9, 2009 an ad was posted in the McKinney Courier and November 9, 2009 in the Plano Insider inviting the public, neighboring communities, local business, academia, agencies, nonprofits to view and comment on the CoLMS prior to plan submission.

While an opportunity to the public was provided during the planning process, there was no attendance from the Citizens, Non-Profits, Businesses, Academia, or Interested Parties. An additional opportunity for the public to comment on the plan will be held prior to formal plan adoption.

Plan Incorporation Throughout the planning process, the City of Wylie's Hazard Mitigation Team paid attention to existing state, regional and local plans, ordinances and development guidelines for a collaborative planning approach. These include; comprehensive plans, capital improvement plans, zoning ordinances, sub-division and site-specific regulations, building codes, zoning codes, fire codes, the NFIP, and natural resources and conservation statutes. Information is also being gathered to help evaluate the effectiveness of existing mitigation measures and practices.

Once hazard vulnerability areas were determined the City of Wylie these plans were used to guide goal setting and establish mitigation action projects which would correspond with current City of Wylie direction.

Chapter Three: Hazard Analysis

Chapter Three of the Collin County Multi-Jurisdictional Local Mitigation Strategy is a risk assessment that provides the factual basis for the action items described in Chapter Four. This information serves to enable the participating jurisdictions to identify and prioritize the appropriate mitigation action items to reduce losses from the identified hazards. Hazards are identified and profiled, to include location and extent of each hazard as well as detailed previous occurrence and probability of future events data.

- 3.1 Profiling Hazards** **3-2**
Presents a description of the natural hazards which have been identified to affect the participating area. Collin County LMS has identified a vulnerability to nine hazards, three which are considered to be geographically defined and a further assessment has been provided by the participating jurisdictions.
- 3.2 Location of Hazards** **3-13**
Provides the geographic location and vulnerability of each identified hazard to the participating jurisdictions within the Collin County LMS. Maps, to include flood zone, land use, and critical infrastructure depict the nature of vulnerability to people and structures from the identified hazards.
- 3.3 Extent** **3- 14**
There are two descriptions of the extent in which the magnitude and severity of each hazard affect the planning area; one is an overall detail of the natural hazard specific extent scales within the Collin County LMS with narrative depicting relation to actual events, the second is a participation jurisdiction specific analysis and ranking of each identified hazard, and can be found on page 3-28.
- 3.4 Occurrence** **3-29**
Beginning on page 3-25 this section details past events according to the National Climatic Data Center and on page 3-51 the probability of future events for each jurisdiction is addressed.
- 3.5 Impact** **3- 53**
This section illustrates the impact of each hazard on the participating jurisdictions within the Multi-Jurisdictional Local Mitigation Strategy.
- 3.6 Structures, Losses, and Trends** **3-73**
This section focuses on forecasting and further assessment of vulnerability in terms of the types and numbers of existing and future structures (identified as single family, multi-family, and manufactured homes, infrastructure, and critical facilities located in the identified hazard area. Estimation of potential dollar loss and analysis of development trends should be included in further LMS plan evaluation and maintenance, as well as future city and county plan development.
- 3.7 Repetitive Loss Properties** **3-88**
This section depicts the National Flood Insurance Program insured structures that have been repetitively damaged by floods, and describes the vulnerability in terms of the types and numbers as well as damage claims for those properties located in the identified hazard areas.

3.1 Profiling Hazards

As part of the hazard analysis development process, each participating jurisdiction in the Collin County Local Mitigation Team identified and profiled hazards that could potentially affect their jurisdiction. Each hazard was profiled with respect to its geographic area of exposure, extent, previous occurrences, and probability of future events. A detailed analysis for each hazard by each of the profile categories was completed.

This analysis was compiled using data from NCTCOG regional natural risk assessments, damage assessments, hazard profiling and identification as well as historical data and geographic information. The Local Mitigation Strategy for Collin County is a tool to assist in the identification and documentation of all of the hazards faced in the region.

Hazards Addressed Collin County Local Mitigation Strategy has identified the following Natural Hazards as having the potential to cause damage in the county. Flooding, Dam Failure, and Wildland Fire are the only hazards recognized to have predictable vulnerable areas. Therefore each participating jurisdiction has further profiled their vulnerability to these geographically defined hazards. All other hazards are equally likely to occur throughout the Collin County jurisdictions.

Tornado A violently rotating column of air, in contact with the ground, either pendant from a cumuliform cloud or underneath a cumuliform cloud, and often (but not always) visible as a condensation funnel cloud. Tornadoes affect the entire planning area equally.



photo: <http://www.knowwhat2do.com>

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

High Wind Wind is defined as the motion of air relative to the earth's surface. The horizontal component of the three-dimensional flow and the near-surface wind phenomenon are the most significant aspects of the hazard. Straight-line winds are often responsible for most of the wind damage associated with a thunderstorm. These winds are often confused with tornadoes because of similar damage and wind speeds. However, the strong and gusty winds associated with straight-line winds blow roughly in a straight line unlike the rotating winds of a tornado. Downbursts or microbursts are examples of damaging straight-line winds. A downburst is a small area of rapidly descending rain and rain-cooled air beneath a thunderstorm that produces a violent, localized downdraft covering 2.5 miles or less. Wind speeds in some of the stronger downbursts can reach 100 to 150 miles per hour, which is similar to that of a strong tornado. The winds produced from a downburst often occur in one direction, and the worst damage is usually on the forward side of the downburst. High winds affect the entire planning area equally.

Earthquake An earthquake is a sudden motion or trembling caused by an abrupt release of accumulated strain on the tectonic plates that comprise the Earth's crust. The theory of plate tectonics holds that the Earth's crust is broken into several major plates. These rigid, 50- to 60-mile thick plates move slowly and continuously over the interior of the earth, meeting in some areas and separating in others. As the tectonic plates move together they bump, slide, catch, and hold. Eventually, faults along or near plate boundaries slip abruptly when the stress exceeds

the elastic limit of the rock, and an earthquake occurs. The ensuing seismic activity and ground motion provoke secondary hazards: surface faulting, ground failure, and tsunamis. The vibration or shaking of the ground during an earthquake is referred to as ground motion. In general, the severity of ground motion increases with the amount of energy released and decreases with distance from the causative fault or epicenter. When a fault ruptures, seismic waves are propagated in all directions, causing the ground to vibrate at frequencies ranging from 0.1 to 30 Hz. Seismic waves are referred to as P waves, S waves, and surface waves. Due to the risk being associated to a distant quake, earthquakes affect the entire planning area equally.

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

Extreme Heat Severe summer heat is characterized by a combination of a very high temperatures and exceptionally humid conditions. When persisting over a period of time, it is called a heat wave. Summer heat affects the entire planning area equally.



photo: <http://www.knowwhat2do.com>

Drought Drought can be defined as a water shortage caused by the natural reduction in the amount of precipitation expected over an extended period of time, usually a season or more in length. It can be aggravated by other factors such as high temperatures, high winds, and low relative humidity. Drought affects the entire planning area equally.

Flooding Flooding is defined as the accumulation of water within a water body and the overflow of excess water onto adjacent floodplain lands. The floodplain is the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding. The statistical meaning of terms like “25-year storm” and “100-year flood” can be confusing. Simply stated, a floodplain can be located anywhere; it just depends on how large and how often a flood event occurs. Floodplains are those areas that are subject to inundation from flooding. Floods and the floodplains associated with them are often described in terms of the percent chance of a flood event happening in any given year. As a community management or planning term, “floodplain” most often refers to an area that is subject to inundation by a flood that has a one percent chance of occurring in any given year (commonly and incorrectly referred to as the 100-year floodplain). Common flooding hazards within the planning area include flood hazards from flash flooding and from new development. Flash floods are a high risk hazard since they can roll boulders, tear out trees, and destroy buildings and bridges. A flash flood is a rapid flooding of low-lying areas in less than six hours, which is caused by intense rainfall from a thunderstorm or several thunderstorms. Flash floods can also occur from the collapse of a man-made structure or ice dam. Construction and development can change the natural drainage and create brand new flood risks as new buildings, parking lots, and roads create less land that can absorb excess precipitation from heavy rains, hurricanes, and tropical storms.

Unincorporated Collin County Collin County has identified several low water crossings that are subject to periodic flash flooding. Affected areas differ with each storm as there are several different branches and tributaries of rivers and creeks subject to overflow, and also are dependent upon which area receives the rain. These areas are low water crossings mainly on unimproved county roads that consist of dirt, rock, and caliche (sedimentary rock which cements together other materials, including gravel, sand, clay, and silt). Since the county roads are not paved, when flash flooding occurs these areas need to be barricaded, and the location of the storm determines which areas require barricading. Typical road closures due to flooding occur on

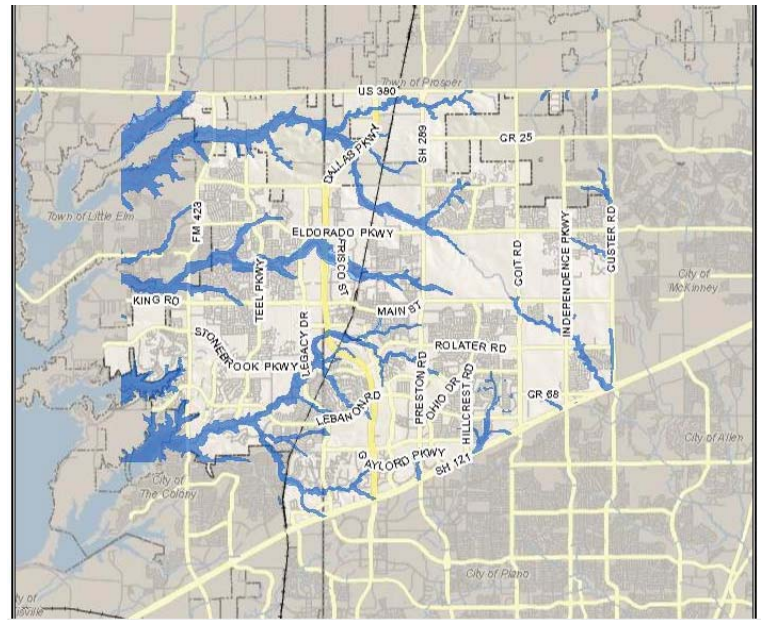
the following county roads: 429, 504, 427, 338, 581, 331, 579, 1216, 677, 668, 622, 618, 590, 696, 317, 850, 600, 597, 210, 466, 470, 825, 574, 578, 590, 638, 677, 483, and 484

City of Allen City of Allen has a comprehensive Flood Program to go along with organized growth. The Allen Land Development Code (Ordinance # 2112-11-02) has dedicated one complete Article to the aspect of Flood Control and several related sections on Drainage.

The highlights of the City Ordinance with regards to Flood Control are topics related to, What constitutes Flood Hazards?, Methods of Reducing Flood Losses, Flood Plain Administration and Risk Reduction. The City of Allen has had an Ordinance (since 1991) to evaluate development in terms of the “Ultimate 100 year Flood”. The term “Ultimate” indicates a model for fully developed conditions on the upstream portion of the watershed condition. The provision for flood related structures (bridges, culverts, drainage ditches, storm pipes etc) designed for fully developed conditions and the requirement for the lowest floor of buildings to be a minimum of 18” above the base flood elevation in the case of commercial structures and 24” for residential structures have worked effectively to serve the City in heavy storm and floods.

The City has improved several structures that were inherited prior to the above referenced ordinance. Mustang Creek channel improvements in 2001, upstream of Main Street has removed several houses from the flood plain. The rebuilding of McDermott Drive and the subsequent improvement of several drainage structures has prevented the road from flooding. The current project replacing the existing Exchange Parkway (Old Rowlett Road) Bridge with a new bridge will make the proposed Exchange Parkway a safe conduit for traffic to cross Rowlett Creek. Overall Allen has handled flood related issues with enough foresight to avoid major flood damages and disruptions.

City of Frisco The City of Frisco is historically a well planned community. The City of Frisco participates in the National Flood Insurance Program of the Federal Emergency Management Agency. The City has adopted Floodplain Management practices through several ordinances that severely limit the development allowed in 100-year floodplains. When developing along a major creek within the City of Frisco, the developer must submit a Flood Study to the City showing the 100-year floodplain and water surface elevation based on both current land-use and future land-use assumptions. During large rain events the city will sometimes see a small portion of 4th Army Memorial Road close to where Stewart Creek Park and Phillips Community Park meet flooded. When this occurs, barricades are put out to keep drivers out of this roadway until water subsides.



■ 100 Year
 ■ 500 Year

City of Lavon The City of Lavon is partially located within a flood plain that affects several areas in and around the city limits. Most of these areas are uninhabited; however, in March of 2006 there was a major flood which occurred at the 200 block of Lakewood the 100 block of Marrow Lane, the 400 block of Main St and the very end of the 500 block Mustang including areas of HWY 78. Homes had water running inside the doors, and businesses had water throughout the parking lot and in entrances, Flood waters covered the streets and drainage ditches were overflowing into fields and future park areas. This level of a flood event has not occurred since due to several implemented ordinances which require residents to maintain drainage ditches, ditch improvements, and rerouted drainage flows. While all these efforts have significantly reduced the community's vulnerability to flooding, a master drainage study would be the most beneficial next step. This has been identified in Chapter 4 as a project.

The City of Lavon is primarily a community based on agriculture, farming in particular. Flooding has had an impact on the area crop production in the past. The southern portion of the city is most vulnerable to flooding, particularly along the Bear Creek drainage. The Master Drainage Study to be conducted (as identified in Chapter 4) will illustrate the issues of the storm water flows and mitigate the hazards to these areas by requiring developers to utilize retention ponds as needed, thus reducing the impact on crops.

Since these flooding events, new ordinances have been enacted in the city as of 2009 to include a flood plain building permit that requires at least two feet minimum of freeboard (finished floor level) above flood plain in order to build in the flood plain. This is for new building and new reconstruction. This not only meets but exceeds the National Flood Insurance Program standards, ensuring that residents in the floodplain build flood durable structures and homes.

City of Lucas The City of Lucas has two areas that are occasionally affected by flooding, to include flash flooding, across roadways. These roadways are all located within the 100 year flood zone. The primary areas of flash flooding concern are the following bridges:

The bridge at Stinson Road at Muddy Creek
The bridge at Snider Lane at White Rock



During heavy rain events and while the roadways are flooded, City staff photo: <http://www.knowwhat2do.com> barricades the roads to prevent vehicles from attempting to cross the flooded area. Access is still available from other directions at both sites, however direct access is temporarily disrupted. This temporary disruption could be averted if larger drainage structures could be built to manage storm water flow and retention. While the roadway is flooded, emergency access is increased by three to four miles at each site.

There are five other roadway locations that are less frequently affected by flooding, but still are considered a serious problem by the City when the flooding occurs. Those locations are:

Winningkoff Road, ¼ mile south of Snider Lane
Winningkoff Road, ¼ mile north of FM 3286
Rock Ridge Road, ¼ mile north of FM 2170
Rock Ridge Road, ¼ mile south of FM 1378
The intersection of FM 1378 and FM 3286

City of Wylie The City of Wylie has experienced flooding in two distinct areas that require road closures during significant rain events. Flooding occurs between McMillan Rd on the north end of Wylie all the way down to Hensley Rd on the southern end of Wylie. Sachse Rd at Creek's Crossing and over to Country Club also is an area requiring closure with barricades. Although some of this area is in Dallas County, it is within the city limits of Wylie.

Dam Failure A dam is defined as a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water. Dams typically are constructed of earth, rock, concrete, or mine tailings. A dam failure is an accidental or unintentional collapse, breach, or other failure of an impoundment structure that results in downstream flooding. Because dams are man-made structures, dam failures are usually considered technological hazards. However, since most dam failures result from prolonged periods of rainfall, they are often cited as secondary or cascading effects of natural flooding disasters and are not named as the primary hazard that causes disaster declarations.



photo: <http://www.knowwhat2do.com>

Development of the downstream areas necessitates the original low hazard classifications to be changed to higher hazard classifications because the dams are no longer adequate for the increased downstream risks. NRCS data shows that there are 6 dams in Collin County that are no longer adequate for increased downstream risks. This percentage could actually be higher because detailed current evaluations of NRCS dams have not been conducted due to resource limitations. In addition, many of these inadequate dams have not been updated because many of the legally responsible entities of these dams do not have sufficient mechanisms funding for updates, or even adequate maintenance, in some cases. Soil and Water Conservation Districts do not have any statutory funding capability of their own, and counties, especially those with small populations and multiple dams, are not able to generate the resources needed to sustain a consistent and comprehensive effort upgrade these structures.

While no record could be found of any previous dam failures in Collin County, three things are clear: (1) many of the dams in Collin County are nearing the end of their designed project lives, (2) many of these dams are in desperate need of detailed evaluations and consistent maintenance, and (3) increased development downstream of the dams has put more people, property, and infrastructure at risk. Based on a quantitative analysis of the dams currently in place in Collin County and a qualitative analysis of the potential impacts that dam failures would have on the social, economic, and environmental components of the region, the risk of a dam failure hazard is significant.

Unincorporated Collin County Collin County is responsible for 14 high hazard dams identified by the NRCS in both the unincorporated County area and in several cities due to the use of easements and the Emergency Operations Plans for those dam sites. While a dam failure event would affect jurisdictions not participating in the Collin County Local Mitigation Strategy, the HMT has chosen to include all High Hazard dams the County is responsible for in Emergency Planning for plan incorporation purposes.

The following is a list of the high hazard dams and their specifications maps in section F are provided to display the surrounding areas.

Jurisdictions refers to those who would be involved in a response.

Site 18A, Little Elm and Laterals	Owner Name: Privately Owned	Acres/Site: 5.3
Sed. Pool elevation: 728.0	Acres: 13.0	
Flood Pool Elevation: 743.0	Acres: 51.0	
Easement elevation: 745.0	Acres: 60.0	
Top of Dam elevation: 747.4		
Jurisdictions: Collin County, City of Celina		

Map F.3 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is near to a neighborhood not far from the dam. The neighborhood is not in the flood zone.

Site 3A, East Fork above Lavon Owner Name: N/A Acres/Site: 3.2
Sed. Pool elevation: 693.2 Acres: 13.9
Flood Pool Elevation: 702.4 Acres: 25.4
Easement elevation: 704.4 Acres: 32.0
Top of Dam elevation: 708.0

Jurisdictions: Collin County, City of McKinney

Map F.7 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is near to a small neighborhood and golf course not far from the dam. The neighborhood is not in the flood zone.

Site 3B, East Fork above Lavon Owner Name: Community Owned Acres/Site: 5.9
Sed. Pool elevation: 645.0 Acres: 22.0
Flood Pool Elevation: 661.4 Acres: 40.7
Easement elevation: 663.4 Acres: 42.7
Top of Dam elevation: 673.7

Jurisdictions: Collin County, City of McKinney

Map F.8 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. . As this map illustrates, the location is near to a small neighborhood not far from the dam. The neighborhood is not in the flood zone.

Site 4, East Fork above Lavon Owner Name: Community Owned Acres/Site: 13.1
Sed. Pool elevation: 610.5 Acres: 33.0
Flood Pool Elevation: 626.5 Acres: 108.0
Easement elevation: 628.5 Acres: 120.0
Top of Dam elevation: 632.6

Jurisdictions: Collin County, City of McKinney

Map F.7 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is near to a small neighborhood not far from the dam. The neighborhood is not in the flood zone.

Site 7, Rowlett Creek Owner Name: Privately Owned Acres/Site: 13.4
Sed. Pool elevation: 487.2 Acres: 59.0
Flood Pool Elevation: 504.0 Acres: 225.0
Easement elevation: 506.0 Acres: 257.5
Top of Dam elevation: 509.9

Jurisdictions: Collin County, City of Wylie, City of Sachse

Map F.7 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is near to a neighborhood not far from the dam. The neighborhood is not in the flood zone.

Site 1C, East Fork above Lavon Owner Name: Commercially Owned Acres/Site: 13.4
Sed. Pool elevation: 688.3 Acres: 26.5
Flood Pool Elevation: 701.5 Acres: 80.5
Easement elevation: 703.5 Acres: 93.5
Top of Dam elevation: 705.7

Jurisdictions: Collin County, Town of Prosper

Map F.6 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this

time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

Site 30, East Fork above Lavon	Owner Name: Privately Owned	Acres/Site: 8.5
Sed. Pool elevation: 655.7	Acres: 18.0	
Flood Pool Elevation: 664.3	Acres: 40.0	
Easement elevation: 666.3	Acres: 45.2	
Top of Dam elevation: 667.0		
Jurisdictions: Collin County		

Map F.1 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with only one structure in the near area of the dam and not in the flood zone.

Site 31, East Fork above Lavon	Owner Name: Privately Owned	Acres/Site: 7.6
Sed. Pool elevation: 646.5	Acres: 12.5	
Flood Pool Elevation: 659.3	Acres: 32.3	
Easement elevation: 661.3	Acres: 35.5	
Top of Dam elevation: 663.2		
Jurisdictions: Collin County		

Map F.1 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

Site 33, East Fork above Lavon	Owner Name: Privately Owned	Acres/Site: 6.5
Sed. Pool elevation: 642.3	Acres: 23.0	
Flood Pool Elevation: 653.0	Acres: 53.0	
Easement elevation: 655.0	Acres: 62.0	
Top of Dam elevation: 656.9		
Jurisdictions: Collin County, City of Weston		

Map F.4 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with only three structures in the near area of the dam and none in the flood zone.

Site 28, Pilot Grove Creek	Owner Name: Privately Owned	Acres/Site: 13.5
Sed. Pool elevation: 572.5	Acres: 56.0	
Flood Pool Elevation: 585.0	Acres: 144.0	
Easement elevation: 587.0	Acres: 168.0	
Top of Dam elevation: 590.0		
Jurisdictions: Collin County		

Map F.5 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

Site 82, Pilot Grove Creek	Owner Name: Community Owned	Acres/Site: 4.7
Sed. Pool elevation: 584.4	Acres: 80.0	
Flood Pool Elevation: 589.0	Acres: 111.0	
Easement elevation: 591.0	Acres: 130.0	
Top of Dam elevation: 592.5		
Jurisdictions: Collin County, City of Farmersville		

Map F.9 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

Site 83A, Pilot Grove Creek	Owner Name: Community Owned	Acres/Site: 6.3
Sed. Pool elevation: 590.5	Acres: 21.5	
Flood Pool Elevation: 599.5	Acres: 54.5	
Easement elevation: 601.5	Acres: 62.5	
Top of Dam elevation: 603.0		

Jurisdictions: Collin County, City of Farmersville

Map F.9 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

Site 3, Sister Grove Creek	Owner Name: Privately Owned	Acres/Site: 9.9
Sed. Pool elevation: 630.5	Acres: 19.0	
Flood Pool Elevation: 638.5	Acres: 40.8	
Easement elevation: 640.5	Acres: 48.5	
Top of Dam elevation: 643.0		

Jurisdictions: Collin County

Map F.2 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. . As this map illustrates, the location is in a rural area with only three homes in the immediate area of the dam and one in the 100yr (A) flood zone.

Site 2, Upper East Fork Laterals WS	Owner Name:	Acres/Site: 8.3
Sed. Pool elevation: 498.7	Acres: 51.0	
Flood Pool Elevation: 512.0	Acres: 174.0	
Easement elevation: 514.0	Acres: 204.0	
Top of Dam elevation: 516.5		

Jurisdictions: Collin County

Map F.10 illustrates the location of this Dam in relation to the flood zone. There are currently no inundation studies and the data limitation has been identified as a project in Chapter 4. At this time due to a lack of an inundation study the dam identified is not a risk. As this map illustrates, the location is in a rural area with no structures in the near area of the dam.

City of Allen The City of Allen is not vulnerable to Dam Failure.

City of Frisco The City of Frisco is not vulnerable to Dam Failure.

City of Lavon The City of Lavon is not vulnerable to Dam Failure. Due to the design of the Lake Lavon Dam the inundation zone of a Dam failure would affect the jurisdictions to the west and south and not the City of Lavon.

City of Lucas The City of Lucas is not vulnerable to Dam Failure.

City of Wylie The City of Wylie borders along the southern and western area of Lake Lavon including just west of the Lake Lavon Dam. Lake Lavon is owned and managed by the Army Corp of Engineers. In the event of a worst case scenario Dam Failure the inundation zone does not affect the City of Wylie. This was tested in a joint exercise with the Army Corps of Engineers. The land south of Lake Lavon Dam is the spillway then it leads to the next lake which is Lake Ray Hubbard. Therefore the City of Wylie is not at risk for Dam Failure.

Wildland Fire A wildland fire is any fire occurring on grassland, forest, or prairie, regardless of ignition source, damages or benefits. Wildland fires are fueled almost exclusively by natural vegetation. They typically occur in national forests and parks, where Federal agencies are responsible for fire management and suppression. Interface or intermix fires are urban/wildland fires in which vegetation and the built-environment provide fuel. Firestorms are events of such extreme intensity that effective suppression is virtually impossible. Firestorms occur during extreme weather and generally burn until conditions change or the available fuel is exhausted. Wildland fires affect the entire planning area equally.

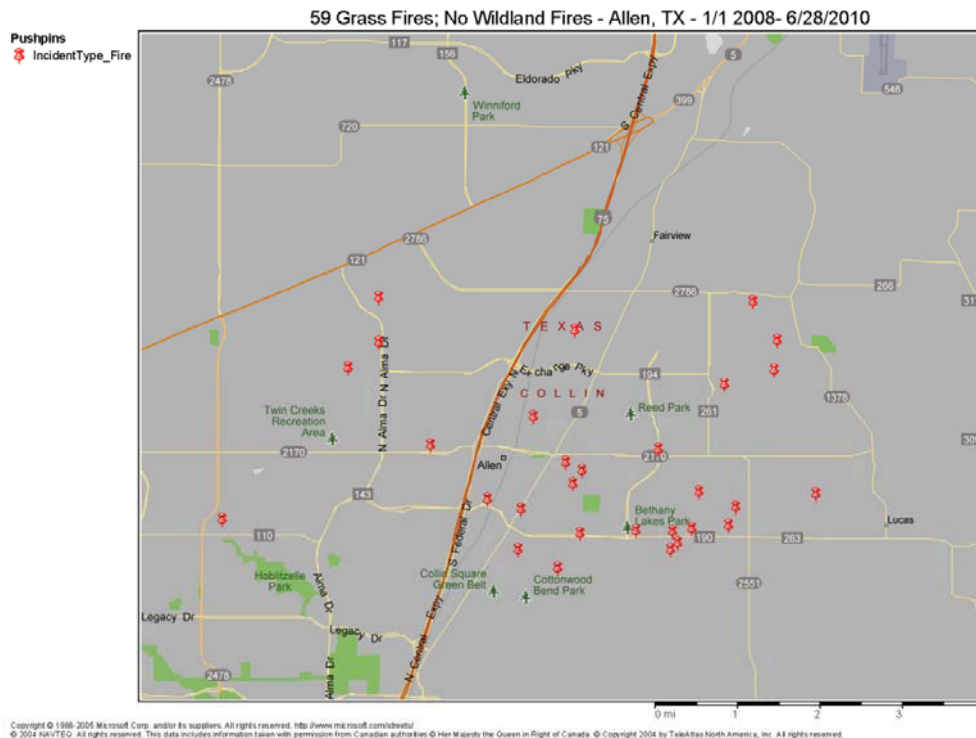


photo:<http://www.lucasfire.com/Runs/gallery.html>

Unincorporated Collin County Wildland fire in Collin County is a low risk due to the well managed and readily available resources for response. While the entire unincorporated county may experience Wildland Fire, they primarily occur roughly north of hwy 380 and east of 78 in the rural. Collin County contracts with city fire departments to respond to fires within the unincorporated county area, and during times of drought, burn bans, and high fire threat, automatic mutual aid between the cities is enacted.

City of Allen is approximately 90% built-out with the remainder as maintained parkland. While there is open space within the City of Allen, it is land which is intensely maintained and mowed by home-owners associations and farmers. This intense management results in reduced and extremely low fuel levels. Due to this lack of fuel, there is no risk in Allen for a wildland fire. Attached is a map of the grass fires for 2008 to 2010. There are no wildland fires during this time frame, which included a drought period. A map is provided below depicting grassfires. Grassfires are defined as a fire which has been responded to in a residential neighborhood, such as a barbeque improperly used, juvenile fire setting, or a cigarette on a median. Grass fires are small and contained.

Therefore this hazard does not have a potential to harm the City of Allen. This hazard will not be followed up with mitigation action items by the City of Allen.

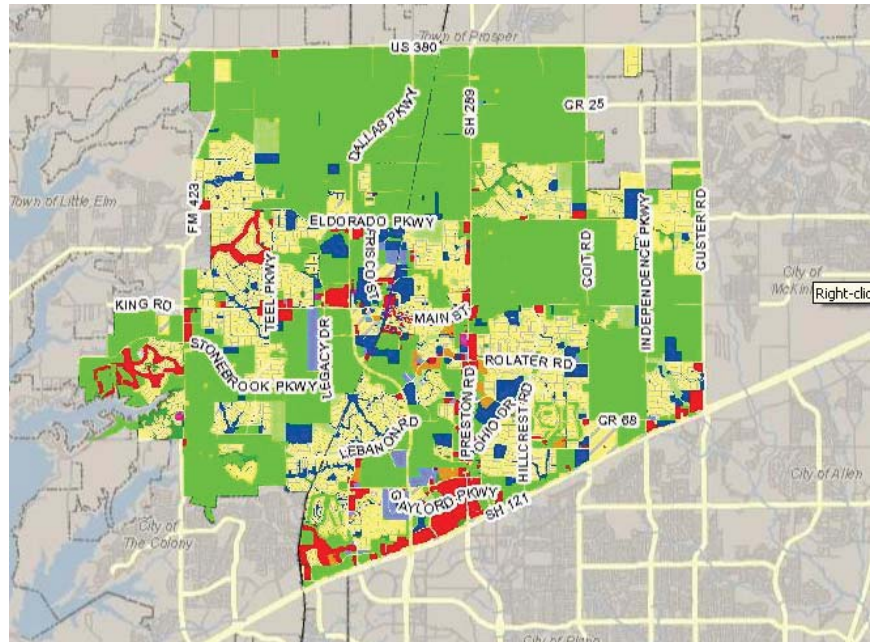


City of Frisco The City of Frisco is currently 46.2% developed. While there is open space within the City of Frisco, it is mainly farm land which is intensely maintained and mowed by farmers. This intense management results in reduced and extremely low fuel levels.

The following map depicts current land use for the City of Frisco. All open space due to farm or agricultural land is highly maintained and managed and all other vegetation is managed by a 12 inches maximum growth allowance ordinance (city of Frisco Ordinance 01-09-62) within the city limits, thus wildland fire is not an issue for the City of Frisco.

The farmland/agriculture areas are on the southside of the 380 corridor and from 380 to Eldorado on the Northwest quadrant of the city. While these areas are agriculture they are all maintained farmland not open space, therefore do not meet the qualification for Wildland fire. There are instances of grassfire resulting from such technological events as tractor fires.

- Not Classed
- Agricultural
- Industrial
- Multi Family
- Office
- Open Space
- Parks
- Public
- Retail
- Single Family
- Technology
- Unknown
- Utility



City of Lavon The City of Lavon has an abundance of farming Industry, and therefore has adequate land and fuel resources to fuel wildfires, and with an ever-growing population there is more likelihood for wildfire spread. Most wildfires are fueled from natural vegetation and with Lavon being a rural community and many landowners possessing several acres that are not all maintained there is likelihood for wildfires to spread quickly through parts of the community.

The southern portion and the eastern portions of the town are heavily agriculture, with a majority of it being unmaintained. These sections are not owned by the city; therefore the maintenance is the responsibility of the owner.

Lavon is located in Northeast Texas; the city generally has very hot and dry summers with extended periods of time experiencing little or no rain, which are ideal conditions for wildfires. Citizen awareness and involvement is a most profitable deterrent in preventing wildfires, and this has been identified as a project in Chapter 4.

City of Lucas The City of Lucas is comprised many small farms and ranches. This creates a localized wildland issue. With so many small ranches and farms next to each other it creates large open areas with a large number of houses and barns that are exposed to wildland fires. Lucas also sits on the West side of Lake Lavon where there are vast areas of open spaces where campers and boaters use campfires for outdoor enjoyment and recreation. These areas are located at: Brockdale Park (FM 3286 and Brockdale Park Rd) and Highland Park (FM 3286 and Snider Rd) as well as the shoreline from St. Paul all the way to the Lowry Crossing. All of these areas are owned by the Army Corps of Engineers. The two parks are maintained and the remainder of the land is not. This has been the cause of a great majority of the wildland fires within the Lucas Fire District. These conditions are a recipe for disaster during the hot dry summers and dry winter conditions in Texas.

The north east border of the City of Lucas is owned by the Corps of Engineers as it borders Lake Lavon. This property often is a source for wildland fires. There is currently no fuel management program or agreement with the Corps to manage fuel and this issue has been addressed in Chapter 4. The City of Lucas is the primary responder to wildland fire on this property.



photo: <http://www.lucasfire.com/Runs/gallery.html>

Lucas currently has one large brush fire truck on order and has applied for a grant to replace a smaller grass fire truck lost in a fire earlier this year. The long range plan for the Lucas Fire Department is to specialize in wildland firefighting with the purchase of more wildland fire trucks, support vehicles, equipment, and training. This would allow the department to initiate a strong attack early on during any wildland fire in the area. This plan also provides for Lucas to answer on first alarms for any grass fire in the southern part of Collin County. Many of the other local departments have very little training in wildland firefighting since the majority of their fires are structural.

This project will support all other fire departments in Collin County through Collin County mutual aid. The Lucas Fire Department would continue to be a part of the Texas Infrastructure Fire Mutual Aid System (TIFMAS) thus offering resources for the entire State of Texas.

Additionally, as a means to mitigate wildland fire affecting structures, codes have been enacted requiring all new residential and new commercial structures to have fire suppression systems in the structures.

City of Wylie The City of Wylie has wildland fire potential in two areas of the city. An open commercial lot on the north end of the city on Highway 78 is a potential wildland fire issue. Vulnerabilities include a Wal-Mart and other businesses, city hall, and residential housing. The second potential area is southeast of Wylie at Alanis and Ballard streets. Vulnerabilities here are residential housing, businesses and Wylie Fire Station 1.

3.2 Location of Hazards

The following maps illustrate the location of the hazards in Collin County.

Map A Tornado Events

While the map for Tornadoes depicts historical events this hazard has the potential to occur equally throughout the county. All people and structures are equally vulnerable to Tornadoes.

Map B Hail Events

While the map for Hail Events depicts historical events this hazard has the potential to occur equally throughout the county. All people and structures are equally vulnerable to Hail Events.

Map C Reported Wind Events 1955-2007

While the map for Wind Events depicts historical events this hazard has the potential to occur equally throughout the county. All people and structures are equally vulnerable to Wind Events.

Map D Collin County FEMA Flood Zones

Map D.1 Allen FEMA Flood Zones

Map D.2 Frisco FEMA Flood Zones

Map D.3 Lavon FEMA Flood Zones

Map D.4 Lucas FEMA Flood Zones

Map D.5 Wylie FEMA Flood Zones

Map D.6 NE Collin County FEMA Flood Zones

Map D.7 SE Collin County FEMA Flood Zones

Map D.8 NW Collin County FEMA Flood Zones

Map E Earthquake Fault Line

The Earthquake Fault Line Map shows the inactive fault that has no historical record of an event in Collin County has been recorded.

Map F Dam Maps

Map F.1 East Fork Above Lavon WS SCS Site 30, Site 31

Map F.2 Sister Grove Creek WS SCS Site 3

Map F.3 Little Elm and Laterals WS SCS Site 18A

Map F.4 East Fork Above Lavon WS SCS Site 33

Map F.5 Pilot Grove Creek WS SCS Site 28

Map F.6 East Fork Above Lavon WS SCS Site 1C

Map F.7 East Fork Above Lavon WS SCS Site 4

Map F.8 East Fork Above Lavon WS SCS Site 3B

Map F.9 Pilot Grove Creek WS SCS Site 83A, Site 82

Map F.10 U. East Fork Laterals WS SCS Site 2

Map F.11 Rowlett Creek WS SCS Site 7

Map F.12 East Fork Above Lavon WS SCS Site 3A

Map F.13 Lavon Dam

The Dam Maps depict High Risk with an overlay of FEMA Flood Zones. It is recognized that in a Dam Failure event the inundation zone would not be the same as a Flood Zone as it would exceed the identified Flood Zone area. At this time there is a data limitation and Mitigation Action Items have been identified for further assessment.

Map A

Regional Mitigation Strategy

Collin County

Tornado Events

Legend

Tornado Events

- YEAR**
- 1950 - 1960
 - 1960 - 1970
 - 1971 - 1980
 - 1981 - 1990
 - 1991 - 2000
 - 2000 - 2007

- Participating Cities
- Non-Participating Cities
- Participating Counties



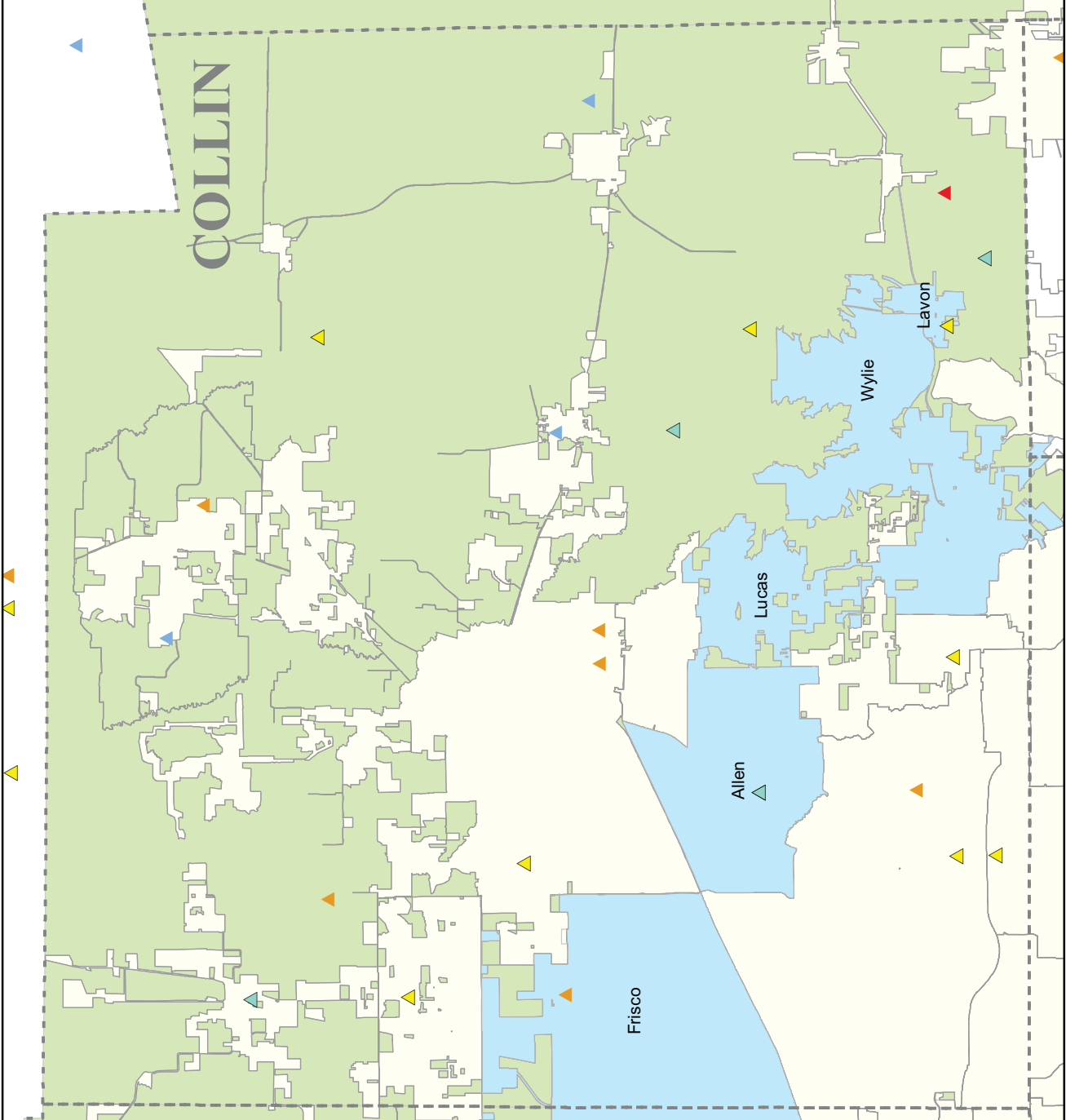
2 1 0 2 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By Amanda Eversley
5/22/2009

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Map B

Regional Mitigation Strategy Collin County Hail Events 1955-2007

Legend

- Hail Diameter Inches**
- 0.00 - 0.75
 - 0.76 - 1.25
 - 1.26 - 2.00
 - 2.01 - 3.00
 - 3.01 - 5.00
- Participating Cities**
- Participating Cities
 - Non-Participating Cities
 - Participating Counties

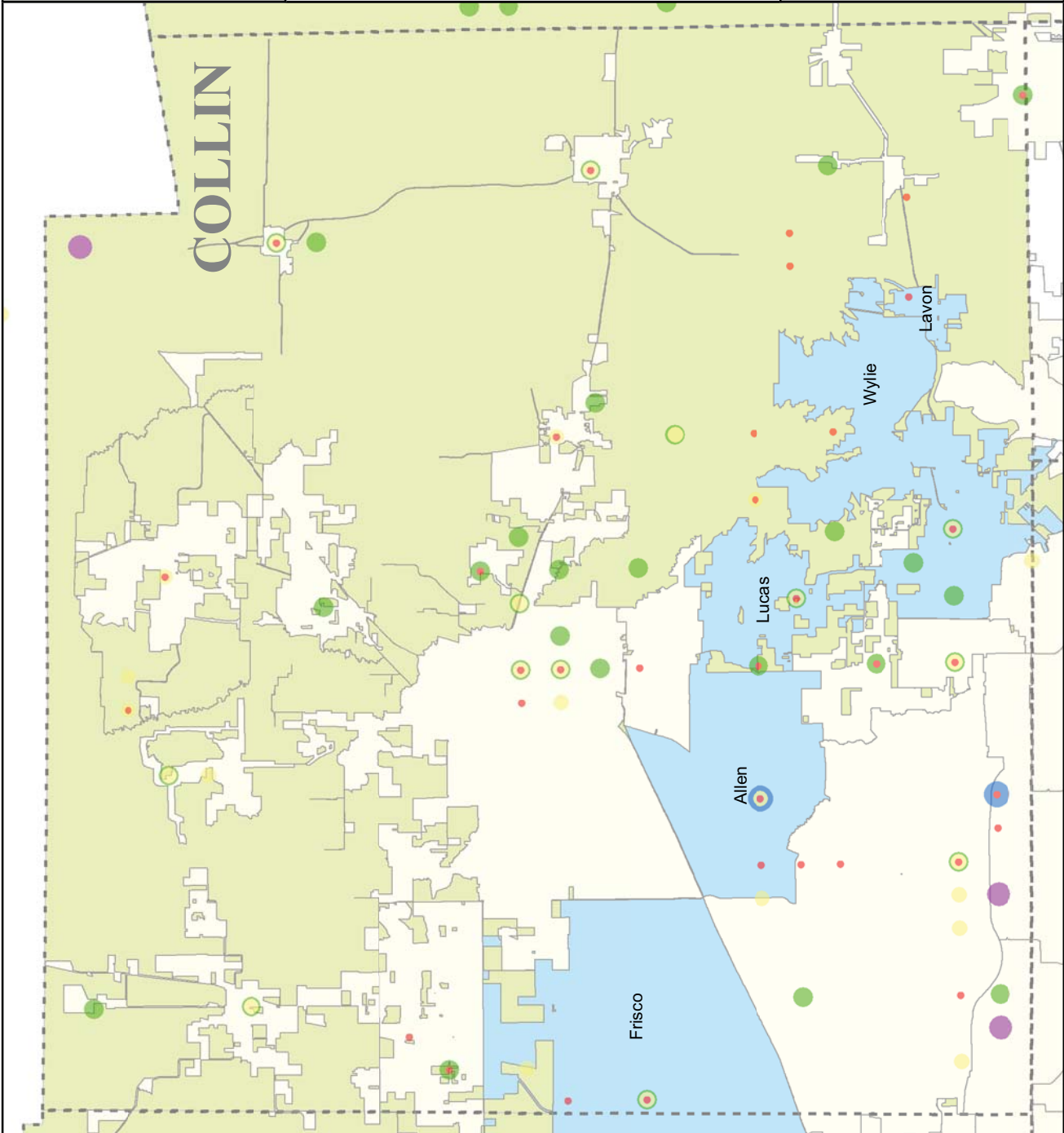


Emergency Preparedness

North Central Texas Council of Governments
Map Created By Amanda Every
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Map C

Regional Mitigation Strategy

Collin County Reported Wind Events 1955-2007

Legend

Reported Wind Speed (Kts)

- 0 - 62
- 63 - 71
- 72 - 87
- 88 - 120

- Participating Cities
- Non-Participating Cities
- Participating Counties



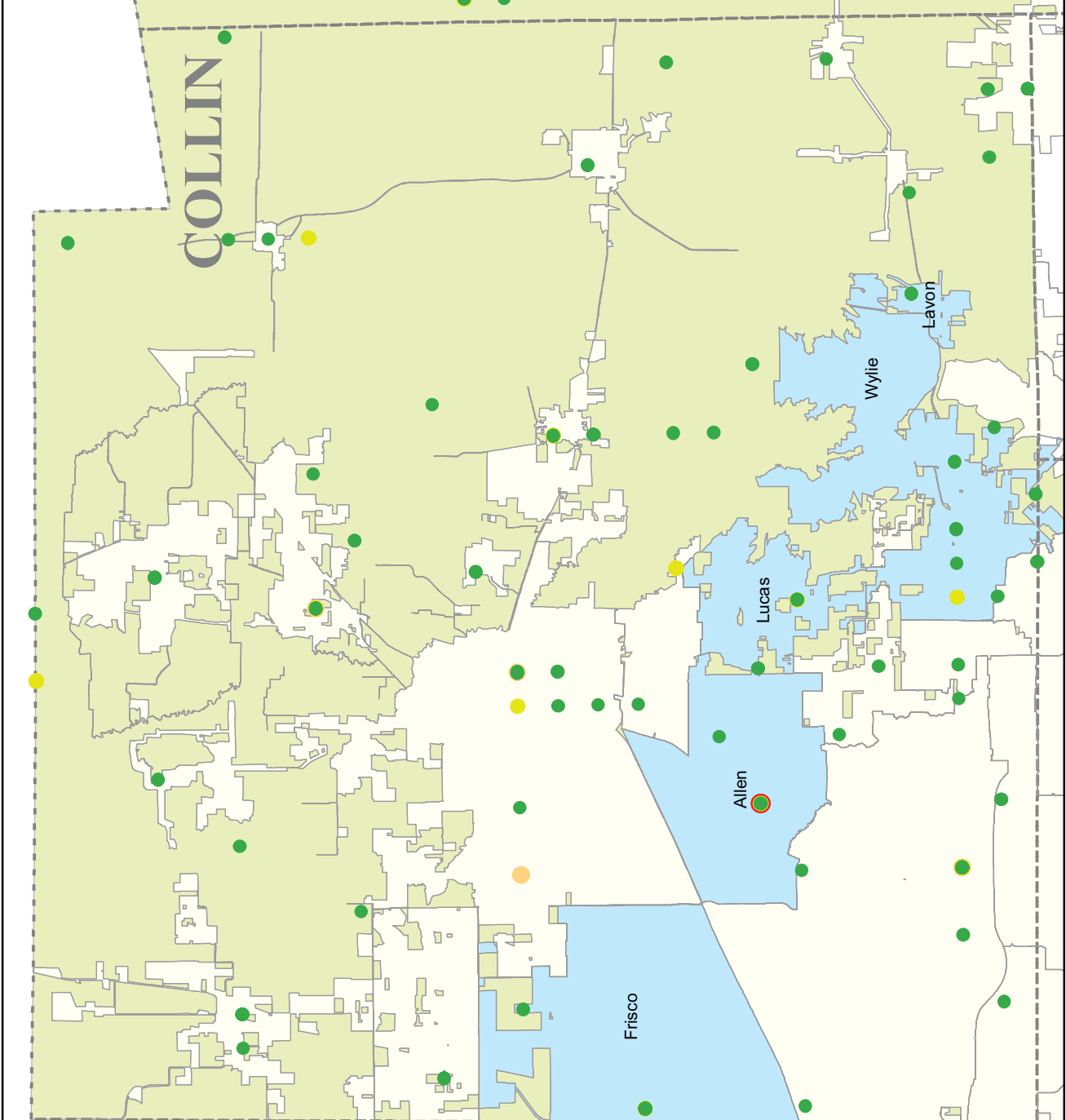
2.5 1.25 0 2.5 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By Amanda Every
5/22/2009

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Map D

Regional Mitigation Strategy

Collin County

FEMA Floodzones

Legend

Flood Zone

 100 Year (A)

 100 Year (AE)

 Participating Cities

 Participating Counties

 Non-Participating Cities

 Lakes



2 1 0 2 Miles

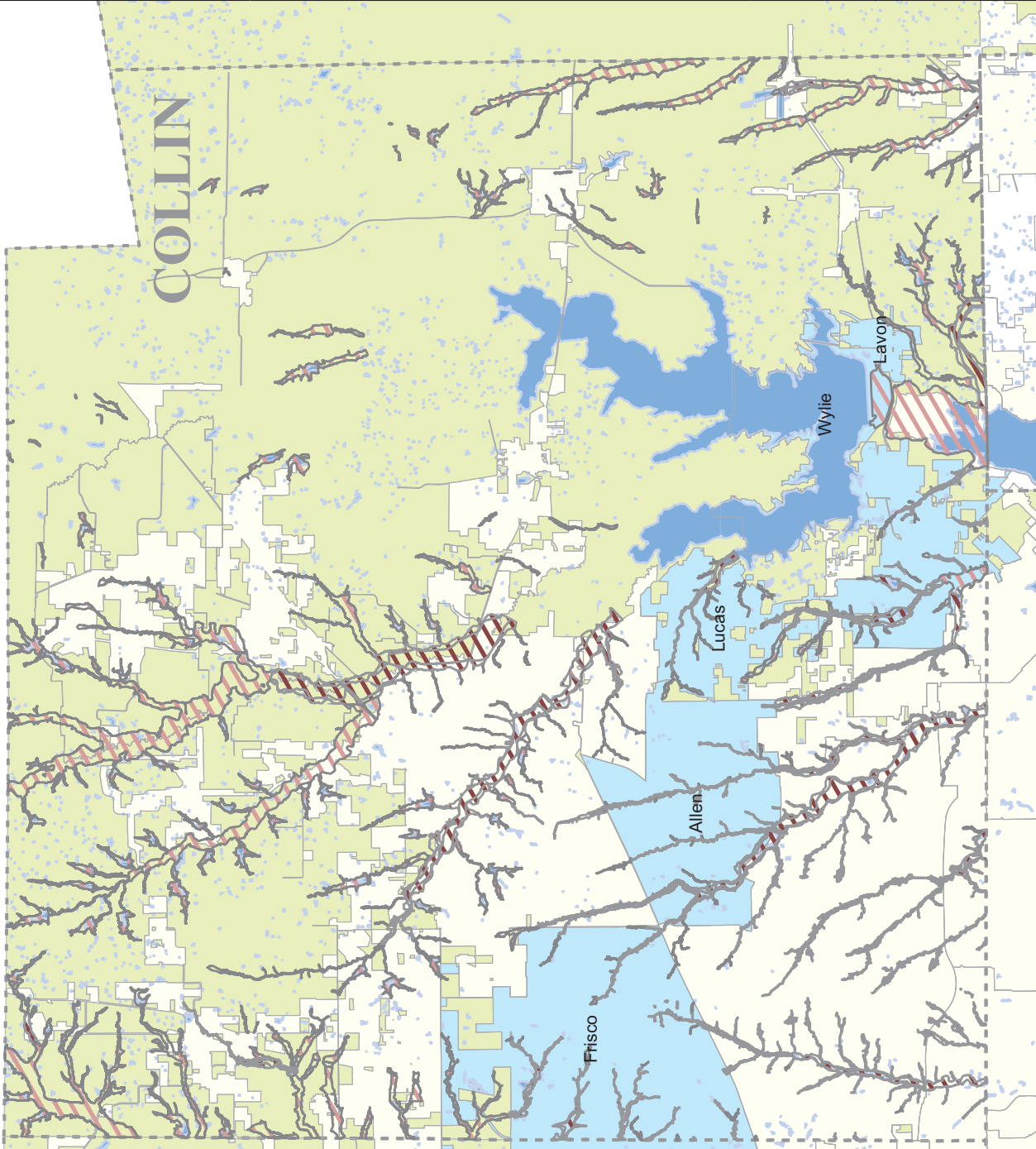


Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Evely
1-14-2009

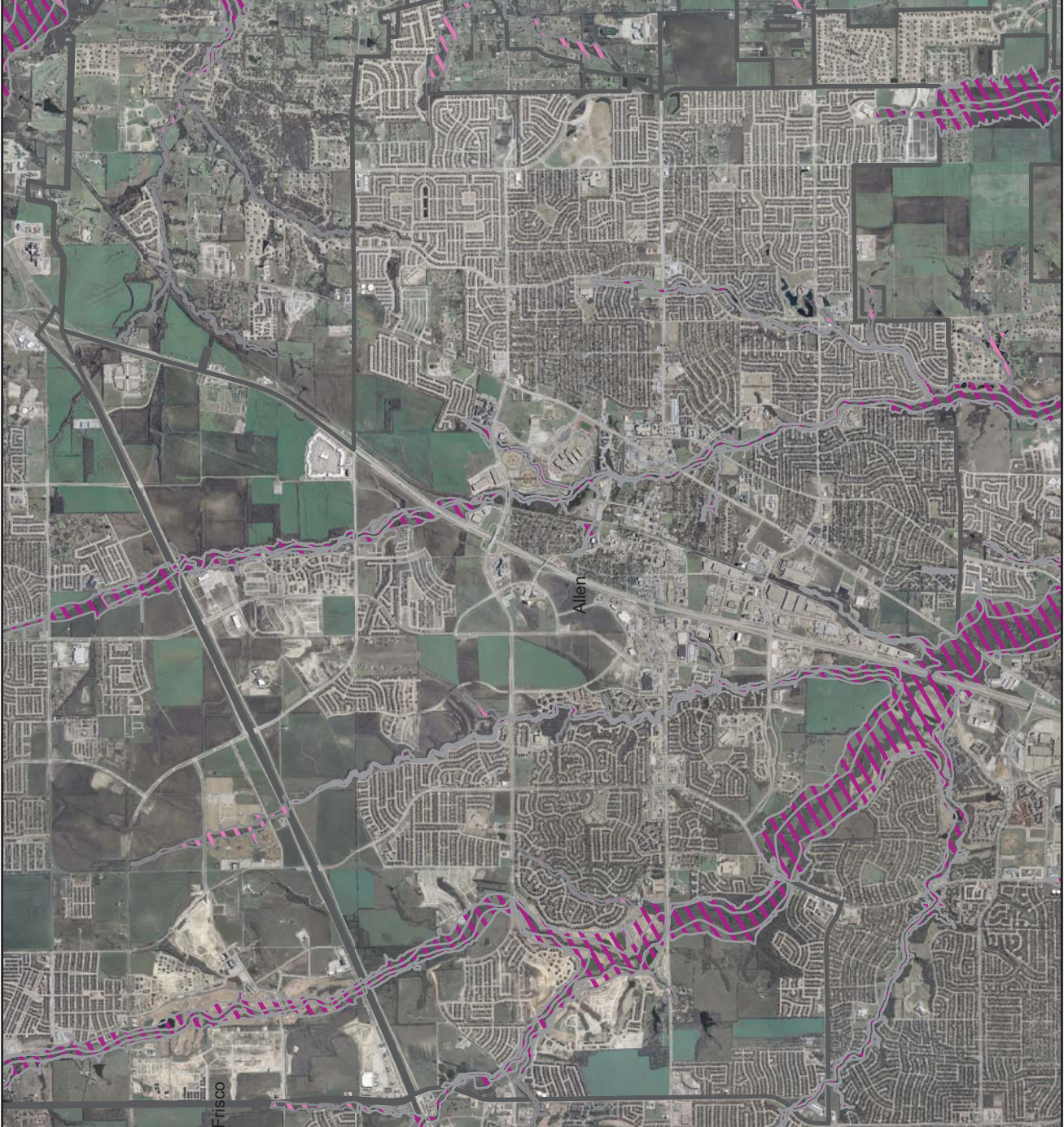
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Map D.1

Regional Mitigation Strategy Collin County Allen FEMA Floodzones



Legend

Flood Zone

- 100 Year (A)
- 100 Year (AE)



0.5 0.25 0 0.5 Miles





Emergency Preparedness

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Map Created By: Amanda Eversly
5/17/2007

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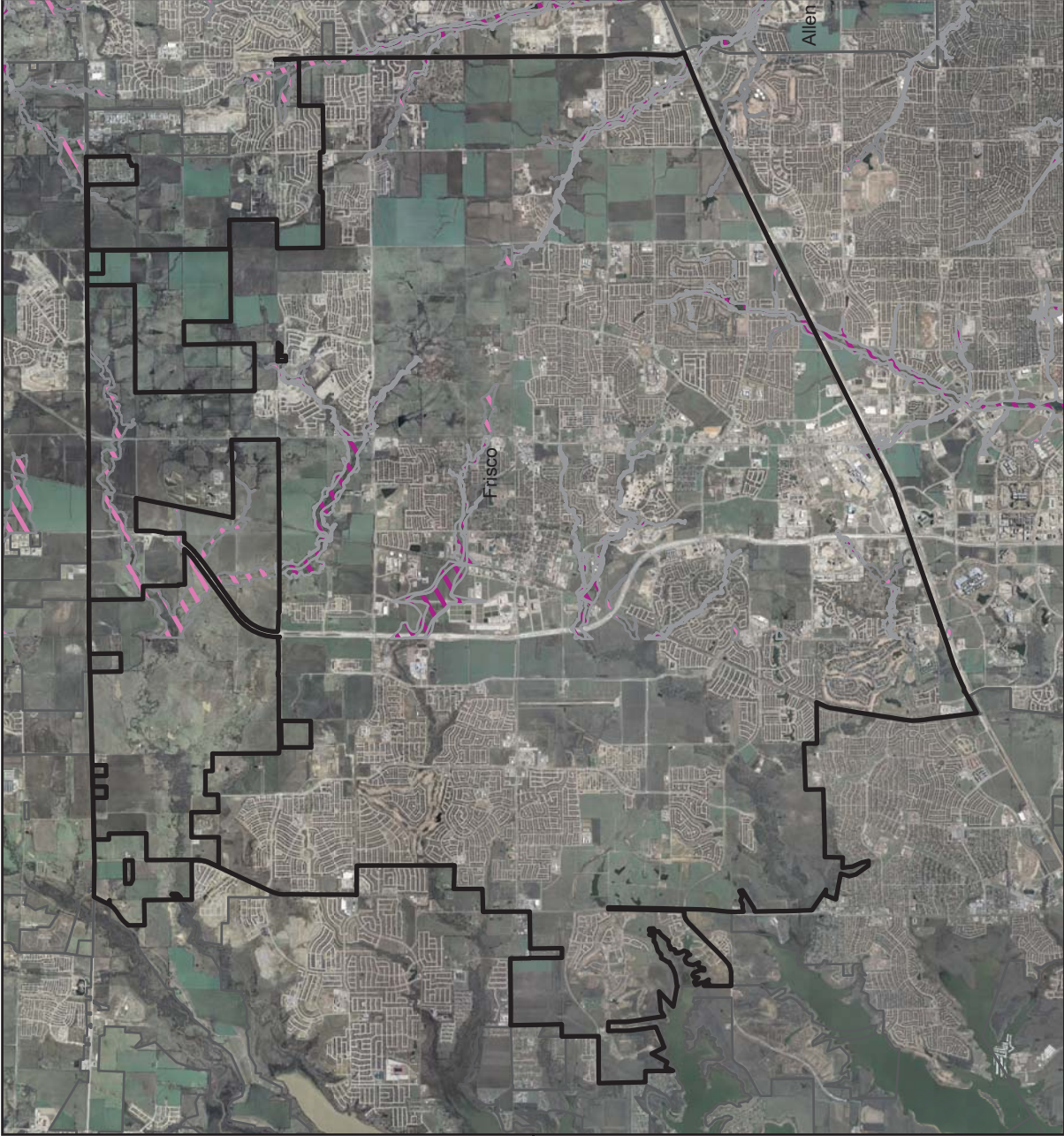
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Map D.2
Regional Mitigation Strategy
Collin County
Frisco Floodzones

- Legend**
- Flood Zone**
-  100 Year (A)
 -  100 Year (AE)



0.7 0.35 0 0.7 Miles

Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Eversly
 11/4/2009




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Map D.3
Regional Mitigation Strategy
Collin County
Lavon
FEMA Floodzones

Legend

Flood Zone

-  100 Year (A)
-  100 Year (AE)
-  500 Year



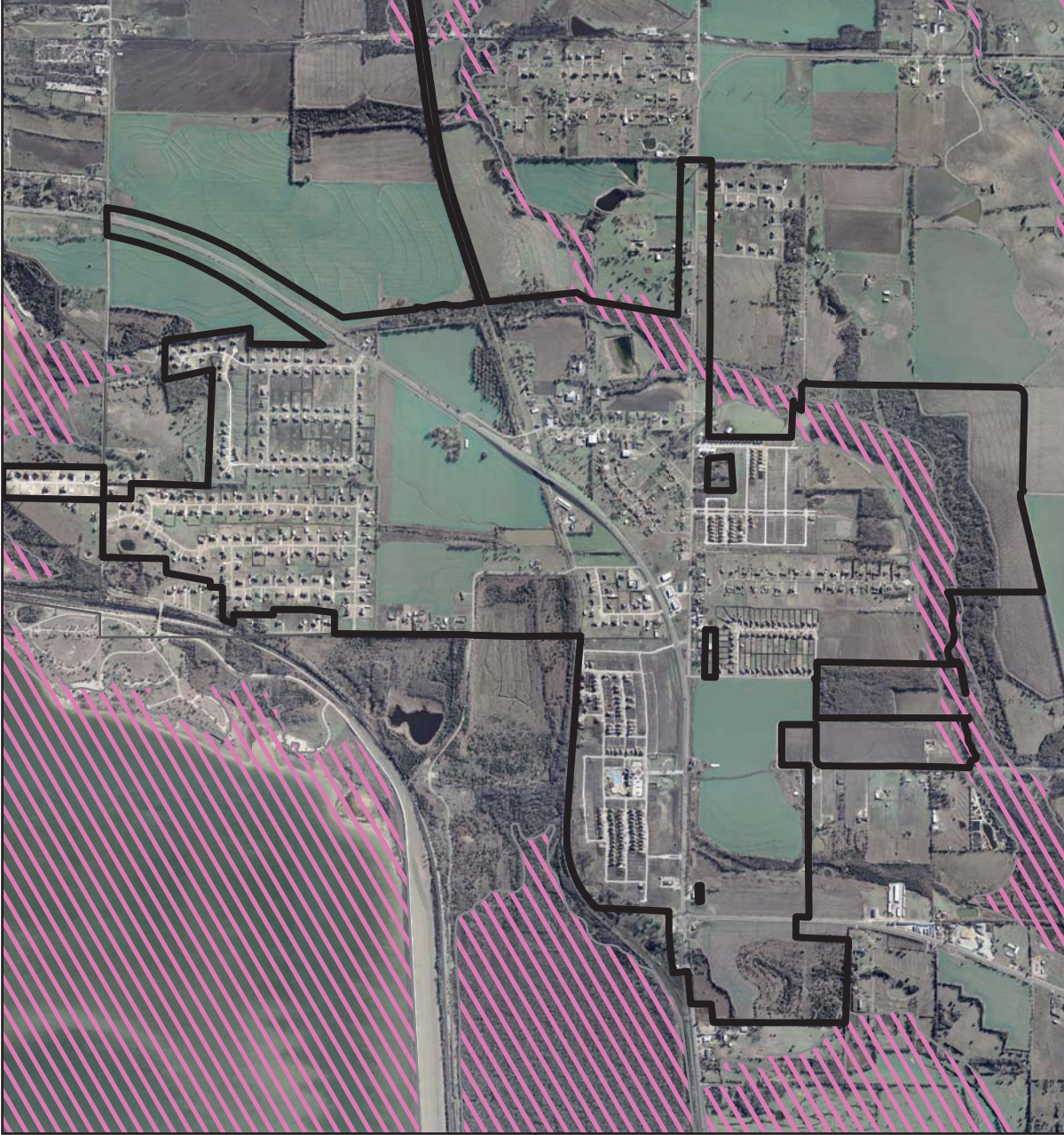


Emergency Preparedness


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Map D.4
Regional Mitigation Strategy
Collin County
Lucas
FEMA Floodzones

Legend

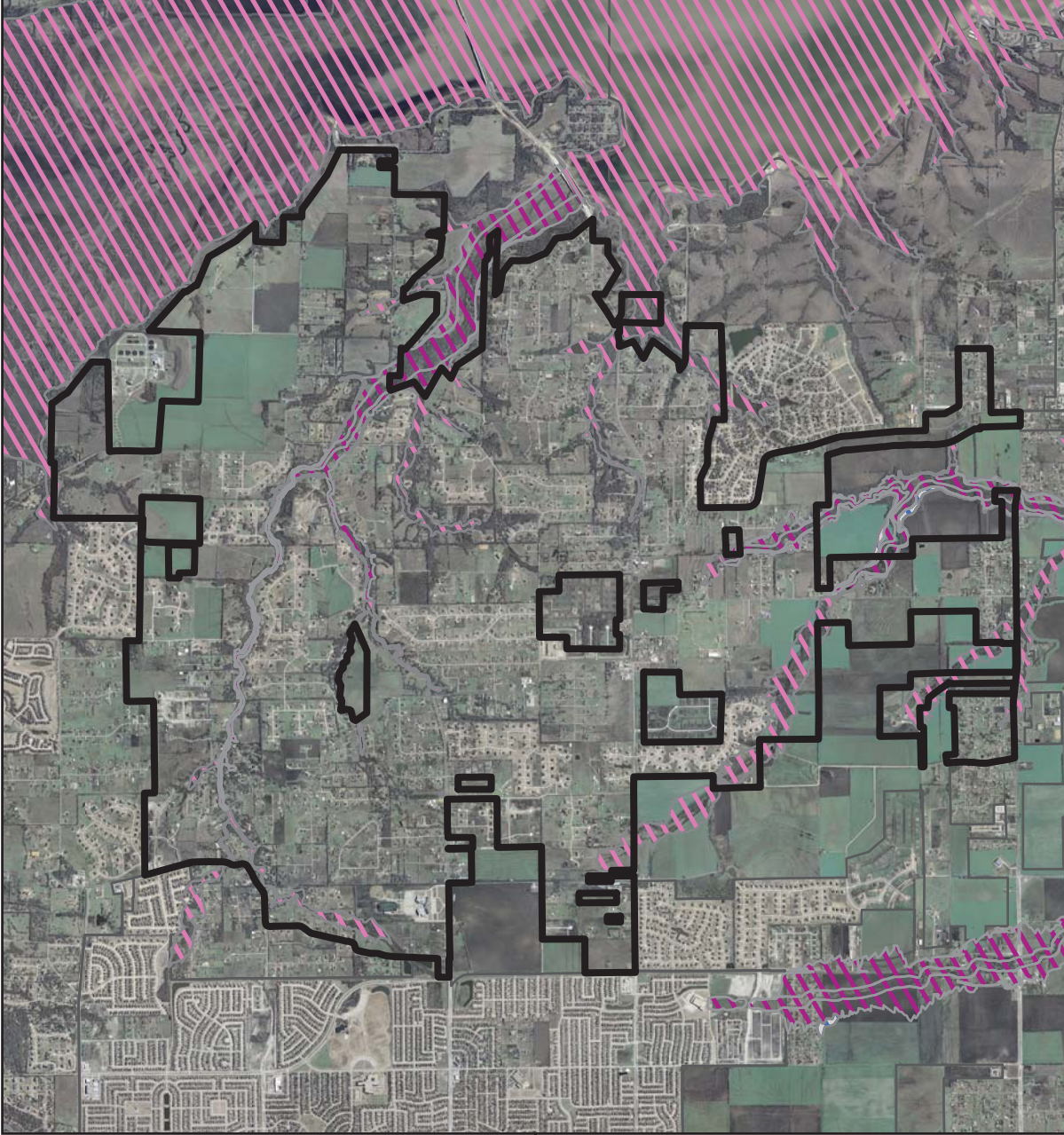
Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year

