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INC.
CONSULTING
ENGINEERS

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August 23, 2000

Mr. Curtis Snow
City Manager
City of Palestine
504 North Queen Street.
Palestine, Texas 75801

RECEIVED
SEP 19 2000
10:55 AM
GRANTS MANAGEMENT

Re: Flood Mitigation Plan
Klotz Associates Project No. 21904

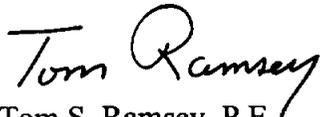
Dear Mr. Snow:

Klotz Associates is pleased to present this Final Deliverable for the Flood Mitigation Plan for your community. We appreciate your assistance and feedback during our preparation of this report. We understand the important nature of beginning the flood mitigation process in the City of Palestine and hope that this document provides the critical framework for future flood mitigation activities in the city.

Five bound hardcopies and one electronic copy of this report should be submitted to Mr. Gilbert Ward of the Texas Water Development Board.

We appreciate the opportunity to help you reach your engineering goals. If you have questions about this report, please contact Keith Bille, P.E. or me at your convenience.

Sincerely,



Tom S. Ramsey, P.E.
Senior Vice President

TSR:ng

Enclosure

Flood Mitigation Plan Palestine, Texas

Prepared for
The City of Palestine, Texas

Prepared by

Klotz Associates, Inc.

1160 Dairy Ashford, Suite 500
Houston, Texas 77079

June 2000

ACKNOWLEDGEMENTS

The authors acknowledge with deep appreciation the assistance and thoughtful advice received from many agencies, organizations, and individuals contacted during the course of creating this plan. Those individuals especially helpful included Mr. Curtis Snow, City Manager, City of Palestine; Mr. Lee Johnson III, Public Works Director, City of Palestine; and Mr. Gilbert Ward, Texas Water Development Board. The collective wisdom, insights, and experiences of these many people provided the authors with an understanding of the problems and challenges of both living in and managing the floodplain. The authors owe a debt of gratitude to those who set up and facilitated the public outreach sessions and the visits to the flood affected areas.

While the above groups and individuals have provided much valuable advice, the authors bear sole responsibility for all views expressed in this report. This report was written under the direction of William R. Abbott, P.E. registration #59229, David W. Hillery, P.E. registration #81484, and Anthony P. Voigt, P.E. registration #84845.

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INTRODUCTION

The City of Palestine has prepared this Flood Mitigation Plan (FMP) as part of efforts to provide its citizens with enhanced flood protection and lessen losses to people and property attributed to flood events. The National Flood Insurance Reform Act (NFIRA) of 1994 authorized the Federal Emergency Management Agency (FEMA) to provide grants to communities to assist them in developing and updating FMPs. One requirement to participate in the Flood Mitigation Assistance (FMA) program is creation of the FMP.

This FMP includes an evaluation of existing flood hazards and existing flood management activities, and a plan of action to upgrade those activities. Approval of the FMP by FEMA will make the City of Palestine eligible to receive funds from the FMA program through the Texas Water Development Board (TWDB).

The City of Palestine FMP will be influential in lowering flood insurance premiums within the city and environs by providing methods for the city to gain credits in the Community Rating System (CRS). The CRS program was implemented in 1990 to encourage community floodplain management activities that would exceed the minimum standards of the National Flood Insurance Program (NFIP). The City of Palestine is not currently an active participant in the CRS.

The City of Palestine (estimated 1998 population 18,330¹) is located in Anderson County. Palestine is located in the central part of East Texas, 108 miles southeast of Dallas, 150 miles north of Houston, 99 miles northeast of Waco and 180 miles northeast of Austin. The public school system in Palestine is made up of two districts, Palestine Independent School District and Westwood Independent School District. Trinity Valley Community College-Anderson County Campus and an extension campus of the University of Texas in Tyler are located in Palestine. Activities in and around Palestine include the Texas State Railroad, the Historical Downtown, Anderson County Courthouse, Carnegie Library and the Museum for East Texas Culture. Other attractions include the Howard House Museum and the National Scientific Balloon Facility. See Exhibit 1 in the Appendices for a location map of the City.

U.S. Highway 287 passes through the city from the northwest to the southeast. U.S. Highways 79 and 84 pass through the city as one roadway in the southwest, and divide in the city so that Highway 79 continues to the northeast, and Highway 84 continues to the east. Loop 256 encircles the entire city.

The City of Palestine lies between Nueces and Trinity River basins. There are three watersheds in the immediate vicinity of the City. Howard Creek (in the northeast part of the city) runs from the northwest to the southeast, and joins into Wells Creek, which

¹ From Texas State Data Center Website: http://txsdc.tamu.edu/tpepp/1998_txpoest_place.html

flows from the interior of the city toward the east. In the western part of Palestine is Basset Creek, which flows in the southwesterly direction, and is the waterway that contains Upper City Lake, Lower City Lake, and Blue Lake, which were all made with dams built on the Creek or one of its tributaries. The third watershed is Town Creek, which runs from the center of Palestine southwest, meeting with Basset Creek just west of the city limits.

No significant projects have been undertaken by the City over the past few years to make improvements to the local watersheds. The City has not, to date, undertaken any major flooding studies or developed any type of master drainage plan for the community. However, the City does have a Flood Ordinance. This ordinance outlines administration of the floodplain and regulations to mitigate flood hazards. A copy of the ordinance is attached.

THE PLANNING PROCESS

The preparation of this FMP was a joint effort between the City of Palestine and the consultant (Klotz Associates, Inc.). Throughout the planning process, input and information was gathered from various sources including the City of Palestine, the Palestine City Council, Anderson County Appraisal District, the public and other floodplain management agencies.

This section describes the process that was used to describe the existing flood conditions and develop viable solutions. This plan sought to include input from those who are potentially impacted by flooding in the Palestine area as well as those persons who will implement the plan. The following list summarizes the planning process:

1. *Data collection and inventory*

The process of creating this plan began with gathering available data to define the flooding problem in Palestine. Sources of data included the Offices of the City of Palestine, the Palestine Chamber of Commerce, the local newspaper, local utility employees and citizens of Palestine. Data provided by these sources included:

- information about previous flood events and the nature of the rainfall in Palestine;
- details on the damage that has been done by floods and the repairs and responses that were made after the flood events;
- history of the changes that have affected water run off in the Palestine area;
- consultant site visits in Palestine where the various flood damage has occurred, including visual inspection of the bridges, culverts, channels, and nearby residences and facilities;
- records and information from governmental agencies including the National Weather Service, the National Oceanic and Atmospheric Association (NOAA), and FEMA; and
- information about the geography around Palestine, including terrain, watersheds of creeks and rivers, and land usage, was provided from maps distributed by the U.S. Geologic Survey, the Texas Department of Transportation, and the National Flood Insurance Program.

2. *Involvement of other agencies*

The Texas Water Development Board has been informed of the City's intent to develop a FMP. They have been offered the opportunity to provide input and make suggestions pertaining to floodplain management activities in the City of Palestine. Mr. Gilbert Ward, the contact at the Texas Water Development Board, can be reached at:

Texas Water Development Board
Gilbert Ward
Flood Mitigation Assistance Program Coordinator
1700 North Congress Avenue
Austin, Texas 78701

Federal Emergency Management Agency
Frank Pagano
Region VI Chief of Mitigation Programs
800 N. Loop 288
Denton, Texas 76201-3698
(940) 898-5399

Texas Natural Resource Conservation Commission
James Mirabal
NFIP State Coordinator
P.O. Box 13087
Austin, TX 78711-3087

3. *Public Notices/Advertisements/Public Involvement*

Public meetings were held on February 17th, April 20th, and May 22nd, 2000, at the City of Palestine Council Chambers. These meetings were an opportunity for the citizens of Palestine to share their experiences and opinions and have them reflected in the FMP. Advertisements were placed in the local paper providing general information to the public and requesting feedback. Points of contact were provided in the advertisement. A copy of the advertisement is located as an attachment.

4. *Analysis of drainage problems and preparation of draft FMP*

Using data collected from the sources mentioned above, an evaluation of existing flooding problems was completed. The City of Palestine has not traditionally been extremely active in floodplain management, so it was necessary to identify problem areas and what floodplain management activities, if any, in which the city has been involved. A summary of potential mitigation activities was developed based on identified problem areas.

5. *Review of draft FMP by City executive staff.*

The executive staff of the City of Palestine reviewed the draft FMP during the week of May 1, 2000. The executive staff includes the City Manager, Mayor, and Council Members. A copy of the draft plan was made available to the public for review and comment.

6. *Review of FMP by other agencies (TWDB)*

A copy of the draft FMP was supplied to the Texas Water Development Board for review and comment on April 27, 2000. Their responses and comments will be attached to this document.

7. *Revision to draft plan*

Based on staff, public, and other agency comments, the draft FMP will be modified to a final form.

8. *Review/approval by city agencies and council*

The FMP will be presented to the City of Palestine City Council for review and approval.

9. *Implementation*

Implementation of the FMP will be the responsibility of the City Manager under the guidance of the Mayor and City Council.

EVALUATION OF EXISTING HAZARDS

The Flood Insurance Rate Maps (FIRM) for the Palestine area, published by the National Flood Insurance Program, were last revised on March 1, 1984. The flood risk zones and the city limits have changed somewhat since that time. When these maps will be updated is not known, but the floodplain data from 1984 is valid for developing a general understanding of the location of flood-prone areas.

There has been historical flooding along Howard Creek in northeast Palestine. The portion of Howard Creek that is in Palestine has been affected by land development farther upstream outside the city. This upstream development has involved clearing of forest or vegetation, which decreases the land's ability to absorb rainwater. This increased clearing increases runoff, thereby increasing the intensity and amount of runoff delivered to Howard Creek. Some of the roadways that cross Howard Creek, or run through the floodplain, have been rebuilt, and new roads, as well as bridges and culverts, have been built. These rehabilitated and new roadways affect the flow of the creek and its carrying capacity. Other factors have changed the Howard Creek floodplain since 1984. The build-up of sediment, the erosion of the channel, man-made grading, channel modifications and clearing have all contributed to the changing size and shape of the floodplain of Howard Creek. A few residences and structures within the floodplain of Basset Creek are subject to flooding.

Another floodwater problem in Palestine is in the central part of the city leading to Town Creek. The drainage of storm water is often too slow and flash flooding often affects the central portions of the city as drainage channels overflow into the roadways and onto adjacent properties. Even though the historical flooding in Palestine has been concentrated on Howard and Basset Creeks, flooding in downtown and along Town Creek is a safety issue in stormy weather.

Based on the latest FIRM map, there are more than 480 acres within the city limits that are within the 100-year floodplain. This figure is based on information from 1984, but has probably changed over the past several years. The City of Palestine city limits have grown since 1984, so the FIRM maps do not cover the existing limits. The 480 acres represents the approximate area of floodplain within the city at that time in 1984. However, there have been changes in the floodway that are not shown on the latest FIRM maps, and with city expansion, the 480 acre figure is most likely low with respect to the amount of floodplain within the city limits. There is additional floodplain on Basset Creek that has been annexed since 1984 that has experienced flooding since that time. Some residences are in the floodplain and have been flooded in the past.

The City of Palestine recognizes that flooding not only can affect the health and safety of its residents, but the economic health of the city as well. It is very costly to build within the floodplain and meet requirements to either build above the 100-year flood elevation

or provide extensive flood-proofing measures to a structure. It is important for the City to continue to enforce existing guidelines for new or redevelopment of structures within the floodplain. To do this, studies need to be commissioned to determine whether or not improvements should be made to alleviate flooding conditions, to re-establish the potential for development, or whether it is more cost effective for the City to purchase properties that experience recurring damage.

City officials estimate that there are at least four structures lying within the existing floodplain. Table 1 summarizes a list of properties that appear to be in the floodplain. These properties may be candidates for elevation, acquisition, or relocation.

It is unknown whether these are repetitive loss properties. Again, because significant expansion of the city limits has occurred since the latest FIRM maps were created, there could be more structures that exist within the floodplain, especially within the Basset Creek watershed.

Table 1. Possible Floodprone Structures in Palestine, Texas.

Address	Valuation	Insured?	Repetitive Loss?
608 Hood St.	\$37,560	No	Unknown
611 Hood St.	\$33,010	No	Unknown
107 Lakeside	\$64,920	No	Unknown
1630 Salt Works Rd.	\$33,660	No	Unknown

PLANNING GOALS

While The City of Palestine does not currently have a comprehensive watershed management plan, the basic development of that type of plan will consist of data collection, watershed studies, and the results of the development of this FMP. The City wishes to protect the public safety and curtail the losses associated with flood events in the City. The goals of the City of Palestine in developing this plan are as follows:

- Protect human life and health of the citizens of Palestine;
- Minimize expenditure of public money for costly flood control projects;
- Minimize or reduce the flood damage to structures;
- Minimize the need for rescue and relief efforts associated with flooding that are generally undertaken at the expense of the general public;
- Minimize damage to public utilities, such as water mains, gas mains, electric, telephone and sewer lines and streets and bridges located in floodplains;
- Help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future floodprone areas; and
- Ensure that potential buyers are notified that a property lies within the floodplain.

EVALUATION OF EXISTING FLOODPLAIN MANAGEMENT PROGRAM

When developing this FMP, the most reasonable beginning point was to review what floodplain management activities the City of Palestine has participated to date. Historically, the City's activities related to floodplain management have been minimal. While the City does not currently participate in the Community Rating System, it does have floodway development regulations meant to deter development in the floodplain (see Appendices).

To date, the City has not concentrated its efforts on developing a public awareness campaign or providing a public repository for floodplain data. The city currently does minimal drainage maintenance and does not have a comprehensive flood response plan. The City can not be held responsible for maintenance of 100% of the floodplain within the city limits as much of the floodplain is privately held. One problem that has exacerbated the flooding problem in Palestine is that stream maintenance has been the responsibility of private landowners with no coordination between adjacent properties. However, along Howard Creek, City maintenance improved flow by grading and widening the creek. But private ownership has not allowed for a comprehensive maintenance activity along the waterway.

The development of a FMP is the first step for the City to address the flooding problem in Palestine from a planning perspective. The city, through the planning process, hopes to develop a comprehensive flood management plan that will be used to direct flood management operations and improvements into the near and long-term future.

EVALUATION OF POTENTIAL REMEDIES

The City of Palestine proposes that floodplain management planning should focus on developing strategies for each of the creeks within the city limits: Basset, Town and Howard watersheds. Items such as stormwater quantity and quality, environmental issues, control of development, erosion containment and control, and overall floodplain management will be integral items in watershed management plans.

Master Drainage Plan/FIRM Map Update

Watershed studies could be conducted to identify where channel improvements, bridge upgrades, or additional regional detention could be constructed to relieve the current flooding problem. However, until specific studies are completed for each watershed no specific estimates of costs for improvements or land acquisition can be made. Once studies are completed, the priority for improvements should be based on a combination of cost, funding, existing flood problems, and a comprehensive cost-benefit analysis for each project. These proposed studies could give valuable information to FEMA and the City in terms of economic and safety benefits.

Planning/Regulation of development

Currently, the City of Palestine provides guidance on development near and in the floodplain in the form of a city ordinance. Prohibition of new construction in the floodplain should be continued for several reasons. The natural ability of watersheds to store and convey water, maintain surface water quality, recharge groundwater, provide plant and animal habitats, and serve as recreational areas all are good reasons to restrict development in and directly adjacent to the floodplain. The fact that the community can conserve natural resources at the same time protecting life and property of its citizens can serve as a major impetus to discourage (by regulation) development in the floodplain.

Purchase of property at high risk of flooding

There are insurable structures located in the floodplains of Howard, Wells, and Bassett Creeks. These structures are under the most immediate threat based on the latest FIRM maps. There are additional structures known to be under threat of flooding in areas not shown as floodplain on the FIRM maps due to changes in City limits and the stream paths in recent years. There may be structures that have to eventually be removed due to channel improvements, if necessary. The City may have to purchase properties to relocate or demolish structures that have repeatedly sustained damage due to flooding.

Detention requirements

Another mitigation possibility is to require all new development to include detention facilities as a condition of permit. Detention would be used to restrict runoff to pre-development levels. The City should be involved with County, State and Federal Agencies to determine if local or regional detention facility is required to help alleviate expansion of the floodplain. If studies indicate that a regional detention facility should be

built, the City should move to secure the necessary property to build new facilities before development occurs or costs increase.

Public education program

The current public education program consists of only warnings and watches from the National Weather Service. In addition to real-time warnings, an ongoing public education campaign could provide the public information regarding flooding and flood protection. This program could use advertisements in the local paper, on local radio, or by direct mail monthly bills to inform citizens of their risk for potential flood damage. This effort could also be used to persuade owners of residential and commercial buildings to purchase flood insurance.

Incentives

There are incentives to property owners that the City can employ to limit development in the floodplain. The City could provide tax or other incentives to leave undeveloped land dedicated for parks or other open-space use such as conservation, agriculture, or recreation. Other incentives could include reduced tax rates for provision of natural floodplain or specifying floodplain property to offset taxes on other property when determining tax obligation.

Flood warning system

The City should consider placing stream and rain gauges at various strategic locations within and upstream of the city. This system would monitor stream flow and provide real-time information on potential flooding situations. The data collected from these gauges could be used to warn local law enforcement officials to be aware of potential roadway closures or the need to evacuate or provide rescue services to citizens in low lying areas. This system could be tied to any existing wide-area stream information systems to more accurately predict flooding situations.

Erosion control

Many municipalities require erosion control plans for any development that is within the watershed. Erosion control is a facet of overall watershed management because excessive erosion can significantly effect the flow capacity of streams. Any development should be required to submit erosion control plans for any construction project.

Drainage Easements

The City should explore the cost associated with purchasing drainage easements along the three watersheds within the city. With building prohibited by ordinance, landowners cannot improve the portion of property in the floodplain, so many landowners may relent to a sale of rights for a drainage easement. Where the same owner owns several properties or a large parcel of land, limited tax abatements might be considered in exchange for donation of drainage easement.

ACTION PLAN

Several new policies and flood mitigation activities will be put in place as a result of this FMP. The City of Palestine will consider developing new policies and the funding means to accomplish the goals of this plan. The following policies and mitigation measures will be considered for actions as a result of the development of this plan.

Master drainage plan/Update of FIRM Maps

The City of Palestine should consider developing a Master Drainage Plan that not only addresses issues mentioned in the FMP, but also builds upon the FMP by addressing requirements for future development. Hydrologic and hydraulic studies should be made of all watersheds that convey rainfall through Palestine. Special focus on the cutting of forests in the areas upstream of the city and its effect on increased runoff should be emphasized. Other activities, such as mining and quarrying, may not be expected in the watershed, but the city of Palestine should remain vigilant of any activities to the north and west of Palestine that might impact the streams carrying water through the city. Studies of the hydrology and hydraulics of the area would be used to design any recommended system of flood mitigation measures that may be needed. The 1984 FIRM maps should be updated in conjunction with the development of a Master Drainage Plan.