Emergency Preparedness

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Map D.5
Regional Mitigation Strategy
Collin County
Wylie
FEMA Floodzones

Legend

Flood Zone

-  100 Year (A)
-  100 Year (AE)
-  500 Year

0.7 0.35 0 0.7 Miles

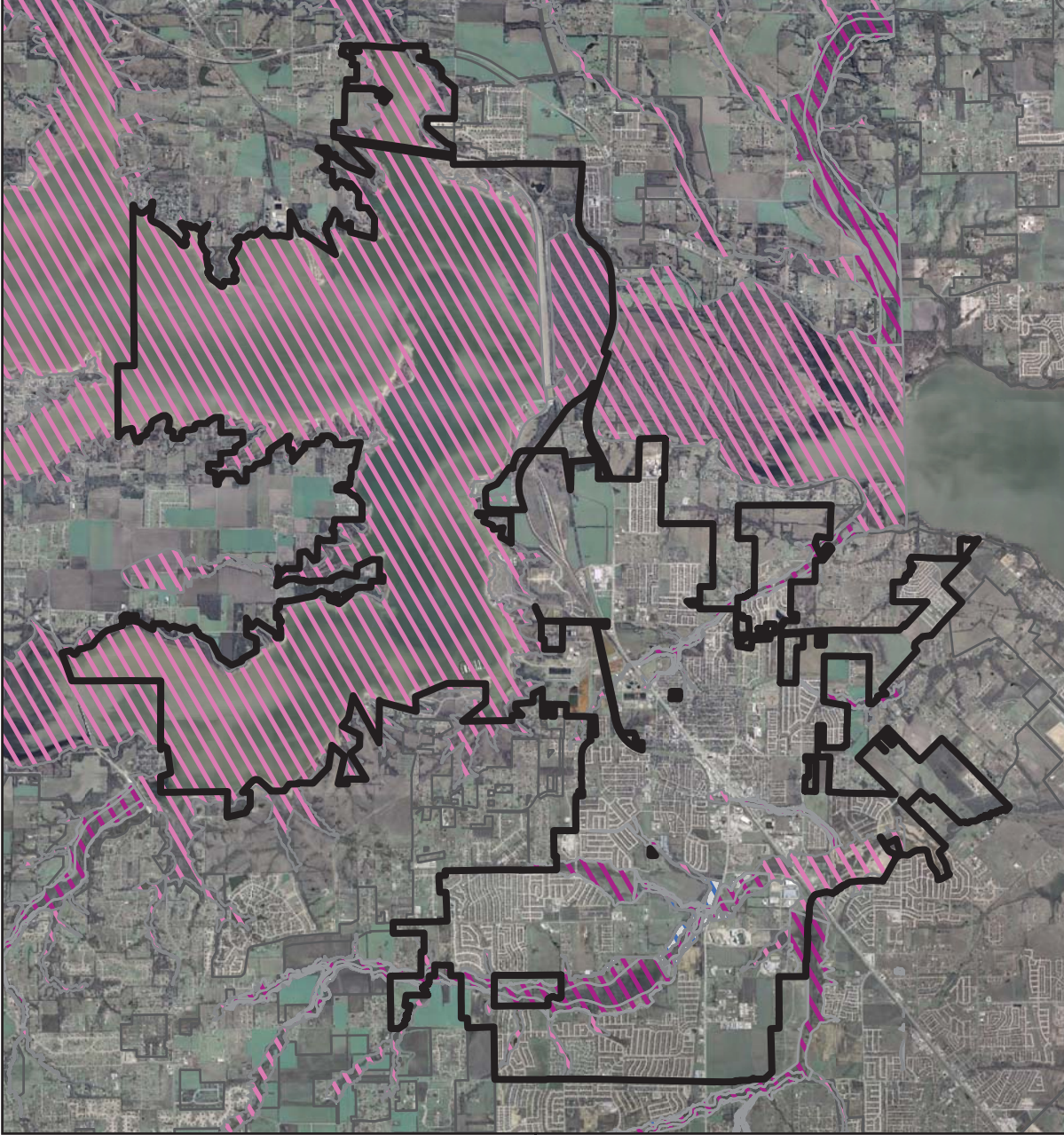


Emergency Preparedness

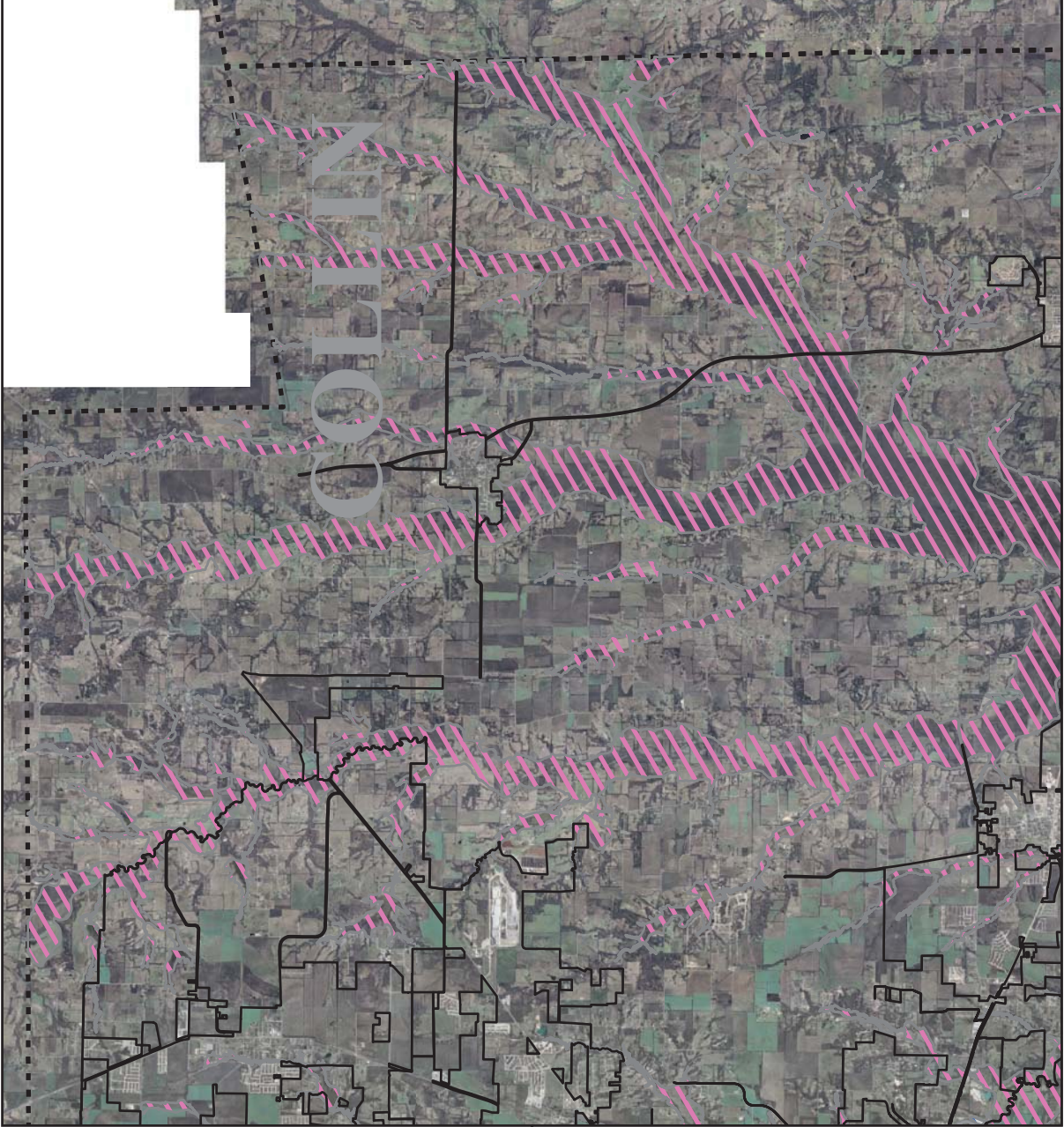
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Map D.6
Regional Mitigation Strategy
Collin County
NE Collin County
FEMA Floodzones



Legend
Flood Zone
 100 Year (A)
 100 Year (AE)
 500 Year



1 0.5 0 1 Miles

Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Evers
 11/14/2009

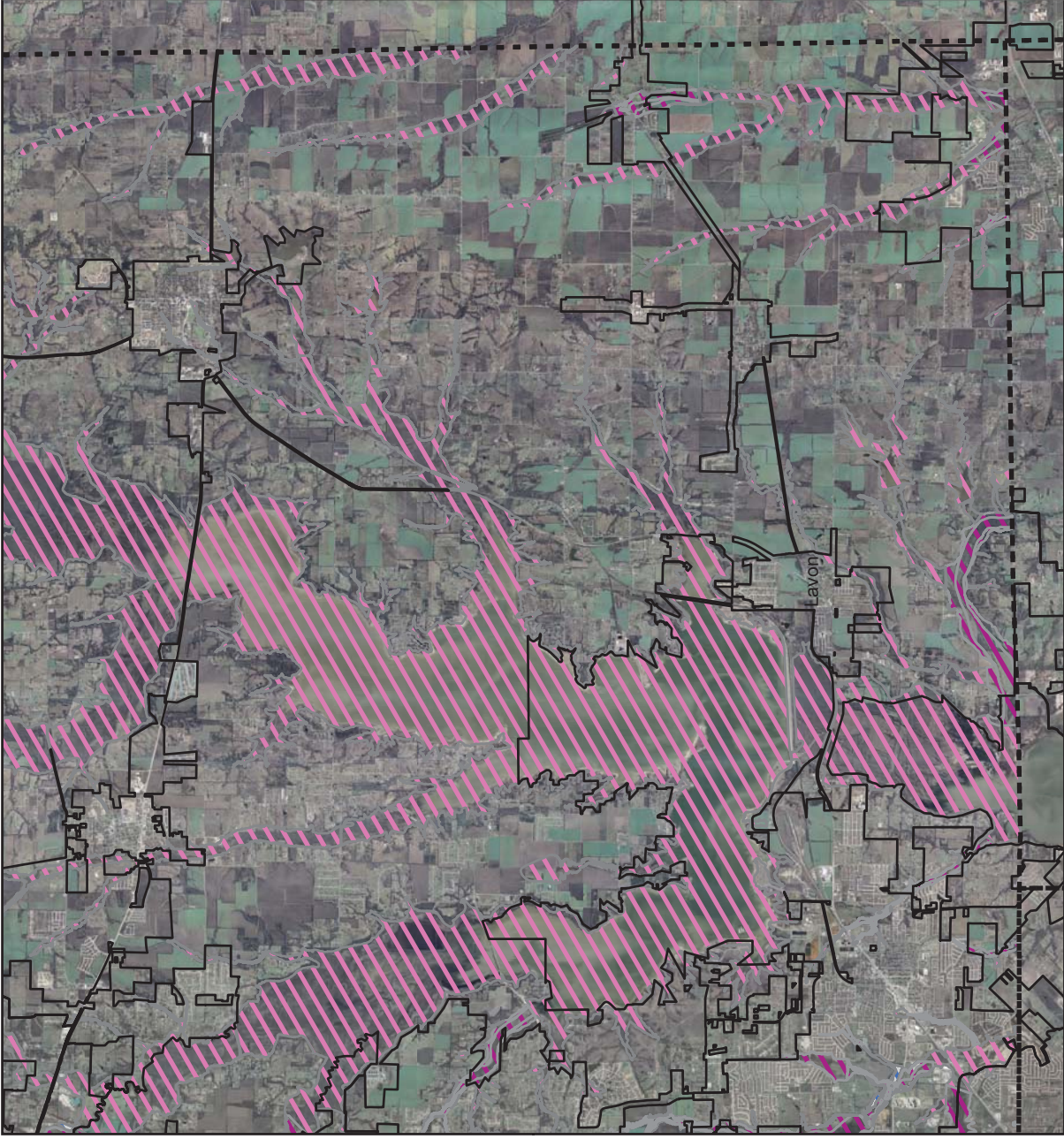
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Map D.7
Regional Mitigation Strategy
Collin County
SE Collin County
FEMA Floodzones

Legend

- Flood Zone**
-  100 Year (A)
 -  100 Year (AE)
 -  500 Year






Emergency Preparedness

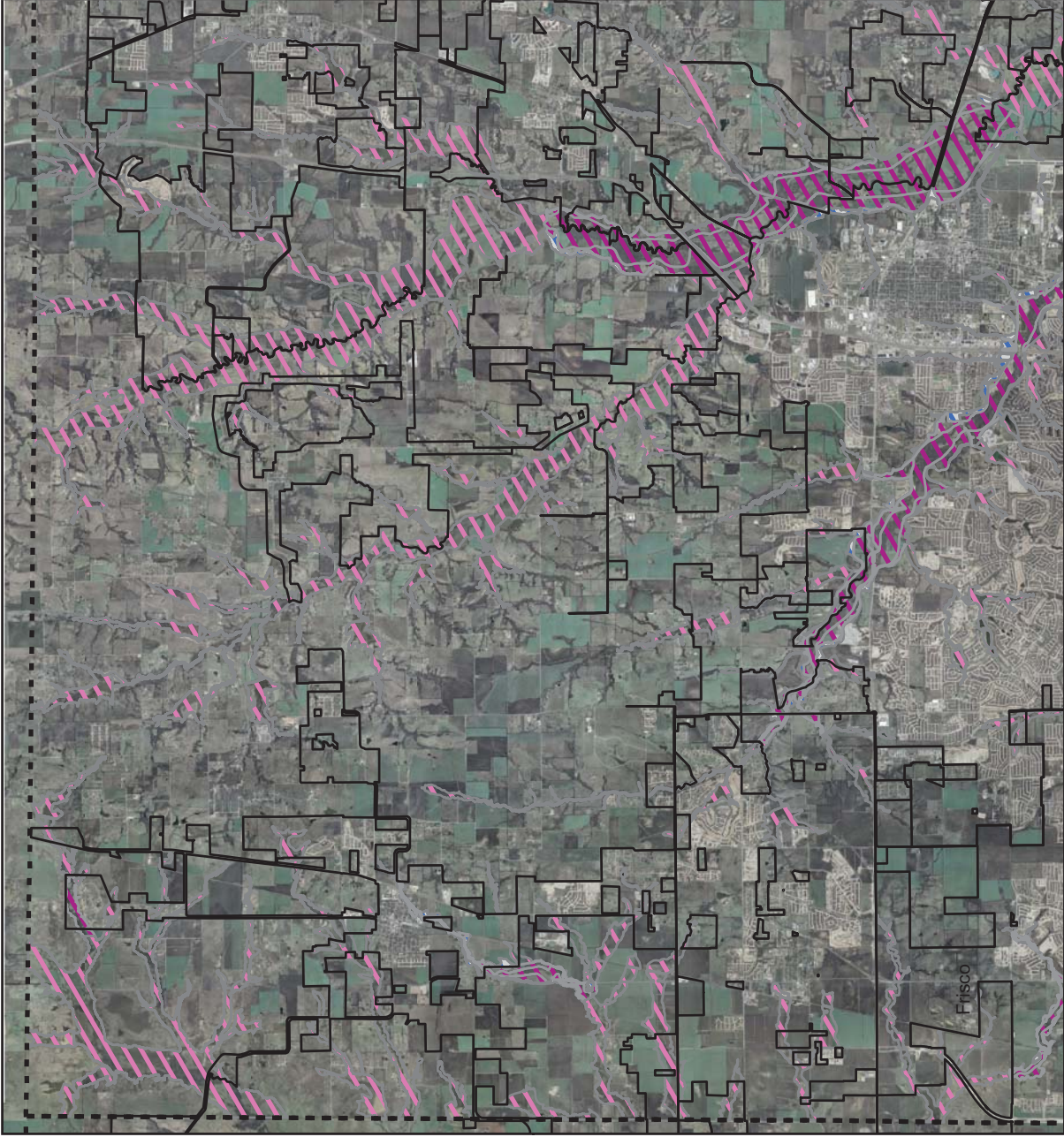
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Map D.8
Regional Mitigation Strategy
Collin County
NW Collin County
FEMA Floodzones

- Legend**
- Flood Zone**
-  100 Year (A)
 -  100 Year (AE)
 -  500 Year



Emergency Preparedness

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Map E

Regional Mitigation Strategy

Collin County

Earthquakes

Legend

— Fault Lines

■ Participating Cities

■ Participating Counties

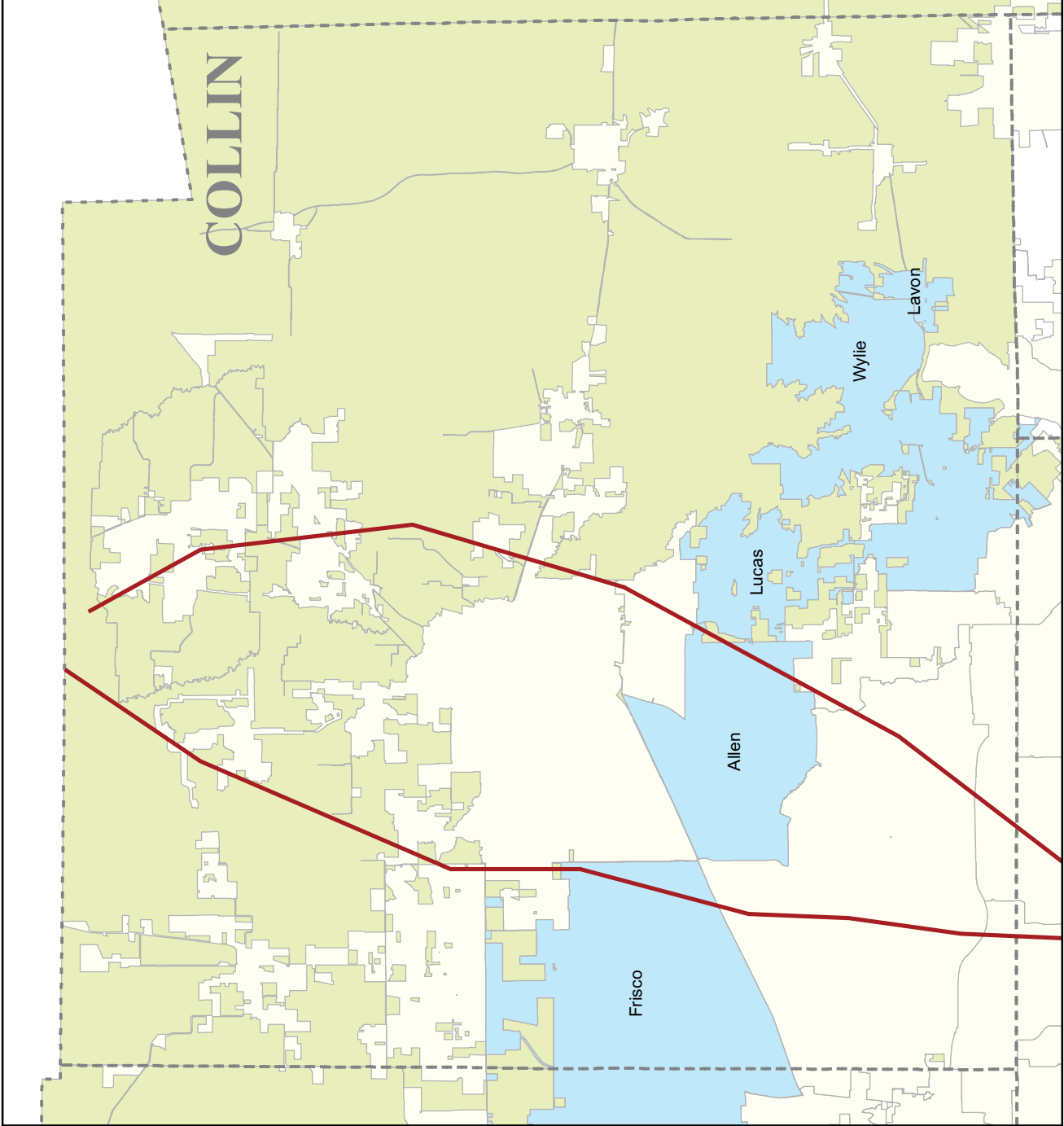


2 1 0 2 Miles

Emergency Preparedness

North Central Texas Council of Governments
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5/22/2009

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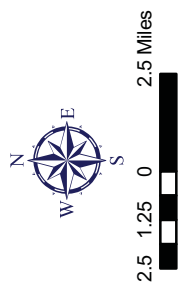
Map F

Regional Mitigation Strategy

Collin County

Dams

- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties

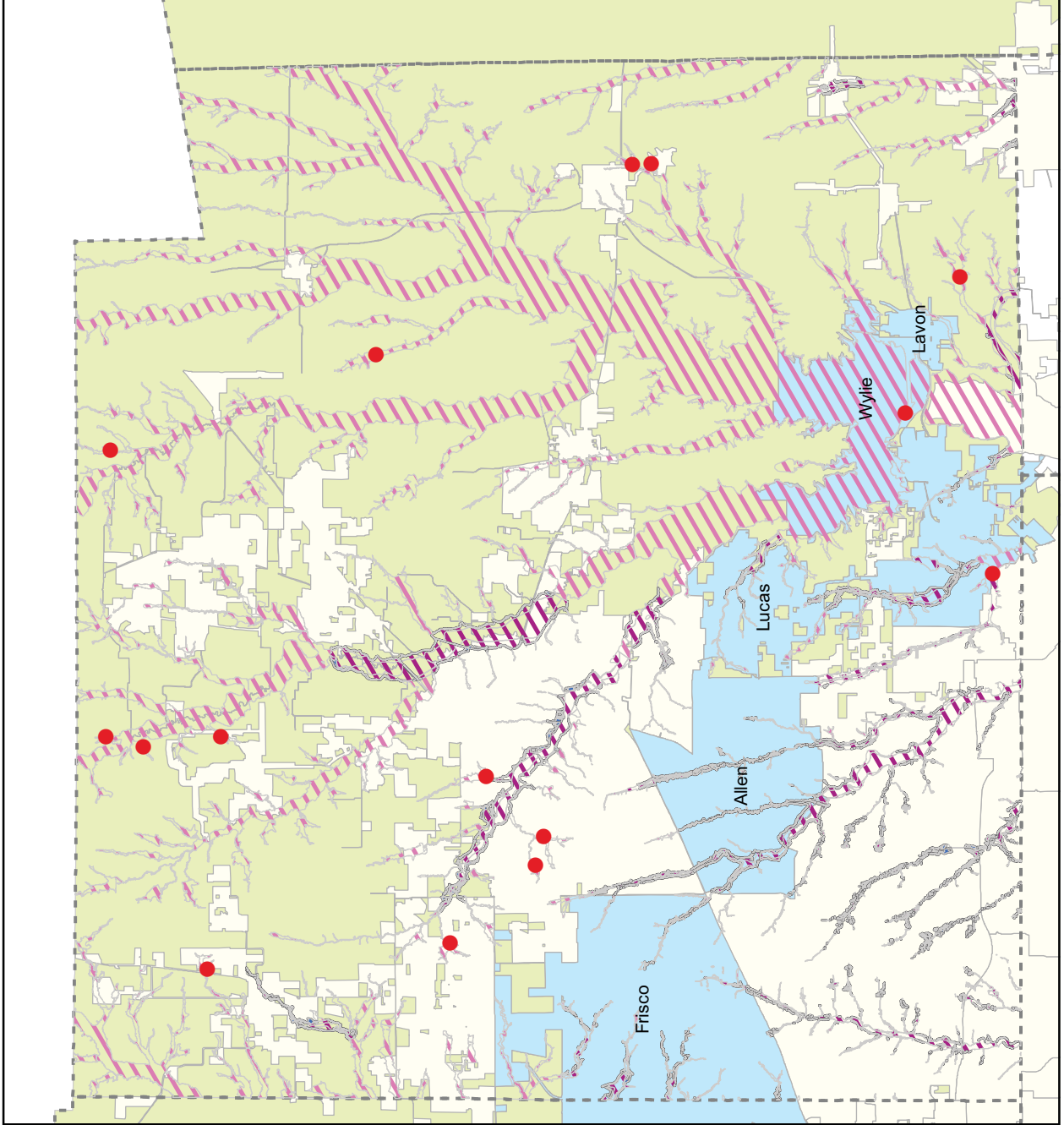


Emergency Preparedness

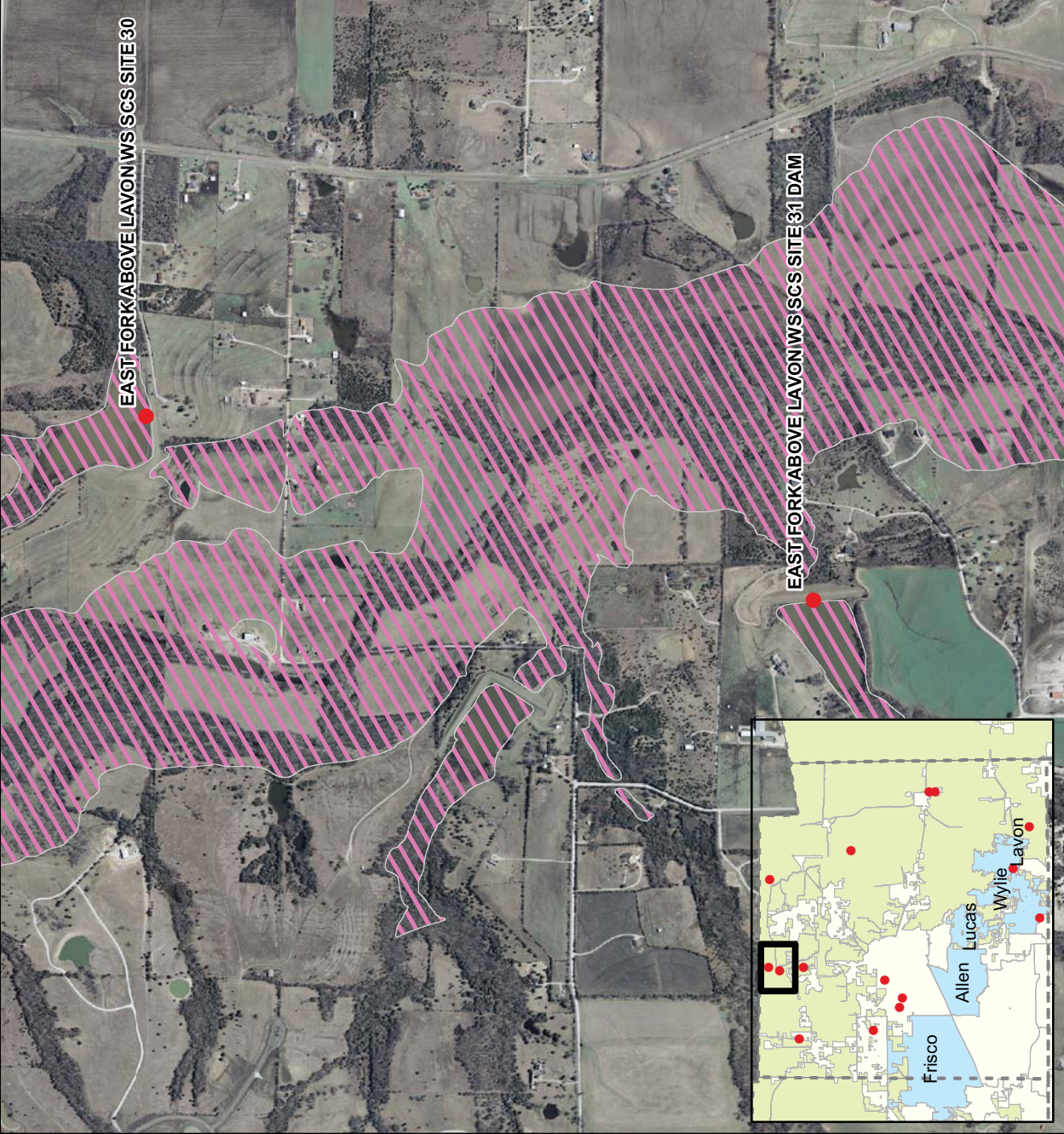
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Map F.1 Regional Mitigation Strategy Collin County Dams



- Legend**
- High Hazard Dams
 - Flood Zone**
 - 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



0.10.05 0 0.1 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Severy
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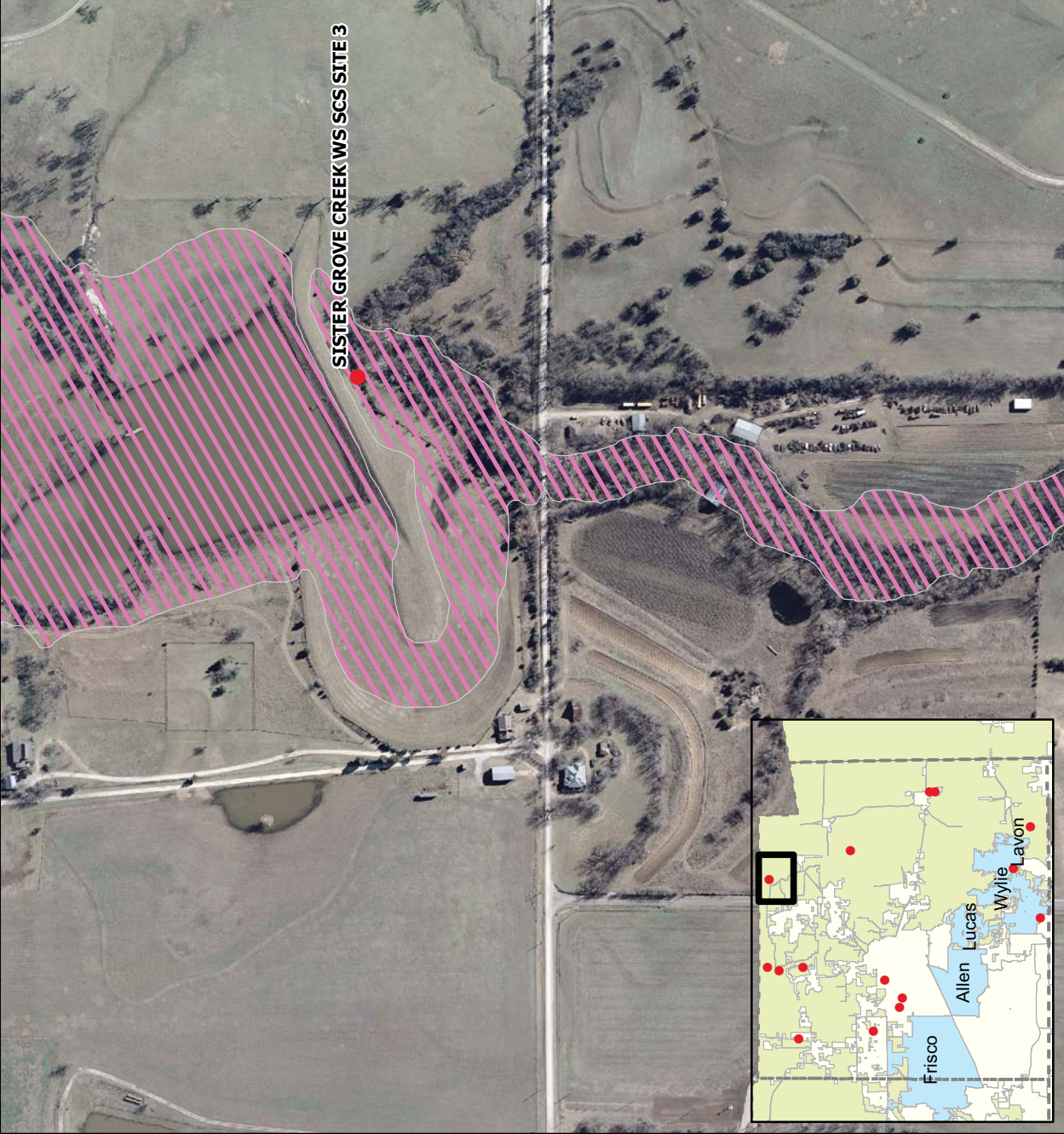
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Map F.2

Regional Mitigation Strategy

Collin County

Dams



Map F.3

Regional Mitigation Strategy

Collin County

Dams

- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



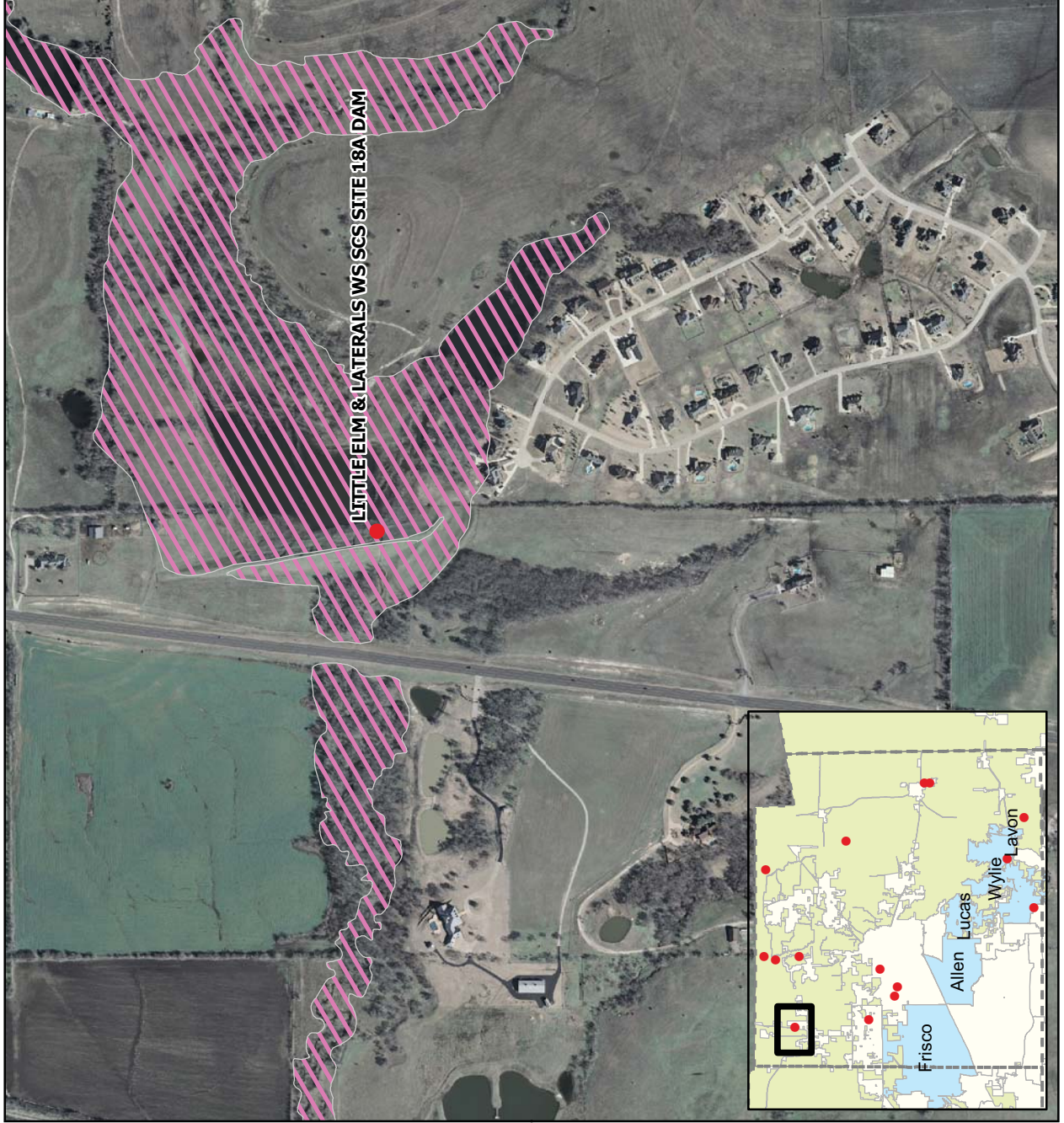
0.08 0.04 0 0.08 Miles

Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Severy
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Map F.4 Regional Mitigation Strategy Collin County Dams

- Legend**
- High Hazard Dams
 - Flood Zone**
 - 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



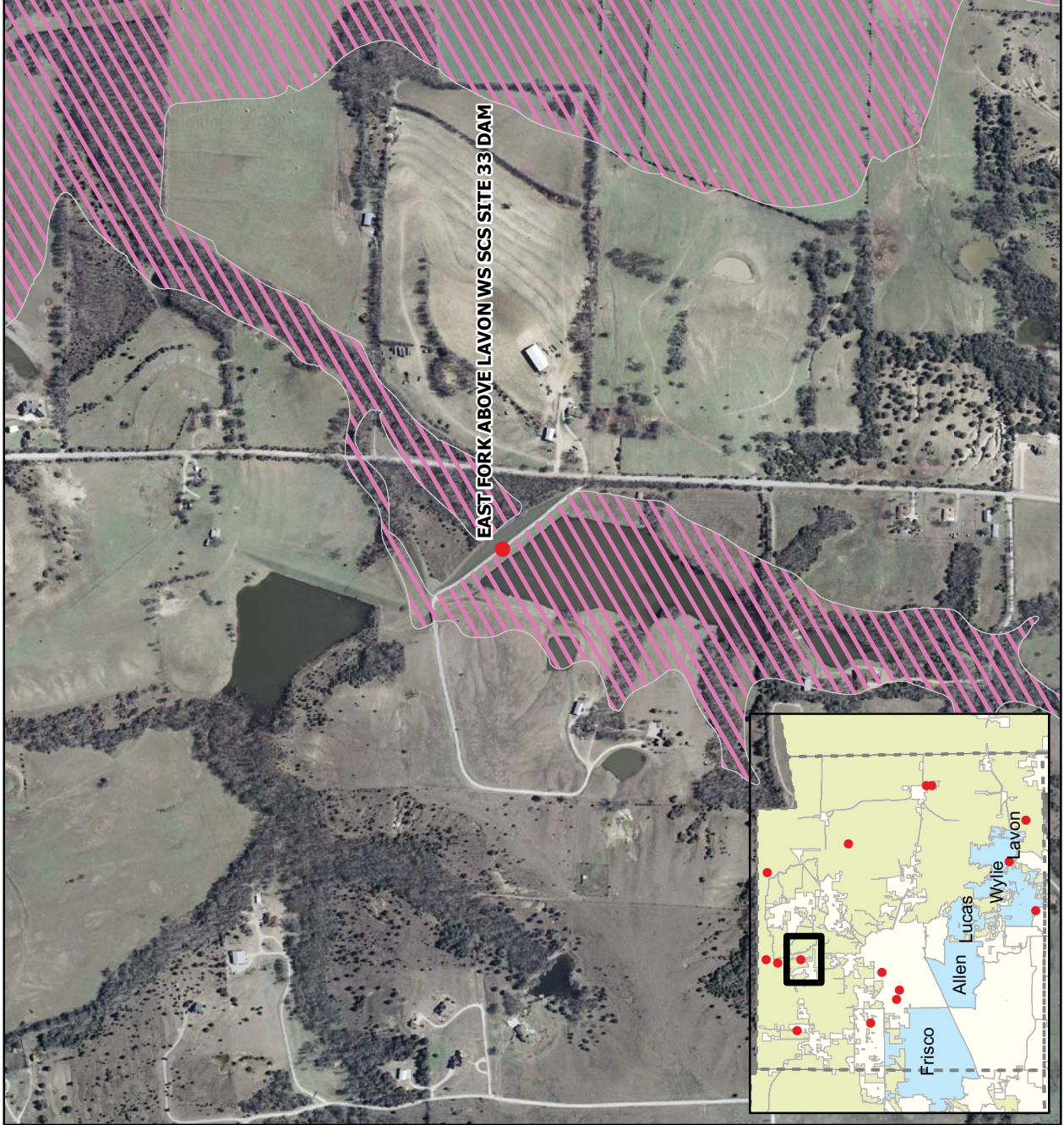
0.08,0250 0.05 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Severy
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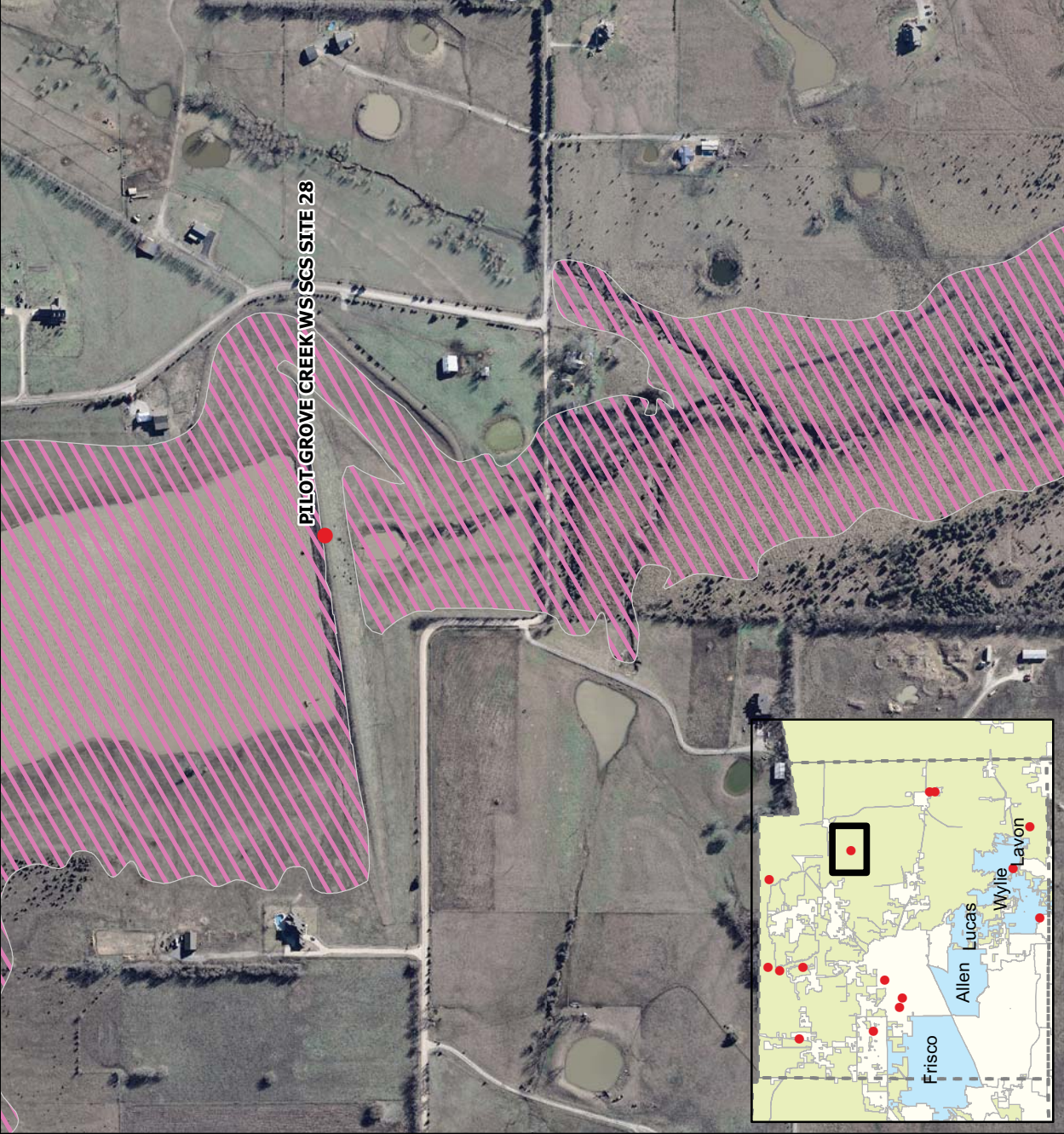


Map F.5

Regional Mitigation Strategy

Collin County

Dams



Legend

- High Hazard Dams
- Flood Zone**
 - 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



0.05 0.025 0 0.05 Miles

Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Beverly
 5/14/2008

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Map F.6

Regional Mitigation Strategy

Collin County

Dams



- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



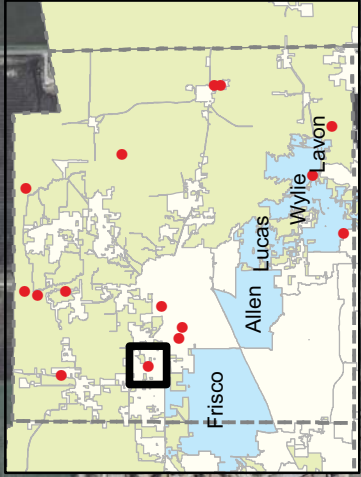
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Bevy
 5/14/2008

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Map F.7

Regional Mitigation Strategy

Collin County

Dams

- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
- Participating Cities
 - Non-Participating Cities
 - Participating Counties



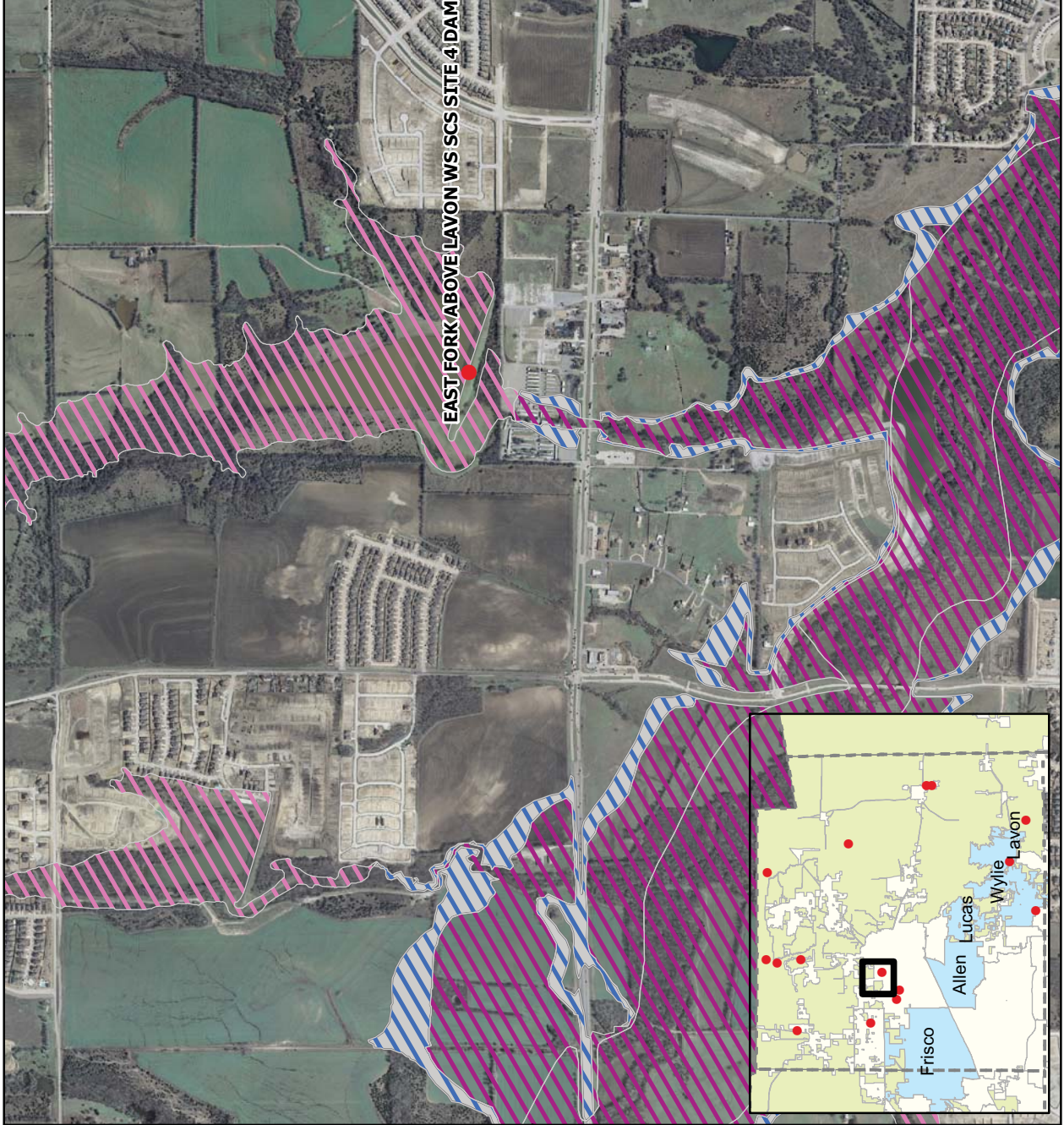
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Beverly
 5/14/2008

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Map F.8

Regional Mitigation Strategy

Collin County

Dams

- Legend**
- High Hazard Dams
- Flood Zone**
-  100 Year (A)
 -  100 Year (AE)
 -  500 Year
- Participating Cities
-  Participating Cities
 -  Non-Participating Cities
 -  Participating Counties



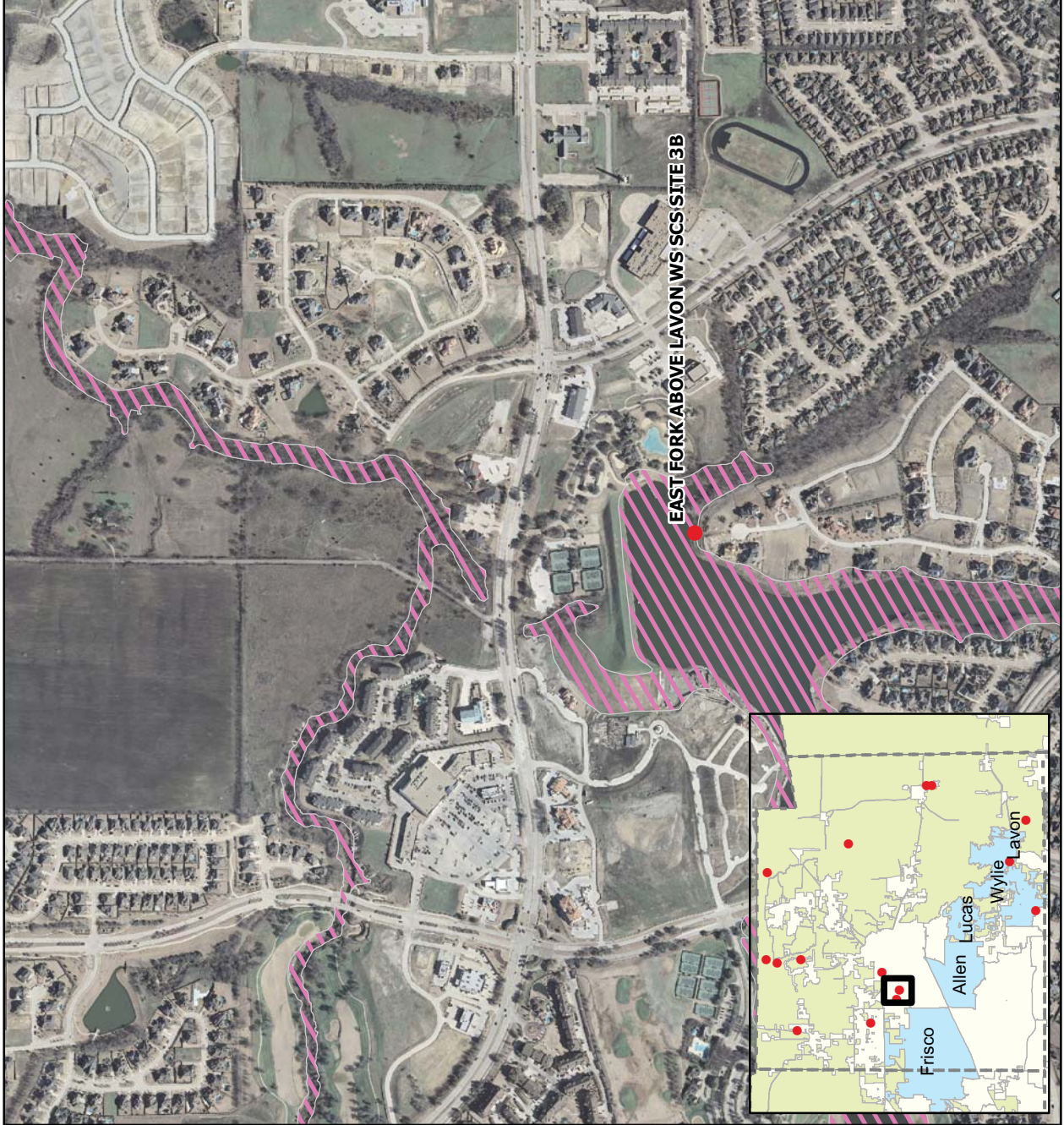
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Emergency Preparedness

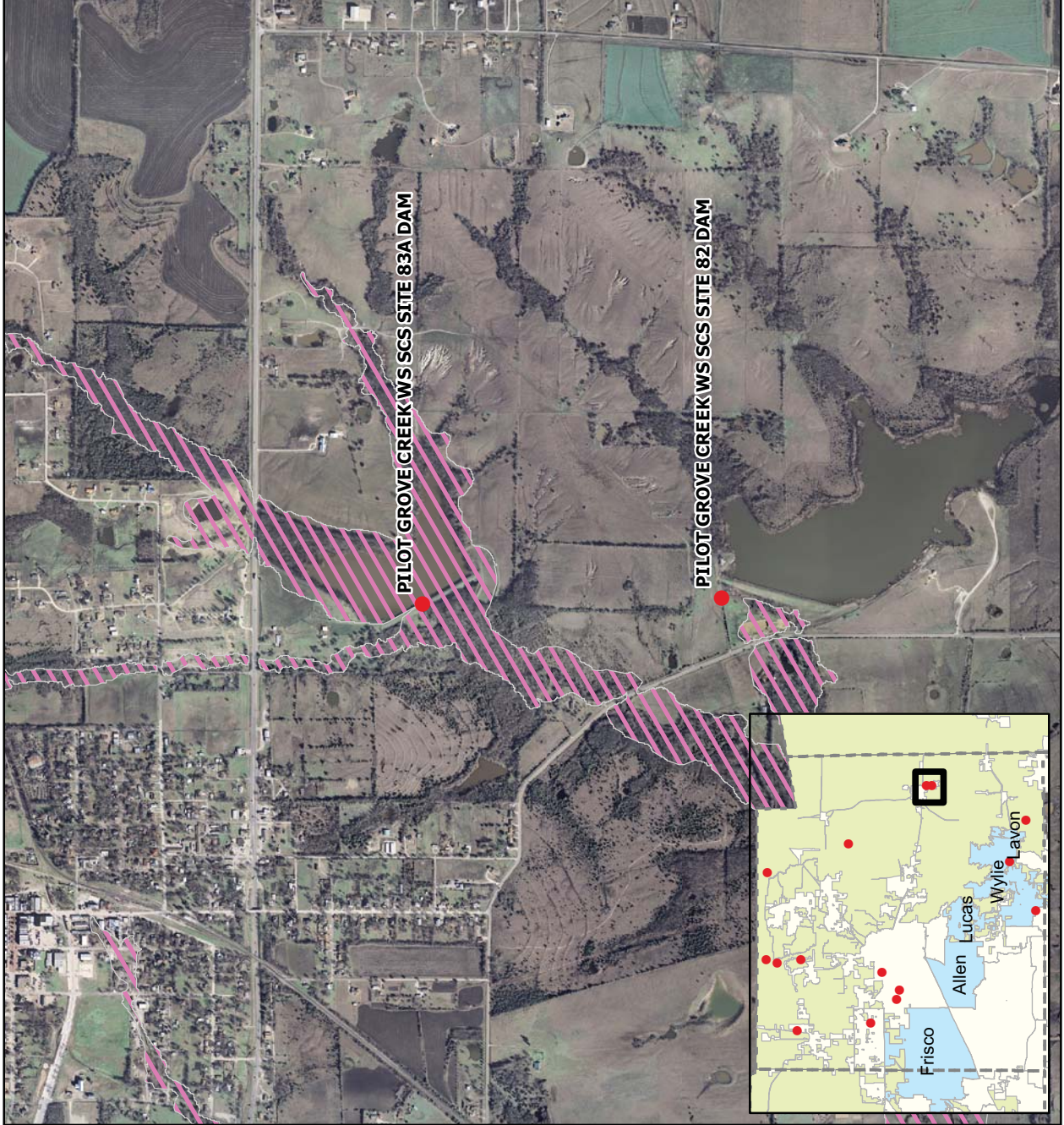
North Central Texas Council of Governments
Map Created By: Amanda Severy
5/14/2008

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Map F.9 Regional Mitigation Strategy Collin County Dams



Legend

- High Hazard Dams
- Flood Zone**
 - 100 Year (A)
 - 100 Year (AE)
 - 500 Year
- Participating Cities
- Non-Participating Cities
- Participating Counties



0.10.05 0 0.1 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Severy
5/14/2008

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Map F.10
Regional Mitigation Strategy
Collin County
Dams

- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
- Participating Cities
 - Non-Participating Cities
 - Participating Counties



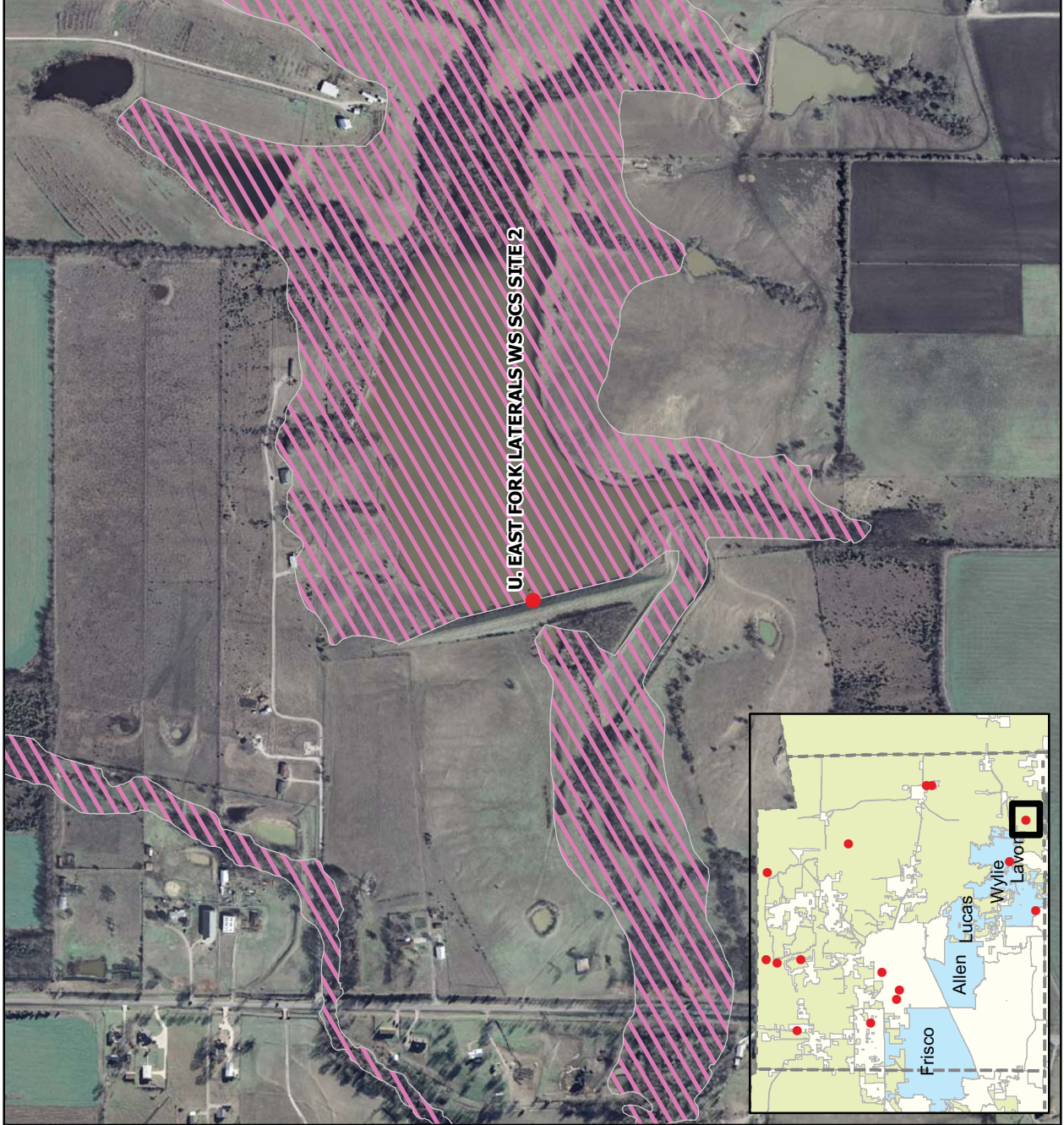
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Bevy
 5/14/2008

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Map F.11

Regional Mitigation Strategy

Collin County

Dams

- Legend**
- High Hazard Dams
 - Flood Zone**
 - 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



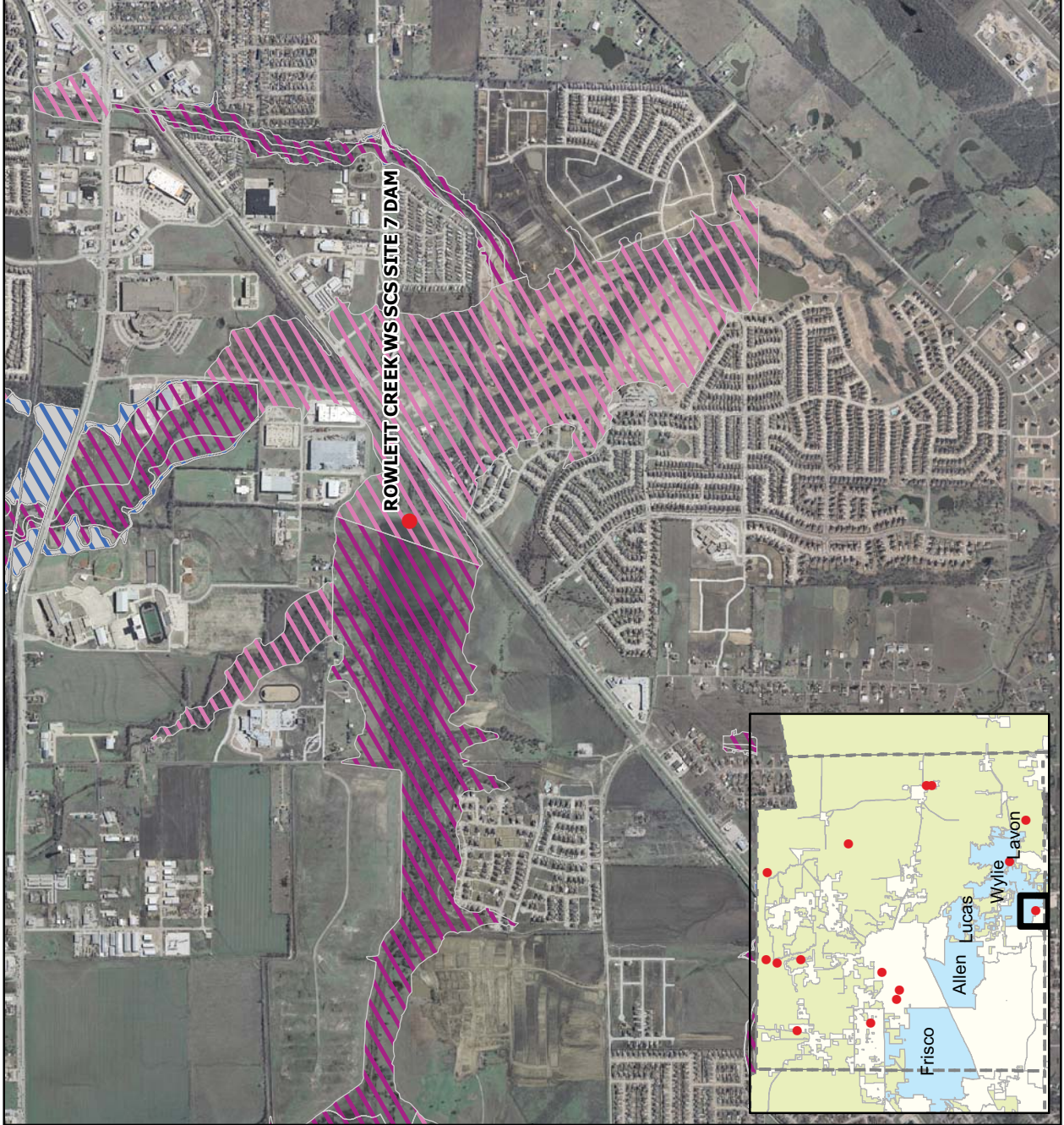
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Severy
 5/14/2008

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Map F.12

Regional Mitigation Strategy

Collin County

Dams



- Legend**
- High Hazard Dams
- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year
 - Participating Cities
 - Non-Participating Cities
 - Participating Counties



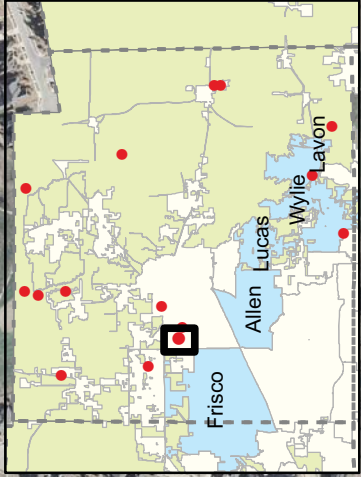
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Severy
 5/14/2008

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Map F.13

Regional Mitigation Strategy

Collin County

Dams

Legend

- Lavon Dam
- High Hazard Dams

Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year
- Participating Cities
- Non-Participating Cities
- Participating Counties

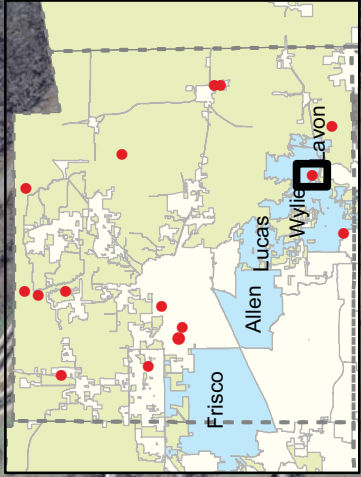
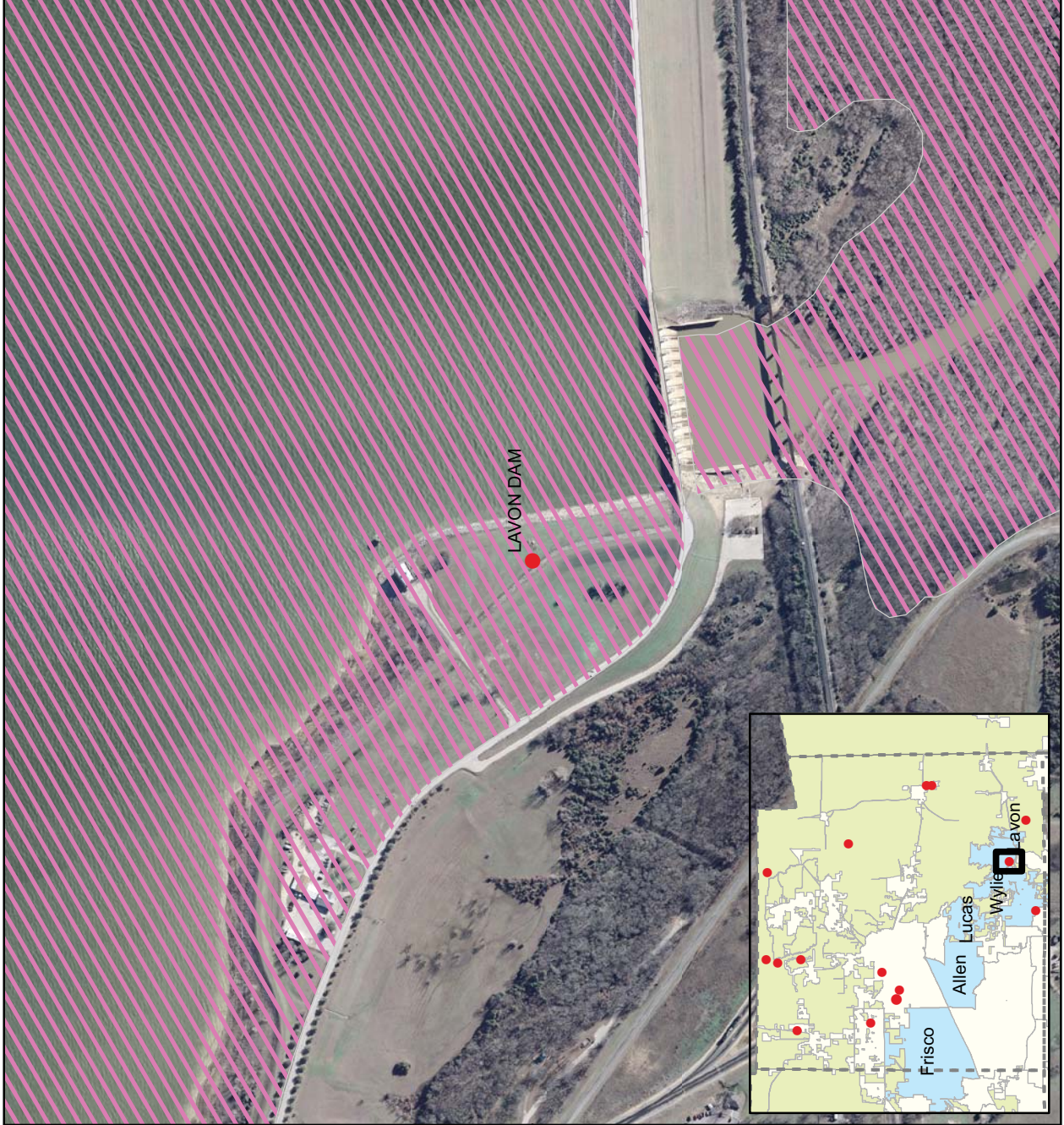
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Emergency Preparedness

North Central Texas Council of Governments
 Map Created By: Amanda Severy
 5/14/2008

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3.3 Extent

Natural Hazards are judged on specific extent scales. The following are the known extent scales for the natural hazards addressed in the Collin County Local Mitigation Strategy.