Specific programs to improve the flow of water through the City of Palestine should be implemented as required, according to the availability of funds and as the priorities of safety allow. Each area of Palestine has defined flooding problems that can be addressed individually. There should be an organized plan and schedule to evaluate the options available for each location, and once the decision is made to implement a certain action, then a project should be designed in the best interests of safety, proper use of available funds, and benefit to the community. Such projects may include design and construction of detention ponds, replacement of culverts and bridges for capacity or elevation improvements, widening of channels, installation of erosion protection systems, rebuilding and raising of roads and streets, building of underground storm drain systems to take some of the water from the creeks, and improvement or raising of existing foundation systems.

Development regulations

Through the duration of flood mitigation activities, the City should concentrate on promoting proper land use regulation. These efforts can range from the initiation of new ordinances for land use restrictions and requirements to the offer of buying the land and house from an owner of a flood-prone residence. Other considerations include establishing and enforcing policies of proper detention of run-off whenever new structures or parking lots are built, establishing and maintaining easements of land for the use of utility lines, and creating and maintaining parklands which would not be damaged by floodwaters. Land use policies should be clearly defined and documented. Records of

Palestine land use and the effects of land usage on flood mitigation for each tract of land should be organized and maintained.

Drainage system maintenance

The City should maintain a routine inspection schedule for drainage facilities within the city limits and coordinate inspections with facilities and controlling agencies outside the city. Major channels should be inspected annually with required cleaning as necessary.

Purchase of at-risk properties and drainage easements

There are several at-risk properties within the floodplain in the City of Palestine. These structures are at the most perceived risk based on information presented in the FIRM maps. The City should consider purchasing property, and demolish or relocate structures as they are identified as being a recurring flood risk.

The City should also begin a program to purchase drainage easements along the three watersheds within the city. With building prohibited by ordinance, landowners can not improve the portion of property in the floodplain, so many landowners may relent to a sale of rights for a drainage easement. Where the same owner owns several properties or a large parcel of land, limited tax abatements might be considered in exchange for donation of drainage easement. It is a critical part of a floodplain management plan to be able to provide coordinated, comprehensive maintenance on the city's streams. Purchase of drainage easements would allow the city to provide comprehensive maintenance on a regular schedule. Federal programs exist that provide grants to communities to assist in property acquisition.

Community Rating System

The City of Palestine should initiate participation in the Community Rating System (CRS). This system rewards communities that take initiative to provide increased flood prevention measures or increase the effectiveness of the flood insurance protection that goes above and beyond the minimum requirements of the NFIP. Activities that will contribute to the City being rated higher (and eligible for reduced flood insurance premiums) include developing and enhancing regulations, drainage maintenance, and public awareness campaigns.

Information about the program, and all applications and requirements needed to begin participation can be readily obtained through the National Flood Insurance Program (NFIP) of The Federal Emergency Management Agency. The program is set up to provide credit points for the participant's activities that save lives and reduce property damage. There are four categories of activities, and a total of 18 specific activities that are considered creditable. These 4 categories are 1) Public Information, 2) Mapping and Regulations, 3) Flood Damage Reduction, and 4) Flood Preparedness. Additional information on the CRS may be found at <http://www.fema.gov/nfip/crs.htm>.

The awarding of credits in the CRS program allows a participant to receive a rating which will then provide discounts to the participant on insurance premiums. The accumulation of rating points advances the participant's rating into increasing classes of premium reduction, as the creditable activities continue. The process of becoming a participant in the CRS requires documentation and field verification of the creditable activities, so it is recommended that the City of Palestine initiate contact with the NFIP to coordinate the city's flood mitigation activities with the requirements of the CRS program. The City of Palestine is also encouraged to communicate with the NFIP about other benefits and expectations of becoming a participant in the Community Rating System program.

Public awareness efforts

The City should begin a program of communication with the citizens of Palestine so the public is informed and educated on the flooding problems and planned activities for flood mitigation. Local newspapers, the Chamber of Commerce, all local utility providers, public libraries, and any other citizens or businesses who can facilitate the program should be requested to participate. The public information campaign should, for example, have specific goals to provide education about flooding in Palestine, provide access to information regarding flood mitigation activities, provide options and avenues for public involvement, and foster an environment that welcomes enhanced communication between the public and the City of Palestine officials concerning aspects of the FMP and policy. Public awareness may be one of the most effective flood mitigation strategies.

Flood Management Data Warehouse

The local public library should house copies of floodplain management documents and records. This data should include FIRM maps, all city guidelines and regulations regarding floodways, materials on floodproofing and flood protection, and pamphlets and other documents describing the NFIP and how to purchase flood insurance.

Flood warning system

The city should implement a flood warning system to provide information on expected or existing flooding conditions. Warnings could be issued through radio, cable TV, broadcast TV, weather radio, and Internet.

Flood response plan

The City of Palestine should develop a program for use in the case of extreme rainfall conditions. This program should identify responsibilities and procedures of various city agencies and personnel used in the event of flooding. Documents showing locations of high water barricades on roadways and procedures to locate and direct responsible agencies to block roadways in case of high water should be created. The flood response plan should also address the use of government and private facilities for shelter and after-flood recovery activities.

Flood Mitigation Plan Revision Process

As with all planning processes and tools, the City realizes that the FMP should be a dynamic document that changes over time. Any revision to the FMP should reflect:

- changes in the city's goals;
- changes in citizen goals or priorities;
- changes in population, land use, or development;
- changes in floodplain characteristics brought about by a flood or other disaster;
- unanticipated changes in the floodway or floodplain due to development in the Palestine area;
- advances in flood-mitigation knowledge, strategies, or technologies that would be beneficial to the Palestine community; and
- progress in completing action items and a summary of flood mitigation activities since the previous plan.

RECEIVED
SEP 28 2000
TWDB R&PF
GRANTS MANAGEMENT

ADOPTION OF PLAN - CITY OF PALESTINE COUNCIL RESOLUTION

This plan was presented to the Palestine City Council for review and comment. After consideration, the City Council adopted this plan by resolution. A copy of this resolution follows this page.

RESOLUTION

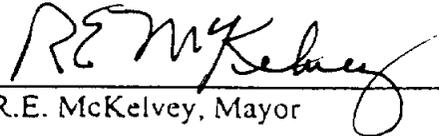
OF THE CITY COUNCIL OF THE CITY OF PALESTINE, TEXAS ADOPTING THE FLOOD MITIGATION PLAN PREPARED BY KLOTZ ASSOCIATES INC.

WHEREAS, the City of Palestine deems it necessary and proper and in the best interest of the citizens of the City to adopt the Flood Mitigation Plan prepared by Klotz Associates Inc.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF PALESTINE, TEXAS AS FOLLOWS:

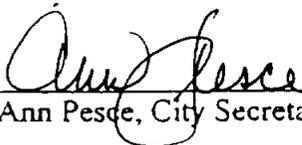
- Section 1. That the City Council hereby adopts the Flood Mitigation Plan prepared by Klotz Associates Inc.
- Section 2. All resolutions and agreements in conflict herewith are hereby repealed to the extent of the conflict only.

PASSED AND APPROVED THIS 10th DAY OF July, 2000



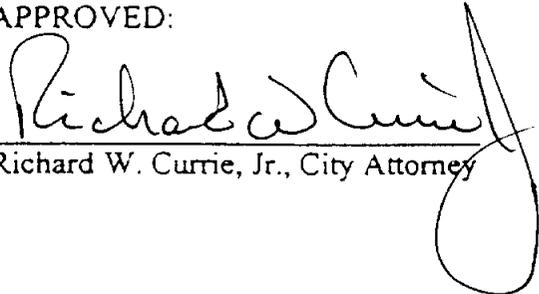
R.E. McKelvey, Mayor

ATTEST:



Ann Pesce, City Secretary

APPROVED:



Richard W. Currie, Jr., City Attorney

Public Meeting Announcements and Sign-in Sheets

PUBLIC MEETING - FLOOD MITIGATION PLAN

PALESTINE, TEXAS; FEB 17, 2000

Name	Organization	Phone
Stan Hoffe	Klotz	(281) 589-7257
Gilbert Ward	Texas Water Development Bd.	(512) 463-6418
Roger Low	DISCOUNT HARDWARE	903-729-8682
DAVID HILLERY	KLOTZ	281-589-7257
LEE JOHNSON	City of Palestine	903-731-8423
Travis Young	City of Palestine	" " "
Robert Holcomb	TRUE TONE PAINT & BODY	903-723-0810

KLOTZ
ASSOCIATES,
INC.
CONSULTING
ENGINEERS

**PALESTINE FLOOD MITIGATION PLAN
PUBLIC MEETING
SIGN-IN SHEET
APRIL 20, 2000**

NAME

ADDRESS

PHONE NO.

KEITH BILKÉ

KLOTZ ASSOC.

936-634-4934

DAVID HULLERY

KLOTZ ASSOC.

HOUSTON 281-589-7257

For [unclear]

City of Palestine

(903) 731-8423

[unclear]

City of Palestine

(903) 731-8423

AFFIDAVIT OF PUBLICATION

THE STATE OF TEXAS COUNTY OF ANDERSON

BEFORE ME the undersigned authority, on this day personally appeared KAREN TAYLOR who, after being duly sworn by me, says upon her oath the following:

- 1) THAT she is an employee of the Palestine Herald-Press, a newspaper published in Anderson County, Texas and having general circulation in Anderson, Houston and Leon Counties.
- 2) THAT a true copy of the attached Legal Notice was published in said paper on the following dates:

April 16, 2000

and that attached hereto is a printed copy of said document as published.

- 3) THAT said newspaper has been in general circulation for at least one year prior to publication of said document and in every aspect answers the requirements of the law applicable to newspapers which are employed to publish Legal Notices.