Tornado

Fujita Scale

F-Scale Number	Intensity Phrase	Wind Speed	Type of Damage
F0	Gale tornado	40-72 mph	Some damage to chimneys; breaks branches off trees; pushes over shallow-rooted trees; damages sign boards.
F1	Moderate tornado	73-112 mph	The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the roads; attached garages may be destroyed.
F2	Significant tornado	113-157 mph	Considerable damage. Roofs torn off frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light object missiles generated.
F3	Severe tornado	158-206 mph	Roof and some walls torn off well constructed houses; trains overturned; most trees in forest uprooted
F4	Devastating tornado	207-260 mph	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible tornado	261-318 mph	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile sized missiles fly through the air in excess of 100 meters; trees debarked; steel reinforced concrete structures badly damaged.
F6	Inconceivable tornado	319-379 mph	These winds are very unlikely. The small area of damage they might produce would probably not be recognizable along with the mess produced by F4 and F5 wind that would surround the F6 winds. Missiles, such as cars and refrigerators would do serious secondary damage that could not be directly identified as F6 damage. If this level is ever achieved, evidence for it might only be found in some manner of ground swirl pattern, for it may never be identifiable through engineering studies

On February 1, 2007, the Fujita scale was decommissioned in favor of the more accurate Enhanced Fujita Scale, which replaced it. None of the tornadoes recorded on or before January 31, 2007 will be re-categorized. Therefore maintaining the Fujita scale will be necessary when referring to previous events.

Enhanced Fujita Scale

Enhanced Fujita Category	Wind Speed (mph)	Potential Damage
EF0	65-85	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86-110	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	166-200	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF5	>200	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd); high-rise buildings have significant structural deformation;

The Enhanced Fujita Scale is representative of the damage from tornados this community has faced and will undoubtedly face in the future. The Enhanced Fujita Scale allows planners to prepare and mitigate future potential damage by assessing the historical nature of tornados in the planning community. For example, in 2008 an EF-1 tornado occurred in Allen which caused damage to approximately 300 residences and caused \$12 million in property damage.

Combined NOAA/TORRO Hailstorm Intensity Scales

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

The Hailstorm Intensity Scale is representative of the damage from hail storms this community has experienced in the past and will likely experience in the future. For example, in 2002 Frisco had a storm with H5 hail (1.75 inch hail diameter). This storm caused no reported property damage. The Hailstorm Intensity Scale allows planners to gauge past damage and mitigate for future expected damage.

Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

The Beaufort Wind Scale is representative of the damage from high winds this community may endure. The Beaufort Wind Scale allows planners in the community to assess historical data and mitigate for future high wind storms. For example, in 2003 a high wind storm of a Beaufort Wind Scale Force 10 (52 knots) was reported. The high winds blew down power lines and caused \$5,000 worth of property damage.

Flood Zones

	The 100-year or Base Floodplain. There are six types of A zones:	
Zone A	A	The base floodplains mapped by approximate methods, i.e., BFEs are not determined. This is often called an unnumbered A zone or an approximate A zone.
	A1-30	These are known as numbered A zones (e.g., A7 or A14). This is the base floodplain where the firm shows a BFE (old format).
	AE	The base floodplain where base flood elevations are provided. AE zones are now used on new format FIRMs instead of A1-30 zones.
	AO	The base floodplain with sheet flow, ponding, or shallow flooding. Base flood depths (feet above ground) are provided.
	AH	Shallow flooding base floodplain. BFE's are provided.
	A99	Area to be protected from base flood by levees or Federal flood protection systems under construction. BFEs are not determined.
Zone V and VE	AR	The base floodplain that results from the de-certification of a previously accredited flood protection system that is in the process of being restored to provide a 100-year or greater level of flood protection
	V	The coastal area subject to velocity hazard (wave action) where BFEs are not determined on the FIRM.
	VE	The coastal area subject to velocity hazard (wave action) where BFEs are provided on the FIRM.
Zone B and Zone X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and the 500-year floods. B zones are also used to designate base floodplains or lesser hazards, such as areas protected by levees from the 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.	
Zone C and Zone X (unshaded)	Area of minimal flood hazard, usually depiction FIRMs as exceeding the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood.	
Zone D	Area of undetermined but possible flood hazards.	

Flood hazard areas are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone V, and Zone VE, Moderate flood hazard areas, labeled Zone B or Zone X are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are defined as Zone C or Zone X. These flood zone identifications allow planners to determine appropriate Landuse in designated zones. The planning communities are participants in the National Flood Insurance Program and actively take measures to plan Landuse. In 2007, a flash flood event occurred in Frisco which resulted in \$50,000 worth of property damage.

Earthquake: Mercalli/Richter Scale Comparison

Mercalli Scale	Richter Scale	
I.	0 – 1.9	Not felt. Marginal and long period effects of large earthquakes.
II.	2.0 -2.9	Felt by persons at rest, on upper floors, or favorably placed.
III.	3.0 – 3.9	Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.
V.	4.0 - 4.3	Hanging objects swing. Vibration like passing of heavy trucks. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink the upper range of IV, wooden walls and frame creak.
V.	4.4 - 4.8	Felt outdoors; direction estimated. Sleepers wakened. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Pendulum clocks stop, start.
VI.	4.9 - 5.4	Felt by all. Many frightened and run outdoors. Persons walk unsteadily. Windows, dishes, glassware broken. Books, etc., off shelves. Pictures off walls. Furniture moved. Weak plaster and masonry D cracked. Small bells ring. Trees, bushes shaken.
VII.	5.5 - 6.1	Difficult to stand. Noticed by drivers of motor cars. Hanging objects quiver. Furniture broken. Damage to masonry D, including cracks. Weak chimneys broken at roof line. Fall of plaster, loose bricks, stones, tiles, cornices. Some cracks in masonry C. Waves on ponds. Small slides and caving in along sand or gravel banks. Large bells ring. Concrete irrigation ditches damaged.
VIII.	6.2 - 6.5	Steering of motor cars affected. Damage to masonry C; partial collapse. Some damage to masonry B. Fall of stucco and some masonry walls. Twisting, fall of chimneys, factory stacks, monuments, towers, elevated tanks. Frame houses moved on foundations. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes.
IX.	6.6 - 6.9	General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. (General damage to foundations.) Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alluvial areas sand and mud ejected, earthquake fountains, sand craters.
X.	7.0 - 7.3	Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.
XI.	.7.4 - 8.1	Rails bent greatly. Underground pipelines completely out of service.
XII.	> 8.1	Damage nearly total. Large rock masses displaced. Lines of sight and level distorted. Objects thrown into the air.

Masonry A: Good workmanship, mortar, and design; reinforced, especially laterally, and bound together by using steel, concrete, etc.; designed to resist lateral forces.

Masonry B: Good workmanship and mortar; reinforced, but not designed in detail to resist lateral forces.

Masonry C: Ordinary workmanship and mortar; no extreme weaknesses like failing to tie in at corners, but neither reinforced nor designed against horizontal forces.

Masonry D: Weak materials, such as adobe; poor mortar; low standards of workmanship; weak horizontally.

Source: <http://www.abag.ca.gov/bayarea/eqmaps/doc/mmqif/m10.html>

The Mercalli/Richter Scale allows planners to assess the impact earthquakes have. There have been no reported historical earthquake incidents in Collin County.

Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

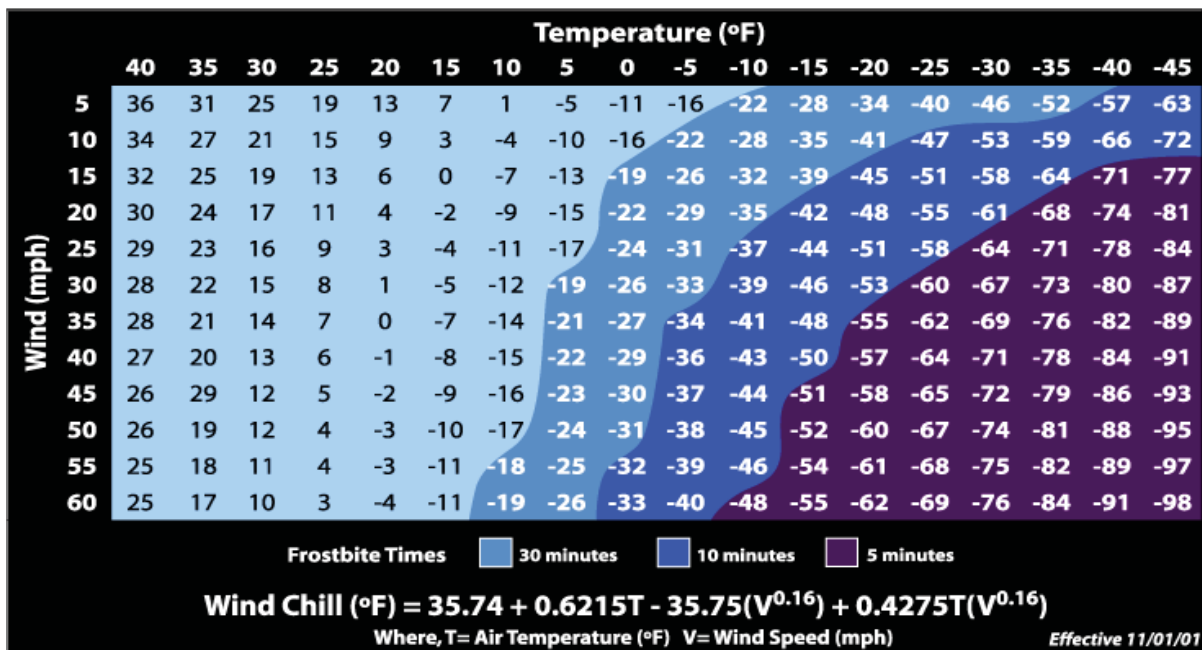
The Beaufort Wind Scale is representative of the damage from high winds this community may endure. The Beaufort Wind Scale allows planners in the community to assess historical data and mitigate for future high wind storms.

Winter Storm: wind chill, volume of ice, volume of snow

The *Wind Chill* temperature is a measure of how cold the wind makes real air temperature feel to the human body. Since wind can dramatically accelerate heat loss from the body, a blustery 30° day would feel just as cold as a calm day with 0° temperatures. The index was created in 1870, and on November 1, 2001, the National Weather Service released a more scientifically accurate equation, which we use today. Here is a chart for calculating wind chill. (Please note that it is not applicable in calm winds or when the temperature is over 50°.)



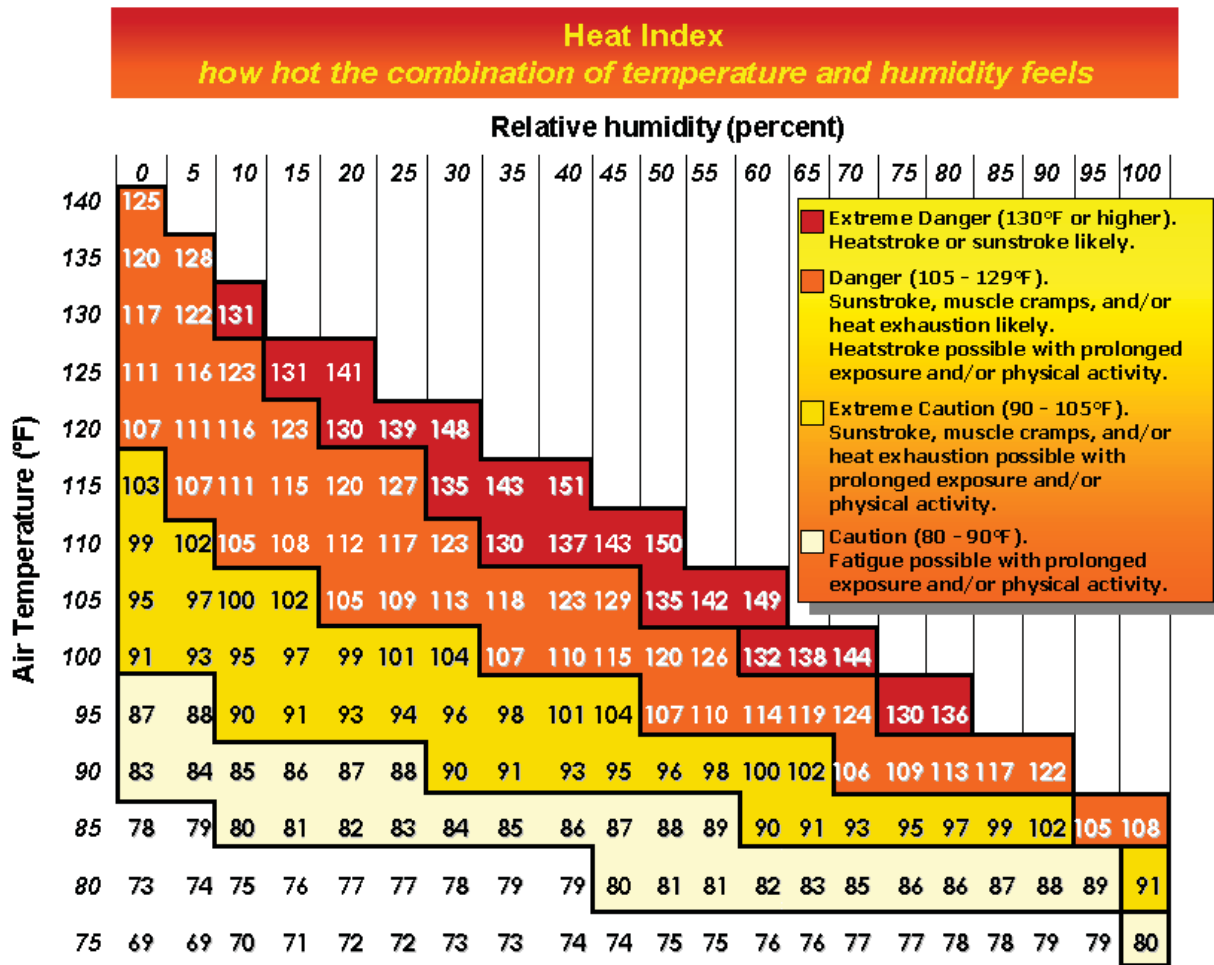
Wind Chill Chart



Source: National Weather Service and NOAA

The Wind Chill Chart displays the Frostbite Times in regards to Temperature and Wind. This chart allows the communities to prepare for Severe Winter Storm or an Ice event. These events are infrequent but can cause damage. The primary areas of concern are on bridges and roadways. For example, in April, 1997 a county-wide extreme cold event occurred in Collin County which caused losses of up to 75-90% of the fruit crop within the county.

Extreme Heat / Heat Index



Source: <http://www.ima.army.mil/southwest/sites/divisions/Safety/Heat%20Index.gif>

The Heat Index chart displays the relative danger in regards to Air Temperature and Relative Humidity. Extreme Heat is a hazard this community has faced in the past and will no doubt face in future summer time seasons and the combination of high temperatures and high humidity's prompt Heat Advisory's. This chart allows communities to assess the citizen's danger in regards to Heat Index.

Drought

Palmer Drought Severity Index (PDSI)

In 1965, Palmer developed an index to "measure the departure of the moisture supply". Palmer based his index on the supply-and-demand concept of the water balance equation, taking into account more than only the precipitation deficit at specific locations. The objective of the Palmer Drought Severity Index (PDSI), as this index is now called, was to provide a measurement of moisture conditions that were "standardized" so that comparisons using the index could be made between locations and between months.

The Palmer Drought Index is based on precipitation and temperature. The Palmer index can therefore be applied to any site for which sufficient precipitation and temperature data is available.

The Palmer Index varies roughly between -4.0 and +4.0. Weekly Palmer Index values are calculated for the Climate Divisions during every growing season and are on the World Wide Web from the Climate Prediction Center.

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

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

Drought conditions do occur in this community. The PDSI Classification allows community planners to anticipate the effects of Drought and plan preparedness and mitigation activities for future events as they will likely occur.

Wildfire

Keetch-Byram Drought Index

KBDI	Fire Potential
0-200	Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. Typical of spring dormant season following winter precipitation.
200-400	Typical of late spring, early growing season. Lower litter and duff layers are drying and beginning to contribute to fire intensity
400-600	Typical of late summer, early fall. Lower litter and duff layers contribute to fire intensity and will burn actively.
600-800	Often associated with more severe drought with increased wildfire occurrence. Intense, deep-burning fires with significant downwind spotting can be expected. Live fuels can also be expected to burn actively at these levels.

Source: <http://www.tamu.edu/ticc/KBDI%20Fact%20Sheet.pdf>

The index scale ranges from 0 to 800 and represents moisture deficiency in hundredths of an inch. This chart allows communities to assess when they are at a heightened danger for a wildfire by looking at indicators of moisture deficiency in the soil. In 2006, a wildfire occurred in Collin County which caused \$2,400 worth of crop damage and \$17,000 worth of property damage.

Fire Danger

Rating	Basic Description	Detailed Description
CLASS 1: Low Danger (L) COLOR CODE: Green	fires not easily started	Fuels do not ignite readily from small firebrands. Fires in open or cured grassland may burn freely a few hours after rain, but wood fires spread slowly by creeping or smoldering and burn in irregular fingers. There is little danger of spotting.
CLASS 2: Moderate Danger (M) COLOR CODE: Blue	fires start easily and spread at a moderate rate	Fires can start from most accidental causes. Fires in open cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel – especially draped fuel -- may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious and control is relatively easy.
CLASS 3: High Danger (H) COLOR CODE: Yellow	fires start easily and spread at a rapid rate	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High intensity burning may develop on slopes or in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small.
CLASS 4: Very High Danger (VH) COLOR CODE: Orange	fires start very easily and spread at a very fast rate	Fires start easily from all causes and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics - such as long-distance spotting - and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.
CLASS 5: Extreme (E) COLOR CODE: Red	fire situation is explosive and can result in extensive property damage	Fires under extreme conditions start quickly, spread furiously and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the Very High Danger class (4). Direct attack is rarely possible and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks, until the weather changes or the fuel supply lessens.

Flood Zones

	The 100-year or Base Floodplain. There are six types of A zones:	
Zone A	A	The base floodplains mapped by approximate methods, i.e., BFEs are not determined. This is often called an unnumbered A zone or an approximate A zone.
	A1-30	These are known as numbered A zones (e.g., A7 or A14). This is the base floodplain where the firm shows a BFE (old format).
	AE	The base floodplain where base flood elevations are provided. AE zones are now used on new format FIRMs instead of A1-30 zones.
	AO	The base floodplain with sheet flow, ponding, or shallow flooding. Base flood depths (feet above ground) are provided.
	AH	Shallow flooding base floodplain. BFE's are provided.
	A99	Area to be protected from base flood by levees or Federal flood protection systems under construction. BFEs are not determined.
Zone V and VE	AR	The base floodplain that results from the de-certification of a previously accredited flood protection system that is in the process of being restored to provide a 100-year or greater level of flood protection
	V	The coastal area subject to velocity hazard (wave action) where BFEs are not determined on the FIRM.
	VE	The coastal area subject to velocity hazard (wave action) where BFEs are provided on the FIRM.
Zone B and Zone X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100-year and the 500-year floods. B zones are also used to designate base floodplains or lesser hazards, such as areas protected by levees from the 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.	
Zone C and Zone X (unshaded)	Area of minimal flood hazard, usually depiction FIRMs as exceeding the 500-year flood level. Zone C may have ponding and local drainage problems that do not warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood.	
Zone D	Area of undetermined but possible flood hazards.	

Flood hazard areas are identified as a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. The 1-percent annual chance flood is also referred to as the base flood or 100-year flood. SFHAs are labeled as Zone A, Zone V, and Zone VE, Moderate flood hazard areas, labeled Zone B or Zone X are the areas between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood. The areas of minimal flood hazard, which are the areas outside the SFHA and higher than the elevation of the 0.2-percent-annual-chance flood, are defined as Zone C or Zone X. These flood zone identifications allow planners to determine appropriate Landuse in designated zones. The planning communities are participants in the National Flood Insurance Program and actively take measures to plan Landuse.

Local Extent Having identified the extent scales by which hazards are ranked. The participating jurisdictions have utilized the following definitions to determine the expected extent/severity for their planning area.

	High	Medium	Low
Earthquake	<ul style="list-style-type: none"> • Mercalli Scale: VIII-XII • Richter Scale: 6.2->8.1 • Driving will be difficult, increase in damage to infrastructures and objects can be thrown 	<ul style="list-style-type: none"> • Mercalli Scale: VI-VII • Richter Scale: 4.9-6.1 • All will feel the event, walking will be difficult, glassware will break, irrigation ditches damaged 	<ul style="list-style-type: none"> • Mercalli Scale: I-V • Richter Scale: 0-4.8 • Range of feeling the event is cannot be felt to being felt outdoors. Doors may swing close and liquids may be disturbed
Tornado	<ul style="list-style-type: none"> • EF3-EF5 • There will be a range of severe damage from well constructed houses being destroyed to houses being swept away 	<ul style="list-style-type: none"> • EF1-EF2 • There will be a range of moderate to considerate damage. Roofs will be severely stripped, mobile homes overturned, and cars lifted off of the ground 	<ul style="list-style-type: none"> • EF0 • There will be light damage. Roofs will be peeled off, gutters damaged, and branches broken
Hail	<ul style="list-style-type: none"> • H7-H10, 2.4"->4" • There will be severe damage. Including roof and structural damage and risk of serious injuries to fatalities. 	<ul style="list-style-type: none"> • H5-H6, 1.6"-2.4" • There will be a range of severe damage from well constructed houses being destroyed to houses being swept away 	<ul style="list-style-type: none"> • H0-H4, 0"-1.6" • There will be a variance of destruction to vegetation and slight damage to glass.
High Winds	<ul style="list-style-type: none"> • Force: 8-12 • Knots: 28-64+ • Whole trees moving to considerable structure damage 	<ul style="list-style-type: none"> • Force: 4-6 • Knots: 11-27 • Dust, leaves, and loose paper lifted. Small to Large branches moving. 	<ul style="list-style-type: none"> • Force: 0-3 • Knots: <1-10 • Calm, leaves rustle, light flags extended
Winter Storms	<ul style="list-style-type: none"> • Temperatures 15F- 45F • Wind Chill 7F- 98F • At wind chill of 19 frostbite will occur in 30 minutes increasing in severity to occurrence in 5 minutes. 	<ul style="list-style-type: none"> • Temperatures 30F- 20F • Wind Chill 25F-4F • Bridges and roadways are at risk to ice 	<ul style="list-style-type: none"> • Temperatures 40F- 35F • Wind Chill 36F-17F • Vulnerable populations and agriculture at risk to lower temperatures and wind chill.
Summer Heat	<ul style="list-style-type: none"> • Heat Index >130F • Heatstroke or sunstroke likely 	<ul style="list-style-type: none"> • Heat Index 105F-129F • Sunstroke, muscle cramps, and/pr heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity. 	<ul style="list-style-type: none"> • Heat Index 80F-105F • Fatigue possible with prolonged exposure and/or physical activity, Sunstroke, muscle cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Flooding	<ul style="list-style-type: none"> • 100yr Flood Zone, Zone A • The extent of severity in the 100yr Flood Zone will be dependent on the structures and livestock located in the identified 	<ul style="list-style-type: none"> • 500yr Flood Zone, Zone B • The extent of severity in the 500yr Flood Zone will be dependent on the structures and livestock located in the identified 	<ul style="list-style-type: none"> • Outside of 100yr and 500yr Flood Zones, Zone C, F, X • Potential for flooding due to local drainage problems

	area.	area.	
Dam Failure	<ul style="list-style-type: none"> Greater than 50% of city structures are in the inundation zone. Greater than 50% of the city's critical infrastructure in the identified inundation zone 	<ul style="list-style-type: none"> 20%-50% of city structures are in the inundation zone. 20%-50% of the city's critical infrastructure in the inundation zone 	<ul style="list-style-type: none"> Less than 20% of city structures are in the inundation zone. Less than 20% of the city's critical infrastructure in the inundation zone
Drought	<ul style="list-style-type: none"> PDSI $\bar{3}.00$- $\bar{4}.00$ or less Severe to extreme drought conditions 	<ul style="list-style-type: none"> PDSI $\bar{1}.00$- $\bar{2}.99$ Mild to moderate drought conditions 	<ul style="list-style-type: none"> PDSI $\bar{4}.00$ or more - $\bar{7}.99$ Extremely wet to incipient dry spells
Wildland Fire	<ul style="list-style-type: none"> KBDI 600-800 Associated with severe drought. Intense, deep-burning fires with significant downwind spotting. 	<ul style="list-style-type: none"> KBDI 200-400 Ranges from lower litter and duff layers are drying and beginning to contribute to fire intensity to them causing the fire to burn actively. 	<ul style="list-style-type: none"> KBDI 0-200 Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity.

The following are the High, Medium, Low rankings for each of the related extent scales.

	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
Earthquake	Low	Low	Low	Low	Low	Low
Tornado	Medium	Medium	Low	Medium	Medium	High
Hail	High	High	Medium	Medium	Medium	Medium
High Winds	High	High	Medium	Medium	Medium	High
Winter Storms	Low	Low	Low	Medium	Low	Low
Summer Heat	Low	Low	Low	Medium	Low	High
Flooding	Low	Low	Low	Medium	Low	Medium
Dam Failure	Low	N/A	N/A	N/A	N/A	Low
Drought	Low	Low	Low	Low	Medium	Low
Wildland Fire	Low	Low	Low	Medium	Medium	Low

3.4 Occurrence

The following tables show the previous events data according to the National Climatic Data Center reported in Collin County, Texas between 01/01/1950 and 03/31/2007. For those hazards which have the potential to affect the county equally all data provided by the National Climatic Data Center has been included. The belief is that hazards do not stay within jurisdictional boundaries and thus it is important to be aware of occurrences that have impacted neighboring jurisdictions to further assess the CoLMS participating jurisdictions risks.

All previous events data was gathered from the National Climatic Data Center at <http://www4.ncdc.noaa.gov/cgi-win/wwcqi.dll?wwevent~storms>

Dam Failure There is no information on previous occurrence/history of Dam Failure within Collin County.

Earthquake There is no recorded information or known previous occurrence/history of earthquakes within Collin County.

41 TORNADOS event(s) were reported in Collin County, Texas between 1950 and 2007.

Mag: Magnitude Dth: Deaths Inj: Injuries PrD: Property Damage CrD: Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
County Wide	3/24/1954	2130	Tornado	F1	0	4	25K	0
County Wide	5/25/1954	1815	Tornado	F0	0	0	0K	0
County Wide	4/2/1957	1620	Tornado	F3	0	2	250K	0
County Wide	4/27/1958	1530	Tornado	F2	0	0	250K	0
County Wide	10/4/1959	600	Tornado	F3	0	5	250K	0
County Wide	4/22/1963	1730	Tornado	F2	0	0	250K	0
County Wide	4/28/1963	1230	Tornado	F1	0	0	3K	0
County Wide	5/19/1963	1500	Tornado	F0	0	0	0K	0
County Wide	3/25/1967	2100	Tornado	F0	0	0	0K	0
County Wide	3/25/1967	2100	Tornado	F0	0	0	0K	0
County Wide	4/22/1968	750	Tornado	F1	0	0	25K	0
County Wide	5/13/1968	300	Tornado	F2	0	0	25K	0
County Wide	4/27/1969	510	Tornado	F2	0	45	250K	0
County Wide	10/12/1969	744	Tornado	F3	0	0	3K	0
County Wide	4/18/1970	2130	Tornado	F1	0	2	3K	0
County Wide	9/1/1970	1615	Tornado	F1	0	0	0K	0
County Wide	7/19/1971	1715	Tornado	F1	0	0	25K	0
County Wide	12/14/1971	1815	Tornado	F0	0	0	25K	0
County Wide	8/10/1972	1600	Tornado	F0	0	0	3K	0
County Wide	11/20/1973	110	Tornado	F1	0	3	25K	0
County Wide	6/9/1975	1840	Tornado	F0	0	0	0K	0
County Wide	3/27/1977	454	Tornado	F2	0	0	250K	0
County Wide	9/7/1977	1540	Tornado	F1	0	0	3K	0

County Wide	9/12/1977	1620	Tornado	F2	0	0	25K	0
County Wide	3/29/1979	1415	Tornado	F0	0	0	0K	0
County Wide	7/27/1982	1300	Tornado	F0	0	0	3K	0
County Wide	3/27/1984	1630	Tornado	F1	0	0	3K	0
County Wide	10/18/1985	930	Tornado	F2	0	2	250K	0
County Wide	3/17/1987	1940	Tornado	F0	0	0	0K	0
County Wide	9/13/1993	1010	Tornado	F0	0	0	0	0
Farmersville	7/12/1994	2115	Tornado	F0	0	0	50K	0
Princeton	10/7/1994	1500	Tornado	F1	0	2	500K	0
McKinney	3/16/1998	7:05 PM	Tornado	F1	0	0	200K	0
Frisco	9/5/2001	2:05 PM	Tornado	F0	0	0	0	0
Celina	9/5/2001	2:30 PM	Tornado	F1	0	0	30K	0
Frisco	7/1/2003	1:50 PM	Tornado	F0	0	0	0	0
Lavon Res	3/4/2004	3:35 PM	Tornado	F1	0	2	150K	0
Anna	5/9/2006	9:26 PM	Tornado	F0	0	0	0	0
Anna	5/9/2006	9:33 PM	Tornado	F0	0	0	30K	0
Anna	5/9/2006	9:37 PM	Tornado	F3	2	6	1.0M	0
Wylie	3/30/2007	8:20 PM	Tornado	F0	0	0	500K	0K
TOTALS:					2	73	4.403M	0

210 HAIL event(s) were reported in Collin County, Texas between 1950 and 2007.

Mag: Magnitude **Dth:** Deaths **Inj:** Injuries **PrD:** Property Damage **CrD:** Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
County Wide	4/27/1958	1445	Hail	1.25 in.	0	0	0	0
County Wide	4/27/1958	1455	Hail	1.75 in.	0	0	0	0
County Wide	3/28/1961	1600	Hail	1.75 in.	0	0	0	0
County Wide	5/27/1963	1615	Hail	3.50 in.	0	0	0	0
County Wide	5/27/1963	1750	Hail	1.75 in.	0	0	0	0
County Wide	4/23/1964	2200	Hail	2.25 in.	0	0	0	0
County Wide	4/22/1968	1320	Hail	0.75 in.	0	0	0	0
County Wide	5/16/1968	2300	Hail	1.75 in.	0	0	0	0
County Wide	3/12/1971	1720	Hail	1.75 in.	0	0	0	0
County Wide	3/26/1972	1540	Hail	2.00 in.	0	0	0	0
County Wide	4/22/1973	1345	Hail	1.00 in.	0	0	0	0
County Wide	5/26/1976	1635	Hail	2.75 in.	0	0	0	0
County Wide	3/2/1977	2225	Hail	1.75 in.	0	0	0	0
County Wide	5/8/1977	1645	Hail	1.75 in.	0	0	0	0
County Wide	5/3/1979	1042	Hail	1.00 in.	0	0	0	0
County Wide	5/3/1979	1055	Hail	1.50 in.	0	0	0	0
County Wide	5/28/1979	1450	Hail	0.75 in.	0	0	0	0
County Wide	4/16/1982	1738	Hail	1.75 in.	0	0	0	0
County Wide	6/11/1982	1645	Hail	1.75 in.	0	0	0	0
County Wide	10/8/1982	1530	Hail	1.75 in.	0	0	0	0
County Wide	11/22/1982	1550	Hail	1.00 in.	0	0	0	0
County	4/22/1983	1825	Hail	1.00 in.	0	0	0	0

Wide								
County Wide	5/14/1983	1345	Hail	0.75 in.	0	0	0	0
County Wide	6/28/1983	2040	Hail	1.75 in.	0	0	0	0
County Wide	6/28/1983	2055	Hail	1.75 in.	0	0	0	0
County Wide	11/19/1983	705	Hail	1.75 in.	0	0	0	0
County Wide	2/11/1984	2000	Hail	0.75 in.	0	0	0	0
County Wide	3/18/1984	1820	Hail	0.75 in.	0	0	0	0
County Wide	3/27/1984	20	Hail	1.00 in.	0	0	0	0
County Wide	3/27/1984	24	Hail	1.75 in.	0	0	0	0
County Wide	3/27/1984	1600	Hail	1.75 in.	0	0	0	0
County Wide	3/27/1984	1630	Hail	1.00 in.	0	0	0	0
County Wide	3/27/1984	1710	Hail	1.00 in.	0	0	0	0
County Wide	5/1/1984	1825	Hail	0.75 in.	0	0	0	0
County Wide	4/29/1985	2058	Hail	0.75 in.	0	0	0	0
County Wide	7/2/1985	1535	Hail	0.75 in.	0	0	0	0
County Wide	3/11/1986	1858	Hail	1.75 in.	0	0	0	0
County Wide	4/12/1986	15	Hail	1.75 in.	0	0	0	0
County Wide	4/12/1986	50	Hail	1.00 in.	0	0	0	0
County Wide	5/24/1986	1000	Hail	0.75 in.	0	0	0	0
County Wide	5/24/1986	1034	Hail	1.00 in.	0	0	0	0
County Wide	5/3/1987	2103	Hail	0.75 in.	0	0	0	0
County Wide	5/14/1987	1510	Hail	0.75 in.	0	0	0	0
County Wide	7/2/1987	2330	Hail	1.50 in.	0	0	0	0
County Wide	4/1/1988	1402	Hail	1.00 in.	0	0	0	0
County Wide	4/5/1988	1635	Hail	0.75 in.	0	0	0	0
County Wide	5/8/1988	650	Hail	0.75 in.	0	0	0	0
County Wide	11/15/1988	1500	Hail	1.00 in.	0	0	0	0
County	11/15/1988	1529	Hail	1.75 in.	0	0	0	0

Wide								
County Wide	4/28/1989	1925	Hail	0.75 in.	0	0	0	0
County Wide	4/28/1989	2010	Hail	0.75 in.	0	0	0	0
County Wide	4/28/1989	2030	Hail	1.00 in.	0	0	0	0
County Wide	4/28/1989	2150	Hail	1.00 in.	0	0	0	0
County Wide	7/2/1989	1543	Hail	1.00 in.	0	0	0	0
County Wide	7/2/1989	1606	Hail	4.50 in.	0	0	0	0
County Wide	7/2/1989	1621	Hail	1.75 in.	0	0	0	0
County Wide	4/15/1990	2052	Hail	1.00 in.	0	0	0	0
County Wide	4/27/1990	1500	Hail	0.75 in.	0	0	0	0
County Wide	4/27/1990	1530	Hail	1.75 in.	0	0	0	0
County Wide	3/22/1991	612	Hail	0.75 in.	0	0	0	0
County Wide	4/18/1991	1812	Hail	1.00 in.	0	0	0	0
County Wide	4/27/1991	230	Hail	0.75 in.	0	0	0	0
County Wide	6/22/1991	1910	Hail	1.75 in.	0	0	0	0
County Wide	6/22/1991	1920	Hail	2.00 in.	0	0	0	0
County Wide	10/28/1991	1645	Hail	0.75 in.	0	0	0	0
County Wide	3/24/1992	1405	Hail	1.74 in.	0	0	0	0
County Wide	5/11/1992	2016	Hail	0.75 in.	0	0	0	0
County Wide	5/11/1992	2028	Hail	1.75 in.	0	0	0	0
County Wide	5/11/1992	2115	Hail	1.75 in.	0	0	0	0
County Wide	5/11/1992	2130	Hail	1.75 in.	0	0	0	0
County Wide	5/11/1992	2145	Hail	1.75 in.	0	0	0	0
County Wide	5/11/1992	2200	Hail	0.75 in.	0	0	0	0
County Wide	5/14/1992	915	Hail	1.75 in.	0	0	0	0
County Wide	6/10/1992	2155	Hail	0.75 in.	0	0	0	0
County Wide	6/25/1992	430	Hail	1.75 in.	0	0	0	0
County	8/2/1992	1512	Hail	0.75 in.	0	0	0	0

Wide								
County Wide	8/2/1992	1547	Hail	0.88 in.	0	0	0	0
County Wide	9/2/1992	2315	Hail	0.75 in.	0	0	0	0
County Wide	9/2/1992	2320	Hail	0.75 in.	0	0	0	0
County Wide	9/3/1992	15	Hail	0.75 in.	0	0	0	0
County Wide	10/7/1992	1612	Hail	1.75 in.	0	0	0	0
Wylie	4/19/1993	1715	Hail	0.88 in.	0	0	0	0
Garland	4/19/1993	1800	Hail	1.00 in.	0	0	0	0
Airport	4/19/1993	1830	Hail	1.75 in.	0	0	0	0
Love Field	4/19/1993	1830	Hail	1.75 in.	0	0	0	0
Plano	9/20/1993	1750	Hail	1.00 in.	0	0	0	0
Melissa	10/19/1993	400	Hail	0.75 in.	0	0	0	0
Frisco	4/25/1994	1825	Hail	0.88 in.	0	0	0	0
McKinney	4/29/1994	145	Hail	1.00 in.	0	0	0	0
Wylie	5/2/1994	1356	Hail	0.75 in.	0	0	0	0
Frisco	5/2/1994	1420	Hail	0.75 in.	0	0	0	0
Lake Lavon	5/14/1994	1740	Hail	0.75 in.	0	0	0	0
Farmersville	5/14/1994	1801	Hail	0.75 in.	0	0	0	0
Nevada	5/14/1994	1923	Hail	0.75 in.	0	0	0	0
Allen	7/12/1994	1950	Hail	0.75 in.	0	0	0	0
Plano	7/15/1994	1739	Hail	0.75 in.	0	0	0	0
Plano	8/7/1994	1325	Hail	0.75 in.	0	0	0	0
Plano	10/21/1994	1245	Hail	0.75 in.	0	0	0	0
Plano	10/21/1994	1333	Hail	0.75 in.	0	0	0	0
Meridian	4/22/1995	1539	Hail	0.75 in.	0	0	0	0
Plano	4/22/1995	1540	Hail	1.75 in.	0	0	0	0
Westminster	5/1/1995	108	Hail	0.75 in.	0	0	0	0
McKinney	5/7/1995	2240	Hail	0.75 in.	0	0	0	0
Plano	5/24/1995	1637	Hail	1.75 in.	0	0	0	0
Anna	5/24/1995	1705	Hail	0.75 in.	0	0	0	0
Princeton	5/25/1995	1705	Hail	1.00 in.	0	0	0	0
Farmersville	2/27/1996	9:15 AM	Hail	0.75 in.	0	0	0	0
Copeville	2/27/1996	10:15 AM	Hail	0.75 in.	0	0	0	0
Allen	3/18/1996	12:10 AM	Hail	0.75 in.	0	0	0	0
Plano	3/24/1996	3:10 PM	Hail	0.75 in.	0	0	0	0
Plano	3/24/1996	3:20 PM	Hail	1.00 in.	0	0	0	0
Plano	3/24/1996	3:27 PM	Hail	1.25 in.	0	0	0	0
McKinney	3/24/1996	3:40 PM	Hail	0.75 in.	0	0	0	0
Princeton	4/4/1996	1:40 AM	Hail	0.88 in.	0	0	0	0
Frisco	4/12/1996	4:45 PM	Hail	0.75 in.	0	0	0	0
Anna	4/12/1996	4:48 PM	Hail	0.75 in.	0	0	0	0
Wylie	4/12/1996	5:26 PM	Hail	0.75 in.	0	0	0	0
Anna	4/12/1996	12:38 PM	Hail	0.88 in.	0	0	0	0
McKinney	4/12/1996	12:38 PM	Hail	0.88 in.	0	0	0	0

McKinney	4/13/1996	9:39 PM	Hail	0.88 in.	0	0	0	0
Weston	4/13/1996	9:48 PM	Hail	1.00 in.	0	0	0	0
Murphy	4/13/1996	10:08 PM	Hail	0.75 in.	0	0	0	0
Lucas	5/27/1996	4:14 AM	Hail	1.00 in.	0	0	0	0
Murphy	5/28/1996	5:42 PM	Hail	1.50 in.	0	0	0	0
Culleoka	5/28/1996	6:10 PM	Hail	1.00 in.	0	0	0	0
Plano	6/12/1996	5:10 PM	Hail	1.00 in.	0	0	0	0
McKinney	6/17/1996	4:50 PM	Hail	0.75 in.	0	0	0	0
McKinney	6/17/1996	4:55 PM	Hail	0.88 in.	0	0	0	0
McKinney	7/23/1996	12:30 PM	Hail	0.75 in.	0	0	0	0
Princeton	7/30/1996	7:08 PM	Hail	1.75 in.	0	0	0	0
Plano	10/21/1996	2:35 PM	Hail	2.00 in.	0	0	0	0
Plano	10/21/1996	2:50 PM	Hail	2.00 in.	0	0	0	0
Plano	10/21/1996	10:50 AM	Hail	0.75 in.	0	0	0	0
Prosper	4/22/1997	3:30 AM	Hail	1.00 in.	0	0	0	0
Celina	5/25/1997	10:04 PM	Hail	1.00 in.	0	0	0	0
Plano	6/9/1997	8:14 PM	Hail	1.00 in.	0	0	0	0
Allen	6/9/1997	8:19 PM	Hail	0.75 in.	0	0	0	0
Plano	6/9/1997	8:19 PM	Hail	0.75 in.	0	0	0	0
Plano	6/9/1997	8:45 PM	Hail	1.00 in.	0	0	0	0
Plano	6/16/1997	7:03 PM	Hail	0.75 in.	0	0	0	0
Plano	6/16/1997	7:10 PM	Hail	0.88 in.	0	0	0	0
Anna	8/13/1997	4:10 PM	Hail	0.88 in.	0	0	0	0
McKinney	1/4/1998	4:22 PM	Hail	0.75 in.	0	0	0	0
Allen	1/4/1998	4:25 PM	Hail	1.00 in.	0	0	0	0
Branch	1/4/1998	4:30 PM	Hail	1.00 in.	0	0	0	0
Murphy	1/21/1998	4:25 PM	Hail	1.00 in.	0	0	0	0
Anna	2/25/1998	7:39 PM	Hail	0.75 in.	0	0	0	0
Prosper	2/25/1998	7:40 PM	Hail	0.75 in.	0	0	0	0
Celina	4/16/1998	12:30 AM	Hail	1.75 in.	0	0	0	0
Desert	5/2/1998	9:28 PM	Hail	1.00 in.	0	0	0	0
Anna	5/2/1998	9:35 PM	Hail	0.75 in.	0	0	0	0
McKinney	5/8/1998	8:25 PM	Hail	1.00 in.	0	0	0	0
Frisco	5/8/1998	8:35 PM	Hail	1.75 in.	0	0	0	0
McKinney	5/8/1998	8:53 PM	Hail	0.75 in.	0	0	0	0
Melissa	5/8/1998	8:54 PM	Hail	1.75 in.	0	0	0	0
Frisco	5/8/1998	9:26 PM	Hail	0.75 in.	0	0	0	0
McKinney	5/8/1998	9:54 PM	Hail	1.75 in.	0	0	0	0
McKinney	5/8/1998	9:55 PM	Hail	1.75 in.	0	0	0	0
Blue Ridge	10/2/1998	6:20 PM	Hail	1.00 in.	0	0	0	0
Frisco	2/6/1999	7:54 PM	Hail	1.75 in.	0	0	0	0
Farmersville	2/6/1999	8:50 PM	Hail	0.75 in.	0	0	0	0
Celina	4/3/1999	5:11 AM	Hail	1.00 in.	0	0	0	0
Weston	5/4/1999	12:10 PM	Hail	1.00 in.	0	0	0	0
Wylie	5/25/1999	6:18 PM	Hail	1.00 in.	0	0	0	0
Lavon	2/25/2000	11:17 PM	Hail	0.75 in.	0	0	0	0
Prosper	3/2/2000	6:10 PM	Hail	1.75 in.	0	0	0	0
Plano	3/2/2000	6:15 PM	Hail	1.00 in.	0	0	0	0

Plano	3/2/2000	6:24 PM	Hail	1.75 in.	0	0	0	0
McKinney	3/2/2000	6:29 PM	Hail	1.00 in.	0	0	0	0
Farmersville	3/2/2000	6:50 PM	Hail	1.00 in.	0	0	0	0
Plano	3/10/2000	10:45 AM	Hail	0.75 in.	0	0	0	0
Wylie	3/16/2000	9:28 PM	Hail	0.75 in.	0	0	0	0
Parker	5/12/2000	4:40 PM	Hail	0.75 in.	0	0	0	0
Wylie	5/27/2000	4:50 PM	Hail	0.75 in.	0	0	0	0
Plano	3/11/2001	2:40 PM	Hail	0.88 in.	0	0	0	0
Plano	5/6/2001	6:22 PM	Hail	1.00 in.	0	0	0	0
Plano	5/6/2001	6:43 PM	Hail	3.00 in.	0	0	0	0
Allen	5/6/2001	7:00 PM	Hail	1.00 in.	0	0	0	0
Blue Ridge	4/16/2002	11:15 PM	Hail	0.75 in.	0	0	0	0
McKinney	5/9/2002	11:10 PM	Hail	0.75 in.	0	0	0	0
Frisco	12/30/2002	1:30 PM	Hail	1.75 in.	0	0	0	0
Plano	12/30/2002	2:30 PM	Hail	1.00 in.	0	0	0	0
Plano	4/5/2003	10:16 PM	Hail	2.00 in.	0	0	0	0
Plano	4/5/2003	10:32 PM	Hail	3.00 in.	0	0	0	0
Plano	4/6/2003	1:00 PM	Hail	1.00 in.	0	0	0	0
Plano	4/6/2003	12:55 PM	Hail	1.00 in.	0	0	0	0
Blue Ridge	5/13/2003	5:22 AM	Hail	1.00 in.	0	0	0	0
Nevada	5/24/2003	9:30 PM	Hail	0.75 in.	0	0	0	0
McKinney	5/24/2003	10:47 PM	Hail	1.00 in.	0	0	0	0
Allen	6/14/2003	4:23 PM	Hail	1.50 in.	0	0	0	0
Plano	6/14/2003	4:40 PM	Hail	1.00 in.	0	0	0	0
Celina	7/2/2003	4:15 PM	Hail	0.75 in.	0	0	0	0
Anna	7/22/2003	3:46 PM	Hail	0.75 in.	0	0	0	0
McKinney	7/22/2003	4:22 PM	Hail	1.00 in.	0	0	0	0
Plano	7/22/2003	4:45 PM	Hail	0.75 in.	0	0	0	0
McKinney	6/5/2004	4:35 PM	Hail	1.75 in.	0	0	0	0
Frisco	6/19/2004	1:22 PM	Hail	0.88 in.	0	0	0	0
Plano	1/12/2005	5:15 PM	Hail	1.25 in.	0	0	0	0
Wylie	2/22/2005	11:21 PM	Hail	1.00 in.	0	0	0	0
Blue Ridge	2/23/2005	12:15 AM	Hail	0.75 in.	0	0	0	0
Westminster	2/23/2005	12:25 AM	Hail	1.75 in.	0	0	0	0
Plano	4/5/2005	3:50 PM	Hail	1.00 in.	0	0	0	0
Frisco	4/5/2005	4:00 PM	Hail	0.88 in.	0	0	0	0
Frisco	4/5/2005	4:12 PM	Hail	0.75 in.	0	0	0	0
Frisco	4/5/2005	4:14 PM	Hail	1.00 in.	0	0	0	0
Anna	4/5/2005	4:58 PM	Hail	1.75 in.	0	0	0	0
Blue Ridge	4/5/2005	5:50 PM	Hail	1.00 in.	0	0	0	0
Plano	5/25/2005	12:30 PM	Hail	0.75 in.	0	0	0	0
Farmersville	6/13/2005	10:52 PM	Hail	0.88 in.	0	0	0	0
Melissa	5/9/2006	9:04 PM	Hail	1.75 in.	0	0	5K	0
TOTALS:					0	0	5K	0

44 THUNDERSTORM AND HIGH WINDS event(s) were reported in Collin County, Texas between 1950 and 2007

Mag: Magnitude Dth: Deaths Inj: Injuries PrD: Property Damage CrD: Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
County Wide	11/17/1958	950	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/5/1959	2130	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/31/1959	2300	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/8/1961	327	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/27/1963	1940	Tstm Wind	62 kts.	0	0	0	0
County Wide	3/3/1970	430	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/25/1970	530	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/25/1970	535	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/23/1971	1655	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/15/1972	530	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/29/1972	1800	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/6/1975	1730	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/27/1977	735	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/23/1978	1915	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/23/1978	1925	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/2/1978	2215	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/28/1978	1548	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/28/1978	1700	Tstm Wind	0 kts.	0	0	0	0
County Wide	7/10/1979	200	Tstm Wind	0 kts.	0	0	0	0
County Wide	8/22/1979	100	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/24/1980	2110	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/20/1980	315	Tstm Wind	0 kts.	0	0	0	0

County Wide	10/17/1980	530	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/17/1981	2000	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/3/1981	1830	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/28/1981	1900	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/23/1981	2045	Tstm Wind	56 kts.	0	0	0	0
County Wide	8/26/1981	1542	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/17/1982	125	Tstm Wind	52 kts.	0	0	0	0
County Wide	5/31/1982	400	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/22/1983	2200	Tstm Wind	52 kts.	0	0	0	0
County Wide	7/5/1983	355	Tstm Wind	0 kts.	0	0	0	0
County Wide	8/12/1983	10	Tstm Wind	52 kts.	0	0	0	0
County Wide	3/18/1984	1820	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/27/1984	20	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/27/1984	2140	Tstm Wind	0 kts.	0	0	0	0
County Wide	8/30/1984	1500	Tstm Wind	0 kts.	0	1	0	0
County Wide	12/13/1984	1045	Tstm Wind	0 kts.	0	5	0	0
County Wide	2/23/1985	200	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/26/1985	2245	Tstm Wind	61 kts.	0	0	0	0
County Wide	7/22/1985	1535	Tstm Wind	56 kts.	0	0	0	0
County Wide	3/11/1986	1858	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/11/1986	1900	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/19/1986	1315	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/19/1986	1330	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/19/1986	1349	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/9/1986	2030	Tstm Wind	0 kts.	0	0	0	0
County Wide	7/21/1986	1345	Tstm Wind	52 kts.	0	0	0	0
County Wide	9/28/1986	1700	Tstm Wind	0 kts.	0	0	0	0
County	9/28/1986	1730	Tstm Wind	52	0	0	0	0

Wide				kts.				
County Wide	2/14/1987	2135	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/3/1987	1947	Tstm Wind	51 kts.	0	0	0	0
County Wide	5/14/1987	1629	Tstm Wind	55 kts.	0	0	0	0
County Wide	5/28/1987	1752	Tstm Wind	61 kts.	0	0	0	0
County Wide	5/28/1987	1810	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/19/1987	1908	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/23/1987	1900	Tstm Wind	0 kts.	0	0	0	0
County Wide	7/2/1987	1000	Tstm Wind	0 kts.	0	0	0	0
County Wide	8/23/1988	1930	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/17/1988	1640	Tstm Wind	0 kts.	0	2	0	0
County Wide	11/12/1988	610	Tstm Wind	52 kts.	0	0	0	0
County Wide	11/15/1988	1545	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/2/1989	2010	Tstm Wind	56 kts.	0	0	0	0
County Wide	6/4/1989	35	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/4/1989	200	Tstm Wind	52 kts.	0	0	0	0
County Wide	6/4/1989	230	Tstm Wind	52 kts.	0	0	0	0
County Wide	6/12/1989	500	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/13/1989	430	Tstm Wind	0 kts.	0	0	0	0
County Wide	7/2/1989	1850	Tstm Wind	61 kts.	0	0	0	0
County Wide	8/6/1989	1425	Tstm Wind	0 kts.	0	0	0	0
County Wide	1/17/1990	730	Tstm Wind	0 kts.	0	0	0	0
County Wide	1/17/1990	730	Tstm Wind	60 kts.	0	0	0	0
County Wide	1/19/1990	730	Tstm Wind	0 kts.	0	0	0	0
County Wide	3/14/1990	945	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/15/1990	2045	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/2/1990	2200	Tstm Wind	0 kts.	0	0	0	0
County Wide	5/11/1990	2100	Tstm Wind	0 kts.	0	0	0	0

County Wide	8/21/1990	1730	Tstm Wind	62 kts.	0	0	0	0
County Wide	10/17/1990	1620	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/11/1991	2230	Tstm Wind	0 kts.	0	4	0	0
County Wide	4/17/1991	1711	Tstm Wind	0 kts.	0	0	0	0
County Wide	4/28/1991	1310	Tstm Wind	52 kts.	0	0	0	0
County Wide	4/28/1991	1325	Tstm Wind	50 kts.	0	0	0	0
County Wide	5/4/1991	1620	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/5/1991	1415	Tstm Wind	61 kts.	0	0	0	0
County Wide	7/15/1991	1655	Tstm Wind	65 kts.	0	0	0	0
County Wide	9/24/1991	1200	Tstm Wind	52 kts.	0	0	0	0
County Wide	5/11/1992	2005	Tstm Wind	51 kts.	0	0	0	0
County Wide	5/11/1992	2055	Tstm Wind	51 kts.	0	0	0	0
County Wide	6/6/1992	200	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/8/1992	1535	Tstm Wind	0 kts.	0	0	0	0
County Wide	6/28/1992	512	Tstm Wind	65 kts.	0	0	0	0
County Wide	7/28/1992	1630	Tstm Wind	0 kts.	0	0	0	0
County Wide	8/2/1992	1730	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/2/1992	2221	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/2/1992	2240	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/2/1992	2245	Tstm Wind	61 kts.	0	0	0	0
County Wide	9/2/1992	2305	Tstm Wind	0 kts.	0	0	0	0
County Wide	9/2/1992	2350	Tstm Wind	0 kts.	0	0	0	0
County Wide	11/1/1992	100	Tstm Wind	0 kts.	0	0	0	0
McKinney	10/19/1993	400	Thunderstorm Winds	N/A	0	0	50K	0
Frisco	4/2/1994	2015	Thunderstorm Winds	N/A	0	0	5K	0
County Wide	4/4/1994	1600	High Wind	0 kts.	0	0	50K	0
County Wide	4/25/1994	900	High Winds	0 kts.	0	0	500K	500K

Allen	4/26/1994	2305	Thunderstorm Winds	N/A	0	0	0	0
Allen	5/13/1994	440	Thunderstorm Winds	N/A	0	0	50K	0
Melissa	5/29/1994	915	Thunderstorm Winds	N/A	0	0	50K	0
Wylie	5/29/1994	945	Thunderstorm Winds	N/A	0	0	0	0
Farmersville	6/19/1994	1500	Thunderstorm Winds	N/A	0	0	5K	0
Frisco	7/12/1994	1939	Thunderstorm Winds	N/A	0	0	5K	0
Wylie	7/12/1994	2010	Thunderstorm Winds	N/A	0	0	5K	0
Anna	8/7/1994	1210	Thunderstorm Winds	N/A	0	0	1K	0
McKinney	8/7/1994	1230	Thunderstorm Winds	N/A	0	0	1K	0
Royse City	11/4/1994	2250	Thunderstorm Wind	N/A	0	0	5K	0
Celina	4/17/1995	2105	Thunderstorm Winds	N/A	0	0	30K	0
Frisco	4/17/1995	2105	Thunderstorm Winds	N/A	0	0	40K	0
Plano	4/17/1995	2130	Thunderstorm Winds	N/A	0	0	2K	0
Parker	5/7/1995	2210	Thunderstorm Winds	N/A	0	0	0	0
Culleoka	5/7/1995	2239	Thunderstorm Winds	N/A	0	0	15K	0
Farmersville	5/7/1995	2250	Thunderstorm Winds	N/A	0	0	200K	0
Melissa	5/24/1995	1700	Thunderstorm Winds	N/A	0	0	100K	0
McKinney	5/24/1995	1710	Thunderstorm Winds	N/A	0	0	0	0
Countywide	5/24/1995	1730	Thunderstorm Winds	N/A	0	0	0	0
Arthur City	5/24/1995	1845	Thunderstorm Winds	N/A	0	0	0	0
Celina	7/4/1995	2315	Thunderstorm Winds	N/A	0	0	2K	0
Plano	7/5/1995	245	Thunderstorm Winds	N/A	0	0	2K	0
Melissa	8/20/1995	1745	Thunderstorm Winds	N/A	0	0	75K	0
McKinney	8/20/1995	1800	Thunderstorm Winds	N/A	0	0	100K	0
County Wide	11/10/1995	800	High Winds	0 kts.	0	0	0.1M	0

County Wide	2/26/1996	11:00 AM	High Wind	52 kts.	0	0	25K	0
Plano	4/13/1996	9:24 PM	Tstm Wind	0 kts.	0	0	2K	0
Lucas	4/13/1996	10:09 PM	Tstm Wind	0 kts.	0	0	0	0
Farmersville	4/13/1996	10:10 PM	Tstm Wind	0 kts.	0	0	40K	0
Lucas	5/27/1996	4:15 AM	Tstm Wind	68 kts.	0	0	1K	0
Princeton	6/1/1996	10:45 AM	Tstm Wind	0 kts.	0	0	2K	0
Celina	6/1/1996	10:50 AM	Tstm Wind	0 kts.	0	0	2K	0
Frisco	6/1/1996	10:50 AM	Tstm Wind	0 kts.	0	0	2K	0
Prosper	6/1/1996	10:50 AM	Tstm Wind	0 kts.	0	0	2K	0
Prosper	6/6/1996	9:20 PM	Tstm Wind	52 kts.	0	0	0	0
Prosper	6/6/1996	9:30 PM	Tstm Wind	0 kts.	0	0	20K	0
McKinney	6/6/1996	9:35 PM	Tstm Wind	0 kts.	0	0	3K	0
Frisco	6/6/1996	9:40 PM	Tstm Wind	0 kts.	0	0	0	0
McKinney	6/6/1996	9:40 PM	Tstm Wind	0 kts.	0	0	2K	0
Plano	6/12/1996	5:10 PM	Tstm Wind	0 kts.	0	0	0	0
Plano	6/15/1996	4:10 PM	Tstm Wind	0 kts.	0	0	20K	0
Plano	6/15/1996	4:31 PM	Tstm Wind	0 kts.	0	0	0	0
McKinney	6/17/1996	4:55 PM	Tstm Wind	0 kts.	0	0	10K	0
Weston	7/8/1996	4:30 PM	Tstm Wind	0 kts.	0	0	5K	0
Princeton	7/30/1996	6:45 PM	Tstm Wind	0 kts.	0	0	14K	0
Plano	8/11/1996	7:50 PM	Tstm Wind	0 kts.	0	0	2K	0
Fairview	8/11/1996	8:14 PM	Tstm Wind	0 kts.	0	0	2K	0
Wylie	8/11/1996	8:14 PM	Tstm Wind	0 kts.	0	0	2K	0
Plano	10/21/1996	10:50 AM	Tstm Wind	0 kts.	0	0	3K	0
Plano	3/29/1997	9:52 PM	Tstm Wind	52 kts.	0	0	0	0
Allen	3/29/1997	10:16 PM	Tstm Wind	52 kts.	0	0	20K	0
Lavon	3/29/1997	10:20 PM	Tstm Wind	0 kts.	0	0	2K	0
Plano	4/22/1997	3:30	Tstm Wind	0 kts.	0	0	50K	0

		AM						
Celina	4/22/1997	3:45 AM	Tstm Wind	0 kts.	0	0	5K	0
McKinney	4/22/1997	3:45 AM	Tstm Wind	0 kts.	0	0	0	0
Anna	4/22/1997	4:05 AM	Tstm Wind	0 kts.	0	0	2K	0
Lavon	4/22/1997	4:05 AM	Tstm Wind	0 kts.	0	0	2K	0
Farmersville	4/22/1997	4:20 AM	Tstm Wind	0 kts.	0	0	0	0
Plano	5/19/1997	5:58 PM	Tstm Wind	57 kts.	0	0	0	0
Plano	5/19/1997	6:10 PM	Tstm Wind	0 kts.	0	0	25K	0
Plano	6/9/1997	8:19 PM	Tstm Wind	0 kts.	0	0	2K	0
Plano	6/16/1997	7:03 PM	Tstm Wind	0 kts.	0	0	40K	0
Plano	6/16/1997	7:04 PM	Tstm Wind	0 kts.	0	0	0	0
Plano	6/16/1997	7:10 PM	Tstm Wind	58 kts.	0	0	0	0
Plano	6/22/1997	3:41 PM	Tstm Wind	0 kts.	0	0	4K	0
Blue Ridge	6/22/1997	4:30 PM	Tstm Wind	0 kts.	0	0	0	0
McKinney	7/15/1997	1:20 PM	Tstm Wind	0 kts.	0	0	0	0
Melissa	7/15/1997	1:30 PM	Tstm Wind	0 kts.	0	0	4K	0
McKinney	8/13/1997	4:45 PM	Tstm Wind	0 kts.	0	0	10K	0
Melissa	8/20/1997	8:00 PM	Tstm Wind	0 kts.	0	0	0	0
Anna	9/15/1997	3:30 PM	Tstm Wind	0 kts.	0	0	60K	0
McKinney	5/8/1998	8:25 PM	Tstm Wind	53 kts.	0	0	0	0
Frisco	5/8/1998	8:35 PM	Tstm Wind	61 kts.	0	0	100K	0
McKinney	5/8/1998	8:50 PM	Tstm Wind	61 kts.	0	0	100K	0
McKinney	5/8/1998	8:57 PM	Tstm Wind	52 kts.	0	0	0	0
Plano	5/27/1998	1:30 AM	Tstm Wind	0 kts.	0	0	0	0
Celina	6/4/1998	7:00 PM	Tstm Wind	0 kts.	0	0	0K	0
Royse City	7/17/1998	3:47 PM	Tstm Wind	0 kts.	0	0	1K	0
Melissa	10/2/1998	6:00 PM	Tstm Wind	0 kts.	0	0	5K	0
Princeton	10/2/1998	6:40 PM	Tstm Wind	0 kts.	0	0	5K	0

Blue Ridge	10/2/1998	7:15 PM	Tstm Wind	0 kts.	0	0	2K	0
Plano	11/9/1998	11:10 PM	Tstm Wind	50 kts.	0	0	0	0
Celina	2/6/1999	7:55 PM	Tstm Wind	0 kts.	0	0	1K	0
Plano	4/26/1999	8:00 AM	Tstm Wind	0 kts.	0	0	0K	0
Celina	5/9/1999	11:40 PM	Tstm Wind	0 kts.	0	0	0K	0
McKinney	5/9/1999	11:40 PM	Tstm Wind	0 kts.	0	0	0K	0
Plano	5/9/1999	11:45 PM	Tstm Wind	0 kts.	0	0	0K	0
Wylie	2/25/2000	10:35 PM	Tstm Wind	61 kts.	0	0	0	0
Lavon	2/25/2000	11:17 PM	Tstm Wind	52 kts.	0	0	0	0
Lavon	2/25/2000	11:30 PM	Tstm Wind	0 kts.	0	1	40K	0
Plano	2/25/2000	11:40 PM	Tstm Wind	61 kts.	0	0	0	0
Plano	2/25/2000	11:45 PM	Tstm Wind	0 kts.	0	0	2K	0
Allen	3/2/2000	6:30 PM	Tstm Wind	0 kts.	0	0	25K	0
Murphy	5/12/2000	4:25 PM	Tstm Wind	0 kts.	0	0	10K	0
Frisco	5/27/2000	4:20 PM	Tstm Wind	57 kts.	0	0	0	0
Royse City	5/27/2000	4:30 PM	Tstm Wind	0 kts.	0	0	1K	0
Wylie	5/27/2000	4:50 PM	Tstm Wind	61 kts.	0	0	0	0
Princeton	2/24/2001	11:20 AM	Tstm Wind	0 kts.	0	0	50K	0
County Wide	4/11/2001	4:17 AM	High Wind	57 kts.	0	0	0	0
County Wide	5/20/2001	10:45 PM	High Wind	36 kts.	0	0	0	0
McKinney	5/28/2001	12:08 AM	Tstm Wind	57 kts.	0	0	0	0
County Wide	6/14/2001	6:45 PM	Tstm Wind	58 kts.	0	0	0	0
McKinney	6/14/2001	7:00 PM	Tstm Wind	61 kts.	0	0	0	0
Melissa	9/18/2001	6:05 PM	Tstm Wind	73 kts.	0	0	0	0
Celina	10/10/2001	10:51 PM	Tstm Wind	52 kts.	0	0	0	0
Frisco	10/12/2001	7:30 PM	Tstm Wind	0 kts.	0	0	50K	0
McKinney	10/12/2001	8:20 PM	Tstm Wind	52 kts.	0	0	0	0
Celina	8/25/2002	2:26	Tstm Wind	52	0	0	10K	0