PUBLIC NOTICE
 The City of Palestine has adopted a preliminary plan to address storm flooding for the City of Palestine. All residents of the City are invited to attend the planned public meeting. The City of Palestine and the Texas Water Development Board (TWDB) have conducted a study to provide for the development of this Messers Drainage Plan to address flooding in the City. The public meeting is planned to provide a forum for the residents and business owners in the City to comment on said plan. A review of the preliminary plan will be made, followed by a public questions and comment period. Please plan to attend the public meeting. If you cannot attend, you may submit written comments to: David Hilary, Attn: David Hilary, 100 Dairy Ashford, Suite 200, Houston, Texas 77079. If you have any questions or need additional information, please call David Hilary at 281-538-7277. The meeting is scheduled for Thursday, April 20, 2000, 5:30 p.m. at the Palestine Chamber of Commerce.

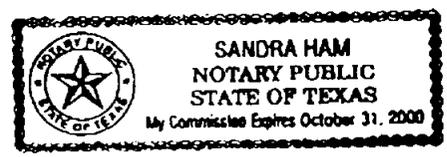
Karen Taylor

SWORN

ED before me on this the 17 day of April, 2000

Sandra Ham

Notary Public
Anderson County, Texas



PUBLIC NOTICE PUBLIC NOTICE PUBLIC NOTICE

ANNOUNCEMENT

Klotz Associates, Inc. has prepared a preliminary plan to address storm flooding for the City of Palestine.

All residents of the City are invited to attend the planned public meeting.

The City of Palestine and the Texas Water Development Board (TWDB) have contributed funding to provide for the development of this Master Drainage Plan to address flooding in the City.

The public meeting is planned to provide a forum for the residents and business owners in the City to comment on and provide input to the plan. A review of the preliminary plan will be made, followed by a public questions and comment period.

Please plan to attend the public meeting. If you cannot attend, you may submit written comments to:

Klotz Associates, Inc.
1160 Dairy Ashford, Suite 500
Houston, Texas 77079
ATTN: David Hillery

If you have any questions or need additional information please call David Hillery of Klotz Associates, Inc. at 281-589-7257

The meeting is scheduled for:

Thursday, April 20, 2000
5:30 p.m.
Council Chambers
Palestine City Hall
504 N. Queen Street
City of Palestine
903-731-8400

MILEAGE
START 172.8
FINISH 467.8

AGENDA

**City of Palestine
Flood Mitigation Project
Public Meeting
Thursday, April 20, 2000**

- O Introduction**

- O Presentation: Preliminary Master Drainage Plan**

- O Questions and Comments**

Rainfall Data

Rainfall (in Inches) - Palestine, Texas (station 416757)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Palestine 2 NE (Nueces River)													
1996	1.22	0.26	0.99	3.43	0.53	3.67	5.98	8.09	2.25	1.32	4.54	4.06	36.34
Palestine WB (City)													
1997	4.75	8.66	5.00	5.22	3.66	5.50	0.15	13.41	4.29	4.71	3.93	4.46	63.74

Major rain events: 8/7/1997

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NATIONAL
CLIMATIC
DATA
CENTER

Query Results

16 FLOOD event(s) occurred in Anderson County, Texas between 01/01/1993 and 09/30/1999.

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

Click on Location or County to display Details.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Texas								
1 Palestine	02/22/1994	0845	Flash Flood	N/A	0	0	0	0
2 ANDERSON COUNTY	10/08/1994	0030	Flash Flooding	N/A	0	0	50K	0
3 Palestine	09/19/1995	1900	Flash Flood	N/A	0	0	0	0
4 Palestine	08/07/1997	02:10 AM	Flash Flood	N/A	0	0	0	0
5 Palestine	08/07/1997	04:10 AM	Flash Flood	N/A	0	0	0	0
6 Montalba	08/07/1997	05:35 AM	Flash Flood	N/A	0	0	0	0
7 Palestine	08/07/1997	09:15 AM	Flash Flood	N/A	0	0	0	0
8 Palestine	01/06/1998	01:00 AM	Flash Flood	N/A	0	0	0	0
9 Palestine	01/06/1998	05:38 PM	Flash Flood	N/A	0	0	0	0
10 Palestine	01/06/1998	08:54 AM	Flash Flood	N/A	0	0	0	0
11 Palestine	01/07/1998	11:23 AM	Flash Flood	N/A	0	0	0	0
12 Cayuga	01/07/1998	12:43 AM	Flash Flood	N/A	0	0	0	0
13 Frankston	11/13/1998	09:15 AM	Flash Flood	N/A	0	0	0	0
14 Tennessee Colony	11/13/1998	09:15 AM	Flash Flood	N/A	0	0	0	0
15 Palestine	01/28/1999	09:00 PM	Flash Flood	N/A	0	0	0	0
16 Countywide	01/28/1999	10:30 PM	Flash Flood	N/A	0	0	0	0
TOTALS:					0	0	50K	0K

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Query Results

4 PRECIPITATION event(s) occurred in **Anderson County, Texas** between **01/01/1993** and **09/30/1999**.

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

Click on *Location or County* to display Details.

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
Texas								
1 Palestine	08/09/1997	09:30 AM	Heavy Rain	N/A	0	1	4K	0
2 TXZ091>095 - 103>107 - 117>123 - 131>135 - 144>148 - 157>162 - 174>175	12/20/1997	12:00 PM	Excessive Rain	N/A	0	0	0	0
3 TXZ091>095 - 100>107 - 115>123 - 129>135 - 141>148 - 156>162 - 174>175	01/04/1998	04:00 PM	Excessive Rain	N/A	0	0	0	0
4 TXZ091>095 - 100>107 - 115>123 - 129>135 - 141>148 - 156>162 - 174>175	01/05/1998	05:00 PM	Excessive Rain	N/A	0	0	0	0
TOTALS:					0	1	4K	0K

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Event: Heavy Rain
Begin Date: 09 Aug 1997, 09:30:00 AM CST
Begin Location: Palestine
End Date: 09 Aug 1997, 09:30:00 AM CST
End Location: Palestine
Magnitude: 0
Fatalities: 0
Injuries: 1
Property \$ 4K
Damage:
Crop Damage: \$ 0

State: Texas
Map of Counties
County: Anderson

Description:

Heavy rain, in excess of 7 inches, that fell in the area saturated soils and weakened the root system of many trees. One tree collapsed onto a car and injured one of its occupants.

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Event: Excessive Rain
Begin Date: 20 Dec 1997, 12:00:00 PM CST
Begin Location: Not Known
End Date: 21 Dec 1997, 05:00:00 AM CST
End Location: Not Known
Magnitude: 0
Fatalities: 0
Injuries: 0
Property \$ 0
Damage:
Crop Damage: \$ 0

State: Texas
[Map of Counties](#)
Forecast Anderson, Bell,
Zones Bosque, Collin,
affected: Cooke, Coryell,
Dallas, Delta, Denton,
Ellis, Falls, Fannin,
Freestone, Grayson,
Henderson, Hill,
Hood, Hopkins,
Hunt, Johnson,
Kaufman, Lamar,
Leon, Limestone,
McLennan, Milam,
Montague, Navarro,
Parker, Rains,
Robertson, Rockwall,
Somervell, Tarrant,
Van Zandt

Description:

A strong upper level storm system and associated slow moving cold front moved into the southern plains on the 20th. Rich moisture spread across the area ahead of the low pressure system. Widespread rain and thunderstorms formed and moved repeatedly over the same locations. Rainfall amounts of two to four inches were common across the eastern two thirds of the area with isolated amounts in excess of six inches falling along a Temple-Midlothian-Bonham line. The excessive rain caused widespread flooding. Numerous cars were stranded and many homes were damaged by flood waters. Two people drown in flood waters when their automobile was washed off the road. This heavy rain event contributed to an unusually wet month over much of the central and eastern portions of North Texas. The Dallas/Fort Worth area experienced its third wettest December on record in 1997 and the Waco area experienced its second wettest on record. The strong El Nino that has been ongoing for months likely contributed to the unusually high precipitation.

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Event: **Excessive Rain**
 Begin Date: **04 Jan 1998, 04:00:00 PM CST**
 Begin Location: **Not Known**
 End Date: **05 Jan 1998, 04:00:00 AM CST**
 End Location: **Not Known**
 Magnitude: **0**
 Fatalities: **0**
 Injuries: **0**
 Property \$ **0**
 Damage:
 Crop Damage: **\$ 0**

State: **Texas**
Map of Counties
 Forecast **Anderson, Bell,**
 Zones **Bosque, Collin,**
 affected: **Comanche, Cooke,**
Coryell, Dallas, Delta,
Denton, Eastland,
Ellis, Erath, Falls,
Fannin, Freestone,
Grayson, Hamilton,
Henderson, Hill,
Hood, Hopkins,
Hunt, Jack, Johnson,
Kaufman, Lamar,
Lampasas, Leon,
Limestone,
McLennan, Milam,
Mills, Montague,
Navarro, Palo Pinto,
Parker, Rains,
Robertson, Rockwall,
Somervell, Stephens,
Tarrant, Van Zandt,
Wise, Young

Description:

An arctic cold front moved slowly across the northwestern half of North Texas on the 4th as an upper level disturbance rotated into the Southern Plains. Abundant gulf moisture was drawn into the region ahead of the disturbance and over the front. Widespread rain and thunderstorms developed across the area. One to two inches of rain fell across the eastern two-thirds of northern Texas with more than four inches occurring in a 40 mile wide band from the DFW Metroplex to Bonham. Another four inch band of rain fell from Temple to Fairfield. The soil was already saturated due to the unusually wet December that much of Texas experienced and this heavy rain resulted in excessive runoff and flash flooding in many places. Roads were flooded and vehicles became stranded in the rising waters. A young boy drown in a fast-moving flood current. The strongest storms also produced dime to nickel size hail and a short-lived tornado.