		PM		kts.				
McKinney	8/27/2002	5:50 AM	Tstm Wind	52 kts.	0	0	5K	0
Farmersville	5/24/2003	9:20 PM	Tstm Wind	52 kts.	0	0	20K	0
McKinney	5/24/2003	10:47 PM	Tstm Wind	52 kts.	0	0	0	0
Frisco	6/11/2003	9:55 PM	Tstm Wind	52 kts.	0	0	5K	0
Plano	8/22/2003	4:10 PM	Tstm Wind	61 kts.	0	0	0	0
Plano	8/22/2003	4:30 PM	Tstm Wind	61 kts.	0	0	2K	0
McKinney	8/26/2003	2:38 PM	Tstm Wind	52 kts.	1	4	15K	0
Frisco	8/26/2003	2:58 PM	Tstm Wind	61 kts.	0	0	5K	0
Nevada	3/4/2004	3:20 PM	Tstm Wind	60 kts.	0	0	75K	0
Farmersville	3/4/2004	3:41 PM	Tstm Wind	61 kts.	0	0	250K	0
McKinney	6/2/2004	6:32 PM	Tstm Wind	50 kts.	0	0	2K	0
McKinney	4/5/2005	4:50 PM	Tstm Wind	58 kts.	0	0	0	0
Allen	5/25/2005	12:38 PM	Tstm Wind	50 kts.	0	0	0	0
Princeton	7/15/2005	3:53 PM	Tstm Wind	55 kts.	0	0	0	0
Wylie	8/4/2005	4:37 PM	Tstm Wind	52 kts.	0	0	1K	0
Princeton	9/28/2005	6:35 PM	Tstm Wind	50 kts.	0	0	15K	0
County Wide	11/15/2005	3:06 AM	High Wind	39 kts.	0	0	1K	0
Frisco	3/13/2006	1:11 AM	Tstm Wind	61 kts.	0	0	0	0
County Wide	4/6/2006	1:00 PM	High Wind	40 kts.	0	0	0	0
County Wide	4/7/2006	4:35 PM	Strong Wind	N/A	0	0	60K	0
County Wide	6/16/2006	3:20 PM	Strong Wind	N/A	0	0	2K	0
McKinney	8/12/2006	4:10 PM	Tstm Wind	50 kts.	0	0	0	0
Plano	8/22/2006	4:45 PM	Tstm Wind	40 kts.	0	0	15K	0
McKinney	8/22/2006	5:10 PM	Tstm Wind	50 kts.	0	0	0	0
McKinney	8/23/2006	5:00 PM	Tstm Wind	50 kts.	0	0	0	0
Plano	8/27/2006	3:30 PM	Tstm Wind	50 kts.	0	0	5K	0
Frisco	9/17/2006	4:30 AM	Tstm Wind	50 kts.	0	0	5K	0

County Wide	10/31/2006	10:00 AM	Strong Wind	N/A	0	0	2K	0K
County Wide	11/14/2006	2:05 PM	High Wind	62 kts.	0	0	0K	0K
County Wide	11/15/2006	6:00 AM	Strong Wind	N/A	0	1	270K	0K
County Wide	2/24/2007	12:00 PM	High Wind	50 kts.	0	3	1.7M	0K
Murphy	3/30/2007	8:10 PM	Thunderstorm Wind	N/A	0	0	25K	0K
TOTALS:					1	21	4.658M	500K

53 FLOOD event(s) were reported in Collin County, Texas between 1994 and 2007.

Mag: Magnitude **Dth:** Deaths **Inj:** Injuries **PrD:** Property Damage **CrD:** Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Frisco	5/11/1994	2219	Flash Flooding	N/A	0	0	0	0
Melissa	5/11/1994	2219	Flash Flooding	N/A	0	0	0	0
Frisco	7/10/1994	1956	Flash Flooding	N/A	0	0	0	0
Celina	7/10/1994	2000	Flash Flooding	N/A	0	0	0	0
McKinney	7/14/1994	2130	Flash Flooding	N/A	0	0	0	0
COLLIN	7/14/1994	2320	Flash Flooding	N/A	0	0	0	0
Farmersville	7/15/1994	530	Flash Flooding	N/A	0	0	0	0
McKinney	8/7/1994	1251	Flash Flooding	N/A	0	0	0	0
Farmersville	9/2/1994	1155	Flash Flooding	N/A	0	0	0	0
COLLIN	11/14/1994	1840	Flash Flooding	N/A	0	0	0	0
COLLIN	3/13/1995	245	Flash Flooding	N/A	0	0	0	0
McKinney	3/25/1995	2045	Flash Flooding	N/A	0	0	0	0
Plano	5/5/1995	2000	Flash Flood	N/A	0	0	0	0
McKinney	5/8/1995	124	Flash Flood	N/A	0	0	0	0
Countywide	5/24/1995	1730	Flash Flood	N/A	0	0	0	0
Celina	5/25/1995	1640	Flash Flood	N/A	0	0	0	0
Countywide	5/25/1995	1725	Flash Flood	N/A	0	0	0	0
County Wide	8/2/1995	800	Flood	N/A	0	0	0	0
Frisco	10/27/1996	9:20 PM	Flash Flood	N/A	0	0	0	0
Melissa	11/7/1996	12:30 AM	Flash Flood	N/A	0	0	10K	0
Plano	2/19/1997	4:30 PM	Flash Flood	N/A	0	0	0	0
McKinney	2/19/1997	4:51 PM	Flash Flood	N/A	0	0	0	0
Lolaville	2/19/1997	6:00 PM	Flash Flood	N/A	0	0	0	0
Farmersville	2/19/1997	6:25 PM	Flash Flood	N/A	0	0	0	0
McKinney	4/4/1997	10:25 PM	Flash Flood	N/A	0	0	0	0
Plano	5/19/1997	6:15 PM	Flash Flood	N/A	0	0	0	0
Plano	5/19/1997	7:02 PM	Flash Flood	N/A	0	0	10K	0
Plano	5/19/1997	7:30 PM	Flash Flood	N/A	0	0	0	0
Plano	6/9/1997	8:48 PM	Flash Flood	N/A	0	0	0	0
Allen	6/9/1997	9:00 PM	Flash Flood	N/A	0	0	0	0
Plano	12/20/1997	8:00 PM	Flash Flood	N/A	0	0	0	0
McKinney	1/4/1998	4:40 PM	Flash Flood	N/A	0	0	0	0
McKinney	1/4/1998	4:45 PM	Flash Flood	N/A	0	0	0	0
Blue Ridge	1/4/1998	4:50 PM	Flash Flood	N/A	0	0	0	0
Princeton	1/4/1998	5:52 PM	Flash Flood	N/A	0	0	0	0
Prosper	1/4/1998	9:09 PM	Flash Flood	N/A	0	0	0	0
Central Portion	12/4/1998	1:00 AM	Flash Flood	N/A	0	0	0	0

Nevada	12/4/1998	1:00 AM	Flash Flood	N/A	0	0	0	0
Lavon	5/17/1999	3:33 PM	Flash Flood	N/A	0	0	0	0
Plano	6/8/1999	7:00 PM	Flash Flood	N/A	0	0	0	0
Farmersville	6/4/2000	2:15 AM	Flash Flood	N/A	0	0	0	0
Murphy	6/11/2000	12:55 PM	Flash Flood	N/A	0	0	0	0
Wylie	6/15/2000	2:00 AM	Flash Flood	N/A	0	0	0	0
County Wide	2/16/2001	1:34 AM	Flash Flood	N/A	0	0	0	0
County Wide	2/16/2001	3:51 AM	Flash Flood	N/A	0	0	0	0
McKinney	5/6/2001	1:28 AM	Flash Flood	N/A	0	0	0	0
Melissa	10/19/2002	2:05 AM	Flash Flood	N/A	0	0	25K	0
Plano	12/30/2002	2:30 PM	Flash Flood	N/A	0	0	0	0
Plano	8/15/2005	7:45 PM	Flash Flood	N/A	0	0	0	0
County Wide	3/19/2006	3:00 PM	Flash Flood	N/A	0	0	0	0
McKinney	1/12/2007	5:15 PM	Flash Flood	N/A	0	0	0K	0K
McKinney	3/30/2007	8:00 PM	Flash Flood	N/A	0	0	0K	0K
TOTALS:					0	0	45K	0

7 TEMPERATURE EXTREMES event(s) were reported in Collin County, Texas between 1997 and 2007.

Mag: Magnitude Dth: Deaths Inj: Injuries PrD: Property Damage CrD: Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
County Wide	4/12/1997	4:00 AM	Extreme Cold	N/A	0	0	0	0
County Wide	7/19/1997	6:00 PM	Excessive Heat	N/A	2	0	0	0
County Wide	7/1/1998	12:00 AM	Excessive Heat	N/A	32	0	0	0
County Wide	8/1/1999	12:00 AM	Excessive Heat	N/A	3	0	0	0
County Wide	7/1/2000	12:00 AM	Excessive Heat	N/A	8	0	0	0
County Wide	8/1/2000	12:00 AM	Excessive Heat	N/A	5	0	0	0
County Wide	9/1/2000	12:00 AM	Excessive Heat	N/A	5	0	0	0
TOTALS:					55	0	0	0

2 WILD & FOREST FIRES event(s) were reported in Collin County, Texas between 1996 and 2007.

Mag: Magnitude Dth: Deaths Inj: Injuries PrD: Property Damage CrD: Crop Damage

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Princeton	2/15/1996	10:00 AM	Wild/forest Fire	N/A	0	0	0	0
County Wide	6/25/2006	11:00 AM	Wildfire	N/A	0	0	17K	2K
TOTALS:					0	0	17K	2K

33 DROUGHT event(s) were reported in Collin County, Texas between 1996 and 2010

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
County Wide	4/1/1996	12:01 AM	Drought	N/A	0	0	0	25.0M
County Wide	5/1/1996	12:01 AM	Drought	N/A	0	0	0	25.0M
County Wide	8/1/1996	12:00 AM	Drought	N/A	0	0	0	0
County Wide	7/1/1998	12:00 AM	Drought	N/A	0	0	0	0K
County Wide	8/1/1998	12:00 AM	Drought	N/A	0	0	0	0
County Wide	9/1/1998	12:00 AM	Drought	N/A	0	0	0	0
County Wide	10/1/1998	12:00 AM	Drought	N/A	0	0	0	135.0M
County Wide	7/1/2000	12:00 AM	Drought	N/A	0	0	0	0
County Wide	8/1/2000	12:00 AM	Drought	N/A	0	0	0	0
County Wide	8/1/2000	12:00 AM	Drought	N/A	0	0	0	0
County Wide	9/1/2000	12:00 AM	Drought	N/A	0	0	0	0
County Wide	9/1/2000	12:00 AM	Drought	N/A	0	0	0	0
County Wide	10/1/2000	12:00 AM	Drought	N/A	0	0	0	64.0M
County Wide	5/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	6/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	7/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	8/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	8/28/2005	12:00 AM	Drought	N/A	0	0	360K	230.0M
County Wide	9/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	10/1/2005	12:00 AM	Drought	N/A	0	0	0	60.0M
County Wide	11/1/2005	12:00 AM	Drought	N/A	0	0	0	120.0M
County Wide	12/1/2005	12:00 AM	Drought	N/A	0	0	0	120.0M
County Wide	1/1/2006	12:00 AM	Drought	N/A	0	0	0	1.0B
County Wide	2/1/2006	12:00 AM	Drought	N/A	0	0	0	300.0M
County Wide	3/1/2006	12:00 AM	Drought	N/A	0	0	0	200.0M
County Wide	4/1/2006	12:00 AM	Drought	N/A	0	0	100.0M	0
County Wide	5/1/2006	12:00 AM	Drought	N/A	0	0	0	100.0M
County Wide	6/6/2006	12:00 AM	Drought	N/A	0	0	0	100.0M
County Wide	7/1/2006	12:00 AM	Drought	N/A	0	0	0	100.0M
County Wide	8/1/2006	12:00 AM	Drought	N/A	0	0	0	100.0M
County Wide	9/1/2006	12:00 AM	Drought	N/A	0	0	0	80.0M
County Wide	10/1/2006	12:00 AM	Drought	N/A	0	0	500K	500K
County Wide	11/1/2006	12:00 AM	Drought	N/A	0	0	0K	800K
TOTALS:					0	0	100.860M	3.060B

Occurrence Based upon the previous events data and the communities understanding of weather patterns, participating jurisdiction have analyzed the expected occurrence of the assessed hazards to be the following:

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

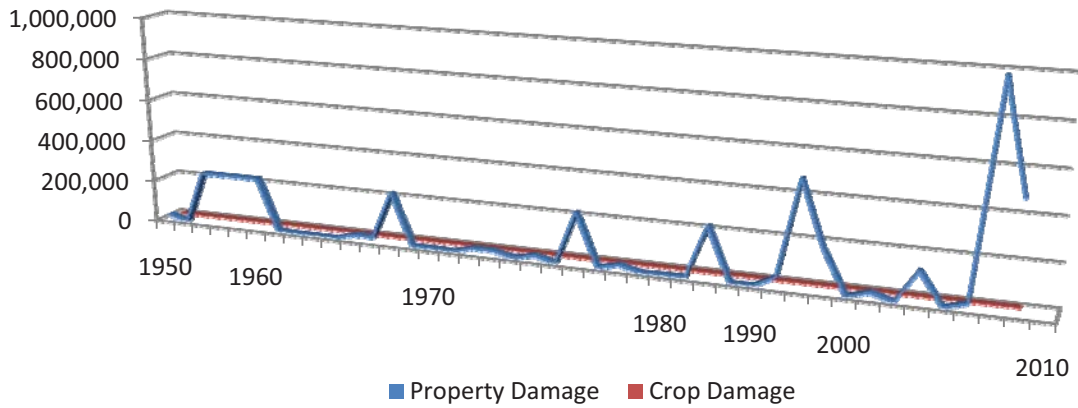
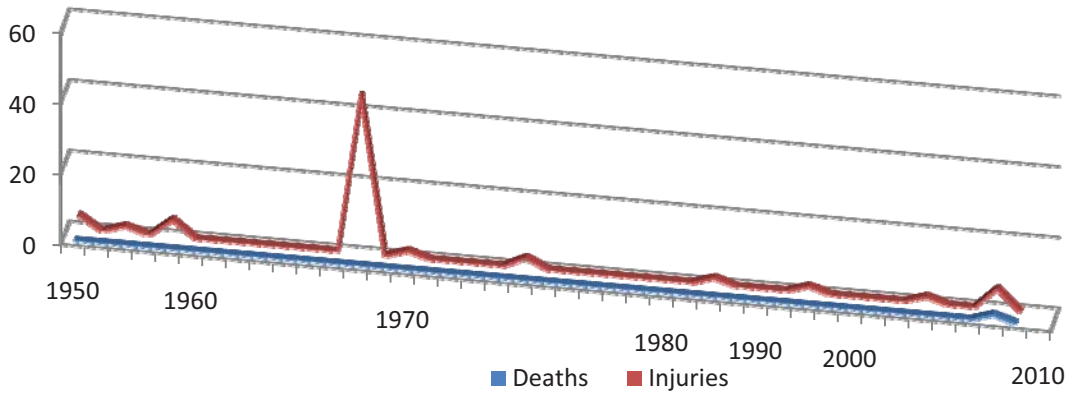
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
Earthquake	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely
Tornado	Very Likely	Likely	Occasional	Likely	Likely	Highly Likely
Hail	Likely	Highly Likely	Likely	Likely	Highly Likely	Highly Likely
High Winds	Likely	Highly Likely	Highly Likely	Highly Likely	Highly Likely	Highly Likely
Winter Storms	Occasional	Highly Likely	Occasional	Highly Likely	Likely	Occasional
Summer Heat	Likely	Highly Likely	Highly Likely	Highly Likely	Highly Likely	Highly Likely
Flooding	Likely	Occasional	Occasional	Likely	Highly Likely	Highly Likely
Dam Failure	Unlikely	Unlikely	Unlikely	Unlikely	N/A	Occasional
Drought	Likely	Unlikely	Likely	Unlikely	Likely	Occasional
Wildland Fire	Occasional	Occasional	Occasional	Likely	Highly Likely	Occasional

3.5 Impact

Impact has been assessed utilizing the previous events data, maps, assessments, and the following definitions:

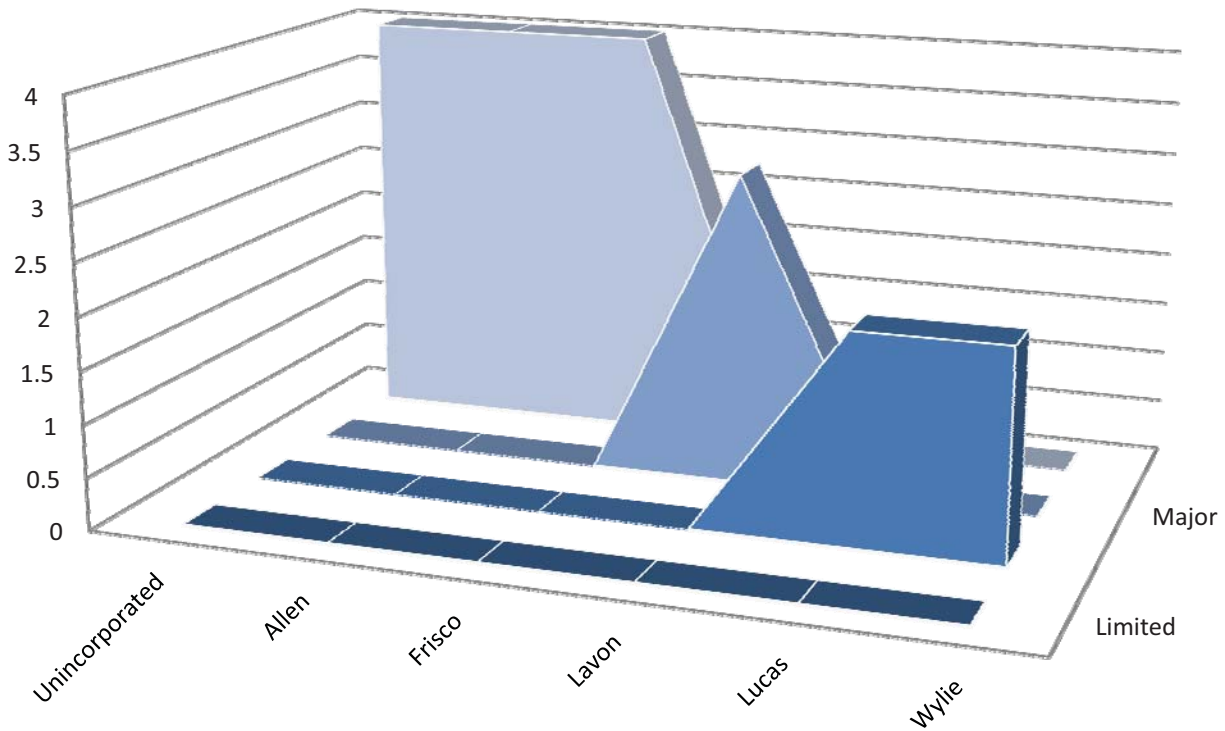
Substantial	Multiple deaths Complete shutdown of facilities for 30 days or more. More than 50 percent of property destroyed or with major damage.
Major	Injuries and/or illnesses result in permanent disability. Complete shutdown of critical facilities for at least 2 weeks. More than 25 percent of property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

Tornado According to the historical data recorded by the National Climatic Data Center there have been 41 Tornado Events during 1950-2007 in Collin County. These events have caused a recorded total of two deaths, 73 injuries, and \$4,403, 000 in property damage. Using these historical values over the time span of 57 years the average per year is a .035 death, 1.281 injuries, and \$77,246 in property damages.



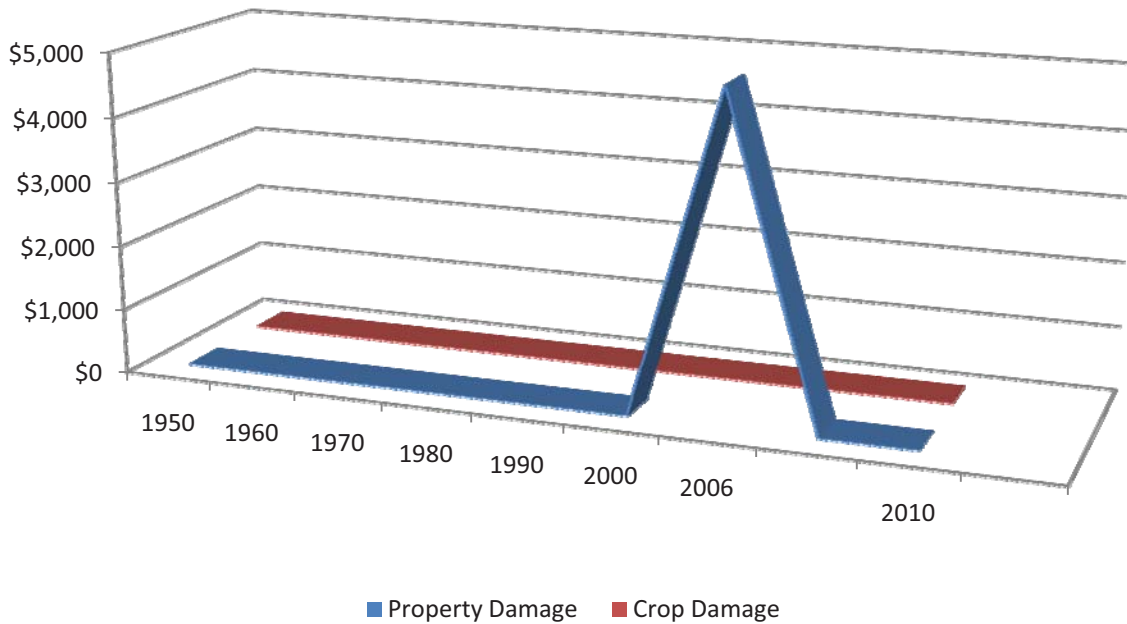
Utilizing the provided definitions, anticipated extent on 3-24, and land usage maps (built-out) provided in Map Series G the participating jurisdictions have assessed the Impact of Tornado event to be as follows:

Tornado Impact



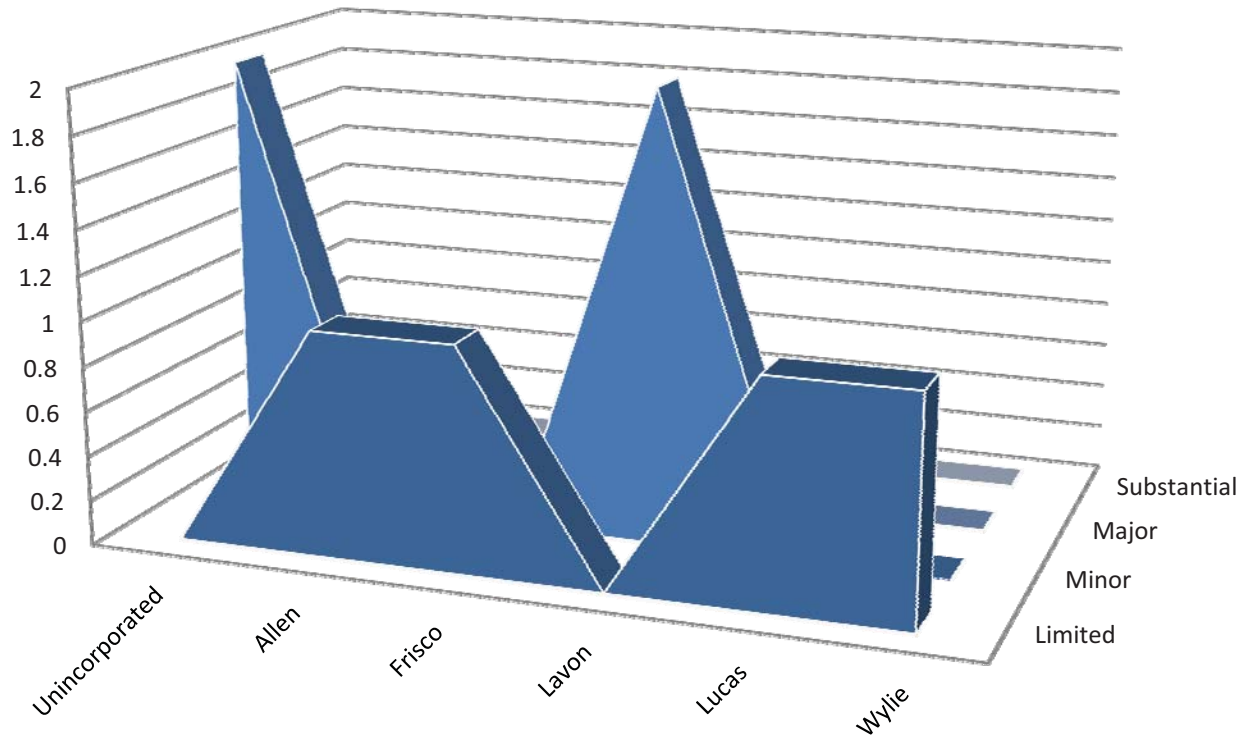
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited						
■ Minor					2	2
■ Major				3		
■ Substantial	4	4	4			

Hail According to the historical data recorded by the National Climatic Data Center there have been 210 Hail Events during 1950-2007. These events have caused a recorded total of \$5,000 in property damage. Using the historical value of property damage over the time span of 57 years the average per year is \$87.72. (According to the National Climatic Data Center there have been no recorded deaths or injuries due to Hail Events.)



Utilizing the provided definitions, anticipated extent on 3-24, and the land usage maps (built-out) provided in Map Series G the participating jurisdictions have assessed the Impact of a Hail Event to be as follows:

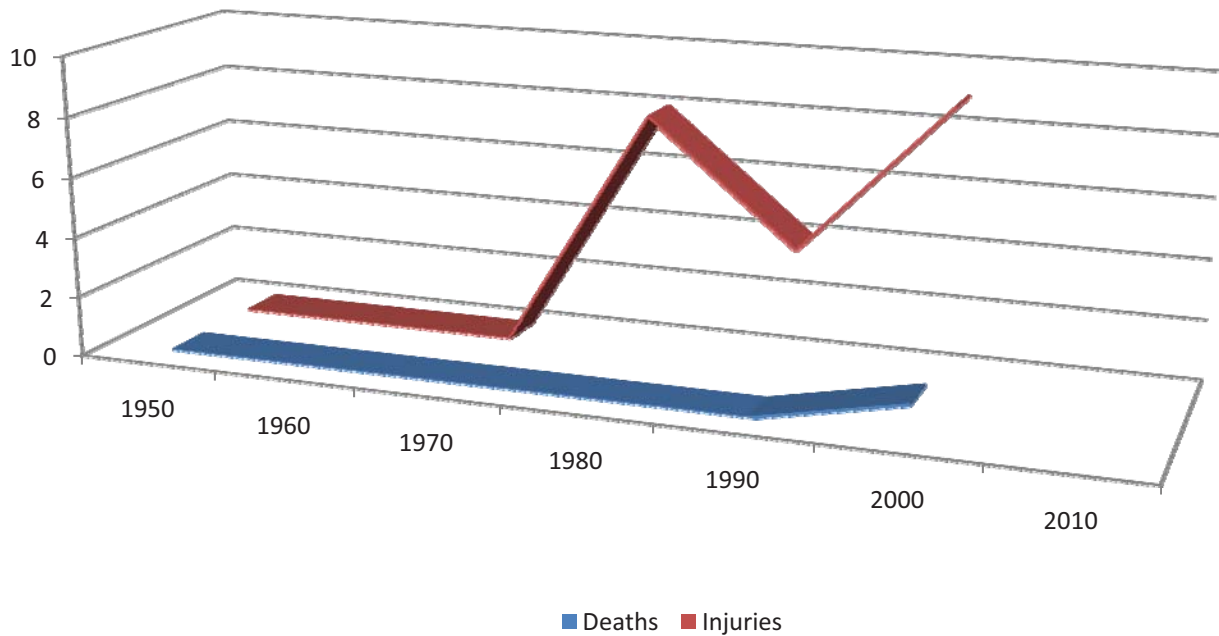
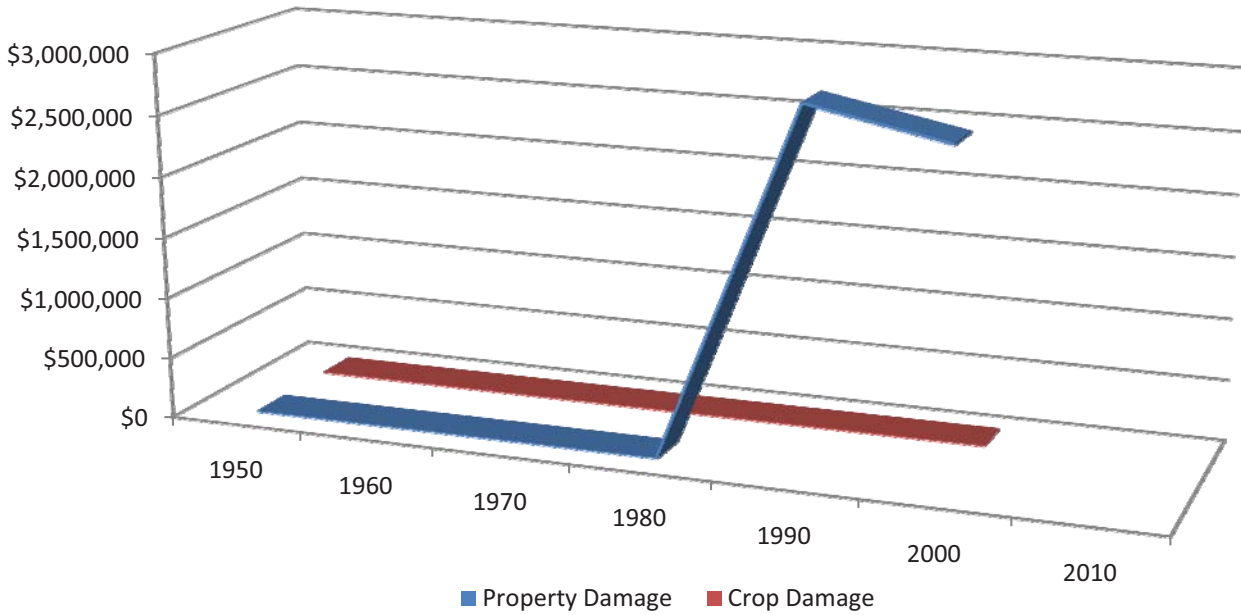
Hail Impact



	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1	1		1	1
■ Minor	2			2		
■ Major						
■ Substantial						

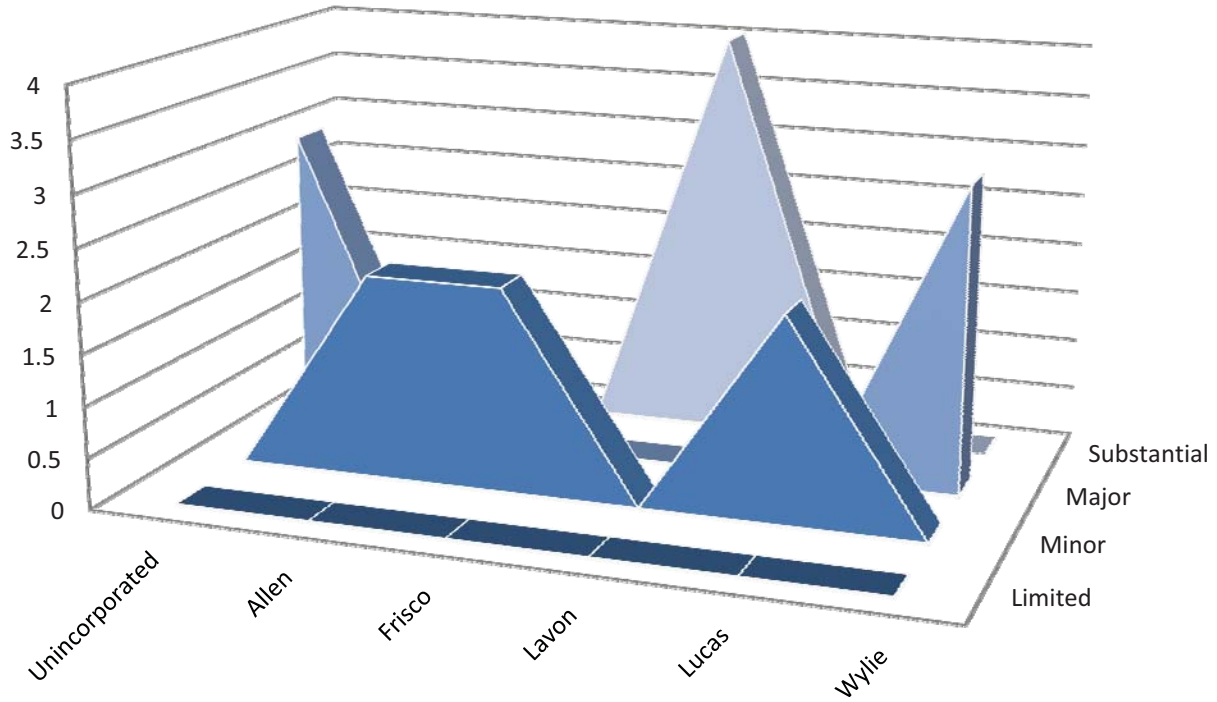
High Wind According to the historical data recorded by the National Climatic Data Center there have been 244 High Wind Events during 1950-2007. These events have caused a recorded total of one death, 21 injuries, \$4,658,000 in property damage, and \$500,000 in crop damage. Using the historical values over the time span of 57 years the average per year is 0.017 deaths, 0.37 injuries, \$81,719 in property damages, and \$8,772 in crop damages.

*Note: The following charts display the total amount of damages, death, and injuries per decade rather than per event.



Utilizing the provided definitions, anticipated extent on 3-24, and the land usage maps (built-out) provided in Map Series G the participating jurisdictions have assessed the Impact of a High Wind Event to be as follows:

High Wind Impact

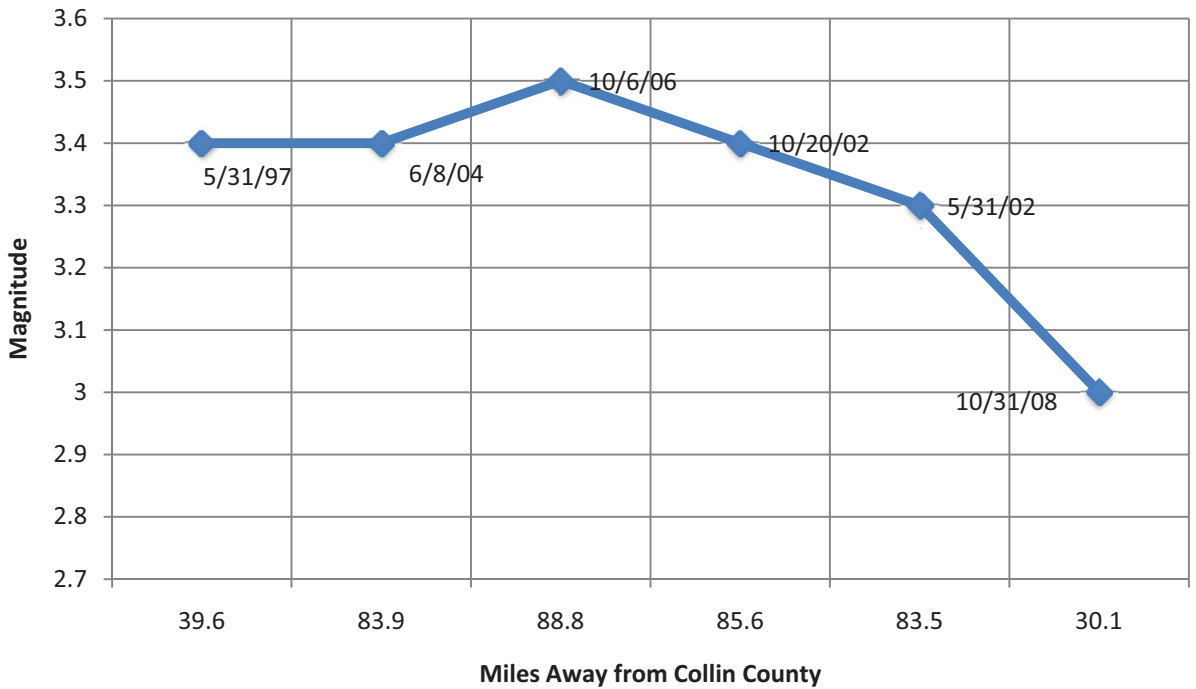


	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited						
■ Minor		2	2		2	
■ Major	3					3
■ Substantial				4		

Earthquake There is no event history of an Earthquake occurring within the boundaries of Collin County. According to www.city-data.com the following chart are Earthquake Events which have occurred within 90 miles of Collin County. The average magnitude is 3.35 and the average distance away is 68.59.

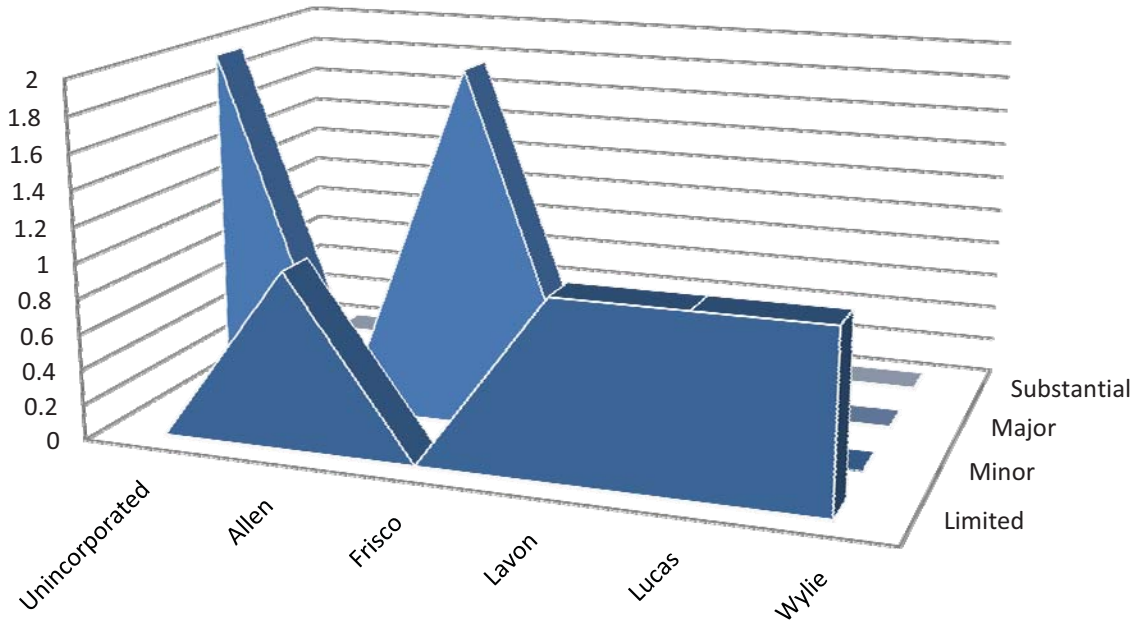
Due to the distance from Collin County and the size of the Earthquake events there have been no recorded affects from an Earthquake Event occurring outside of Collin County. Therefore there has been no impact. While there is a fault line in Collin County it has no recorded or known historical data of being active.

According the Richter Scale a 3.0-3.9 Magnitude Earthquake will be: *Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognized as an earthquake.*



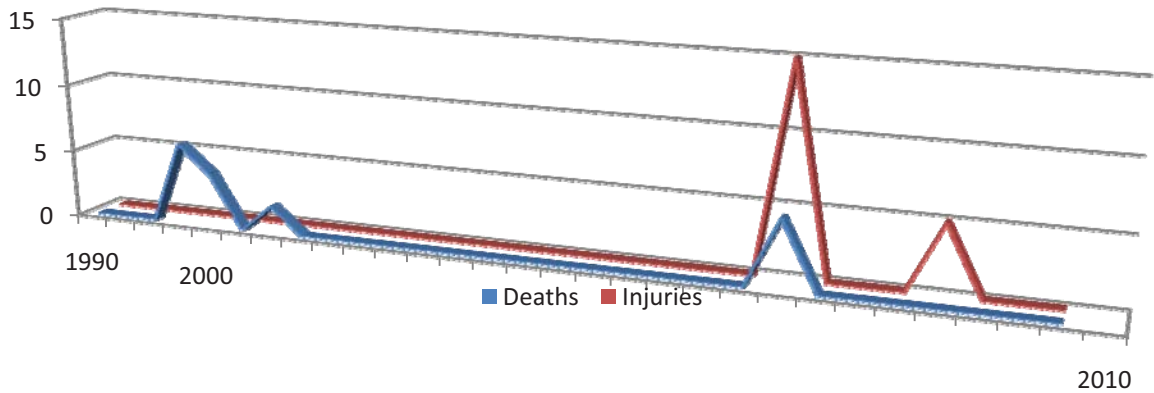
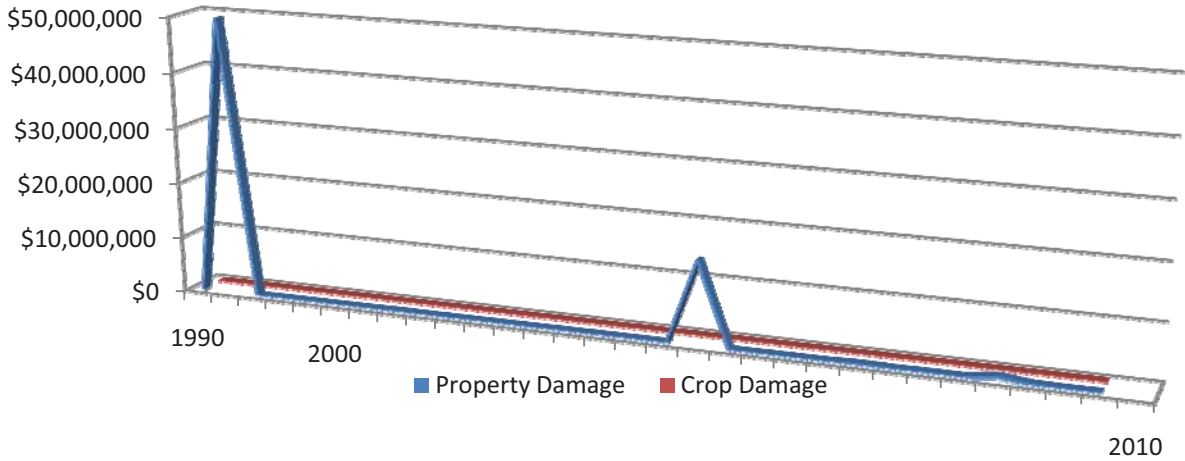
Utilizing the provided definitions, the historical records, the participating jurisdictions have assessed the Impact of an Earthquake Event to be as follows:

Earthquake Impact



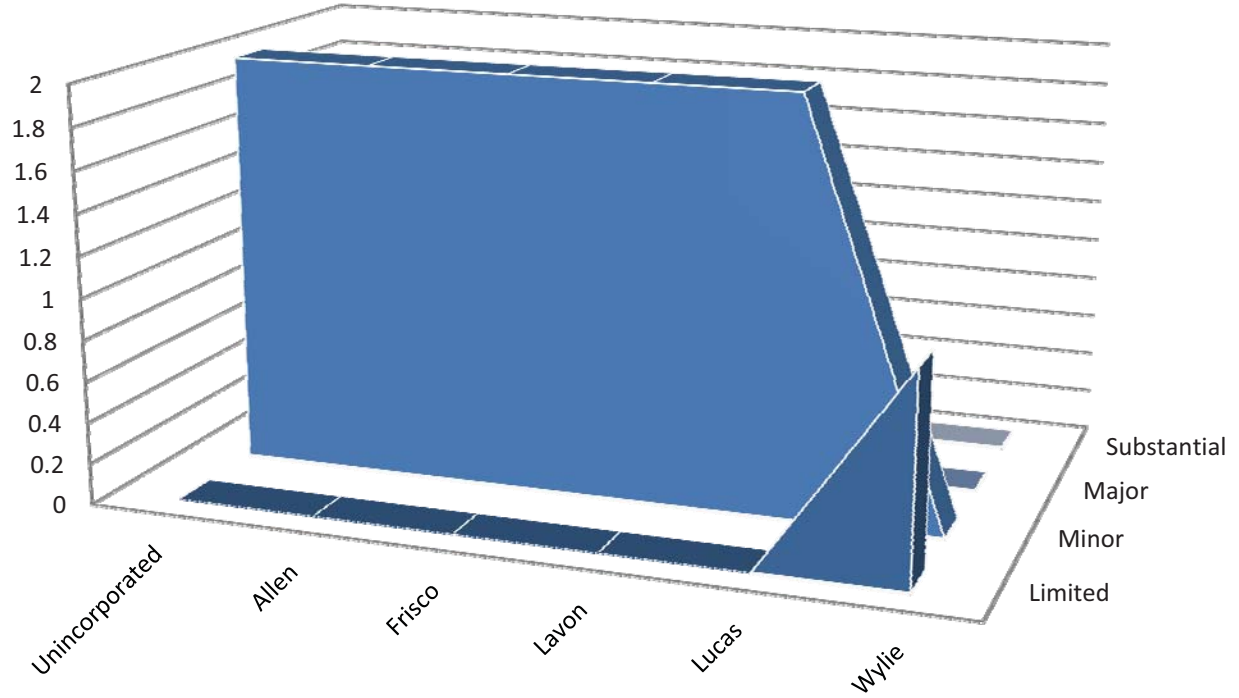
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1		1	1	1
■ Minor	2		2			
■ Major						
■ Substantial						

Winter Storm According to the historical data recorded by the National Climatic Data Center there have been 29 Snow and Ice Events recorded during 1994-2007 in Collin County. Of these 29 events, eight have caused a recorded total of \$66,064,000 in property damage, three have caused a recorded total of 17 deaths, and two have caused a total of 2 injuries. Using these historical values over the time span of 13 years the average per year is 2.23 events occurring per year with 0.61 causing property damage, 0.23 events causing deaths, and 0.15 events causing injuries.



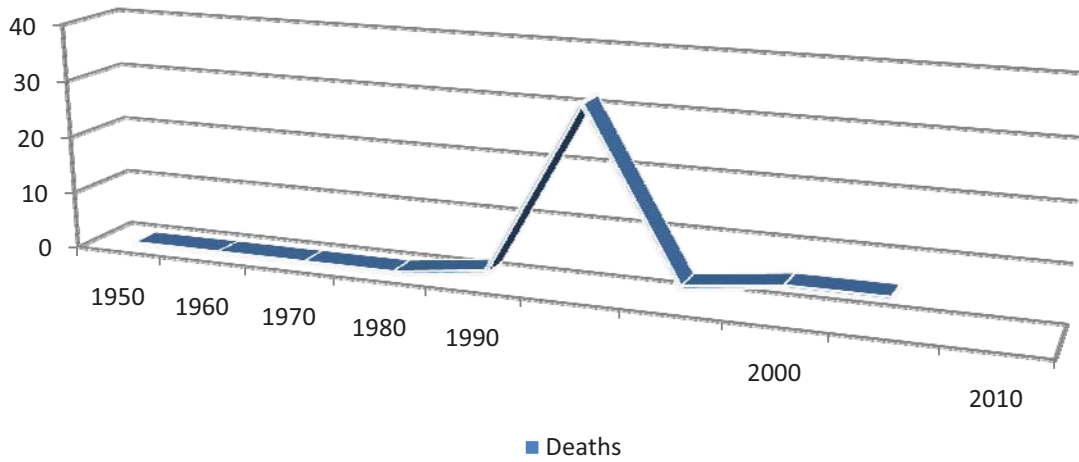
Utilizing the provided definitions, anticipated extent on 3-24, and the land usage maps (built-out) provided in Map Series G the participating jurisdictions have assessed the Impact of a Winter Storm Event to be as follows:

Winter Storm Impact



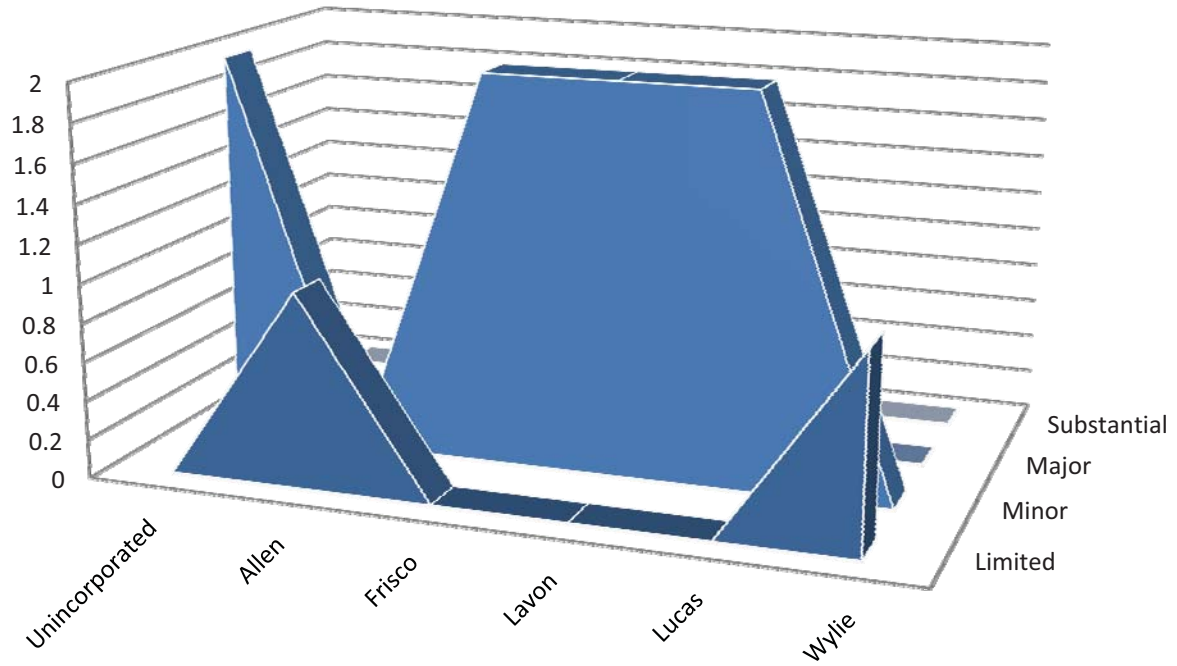
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited						1
■ Minor	2	2	2	2	2	
■ Major						
■ Substantial						

Extreme Heat According to the historical data recorded by the National Climatic Data Center there have been 6 Extreme Heat Events during 1997-2007. These events have caused a recorded total of 55 deaths. Using the number of deaths over the time span of 10 years the average per year is 0.96. (According to the National Climatic Data Center there have been no recorded injuries, property damage, or crop damage due to Extreme Heat)



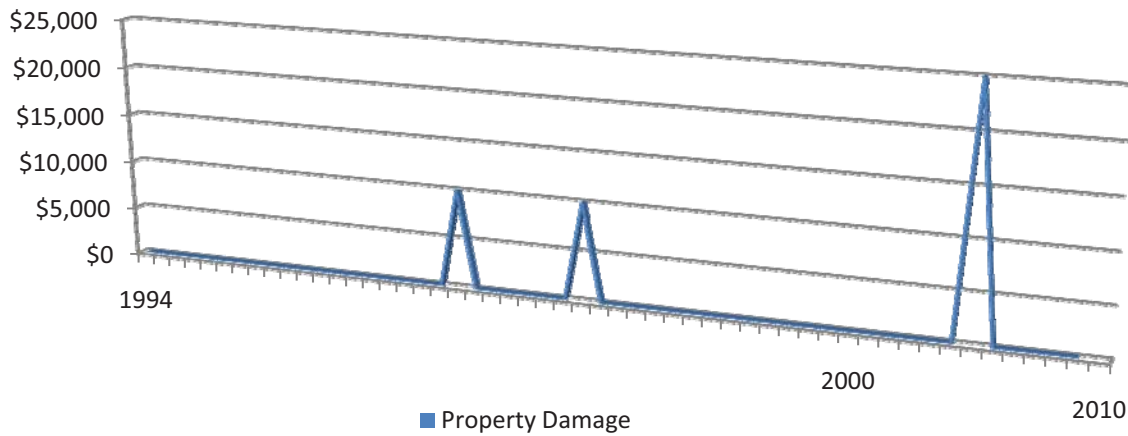
Utilizing the provided definitions, anticipated extent on 3-24, and the land usage maps in order to have an understanding of the residential population provided in Map Series G the participating jurisdictions have assessed the Impact of an Extreme Heat Event to be as follows:

Extreme Heat Impact



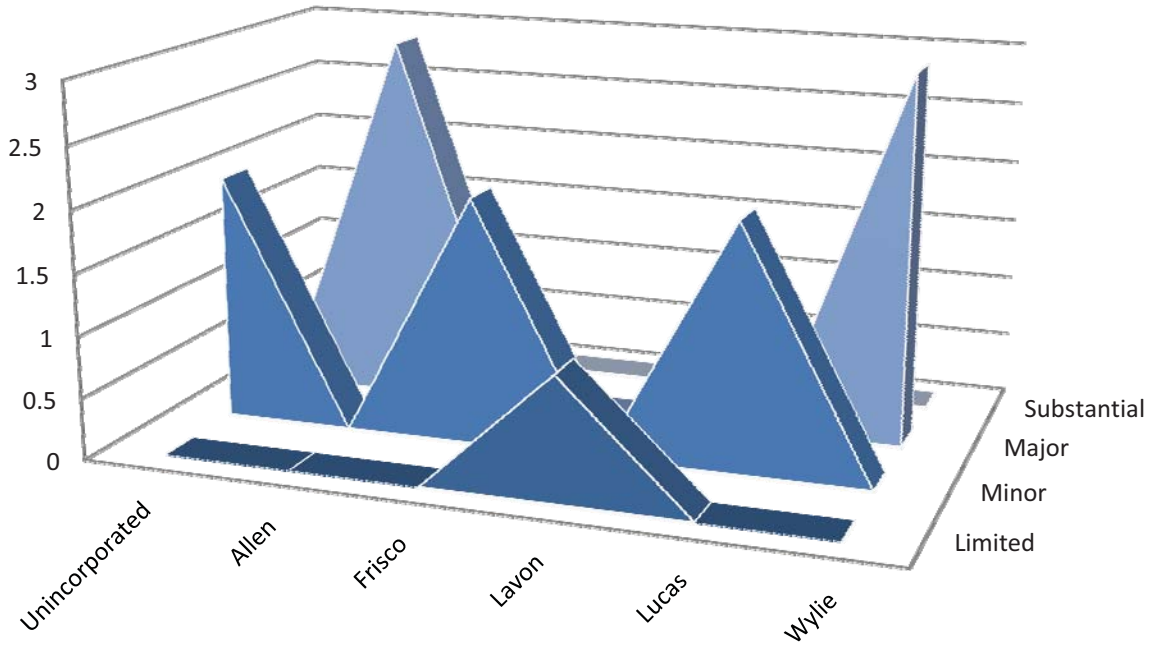
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1				1
■ Minor	2		2	2	2	
■ Major						
■ Substantial						

Flooding According to the historical data recorded by the National Climatic Data Center there have been 53 Flash Flooding Events during 1994-2007. Three of these events have caused a combined recorded total of \$45,000 in property damage. Using these historical values over the time span of 13 years the average per year is 4.08 events occurring per year with 0.23 causing property damage. (According to the National Climatic Data Center there have been no recorded injuries, deaths, or crop damage due to Flooding)



Utilizing the provided definitions, anticipated extent on 3-24, and the land usage maps (built-out) overlaid with Flood Zones, provided in Map Series H the participating jurisdictions have assessed the Impact of a Flooding Event to be as follows:

Flooding Impact

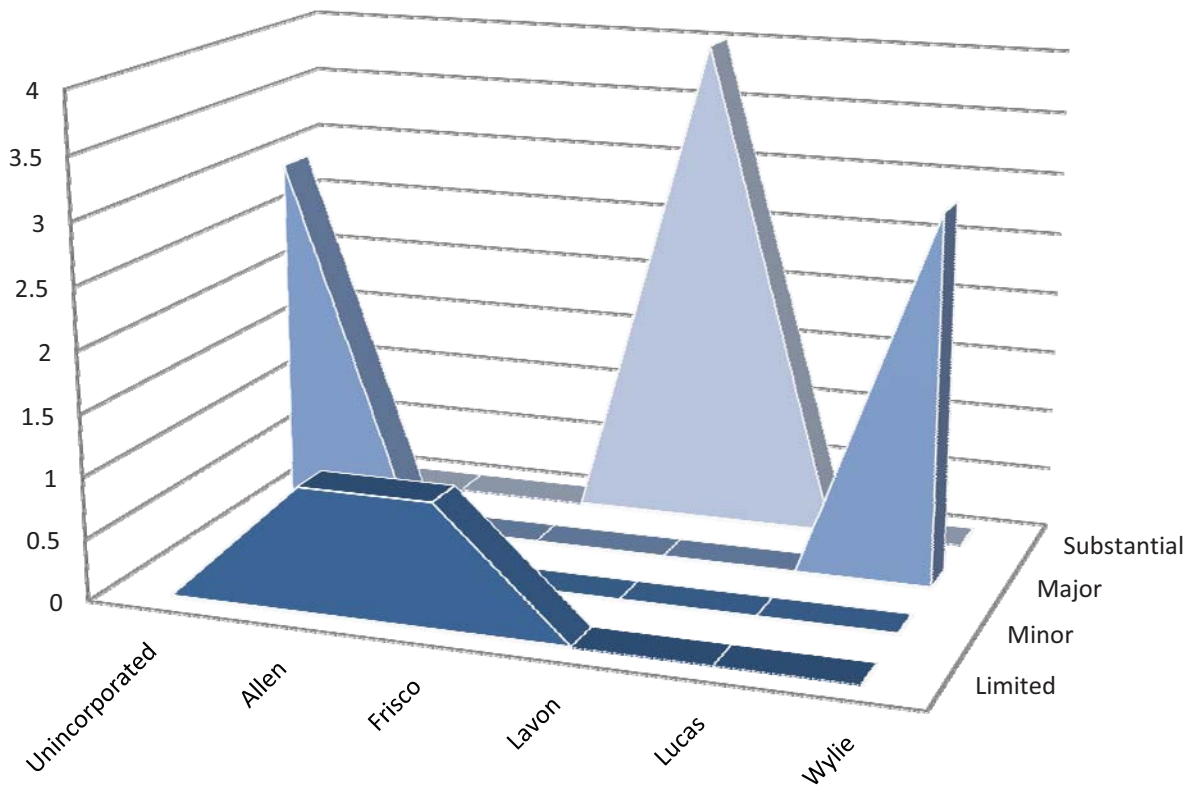


	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited				1		
■ Minor	2		2		2	
■ Major		3				3
■ Substantial						

Dam Failure There is no historical data in Collin County of a Dam Failure or in the State of Texas. There are 24 identified high hazard dams in the participating jurisdictions or at the responsibility of the participating jurisdictions. Dams are located within residential areas and unincorporated areas. It is expected that a significant dam failure would cause a cascading affect of flooding through inundation zones, water supply disruption, and critical infrastructures. At this time there are no inundation studies or dam failure impact studies which have been conducted, though all do have emergency operation plans. Mitigation Projects have been identified in Chapter 4 to examine a cost-effective means for developing studies and relationships to determine the high hazard impact areas and their value.

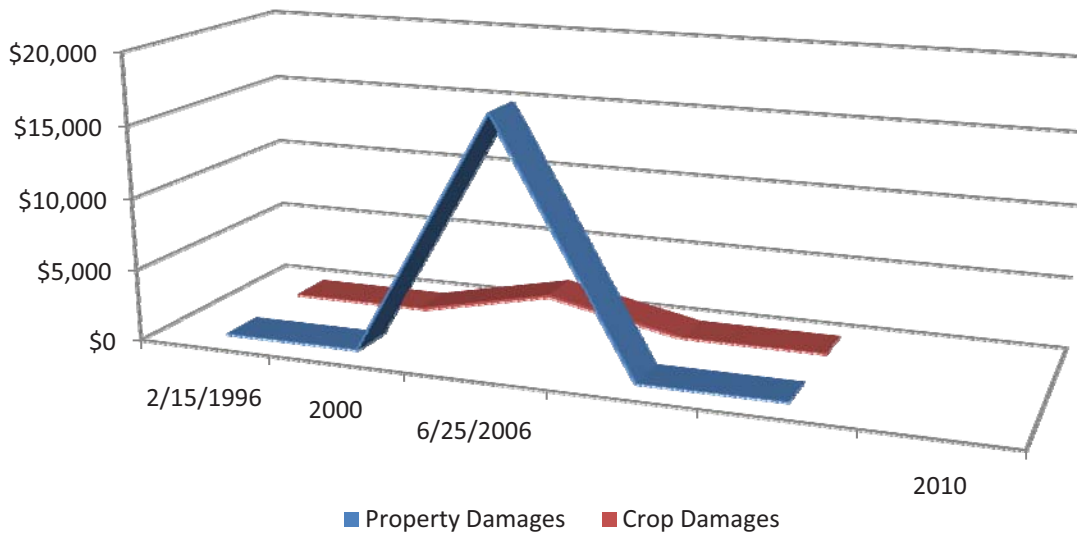
Utilizing Map Series F the participating jurisdictions have done an initial assessment of the impact of Dam Failure to be the following: (*There are no high hazard dams located near Lucas)

Dam Failure Impact



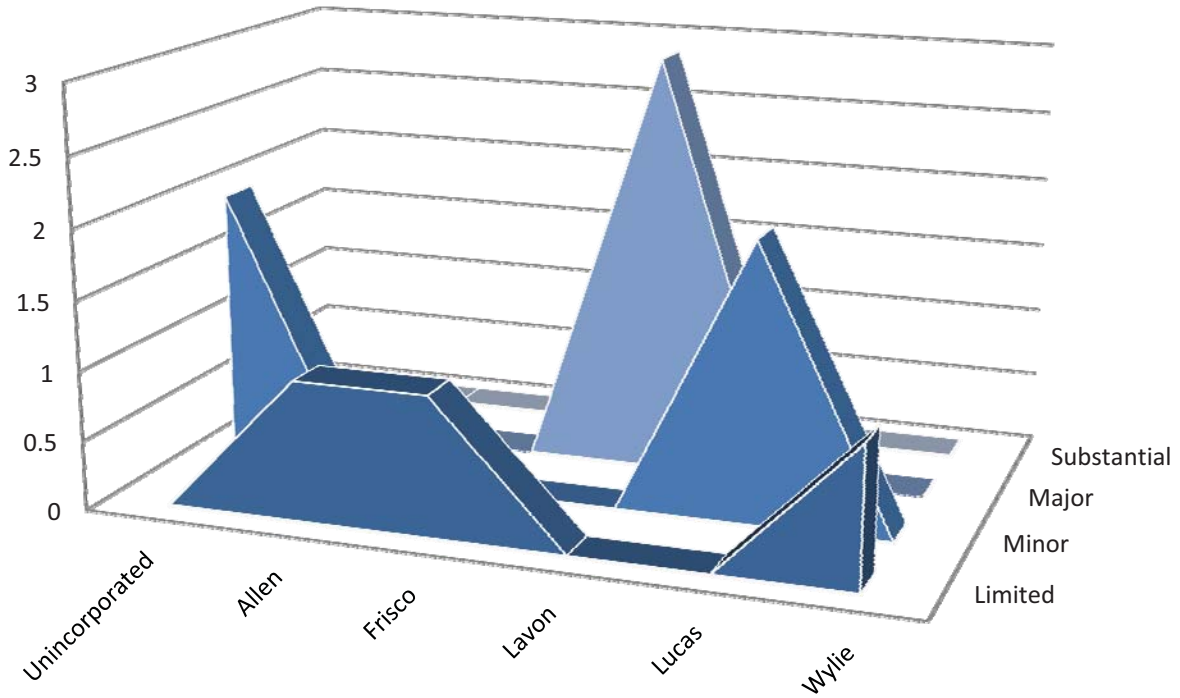
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1	1		0	
■ Minor						
■ Major	3					3
■ Substantial				4		

Wildland Fire According to the historical data recorded by the National Climatic Data Center there have been two Wild and Forest Fire Events during 1996-2007. One of these events has caused a recorded total of \$17,000 in property damage and \$2,000 in crop damages. Using these historical values over the time span of 10 years the average per year is 0.18 events occurring per year with 0.09 causing property and crop damage. (According to the National Climatic Data Center there have been no recorded injuries or deaths due to Wildland Fire)



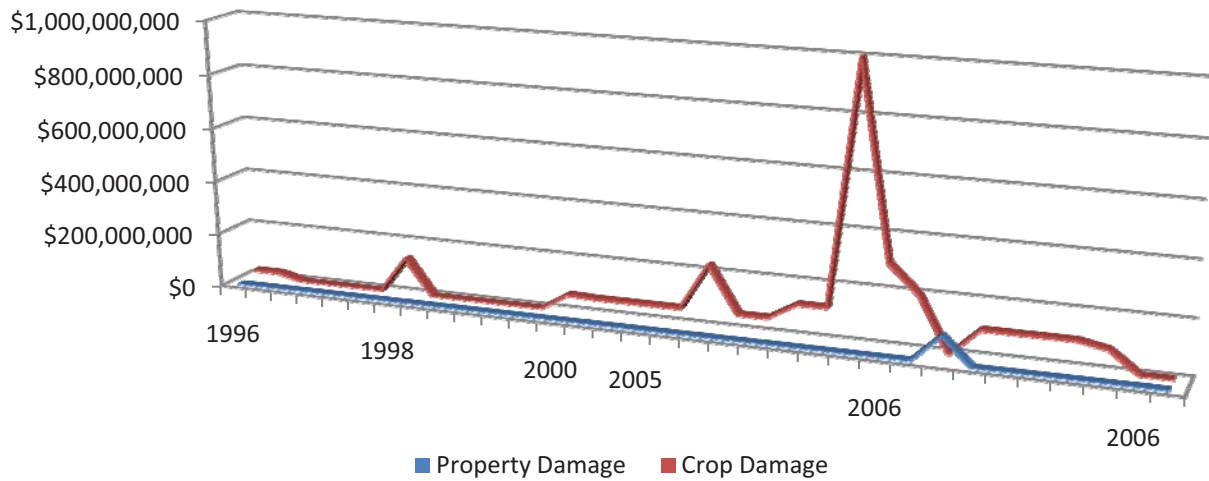
Utilizing the provided definitions, historical data, previous occurrences, and the land usage maps in order to have an understanding of the open space in Map Series G the participating jurisdictions have assessed the Impact of a Wildland Fire Event to be as follows:

Wildland Fire Impact



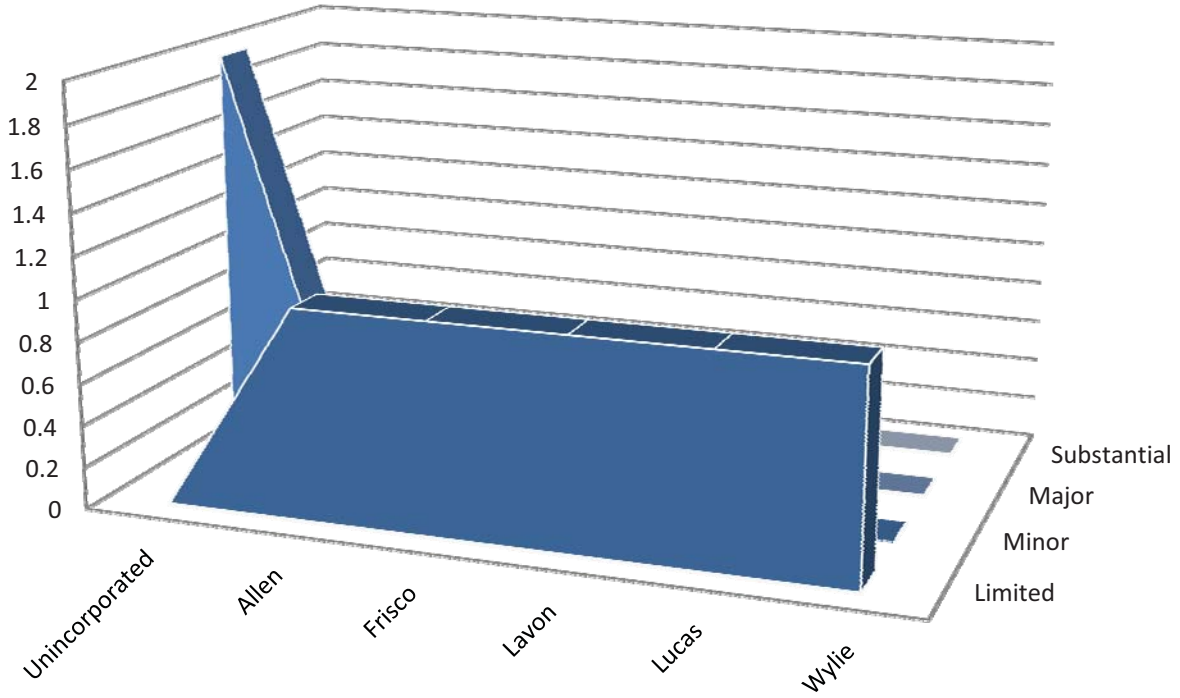
	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1	1			1
■ Minor	2				2	
■ Major				3		
■ Substantial						

Drought According to the historical data recorded by the National Climatic Data Center there have been 33 Drought Events between 1950 and 2010. These events have caused \$100,860,000 in Property Damage and \$3,063,000,000 in Crop Damage. Using these historical values over the time span of 60 years the average per year is .55 events occurring per year resulting in an average of \$3,056,363 in property damage per event and \$9,218,181 in Crop Damage per event. (According to the National Climatic Data Center there have been no recorded injuries or deaths due to drought)



Utilizing the provided definitions, historical data, previous occurrences, and the land usage maps in order to have an understanding of the open space in Map Series I the participating jurisdictions have assessed the Impact of a Drought Event to be as follows:

Drought Impact



	Unincorporated	Allen	Frisco	Lavon	Lucas	Wylie
■ Limited		1	1	1	1	1
■ Minor	2					
■ Major						
■ Substantial						

3.6 Structures, Losses, and Trends

In order to better understand and mitigate vulnerabilities to natural hazards an overview assessment of the types of structures in the planning areas has been conducted. This overview shows those structures which are either in a greater vulnerability area (i.e. 100 yr flood zone) or those who are traditionally known to not withstand natural hazards, which incorporate severe weather elements such as strong wind, hail, severe rains, and lightning. This section details vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the planning area, and estimates the potential dollar losses to those vulnerable structures.

Planning Methodology for Structure Vulnerability Assessment
Sources: Appraisal District and FEMA Q3 Flood Zones
Collin County Local Mitigation Strategy
To determine structure vulnerability in terms of types and numbers data was used from the Denton County Appraisal District to determine parcel data for land and structure total value. This was then broken out into categories and sub-categories as needed of residential, commercial and utilities, and infrastructure to differentiate between the types of structures and the different vulnerabilities each type presented. The parcel data was mapped using GIS layers and overlays consisting of FEMA Q3 Flood Zones, Critical Infrastructure, and Landuse maps to provide information regarding targeted hazard vulnerabilities.
For planning purposes, parcel data used represents the average number of specific types of structures within those parcels. The value for each of the types of structures represented within the specific parcel is aggregated structure value for the specific structure type based on Appraisal District Data. Parcels which intersect the floodplain are considered to have a vulnerability assessment of impacted, regardless of whether the entire parcel was encompassed by the floodplain.

Residential Structures The following chart displays the types of residential structures and their values for each planning jurisdiction according to the 2008 Collin County Appraisal District Parcel data. Maps I.1-J.6 provide a graphical explanation for the residential structures. By identifying the more vulnerable areas, such as mobile homes, planning jurisdictions are able to better target mitigation efforts to those areas with the highest vulnerability.

	Single	Est. Value	Multi-Family	Est. Value	Mobile Homes	Est. Value
County	6418	\$863,203,626.00	923	\$29,707,799.00	2377	\$126,174,043.00
Allen	24,059	\$5,041,407,004.00	299	\$2,811,149,633.00	0	\$0.00
Frisco	19,038	\$494,350,847.00	1,419	\$572,993,860.00	171	\$7,929,849.00
Lavon	754	\$118,349,664.00	539	\$8,209,167.00	3	\$173,793.00
Lucas	1,615	\$514,692,308.00	169	\$11,021,608.00	23	\$1,875,141.00
Wylie	11,208	\$1,654,828,488.00	185	\$62,397,460.00	28	\$1,381,413.00
Total	51884	\$8,686,831,937.00	3349	\$3,495,479,527.00	2602	\$137,534,239.00

	Total Est. Value
County	\$1,019,085,468.00
Allen	\$7,852,556,637.00
Frisco	\$1,075,274,556.00
Lavon	\$126,732,624.00
Lucas	\$527,589,057.00
Wylie	\$1,718,607,361.00
Total	\$12,319,845,703.00

Commercial The following chart displays the types of residential structures and their values for each planning jurisdiction according to the 2008 Collin County Appraisal District Parcel data. Maps I.1-J.6 provide a layout of the identified commercial facilities in the planning area.

	Commercial & Utilities Facilities	Total Est. Value
County	2168	\$93,168,491.00
Allen	280	\$604,034,917.00
Frisco	375	\$1,382,813,877.00
Lavon	21	\$6,883,129.00
Lucas	11	\$1,981,865.00
Wylie	265	\$149,937,124.00
Total	2855	\$2,238,819,403.00

Hazard Specific Structure Vulnerability The hazards identified within the Collin County Local Mitigation Strategy affect structures to different extents based on previous occurrence and event data and forecast for the future, as well as extent and impact forecasted for future events. Hazards that affect the entire planning area and those structures throughout the planning area are detailed below.

As in section 3.1 hazards will continue to be divided by those which have the potential to affect the entire planning area equally and those which occur in geographical specific locations.

The following hazards affect the entire planning area equally thus will rely on the structure value charts from page 3-74.

Drought Based on the 33 reported drought events in Collin County resulting in \$100,860,000 in structure damage; the previous events occurrence forecast of likely to highly likely; and that the extent of drought in the planning area has been assessed as an overall low, the estimated damage to structures within the planning area from drought in the future is approximately \$5,043,000 in property damage for all structure types during the next drought event. The structure types most vulnerable to drought are infrastructure and all types of buildings (residential, commercial, and utilities). Based on assessment, the next drought event is likely to occur within the next 1-3 years. The Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Medium

- PDSI -1.00- -2.99
- Mild to moderate drought conditions

Earthquake Based on having no previous earthquake occurrence within the boundaries of Collin County; previous events occurrence forecast of unlikely; and that the extent of an earthquake in the planning area has been assessed as low; the estimated damage to structures within the planning area is relatively low. An assessed rating of low, as depicted in the extent section, determines that the effect on structures would be relatively minor. As stated in 3.1, all structures are equally vulnerable to the possibility of the New Madrid Fault. Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Low

- Mercalli Scale: I-V
- Richter Scale: 0-4.8
- Range of feeling the event is cannot be felt to being felt outdoors. Doors may swing close and liquids may be disturbed

Extreme Heat Extreme heat would have the same effect on structures as drought would, however, if drought and extreme heat were to occur simultaneously the effect would be magnified and is estimated to cause additional structure damage.

Medium

- Heat Index 105F-129F
- Cascading effect to technological hazards such as power outtages, road hazards, and potential train derailments

Hail Based on the previous 210 recorded hail events in Collin County caused a total of \$5,000 in structure damage; previous events occurrence forecast ranging from likely to highly likely; and that the extent of hail in the planning area has been assessed as overall medium; the estimated damage to structures within the planning area is an average per year of \$87.72 in structure damage, affecting all structure types. Residential structures, especially manufactured and single family homes, are particularly vulnerable to the effects of hail. The Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Medium

- H5-H6, 1.6"-2.4"
- There will be a range of severe damage from well constructed houses being destroyed to houses being swept away

High Winds Based on the historical data for the 244 high wind events in Collin County causing a total of \$4,658,000 in structure damage; previous events occurrence forecast of highly likely; and that the extent of high winds in the planning area has been assessed as overall medium; the estimated damage

Medium

- Force: 4-6
- Knots: 11-27
- Dust, leaves, and loose paper lifted. Small to Large branches moving. Branches have the potential to damage structures.

to structures within the planning area is an average per year of \$81,719 in structure damage, affecting all structure types. Residential structures, especially manufactured and single family homes, are particularly vulnerable to the effects of high wind. The Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Tornado Based on the historical data for the 41 tornado events in Collin County causing a total of \$4,403, 000 in structure damage; previous events occurrence forecast ranging from likely to very likely; and that the extent of a tornado hazard in the planning area has been assessed as an overall medium; the estimated damage to structures within the planning area is an average per year of \$77,246 in structure damage, affecting all structure types. Residential structures, especially manufactured and single family homes, are particularly vulnerable to the effects of tornados. Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Medium

- EF1-EF2
- There will be a range of moderate to considerate damage. Roofs will be severely stripped, mobile homes overturned, and cars lifted off of the ground

Winter Storm Based on the historical data for the 29 snow and ice events in Collin County causing a total of \$66,064,000 in structure damage; previous events occurrence forecast ranging from occasional to highly likely; and that the extent of a winter storm hazard in the planning area has been assessed as overall low; the estimated damage to structures within the planning area is an average per storm of \$2,278,068 in structure damage, affecting all structure types. Residential structures, especially manufactured and single family homes, are particularly vulnerable to the effects of snow and ice, especially since the region only gets about one snow and ice event per year and many structure owners do not have sufficient tree limb maintenance plans in place. Residential Chart and Commercial and Utilities Chart on 3-74 identify the types of structures and their values which are vulnerable to this hazard.

Low

- Temperatures 40F- 35F
- Wind Chill 36F-17F
- Vulnerable populations and agriculture at risk to lower temperatures and wind chill.

The following hazards are considered to be geographically defined. These hazards only affect certain areas within the planning area and those structures in that geographically defined area are detailed below. There are three hazards which are evaluated as geographically specific. Dam Failure, Wildland Fire, and Flooding. For Dam Failure and Wildland Fire the following charts may be used to estimate structure values which could be vulnerable. Further discussion is provided in the following hazard descriptions.

	Total Home Values		
	5%	10%	15%
County	\$55,612,698	\$111,225,396	\$166,838,094
Allen	\$422,829,578	\$845,659,155	\$1,268,488,733
Frisco	\$122,904,422	\$245,808,843	\$368,713,265
Lavon	\$6,680,788	\$13,361,575	\$20,042,363
Lucas	\$26,478,546	\$52,957,092	\$79,435,638
Wylie	\$93,127,224	\$186,254,449	\$279,381,673
Total	\$727,633,255	\$1,455,266,511	\$2,182,899,766

Single Family Homes						
	5%		10%		15%	
County	321	\$43,160,181	642	\$86,320,363	963	\$129,480,544
Allen	1203	\$252,070,350	2406	\$504,140,700	3609	\$756,211,051
Frisco	952	\$24,717,542	1904	\$49,435,085	2856	\$74,152,627
Lavon	38	\$5,917,483	75	\$11,834,966	113	\$17,752,450
Lucas	81	\$25,734,615	162	\$51,469,231	242	\$77,203,846
Wylie	560	\$82,741,424	1121	\$165,482,849	1681	\$248,224,273
Total	3155	\$434,341,597	6309	\$868,683,194	9464	\$1,303,024,791

Multi-Family Homes						
	5%		10%		15%	
County	46	\$1,485,390	92	\$2,970,780	138	\$4,456,170
Allen	15	\$140,557,482	30	\$281,114,963	45	\$421,672,445
Frisco	71	\$28,649,693	142	\$57,299,386	213	\$85,949,079
Lavon	27	\$410,458	54	\$820,917	81	\$1,231,375
Lucas	8	\$551,080	17	\$1,102,161	25	\$1,653,241
Wylie	9	\$3,119,873	19	\$6,239,746	28	\$9,359,619
Total	177	\$174,773,976	353	\$349,547,953	530	\$524,321,929

Mobile Homes						
	5%		10%		15%	
County	119	\$6,308,702	238	\$12,617,404	357	\$18,926,106
Allen	0	\$0	0	\$0	0	\$0
Frisco	9	\$396,492	17	\$792,985	26	\$1,189,477
Lavon	0	\$8,690	0	\$17,379	0	\$26,069
Lucas	1	\$93,757	2	\$187,514	3	\$281,271
Wylie	1	\$69,071	3	\$138,141	4	\$207,212
Total	130	\$6,876,712	260	\$13,753,424	390	\$20,630,136

Commercial & Utilities Facilities						
	5%		10%		15%	
County	108	\$4,658,425	217	\$9,316,849	325	\$13,975,274
Allen	14	\$30,201,746	28	\$60,403,492	42	\$90,605,238
Frisco	19	\$69,140,694	38	\$138,281,388	56	\$207,422,082
Lavon	1	\$344,156	2	\$688,313	3	\$1,032,469
Lucas	1	\$99,093	1	\$198,187	2	\$297,280
Wylie	13	\$7,196,856	27	\$14,393,712	40	\$21,590,569
Total	156	\$111,640,970	312	\$223,281,940	468	\$334,922,911

Dam Failure Based on the fact that there is no historical data in Collin County of a Dam Failure or in the State of Texas the future occurrence prediction is unlikely.

However, there are 24 identified high hazard dams in the participating jurisdictions or at the responsibility of the participating jurisdictions. Dams are located within residential areas and unincorporated areas. It is expected that a significant dam failure would cause a cascading affect of flooding through inundation zones, water supply disruption, and critical infrastructures. At this time there are no inundation studies or dam failure impact studies which have been conducted, though all do have emergency operation plans. Mitigation Projects have been identified in Chapter 4 to examine a cost-effective means for developing studies and relationships to determine the high hazard impact areas and their value. The overall anticipated average for extent is low meaning that less than 20% of the structures are in the inundation zone. Thus the structures have been identified in values of 5%, 10%, and 15% for planning purposes.

Low

- Less than 20% of city structures are in the inundation zone.
- Less than 20% of the city's critical infrastructure in the inundation zone

Wildland Fire Based on the historical data for the two Wildland fire events in Collin County which caused a total of \$17,000 in structure damage; previous events occurrence forecast ranging from occasional to highly likely; and that the extent of a wildland fire event in the planning area has been assessed as overall medium; the estimated damage to structures within the planning area is minimal. Based on the Fire Danger chart description of Medium, or Code Blue/Class 2, potential fires are not likely to become serious and control is relatively easy. This is especially true if the fire is started in a Wildland or open space area. However, Wildland fire danger becomes a higher vulnerability when combined with the high wind hazard and would be much more likely to move into areas where it would affect residential structures, especially manufactured and single family homes if not prevented or stopped in time. While Wildland Fire has an extent rating of Medium this is primarily in the open areas. Thus the 5%, 10%, 15% structure value charts will be used in order to capture the minimal structures which are in the identified areas.

Medium

- KBDI 200-400
- Ranges from lower litter and duff layers are drying and beginning to contribute to fire intensity to them causing the fire to burn actively.

Flooding Based on the historical data for the 53 flood events in Collin County causing a total of \$45,000 in structure damage; previous events occurrence forecast ranging from occasional to highly likely; and that the extent of flooding in the planning area has been assessed as overall medium; the estimated damage to structures within the planning area is an average per flood of \$4,361 in structure damage, affecting all structure types.

Medium

- 500yr Flood Zone, Zone B
- The extent of severity in the 500yr Flood Zone will be dependent on the structures and livestock located in the identified area.

The following charts are an estimate based off of the 2010 Collin County Appraisal District parcel data depicting the types of structures and their costs which are within the 100 Year and 500 year flood zones.

Single Family Homes Single Family homes this section details vulnerability in terms of the types and numbers located in the planning area, and estimates the potential dollar losses to those vulnerable structures within each jurisdiction of the CoLMS.

**Unincorporated Collin County
Flood Vulnerability: Single Family Homes**

Number of Single Family Homes	Value	Value Range
95	\$2,123,899.00	Less than \$50,000
110	\$8,335,035.00	\$50,000-\$100,000
175	\$26,107,284.00	\$100,000 - \$200,000
93	\$22,540,699.00	\$200,000 - \$300,000
46	\$15,493,163.00	\$300,000 - \$400,000
34	\$17,003,473.00	\$400,000 or More
Total	553	\$91,603,553.00

**City of Allen
Flood Vulnerability: Single Family Homes**

Number of Single Family Homes	Value	Value Range
11	\$221,288.00	Less than \$50,000
8	\$599,949.00	\$50,000-\$100,000
110	\$17,753,113.00	\$100,000 - \$200,000
51	\$11,923,992.00	\$200,000 - \$300,000
24	\$8,056,058.00	\$300,000 - \$400,000
66	\$37,926,012.00	\$400,000 or More
Total	270	\$76,480,412.00

**City of Frisco
Flood Vulnerability: Single Family Homes**

Number of Single Family Homes	Value	Value Range
20	\$156,599.00	Less than \$50,000
11	\$786,010.00	\$50,000-\$100,000
157	\$23,891,904.00	\$100,000 - \$200,000
249	\$61,463,389.00	\$200,000 - \$300,000
70	\$24,557,743.00	\$300,000 - \$400,000
178	\$148,755,395.00	\$400,000 or More
Total	685	\$259,611,040.00

**City of Lavon
Flood Vulnerability: Single Family Homes**

Number of Single Family Homes	Value	Value Range
1	\$30,000.00	Less than \$50,000
1	\$90,064.00	\$50,000-\$100,000
4	\$573,655.00	\$100,000 - \$200,000
0	\$0.00	\$200,000 - \$300,000
0	\$0.00	\$300,000 - \$400,000
0	\$0.00	\$400,000 or More
Total	6	\$693,719.00

**City of Lucas
Flood Vulnerability: Single Family Homes**

Number of Single Family Homes	Value	Value Range
14	\$150,843.00	Less than \$50,000
11	\$911,142.00	\$50,000-\$100,000
20	\$3,232,400.00	\$100,000 - \$200,000
54	\$13,540,150.00	\$200,000 - \$300,000
46	\$15,756,015.00	\$300,000 - \$400,000
69	\$41,418,585.00	\$400,000 or More
Total	214	\$75,009,135.00

**City of Wylie
Hazard Vulnerability: Commercial & Utilities Facilities**

Number of Commercial & Utilities Facilities	Value	Value Range
18	\$276,140.00	Less than \$100,000
1	\$266,950.00	\$100,000-\$400,000
0	\$0.00	\$400,000 - \$1 Mil
2	\$7,337,390.00	\$1 Mil or More
Total	21	\$7,880,480.00

Mobile Homes this section details vulnerability in terms of the types and numbers located in the planning area, and estimates the potential dollar losses to those vulnerable structures within each jurisdiction of the CoLMS.

**Unincorporated Collin County
Flood Vulnerability: Mobile Homes**

Number of Manufactured Homes		Value	Value Range
0		\$0.00	Less than \$5,000
1		\$9,637.00	\$5,000-\$10,000
2		\$27,951.00	\$10,000 - \$15,000
4		\$64,150.00	\$15,000 - \$20,000
16		\$403,635.00	\$25,000 - \$30,000
123		\$8,703,975.00	\$30,000 or More
Total	146	\$9,209,348.00	

**City of Allen
Flood Vulnerability: Mobile Homes**

Number of Manufactured Homes		Value	Value Range
0		\$0.00	Less than \$5,000
0		\$0.00	\$5,000-\$10,000
0		\$0.00	\$10,000 - \$15,000
0		\$0.00	\$15,000 - \$20,000
0		\$0.00	\$25,000 - \$30,000
0		\$0.00	\$30,000 or More
Total	0	\$0.00	

City of Frisco
Flood Vulnerability: Mobile Homes

Number of Manufactured Homes		Value	Value Range
	1	\$18,203.00	Less than \$5,000
	0	\$0.00	\$5,000-\$10,000
	0	\$0.00	\$10,000 - \$15,000
	0	\$0.00	\$15,000 - \$20,000
	0	\$0.00	\$25,000 - \$30,000
	0	\$0.00	\$30,000 or More
Total	1	\$18,203.00	

City of Lavon
Flood Vulnerability: Mobile Homes

Number of Manufactured Homes		Value	Value Range
	0	\$0.00	Less than \$5,000
	0	\$0.00	\$5,000-\$10,000
	0	\$0.00	\$10,000 - \$15,000
	0	\$0.00	\$15,000 - \$20,000
	0	\$0.00	\$25,000 - \$30,000
	0	\$0.00	\$30,000 or More
Total	0	\$0.00	

City of Lucas
Flood Vulnerability: Mobile Homes

Number of Manufactured Homes		Value	Value Range
	0	\$0.00	Less than \$5,000
	0	\$0.00	\$5,000-\$10,000
	0	\$0.00	\$10,000 - \$15,000
	0	\$0.00	\$15,000 - \$20,000
	0	\$0.00	\$25,000 - \$30,000
	1	\$255,917.00	\$30,000 or More
Total	1	\$255,917.00	

City of Wylie
Flood Vulnerability: Mobile Homes

Number of Manufactured Homes	Value	Value Range
0	\$0.00	Less than \$5,000
0	\$0.00	\$5,000-\$10,000
0	\$0.00	\$10,000 - \$15,000
0	\$0.00	\$15,000 - \$20,000
0	\$0.00	\$25,000 - \$30,000
2	\$135,121.00	\$30,000 or More
Total	2	\$135,121.00

Multi-Family Homes this section details vulnerability in terms of the types and numbers located in the planning area, and estimates the potential dollar losses to those vulnerable structures within each jurisdiction of the CoLMS.

Collin County
Flood Vulnerability: Multi-Family Homes

Number of Multi-Family Homes	Value	Value Range
49	\$450,436.00	Less than \$50,000
0	\$0.00	\$50,000-\$100,000
0	\$0.00	\$100,000 - \$200,000
1	\$243,391.00	\$200,000 or More
Total	50	\$693,827.00

City of Allen
Flood Vulnerability: Multi-Family Homes

Number of Multi-Family Homes	Value	Value Range
0	\$0.00	Less than \$50,000
7	\$602,380.00	\$50,000-\$100,000
1	\$124,000.00	\$100,000 - \$200,000
2	\$26,974,490.00	\$200,000 or More
Total	10	\$27,700,870.00

**City of Frisco
Flood Vulnerability: Multi-Family Homes**

Number of Multi-Family Homes	Value	Value Range
0	\$0.00	Less than \$50,000
7	\$564,149.00	\$50,000-\$100,000
2	\$241,681.00	\$100,000 - \$200,000
10	\$139,309,587.00	\$200,000 or More
Total	19	\$140,115,417.00

**City of Lavon
Flood Vulnerability: Multi-Family Homes**

Number of Multi-Family Homes	Value	Value Range
34	\$192,725.00	Less than \$50,000
0	\$0.00	\$50,000-\$100,000
0	\$0.00	\$100,000 - \$200,000
0	\$0.00	\$200,000 or More
Total	34	\$192,725.00

**City of Lucas
Flood Vulnerability: Multi-Family Homes**

Number of Multi-Family Homes	Value	Value Range
0	\$0.00	Less than \$50,000
0	\$0.00	\$50,000-\$100,000
0	\$0.00	\$100,000 - \$200,000
0	\$0.00	\$200,000 or More
Total	0	\$0.00

Commercial and Utilities Facilities this section details vulnerability in terms of the types and numbers located in the planning area, and estimates the potential dollar losses to those vulnerable structures within each jurisdiction of the CoLMS.

Collin County
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities	Value	Value Range
157	\$5,061,245.00	Less than \$100,000
22	\$3,048,574.00	\$100,000-\$400,000
6	\$3,533,630.00	\$400,000 - \$1 Mil
2	\$3,456,918.00	\$1 Mil or More
Total	187	\$15,100,367.00

City of Allen
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities	Value	Value Range
1	\$89,250.00	Less than \$100,000
3	\$790,222.00	\$100,000-\$400,000
5	\$3,440,531.00	\$400,000 - \$1 Mil
7	\$26,130,467.00	\$1 Mil or More
Total	16	\$30,450,470.00

City of Frisco
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities	Value	Value Range
1	\$77,141.00	Less than \$100,000
3	\$583,162.00	\$100,000-\$400,000
6	\$4,289,579.00	\$400,000 - \$1 Mil
19	\$21,912,806.00	\$1 Mil or More
Total	29	\$26,862,688.00

City of Lavon
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities		Value	Value Range
2		\$56,741.00	Less than \$100,000
0		\$0.00	\$100,000-\$400,000
0		\$0.00	\$400,000 - \$1 Mil
0		\$0.00	\$1 Mil or More
Total	2	\$56,741.00	

City of Lucas
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities		Value	Value Range
0		\$0.00	Less than \$100,000
2		\$293,000.00	\$100,000-\$400,000
1		\$643,208.00	\$400,000 - \$1 Mil
0		\$0.00	\$1 Mil or More
Total	3	\$936,208.00	

City of Wylie
Flood Hazard Vulnerability: Commercial & Utilities Facilities

Number of Commercial & Utilities Facilities		Value	Value Range
18		\$276,140.00	Less than \$100,000
1		\$266,950.00	\$100,000-\$400,000
0		\$0.00	\$400,000 - \$1 Mil
2		\$7,337,390.00	\$1 Mil or More
Total	21	\$7,880,480.00	

Development Trends Map Series H-J provide a detailed overview of landuse and landuse planning for each jurisdiction, to include Critical Infrastructure, Residential, Commercial, and Undeveloped land as well as Emergency Operations Centers, Fire Stations, Police Stations, and Hospitals. These maps detail the current and intended landuse, and incorporate such things as Capital Improvement Planning and future development. Collin County Local Mitigation Strategy has city zoning ordinances which establish a land development trend of building outside of the flood plains. Mitigation measures and the Collin County Local Mitigation Strategy will continue to be used and assessed in future city plan development. The master landuse plans for each jurisdiction are depicted, and as the mitigation action items taken by jurisdictions are incorporated into future planning, will show trends toward development within the community so that mitigation options can be considered in future landuse decisions.

Landuse with Critical Infrastructure Maps

The Landuse with Critical Infrastructure maps depict the Residential, Commercial, and Undeveloped land as well as Emergency Operations Centers, Fire Stations, Police Stations, and Hospitals.

- Map G.1 Allen Landuse
- Map G.2 Frisco Landuse
- Map G.3 Lavon Landuse
- Map G.4 Lucas Landuse
- Map G.5 Wylie Landuse
- Map G.6 NE Collin County Landuse
- Map G.7 SE Collin County Landuse
- Map G.8 NW Collin County Landuse

Landuse with Critical Infrastructure and Flood Zones

These maps show how the FEMA Flood Zones overlay with Landuse and identified Critical Infrastructure.

- Map H.1 Allen Landuse
- Map H.2 Frisco Landuse
- Map H.3 Lavon Landuse
- Map H.4 Lucas Landuse
- Map H.5 Wylie Landuse
- Map H.6 NE Collin County Landuse
- Map H.7 SE Collin County Landuse
- Map H.8 NW Collin County Landuse

Types of Structures

- Map I.1 Allen
- Map I.2 Frisco
- Map I.3 Lavon
- Map I.4 Lucas
- Map I.5 Wylie
- Map I.6 Collin County

Local Critical Facilities

- Map J.1 Allen
- Map J.2 Frisco
- Map J.3 Lavon
- Map J.4 Lucas
- Map J.5 Wylie
- Map J.6 Collin County

Local Critical Facilities

- Map K Collin County

Map G.1

Regional Mitigation Strategy Collin County

City of Allen Landuse with Critical Infrastructure

Legend

- Emergency Operations Center
- Fire
- Police
- Hospital
- Residential
- Commercial
- Undeveloped
- Lakes



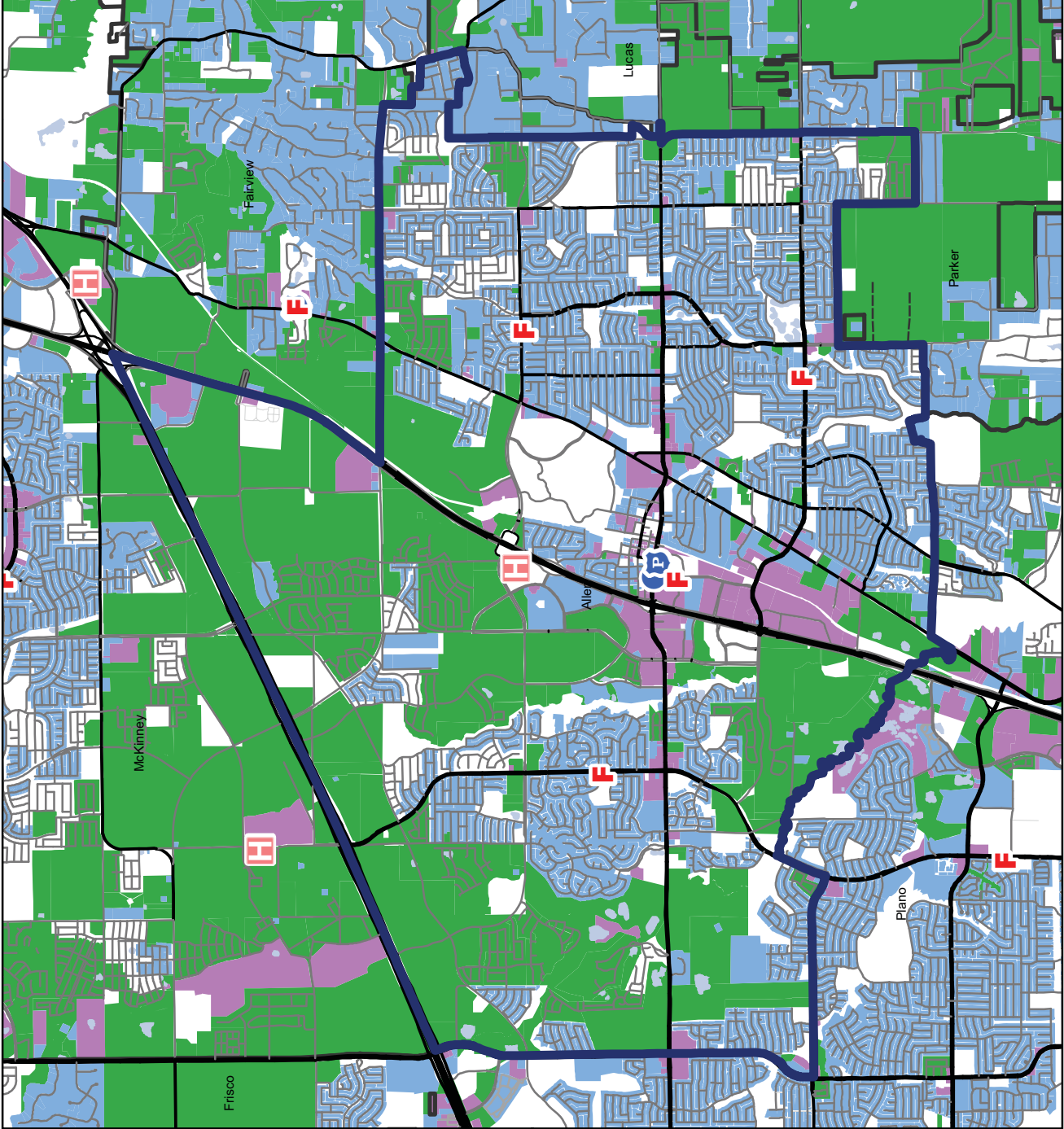
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Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Evert
2/5/2009

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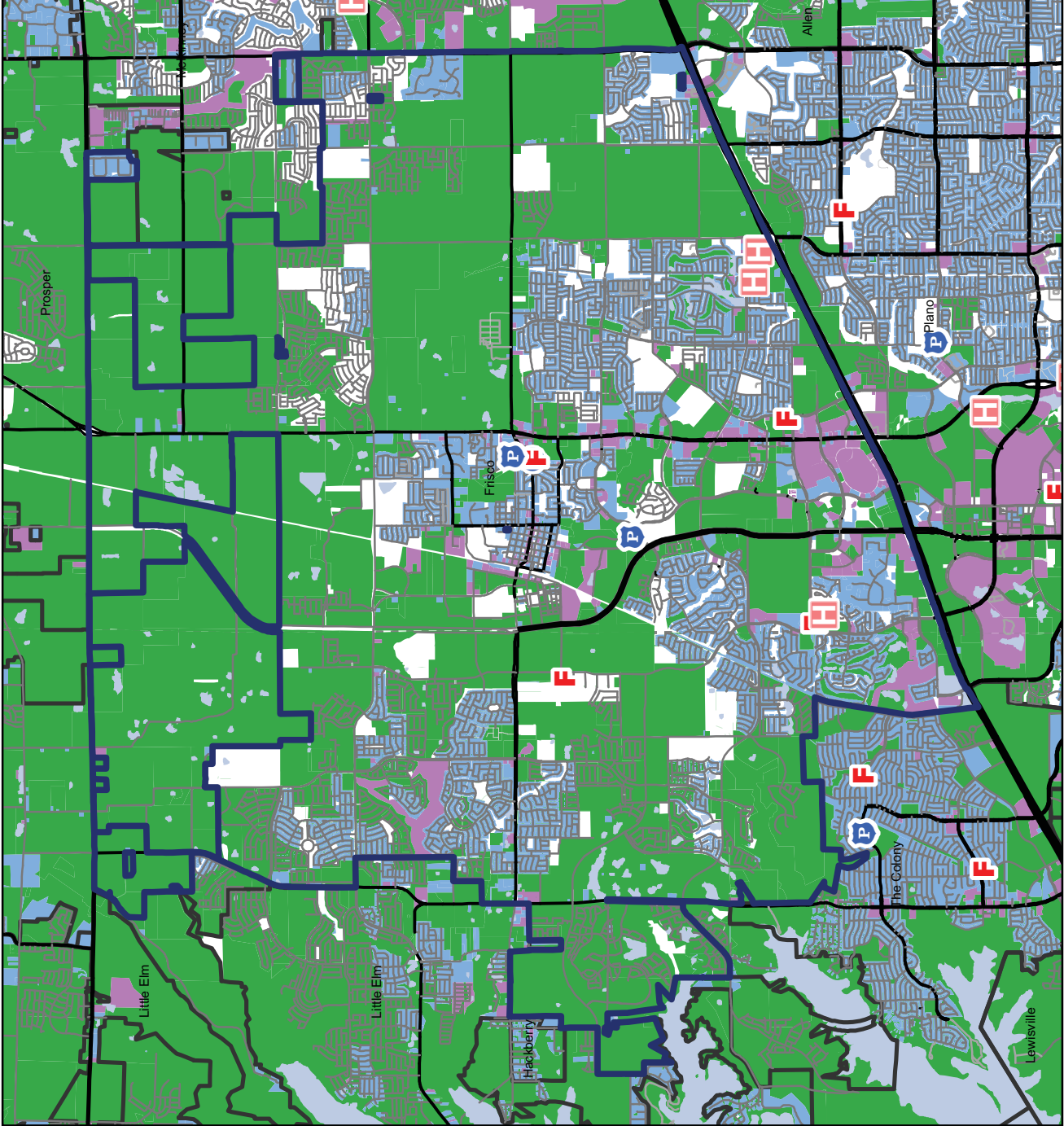
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Map G.2

Regional Mitigation Strategy Collin County

City of Frisco Landuse with Critical Infrastructure



Legend

- Emergency Operations Center
- Fire
- Police
- Hospital
- Residential
- Commercial
- Undeveloped
- Lakes



Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Evert
07/14/2014
2/5/2009

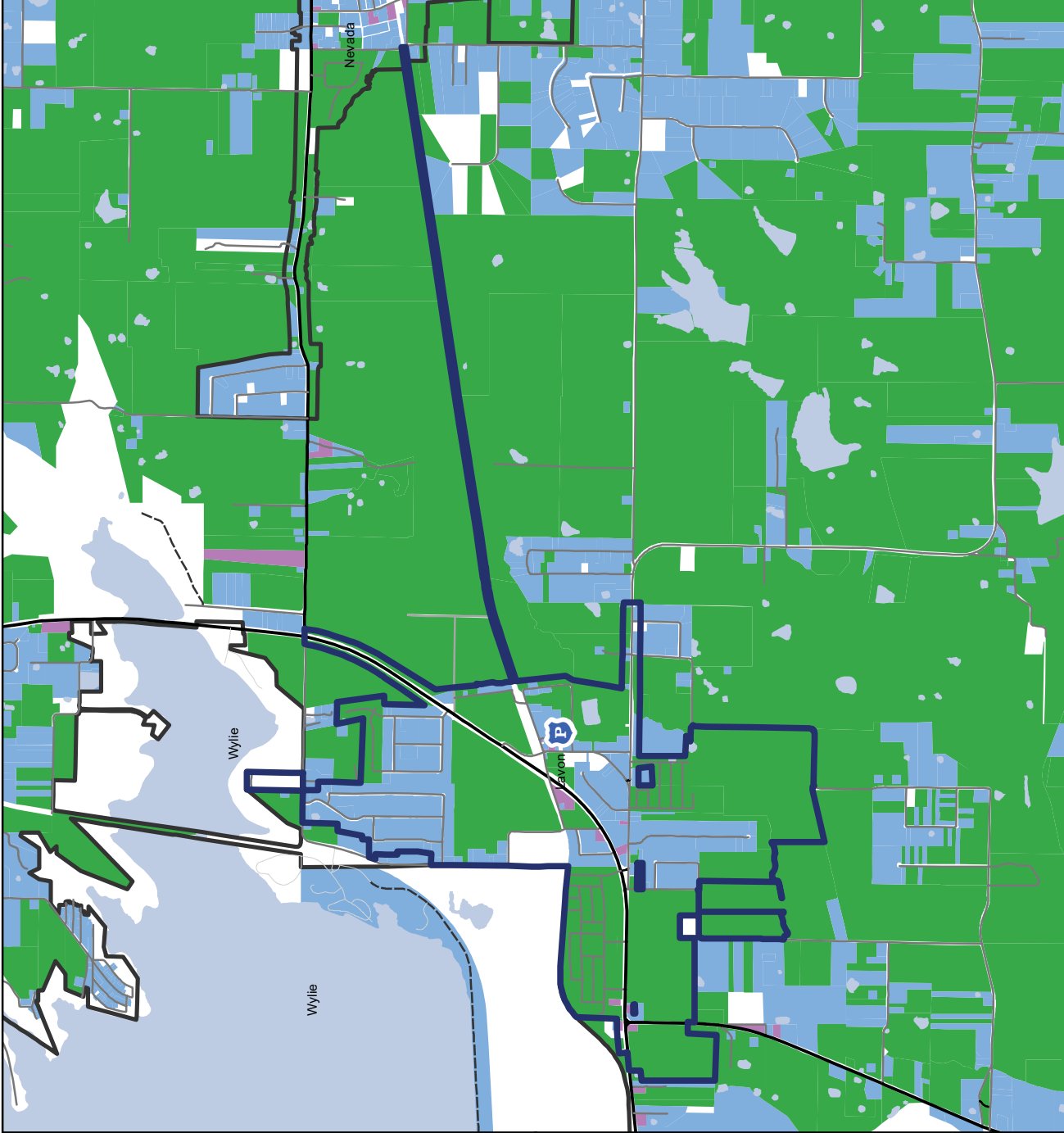
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Map G.3

Regional Mitigation Strategy Collin County

City of Lavon Landuse with Critical Infrastructure



Legend

- Fire
- Police
- Hospital
- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped



Emergency Preparedness

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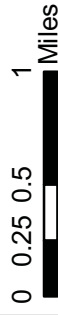
Map G.4

Regional Mitigation Strategy Collin County

City of Lucas Landuse with Critical Infrastructure

Legend

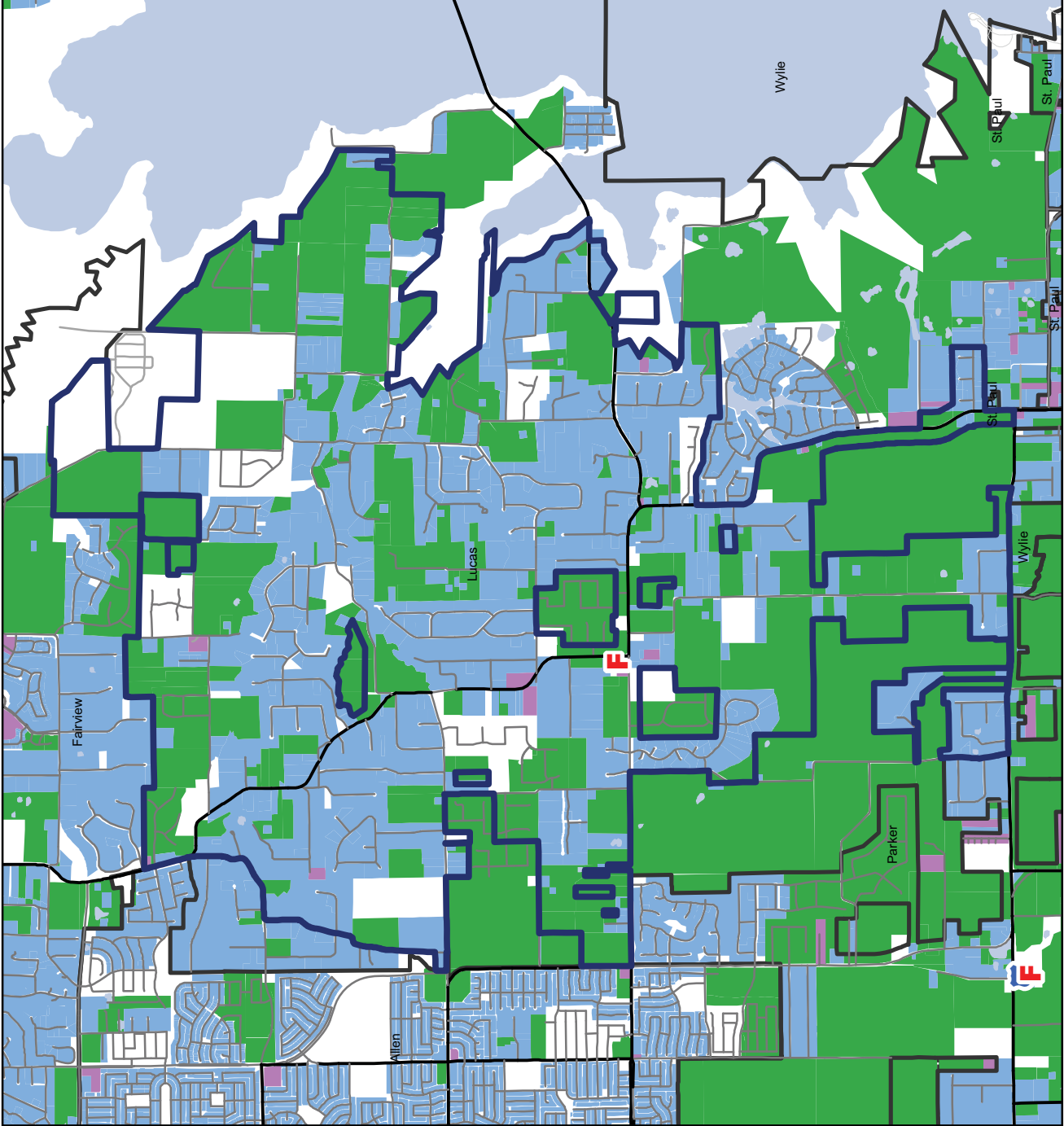
- Fire
- Police
- Hospital
- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped



Emergency Preparedness

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Map G.5

Regional Mitigation Strategy Collin County

City of Wylie Landuse with Critical Infrastructure

Legend

- F** Fire
- P** Police
- H** Hospital
- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped



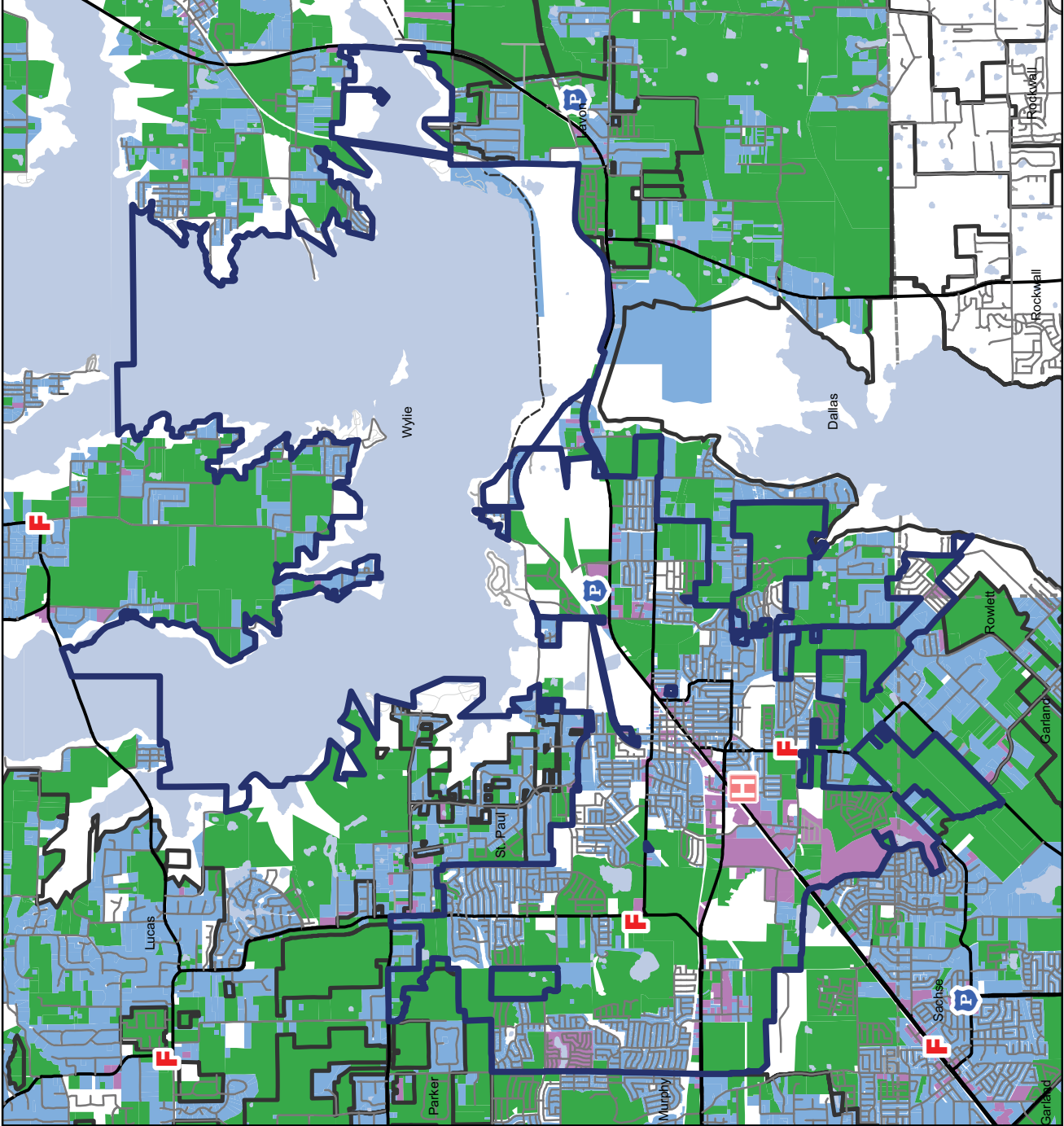
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Emergency Preparedness

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07/16/2014
2/5/2009

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Map G.6

Regional Mitigation Strategy

Collin County

NE Collin County Landuse with Critical Infrastructure

Legend

- Fire
- Police
- Hospital
- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped



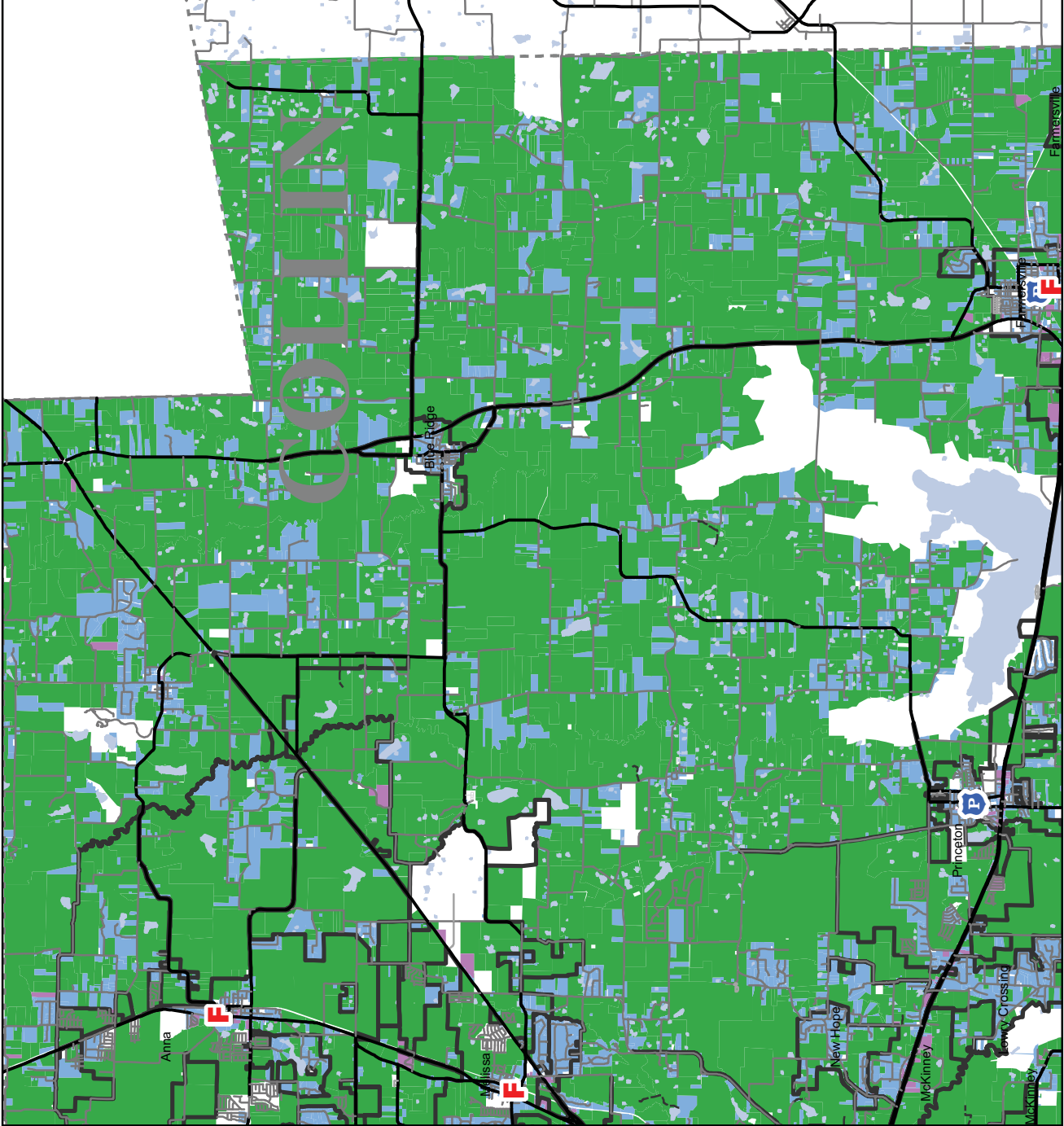
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Emergency Preparedness

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Map G.7

Regional Mitigation Strategy

Collin County

SE Collin County Landuse with

Critical Infrastructure

Legend

- Fire
- Police
- Hospital
- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped



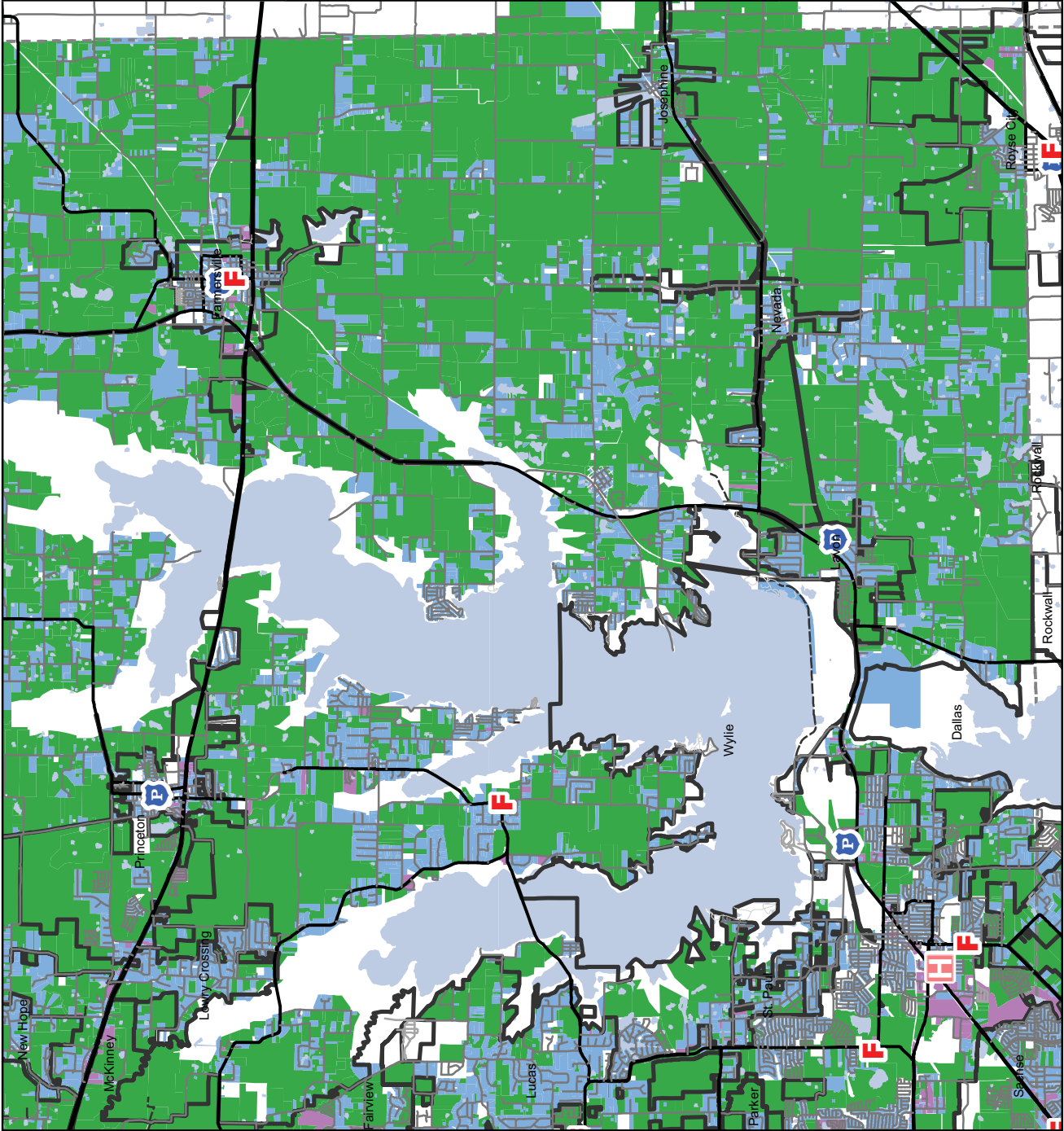
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Emergency Preparedness

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Map G.8

Regional Mitigation Strategy

Collin County

NW Collin County Landuse with Critical Infrastructure

Legend

- F** Fire
- P** Police
- H** Hospital
- EOC** Emergency Operations Center
- L** Lakes
- R** Residential
- C** Commercial
- U** Undeveloped

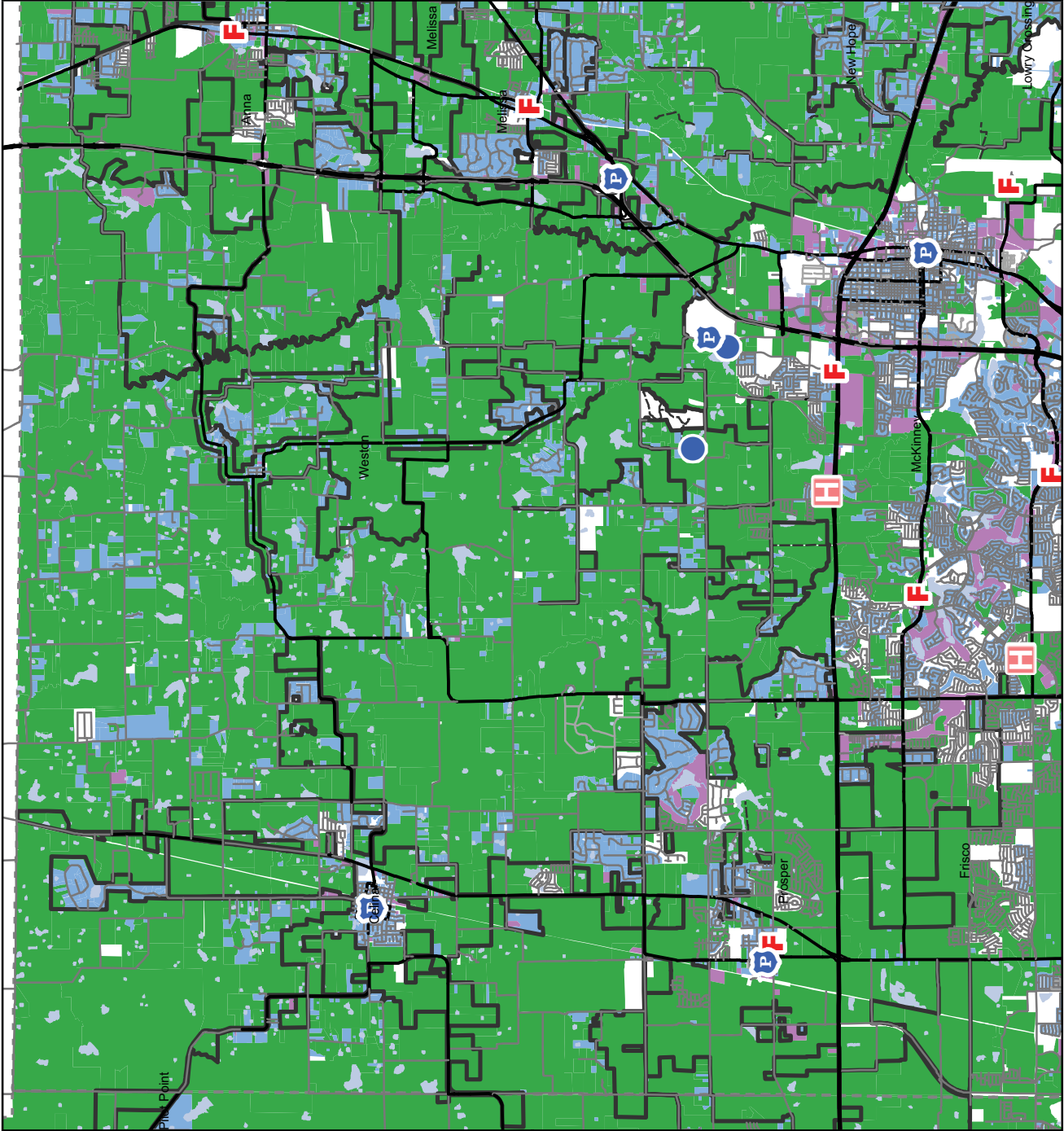


Emergency Preparedness

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2/5/2009

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Map H.1

Regional Mitigation Strategy

Collin County City of Allen Landuse with Critical Infrastructure and Flood Zones

Legend

Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year

Emergency Operations Center

Fire

Police

Hospital

Residential

Commercial

Undeveloped

Lakes



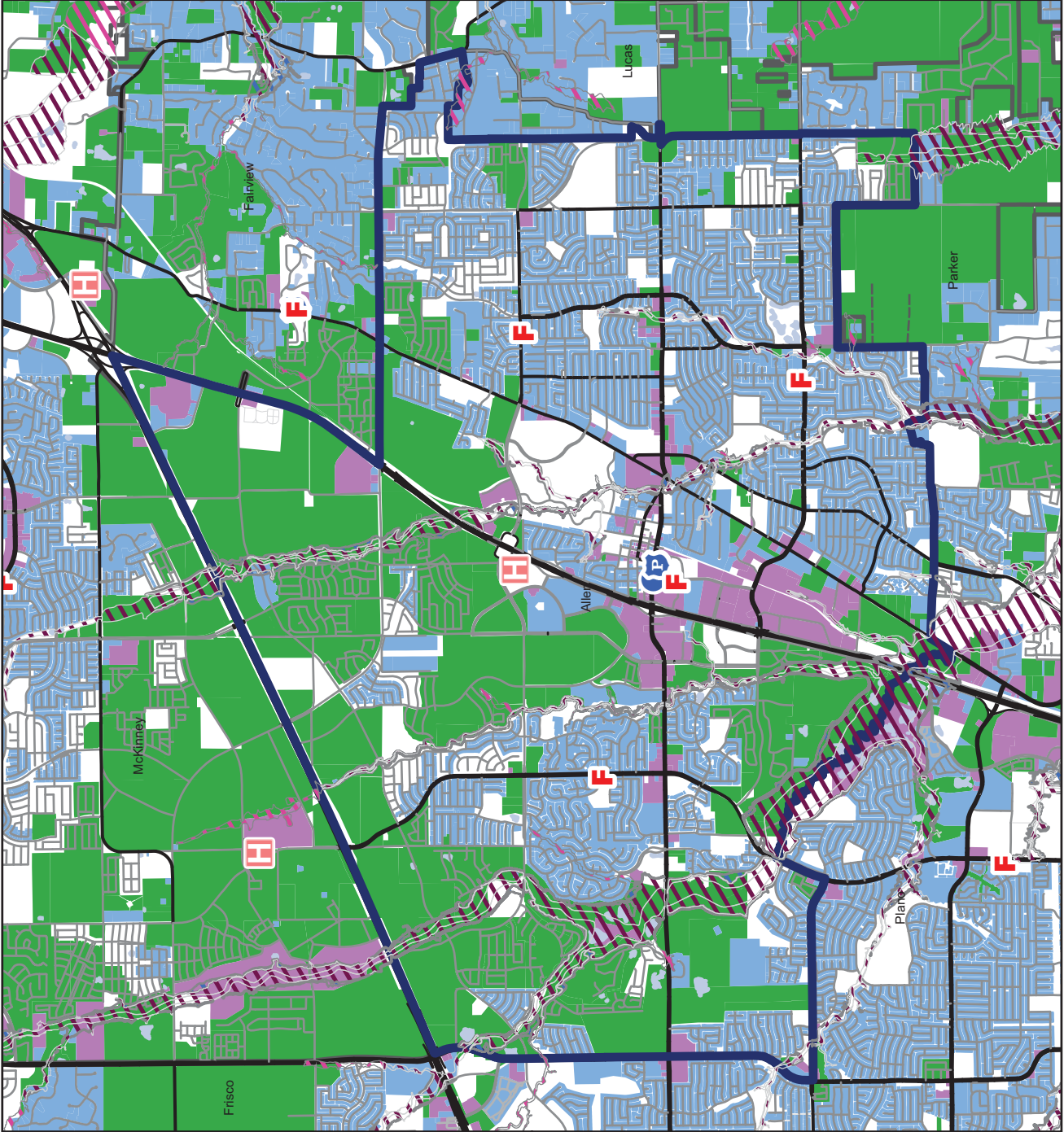
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Emergency Preparedness

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Map Created By: Amanda Every
07-18-2014
2:52:08PM

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Map H.2

Regional Mitigation Strategy

Collin County City of Frisco

Landuse with Critical Infrastructure and Flood Zones

Legend

Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year

Emergency Operations Center

Fire

Police

Hospital

Residential

Commercial

Undeveloped

Lakes



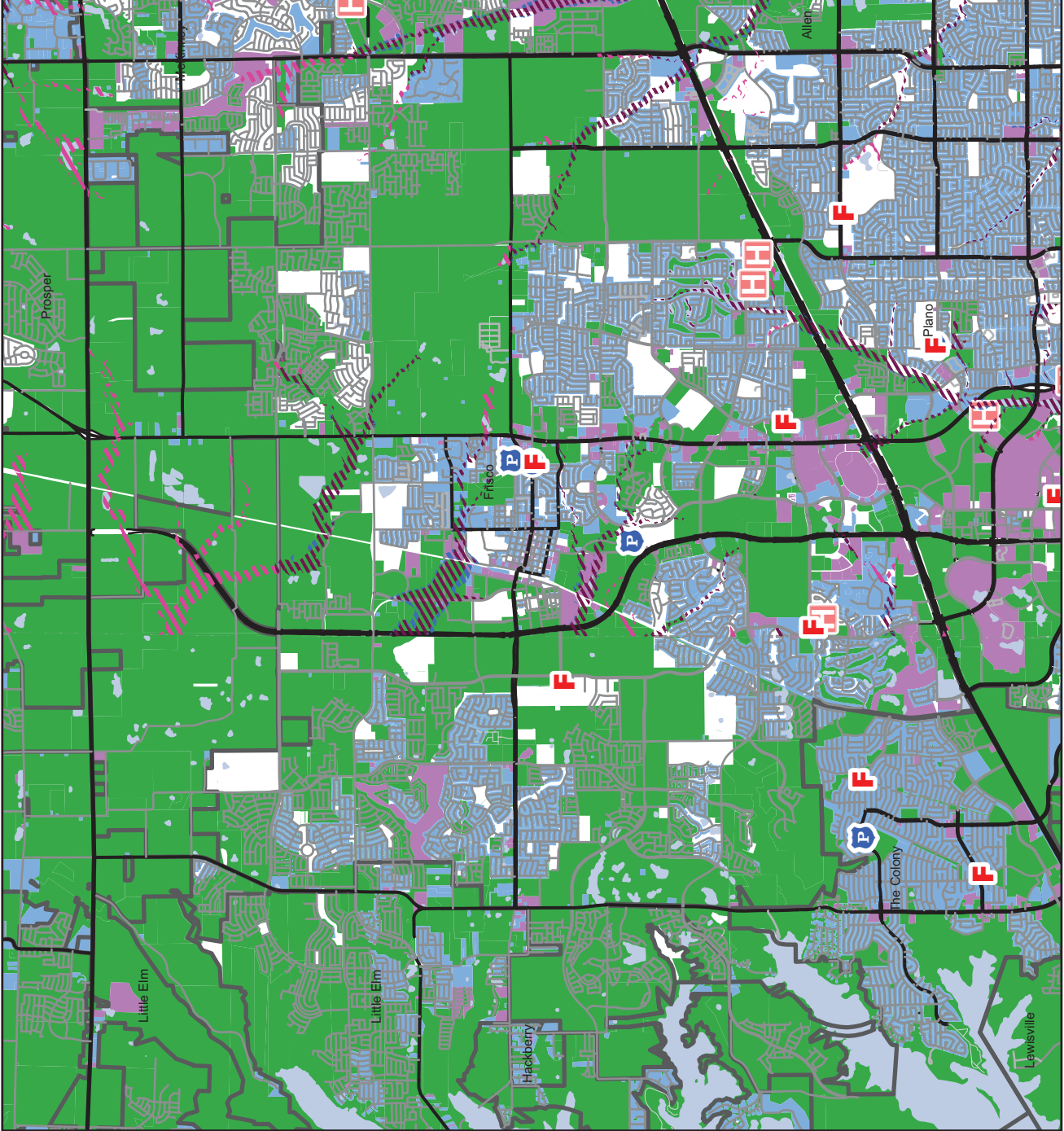
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2:52:2009