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Event: **Excessive Rain**
 Begin Date: **05 Jan 1998, 05:00:00 PM CST**
 Begin Location: **Not Known**
 End Date: **07 Jan 1998, 12:00:00 PM CST**
 End Location: **Not Known**
 Magnitude: **0**
 Fatalities: **0**
 Injuries: **0**
 Property \$ **0**
 Damage:
 Crop Damage: **\$ 0**

State: **Texas**
[Map of Counties](#)
 Forecast **Anderson, Bell,**
 Zones **Bosque, Collin,**
 affected: **Comanche, Cooke,**
Coryell, Dallas, Delta,
Denton, Eastland,
Ellis, Erath, Falls,
Fannin, Freestone,
Grayson, Hamilton,
Henderson, Hill,
Hood, Hopkins,
Hunt, Jack, Johnson,
Kaufman, Lamar,
Lampasas, Leon,
Limestone,
McLennan, Milam,
Mills, Montague,
Navarro, Palo Pinto,
Parker, Rains,
Robertson, Rockwall,
Somervell, Stephens,
Tarrant, Van Zandt,
Wise, Young

Description:

The arctic cold front that moved into North Texas on the 4th remained stationary over the area through the 7th. Rich gulf moisture remained in place and periods of heavy rain and thunderstorms occurred as several upper level disturbances translated across the area. Soils were saturated from earlier precipitation and each rain event triggered another period of flash flooding as heavy runoff overwhelmed swollen creeks and streams. Numerous roads were flooded and closed and many homes were engulfed in rising flood water. Widespread rainfall totals of two to four inches for the 3-day period from the 4th through the 7th occurred. A band of five to seven inches of rain fell from Arlington to Bonham and a band of five to ten inches of rain fell from Temple to Waco to Corsicana to Tyler. This period of heavy rain contributed to the unusually wet monthly precipitation totals across much of the area. January 1998 was the third wettest January on record in the Dallas/Fort Worth area and it was the second wettest January on record in the Waco area.

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KLOTZ
ASSOCIATES,
INC.
CONSULTING
ENGINEERS

City Ordinance

ARTICLE I. IN GENERAL

Secs. 54-1—54-25. Reserved.

ARTICLE II. FLOOD DAMAGE PREVENTION*

DIVISION 1. GENERALLY

Sec. 54-26. Definitions.

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Appeal means a request for a review of the floodplain administrator's interpretation of any section of this article or a request for a variance.

Area of shallow flooding means a designated AO, AH or VO zone on a community's flood insurance rate map (FIRM) with a one-percent chance or greater annual chance of flooding to an average depth of one to three feet, where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Area of special flood hazard means the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map (FHBM). After detailed rate-making has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AE, AH, AO, A1-99, VO, V1-30, VE or V.

Base flood means the flood having a one-percent chance of being equalled or exceeded in any given year.

Critical feature means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

*Cross references—Buildings and building regulations, ch. 22; construction standards for portable or modular buildings, § 22-51; zoning, app. A; flood plain district regulations, app. A, art. 14.

Development means any manmade change in improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations.

Elevated building means a nonbasement building:

- (1) Built, for a building in zones A1-30, AE, A, A99, AO, AH, B, C, X and D, to have the top of the elevated floor or, for a building in zones V1-30, VE or V, to have the bottom of the lowest horizontal structure member of the elevated floor elevated above the ground level by means of pilings, columns (posts and piers) or shear walls parallel to the flow of the water; and
- (2) Adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood.

For zones A1-30, AE, A, A99, AH, B, C, X, and D, elevated building also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of floodwaters. For zones V1-30, VE or V, elevated building also includes a building otherwise meeting this definition, even though the lower area is enclosed by means of breakaway walls if the breakaway walls meet the standards of section 60.3(e)(5) of the National Flood Insurance Program.

Existing construction means, for the purposes of determining rates, structures for which the start of construction commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. Existing construction may also be referred to as existing structures.

Flood or flooding means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters.
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

Flood insurance rate map (FIRM) means an official map of a community on which the Federal Emergency Management Agency has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

Flood insurance study means the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, water surface elevation of the base flood, as well as the flood boundary/floodway map.

Flood protection system means those physical structural works for which funds have been authorized, appropriated and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the areas within a community subject to a special flood hazard and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood-modifying works are those constructed in conformance with sound engineering standards.

Floodplain or floodprone area means any land area susceptible to being inundated by water from any source (see definition of flooding).

Floodway (regulatory floodway) means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

Functionally dependent use means a use which cannot perform its intended purpose, unless it is located or carried out in close proximity to water. The term includes only docking facilities and port facilities that are necessary for the loading and unloading of cargo or passengers and shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

Highest adjacent grade means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Levee means a manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to

contain, control or divert the flow of water so as to provide protection from temporary flooding.

Levee system means a flood protection system which consists of a levee and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

Lowest floor means the lowest floor of the lowest enclosed area, including basement. An unfinished or flood-resistant enclosure useable solely for parking or vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirement of section 60.3 of the National Flood Insurance Program.

Manufactured home means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes, the term "manufactured home" also includes park trailers, travel trailers and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes, the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

Mean sea level, for purposes of the National Flood Insurance Program, means the National Geodetic Vertical Datum (NGVD) of 1929 or other datum to which base flood elevations shown on a community's flood insurance rate map are referenced.

New construction, for floodplain management purposes, means structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community.

Start of construction, for other than new construction or substantial improvements under the Coastal Barrier Resources Act, PL 97-348, includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, placement or other improvement was within

180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns or any work beyond the stage of excavation, or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets or walkways nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms nor does it include the installation on the property of accessory buildings, such as garages or sheds, not occupied as dwelling units or not part of the main structure.

Structure means a walled and roofed building, including a gas or liquid storage tank, that is principally aboveground, as well as a manufactured home.

Substantial improvement means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure either before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred.

For the purpose of this definition, substantial improvement is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include either:

- (1) Any project for improvement of a structure to comply with existing state or local health, sanitary or safety code specifications which are solely necessary to ensure safe living conditions; or
- (2) Any alteration of a structure listed on the National Register of Historic Places or a state inventory of historic places.

Variance means a grant of relief to a person from this article when specific enforcement would result in unnecessary hardship. A variance, therefore, permits construction or development in a manner otherwise prohibited by this article. For

full requirements see section 60.6 of the National Flood Insurance Program.

Violation means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications or other evidence of compliance, required in CFR 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4) or (e)(5), is presumed to be in violation until such time as that documentation is provided.

Water surface elevation means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, where specified, of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.
(Code 1968, § 34½-10)

Cross reference—Definitions generally, § 1-2.

Sec. 54-27. Statutory authorization.

The legislature of the state has in V.T.C.A., Water Code art. 16.315 delegated the responsibility to local government units to adopt requirements designed to minimize flood losses. Therefore, the city council does ordain this article.
(Code 1968, § 34½-1)

Sec. 54-28. Findings of fact.

(a) The flood hazard areas of the city are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.

(Code 1968, § 34½-2)

Sec. 54-29. Statement of purpose.

It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by sections designed to:

- (1) Protect human life and health;
 - (2) Minimize expenditure of public money for costly flood control projects;
 - (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
 - (4) Minimize prolonged business interruptions;
 - (5) Minimize damage to public facilities and utilities, such as water and gas mains, electric, telephone and sewer lines and streets and bridges located in floodplains;
 - (6) Help maintain a stable tax base by providing for the sound use and development of floodprone areas in such a manner as to minimize future flood-blight areas; and
 - (7) Ensure that potential buyers are notified that property is in a flood area.
- (Code 1968, § 34½-3)

Sec. 54-30. Methods of reducing flood losses.

In order to accomplish its purposes, this article uses the following methods:

- (1) Restricting or prohibiting uses that are dangerous to health, safety or property in times of flood or that cause excessive increases in flood heights or velocities.
- (2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- (3) Controlling the alteration of natural floodplains, stream channels and natural protective barriers which are involved in the accommodation of floodwaters.

(4) Controlling filling, grading, dredging and other development which may increase flood damage.

(5) Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

(Code 1968, § 34½-4)

Sec. 54-31. Lands to which article applies.

This article shall apply to all areas of special flood hazard within the jurisdiction of the city.

(Code 1968, § 34½-11)

Sec. 54-32. Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in a scientific and engineering report entitled, "The Flood Insurance Study for the City of Palestine, Texas," dated March 1, 1984, with accompanying flood insurance rate maps and flood boundary/floodway maps (FIRM and FBFM) and any revisions thereto are adopted by reference and declared to be a part of this article.

(Code 1968, § 34½-12)

Sec. 54-33. Compliance.

No structure or land shall be located, altered or have its use changed without full compliance with this article and other applicable requirements.

(Code 1968, § 34½-14)

Sec. 54-34. Abrogation and greater restrictions.

This article is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where this article and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Code 1968, § 34½-15)

Sec. 54-35. Interpretation.

In the interpretation and application of this article, all sections shall be:

- (1) Considered as minimum requirements;

- (2) Liberally construed in favor of the city council; and
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes. (Code 1968, § 34½-16)

Sec. 54-36. Warning and disclaimer of liability.

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur and flood heights may be increased by manmade or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made under this article.

(Code 1968, § 34½-17)

Sec. 54-37. Penalty.

Any person violating this article shall, upon conviction, be punished pursuant to section 1-13. In addition, any abutting owner or lessee or other person adversely affected by the violation of this article may resort to any court of competent jurisdiction for any writ or to obtain such release in law or equity as may be deemed advisable in the premises.

(Code 1968, § 34½-35)

Secs. 54-38—54-50. Reserved.

DIVISION 2. ADMINISTRATION*

Sec. 54-51. Designation of floodplain administrator.

The building official is appointed the floodplain administrator to administer and implement this article and other appropriate sections of 44 CFR

*Cross reference—Administration, ch. 2.

(National Flood Insurance Program) pertaining to floodplain management.
(Code 1968, § 34½-20)

Sec. 54-52. Duties and responsibilities of floodplain administrator.