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Map H.3

Regional Mitigation Strategy

Collin County City of Lavon

Landuse with Critical Infrastructure and Flood Zones

Legend

- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year

- Fire
- Police
- Hospital

- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped

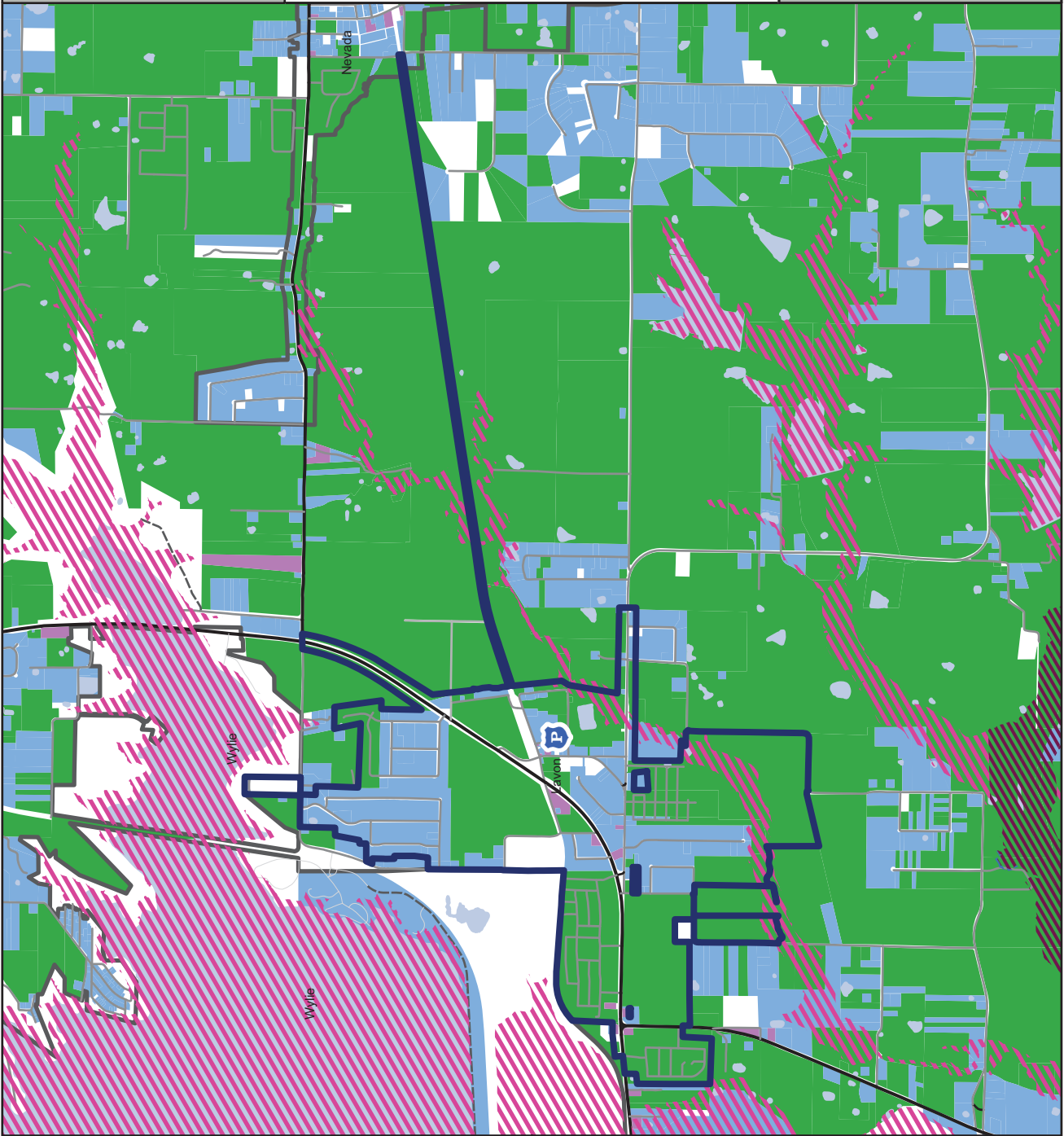


Emergency Preparedness

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07-14-2014
2:52:08PM

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Map H.4

Regional Mitigation Strategy

Collin County
City of Lucas

Critical Infrastructure and Flood Zones

Legend

- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year

- F** Fire
- P** Police
- H** Hospital

- Emergency Operations Center
- Lakes
- Residential
- Commercial
- Undeveloped

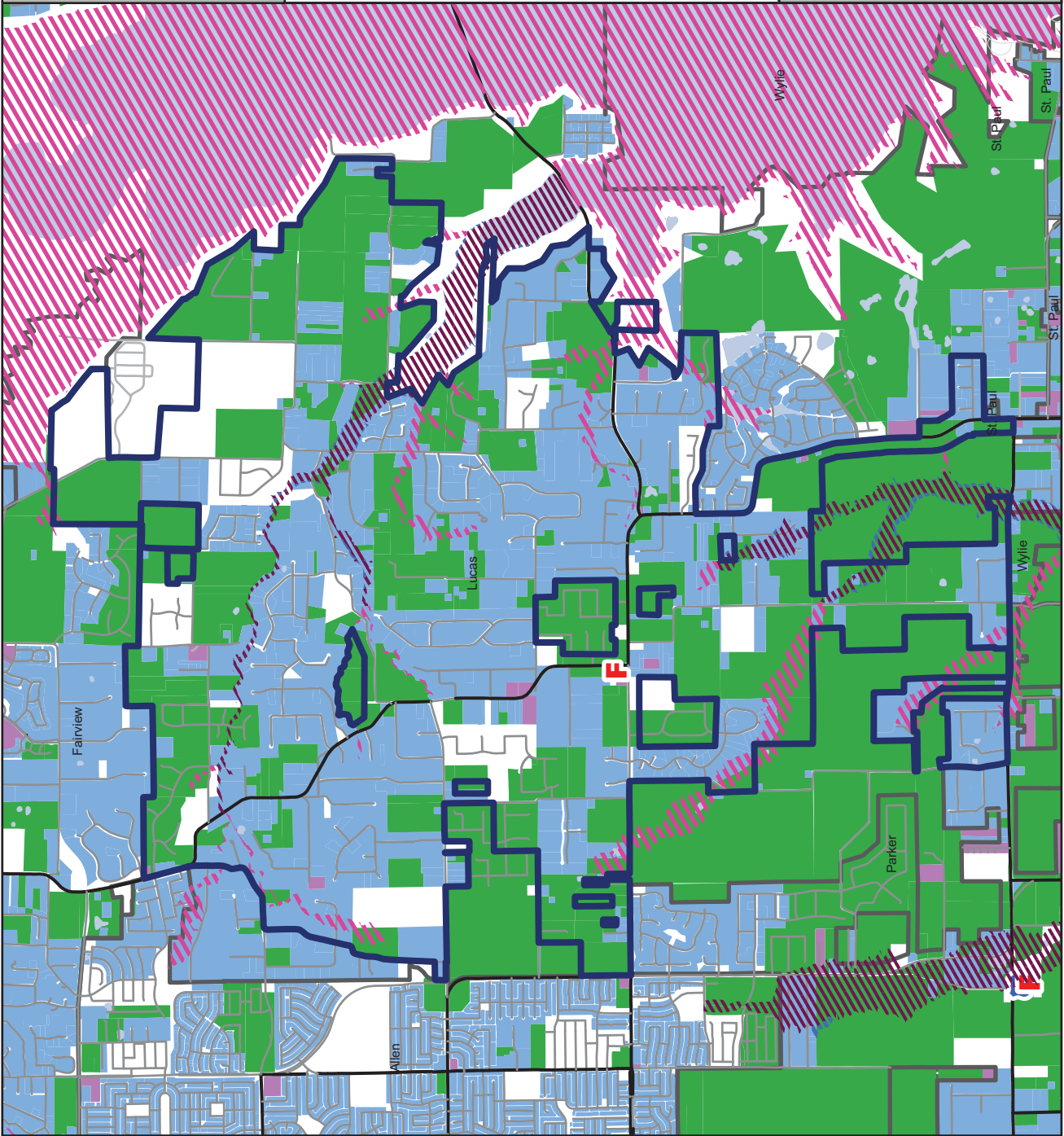


Emergency Preparedness

North Central Texas Council of Governments
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07/14/2014
2:52:08

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Map H.5

Regional Mitigation Strategy

Collin County City of Wylie

Landuse with Critical Infrastructure and Flood Zones

Legend

- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year

F Fire

P Police

H Hospital

Emergency Operations Center

Lakes

Residential

Commercial

Undeveloped



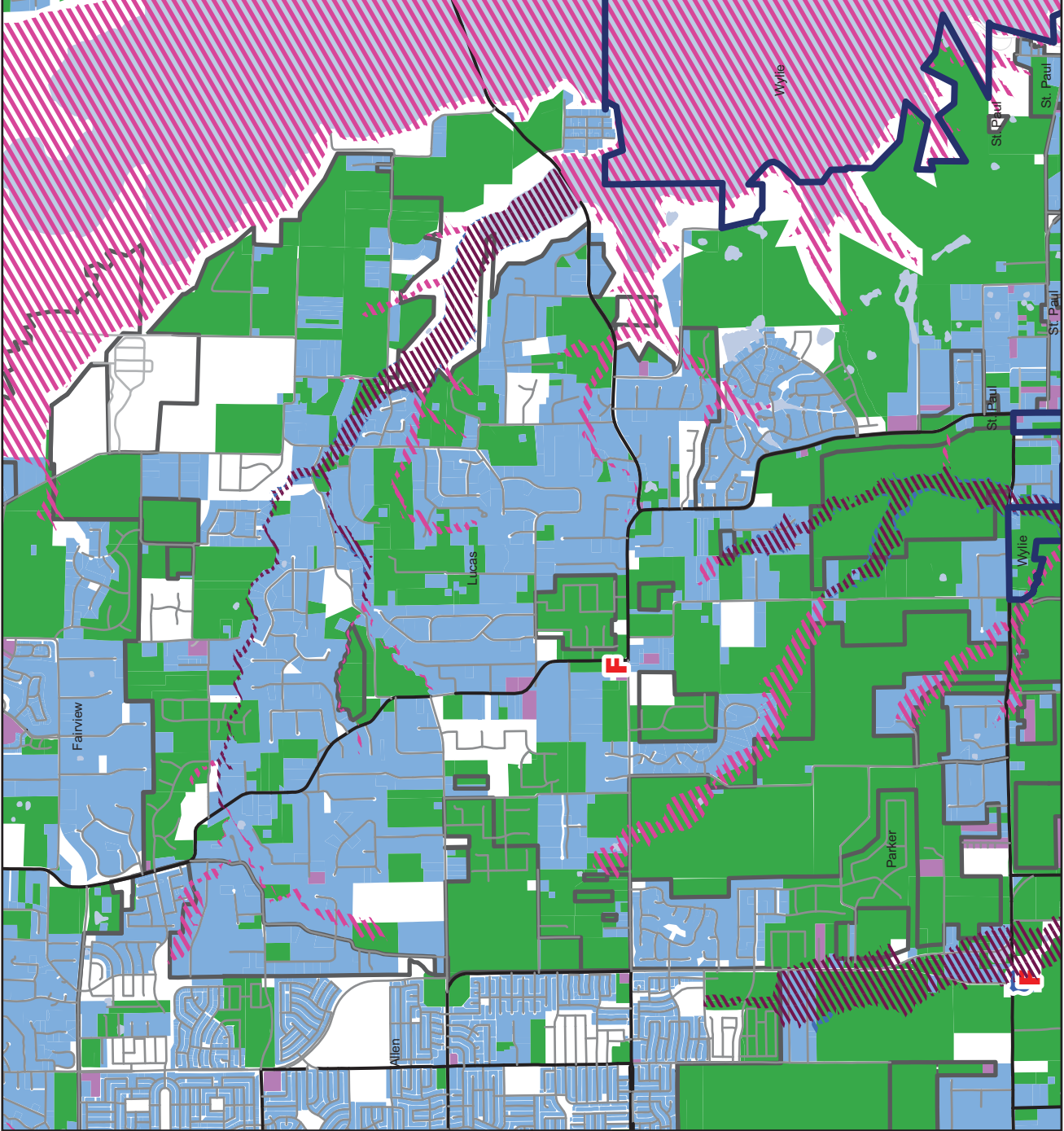
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Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Every
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2/5/2009

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Map H.6

Regional Mitigation Strategy

Collin County
NE Collin County
Landuse with

Critical Infrastructure
and Flood Zones

Legend

- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year

- Fire
- Police
- Hospital
- Emergency Operations Center

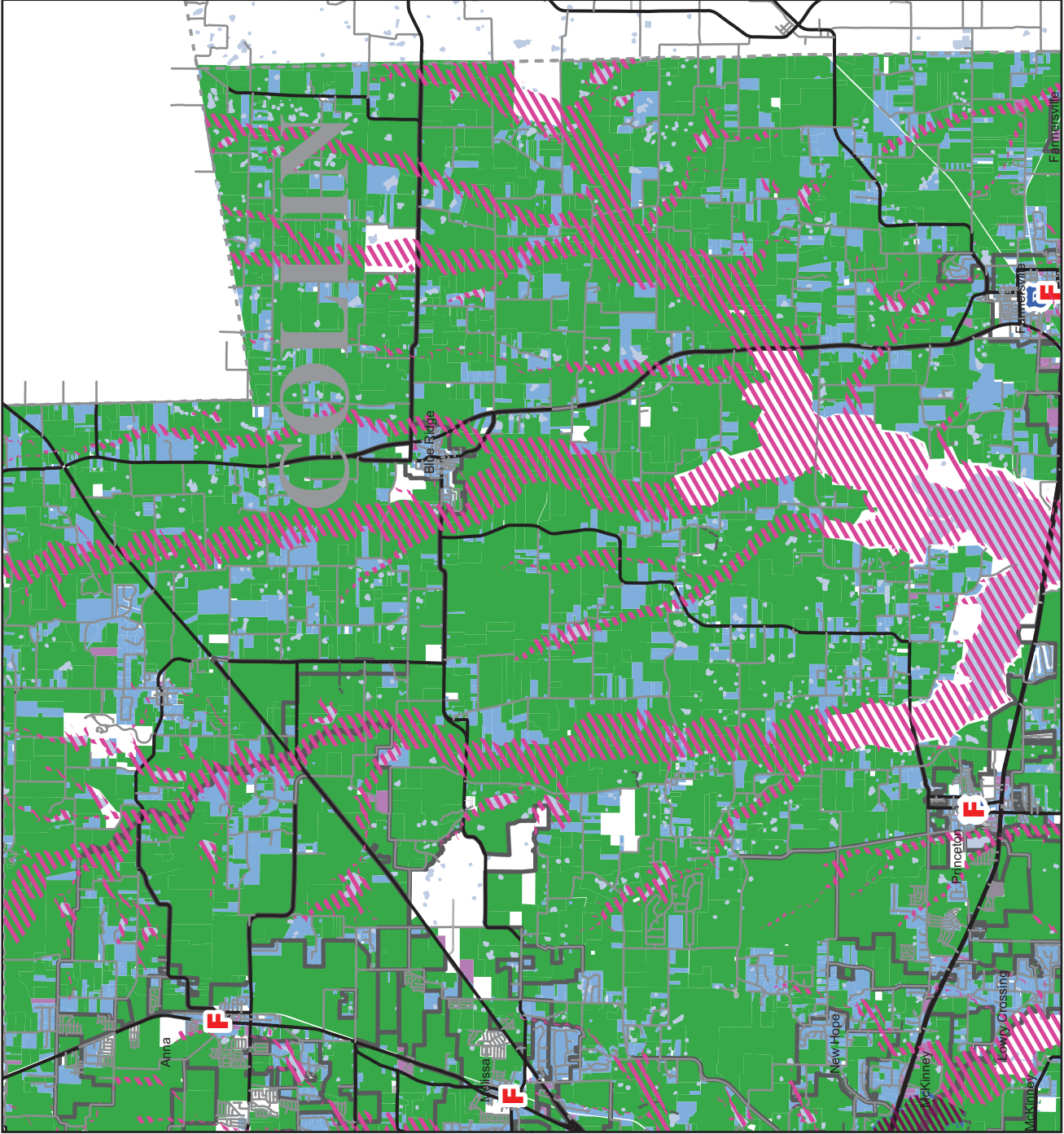
- Lakes
- Residential
- Commercial
- Undeveloped



Emergency Preparedness

North Central Texas Council of Governments
Map Created By: Amanda Every
07-14-2014
2/5/2009

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Map H.7

Regional Mitigation Strategy

Collin County
SE Collin County
Landuse with

Critical Infrastructure
and Flood Zones

Legend

- Flood Zone**
- 100 Year (A)
 - 100 Year (AE)
 - 500 Year

F Fire

P Police

H Hospital

Emergency Operations Center

Lakes

Residential

Commercial

Undeveloped

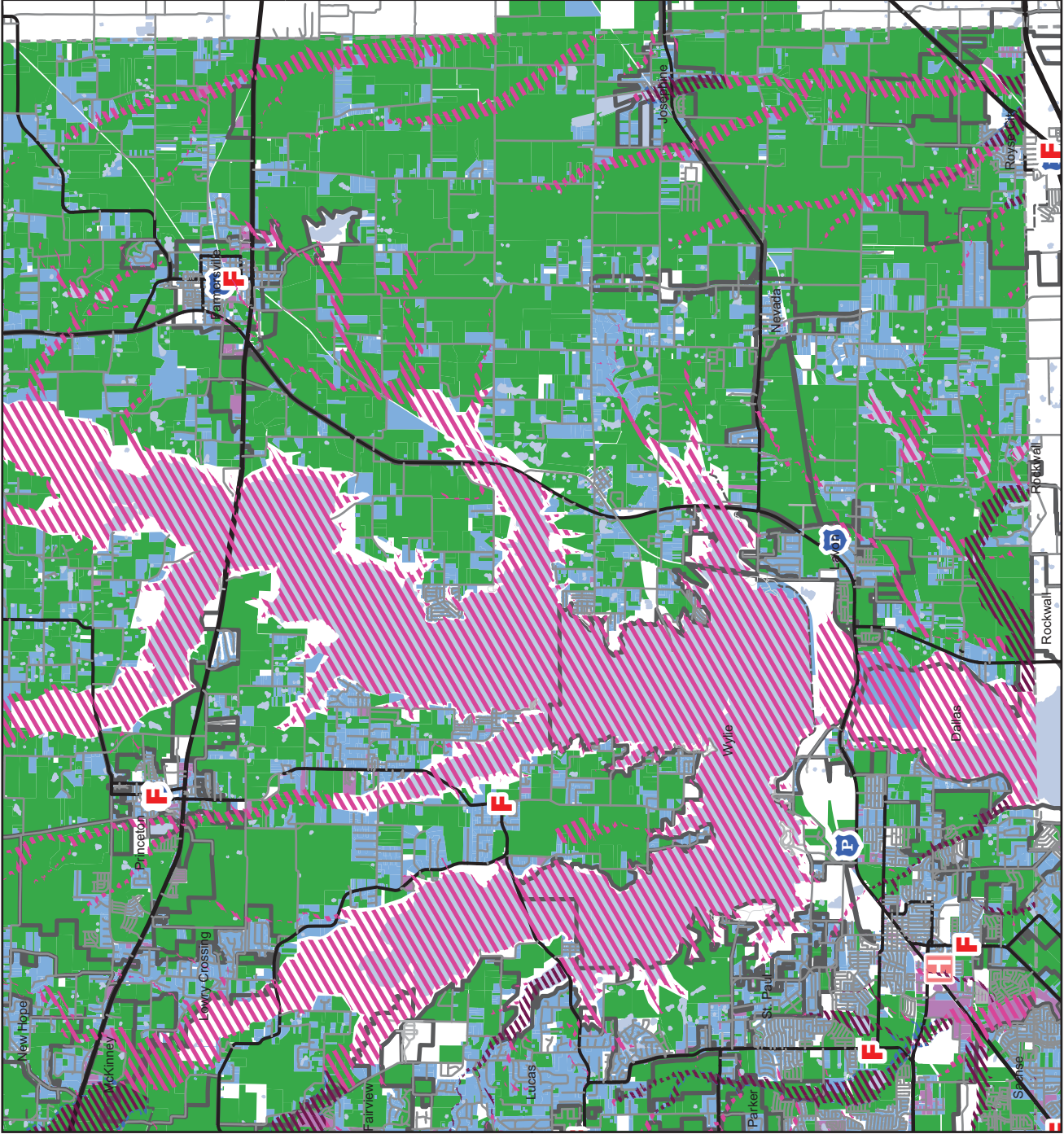


Emergency Preparedness

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Map Created By: Amanda Every
07/14/2014
2:52:08PM

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Map H.8

Regional Mitigation Strategy

Collin County
NW Collin County
Landuse with

Critical Infrastructure
and Flood Zones

Legend

Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year

F Fire

P Police

H Hospital

Emergency Operations Center

Lakes

Residential

Commercial

Undeveloped

0 0.5 1 2 Miles

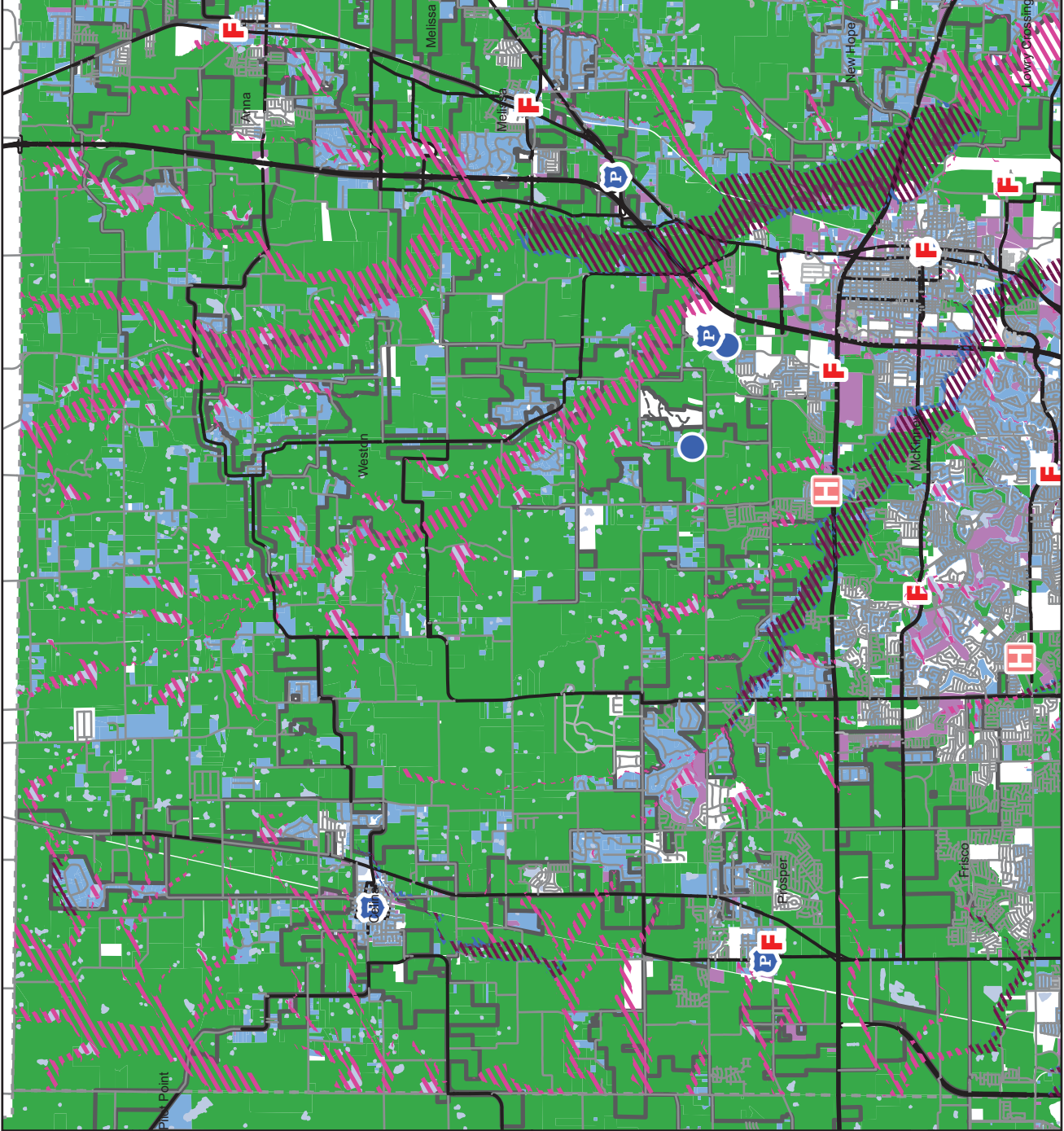


Emergency Preparedness

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Map Created By: Amanda Every
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Map I.1

Regional Mitigation Strategy

Collin County

Allen

Allen Parcels

- Single Family Homes
- Multi-Family Homes
- Commercial/Utility
- Grassland/Farmland
- Other



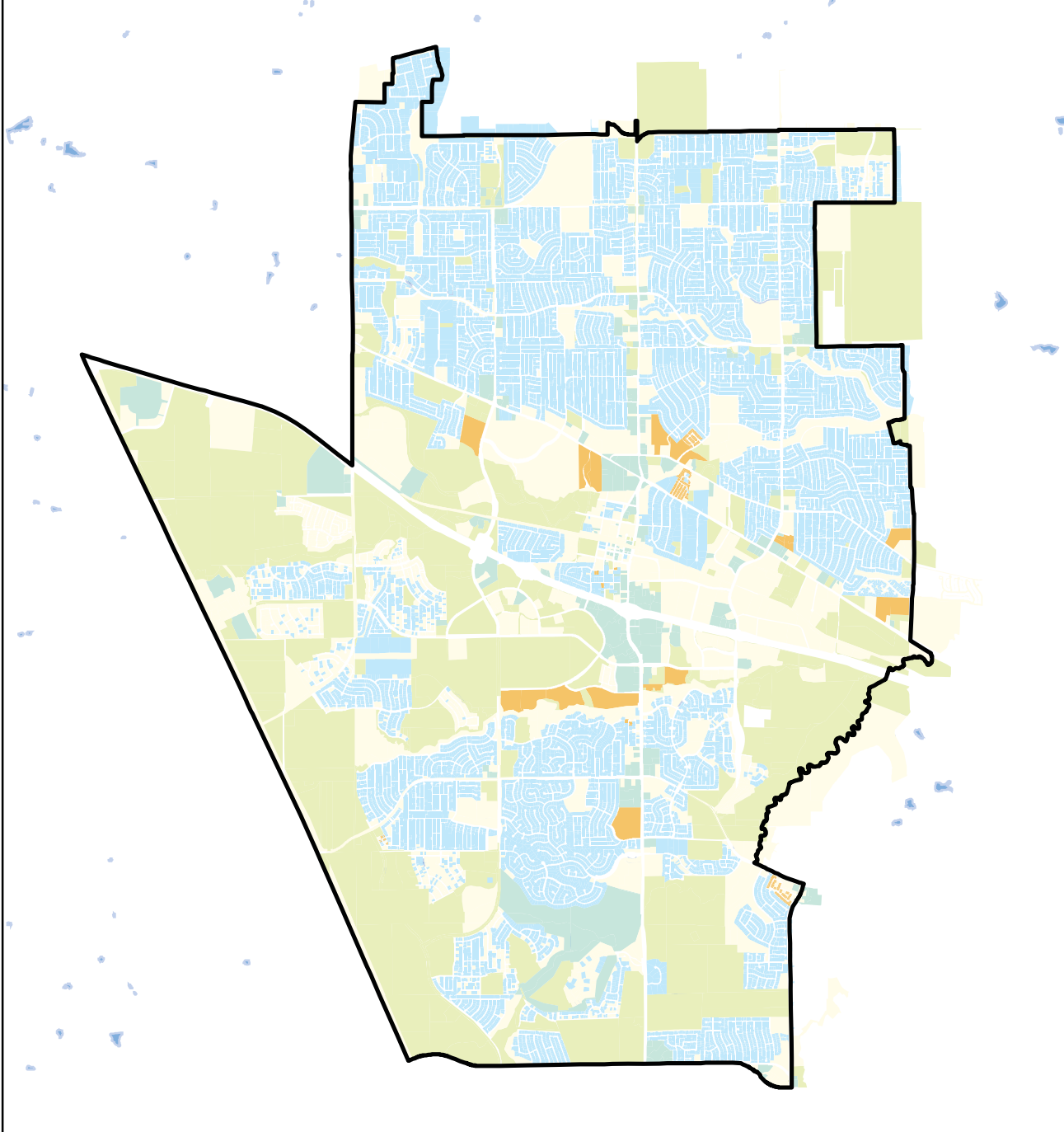
0.5 0.25 0 0.5 Miles

Emergency Preparedness

North Central Texas Council of Governments
Map Created By Amanda Eversy
7/15/2010

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Map I.2

Regional Mitigation Strategy

Collin County

Frisco

Frisco parcels

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other



0.750.375 0 0.75 Miles

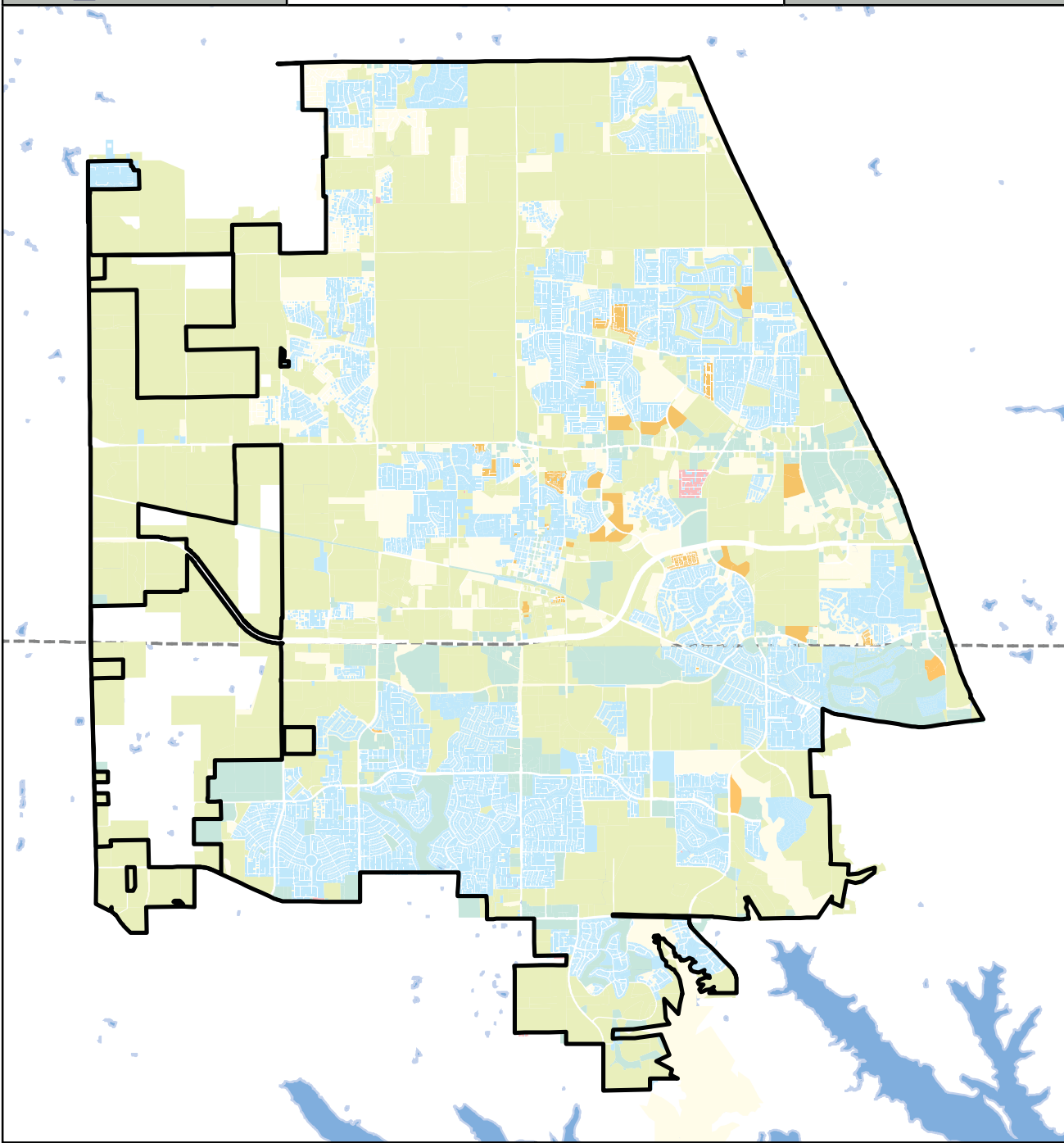


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Map I.3

Regional Mitigation Strategy Collin County

Lavon

Lavon Parcels

- Single Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other



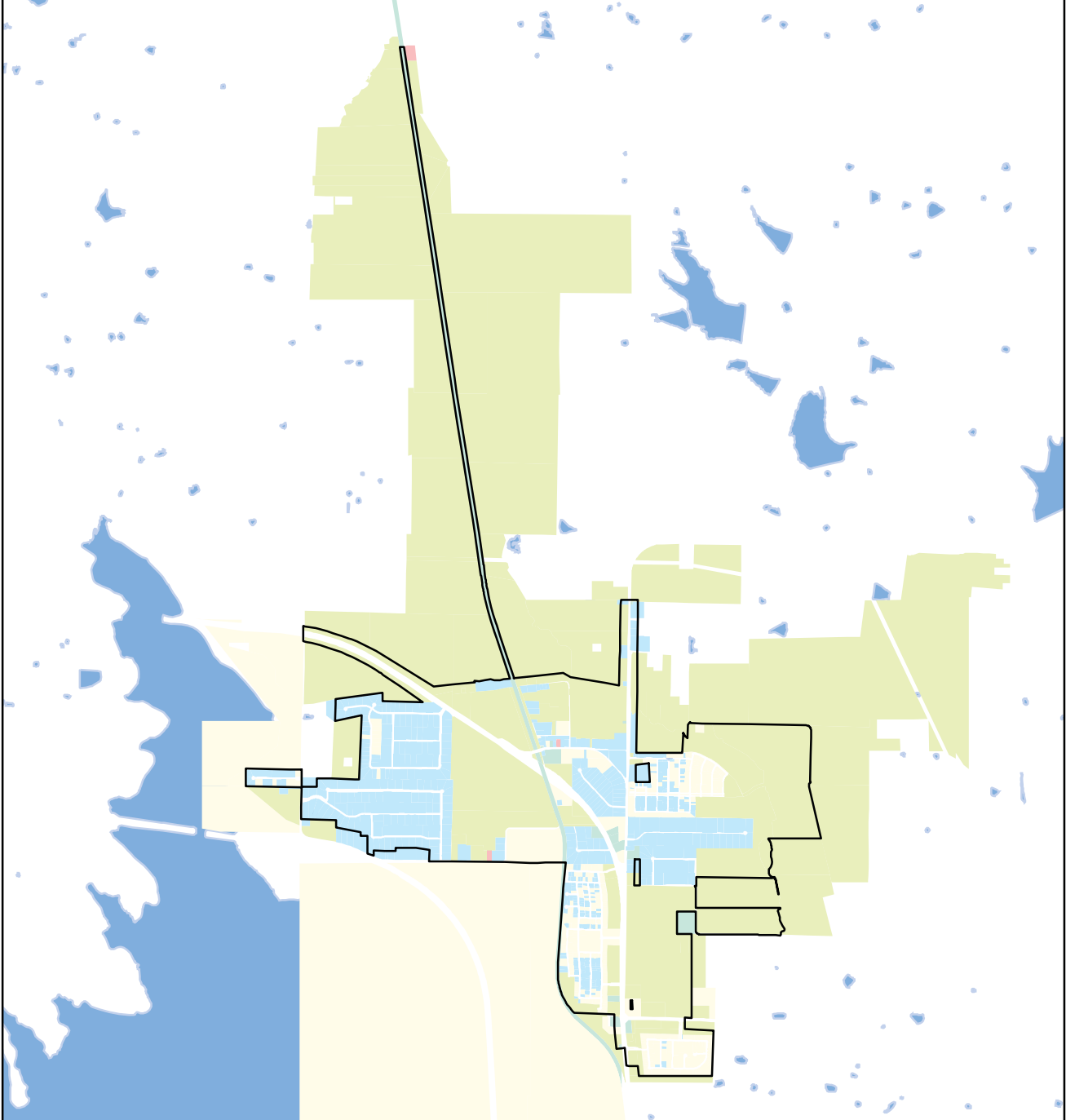
0.5 0.25 0 0.5 Miles

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Map I.4

Regional Mitigation Strategy

Collin County

Lucas

Lucas Parcels

- Single Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

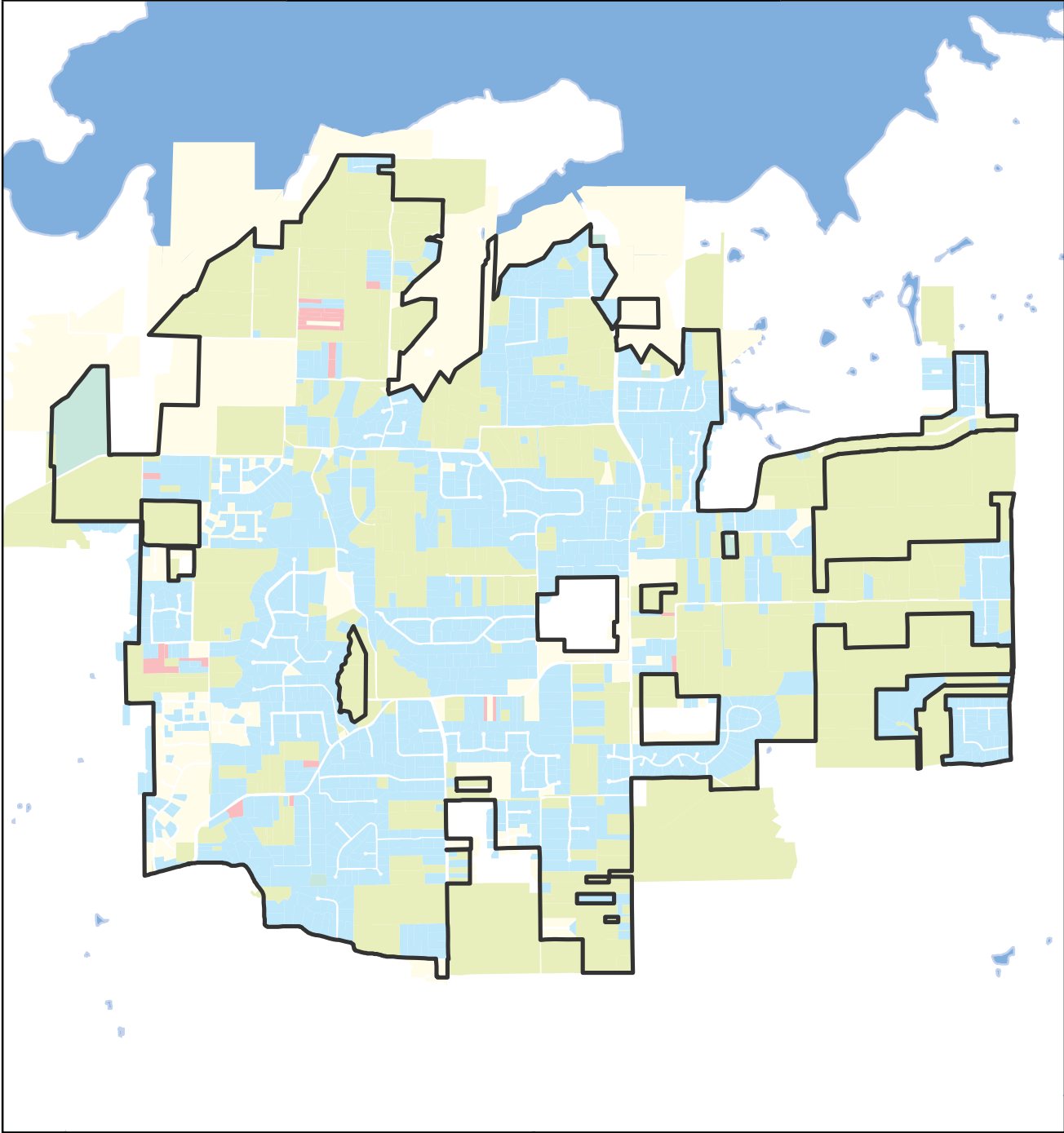


0.5 0.25 0 0.5 Miles

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Map I.5

Regional Mitigation Strategy

Collin County

Wylie

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

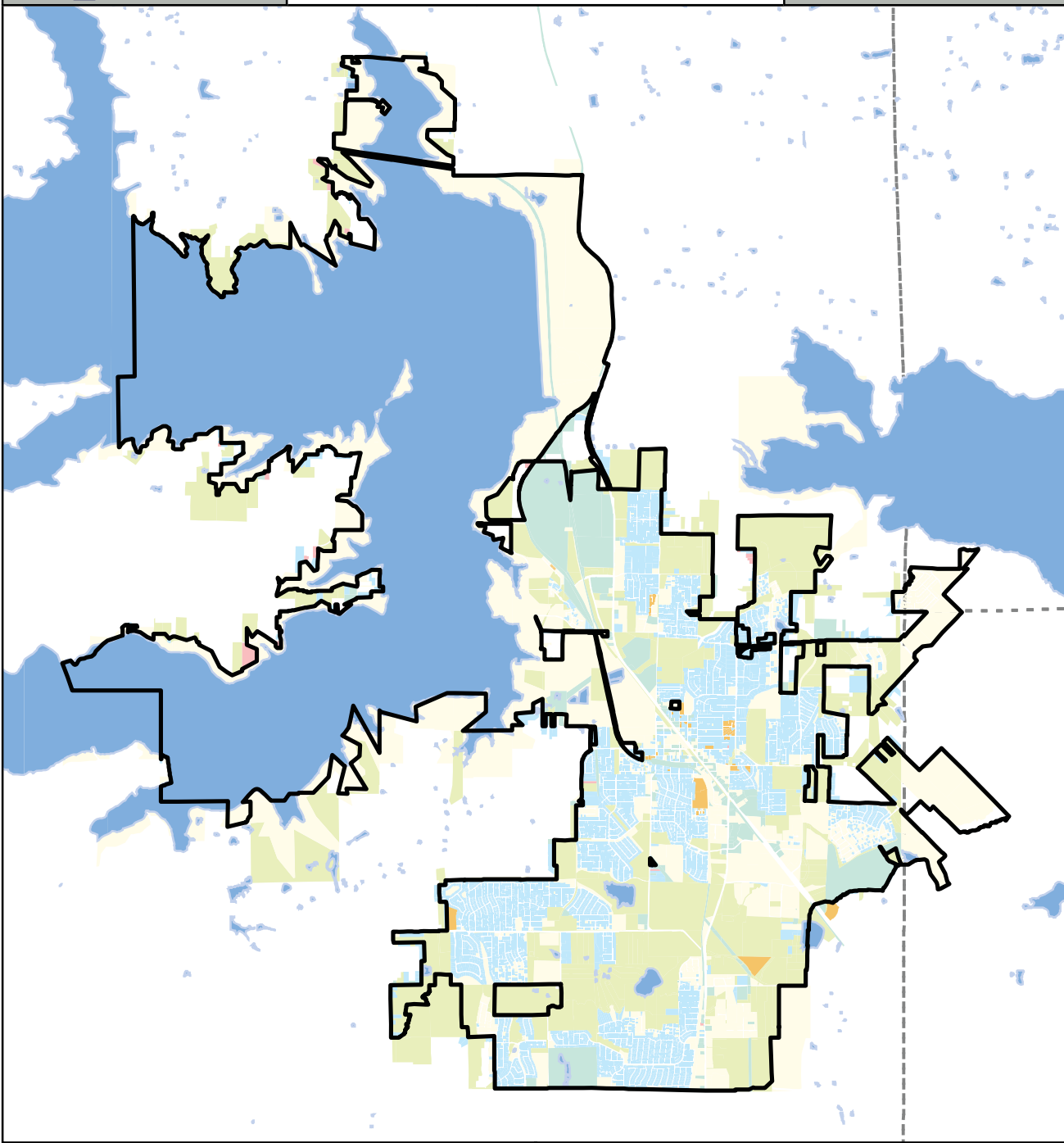


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Map I.6

Regional Mitigation Strategy

Collin County

Collin County Parcels

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other



2 1 0 2 Miles

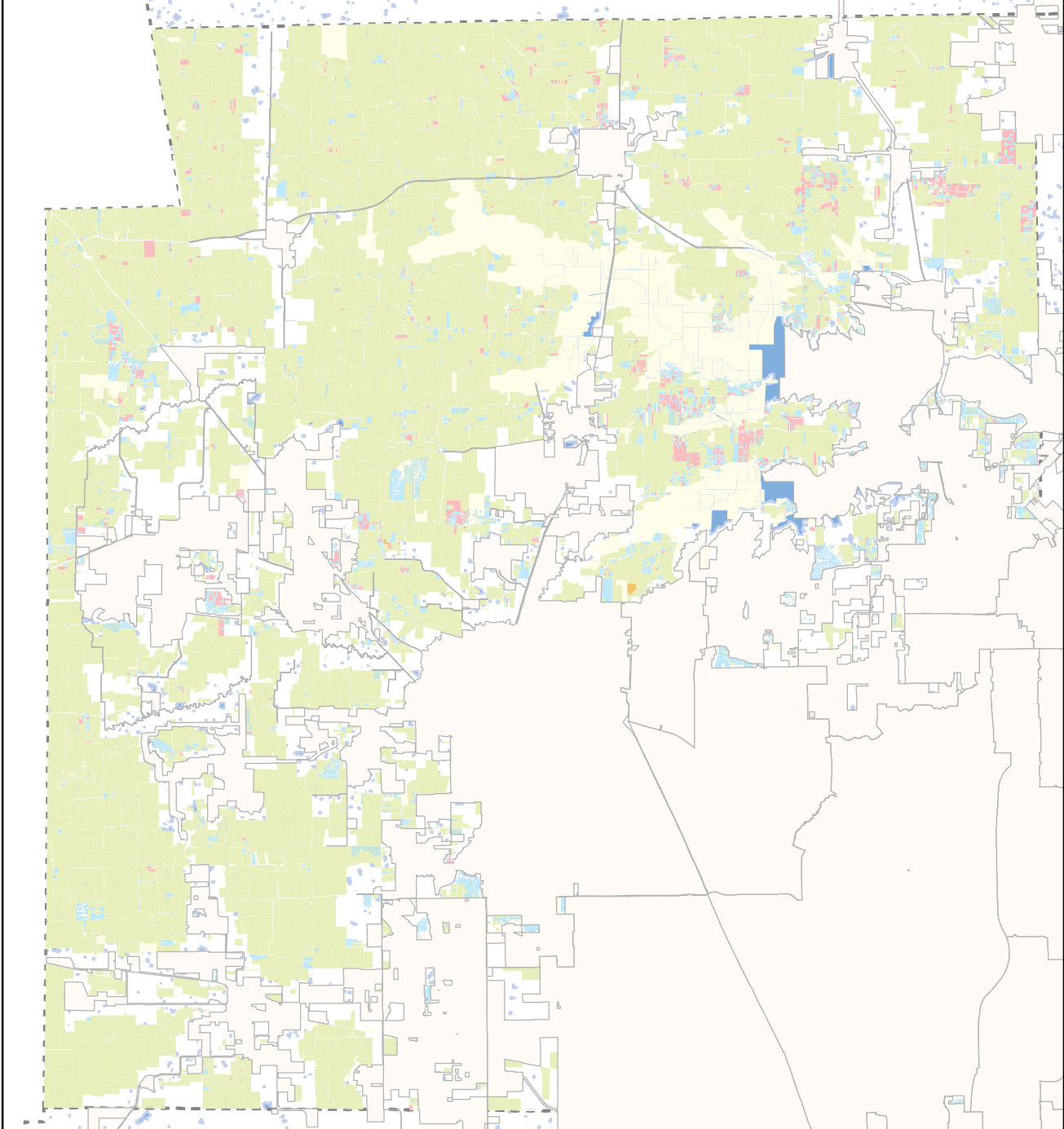


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Map Created By Amanda Ewery
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Map J.1

Regional Mitigation Strategy

Collin County

Allen

with Flood Zones

Allen Parcels

- Single Family Homes
- Multi-Family Homes
- Commercial/Utility
- Grassland/Farmland
- Other

Flood Zone

- 100 Year (A)
- 100 Year (AE)

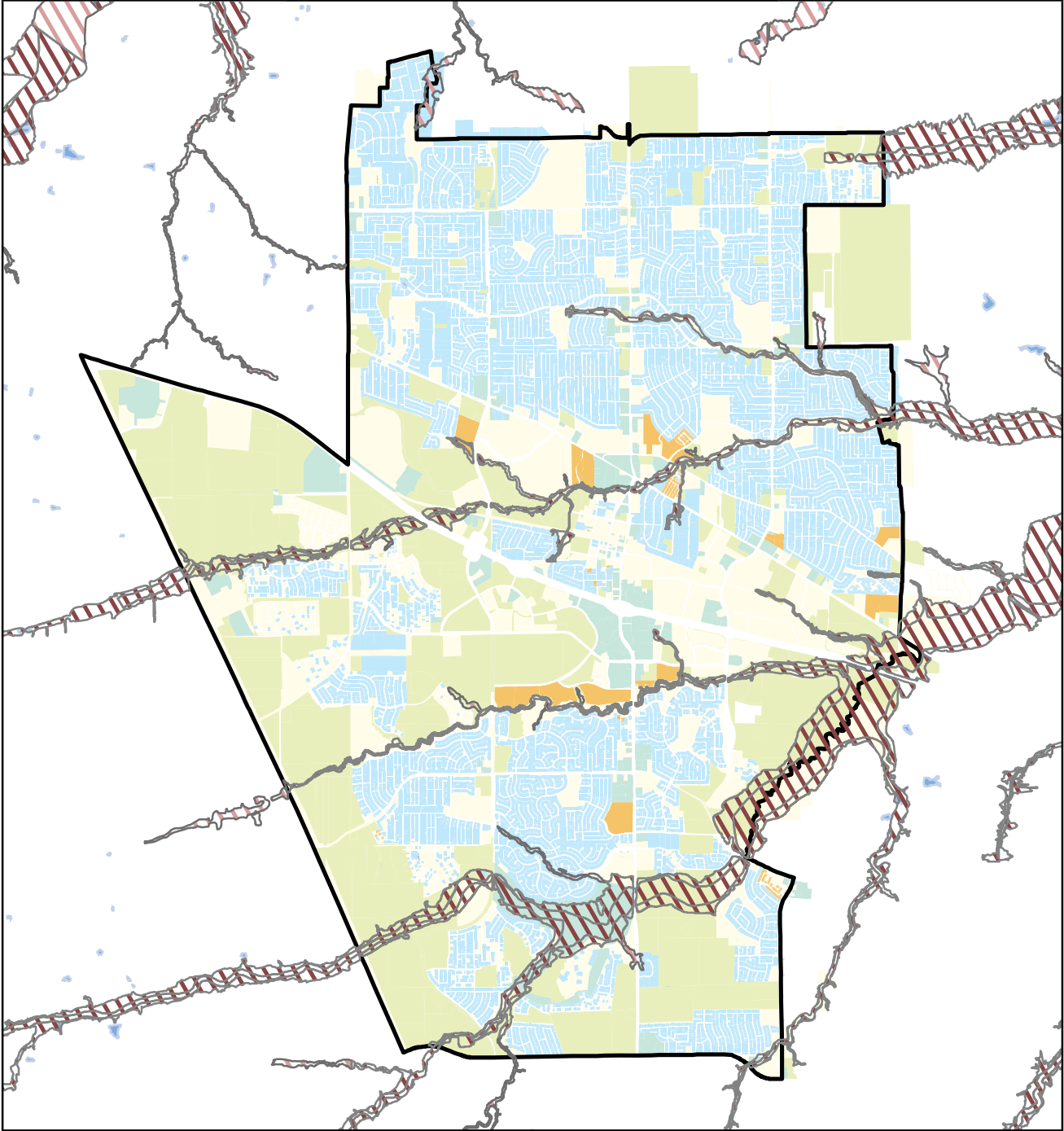


Emergency Preparedness

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Map Created By Amanda Ewery
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Map J.2

Regional Mitigation Strategy

Collin County

Frisco with Flood Zones

Frisco parcels

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

ZONE

- A
- AE

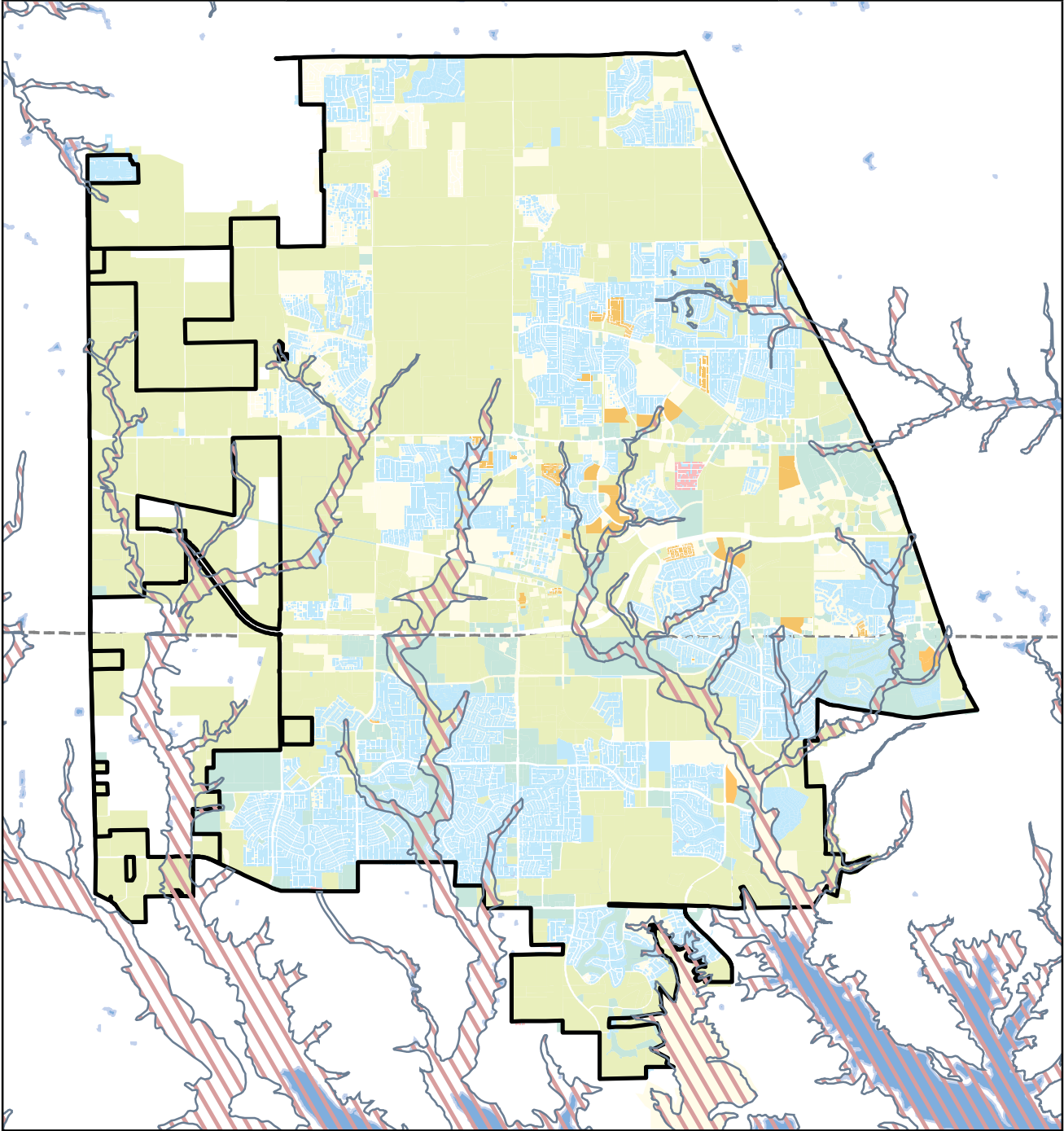


0.7 0.35 0 0.7 Miles

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Map J.3

Regional Mitigation Strategy

Collin County

Lavon with Flood Zones

Lavon Parcels

- Single Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

Flood Zone

- 100 Year (A)
- 100 Year (AE)



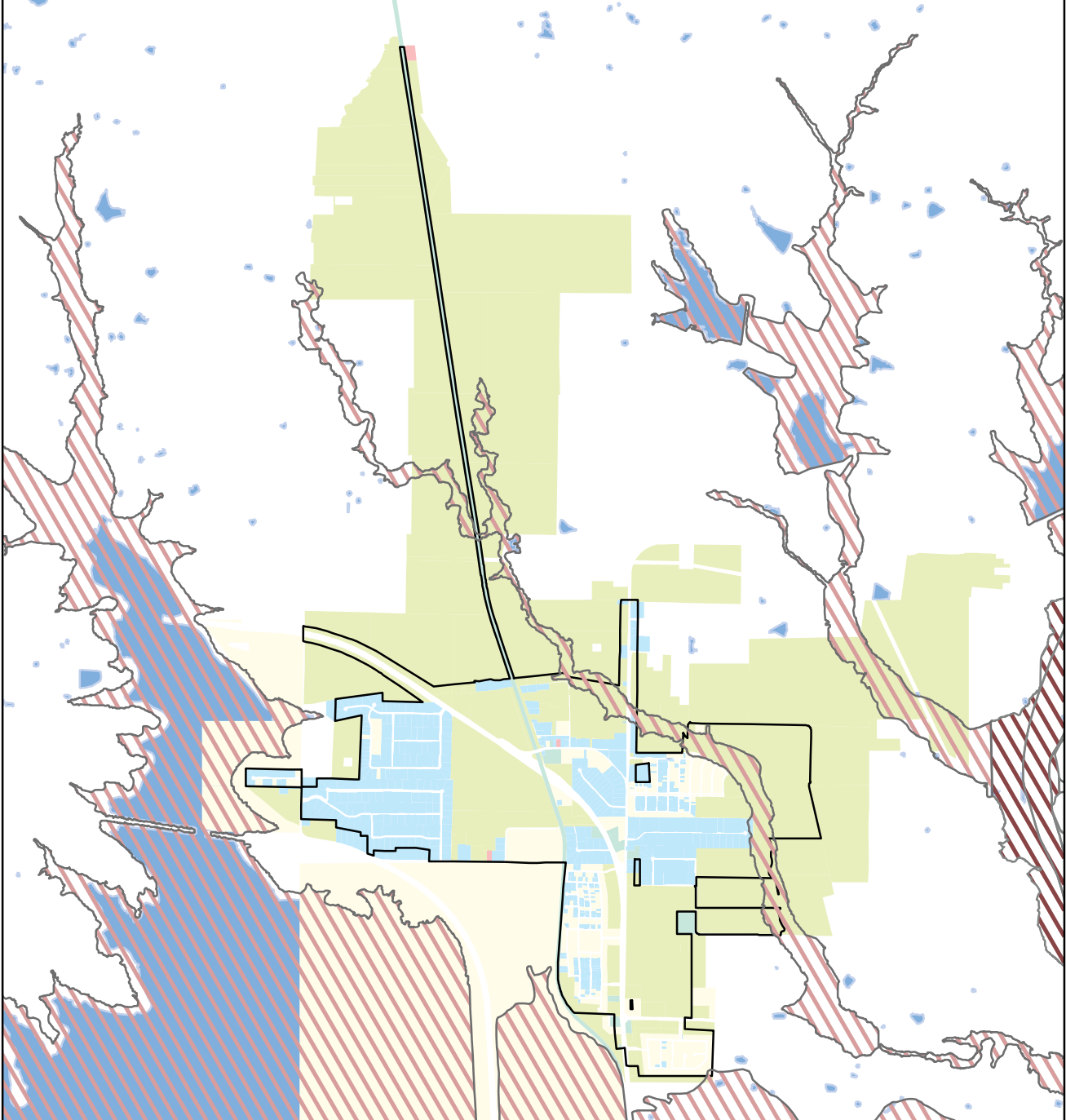
0.5 0.25 0 0.5 Miles

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Map J.4

Regional Mitigation Strategy

Collin County

Lucas

with Flood Zones

Lucas Parcels

- Single Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

Flood Zone

- 100 Year (A)
- 100 Year (AE)

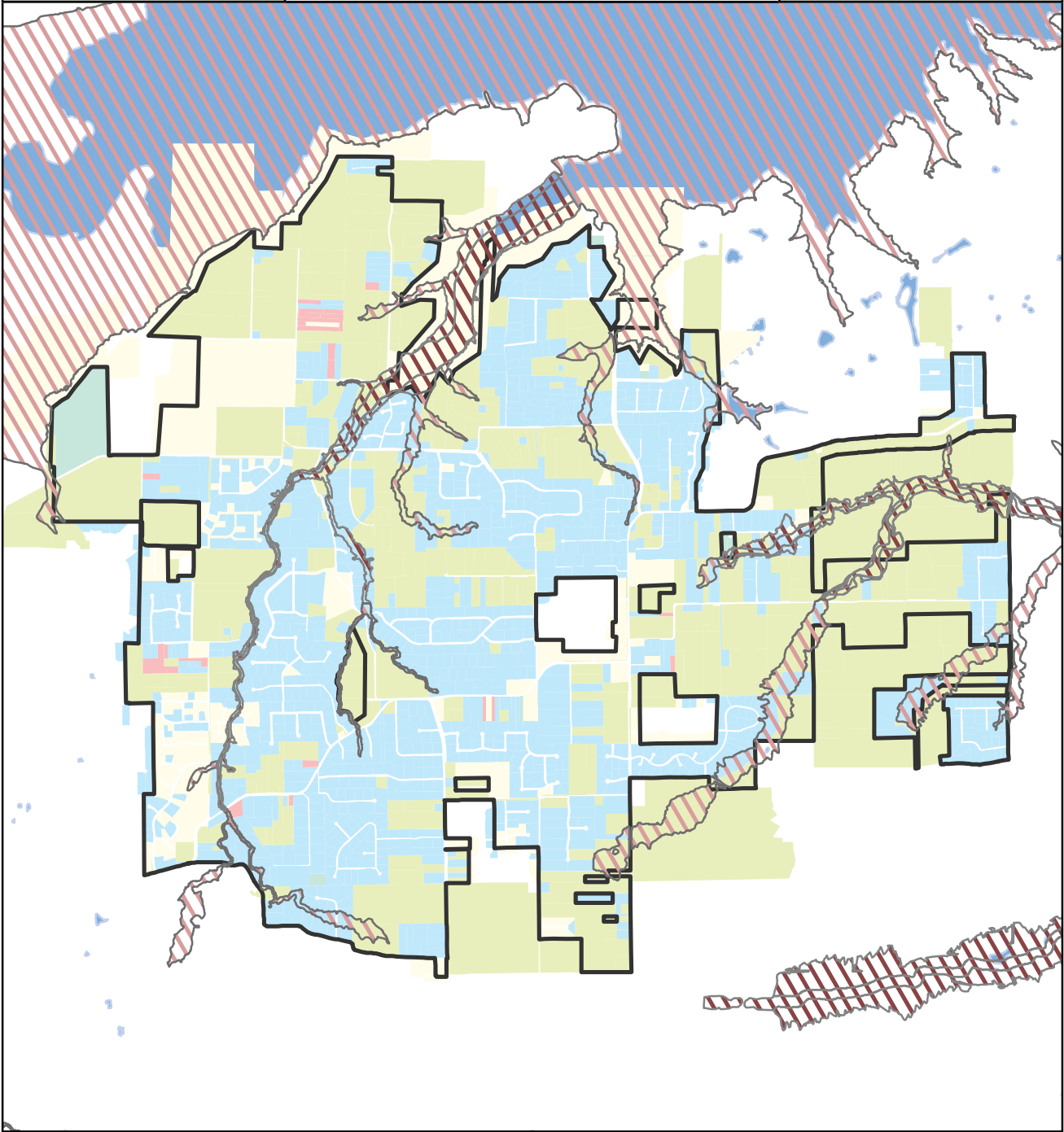


0.5 0.25 0 0.5 Miles

Emergency Preparedness

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Map J.5

Regional Mitigation Strategy

Collin County

Wylie

with Flood Zones

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

Flood Zone

- 100 Year (A)
- 100 Year (AE)

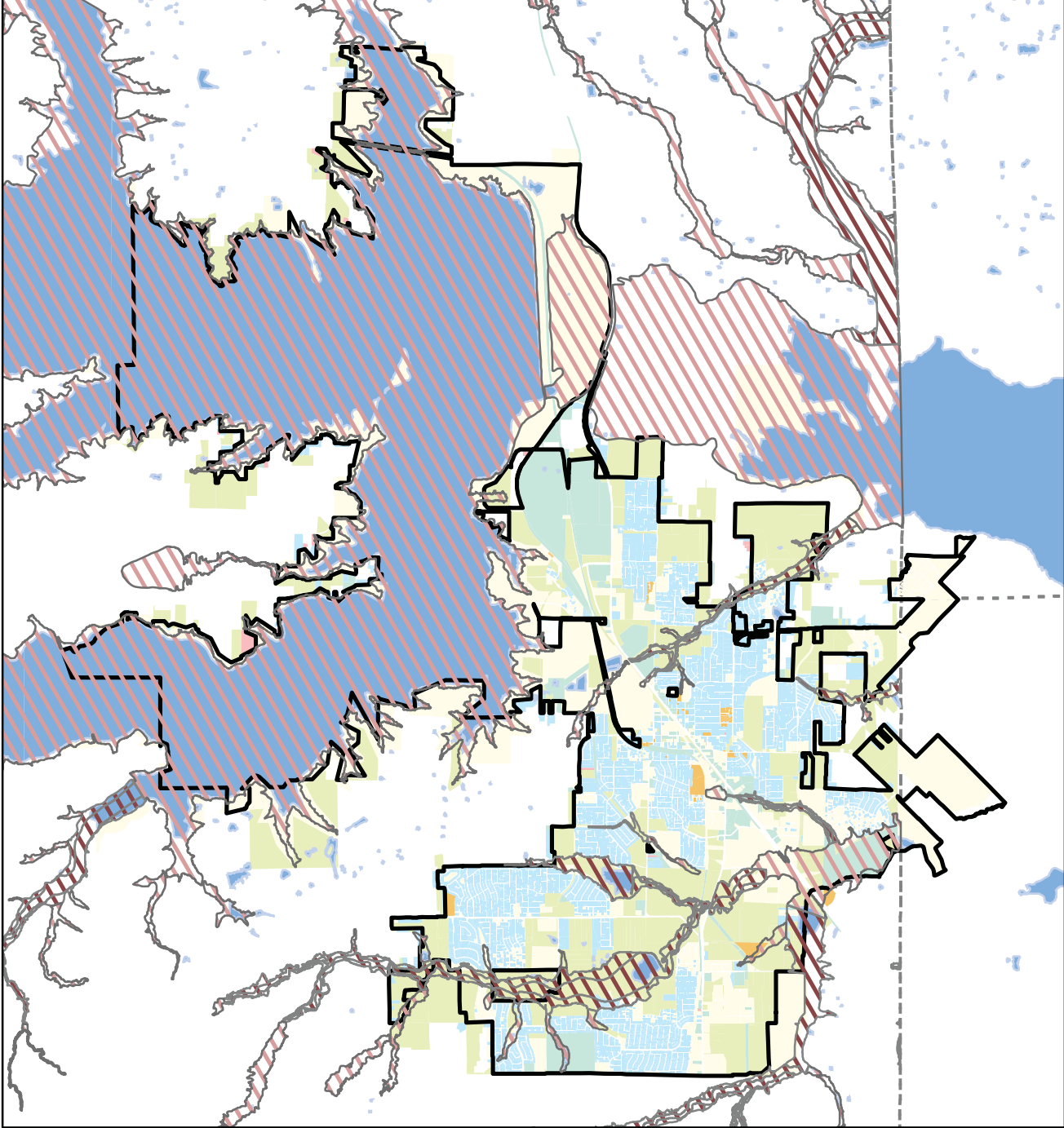


Emergency Preparedness

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Map Created By Amanda Eversy
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Map J.6

Regional Mitigation Strategy

Collin County with Flood Zones

Flood Zone

- 100 Year (A)
- 100 Year (AE)

Collin County Parcels

- Single Family Homes
- Multi-Family Homes
- Mobile Homes
- Commercial/Utility
- Grassland/Farmland
- Other

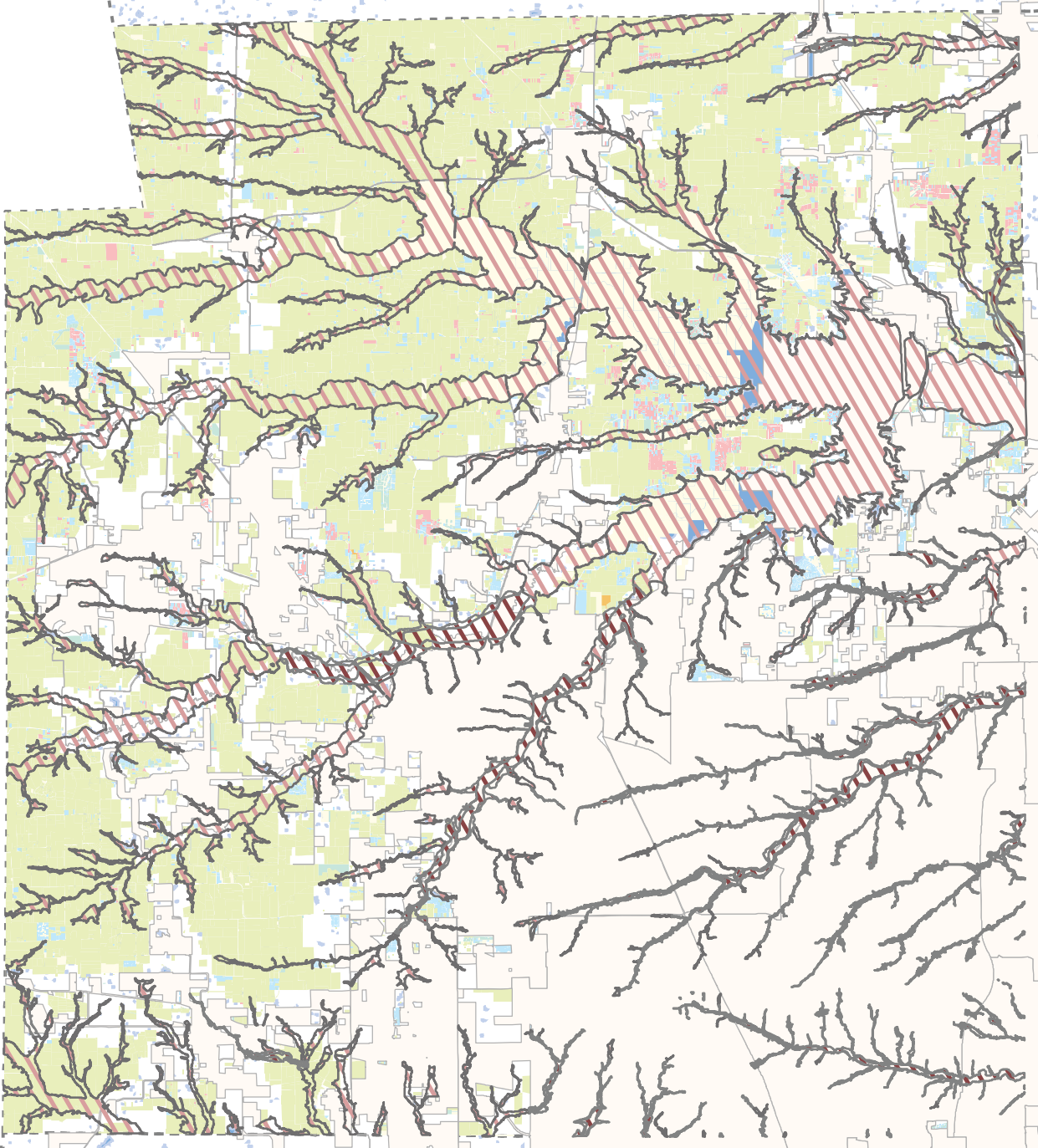


Emergency Preparedness

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Map K Regional Mitigation Strategy Collin County Local Critical Facilities

Legend

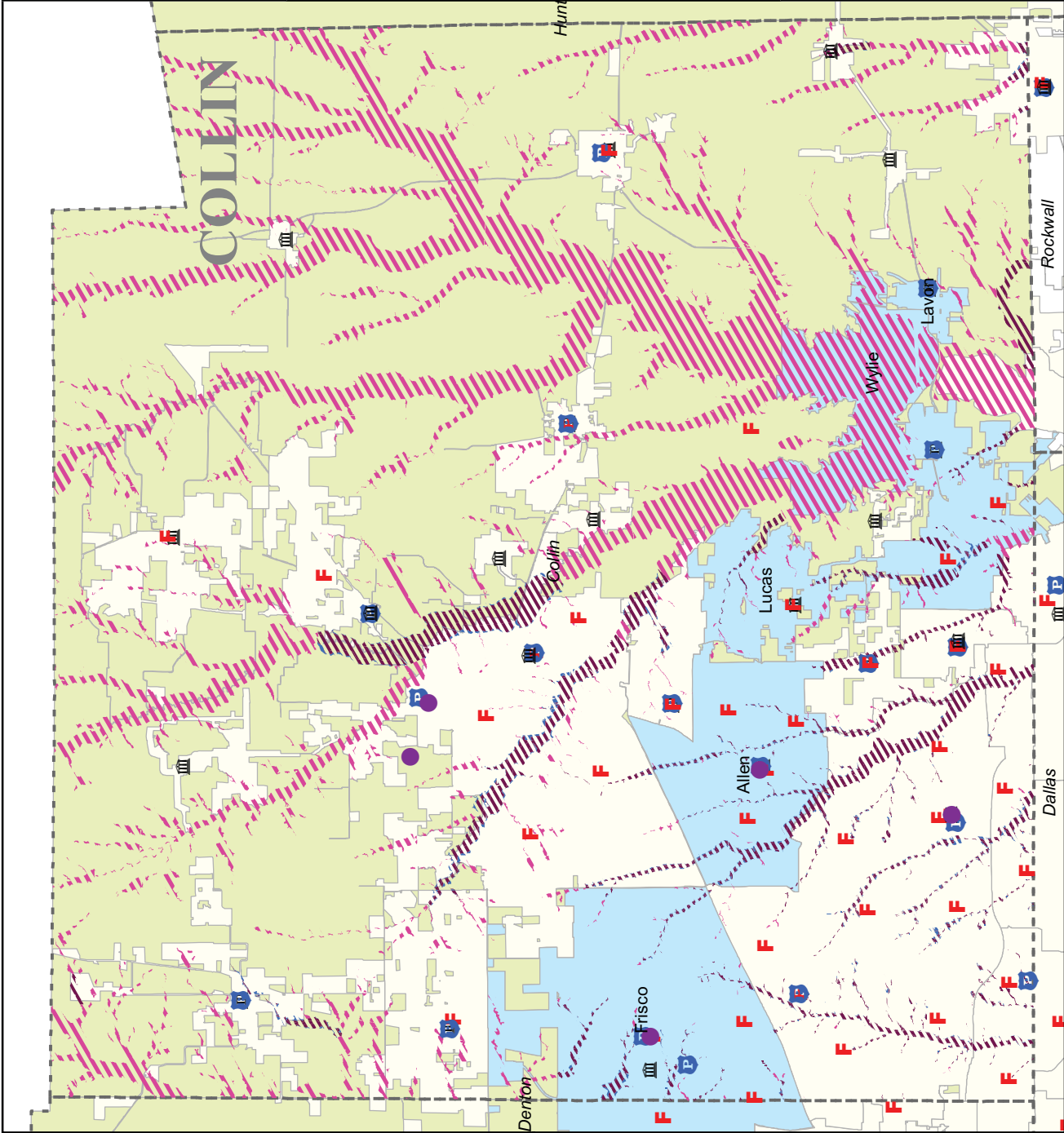
- Emergency Operations Center
- Ⓜ City Hall
- 🚒 Fire
- 👮 Police

Flood Zone

- 100 Year (A)
- 100 Year (AE)
- 500 Year
- 500 Year Flood Zone
- Participating Cities
- Non-Participating Cities
- Participating Counties

2 1 0 2 Miles

Emergency Preparedness
North Central Texas Council of Governments
Map Created By: Amanda Everly
(817)-695-9214
5/22/2009



3.7 Repetitive Loss Properties

Vulnerability of Repetitive Loss Properties The National Flood Insurance Reform Act of 2004 recognized repetitive loss as a significant problem and defined severe repetitive loss as:

- Four or more paid flood losses of more than \$1,000 each; or
- Two paid flood losses within a 10-year period that, in the aggregate, equal or exceed the current value of the insured property; or
- Three or more paid losses that, in the aggregate, equal or exceed the current value of the insured property.

The loss history includes all flood claims paid on an insured property, regardless of any change of ownership, since the building's construction or back to 1978 if the building was constructed prior to 1978.

The following chart lists all known losses for the Collin County planning area and was utilized in identifying Repetitive Loss property based on the FEMA screening criteria.

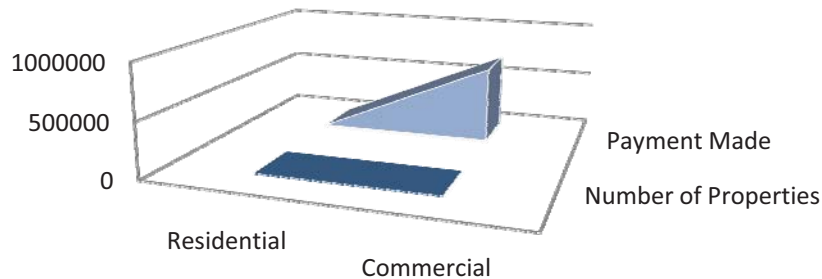
Texas Loss Statistics from January 1, 1978 through report AS OF 04/30/2009					
Community Name	Total Payments	Closed Losses	Open Losses	CWOP Losses	Total Losses
Collin County	695,343.81	23	0	8	31
City of Allen	3,647.45	2	0	1	3
City of Frisco	4,530.65	3	0	3	6
City of Lavon	0	0	0	0	0
City of Lucas	4 22,239.63	2	0	2	4
City of Wylie	38,900.00	1	0	1	2

Source: <http://bsa.nfipstat.com/reports/1040.htm>

Types and Numbers of Repetitive Loss Properties The National Flood Insurance Program structures that have been repetitively damaged in floods have been assessed within the Collin County LMS, and provide a basis for assessing overall participating jurisdiction vulnerability in the terms of types and numbers of repetitive loss properties located within the identified hazard areas.

The following chart provides an overview for the entire planning area, and subsequent charts provide jurisdiction specific information for types and numbers of repetitive loss properties.

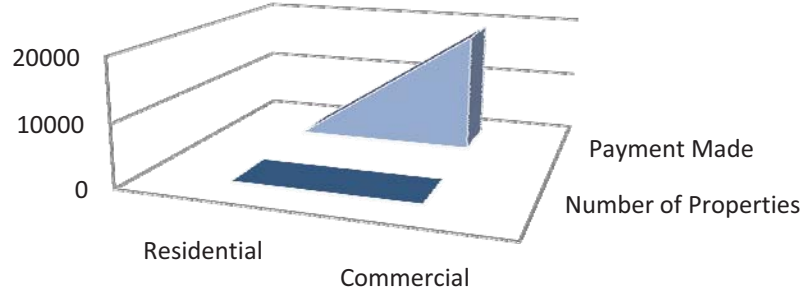
CoLMS Total Repetitive Loss Payments



	Residential	Commercial
■ Number of Properties	0	3
■ Payment Made	\$0.00	\$690,618.00

Jurisdiction Repetitive Loss Properties The following tables demonstrate the number and each type of structures for each jurisdiction which are known to be Repetitive Loss Properties as defined by FEMA in the Collin County Local Mitigation Strategy planning area.

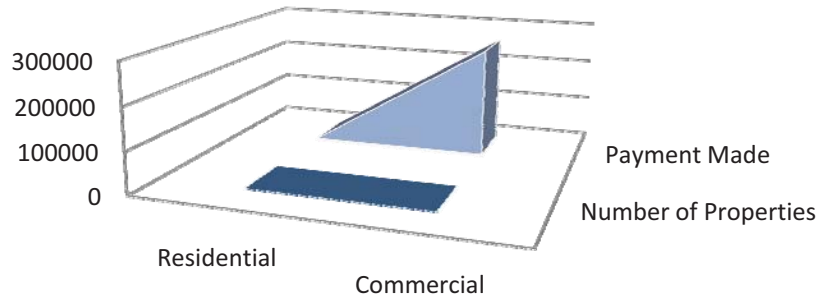
Unincorp. County Repetitive Loss Payments



	Residential	Commercial
■ Number of Properties	0	1
■ Payment Made	\$0.00	\$19,000.00

**Complete address information was not available to indicate the estimated value of the property, or to indicate the differentiation between residential or commercial property.*

City of Allen Repetitive Loss Payments



	Residential	Commercial
■ Number of Properties	0	1
■ Payment Made	\$0.00	\$262,021.00

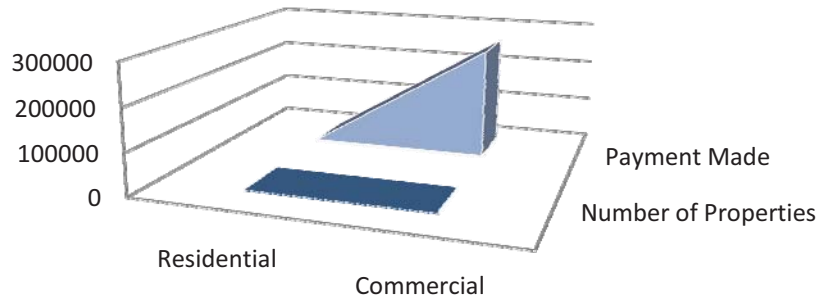
The Cities of Frisco, Lavon, and Lucas did not have any repetitive loss structures.

City of Frisco	Number of Properties	Payment Made
Commercial	N/A	N/A
Residential	N/A	N/A

City of Lavon	Number of Properties	Payment Made
Commercial	N/A	N/A
Residential	N/A	N/A

City of Lucas	Number of Properties	Payment Made
Commercial	N/A	N/A
Residential	N/A	N/A

City of Wylie Repetitive Loss Payments



	Residential	Commercial
■ Number of Properties	0	1
■ Payment Made	\$0.00	\$262,021.00

*Property value and category determined through Collin County Central Tax Appraisal District website <http://www.collincad.org/search.php>

Chapter Four: Mitigation Goals and Action Items

Chapter Four of the Collin County Multi-Jurisdictional Local Mitigation Strategy describes each participating jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand and improve on these existing tools. Hazard mitigation goals are outlined for the local mitigation strategy, and objectives are quantified through individual jurisdiction action items through which each participating jurisdiction plans to accomplish those objectives and reach goal completion.

The chapter identifies specific and identifiable action items for each participating jurisdiction, laying out each action item and how it will be implemented and administered, to include the responsible department, existing and potential funding sources, and the timeframe that each item will be completed in. The action items also present a cost benefit review statement and demonstrate the priority of emphasis on each action item by that particular jurisdiction.

4.1 Goals

4-3

The hazard mitigation goals describe the overall purpose of the local mitigation strategy, and target specific objectives through which those goals are to be achieved. Each participating jurisdiction aligns their specific action items to these goals through specific and measurable objectives.

4.2 Action Items

4-4

The action items are organized by each hazard assessed, are listed in order of the participating jurisdiction, and identify items specific to each jurisdiction and how that particular jurisdiction plans to reduce the potential losses identified in Chapter Three.

Action Item Aggregate Overview	
Multi-Hazard Prioritization Scoring	Table 4.A.1
Multi-Hazard Aggregate Overview	Table 4.A.2
Dam Failure Prioritization Scoring	Table 4.B.1
Dam Failure Aggregate Overview	Table 4.B.2
Drought Prioritization Scoring	Table 4.C.1
Drought Aggregate Overview	Table 4.C.2
Earthquakes Prioritization Scoring	Table 4.D.1
Earthquakes Aggregate Overview	Table 4.D.2
Extreme Heat Prioritization Scoring	Table 4.E.1
Extreme Heat Aggregate Overview	Table 4.E.2
Flooding Prioritization Scoring	Table 4.F.1
Flooding Aggregate Overview	Table 4.F.2
Hail Prioritization Scoring	Table 4.G.1
Hail Aggregate Overview	Table 4.G.2
High Winds Prioritization Scoring	Table 4.H.1
High Winds Aggregate Overview	Table 4.H.2
Tornado Prioritization Scoring	Table 4.I.1
Tornado Aggregate Overview	Table 4.I.2
Wildland Fire Prioritization Scoring	Table 4.J.1
Wildland Fire Aggregate Overview	Table 4.J.2
Winter Storm Prioritization Scoring	Table 4.K.1
Winter Storm Aggregate Overview	Table 4.K.2

4.3 National Flood Insurance Program (NFIP) Compliance 4-6

Chapter Four of the Multi-Jurisdictional Local Mitigation Strategy also describes each participating jurisdiction’s participation in the National Flood Insurance Program (NFIP), and identifies, analyzes, and prioritizes those action items which are related to continued compliance with the NFIP.

NFIP Action Item Overview 4-7

This provides an overview of the specific NFIP compliance and program continuance action items for each participating jurisdiction. A complete listing of the NFIP action items by each jurisdiction can be found in table 4-L.

NFIP Compliance Action Items

Table 4-L



4.1 Goals

The Collin County Local Mitigation Strategy corporately assessed the mitigation goals of the participating jurisdictions. The following goals and objectives were identified:

Goal 1 Reduce or eliminate loss of life and property damage resulting from severe weather events.

Objective 1-A Provide adequate warning and communication before, during, and after a hazard event

Objective 1-B Expand and coordinate Early Warning Systems currently in use

Objective 1-C Reduce or eliminate loss of life and property damage from tornados through the construction and use of safe rooms or shelter areas

Goal 2 Protect existing and new properties from the effects of all natural hazards.

Objective 2-A Conduct studies to determine hazard and vulnerability threat assessment for all natural hazards

Objective 2-B Rehabilitate or retrofit identified high hazard critical infrastructure.

Objective 2-C Enact and enforce regulatory measures that enforce hazard mitigation measures

Objective 2-D Construct enhancements or additions to current and new facilities which mitigate the effects of natural hazards

Objective 2-E Maintain NFIP compliance, storm water management, and implement drainage projects

Goal 3 Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.

Objective 3-A Conduct a hazard/vulnerability assessment of personal properties and structures located in flood zones within Collin County

Objective 3-B Develop and implement a buyout program for those personal properties and structures located in high hazard flood zones starting with those that are most vulnerable to life and property loss

Objective 3-C Develop and execute new programs which identify and reduce threats from natural hazards.

Goal 4 Develop Public Education Campaigns to educate the public on what actions they can take to mitigate the effects of loss of life or property damage resulting from all natural hazards

Objective 4-A Educate the public on risks, threats, and vulnerability from all natural hazards

Objective 4-B Educate the public on actions they can take to prevent or reduce the loss of life or property from all natural hazards

Objective 4-C Develop and implement a community education campaign to heighten public awareness about chronic flooding and options for insurance coverage to protect their personal properties as well as long term benefits from a buyout program

4.2 Action Items

Each participating jurisdiction’s Hazard Mitigation Team in the Collin County Local Mitigation Strategy collaboratively created Action Items based upon the direction of the city as identified in Capitol Improvement Plans and special projects within each city department, as well as identified new mitigation action items within the local mitigation strategy. The mitigation strategy address how the actions will be implemented and administered, including the responsible department, existing and potential resources, and the timeframe to complete each action. The format for the Action Items follows this guideline and addresses the following areas:

1. Action Item Title
2. Hazard(s) Addressed
3. Goal
4. Priority
5. Estimated Cost
6. Potential Funding Sources
7. Lead Agency/Department Responsible
8. Implementation Schedule
9. Effect on New Buildings
10. Effect on Existing Buildings
11. Cost Effectiveness
12. Discussion

Hazard Mitigation Team representatives collaborated as a Local Mitigation Strategy through the North Central Texas Council of Governments to further analyze the mitigation needs as a county.

Action Item Evaluation and Prioritization The CoLMS Action Items are comprehensively evaluated by each participating jurisdiction and are given intensive review as to determine the prioritization the Action Item has within each jurisdiction. The evaluation process is detailed in the Evaluation and Prioritization Criteria table below, utilizing the four criteria of use in current planning mechanisms, public approval, feasibility, and political implications within each local jurisdiction. The four evaluation criteria are then weighted according to the Action Item’s relation to the evaluation criteria using a numeric weighted scale of 1 to 3. Once the evaluation has been weighted, the numbers are totaled and the final score is tallied to determine a low priority as a numeric score of 4-6, a medium priority as a numeric score of 7-9, and a high priority as a numeric score of 10-12.

Hazard Mitigation Action Item Evaluation and Prioritization Criteria				
Evaluation Descriptions	Identified in Current Planning Mechanisms	Public Approval	Feasible	Political Implications
Weighted 1	There are no existing planning mechanisms that contain this action item	The Public generally disapproves of this action item	This action item is not feasible for the jurisdiction because it does not significantly reduce vulnerability, or the cost-benefit analysis determined that the benefits did not outweigh the costs	This action item has negative political implication within the jurisdiction’s current political climate and therefore will not be accepted
Weighted 2	This action item exists or has been incorporated into only one planning mechanism, or it has been reviewed for incorporation into a previously existing planning mechanism	Public Approval has yet to be sought for this action item	This action item’s feasibility for the jurisdiction cannot be determined because significance in reduction of vulnerability or cost benefit analysis cannot be determined	This action item’s political implications within the jurisdiction’s current political climate cannot be determined and it is impossible to determine if the action item will be accepted
Weighted 3	This action item has been incorporated in two or more planning mechanisms	Public Approval has been achieved for this action item	This action item is feasible for the jurisdiction because it significantly reduces vulnerability, or the cost-benefit analysis determined that the benefits outweigh the costs	This action item has positive political implication within the jurisdiction’s current political climate and therefore will be accepted
Priority Indicator:		Low = Numeric Score 4-6	Medium = Numeric Score 7-9	High = Numeric Score 10-12

Cost Benefit Review As specified by C.F.R. §201.6(c)(3)(iii), the prioritization also includes a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed project and their associated costs for each jurisdiction.

The comprehensive range of specific mitigation actions and projects being considered in the CoLMS has been determined by each of the Hazard Mitigation Teams. As a part of the prioritization process, there is an emphasis on the use of a cost-benefit review to maximize benefits. Each mitigation action item for the participating jurisdictions has a priority indicator of high, medium, or low, and the cost-benefit review was conducted as a part of determining the priority based on the evaluation criteria of use in current planning mechanisms, public approval, feasibility, and political implications. The priorities were determined by the Hazard Mitigation Teams by examining available jurisdictional funding, local priorities, economic impact, and comparison to special projects, Capitol Improvement Plans, plans and studies, and the benefit of the mitigation action in comparison to another or to no action at all.

Action Item Aggregate Overview The Collin County Local Mitigation Strategy action items are aggregated by hazard in order to present an overview of the hazards individually targeted for mitigation action items by each participating jurisdiction. The action items are listed below by each hazard the action item addresses. For each hazard presented, the participating jurisdiction's action items are listed alphabetically by jurisdiction.

Action Item Complete Listing The complete listing of each participating jurisdiction's action items is detailed below. Each action item addresses how the actions will be implemented and administered, including the responsible department, existing and potential resources, and the timeframe to complete each action. The action item discussion also includes the jurisdiction's assessed priority according to the prioritization methodology utilized, as well as the results of the cost-benefit review.

See the following Table listings for the detailed action item descriptions.

Multi-Hazard Prioritization Scoring	Table 4.A.1
Multi-Hazard Aggregate Overview	Table 4.A.2
Dam Failure Prioritization Scoring	Table 4.B.1
Dam Failure Aggregate Overview	Table 4.B.2
Drought Prioritization Scoring	Table 4.C.1
Drought Aggregate Overview	Table 4.C.2
Earthquakes Prioritization Scoring	Table 4.D.1
Earthquakes Aggregate Overview	Table 4.D.2
Extreme Heat Prioritization Scoring	Table 4.E.1
Extreme Heat Aggregate Overview	Table 4.E.2
Flooding Prioritization Scoring	Table 4.F.1
Flooding Aggregate Overview	Table 4.F.2
Hail Prioritization Scoring	Table 4.G.1
Hail Aggregate Overview	Table 4.G.2
High Winds Prioritization Scoring	Table 4.H.1
High Winds Aggregate Overview	Table 4.H.2
Tornado Prioritization Scoring	Table 4.I.1
Tornado Aggregate Overview	Table 4.I.2
Wildland Fire Prioritization Scoring	Table 4.J.1
Wildland Fire Aggregate Overview	Table 4.J.2
Winter Storm Prioritization Scoring	Table 4.K.1
Winter Storm Aggregate Overview	Table 4.K.2

4.3 National Flood Insurance Program (NFIP) Compliance



The National Flood Insurance Program (NFIP) The National Flood Insurance Program is a federally run program which enables property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages.

Community Participation A community applies for participation in the National Flood Insurance Program (NFIP) either as a result of interest in eligibility for flood insurance or as a result of receiving notification from FEMA that it contains one or more Special Flood Hazard Areas (SFHAs). In order for a community to apply for and receive participation in the NFIP, that community must adopt resolutions or ordinances to minimally regulate new construction in identified SFHAs. FEMA works closely with State and local officials to identify flood hazard areas and flood risks. The floodplain management requirements within the SFHA are designed to prevent new development from increasing the flood threat and to protect new and existing buildings from anticipated flood events.

When a community chooses to join the NFIP, it must require permits for all development in the SFHA and ensure that construction materials and methods used will minimize future flood damage. Permit files must contain documentation to substantiate how buildings were actually constructed. In return, the Federal Government makes flood insurance available for almost every building and its contents within the community.

Communities must ensure that their adopted floodplain management ordinance and enforcement procedures meet program requirements. Local regulations must be updated when additional data are provided by FEMA or when Federal or State standards are revised

Collin County Jurisdiction Participation Collin County jurisdictions are participating in the National Flood Insurance Program and have identified their respective areas as vulnerable to flooding. This is incorporated into all current and future planning for dealing with repetitive loss vulnerabilities.

TEXAS							
Communities Participating in the National Flood Program							
CID	Community Name	County	Initial FHBM Identified	Initial FHBM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal
480130#	Collin County	Collin County	12/6/1977	3/16/1981	6/2/2009	6/16/1981	NO
480131#	City of Allen	Collin County	12/20/1974	6/1/1978	6/2/2009	6/1/1978	NO
480134#	City of Frisco	Collin County	1/24/1975	6/18/1980	6/2/2009	6/18/1980	NO
481313#	City of Lavon	Collin County	5/23/1978	4/2/1991	06/02/09(M)	5/13/1991	NO
481545#	City of Lucas	Collin County	7/25/1975	4/2/1991	6/2/2009	7/3/1979	NO
480759#	City of Wylie	Collin County	11/12/1976	6/4/1980	6/2/2009	6/4/1980	NO

Source: <http://www.fema.gov/cis/TX.html>

Jurisdiction Compliance Once the community applies for the NFIP, FEMA arranges for a study of the community to determine base flood elevations and flood risk zones. Consultation with the community occurs at the start of and during the study, and those communities with minimal flood risk are converted to the Regular Program without a study.

FEMA provides the studied community with a Flood Insurance Rate Map delineating base flood elevations and flood risk zones. The community is then given 6 months to adopt base flood elevations in its local zoning and building code ordinances. Once the community adopts more stringent ordinances, FEMA converts the community to the NFIP's Regular Program. FEMA then authorizes the sale of additional flood insurance in the community up to the Regular Program limits. The Community must implement and enforce the adopted floodplain management measures. FEMA provides periodic community assistance visits with local officials to provide technical assistance regarding complying with NFIP floodplain management requirements.

The purchase of flood insurance is mandatory as a condition of receipt of federal or federally-related financial assistance for acquisition and/or construction of buildings in SFHAs of any participating community. Those communities notified as flood-prone which do not apply for participation in the NFIP within 1 year of notification are ineligible for federal or federally-related financial assistance for acquisition, construction, or reconstruction of insurable buildings in the SFHA.

Jurisdiction NFIP Action Items The following is a list of action items for the participating jurisdictions that portray their specific participation in the NFIP as well as demonstrating continued NFIP compliance. Further discussion is provided for each identified action item on their respective page.

See the following Table listings for the detailed action item descriptions.

NFIP Compliance Action Items

Table 4-L

The Community Rating System (CRS) The Community Rating System (CRS) is a voluntary program for NFIP-participating communities. The goals of the CRS are to reduce flood damages to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management. All CRS communities must maintain completed FEMA elevation and flood proofing certificates for all new and substantially improved construction in the Special Flood Hazard Area after the date of application for CRS classification.

The Collin County Local Mitigation Strategy will apply for and participate in the CRS program to provide discounted insurance premium incentives for communities to go beyond the minimum floodplain management requirements and to analyze and manage future development.

According to the current CRS document located on the following link <http://www.fema.gov/library/viewRecord.do?id=3629>, there are no communities in Collin County that are currently participating.

Table 4.A.1
Multi-Hazard Prioritization Scoring

City of Allen Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Develop and institute water conservation education program to mitigate and reduce the effects of extreme heat	1	2	3	9	Medium	4-A

Collin County Unincorporated Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Expand and coordinate Outdoor Warning Systems currently in use in order to mitigate the effects of severe weather on citizens	2	2	2	9	Medium	4-A

City of Frisco Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Expanding the Early Warning Sirens and Local Warning System to notify the public of impending severe weather	2	3	2	10	High	4-A

City of Lavon Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Purchase and install three outdoor severe weather and Civil Defense sirens	2	3	3	11	High	4-A
Establish an AM radio station to broadcast weather conditions, hazards and road closures. Also will allow for broadcast of watches, warnings, evacuation routes and shelter information	1	2	2	7	Medium	4-A

City of Lucas Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Mitigate the effects of all hazards through Public education of the "Know What To Do Program"	2	2	3	10	High	4-A
Purchase and install Outdoor Warning Systems to reduce or eliminate the loss of life from severe weather	2	3	3	11	High	4-A

Table 4.A.2
Multi-Hazard Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
Colin County Unincorporated	Tornado, hail, high winds	Expand and coordinate Warming Stations community in use in order to mitigate the effects of severe weather on citizens.	H-B	Medium	\$50-100K	SHSGP, Local Funding, USDA	Colin County Sheriff's Office	Within one year of funding	No effect	No effect	The cost effectiveness is found in the ability to save lives by warning people to take appropriate action during a severe weather event.	The outdoor warning system is one of many tools that citizens use to warn citizens about disasters. The outdoor warning system is an effective tool for outdoor notification.
City of Frisco	Tornado, hail, high winds	Expanding the Early Warning Sirens and Local Warming System to notify the public of impending severe weather and reduce the loss of life and mitigate the effects of the hazards.	H-B	High	\$20,000 - \$25,000 each siren / total to be determined	City of Frisco annual budget, HMGP	Fire Department	This is an ongoing project	Outdoor warning sirens do not have an impact on structures; they are designed to be heard outdoors only.	The outdoor warning sirens do not have an impact on structures; they are designed to be heard outdoors only.	The costs associated with maintaining an outdoor warning system are minimal and less expensive than total replacement of an outdoor warning system.	The City of Frisco would benefit greatly by having an outdoor warning system. This would be one of several tools that the city employs to warn citizens about disasters. The outdoor warning siren system is the most effective tool for outdoor notification, especially as relative to the fact that Frisco has many outdoor parks, trails, and nature areas that are used by the citizens.
City of Lavon	Tornado, hail, high winds	Purchase and install three outdoor severe weather and Civil Defense sirens.	H-A	High	\$200,000	City Budget, Grant Programs	Department of Public Works	Within 12 months of funding	No effect	No effect	The project is cost effective as it reduces the threat to loss of life for residents, effectively warning them of severe weather so that they are able to seek shelter.	The City of Lavon currently does not have any outdoor warning siren system. The outdoor warning system will reduce the threats to the citizens by alerting them to impending severe weather and will allow citizens to seek shelter and take appropriate actions to reduce the loss of life and property. The project will also serve to alert the appropriate authorities to respond if severe weather and enable them to prepare to respond if necessary.
City of Lavon	All weather hazards	Establish an AM radio station to broadcast weather conditions, hazards and road closures. Also will allow for broadcast of watches, warnings, evacuation routes and shelter information.	H-A	Medium	\$50,000	City Budget, Grant Programs	City Manager's Office	Within 12 months of funding	No effect	No effect	This project's cost effectiveness is in the lives it saves by alerting citizens to take shelter during extreme weather conditions.	The AM Radio Station will reduce the threats to the citizens by alerting them to impending severe weather and warn citizens to seek appropriate shelter inside.
City of Lucas	All weather hazards	Mitigate the effects of all hazards through Public education of the "Know What To Do Program".	H-A, 4-B	Medium	\$2500 for literature	HMGP and Local Funding	Building Inspections Department, Emergency Management	Within two years of funding	This action will reduce the effects on existing buildings by educating the public about measures they can take to prepare themselves, their homes, and businesses for multiple disasters.	This action will reduce the effects on existing buildings by educating the public about measures they can take to prepare themselves, their homes, and businesses for multiple disasters.	The cost of this project is low compared to the benefits citizens will receive with regard to information to help prepare themselves and their homes for emergency situations. Citizens will be better informed and prepared for multiple disasters. This will lead to better informed and prepared citizens who will know how to respond and avoid the community's vulnerabilities. This will assist the community in reducing the effects of disasters.	Purchase and distribution of public education materials as part of the KnowWhatDo program will help to engage the public in disaster preparedness.
City of Lucas	Tornado, hail, high winds	Purchase and install an Outdoor Weather Station to reduce or eliminate the loss of life.	H-A	High	\$20,000/Station Exact cost to be determined	CIP, Economic Development Funds, Federal and Private Grants	Fire Department, Emergency Management	Within two years of funding	Outdoor warning systems do not have an impact on structures as they are designed to be heard outdoors only.	Outdoor warning systems do not have an impact on structures as they are designed to be heard outdoors only.	The cost associated with installing an outdoor warning system will be offset by the potential to save lives.	The City of Lucas has many outdoor dining trails for beer and many citizens are out during light rain. With the unpredictability of the weather in North Central Texas, the likelihood that citizens outdoors knowing about impending severe weather is low. By purchasing and installing an outdoor warning in the city, the chances of people being caught outside or unaware by sudden changes in weather or tornadoes will be reduced. In so doing the cost of physical injuries and even the number of deaths from severe weather will go down.
City of Lucas	Tornado, hail, high winds	Mitigate the effects of severe weather by increasing the awareness among through purchasing National Weather Radars to each household and business.	H-A	High	\$50,000	Public and Private Grants, Renewment, Business Owners, HMGP, PDM	Emergency Management	Within two years of funding	No effect	No effect	The cost effectiveness is found in the ability to save lives by warning people to take appropriate action during a severe weather event.	This project will reduce the loss of lives during these weather events by notifying citizens in a timely manner of storms and allowing them to take appropriate shelter to remain safe during the storms. These weather radars will be placed in homes, businesses, and schools to keep them in shelter for the duration of the storm or severe weather.

Table 4.B.1

Dam Failure Prioritization Scoring

Collin County Unincorporated Mitigation Action Items

Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Conduct a hazard/vulnerability assessment and inundation study on NRCS Flood Retention Structures	1	2	2	2	7	Medium	4-B
Implement results of the hazard/vulnerability assessment and inundation study on NRCS flood retention structures and rehabilitate structures found to have a high hazard	1	2	2	2	7	Medium	4-B

City of Wylie Mitigation Action Items

Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Work with the Corps of Engineers to attain the proper Inundation Studies for Dam Safety. Establish cost efficient action items for the identified inundation zone.	1	2	2	2	7	Medium	4-B
Encourage downstream property owners to participate in the National Flood Insurance Program	1	2	2	2	7	Medium	4-B

Table 4.B.2

Dam Failure Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
Collin County Unincorporated	Dam Failure	Conduct a hazard/vulnerability assessment and inundation study on NRCS Flood Retention Structures	2-A	High	\$0-50K	NRCS Grant Fund, HMGP	Collin County Development Services, Engineering Department, GIS	A schedule for conducting an engineering analysis of these dams will be formulated based on the results of the updated hazard classifications on a prioritized basis.	No effect	No effect	The cost of this project is low compared to the potential benefits of reduction or elimination in personal injuries, deaths, and property damage that would result from a dam failure.	This project involves the evaluation of each dam's hazard classification and then the steps that will be needed to rehabilitate flood retention structures prioritized based on the estimated amount of damage or loss of life that would be sustained in the event of a flood retention structure failure.
Collin County Unincorporated	Dam Failure	Implement results of the hazard and vulnerability assessment and inundation study on NRCS flood retention	2-B	High	Will be reported upon results of findings and estimates after completion of inundation study.	NRCS Grant Fund, HMGP	Collin County Development Services, Engineering Department, GIS	Rehabilitation of the dams will be initiated based on the requirements of the grant funding as well as prioritized based on level of hazard/threat.	No effect	No effect	The cost of this project is low compared to the potential benefits of reduction or elimination in personal injuries or deaths that would result from a dam failure.	This project involves the rehabilitation or new construction of each dam deemed to be a hazard. The rehabilitating of flood retention structures will be prioritized based on the estimated amount of damage or loss of life that would be sustained in the event of a flood retention structure failure.
City of Wylie	Dam Failure	Work with the Corps of Engineers to attain the proper Inundation Studies for Dam Safety. Establish	2-A	Medium	TBD	Grant funding should it become available would be sought to pay for the costs of such a	Engineering Department	Once funding is received	No effect	No effect	The cost effectiveness will be determined once the relationship with the City of Wylie and Corps of Engineers has been established and cost effective action items have been identified through the study.	The Lavon Lake Dam is operated and maintained by the US Army Corps of Engineers. The City seeks to work with the Corps to gauge the current safety standards for the dam and determine which mitigation activities should be implemented.
City of Wylie	Dam Failure	Encourage downstream property owners (within the City of Wylie) to participate in the National Flood Insurance Program.	2-E	Medium	Minimal costs associated with public education about this hazard.	General budgetary funding will cover the costs of implementation of this program.	Engineering Department	Annual public education effort	Purchasing an NFIP policy on new construction assists property owners with recovery efforts following a flooding disaster.	Participation in the National Flood Insurance Program assists property owners with recovery efforts following a flooding disaster.	The cost to implement this project is low compared to the benefits received by participation in the National Flood Insurance Program.	Although the city participates in the NFIP, several downstream property owners do not recognize the importance of holding NFIP policies. The city would work to encourage participation in the NFIP, explaining the benefits of the program and the impact on the recovery process.

Table 4.C.1

Drought Prioritization Scoring

Collin County Unincorporated Mitigation Action Items

Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Enhance public education campaign for long term water conservation efforts.	2	2	2	2	8	Medium	4-C
Develop and implement a drought contingency plan to include water conservation, building code requirements, and mandatory water rationing.	2	1	2	1	6	Low	4-C

Table 4.C.2

Drought Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority (High, Medium, Low)	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
Collin Unincorporated County	Drought	Enhance public education campaign for long term water conservation efforts.	4-B	Medium	\$10,000	Local Funding	Collin County Engineering	Within two years of funding	The ability to incorporate water conservation projects into new construction.	The ability to educate the changes that can be made to existing buildings.	The cost of the project is moderately inexpensive compared with the potential benefits of educating the public on drought mitigation	Educating the population on water conservation will help reduce water demands- aiding in water conservation- thus mitigating some impacts of a drought on the local population.
Collin Unincorporated County	Drought	Develop and implement a drought contingency plan to include water conservation, building code requirements, and mandatory water rationing.	3-C	Low	\$5,000	Local Funding	Collin County Engineering	Within two years of funding	This action will not reduce the effects of drought on new buildings directly but could impact the future building codes.	This action will not reduce the effects of drought on existing buildings directly but could impact the building through future building codes.	The cost of this project is low compared to the potential benefits of reducing the effects of drought.	During times of drought, the demand for potable water may exceed the county's capacity to produce sufficient domestic, sanitation and fire protection. The drought contingency plan provides the ability to regulate the use of potable water for non-essential uses.

Table 4.D.1

Earthquake Prioritization Scoring

City of Frisco Mitigation Action Items

Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Develop a Public Education Program which will inform and educate citizens concerning the potential risks from an Earthquake event and how to mitigate their homes and businesses	1	2	2	2	7	Medium	4-D
Conduct an Earthquake study to analyze potential hazards and mitigate damage in the event of an Earthquake	1	2	2	2	7	Medium	4-D

Table 4.D.2

Earthquake Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives (Addressed)	Priority (High, Medium, Low):	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Frisco	Earthquake	Develop a Public Education Program which will inform and educate citizens	4-A, 4-B	Low	\$3,000	City of Frisco annual budget, HWGP (Hazard Mitigation Grant Program)	Fire Department. We also use a number of volunteers to assist with our public education campaigns.	Within 2 years of funding	Education of safety features for new home/building	Mitigation by citizens to make existing house/building more secure.	Cost is low compared to damage that can be done.	Public Education on earthquakes will bring about awareness of the hazard and knowledge of the mitigation steps that can be taken.
City of Frisco	Earthquake	Conduct an Earthquake study to analyze potential hazards and mitigate risks.	2-A	Low	Investigating	City of Frisco annual budget, HWGP (Hazard Mitigation Grant Program)	Fire Department	This is an ongoing project	This action will allow the city to examine how new buildings could be affected by earthquakes and potential mitigating features during the building process which implemented would reduce risk.	This action will allow the city to examine how old buildings could be affected by earthquakes and a cost benefit analysis of mitigation factors.	Cost Effective- Cost analysis would benefit the citizens in the case that an earthquake potential is recognized as high.	While there has been no known history of occurrence for an earthquake in the City of Frisco there is an inactive Fault Zone. There has been no study conducted for the city to examine the potential of an earthquake or the cost-benefit of implementing mitigation projects. (PHEC/NIT)

Table 4.E.1

Extreme Heat Prioritization Scoring

City of Allen Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Develop and Institute water conservation education program to mitigate and reduce the effects of Extreme Heat	1	2	3	9	Medium	4-E

City of Lavon Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Reduce the impact of Extreme Heat by utilizing green landscaping roofing on all new city construction	1	2	3	8	Medium	4-E

City of Lucas Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Install misting and cooling stations at the Community Center and athletic fields in order to mitigate the effects of extreme summer heat	1	2	3	8	Medium	4-E

City of Wylie Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Install cooling and misting stations at athletic fields and other public recreation facilities in order to mitigate effects on citizens from extreme heat	1	2	2	8	Medium	4-E

Table 4.E.2
Extreme Heat Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority (High, Medium, Low):	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Allen	Extreme Heat	Develop and institute water conservation education program to mitigate and reduce the effects of Extreme Heat.	4-B	High	\$130,000	Annual Budget Funds	Community Services	FY2009	Promote use of low-flow devices when constructed.	Promote rebate program for retrofit to efficient devices.	The cost is low compared to mandatory rationing and damage to building foundations – quality of life in Allen.	The City of Allen will institute a water conservation education program in order to educate the public about the hazards of extreme heat as well as mitigate the effects that extreme heat has on the city.
City of Lawton	Extreme Heat	Reduce the impact of Extreme Heat by installing Green Landscaping on Roofing on all new city construction.	2-B, 2-D	Medium	\$50,000	Local funding, HMGP	Public Works	As new buildings are required	The green landscaping will reduce overall effect of extreme heat on buildings making them more efficient as well as reducing the effects of extreme summer heat on the citizens.	No effect	This project is cost effective in the reduction of hazards to citizens as well as the reduction of power and electricity consumption in cooling buildings in summer heat.	By utilizing landscaping on the roofs several significant benefits will be utilized. Including, insulation in the facility reducing their need for electricity, reducing the impact of extreme heat on the residents.
City of Lucas	Extreme Heat	Install missing stations at the Community Center and athletic fields in order to mitigate the effects of extreme summer heat on citizens.	2-D	Low	\$5,000	Local funding, HMGP	Parks and Recreation	Within two years of funding	No effect	No effect	This project is cost effective when compared to the effect of extreme summer heat on citizens and potential heat injuries or heat stroke that may occur while engaging in athletic activities.	The City of Lucas consists mainly of families with large parcels of land instead of neighborhoods, and this leads to community gatherings. The Community Center and athletic fields are popular gathering places for citizens during the summer, and currently the facilities in The City of Lucas do not have any type of cooling or misting capabilities for large public gatherings such as sports events and community activities. This project will effectively give citizens a method of remaining cool and reducing the hazards related to extreme summer heat.
City of Wylie	Extreme Heat	Install cooling and misting stations at athletic fields and other public recreation facilities in order to mitigate effects on citizens from severe heat.	2-D	Medium	\$10,000	HMGP, Local funding	Parks and Recreation	Within one year of funding	No effect	The city would identify current city owned and operated facilities that could be utilized as cooling centers for vulnerable populations during extreme heat events.	As the city currently has several facilities that could be utilized for cooling centers, the costs are minimal. The parks department would identify several facilities and appropriately equip them to meet this need. Once identified, the cooling center locations could be publicized in a variety of community outreach publications, websites, and presentations.	As a growing city on the outskirts of many larger areas, it is imperative that the City of Wylie has adequate facilities in order to mitigate the effects of extreme heat on affected populations. The City of Wylie would identify specific public areas for installation of cooling stations. Once identified, the cooling center locations could be publicized in a variety of community outreach publications, websites, and presentations.

Table 4.F.1

Flooding Prioritization Scoring

City of Allen Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria					
	Identified in Current Planning	Public Approval	Feasibility	Political Implications	Total Numerical Score	Resulting Priority
Remove Structures from the Floodplain The City of Allen has been designated by the EPA as an urbanized area and therefore must make application to discharge storm water to waters of the United States.	2	1	2	2	7	Medium
	2	2	2	3	9	Medium
						4-F
						4-F
Collin County Unincorporated Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria					
	Identified in Current Planning	Public Approval	Feasibility	Political Implications	Total Numerical Score	Resulting Priority
Develop and implement a hazard/vulnerability assessment for personal properties and structures located in the floodplain	1	2	2	2	7	Medium
Develop and implement a buy out program for personal properties and structures located in the floodplain	1	2	2	2	7	Medium
						4-F
						4-F
City of Lavon Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria					
	Identified in Current Planning	Public Approval	Feasibility	Political Implications	Total Numerical Score	Resulting Priority
Develop and implement a Master Storm Water Drainage Plan for the City	3	3	3	3	12	High
						4-F
City of Lucas Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria					
	Identified in Current Planning	Public Approval	Feasibility	Political Implications	Total Numerical Score	Resulting Priority
Culvert and road grade improvements to prevent flooding at Winkingoff Road, ¼ mile north of FM 3286	3	3	3	3	12	High
Culvert and road grade improvements to prevent flooding at Rock Ridge Road, ¼ mile north of FM 2170	3	3	3	3	12	High
Culvert and road grade improvements to prevent flooding at Rock Ridge Road, ¼ mile south of FM 1378	3	3	3	3	12	High
Culvert improvements to prevent flooding at the intersection of FM 1378 and FM 3286	3	3	3	3	12	High
Culvert and road grade improvements to prevent flooding at Winkingoff Road, ¼ mile south of Snider Lane	3	3	3	3	12	High
						4-F
						4-F
City of Wylie Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria					
	Identified in Current Planning	Public Approval	Feasibility	Political Implications	Total Numerical Score	Resulting Priority
Raise McMillan bridge to reduce flooding.	2	2	2	3	9	Medium
						4-F

Table 4.F.2
Flood Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
Collin County Unincorporated	Flooding	Develop and implement a hazard/vulnerability assessment for personal properties and structures located in the floodplain.	3-A	Low	\$100-150K	HMGF, Local funding	Collin County Development Services Engineering Department	Within one year of funding	To be determined based on the study's findings, but could include future limiting of building permits, types/uses of buildings allowed in floodplain (residence, commercial, etc.), requirement of flood insurance coverage for buildings, etc.	To be determined based on the study's findings.	The cost effectiveness is found in the ability to protect lives and property by assessing the current structures located in floodplain for public awareness and insurance coverage purposes.	This assessment will allow Collin County to evaluate structures located in the floodplain for potential future buy-up programs, public awareness campaigns, and aid in the promotion of insurance coverage for repetitively damaged properties.
Collin County Unincorporated	Flooding	Develop and implement a buy-out program for personal properties and structures located in the floodplain.	3-B	Low	\$100-150K	HMGF, Local funding	Collin County Development Services Engineering Department	To be determined based on the study's findings.	To be determined based on the study's findings, but could include future limiting of building permits, types/uses of buildings allowed in floodplain (residence, commercial, etc.), requirement of flood insurance coverage for buildings, etc.	To be determined based on the study's findings, but could include future limiting of building permits, types/uses of buildings allowed in floodplain (residence, commercial, etc.), requirement of flood insurance coverage for buildings, etc.	This project is cost effective in the long run because it reduces the property tax burden on the government fund and food insurance payments in the event of damage caused by a flood.	The buy-out program will result in the reduction or prevention of personal injuries, loss of life, or financial loss due to property damage.
City of Allen	Flooding	The City of Allen has been designated by the EPA as an urbanized area and therefore must make arrangements to discharge storm water to waters of the United States.	2-E	High	\$1,000,000	City Drainage Funds	City of Allen Engineering Department	FY 2009	Flood Prevention	Water Quality Maintained; Flood prevention	Very cost effective if you prevent flooding of homes due to inadequate storm water system drainage.	Enhances water quality and prevents clogging of storm sewer system. Several national comprehensive studies have indicated that storm water runoff pollution within highly urbanized areas is a major contributor to water pollution in the United States. As rain falls and storm water runoff collects and travels over urban lands, it picks up and carries pollutants through municipal separate storm sewer systems (MS4s) and ultimately on to streams, lakes, rivers, and other water sources impairing water quality. Under the authority of the Clean Water Act, the Environmental Protection Agency (EPA) developed a storm water permitting program with the goal of preventing pollution from urban areas. The City of Allen has been designated by the EPA as an urbanized area and therefore must make application to discharge storm water to waters of the United States.
City of Allen	Flooding	Remove Structures from the Floodplain	3-B	Medium	\$1,650,000	Staff Time (operating funds), Recreation, Education and Acquisition Projects, when identified, will be funded by Hazard Mitigation Grant Program and/or Flood Mitigation Assistance funds. Any required local match (25%) will be provided by the City of Allen or other available funding sources.	City of Allen Engineering Department	All repetitive loss properties will be evaluated annually for possible relocation and acquisition projects.	No Effect	Reduce Repetitive Losses	Cost is low compared to constantly paying to repair or rebuild these same structures.	In order to ensure continued NFIP compliance as well as to mitigate the effects of flooding to homes located within the 100 year floodplain, the City of Allen will begin a program to assess and buy out the buildings that are located Southeast of Hwy 5 and Main Street.

Table 4.F.2
Flood Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/ Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Lorton	Flooding	Develop and implement a Master Storm Water Drainage Plan for the City.	2-E	High	\$50,000	City Budget, Grant Programs	Department of Public Works	Within 12 months of funding	Improved Planning	No effect	This project is extremely cost effective when compared to the property and agriculture/crop damage that will be avoided once the Master Storm Drainage plan enactment begins.	There is currently no Master Storm Drainage Plan. By preparing and implementing this plan, it will reduce the occurrence of flash flooding and sudden inundation of areas. It will improve transportation during severe weather. Reduce vulnerabilities to those homeowners who are located in areas outside of flood zones but vulnerable to overflow flooding. And eliminate the need for storm water to unattended areas.
City of Lucas	Flooding	Culvert and road grade improvements to prevent flooding at Rock Ridge Road, ¼ mile north of FM 2170	2-E	Medium	\$150,000	Capital Improvement Plan, HMG	City of Lucas Public Works Department	Design and construction in 1 year	No effect	No effect	The project prevents future repetitive cost which will greatly surpass the cost of implementing this project.	This project directly affects the hazards addressed in Chapter 3 for occurrences of flooding within the city. This will also increase the level of protection in order to protect the traffic flow on state as well as local roads. It will also allow for emergency vehicles and to protect public safety.
City of Lucas	Flooding	Culvert and road grade improvements to prevent flooding at Rock Ridge Road, ¼ mile south of FM 1378	2-E	Medium	\$150,000	Capital Improvement Plan, HMG	City of Lucas Public Works Department	Design and construction in 1 year	No effect	No effect	The project prevents future repetitive cost which will greatly surpass the cost of implementing this project.	This project directly affects the hazards addressed in Chapter 3 for occurrences of flooding within the city.
City of Lucas	Flooding	Culvert improvements to prevent flooding at the intersection of FM 1378 and FM 3286	2-E	Medium	\$150,000	Capital Improvement Plan, HMG	City of Lucas Public Works Department	Design and construction in 1 year	No effect	No effect	The project prevents future repetitive cost which will greatly surpass the cost of implementing this project.	This project directly affects the hazards addressed in Chapter 3 for occurrences of flooding within the city.
City of Wylie	Flooding	Raise bridge at McMillan Rd reduce flooding	2-B	Medium	\$9.5 million	Collin county Budget, Local budget possibly Bond, HMG	Engineering/ Street Dept	Engineering drawings within a year, the other when the money becomes available	The new bridge and road would allow water to flow in the creek and not over the road. No effect on new buildings in area	There is no effect on existing building. The main damage and harm was to the roadway causing traffic delays and road damage.	This measure will reduce the detours and street closure due to water running over McMillan road. The damage repair to the street will be reduced. The public safety responses to neighborhoods will be better due to keeping road open even during major rain storms.	Raising the bridge to 15 feet and having water flow under the bridge will keep road open and help reduce damage to road way.

Table 4.G.1

Hail Prioritization Scoring

City of Allen Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Develop and institute an educational program for new construction projects and remodeling projects in order to promote the use of hail resistant roofing materials thus mitigation the damage to roofs.	1	1	3	8	Medium	4-G

City of Lavon Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Implement Building Codes to require new commercial facilities to utilize hail resistant roofing materials	1	2	3	8	Medium	4-G

City of Wylie Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Complete a feasibility study examining enacting codes requiring new construction/development to implement hail resistant roofing and hail resistant window coverings	1	2	2	7	Medium	4-G

Table 4.G.2

Hail Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Allen	Hail	Develop and institute an educational program for new construction projects and remodeling projects in order to:	4-B	High	\$25,000	Annual Budget Funds	Fire Marshall / EMC	FY 2009	Promote use of Hail resistant roof coverings when built.	Promote use of Hail resistant roof coverings when replaced.	Cost is very low when compared to re-roofing costs due to damage of non-hail resistant coverings.	By implementing a public education program to inform new and remodeling construction projects to utilize materials most resistant to hail the effects of hail damage will be reduced.
City of Lavon	Hail	Implement Building Codes requiring New Commercial Facilities to utilize Hail Resistant Roofing Materials.	2-C	Medium	To be determined by market	HMGF, Local budget	Emergency Management	To be identified after receipt of funding.	Hail resistant roofing and window coverings will significantly mitigate the potential hazards of property damage as well as possible personal injury due to severe storm and hail.	No effect	The cost effectiveness of the project will be the reduction of damage to property as well as reducing the need for debris disposal after a storm.	The City of Lavon will enact codes for new development and city construction by requiring developers to install hail resistant roofing and window coverings, thus reducing the effect of severe weather and damage.
City of Wylie	Hail	Implement Building Codes requiring New Commercial Facilities to utilize Hail Resistant Roofing Materials.	2-A	Medium	To be determined by market	HMGF, Local budget	Emergency Management	To be identified after completion of study.	Hail resistant roofing and window coverings will significantly mitigate the potential hazards of property damage as well as possible personal injury due to severe storm and hail.	No effect	The cost effectiveness of the project will be identified during the study process and projects will be prioritized based on available funding.	The City of Wylie will conduct a study to determine the feasibility of requiring such a code for new development and city construction. Conducting a study is a prudent use of taxpayer funds prior to implementation of new codes requiring developers to install hail resistant roofing and window coverings.

Table 4.H.1

High Winds Prioritization Scoring

City of Allen Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Improve construction standards and techniques. Require, by ordinance, for builders to utilize hurricane clips/tie downs in new construction	2	2	3	3	10	High	4-H

Collin County Unincorporated Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Adopt building code requirement by implementing new codes to include wind bracing for high winds on new construction for single-family and two-family housing.	1	2	2	2	7	Medium	4-H

City of Frisco Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Inform the public of the risks and consequences of high winds they may face. Educate on the securing of property and response to warnings to mitigate loss						High	4-H

City of Lucas Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Establish a program for regular tree limb trimming and maintenance along power lines and critical infrastructure in order to mitigate the effects of damage caused by high winds	1	2	2	2	7	Medium	4-H

City of Wylie Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Adopt building code requirement by implementing new codes to include wind bracing for high winds on new construction for single-family and two-family housing.	1	2	2	2	7	Medium	4-H

Table 4.H.2
High Wind Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Allen	High Wind	Improve construction standards and techniques through ordinance, by requiring, by ordinance, for builders to utilize hurricane clips/tie downs in new construction.	2-C	High	\$100,000 per building	City budget for staff research time. Added into the cost of new home by builder.	Building Department	FY 2009	Improved resistance to wind lifting roof off of structure	No effect unless retrofitted	Cost is very low compared to catastrophic roof removal.	This project would prevent wind from getting underneath building roofs and easily separating it from walls structures, mitigating the effects of high winds on structures.
City of Frisco	High Wind	Inform the public of the risks and consequences of high winds by many ways. Educate on the securing of property and response to warnings to mitigate loss.	4-A, 4-B	High	\$1000-2000 annually	City of Frisco annual budget	Fire Department	This is an ongoing project	Education of safety features for new home/buildings.	Mitigation by citizens to make existing house/building more secure.	Cost is low compared to damage that can be done, as well as the fact that the city will also use a number of volunteers to help with our public education campaigns throughout the year.	Public Education on high winds will bring about awareness of the hazard and knowledge of the mitigation steps that can be taken.
City of Lucas	High Wind	Establish a program for regular tree limb trimming and maintenance along power lines and critical infrastructure in order to mitigate the effects of damage caused by high winds.	2-C	Medium	\$50,000/Year	Local Funding, HMGP	Public Works	Within one year after funding	No effect	No effect	This project is cost effective as it can be attributed to reduced power outages during high winds as well as limited and reduced debris obstructing roadways, and lower amounts of restricted watershed and runoff areas that can lead to additional flooding. This project will greatly reduce the cost of labor for debris removal programs as well as power line repair during severe storms.	The City of Lucas is comprised primarily of large acre single family home lots with abundant vegetation. Enacting a tree trimming and overhanging clearing program would greatly reduce the disruption of power or power outages during strong winds, as well as reduce the amount of scattered debris for removal after storms. The program would also reduce the amount of restricted watershed and runoff areas after storms due to debris, reducing secondary hazards associated with flooding due to debris buildup.
City of Wylie	High Wind	Adopt building code requirement by implementing new codes to include wind bracing for high winds on new construction for single-family and two-family housing.	2-C, 2-D	Medium	Staff Time	Departmental Budget	Building Inspectors	Within two years	This action will reduce the wind effects on new construction by enhanced wind bracing on single-family and two-family housing.	No effect	This measure will reduce the costs of wind damage on new and existing housing by requiring enhanced wind bracing. This effort will lessen the impacts of wind damage to single-family and two-family housing, which will result in fewer repair costs. The effort will also help to alleviate injuries to residents as a result of high winds causing damage to homes.	Enhanced wind bracing will help reduce wind damage to single-family and two-family housing.

Table 4.1.1

Tornado Prioritization Scoring

City of Allen Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table	
	Identified in Current Planning	Public Approval	Feasibility				Political Implications
Improve outdoor warning system coverage and capability. Full coverage within the community and reliable sirens with battery backup capability will increase warning to more citizens so they make take protective actions to reduce injuries and deaths.	2	2	3	3	10	High	4-I
Implement the Texas Individual Tornado Safe Room Rebate Program	2	2	3	3	10	High	4-I

Collin County Unincorporated Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table	
	Identified in Current Planning	Public Approval	Feasibility				Political Implications
Implement the Texas Individual Tornado Safe Room Rebate Program	1	2	2	3	8	Medium	4-I
Develop and implement a community awareness and education campaign in order to mitigate the loss of life caused by tornados	1	2	3	3	9	Medium	4-I

City of Frisco Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table	
	Identified in Current Planning	Public Approval	Feasibility				Political Implications
Implement the Texas Individual Tornado Safe Room Rebate Program	2	2	3	3	10	High	4-I

City of Lavon Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table	
	Identified in Current Planning	Public Approval	Feasibility				Political Implications
Construct a new Public Works office and shop built to withstand a EF2 Tornado	2	3	3	3	12	High	4-I
Construct a new City Hall built to withstand a EF2 Tornado	2	3	3	3	12	High	4-I

City of Lucas Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table	
	Identified in Current Planning	Public Approval	Feasibility				Political Implications
Mitigate the effects of severe weather by increasing the awareness ability through purchasing and distributing All-Hazard National Weather Radios to each household and business	2	2	3	3	10	High	4-I

Participate in Texas Individual Tornado Safe room Rebate Program	2	2	2	3	9	Medium	4-I
City of Wylie Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Participate in Texas Individual Tornado Safe room Rebate Program	2	2	2	3	9	Medium	4-I

Table 4.I.2

Tornado Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
Collin County Unincorporated	Tornado	Implement the Texas Individual Tornado Safe Room Rebate Program	1-C	Medium	50% of (up to) \$2,500 per shelter. Number of shelters to be determined	County Budget, HMGP, PDM, Homeowner, Work-in-kind	Building Inspections Department, Emergency Management, HMC	Within two years of funding	This action will improve the safety of new homes with either in-ground or in-house shelters.	This action will improve the safety of existing homes with either in-ground or in-house shelters.	Cost Effective-The cost of this project is low compared to the potential benefits of reduction in personal injuries and/or deaths.	Residential safe room sheltering can decrease potential personal injuries or deaths in the event of a tornado.
Collin County Unincorporated	Tornado	Develop and implement a community awareness and education campaign in order to mitigate the loss of life caused by tornadoes.	4-B	High	\$50-100K	HMGP and Local Funding	Collin County Department of Homeland Security	Within one year of funding	Educate the public on what they can do with new construction.	Educate the public on what they can do to existing structures.	The cost effectiveness is found in the ability to save lives by warning people to take appropriate action to mitigate potential hazards during severe weather/tornado conditions.	The community awareness and education campaign will improve the citizens' awareness and knowledge of tornadoes and their ability to mitigate the hazard by/through preparing their persons and property for the event thus reducing the impact and threat of the hazard.
City of Allen	Tornado	Improve outdoor warning system coverage and reliability. Fall coverage.	1-B	High	\$60,000	\$30,000 from CIP funds; \$30,000 from Community Development Corporation.	Fire Marshal/EMC	FY 2010	Will protect future growth. Hwy 121 & US 75, Custer & McDermott areas.	Will improve sound coverage in areas identified to be inadequately covered (Hwy 121 & US 75, Custer & McDermott areas.)	Cost is low compared to cost to citizens outside warning coverage.	The City of Allen experienced a tornado strike in April of 2006, and is in need of updating the outdoor warning system and contingency operations in order to mitigate the effects of tornadoes on the citizens and prevent loss of life by warning them in time to seek shelter.
City of Allen	Tornado	Implement the Texas Individual Tornado Safe Room Rebate Program	1-C	Medium	50% of (up to) \$2,500 per shelter. Number of shelters to be determined	County Budget, HMGP, PDM, Homeowner, Work-in-kind	Building Inspections Department, Emergency Management, HMC	Within two years of funding	This action will improve the safety of new homes with either in-ground or in-house shelters.	This action will improve the safety of existing homes with either in-ground or in-house shelters.	Cost Effective-The cost of this project is low compared to the potential benefits of reduction in personal injuries and/or deaths.	Residential safe room sheltering can decrease potential personal injuries or deaths in the event of a tornado.
City of Frisco	Tornado	Implement the Texas Individual Tornado Safe Room Rebate Program	1-C	Medium	50% of (up to) \$2,500 per shelter. Number of shelters to be determined	County Budget, HMGP, PDM, Homeowner, Work-in-kind	Building Inspections Department, Emergency Management, HMC	Within two years of funding	This action will improve the safety of new homes with either in-ground or in-house shelters.	This action will improve the safety of existing homes with either in-ground or in-house shelters.	Cost Effective-The cost of this project is low compared to the potential benefits of reduction in personal injuries and/or deaths.	Residential safe room sheltering can decrease potential personal injuries or deaths in the event of a tornado.
City of Lavon	Tornado	Construct a new City Hall built to withstand a EF2 Tornado.	1-C	High	\$5,000,000	City Budget, Grant Programs	Department of Public Works	Within 36 months of funding	This would affect the new City Hall building, making it able to withstand an EF2 tornado, mitigating the loss of such critical infrastructure.	No effect on existing buildings	This project is cost effective because the current City Hall building is manufactured and will not withstand an EF2 tornado. City Hall houses many functions, documents, and records, and the potential loss of these two manufactured modular trailer buildings greatly outweighs the cost of a new hardened structure.	The current City Hall houses Administration, Clerical, Secretary, Devol, Services, Marshal Office, Council Court, PW and all the records are housed. The City Hall facility is currently two manufactured modular trailer buildings. The construction of the new City Hall should include a hardened infrastructure to withstand known hazard extent levels.
City of Lavon	Tornado	Construct a new Public Works office and shop building to withstand a EF2 Tornado	1-C	High	\$1,000,000	City Budget, Grant Programs	Department of Public Works	Within 36 months of funding	This would affect the new Public Works office and shop buildings, making them able to withstand an EF2 tornado, mitigating the loss of such critical infrastructure.	No effect on existing buildings	This project is cost effective because the current Public Works buildings are manufactured and will not withstand an EF2 tornado. These buildings house many functions, documents, and records, and the potential loss of these greatly outweighs the cost of a new hardened structure.	The current Public Works office and shop contain all document and vital records. The offices are currently manufactured modular trailer buildings, and these would not withstand an EF2 tornado. The cost of a new construction of the new Public Works office and shop should include a hardened infrastructure to withstand known hazard extent levels.
City of Lucas	Tornado	Participate in the Texas Individual Tornado Safe Room Rebate Program	1-C	Low	\$50,000	Capital Program, Local funding, HMGP, PDM, Homeowner, Work-in-kind	Fire Department/Office of Emergency Management	Once funding is received	This action will reduce the effects of tornado, high winds, and hail by providing a reinforced safe room that residents can incorporate into new home and business construction.	This action will reduce the effects of tornado, high winds, and hail by providing a reinforced safe room that residents can incorporate into existing homes and businesses.	This measure will reduce the loss of life and injury to residents by providing a safe place to locate during tornado, high wind, and hail events. This measure will provide fewer emergency response calls to injured residents and reduced medical costs on the health care system.	The Texas Individual Tornado Safe Room Rebate Program provides financial assistance to build a storm shelter in existing or new construction for residents to locate during severe weather events.