Duties and responsibilities of the floodplain administrator shall include but not be limited to the following:

- (1) Maintaining and holding open for public inspection all records pertaining to this article.
- (2) Reviewing permit applications to determine whether the proposed building site will be reasonably safe from flooding.
- (3) Reviewing, approving or denying all applications for development permits required by this article.
- (4) Reviewing permits for proposed development to ensure that all necessary permits have been obtained from those federal, state or local governmental agencies, including section 404 of the Federal Water Pollution Control Act amendments of 1972, 33 USC 1334, from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards, for example, where there appears to be a conflict between a mapped boundary and actual field conditions, making the necessary interpretation.
- (6) Notifying, in riverine situations, adjacent communities and the state coordinating agency, which is the state water commission, prior to any alteration or relocation of a watercourse and submitting evidence of such notification to the Federal Emergency Management Agency.
- (7) Ensuring the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) When base flood elevation data has not been provided in accordance with section 54-32, obtaining, reviewing and reasonably utilizing any base flood elevation data and

floodway data available from a federal, state or other source in order to administer division 3 of this article.

- (9) When a regulatory floodway has not been designated, requiring that no new construction, substantial improvements or other development, including fill, shall be permitted within zones A1-30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

(Code 1968, § 34½-21)

Sec. 54-53. Development permit required.

A development permit shall be required to ensure conformance with this article.

Code 1968, § 34½-13)

Sec. 54-54. Permit procedures.

(a) Application for a development permit required in section 54-53 shall be presented to the floodplain administrator on forms furnished by him and may include but not be limited to plans in duplicate, drawn to scale, showing the location, dimensions and elevation of proposed landscape alterations, existing and proposed structures and the location of such in relation to areas of special flood hazard. Additionally, the following information is required:

- (1) The elevation, in relation to mean sea level, of the lowest floor, including basement, of all new and substantially improved structures.
- (2) The elevation, in relation to mean sea level, to which any nonresidential structure shall be floodproofed.
- (3) A certificate from a registered professional engineer or architect that the nonresidential, floodproofed structure shall meet the floodproofing criteria of subsection 54-67(2).

- (4) A description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development.

- (5) A record maintained of all such information in accordance with subsection 54-52(1).

(b) Approval or denial of a development permit by the floodplain administrator shall be based on all of the sections of this article and the following relevant factors:

- (1) The danger to life and property due to flooding or erosion damage.
- (2) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (3) The danger that materials may be swept onto other lands to the injury of others.
- (4) The compatibility of the proposed use with existing and anticipated development.
- (5) The safety of access to the property in times of flood for ordinary and emergency vehicles.
- (6) The costs of providing governmental services during and after flood conditions, including maintenance and repair of streets and bridges and public utilities and facilities, such as sewer, gas, electrical and water systems.
- (7) The expected height, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.
- (8) The necessity to the facility of a waterfront location, where applicable.
- (9) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.
- (10) The relationship of the proposed use to the comprehensive plan for that area.

(Code 1968, § 34½-22)

Sec. 54-55. Variance procedures.

(a) The appeal board, as established by the community, shall hear and render judgment on requests for variances from this article.

(b) The appeal board shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision or determination made by the floodplain administrator in the enforcement or administration of this article.

(c) Any person aggrieved by the decision of the appeal board may appeal such decision in the court of competent jurisdiction.

(d) The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency, upon request.

(e) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places without regard to the procedures set forth in this article.

(f) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, provided the relevant factors in section 54-54(b) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.

(g) Upon consideration of the factors noted in subsections (a) through (f) of this section and the intent of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article found in section 54-29.

(h) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(i) Prerequisites for granting variances shall be as follows:

- (1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(2) Variances shall only be issued upon:

- a. Showing a good and sufficient cause;
- b. Determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud or victimization of the public or conflict with existing local laws or ordinances.

(3) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

(j) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use, provided that:

- (1) The criteria outlined in subsections (a) through (i) of this section are met; and
- (2) The structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

(Code 1968, § 34½-23)

Secs. 54-56–54-65. Reserved.

DIVISION 3. FLOOD HAZARD REDUCTION

Sec. 54-66. General standards.

In all areas of special flood hazards, the following are required for all new construction and substantial improvements:

- (1) All new construction or substantial improvements shall be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement of the

structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;

- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- (4) All new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system;
- (6) All new and replacement sanitary sewer systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharge from the systems into floodwaters;
- (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding; and
- (8) All new construction or substantial improvements shall require the lowest floor elevation of both residential and nonresidential structures to be one or more feet above the base flood elevation.

(Code 1968, § 34½-26)

Sec. 54-67. Specific standards.

In all areas of special flood hazards where base flood elevation data has been provided, as set forth in section 54-32, section 54-52(8) or section 54-68(c), the following are required:

- (1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above

the base flood elevation. A registered professional engineer, architect or land surveyor shall submit a certification to the floodplain administrator that the standard of this subsection, as proposed in section 54-54(a)(1), is satisfied.

- (2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to or above the base flood level or, together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall develop or review structural design, specifications and plans for the construction and shall certify that the design and methods of construction are in accordance with accepted standards of practice, as outlined in this subsection. A record of such certification, which includes the specific elevation in relation to mean sea level to which such structures are flood-proofed shall be maintained by the floodplain administrator.
- (3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:
 - a. A minimum of two openings, having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding, shall be provided.
 - b. The bottom of all openings shall be no higher than one foot above grade.

- c. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided that they permit the automatic entry and exit of floodwaters.

(4) *Manufactured homes.*

- a. All manufactured homes to be placed within zone A shall be installed using methods and practices which minimize flood damage. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include but are not limited to use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.
- b. All manufactured homes shall be in compliance with subsection (1) of this section.
- c. All manufactured homes to be placed or substantially improved within zones A1-30, AH and AE on the community's FIRM shall be elevated on a permanent foundation, such that the lowest floor of the manufactured home is at or above the base flood elevation, and shall be securely anchored to an adequately anchored foundation system, in accordance with subsection (4) of this section.

(Code 1968, § 34½-27)

Sec. 54-68. Standards for subdivision proposals.

(a) All subdivision proposals, including manufactured home parks and subdivisions, shall be consistent with sections 54-28 through 54-30.

(b) All proposals for the development of subdivisions, including manufactured home parks and subdivisions, shall meet development permit requirements of sections 54-53 and 54-54 and this division.

(c) Base flood elevation data shall be generated for subdivision proposals and other proposed development, including manufactured home parks

and subdivisions, which is greater than the 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to section 54-32 or section 54-52(8).

(d) All subdivision proposals, including manufactured home parks and subdivisions, shall have adequate drainage provided to reduce exposure to flood hazards.

(e) All subdivision proposals, including manufactured home parks and subdivisions, shall have public utilities and facilities, such as sewer, gas, electrical and water systems, located and constructed to minimize or eliminate flood damage. (Code 1968, § 34½-28)

Sec. 54-69. Standards for areas of shallow flooding (AO/AH zones).

Located within the areas of special flood hazard, established in section 54-32, are areas designated as shallow flooding. These areas have special flood hazards associated with base flood depths of one to three feet, where a clearly defined channel does not exist and where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following apply:

- (1) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified).
- (2) All new construction and substantial improvements of nonresidential structures shall:
 - a. Have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified); or
 - b. Together with attendant utility and sanitary facilities, be designed so that below the base flood level the structure is watertight with walls substantially

impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

- (3) A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this section, as proposed in section 54-54(a)(1), are satisfied.
- (4) Require within zones AH or AO adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.

(Code 1968, § 34½-29)

Sec. 54-70. Floodways.

Located within areas of special flood hazard, established in section 54-32, are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and erosion potential, the following shall apply:

- (1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development, unless certification by a professional registered engineer or architect is provided, demonstrating that encroachments shall not result in any increase in flood levels within the community during the occurrence of the base flood discharge; and
- (2) If subsection (1) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction sections of this division.

(Code 1968, § 34½-30)

REGULAR MEETING/July 10, 2000

THE STATE OF TEXAS §
COUNTY OF ANDERSON §
CITY OF PALESTINE §

The City Council of the City of Palestine, Texas, convened in a Regular Meeting on Monday, July 10, 2000, at 5:30 p.m., in the Council Chambers at City Hall, 504 N. Queen Street, Palestine, Texas, with the following people present:

R.E. McKELVEY	:	MAYOR
ALAN RUSSELL	:	COUNCILMEMBER
BETTY NICKERSON	:	COUNCILMEMBER
PAT DAVIS	:	COUNCILMEMBER
GEORGE BALDREE	:	COUNCILMEMBER
GEORGE FOSS	:	COUNCILMEMBER
BOB KLAUSER	:	COUNCILMEMBER
CURTIS SNOW	:	CITY MANAGER
ANN PESCE	:	CITY SECRETARY
RICHARD W. CURRIE, JR.	:	CITY ATTORNEY

With all Councilmembers attending, a quorum of the Council was present.

CALL TO ORDER

OPENING REMARKS BY MAYOR

Mayor McKelvey called the meeting to order.

INVOCATION

PLEDGE OF ALLEGIANCE

The Invocation was given by David Johnson, Pastor of Christ Community Church, followed by the Pledge of Allegiance.

COUNCIL ACTION ON MINUTES OF PREVIOUS MEETINGS

Motion was made by Councilmember Klauser, seconded by Councilmember Davis, to approve the minutes of the **Regular Meeting of June 26, 2000 as presented and of the Regular Meeting of**

June 12, 2000 with the following correction by Mayor McKelvey:

under 'appointments' add the reappointment of Don Brown to the Building Standards Commission

Upon vote, motion carried unanimously.