Table 4.I.2

Tornado Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Wylie	Tornado	Participate in the Texas Individual Tornado Safe Room Rebate Program	1-C	Low	\$50,000	Capital Improvement Program, Local funding, HMGP, PDM, Homeowner, Work-in-kind	Fire Department/ Office of Emergency Management	Once funding is received	This action will reduce the effects of tornado, high winds, and hail by providing a reinforced safe room that residents can incorporate into new home and business construction.	This action will reduce the effects of tornado, high winds, and hail by providing a reinforced safe room that residents can be incorporated into existing homes and businesses.	This measure will reduce the loss of life and injury to residents by providing a safe place to locate during tornado, high wind, and hail events. This measure will provide fewer emergency response calls to injured residents and reduced medical costs on the health care system.	The Texas Individual Tornado Safe Room Rebate Program provides financial assistance to build a storm shelter in existing or new construction for residents to locate during severe weather events.

Table 4.J.1
Wildland Fire Prioritization Scoring

City of Lavon Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Implement a program to inspect and clear excessive brush along high-voltage power lines and surrounding land, reducing the vulnerability to citizens located in potential wildland fire areas	1	2	2	2	Medium	4-J
Develop and implement a community awareness program utilizing the City's existing communication outlets including the website and newsletter in order to mitigate the effects of wildland fire	1	2	3	3	Medium	4-J

City of Lucas Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Enact contracts with the Army Corps of Engineers for fuel management along Corps owned properties, easements, and boundaries where the city of Lucas is responsible in order to mitigate the effects of wildland fire	1	2	2	2	Medium	4-J
Implement a program to increase the frequency of inspections and brush clearing along high-voltage power lines and surrounding land, reducing the vulnerability to citizens located in potential wildland fire areas	1	2	2	2	Medium	4-J

City of Wylie Mitigation Action Items						
Action Item	Evaluation and Prioritization Criteria			Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility			
Develop public education program for landowners who have significant acreage which is susceptible to wildland fires	1	2	2	2	Medium	4-J

Table 4.J.2
Wildland Fire Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Lorton	Wildland Fire	Implement a program to inspect and clear excessive brush along high-voltage power lines and surrounding land, reducing the vulnerability to citizens located in potential wildland fire areas.	2-C	High	\$500,000/year	Local funding, HMGP	Public Works, Fire Department	Within one year of funding	This would mitigate the effects of wildland fire encroaching upon built up areas for existing structures.	This would mitigate the effects of wildland fire encroaching upon built up areas for existing structures.	This project's cost effectiveness is seen in the management of wildland fire fuels to significantly reduce the damage or loss of buildings, structures, agriculture products, or homes to wildland fire.	Currently the City of Lorton is susceptible to wildland fire due to the large amounts of family owned and un-maintained land along with the large farming industry. With the clearing of brush around high power voltage lines and surrounding land, this will create a fire break, greatly reducing the hazard or risk associated with possible ignition sources of wildland fire.
City of Lorton	Wildland Fire	Develop and implement a community awareness program utilizing the City's existing communication outlets including the website and newsletter in order to educate the public.	4-A, 4-B	High	Existing funding	City Budget	Development Services	Ongoing	This will greatly mitigate the effect of wildland fire on all buildings by increasing public awareness and education especially during periods of low rain and high heat.	This will greatly mitigate the effect of wildland fire on all buildings by increasing public awareness and education campaigns, especially during periods of low rain and high heat.	This project is cost effective when compared to property damage, crop consumption, and potential loss of life that can be attributed to the hazards of wildland fire.	The City of Lorton is engaging in an intensive public awareness and education campaign which encompasses all hazards, however focuses intently on wildland fire. Due to the frequent hot and dry summer conditions and the abundance of crops growing in the community as discussed in Chapter 3, the City of Lorton is highly susceptible to the dangers posed by wildland fire. By educating the public, they will be more aware of conditions, hazard assessment, and any applicable codes or burn ban enforcements applied by the city. This will mitigate the hazards associated with wildland fire.
City of Lucas	Wildland Fire	Execute contracts with the Army Corps of Engineers for fuel management along Corps properties, easements, and boundaries where the city of Lucas is responsible in order to mitigate the effects of wildland fire.	2-C	Medium	To be determined based on contract stipulations	Local funding, HMGP	Public Works, Fire Department	Within one year of funding	This would mitigate the effects of wildland fire encroaching upon built up areas for new construction.	This would mitigate the effects of wildland fire encroaching upon built up areas for existing structures.	This project's cost effectiveness is seen in the management of wildland fire fuels to significantly reduce the damage or loss of buildings, structures, or homes to wildland fire.	Currently the Army Corps of Engineers owns a significant amount of land which is susceptible to wildland fire. The City of Lucas is required to respond to these areas within the city for fire suppression, and would benefit greatly by an established contract for reducing available fuels on easements, border areas, and corps property.

City of Lucas	Wildland Fire	Implement a program to increase the frequency of inspections and brush clearing along power lines and surrounding land, reducing the vulnerability to citizens located in potential wildland fire areas.	2-C	High	\$500,000/year	Local funding, HMGP	Public Works, Fire Department	Within one year of funding	This would mitigate the effects of encroaching wildland fire upon built up areas for existing structures.	This would mitigate the effects of wildland fire encroaching upon built up areas for new construction.	This project's cost effectiveness is seen in the management of wildland fire fuels to significantly reduce the damage or loss of buildings, structures, or homes to wildland fire.	Currently the City of Lucas is susceptible to wildland fire because of the large expanses of single family owned tracts of land exceeding one acre in size. With the clearing of brush around high power voltage lines and surrounding land, this will create a fire break, greatly reducing the hazard and risks associated with possible ignition sources of wildland fire.
City of Lucas	Wildland Fire	Develop public education program for landowners who have significant acreage which is susceptible to Wildland fires.	4-A, 4-B	Low	\$1,000	HMGP, City Budget	Fire Department, Emergency Management	Within two years of funding	No effect	Reduce vulnerability of wildland fires to homes	This project is cost effective as it places the responsibility of managing fuel load on the citizens rather than the city.	Public education will encourage utilizing native vegetation, fire wise community planning surrounding the structures, and fuel management.

Table 4.K.1

Winter Storm Prioritization Scoring

City of Lucas Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Page Located
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Purchase and install automated de-icing systems for bridges which are prone to icing during winter storm seasons in order to mitigate the hazards from ice and winter storms	1	2	2	2	7	Medium	4-K

City of Frisco Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Page Located
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Develop and implement system for ensuring maintenance of utility infrastructure in easement right-of-ways are clear of obstructions to include excessive tree/brush growth.	1	2	2	2	7	Medium	4-K

Table 4.K.2
Winter Storm Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives (Addressed)	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Frisco	Winter Storm	Develop and implement system for ensuring maintenance of utility infrastructure in easement right-of-ways are clear of obstructions to include excessive tree/brush growth.	3-A	Medium	Staff time, equipment, operational costs	Grant funds, City Budget	Code Enforcement / Public Works	Within two years of funding	This action will reduce the effects of severe winter/ice storms on new buildings by helping to ensure the impact of broken tree limbs is lessened.	This action will reduce the effects of severe winter/ice storms on existing building by helping to ensure the impact of broken tree limbs is lessened.	The cost of this project is low compared to the potential benefits of reducing the effects of severe winter/ice storms.	Tree pruning near power lines can reduce the potential for trees falling on and breaking power lines as well as reduce structure damages.
City of Lucas	Winter Storm	Purchase and install automated de-icing systems for bridges and ramps prone to icing during winter storm seasons in order to mitigate the hazards from ice and winter storms	2-B, 2-D	Medium	\$3,000 per system / \$290 per foot HMGP	Local funding, HMGP	Public Works	Within one year after funding	No effect	No effect	Reduces the threat of individual property damage or loss of life due to accidents on icy bridges during winter weather.	The City of Lucas has several bridges that ice over during winter storms and winter weather, causing hazardous driving conditions for the citizens. These conditions are particularly troublesome because they happen infrequently, and many people do not know what driving procedures, they do not know when to take them, and they do not know how to take them. The City would like to install automated de-icing systems along the problematic bridges in order to mitigate the danger associated with the winter storm driving conditions. The system aims to stay ahead of the weather by spraying the bridge surface with anti-icing chemicals before ice forms. This is extremely cost effective because it greatly reduces manpower required to physically spray the bridges down, and the automated system uses less of the de-icing chemicals than trucks would in spraying as well. These systems can be vital because the "Bridge Freezes Before Roadway" signs are correct: the cold air circulating above and below bridges means that ice forms faster on spans. The devices are part weather station, part sprinkler, collecting data on road conditions and turning on a spray of magnesium chloride when they sense danger. Studies performed on these systems installed have been shown to

Culvert and road grade improvements to prevent flooding at Winningkoff Road, ¼ mile south of Snider Lane	2	2	2	2	8	Medium	4-L
Culvert and road grade improvements to prevent flooding at Winningkoff Road, ¼ mile north of FM 328	2	2	2	2	8	Medium	4-L

City of Wylie Mitigation Action Items							
Action Item	Evaluation and Prioritization Criteria				Total Numerical Score	Resulting Priority	Table
	Identified in Current Planning	Public Approval	Feasibility	Political Implications			
Encourage downstream property owners (within the City of Wylie) to participate in the National Flood Insurance Program	2	2	2	2	8	Medium	4-L
Maintain Continued NFIP Compliance through continued enforcement and compliance with City ordinance.	2	2	2	2	8	Medium	4-L

Table 4.L.2

NFIP Aggregate Overview

Jurisdiction	Hazard(s) Addressed	Action Item	Goals and Objectives Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/ Department Responsibility	Implementation Schedule	Effect on New Buildings	Effect on Existing Buildings	Cost Effectiveness	Discussion
City of Allen	NFIP Compliance	Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.	2-E	Medium	TBD	HMGP / Local Funds	City of Allen Engineering	Within two years of funding	None	This will prevent the creation on new flood areas where structures currently exist.	This is more cost effective then doing nothing because the recurrent cost would be high.	This prevents the need for buyouts of locations deemed vulnerable to repetitive losses due to floods.
City of Allen	NFIP Compliance	Prevent the alteration or channelization of Rowlett Creek and all tributaries draining 160 acres or more except where required for safety and public welfare	2-E	Medium	TBD	HMGP / Local Funds	City of Allen Engineering	Within two years of funding	None	This will prevent the creation on new flood areas where structures currently exist.	This is more cost effective then doing nothing because the recurrent cost would be high.	This prevents the need for buyouts of locations deemed vulnerable to repetitive losses due to floods.
Collin County Unincorporated	NFIP Compliance	Develop and implement a hazard/vulnerability assessment for personal properties and structures located in the floodplain.	2-E	Medium	\$15,000	Hazard Mitigation Grant Funding	Engineering	Within two years of funding	None	Identification of personal properties and structures in the floodplain and the ability to rank these structures in terms of risk	The cost of the project is moderately inexpensive compared with the potential benefits of knowing where these structures are and their vulnerability.	Identification of these properties and structures and their vulnerabilities is necessary to prioritize any actions to mitigate them.
Collin County Unincorporated	NFIP Compliance	Develop and implement a buyout program for personal properties and structures located in the floodplain	2-E	Low	\$250,000	Hazard Mitigation Grant Funding	Engineering	Within two years of funding	None	Purchase and demolition of personal properties and structures in the floodplain	The cost of this project is expensive compared to the limited number of structures that would be affected.	Removing personal property and structures from the floodplain will reduce the effect of flooding in Collin County

City of Frisco	NFIP Compliance	Continue compliance with the NFIP through enforcement of local floodplain ordinances.	2-E	Medium	TBD	HMGP / Local Funds	City of Frisco / Engineering	Ongoing	Participation in the NFIP program would assist property owners with damage in the event of a flood disaster.	Participation in the NFIP would assist property owners with recovery following a flood incident.	Compliance with the NFIP ordinance, Frisco will help maintain the regulation requirements from NFIP.	The City of Frisco has adopted the NFIP ordinance and will comply by following the required regulations for NFIP.
City of Frisco	NFIP Compliance	Continue to maintain the prevention of increased rates and volumes of runoff from new development s.	2-E	Medium	TBD	HMGP / Local Funds	City of Frisco / Engineering	Ongoing	Continuing to make sure new buildings are built according to the rules and regulations set forth will in turn help avoid flooding in new areas	This is mainly for new buildings.	The cost of regulating the new sites is low compared to the money that could potentially be lost to flooding if the building is not constructed correctly.	The City of Frisco continues to maintain the regulations for new buildings to help maintain the mitigation of flooding.
City of Lavon	NFIP Compliance	Continue compliance with the NFIP through enforcement of floodplain ordinances.	2-E	Medium	TBD	HMGP / Local Funds	City of Lavon Engineering	Ongoing	The NFIP program will assist property owners with damages caused by a flooding event.	The NFIP program would help property owners with recovering from a flooding event.	Compliance with the NFIP ordinance, the City of Lavon will help maintain the regulation requirements from NFIP.	The City of Lavon has adopted the NFIP ordinance and will comply by following NFIP required regulations.
City of Lavon	NFIP Compliance	Continue to maintain the prevention of increased rates and volumes of runoff due to new development s.	2-E	Medium	TBD	HMGP / Local Funds	City of Lavon Engineering	Ongoing	Continuing to make sure new buildings are built according to the rules and regulations set forth will in turn help avoid flooding in new areas of development.	This will for the most part only affect new buildings	The cost of regulating the new sites is low compared to the money that could potentially be lost to flooding if the building is not constructed correctly.	The City of Lavon continues to maintain the regulations for new constructions to help maintain the mitigation of flooding.
City of Lucas	NFIP Compliance	Culvert and road grade improvements to prevent flooding at Winkinghoff Road, ¼ mile south of Snyder Lane	2-E	Medium	\$150,000	Capital Improvement Plan, HMGP	City of Lucas Public Works Department	Design and construction in 1 year	No effect	No effect	The project prevents future repetitive cost which will greatly surpass the cost of implementing this project.	This project directly affects the hazards addressed in Chapter 3 for occurrences of flooding within the city. This will also increase the existing conditions to the 100-year flood level of protection in streets, as well as keep roadways open to allow for emergency vehicles and to protect public safety.
City of Lucas	NFIP Compliance	Culvert and road grade improvements to prevent flooding at Winkinghoff Road, ¼ mile north of FW 3286	2-E	Medium	\$150,000	Capital Improvement Plan, HMGP	City of Lucas Public Works Department	Design and construction in 1 year	No effect	No effect	The project prevents future repetitive cost which will greatly surpass the cost of implementing this project.	This project directly affects the hazards addressed in Chapter 3 for occurrences of flooding within the city. This will also increase the existing conditions to the 100-year flood level of protection in order to protect the traffic flow on streets, as well as keep roadways open to allow for emergency vehicles and to protect public safety.

City of Wylie	NFIP Compliance	Encourage downstream property owners (within the City of Wylie) to participate in the National Flood Insurance Program	2-E	Medium	Minimal costs associated with public education about this hazard	General budgetary funding will cover the costs of implementation of this program	Engineering Department	Annual public education effort	Purchasing an NFIP policy on new construction assists property owners with recovery efforts following a flooding disaster.	Participation in the National Flood Insurance Program assists property owners with recovery efforts following a flooding disaster.	The cost to implement this project is low compared to the benefits received by participation in the National Flood Insurance Program.	Although the city participates in the NFIP, several downstream property owners do not recognize the importance of holding NFIP policies. The city would work to encourage participation in the NFIP, explaining the benefits of the program and the impact on the recovery process.
City of Wylie	NFIP Compliance	Maintain Continued NFIP Compliance through continued enforcement and compliance with City ordinance.	2-C, 2-E	High	Minimal	Local budget, HMGP	Engineering, Street Dept	The City of Wylie will comply with the NFIP ordinance.	NFIP participation would assist property owners with flood damage following a flooding disaster.	Participation in the NFIP can assist property owners with recovery efforts following a flooding disaster.	By complying with the NFIP ordinance the city will help maintain the regulations requirements from NFIP.	The City of Wylie has adopted an NFIP ordinance and will comply by following the required regulations for NFIP.

Chapter Five: Plan Maintenance Process

Monitoring The NCTCOG Emergency Preparedness Department (NCTCOG EP) will be the coordinating point of contact for monitoring the Collin County Local Mitigation Strategy. In concurrence with the anniversary date annually, the NCTCOG EP will solicit monitoring reports from participating jurisdictions. The reports will include progress on the implementation of the strategy and mitigation actions. For the purpose of monitoring, each jurisdiction's representative will tour mitigation sites and report on the project schedule and its implementation.

Evaluating The Collin County Local Mitigation Strategy will be evaluated annually, coinciding with the anniversary date. The NCTCOG EP department will function as the coordinating point of contact for the participating jurisdictions. Each jurisdiction will evaluate its data in an effort to take into account vulnerabilities which have changed and to ensure that goals and objectives are kept current.

The plan will be evaluated by the following criteria:

- Is the natural hazard analysis accurate?
- Are the goals and objectives being met through mitigation projects or other city planning mechanisms?
- Are the mitigation projects identified relevant to current resources and the current situation?
- Are mitigation projects being effectively implemented?
- Is the hazard mitigation plan being incorporated into other city planning processes?
- What are the results of public comments?

Updating The Collin County Local Mitigation Strategy will be updated within the allotted five-year cycle in accordance with 44 CFR Section 201.6. The update process will include the annual reports from the monitoring and evaluating periods. The NCTCOG EP department will use the annual monitoring and evaluation reports to make changes to the mitigation plan, vulnerability analysis, goals, and action items. The Collin County Local Mitigation Strategy will then be resubmitted for update approval.

Plan Incorporation into Existing Planning Mechanisms The participating jurisdictions in the Collin County Local Mitigation Strategy recognize the importance of incorporating mitigating activities throughout city planning efforts. Other local planning mechanisms have been identified to include: Building codes, Planning and Zoning Ordinances, Fire Codes, NFIP, and Capital Improvement Plans. During annual evaluations of the identified planning mechanisms the Local Mitigation Strategy's Goals and Mitigation Action Items will be taken into consideration.

During strategic planning cycles, members from the Hazard Mitigation teams will be available to provide data and input as the County Commissioner's Court and City Councils provide direction as to what areas of public safety and hazard mitigation they would like to see addressed and funded. Hopefully by funding mitigation strategies each year through normal and CIP processes, future impacts of hazards can be lessened which will save lives and money for the cities and citizens in the Collin County Local Mitigation Strategy.

The Collin County Local Mitigation Strategy participants currently have an Emergency Operation Plan. The CoLMS will support Annex P: Hazard Mitigation of the EOP for future submissions. CoLMS participants will be adopting the approved plan and will incorporate it into their existing local plans used for zoning and land use. All participants will follow local laws and guidelines when incorporating the CoLMS in their existing plans that are relevant to Hazard Mitigation. Each incorporating mechanism will follow their local laws or guidelines necessary for implementation through open forum public meetings. Each participant will monitor the incorporation into other planning mechanisms and report the success or failure in the annual report to NCTCOG EP. With each update, all participants will be informed of the changes. Also, the CoLMS will be

incorporated into the State of Texas Hazard Mitigation Plan through the risk assessment and mitigation strategies during their updating process every three years. For example, the City of Frisco will take into consideration the identified mitigation goals and projects identified in CoLMS during the funding allocation and review of the Capitol Improvement Plan. During the annual review of the City of Allen's Capitol Improvement Plan, the city will incorporate mitigation objectives and projects to budget approval as funds are available and appropriate. The risk assessment will be used by participating jurisdictions in updates of construction and building regulations.

Continued Public Involvement The Collin County Local Mitigation Strategy recognizes the importance of public input in the success of the plan. In order to continue public engagement in the planning process, the completed hazard Mitigation Action Plan will be posted on the NCTCOG Emergency Preparedness website as well as on participating jurisdictions' websites. The Collin County Local Mitigation Strategy will also be on file for public review at the participating jurisdictions' city libraries. The public will be encouraged to review the planning document and provide comments to the appropriate Emergency Management Coordinator. With each plan update, a public hearing will be held to seek comment from interested citizens and business owners relating to the CoLMS. Public commentary is an important asset in mitigation planning because it allows the Hazard Mitigation Teams to gauge citizens' opinions on where the community has hazard vulnerability and where there is a need for mitigation. Public comments will be used to make appropriate changes and guide direction in implementing mitigation strategies.

Attachment A

Documentation from planning meetings

**Multi-Jurisdictional Hazard Mitigation Action Plan
Agenda
December 18, 2006
1:30 pm – 3:30 pm
City of Irving Civic Center**

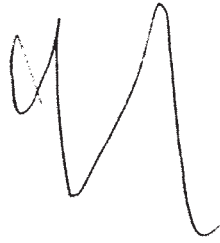
- ❖ Round Table Introduction
- ❖ Brief Overview
 - Risk Assessment
 - Grant Process & Current Status
- ❖ Purpose
 - Annex P
 - Future Grants
- ❖ Local Participation
 - NCTCOG Approval Deadlines
 - Timeline
 - Requirements
 - Goals
- ❖ BREAK
- ❖ Online Process
 - Stage One: The Planning Process
 - Stage Two: Hazard Analysis
- ❖ Resources
 - How-To-Guide
 - Mitigation Best Practices
 - NCTCOG
 - Handouts

Swing Civic Center

HarcMap 12/18/06

Name	Title	Agency	Phone	Address	E-mail
Steve Carter	Div. Chief	Lewisville F.D.	972-219-3739	188 N. Valley Pkwy.	scarter@cityoflewisville.com
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Aracheli Head	EM Spec.	CITY OF DALLAS	214-670-4314	1500 MacArthur L. VAN DALLAS, TX	Kwachen.Heard@dallascityhall.com
FILIP BROWN	EMC	Absent	—	—	—
FAHIRA NALI	EM Specialist	CITY OF DALLAS	214-670-4279	1500 MARILYN ST DALLAS, DALLAS TX	fahira.nali@dallascityhall.com
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**Multi-Jurisdictional Hazard Mitigation Action Plan
Agenda
January 25, 2007
2:00 pm – 4:00 pm
NCTCOG Centerpoint III**

- ❖ Round Table Introduction
- ❖ Brief Overview
 - New Participants
 - Goal
- ❖ Status
 - Participants
 - Public Participation
- ❖ Timeline
 - Project Extension
 - NCTCOG Approval Deadlines
 - March 2, 2007
 - GDEM Deadline
 - March 30, 2007
- ❖ Next Steps
- ❖ Questions and Answers
- ❖ Announcements
 - EMAT Conference April 2-4
 - Statewide Hurricane Exercise April 24-27
 - Disaster Recovery Course April 24-25
 - State Hurricane Conference May 8-10
 - Regional Exercise July 10-11
 - Texas Homeland Security Conference December 3-7

Hazard Mitigation Action Plan Meeting
January 25, 2007

Please sign in by initialling by your name. If we are missing any information please fill it in.

First Name	Last Name	Street	City	Zip	Phone	Email
Collin County						
<i>YAC</i>	Craig	310 Century Parkway	Allen	75013	214 501 4403	cgillis@cityofallen.org
<i>232</i>	Jason	4300 Community Avenue	McKinney	75071	972 548 4708	jjane@co.collin.tx.us
Dallas County						
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	Jimmie	350 West I-30	Garland	75043	214 325 9426	jimmie.badgett@txdps.state.tx.us
	John	1212 W. Beltline Rd	Cedar Hill	76106	972 291 1011	john.ballard@cedarhilltx.com
	Caleb	1500 Marilla St	Dallas	75201	214 670 4278	caleb.bartley@dallascityhall.com
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	Matthew					matthewknolle@mac.com
	Robert	4002 Main Street	Rowlett	75030	972 412 6167	rlafaye@ci.rowlett.tx.us
<i>me</i>	Carrie	601 Boyd Drive	Grapevine	76051	817 410 3484	clittle@ci.grapevine.tx.us
	Jerry (Gerald)	1500 Marilla, L2AN	Dallas	75201	214 670 4276	Gerald.martin@dallascityhall.com
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	John	500 Southwestern Blvd	Coppell	75019	972 304 7057	jpatterson@ci.coppell.tx.us
	Steve	1212 W. Belt Line Rd.	Cedar Hill	75104	972 291 1011	steve.pollock@cedarhilltx.com
	Raymond	1500 Marilla Drive, L2AN	Dallas	75201	214 670 4341	raymond.rivas@dallascityhall.com
	Kenny	1500 Marilla, L2AN	Dallas	75201	214 670 4277	Kenny.Shaw@dallascityhall.com
Denton County						
	Steve	188 North Valley Parkway	Lewisville	75067	972 219 3739	scarter@cityoflewisville.com
	Michael	332 E. Hickory	Denton	76201	940 349 8836	michael.penaluna@cityofdenton.com
<i>ED</i>	Joseph		Corinth		940 321 2141	jpiatt@cityofcorinth.com
	Karen	3838 Forums Drive	Flower Mound	75028	972 874 6209	karen.skordinski@flower-mound.com
Ellis County						
<i>Ab</i>	Tim	547 N. Methodist	Red Oak	75154	469 218 7712	tbirdwell@redoaktx.org
Hood County						
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	Roger	1402 W. Pearl	Granbury	76048	817 579 3335	rdeeds@co.hood.tx.us

Hazard Mitigation Action Plan Meeting January 25, 2007

Johrison County										
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Kaufman County										
Kathy	Morris	100 W. Mulberry	Kaufman	75142	972	932	224	kmorris@kaufmancounty.net		
Navarro County										
Mike	Cox	300 West 2nd Ave.	Corsicana	75110	903	654	3002	chiefmcox@swbell.net		
Donald	McMullan	200 North 12th Street	Corsicana	75110	903	654	4956	dmcMullan@ci.corsicana.tx.us		
Eric	Meyers	312 W. 2nd Ave.	Corsicana	75110	903	875	3315	ociwman@mail.com		
Palo Pinto County										
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Steve	Perdue	2215 NW 1st Ave	Mineral Wells	76067	940	682	8456	sperdue@mesh.net		
Parker County										
Janice	Stroud	215 Trinity	Weatherford	76086	817	598	969	emc-fm@parkercountytexas.com		
Rockwall County										
Kristy	Ashberry	385 S. Goliad Street	Rockwall	75032	972	772	6409	kashberry@rockwall.com		
Tarrant County										
Perry	Bynum	5525 Broadway	Haltom City	76117	817	759	8650	pbynum@haltomcitytx.com		
Scott	Craver	400 South Saginaw Blvd.	Saginaw	76179	817	232	2189	scraver@ci.saginaw.tx.us		
Bill	Crews	4900 River Oaks Blvd.	Fort Worth	76114	817	626	3786	firefr663@aol.com		
Robert "Bob"	Freeman	1102 W. Euleless Blvd.	Euleless	76040	817	685	1502	rfreeman@ci.euleless.tx.us		
Mike	Johnston	1900 Hail Johnson	Colleyville	76034	817	488	6277	grubena@ci.colleyville.tx.us		
Joe	Kraft	1102 West Euleless Boulevard	Euleless	76040	817	685	3144	jkraft@ci.euleless.tx.us		
Andrew	Moon				817	788	7238	eintern@ci.hurst.tx.us		
David	Palla	2100 Precinct Line Road	Hurst	76054	817	788	7246	palla@ci.hurst.tx.us		
Stacy	Singleton	141 West Renfro Street	Burleson	76028	817	447	5400	ssingleton@burlesontx.com		
Keith	Wells	1000 Throckmorton Street	Fort Worth	76102	817	392	6177	Keith.wells@fortworthgov.org		
NCTCOG										
Amanda	Burnett	616 Six Flags Dr	Arlington	76011	817	695	9291	aburnett@nctcog.org		
Amanda	Everly	616 Six Flags Dr	Arlington	76005	817	555	1212	aeverly@nctcog.org		
Molly	McFadden	616 Six Flags Drive, Suite 400	Arlington	76011	817	608	2322	mmcfadden@nctcog.org		

5.23.07 2:00PM

**Regional Hazard Mitigation Action Plan
Status Update
Agenda**

- ❖ Round Table Introduction
- ❖ Brief Overview
- ❖ Participants
 - POC List
- ❖ Upcoming Process
 - Monthly Visits
 - Technical Assistance Workshops
- ❖ New Information
 - Project Name
 - Layout
 - Goals & Action Items
- ❖ Questions and Answers
- ❖ Announcements
 - HUREX Exercise June 4-8, 2007
 - Regional Tactical Interop Communications Exercise November 6-7, 2007
 - IAEM Annual Conference, Reno Nevada November 11-15, 2007
 - GDEM Conference, San Antonio Texas December 3-7, 2007
- ❖ Handouts
 - Training Schedule
 - 2007 Population Estimates
 - “What is NCTCOG?”



Please verify/correct information and sign in
by initialing next to your name

Hazard Mitigation Plan Meeting
5/23/2007

Initial	First Name	Last Name	Street	City	Zip	Phone Number	Email
	Collin County						
	Craig	Gillis	310 Century Parkway	Allen	75013	972 727 0262	cgillis@cityofallen.org
JZ	Jason	Lane	4300 Community Avenue	McKinney	75071	972 548 4708	jlane@co.collin.tx.us
	Dallas County						
MA	Mariah	Armitage	309 Main St	Dallas	75202	214 653 6943	marmitage@dallascounty.org
	Jimmie	Badgett	350 West I-30	Garland	75043	214 325 9426	jimmie.badgett@txdps.state.tx.us
	John	Ballard	1212 W. Beltline Rd	Cedar Hill	76106	972 291 1011	john.ballard@cedarhilltx.com
	Caleb	Bartley	1500 Marilla St	Dallas	75201	214 670 4278	caleb.bartley@dallascityhall.com
	Skyla	Biggers-Pellum	1530 S. Main Street	Duncanville	75138	972 780 5054	spellum@ci.duncanville.tx.us
	Jim	Cline	825 West Irving Boulevard	Irving	75015-2288	972 721 2646	icline@ci.irving.tx.us
	Lanita	Driskill				972 574 8600	ldriskill@dfwairport.com
VV	Gary	Fennell	825 W. Irving Blvd.	Irving	75060	972 721 3721	gfennell@ci.irving.tx.us
	George	Grant	411 West Arapaho Rd	Richardson	75080	972 744 5756	george.grant@cor.gov
HRZ	Fred	Hart	City of DeSoto / DeSoto Fire Rescue	Desoto	75115	972 230 9681	fhart@ci.desoto.tx.us
	Kyle	King	13210 Goodland Street	Farmers Branch	75234	972 919 2644	kyle.king@farmersbranch.info
RL	Robert	Lafaye	4002 Main Street	Rowlett	75030	972 412 6167	rlafaye@ci.rowlett.tx.us
	Carrie	Little	601 Boyd Drive	Grapevine	76051	817 410 3484	clittle@ci.grapevine.tx.us
	Jerry (Gerald)	Martin	1500 Marilla, L2AN	Dallas	75201	214 670 4276	Gerald.martin@dallascityhall.com
PP	Phillip	Mongeau	1515 North Galloway Ave	Mesquite	75149	972 216 6317	pmongeau@mesquitefire.org
	John	Patterson	500 Southwestern Blvd	Coppell	75019	972 304 7057	jpatterson@ci.coppell.tx.us
	Steve	Pollock	1212 W. Belt Line Rd.	Cedar Hill	75104	972 291 1011	steve.pollock@cedarhilltx.com
	Raymond	Rivas	1500 Marilla Drive, L2AN	Dallas	75201	214 670 4341	raymond.rivas@dallascityhall.com
	Kenny	Shaw	1500 Marilla	Dallas	75201	214 670 4275	Kenny.Shaw@dallascityhall.com
	Darrell	Toups	217 N. 5th	Garland	75040	972 205 2722	dtoups@ci.garland.tx.us
	Denton County						
	Steve	Carter	188 North Valley Parkway	Lewisville	75067	972 219 3739	scarter@cityoflewisville.com
	Michael	Penaluna	332 E. Hickory	Denton	76201	940 349 8836	michael.penaluna@cityofdenton.com
	Joseph	Platt	301 Garrison	Corinth	74210	940 321 2141	jplatt@cityofcorinth.com
	Karen	Skordinski	3838 Forums Drive	Flower Mound	75028	972 874 6209	karen.skordinski@flower-mound.com
	Ellis County						

Please verify/correct information and sign in
by initialing next to your name

Hazard Mitigation Plan Meeting
5/23/2007

12	Tim	Birdwell	547 N. Methodist	Red Oak	75154	469	218	7712	tbirdwell@redoaktx.org
	Sharon	McKinney	101 West Main Street	Waxahachie	75165	972	825	5192	Homeland.security@co.ellis.tx.us
	Hood County								
	Ron	Berryman	400 North Gordon St.	Granbury	76048	817	574	2648	berryman@granbury.org
	Roger	Deeds	1402 W. Pearl	Granbury	76048	817	579	3335	rdeeds@co.hood.tx.us
	Hunt County								
	Richard	Hill				903	408	4246	rhill@huntcounty.net
	Johnson County								
	Kent	George	10 North Robinson	Cleburne	76033-0677	817	645	0947	kent@cleburne.net
	Randy	Jenkins	114 West Wardville	Cleburne	76031	817	645	0966	rjenkins@cleburne.net
	Gerald	Mohr	1800 Ridgeman Drive	Cleburne	76033	817	556	6346	GMohr@johnsoncountytx.org
	Kaufman County								
	Kathy	Morris	3003 S. Washington	Kaufman	75142	469	376	4124	kmorris@kaufmancounty.net
	Navarro County								
	Mike	Cox	300 West 2nd Ave.	Corsicana	75110	903	654	3002	chiefmcox@swbell.net
	Donald	McMullian	200 North 12th Street	Corsicana	75110	903	654	4956	dmcMullian@ci.corsicana.tx.us
	Eric	Meyers	312 W. 2nd Ave.	Corsicana	75110	903	875	3315	ocwman@mail.com
	Palo Pinto County								
	Barry	Gill	109 N. Oak	Mineral Wells	76067	940	325	5762	barry.gill@co.palo-pinto.tx.us
	Parker County								
	Janice	Stroud	215 Trinity	Weatherford	76086	817	598	0969	emc-fm@parkercountytx.com
	Rockwell County								
	Kristy	Ashberry	385 S. Goliad Street	Rockwall	75032	972	772	6409	kashberry@rockwall.com
	Tarrant County								
	Amanda	Burnett	616 Six Flags Dr	Arlington	76011	817	695	9291	aburnett@nctcog.org
	Perry	Bynum	5525 Broadway	Haltom City	76117	817	759	8650	pbynum@haltomcitytx.com
	Bill	Crews	4900 River Oaks Blvd.	Fort Worth	76114	817	626	3786	firefr663@aol.com
	Amanda	Everly	616 Six Flags Dr	Arlington	76005	817	695	9214	aeverly@nctcog.org
	Robert "Bob"	Freeman	1102 W. Euless Blvd.	Euless	76040	817	685	1502	rfreeman@ci.euless.tx.us
	Mike	Johnston	1900 Hall Johnson	Colleyville	76034	817	488	6277	grubena@ci.colleyville.tx.us
	Joe	Kraft	1102 West Euless Boulevard	Euless	76040	817	685	3144	jkraft@ci.euless.tx.us
	Molly	McFadden	616 Six Flags Drive, Suite 400	Arlington	76011	817	608	2322	mmcfadden@nctcog.org

Please verify/correct information and sign in
by intialing next to your name

Hazard Mitigation Plan Meeting
5/23/2007

	Rick	Nash	1816 Bedford Rd.	Bedford	76021	817	952	2555	rnash@ci.bedford.tx.us
<i>DR</i>	David	Palla	2100 Precinct Line Road	Hurst	76054	817	788	7246	palla@ci.hurst.tx.us
	Thomas "Will"	Scott	613 S.E. Parkway	Azle	76020	817	444	3221	tscott@ci.azle.tx.us
	Stacy	Singleton	141 West Renfro Street	Burleson	76028-4296	817	447	5400	ssingleton@burlesontx.com
	Keith	Wells	1000 Throckmorton Street	Fort Worth	76102	817	392	6177	Keith.wells@fortworthgov.org
	Tahira	Ali	1500 Marilla St L2AN	Dallas		214	670	4279	tahira.ali@dallascityhall.com
	Andrew	Carraway	1327 Empire Central Drive	Dallas	75247	240	643	8342	acarraway@essayoneng.com
	Teresa	Clark	4600 Cobbs Drive	Waco	76710	254	761	3177	teclark@brazos.org
	Scott	Craver	400 South Saginaw Blvd.	Saginaw	76179	817	232	2189	scraver@ci.saginaw.tx.us
	Matthew	Knolle							matthewknolle@mac.com
	David	Larner				512	424	2397	David.Larner@txdps.state.tx.us
	Andrew	Moon				817	788	7238	eintern@ci.hurst.tx.us
	Steve	Perdue	2215 NW 1st Ave	Mineral Wells, TX	76067	940	682	8456	sperdue@mesh.net
	Andrea	Renegar	1900 Hall Johnson Road	Colleyville	76034	817	488	6277	renegara@ci.colleyville.tx.us

Last Name	Street	Phone Number	Email
SPENCER, MICHAEL	5560 S. HWY 78 Sachse, TX 75043	972 675 1633	m Spencer@cityofsachse.com
FARUQI, MUNAL	"	"	mmanuladad@"
GARCIA, GINA R	CITY OF RED OAK		ggarcia@redoaktx.org
Wilkins, MARK	9060 Teasley Lane Denton, TX 76210	940 349 2840	mark.wilkins@dentoncounty.com
Gonzalez, Joseph	9060 Teasley Ln Denton, TX 76210	940 349 2840	—
Patel, Prit (for P. Monge)	1515 N. Galloway Mesquite, TX 75149	972 216 6317	Ppotele@mesquitefire.org
Steve Parker	City of Dallas 320 E. Jefferson Rm 307 Dallas, TX 75205	214 245 4690	Stephen.parker@dallascityhall.com
David Palla	2100 Precinct Line Rd Hurst Texas 76054	817 788 7246	Palla@ci.hurst.tx.us
Robbinwebber	4310 Industrial / Rowlett, TX 75088	972 463 3913	Rwebber@Rowlett.com
TEAGUE, GEORGE	122 S. ALAMO ST WEATHERFORD, TX	817 549 4282	gteague@weatherfordtx.org

January 7, 2009

Collin County Local Mitigation Strategy Working Group Agenda

- ❖ Review of Submissions to NCTCOG

- ❖ Requested Revisions
 - Changes as of October 1, 2008
 - Lessons Learned

- ❖ Questions and Comments
 - Deadlines

Audio/Video

NCTCOG :: Amanda Burnett

City of Allen

Frisco - Jean May

Chat

Last message received on 07-01-2009

that everyone is here, we have done the first important order of business: Screen Shot attendance. NCTCOG :: Amanda Burnett: Jean, will you be using a mic? Frisco - Jean May: yes I am going to try NCTCOG :: Amanda Burnett: Click "start broadcast" and I will approve it. NCTCOG :: Amanda Burnett: Jean can you hear me? 07. Jan 2009, 15:56 - NCTCOG has left after 56 minutes. 07. Jan 2009, 15:56 - guest has joined.

Participants

- NCTCOG :: Amanda Burnett
- City of Allen
- Frisco - Jean May
- Jason Lane, Collin County
- NCTCOG

5 **Remove**

Jan 7 2009 Agenda - Microsoft Word

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Normal + Arial, Arial 12

Regional Mitigation Strategy

January 7, 2009

Collin County Local Mitigation Strategy Working Group Agenda

- ❖ Review of Submissions to NCTCOG
- ❖ Requested Revisions
 - Changes as of October 1, 2008
 - Lessons Learned
- ❖ Questions and Comments
 - Deadlines

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January 21, 2009

Collin County Local Mitigation Strategy Working Group Agenda

- ❖ Public Meetings Requirements
- ❖ NFIP Requirements
- ❖ Questions and Comments
 - Deadlines

Amanda Burnett

Subject: Lucas Mitigation Planning (Ab, Kh)
Location: Plano

Start: Fri 9/18/2009 3:30 PM
End: Fri 9/18/2009 5:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Amanda Burnett
Required Attendees: Kelsey Hester; Kathryn Cane

Location:
1121 E Spring Creek Pkwy # 100
Plano, TX 75074-3098

Meeting:
Brief on the planning process

Point of Contact:
Volunteer Mitigation Planner

Amanda Burnett

Subject: HAZMAP Meeting with City of Lavon
Location: HLS Conference Room, 4300 Community Ave, McKinney, TX 75071
Start: Thu 4/2/2009 1:30 PM
End: Thu 4/2/2009 3:00 PM
Recurrence: (none)
Meeting Status: Accepted
Organizer: Jason Lane

Location:
4300 Community Ave
McKinney, TX 75071

Topic:
-Overview of Hazard Mitigation Planning
-Discussion of local hazards
-Identification of potential hazards

Point of Contact
City Manager

Amanda Burnett

Subject: Collin County Mitigation Meeting (AB,KC)

Location: Collin County

Start: Fri 10/2/2009 9:30 AM

End: Fri 10/2/2009 11:00 AM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Amanda Burnett

Required Attendees: Jason Lane; Kathryn Cane; Kelsey Hester

Location:

4300 Community Ave

McKinney Tx

Meeting:

Final review of vulnerability assessment

Final review of mitigation projects

Point of Contact

Emergency Management Coordinator

Amanda Burnett

Subject: Wylie Mitigation Planning Mtg (AB,KC)
Location: Wylie
Start: Fri 10/2/2009 11:00 AM
End: Fri 10/2/2009 12:00 PM
Recurrence: (none)
Meeting Status: Meeting organizer
Organizer: Amanda Burnett
Required Attendees: Debbie Buccino [Debbie.Buccino@wylietetexas.gov]; Kathryn Cane; Kelsey Hester

Location:

801 S. Hwy 78, Suite 204
Wylie, Texas, 75098

Meeting:

Review of requirements
Review vulnerability assessment
Add mitigation projects

Point of Contact:

Emergency Management Assistant

Amanda Burnett

Subject: Lucas HMT at 3:45 (Ab. Kh)

Start: Fri 10/2/2009 3:30 PM

End: Fri 10/2/2009 4:00 PM

Recurrence: (none)

Meeting Status: Meeting organizer

Organizer: Amanda Burnett

Location:

665 Country Club Rd

Lucas, TX

Meeting:

Meet with HMT

Overview on LMS

Assess vulnerability

Review Goals/Objectives

Create mitigation projects

Point of Contact:

Volunteer Mitigation Planner

City Manager

Amanda Burnett

Subject: Frisco HMT Mtg (Ab)
Location: Frisco
Start: Wed 10/14/2009 4:00 PM
End: Wed 10/14/2009 5:00 PM
Recurrence: (none)
Meeting Status: Meeting organizer
Organizer: Amanda Burnett
Required Attendees: Kathryn Cane

Location:
8601 Gary Burns Dr.
Frisco, Tx

Meeting:
Final review of Mitigation Action Items

Point of Contact:
Emergency Management Specialist

Amanda Burnett

Subject: Lucas Planning and Mitigation Public Meeting (ab)
Location: Lucas
Start: Wed 10/14/2009 5:30 PM
End: Wed 10/14/2009 7:00 PM
Recurrence: (none)
Meeting Status: Meeting organizer
Organizer: Amanda Burnett
Required Attendees: Kathryn Cane; amburnett@sbcglobal.net

Location:
665 Country Club Rd
Lucas, TX

Meeting:
Q&A about draft of Lucas Plan prior to Public Mtg

Point of Contact:
Volunteer Mitigation Planner
City Manager

From: Robert Patrick [<mailto:RPatrick@lucastexas.us>]
Sent: Tuesday, October 06, 2009 1:02 PM
To: Amanda Burnett; bmauck@lucasfire.com; Kathryn Cane
Cc: Jim Kitchens; Stacy Caudell; rconrad@lucasfire.com
Subject: Mitigation Planning meeting as discussed.

The City of Lucas will invite all interested citizens, non-profits, businesses and neighboring jurisdictions to comment on the Local Mitigation Planning process on October 14th, at 5:30 p.m. at the New City Hall Council Chambers located at 665 Country Club Road.

Your participation in this meeting will be appreciated,

Sincerely,

Robert Patrick

City of Lucas

151 Country Club Road

Lucas, Texas 75002

972-727-8999

rpatrick@lucastexas.us

Attachment B

Documentation from public meetings

**PUBLIC PARTICIPATION SURVEY
FOR
CITY OF ALLEN HAZARD MITIGATION PLANNING**

We need your help!

The City of Allen and the North Central Texas Council of Governments are in a planning process to become less vulnerable to disasters, and your participation is important to us!

The end result of this planning process will be a Hazard Mitigation Plan that will identify and assess our area's disaster risks and determine how to best minimize or manage those risks. Upon completion, the Plan will be presented to the Allen City Council for adoption and then submitted to the Texas Department of Emergency Management and the Federal Emergency Management Agency for review and approval.

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

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

**City of Allen Fire Department
310 Century Parkway
Allen, Texas 75013**

Surveys can also be faxed to: 972-727-0265

If you have any questions regarding this survey please contact Craig Gillis at (972) 727-0262

1. **What neighborhood/area do you live in?** _____

2. **Have you ever experienced or been impacted by a disaster?**
 - Yes (please explain): _____
 - No

3. **How concerned are you about the possibility of our community being impacted by a disaster?**
 - Extremely concerned
 - Somewhat concerned
 - Not concerned

4. Please select the hazard you think is the *highest threat* to your neighborhood:

- Drought
- Earthquake
- Erosion
- Extreme Heat
- Flood
- Hail
- Hazardous Materials
- Hurricane
- Land Subsidence
- Landslide
- Lightning
- Major Urban Fire
- Pipeline Failure
- Severe Winter Storm
- Terrorism
- Tornado / Wind Storm
- Wildland Fire
- Other (please explain): _____

5. Please select the hazard you think is the *second highest threat* to your neighborhood:

- Drought
- Earthquake
- Erosion
- Extreme Heat
- Flood
- Hail
- Hazardous Materials
- Hurricane
- Land Subsidence
- Landslide
- Lightning
- Major Urban Fire
- Pipeline Failure
- Severe Winter Storm
- Terrorism
- Tornado / Wind Storm
- Wildland Fire
- Other (please explain): _____

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

- Yes (please explain): _____
- No

7. Is your home located in a floodplain?

- Yes
- No
- I don't know

8. Do you have flood insurance?

- Yes
- No
- I don't know

a. If "No", why not?

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

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

- Yes
- No

a. If "Yes", please explain:

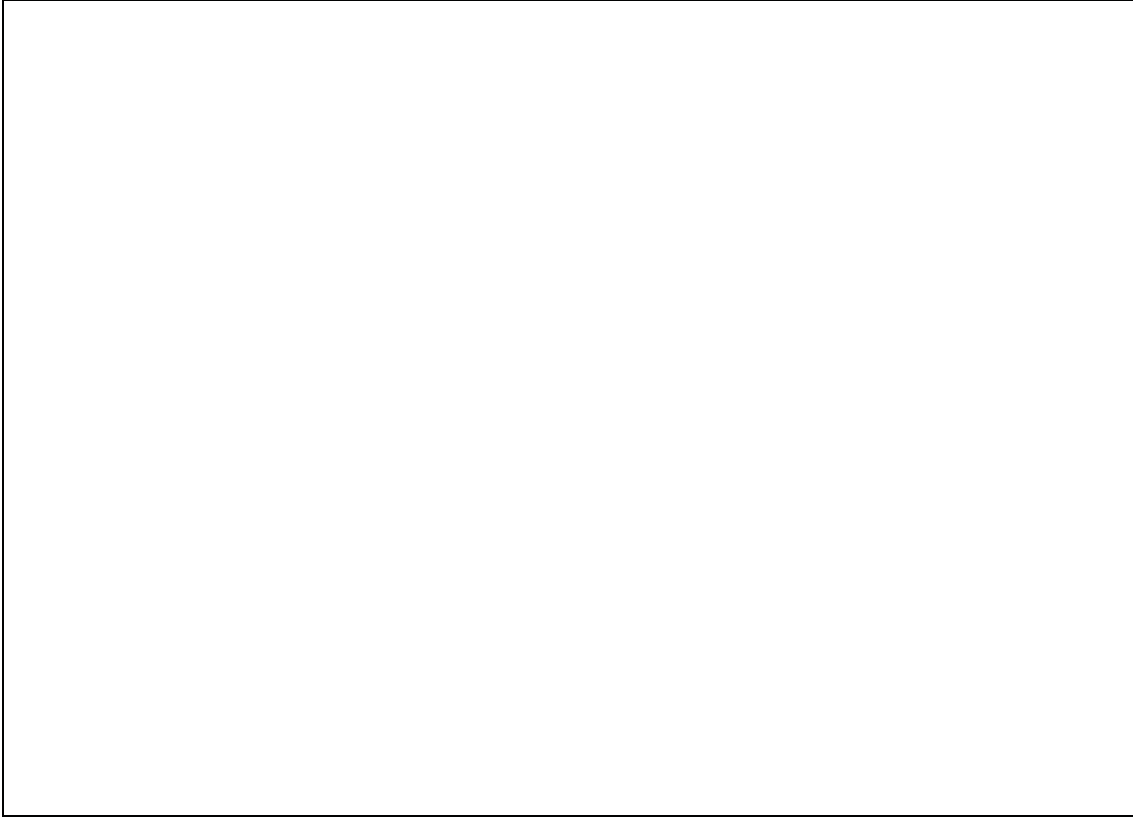
10. Are you interested in making your home or neighborhood more resistant to hazards?

- Yes
- No

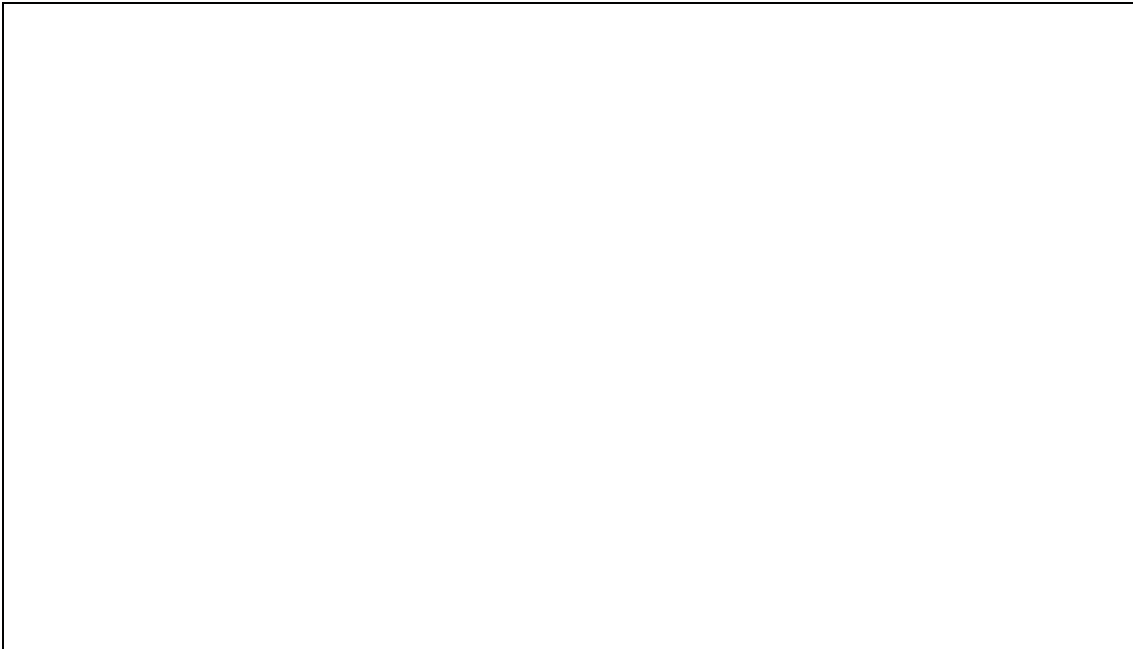
11. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to hazards?

- Newspaper
- Television
- Radio
- Internet
- Mail
- Public workshops/meetings
- Other (please explain): _____

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



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



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

Category	Very Important	Somewhat Important	Not Important
<p><u>1. Prevention</u> Administrative or regulatory actions that influence the way land is developed and buildings are built. Examples include planning and zoning, building codes, open space preservation, and floodplain regulations.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><u>2. Property Protection</u> Actions that involve the modification of existing buildings to protect them from a hazard or removal from the hazard area. Examples include acquisition, relocation, elevation, structural retrofits, and storm shutters.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><u>3. Natural Resource Protection</u> Actions that, in addition to minimizing hazard losses, also preserve or restore the functions of natural systems. Examples include: floodplain protection, habitat preservation, slope stabilization, riparian buffers, and forest management.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><u>4. Structural Projects</u> Actions intended to lessen the impact of a hazard by modifying the natural progression of the hazard. Examples include dams, levees, seawalls, detention/retention basins, channel modification, retaining walls and storm sewers.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><u>5. Emergency Services</u> Actions that protect people and property during and immediately after a hazard event. Examples include warning systems, evacuation planning, emergency response training, and protection of critical emergency facilities or systems.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p><u>6. Public Education and Awareness</u> Actions to inform citizens about hazards and the techniques they can use to protect themselves and their property. Examples include outreach projects, school education programs, library materials and demonstration events.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

THANK YOU FOR YOUR PARTICIPATION!



Public Information Office
210 S. McDonald St. Suite 636
McKinney, TX 75069

FOR IMMEDIATE RELEASE

CONTACT: Leigh Hornsby, Public Information Officer
972-548-4772
lhornsby@co.collin.tx.us

July 20, 2004

Collin County to conduct hazard mitigation town hall meetings

(McKinney, TX) – As Collin County’s Homeland Security Department continues to develop a long-range Hazard Mitigation Plan, public input is requested. Town hall meetings will be conducted on August 11th at noon and again at 6 p.m. in the Collin County Commissioners Courtroom on the 6th floor of the county courthouse at 210 S. McDonald Street in McKinney.

Presenters will discuss natural hazards that occur in Collin County and possible mitigation strategies to reduce these hazards. These strategies may include an effort to evaluate the condition of dams within the county, identification of structures located in the floodplain, purchase of a mobile incident command vehicle, public education and awareness, and early warning systems.

Representatives from the Collin County Homeland Security Department will give a presentation and seek public comment.

Hazard mitigation is action taken to reduce or eliminate long-term risk to people and property from hazards and their effects. Hazard Mitigation Action Planning (HazMAP) is considered a cornerstone in the U.S. Department of Homeland Security and Federal Emergency Management Agency efforts to reduce the country’s vulnerability to disasters.

###

Amanda Burnett

From: Jean May [JMay@friscofire.com]
Sent: Wednesday, October 14, 2009 4:23 PM
To: Amanda Burnett
Subject: Communications

Categories: Collin

Here are the emails about the Hazard Mitigation Plan

From: Paul Siebert
Sent: Wednesday, May 28, 2008 9:56 AM
To: Mack Borchardt
Cc: Jean May
Subject: FW:

This will be going on the City home page, the cable channel and the FD page for 2 weeks to satisfy public input recommendations from FEMA. The locations and wording were Dana's recommendations.

Thanks,
Paul

From: Dana Baird-Hanks
Sent: Wednesday, May 28, 2008 9:52 AM
To: Dana Baird-Hanks; Paul Siebert
Subject: RE:

"The City of Frisco Hazard Mitigation Team has completed the draft mitigation action plan, which is a general guide that identifies potential natural disasters that could impact Frisco. Citizens, neighboring communities, agencies, businesses, academia, nonprofits, and all interested parties are invited to review the draft and submit comments and/or questions. To schedule a time to review the Mitigation Action Plan, please contact Jean May by email jmay@friscofire.com or call 972-292-6342 prior to June 13, 2008."

Dana Baird
Director of Communications and Media Relations
City of Frisco
George A. Purefoy Municipal Center
6101 Frisco Square Blvd.
Frisco, TX 75034

972-292-5080
972-297-6553 pager
dbaird@friscotexas.gov
www.friscotexas.gov

From: Dana Baird-Hanks
Sent: Wednesday, May 28, 2008 9:51 AM
To: Paul Siebert
Subject:

“The City of Frisco Hazard Mitigation Team has completed the draft mitigation action plan, which is a general guide that identifies potential public safety threats that could impact Frisco. Citizens, neighboring communities, agencies, businesses, academia, nonprofits, and all interested parties are invited to review the draft and submit comments and/or questions. To schedule a time to review the Mitigation Action Plan, please contact Jean May by email jmay@friscofire.com or call 972-292-6342 prior to June 13, 2008.”

Dana Baird
Director of Communications and Media Relations
City of Frisco
George A. Purefoy Municipal Center
6101 Frisco Square Blvd.
Frisco, TX 75034

972-292-5080
972-297-6553 pager
dbaird@friscotexas.gov
www.friscotexas.gov



Lavon City Council Meeting & Executive Session

P.O. Box 340 ~ 120 School Rd.
Lavon, TX 75166
Ph. (972) 843-4220 ~ Fax (972) 843-0397

COUNCIL ROOM LAVON CITY HALL ANNEX BUILDING "B" 120 SCHOOL RD.

October 13, 2009

7:00 PM

NOTICE OF ATTENDANCE

NOTICE is hereby given that members of the Lavon Economic Development Corporation, Lavon Planning and Zoning Commission and Tax Increment Financing Zone # 1 Board may be in attendance at the Lavon City Council Meeting October 13, 2009 at 7:00 PM held at the Lavon City Hall.

I. MAYOR MARTIN TO CALL THE LAVON CITY COUNCIL MEETING TO ORDER AND ANNOUNCE THAT A QUORUM IS PRESENT

II. MAYOR MARTIN TO LEAD THE COUNCIL AND VISITORS IN THE PLEDGE OF ALLEGIANCE

III. INVOCATION

IV. ITEMS OF INTEREST/CITY COUNCIL COMMUNICATIONS

Members of City Council have the opportunity to notify others of community events, functions and other activities.

V. CONSENT AGENDA

A. City Council to Consider and act on approval of the consent agenda:

1. September 15, 2009 City Council Meeting & Executive Session Minutes*

VI. PUBLIC RECOGNITION

None

VII. CITIZENS' COMMENTS

Citizens, who wish to address the Council, may discuss matters not on the agenda and who have not previously expressed to the Council or City Hall a desire to discuss such matters. The only response from the Council can be to request these items to be placed on a future agenda for action.

VIII. PUBLIC HEARING

None



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IX. ITEMS FOR DISCUSSION

- A. City Council to discuss the Local Hazard Mitigation Strategy. (Jones)**
- B. Mayor Martin to discuss review of City Ordinances with the Council. (Mayor)
- C. City Council to discuss review of Curfew Ordinance. (Jones)

X. ITEMS FOR CONSIDERATION AND ACTION

- A. Mayor to administer the Oath of Office of Planning and Zoning Commission Seat Two to David Barnhart. (Mayor)
- B. Mayor to administer the Oath of Office of Planning and Zoning Commission Seat Four to William Bonney. (Mayor)
- C. City Council to consider and act on proposed amendments to the Articles of Incorporation of the Lavon Economic Development Corporation. (Piekarski)
- D. City Council to consider and act on Economic Development Corporation 2010 Budget. (Piekarski)
- E. City Council to consider and act on authorizing the City Manager to enter into a contract with a new electric provider for the facilities located at 120 School Road, Annex "A" and "B". (Jones)
- F. City Council to consider and act on Ordinance 2009-10-01 amending the City of Lavon FY 2009-2010 Budget. (Mayor)

XI. EXECUTIVE SESSION: In accordance with Texas Government Code, Section 551.001 et seq., the City Council will recess into Executive Session (closed meeting) to discuss the following:

- A. In accordance with the Texas Government Code, Section 551.074, personnel matters - to deliberate the appointment, employment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee. (Mayor Martin)

A. Deputy Marshal

XII. RECONVENE INTO REGULAR SESSION: In accordance with Texas Government Code, Section 551.001, et seq., The City Council will reconvene into Regular Session to take any action necessary regarding the following:



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-
- A. In accordance with the Texas Government Code, Section 551.074, personnel matters - to deliberate the appointment, employment, evaluation, reassignment, duties, discipline or dismissal of a public officer or employee; or to hear a complaint or charge against an officer or employee. (Mayor Martin)

A. Deputy Marshal

XIII. CITY COUNCIL TO SET FUTURE MEETINGS AND AGENDAS

Council Members and staff may request items be placed on a future agenda or request a special meeting be called. Each request that passes by a majority vote will be placed on the schedule by the City Secretary.

XIV. MAYOR MARTIN TO ADJOURN CITY COUNCIL MEETING

Notes to the Agenda:

1. Items marked with an * are consent items considered to be non-controversial and will be voted on in one motion unless a council member asks for separate discussion.
2. The Council may vote and/or act upon each of the items listed in this Agenda except for discussion items.
3. The Council reserves the right to retire into executive session under Sections 551.071 – of the Texas Open Meetings Act concerning any of the items listed on this Agenda, whenever it is considered necessary and legally justified under the Open Meetings Act.
4. Persons with disabilities who plan to attend this meeting and who may need assistance should contact the City Secretary at 972-843-4220 two working days prior to the meeting so that appropriate arrangements can be made.

This is to certify that I, Linda Ardis, City Secretary of Lavon, posted this Agenda on the glass of the front door of the City Hall, facing the outside, and on the City Hall bulletin board, on or before 6:00 on October 8, 2009.

Linda Ardis, City Secretary

REMOVED FROM POSTING THIS ____ DAY OF _____, 2009 AT _____ P.M.



LUCAS TEXAS



MENU

[Welcome](#)

[Community](#)

[City Government](#)

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[Community Development](#)

[Building Inspection](#)

[Planning and Zoning](#)

[City Documents](#)

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CALENDAR

October 14, 2009

[Mitigation Action Plan](#)

October 15, 2009

[City Council Workshop Meeting -
CANCELLED](#)

November 5, 2009

[City Council Regular Meeting](#)

November 12, 2009

[Planning & Zoning Commission](#)

November 19, 2009

[City Council Workshop Meeting](#)

Mitigation Action Plan

Wednesday, October 14th
5:30 p.m.

City Hall
Council Chambers
665 Country Club

The City of Lucas invites all interested citizens, non-profits, businesses and neighboring jurisdictions to comment on the Local Mitigation Planning process on Wednesday, October 14, 2009 at 5:30 p.m., at City Hall, 665 Country Club.

[Site by Cave Consulting](#)

The following public notice was posted at the Wylie City Hall

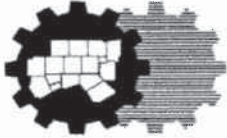
PUBLIC MEETING

The City of Wylie invites all interested citizens, non-profits, businesses and neighboring jurisdictions to comment on the Local Mitigation Planning process on Tuesday, October 20, 2009 from 1-5 at the Wylie Fire Administration office located at 801A S Hwy 78, suite 204.

The following is the purchase request and statement published in the local paper for Collin County.

Collin County Papers

Local citizens, neighboring communities, local business, academia, agencies, and nonprofits are invited to review the Collin County Local Mitigation Strategy (Consisting of: Collin County and the Cities of Allen, Frisco, Lavon, Lucas, and Wylie). It will be available during November 5 to 9, 2009 at the following website: http://www.nctcog.org/ep/Special_Projects/RMS/



**PURCHASE
REQUISITION**

weds
11-04-09 8:59 RCVD

LINE ITEM	QUANTITY TO ORDER	DESCRIPTION <i>(please include model number or order number here)</i>	EST. PRICE	ACTUAL COST <i>Admin Use Only</i>
		Legal Notice for Denton and Collin County papers to begin Thursday, November 5th and Friday November 6th See attached for verbage		
<i>Thurs</i>	<i>(1)</i>	<i>(Daily) Denton Record Chronicle</i> <i>4:30 pm deadline</i>		
<i>Thurs</i>	<i>(1)</i>	<i>(weds Thurs Fri Sun) McKinney Courier Gazette</i>		
<i>Sun</i>	<i>(1)</i>	<i>Sunday only Plano Insider</i> <i>(Largest Collin Cty pub)</i>		
			\$ -	

Requisition Date: 11/2/2009

Requisitioned by: G. Rippin

Date Needed: 11/5/2009

Department: EP

Suggested Vendor(s):

Account No.(s):

GL	ORG	Project Code
5707-00	3809	034685

Program Director's Signature

Deeresa Huff 11/4/09

Approved for Purchase

Attachment C

Sample Resolution

Sample Draft Resolution for Approval of Collin County Local Mitigation Strategy

WHEREAS, *(Insert name of Jurisdiction)*, with the assistance from the North Central Texas Council of Governments has gathered information and prepared the Collin County Local Mitigation Strategy; and,

WHEREAS, the Collin County Local Mitigation Strategy has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, *(Insert name of Jurisdiction)* is a local unit of government that has afforded the citizens an opportunity to comment and provide input in the Plan and the actions in the Plan; and

WHEREAS, *(Insert the name of the governing body)* has reviewed the Plan and affirms that the Plan will be updated in accordance to the plan maintenance process described;

NOW THEREFORE, BE IT RESOLVED by *(Insert the name of the governing body)* that *(Insert name of Jurisdiction)* adopts the Collin County Local Mitigation Strategy as this jurisdiction's Multi-Natural Hazard Mitigation Plan, and resolves to execute the actions in the Plan subject to available funding.

ADOPTED this _____ day of _____, 200__ at the meeting of the *(Insert the name of the governing body)*.

Insert appropriate signature lines and dates
Mayor Signature

NOTE: This is only a sample of a draft resolution. Each participating jurisdiction in the Collin County Local Mitigation Strategy may use this or another resolution template for the plan to be adopted.