STAFF REPORTS

Report on Water Distribution System by The Brannon Corporation

Mr. Bob Breedlove with The Brannon Corp. provided a report on the water distribution system; base map, analysis of existing system, capital improvement master plan with 36 projects identified to address fire protection problems, total cost over 10 years 2.5 million. Discussion followed. At the request of Councilmember Davis, City Manager Snow agreed to set up an informal meeting for all interested persons to discuss the plan in more detail.

CONSENT ITEMS

The City Secretary read aloud the following consent agenda items:

- 1) Consider final plat – Lots 1 & 2, Kaudelka Subdivision, N. Texas Avenue
- 2) Consider final plat – Lots 1 & 2, Block 1, BHAP Lodging Addition, 2200 blk. W. Oak Street
- 3) Consider purchase of handheld meter reading devices (\$12,495)
- 4) Consider Resolution of intent to finance expenditures to be incurred related to the Raw Water Line Project with LG&E (not to exceed \$4,500,000)
Approved R-8-00
- 5) Consider Gates Foundation grant for Library computers
- 6) Consider contract with ADCORP for Civic Center sign
pulled for additional discussion by Councilmember Klauser

Motion was made by Councilmember Foss, seconded by Councilmember Klauser, to approve items 1, 2, 3, 4, and 5 on the Consent Agenda as presented and as recommended by staff. Upon vote, motion carried unanimously, taken by a roll call vote:

Russell – aye
Nickerson – aye
Davis – aye
Baldree – aye
Foss – aye
Klauser – aye
McKelvey – aye

6) Consider contract with ADCORP for Civic Center sign

At the request of Councilmember Klauser, Tourism Director Ava Harmon provided details of the proposed contract and of the sign. She clarified that the new sign would be in addition to the existing sign.

Motion was made by Councilmember Baldree, seconded by Councilmember Foss, to approve the contract with the understanding that the Council would make final decisions on sponsors. Upon vote, motion carried unanimously.

OLD BUSINESS

Consider Resolution accepting Final Report on the Flood Mitigation and Drainage Plan through Texas Water Development Board (TWDB)

Mr. Tom Ramsey with Klotz Associates provided the Final Report on the Flood Mitigation Plan (FMP) – a plan reflecting participation in the Flood Mitigation Assistance program through the Texas Water Development Board. Mr. Ramsey explained the plan to be a first step toward long term flood and drainage strategy. He further explained that this FMP must be in place to qualify the city for federal drainage program funding and the draft FMP meets the requirements of the TWDB.. He recommended approval of the resolution. Discussion followed. Councilmember Davis voiced concern with the lack of Council participation and community input at the public hearings.

Motion was made by Councilmember Foss, seconded by Councilmember Klauser, to approve the proposed resolution accepting the final report on the FMP. Upon vote, motion carried with a vote of 6-1, taken by a roll call vote:

Russell – aye
Nickerson – aye
Davis – nay
Baldree – aye
Foss – aye

Klauser – aye
McKelvey – aye

RESOLUTION NO. R-9-00

Consider annual appointments to board and commissions

Mayor McKelvey submitted the following names for appointment:

Tourism Board – Dogwood Trails position to remain vacant since Dogwood Trails organization has been abolished
Susan Armstrong (Palestine Community Theater rep.), reappoint
Xan Foulkes (Museum East Texas Culture rep.), reappoint
David Smith (Friends of Library rep.), reappoint
Zoning Board of Adjustments and Appeals –
Bill Green, reappoint
Bill Karnes, reappoint
Ken Faris (replace David Barnard)
Mark Tokarczyk (replace Lupe Rubalcava)

Motion was made by Councilmember Foss, seconded by Councilmember Baldree, to approve the appointments as presented. Upon vote, motion carried unanimously.

CITIZEN INPUT

Jack O'Neal addressed the Council in opposition to public access being taken off the air. He also accused Mayor McKelvey and Councilmembers Nickerson and Davis of owing the city refunds on money spent for city sponsored travel. He asked them to resign from the Council.

Councilmember Davis left the meeting.

Gerald Moore addressed the Council -- Mayor McKelvey and Councilmembers Nickerson and Davis specifically, and accused them of owing the city a refund for money spent on travel. He left a packet of information with the City Secretary and requested each councilmember be given a copy.

Mayor McKelvey announced that Council would go into Closed Session to discuss pending litigation pursuant to Government Code Section 551.071 and to discuss economic development negotiations pursuant to Government Code Section 551.086. The time was 7 p.m.

CLOSED SESSION

Discuss pending litigation – Joe Ed Bunton vs. City of Palestine (Sec. 551.071)
Discuss economic development negotiations – Supreme Beef (Section 551.086)

RECONVENE INTO REGULAR SESSION

At 7:39 p.m. Mayor McKelvey announced that Council was reconvening into Open Session.

Take any action necessary resulting from Closed Session – Joe Ed Bunton lawsuit

No action was taken.

Take any action necessary resulting from Closed Session – Supreme Beef negotiations

Motion was made by Councilmember Foss, seconded by Councilmember Baldree, to authorize City Manager Snow to notify Steve Spiritas, Chief Executive Officer for Supreme Beef, of the Council's desire to extend its' offer until July 24th, relating to the opening of Supreme Beef's processing plant, discussed at the May 8th meeting. Upon vote, motion carried with a vote of 6-0 (Councilmember Davis had left the meeting).

ITEMS FROM COUNCIL

Councilmember Foss commended Library Director John Richmond and his staff on the outstanding summer reading program for children at the Palestine Public Library. He also commended Southside Baptist Church for organizing and sponsoring the 4th of July celebration held at the Texas State Railroad Park.

ADJOURN

Motion was made by Councilmember Baldree, seconded by Councilmember Klauser, to adjourn. Upon vote, motion carried unanimously.

Mayor McKelvey declared the meeting adjourned at approximately 7:43 p.m.

R.E. McKELVEY, MAYOR

ATTEST:

ANN PESCE, CITY SECRETARY

NFIP/CRS Information



- Site Index
- About the NFIP
- Ask the Expert
- News & Updates
- Flood Insurance Library
- Storm Watch
- Project Impact
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- Information for Consumers
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- Information for State & Local Officials
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Community Rating System

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) was implemented in 1990 as a program for recognizing and encouraging community floodplain management activities that exceed the minimum NFIP standards. The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.

There are ten CRS classes: class 1 requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction. The CRS recognizes 18 creditable activities, organized under four categories numbered 300 through 600: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness.

Credit points earned, classification awarded, and premium reductions given for communities in the National Flood Insurance Program Community Rating System.

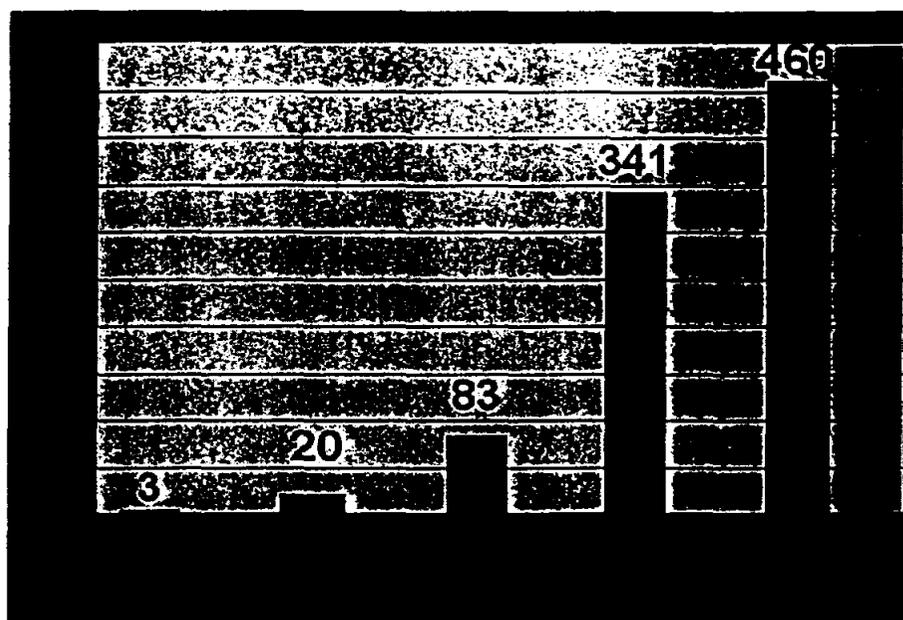
Credit Points	Class	Premium Reduction	
		SFHA*	Non-SFHA**
4,500+	1	45%	5%
4,000 - 4,499	2	40%	5%
3,500 - 3,999	3	35%	5%
3,000 - 3,499	4	30%	5%
2,500 - 2,999	5	25%	5%
2,000 - 2,499	6	20%	5%
1,500 - 1,999	7	15%	5%
1,000 - 1,499	8	10%	5%
500 - 999	9	5%	5%
0 - 499	10	0	0

*Special Flood Hazard Area

**Preferred Risk Policies are available only in B, C, and X Zones for properties that are shown to have a minimal risk of flood damage. The Preferred Risk Policy does not receive premium rate credits under the CRS because it already has a lower premium than other policies. Although they are in SFHAs, Zones AR

and A99 are limited to a 5% discount. Premium reductions are subject to change.

There are now over 900 communities receiving flood insurance premium discounts based on their implementation of local mitigation, outreach, and educational activities that go well beyond minimum NFIP requirements. While premium discounts are one of the benefits of participation in CRS, it is more important that these communities are carrying out activities that save lives and reduce property damage. These 900 communities represent a significant portion of the Nation's flood risk as evidenced by the fact that over 66% of the NFIP's policy base is located in these communities. Communities receiving premium discounts through the CRS cover a full range of sizes from small to large, and a broad mixture of flood risks including coastal and riverine. The following table lists the number of CRS communities by class.



Number of communities in the National Flood Insurance Program Community Rating System, by class, as of April 1, 2000.

The CRS application process has been greatly simplified over the past several years based on community comments to make the CRS more user friendly as possible. Extensive technical assistance is also available for communities who request it.

Community application for the CRS is voluntary. Any community that is in full compliance with the rules and regulations of the NFIP may apply for a CRS classification better than class 10. The applicant community submits documentation that it is doing activities recognized in the CRS. A community applies by sending completed application worksheets with appropriate documentation to its FEMA Regional Office.

A community's CRS classification is assigned on the basis of a field verification of the activities described in its application. These verifications are conducted by the Insurance Services Office, Inc. (ISO), an organization that provides rating, actuarial, and forms writing services to the insurance industry. ISO is the entity that has been conducting community grading for fire insurance for many years and is now performing the grading of communities under the newly implemented Building Code Effectiveness Grading Schedule. This organization's resources provide an efficient means to carry out the field work involved with the CRS.

It is important to note that reduced flood insurance rates are only one of the rewards a community receives from participating in the CRS. There are several other benefits.

The CRS encourages state, local, and private programs and projects that preserve or restore the natural state of floodplains and protect these functions. The CRS also encourages communities to coordinate their flood loss reduction programs with Habitat Conservation Plans and other public and private activities that preserve and protect natural and beneficial floodplain functions.

To learn more about the CRS, please check out:

CRS Communities and their Classes

These pages are from the most recent Flood Insurance Agent's Manual containing current and historical listings of all CRS communities, their class, and insurance discount.

1999 CRS Application

Streamlined application for new communities.

1999 CRS Coordinator's Manual

The complete CRS guidance document, 530 pages.

CRS-pdf.zip (zipped file containing application and manual files by chapter which can be downloaded to access individual chapters more quickly)

CRS Credit for Drainage System Maintenance,  1999. 37 pages. A discussion of the credit under Activity 540 (Drainage System Maintenance) in the *CRS Coordinator's Manual*, with examples.

CRS Credit for Flood Warning Programs,  1999. 46 pages. A discussion of the credit under Activity 610 (Flood Warning Program) in the *CRS Coordinator's Manual*, with examples.

CRS Credit for Outreach Projects,  1999. 36 pages. A discussion of the credit under Activity 330 (Outreach Projects) in the *CRS*

Coordinator's Manual, with examples.

CRS Credit for Higher Regulatory Standards, 1999. 38 pages. A discussion of the credit under Activity 430 (Higher Regulatory Standards) in the *CRS Coordinator's Manual*, with examples.

CRS Credit for Stormwater Management, 1999. 54 pages. A discussion of the credit under Activity 450 (Stormwater Management) in the *CRS Coordinator's Manual*, with examples.

Example Plans, 1999. 100 pages. A discussion of credit for Floodplain Management Planning (Section 510 in the *CRS Coordinator's Manual*), with examples.

CRS Record-Keeping Guidance, January 1999. Guidance on keeping track of records and annual actions such as outreach projects for CRS credit. The guide includes sample forms.

CRS Commentary Supplement for Special Hazards Credit, 1999. 50 pages. A supplement to the *CRS Coordinator's Manual* that must be used by communities wishing to apply for CRS credit for management of the nine special hazard areas (alluvial fans, closed basin lakes, coastal dunes and beaches, ice jams, moveable bed streams, mudflow hazards, subsidence, coastal erosion, and tsunamis). Includes worksheets needed for special hazards credit.

CRS Community FEMA Elevation Certificate Contacts
Phone and Fax listings of community officials who keep copies of FEMA Elevation Certificates for CRS purposes. These must be made available to insurance agents and any other requestor.

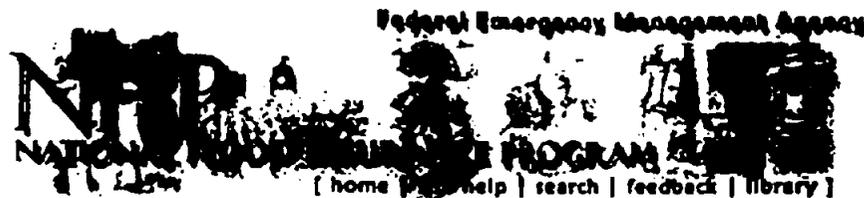
Report to Congress: Evaluation of the CRS, December 1998
Multi-year program evaluation of the CRS from which the 1999 Manual was based.

Winter 2000 CRS Update Newsletter
A Newsletter providing communities with the latest CRS news, tips, and information.

2000 CRS Repetitive Loss Correction Information
Contains the cover letter, instructions, AW-501 Addendum Form, and the "Top 10 Tips" for making corrections to the CRS AW-501 correction forms received from FEMA.

Updated: April 13, 2000

Federal Emergency Management Agency



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CRS Application Process

Community participation in the CRS is voluntary. Any community in full compliance with the rules and regulations of the NFIP may apply for a CRS classification better than Class 10. The applicant community submits the [CRS Application](#) along with documentation that shows that it is implementing the activities for which credit is requested. All CRS credit is verified according to the detailed discussion of the activities in the [Coordinator's Manual](#). The application process is discussed in more detail in the CRS Application.

An application for a CRS classification may be submitted at any time. A community applies by sending a completed CRS Application with appropriate documentation to its ISO/CRS Specialist, who processes applications on behalf of FEMA.

The community's activities and performance are reviewed during a verification visit. FEMA sets the credit to be granted and notifies the community, the state, insurance companies, and other appropriate parties. The classification is effective on either April 1 or October 1, whichever comes first after the community's program is verified.

Each year the community must recertify or reverify that it is continuing to perform the activities that are being credited by the CRS. Recertification is an annual activity that includes progress reports for certain activities. The reverification takes place every few years and is conducted in the form of another verification visit to the community.

If a community is not properly or fully implementing the credited activities, its credit points, and possibly its CRS classification, will be revised. A community may add credited activities each year in order to improve its CRS classification.

Credit criteria will change over time as experience is gained in implementing, observing, and measuring the activities and as new concepts in floodplain management come into common practice. As innovations arise, they will be considered for recognition under the CRS.

Communities are encouraged to call on their ISO/CRS Specialist for assistance at any time. A weeklong CRS course for local officials is

offered free at FEMA's Emergency Management Institute. The ISO/CRS Specialist, State NFIP Coordinator, and FEMA Regional Office have more information on this course, state workshops, and other CRS training opportunities.

No fee is charged for a community to apply for participation in the CRS. The only costs the community incurs are those of implementing creditable floodplain management activities and the staff time needed to prepare the CRS Application.

Updated: March 24, 1999

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CRS Rewards

First, the CRS floodplain management activities provide enhanced public safety, a reduction in damage to property and public infrastructure, avoidance of economic disruption and losses, reduction of human suffering, and protection of the environment.

Second, a community can evaluate the effectiveness of its flood program against a nationally recognized benchmark.

Third, technical assistance in designing and implementing some activities is available at no charge.

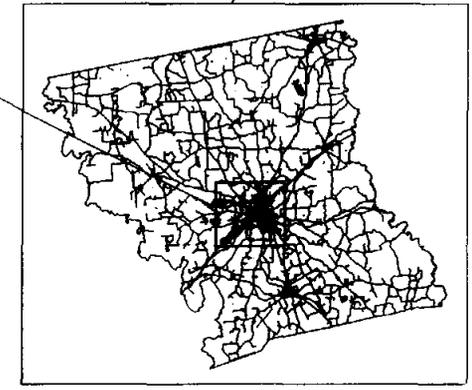
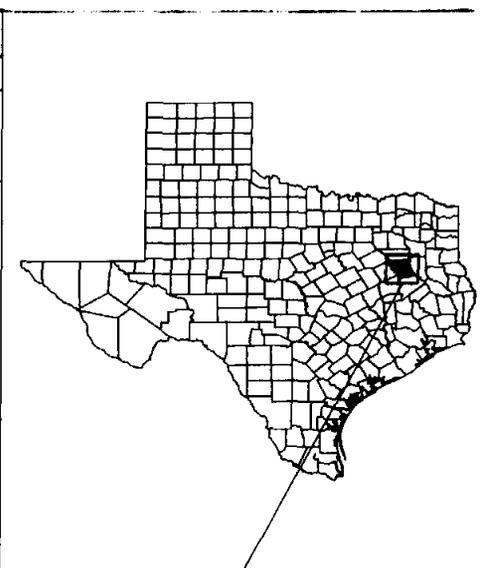
Fourth, a CRS community's flood program benefits from having an added incentive to maintain its flood programs over the years. The fact that the community's CRS status could be affected by the elimination of a flood-related activity or a weakening of the regulatory requirements for new development, should be taken into account by the governing board when considering such actions. A similar system used in fire insurance rating has had a strong impact on the level of support local governments give to their fire protection programs.

Fifth, implementing some CRS activities, such as floodplain management planning, can help projects covered under this plan qualify for certain other federal assistance programs such as the Flood Mitigation Assistance Program (FMA), the Hazard Mitigation Grant Program (HMGP), and the U.S. Army Corps of Engineers.

Updated: February 24, 1999

Federal Emergency Management Agency

Exhibits/Maps



CITY OF PALESTINE, TEXAS		
KLOTZ ASSOCIATES, INC. CONSULTING ENGINEERS	FLOOD MITIGATION PLAN	
	PROJ. NO. 21904	EXHIBIT
	SCALE: NTS	1
	DATE: 5/12/2000	

Flood Mitigation Plan
For The City Of Palestine, Texas

Contract #2000-001-016

(4) Large Scale Map located in Official file, may be copied upon request.

City Map And Location Of Possible Floodprone Structures

Community Panel Numbers – Panels Printed: 5,10

Community panel number – Panel 10 of 10

Community Panel Number –Panel 5 of 10

Please Contact Research and Planning Fund Grants Management
Division at (512) 463-7926