



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of San Angelo Tom Green County Texas	NO PROJECT	FLOODWAY HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 480623		
IDENTIFIER	Lake Creek Flood Study	APPROXIMATE LATITUDE & LONGITUDE: 31.533, -100.481 SOURCE: Precision Mapping Streets DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 48451C0340E DATE: June 19, 2012		DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 19, 2012 PROFILES: 36P FLOODWAY DATA TABLE: 8 (DELETED) SUMMARY OF DISCHARGES TABLE: 4	

Enclosures reflect changes to flooding sources affected by this revision.
* FIRM - Flood Insurance Rate Map;

FLOODING SOURCE & REVISED REACHE

Lake Creek - From approximately 100 feet southeast of the intersection of Grape Creek Road and Cauley Lane to approximately 5,730 feet upstream of Navajo Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Lake Creek	Zone AE	Zone AE	YES	YES
	Floodway	Removed	NONE	YES
	BFEs*	BFEs	NONE	YES
	Zone X (shaded)	Zone X (shaded)	NONE	YES

* BFEs - Base Flood Elevations

DETERMINATION

This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration

17-06-0008P

102-I-A-C



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**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

OTHER COMMUNITIES AFFECTED BY THIS REVISION

CID Number: 480622 **Name:** Unincorporated Areas of Tom Green County, Texas

AFFECTED MAP PANELS			AFFECTED PORTIONS OF THE FLOOD INSURANCE STUDY REPORT
TYPE: FIRM*	NO.: 48451C0340E	DATE: June 19, 2012	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: June 19, 2012 PROFILES: 36P, 152P, 153P DELETED PROFILES: 37P, 38P, 39P, 40P, 154P FLOODWAY DATA TABLE: 8 (DELETED) SUMMARY OF DISCHARGES TABLE: 4
TYPE: FIRM*	NO.: 48451C0350E	DATE: June 19, 2012	

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COMMUNITY INFORMATION

APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION

We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.

We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance discharges computed in the submitted hydrologic model. Future development of projects upstream could cause increased discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on discharges and could, therefore, indicate that greater flood hazards exist in this area.

Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Sandy Keefe
Director, Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, TX 76209
(940) 898-5127

STATUS OF THE COMMUNITY NFIP MAPS

We will not physically revise and republish the FIRM and FIS report for your community to reflect the modifications made by this LOMR at this time. When changes to the previously cited FIRM panels and FIS report warrant physical revision and republication in the future, we will incorporate the modifications made by this LOMR at that time.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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**LETTER OF MAP REVISION
DETERMINATION DOCUMENT (CONTINUED)**

PUBLIC NOTIFICATION OF REVISION

A notice of changes will be published in the *Federal Register*. This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfe_status/bfe_main.asp

LOCAL NEWSPAPER

Name: *San Angelo Standard-Times*

Dates: December 27, 2016 and January 3, 2017

Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.

This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4605. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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Engineering Services Branch
Federal Insurance and Mitigation Administration

Table 4 – Summary of Discharges (Continued)

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (sq. mi.)</u>	<u>PEAK DISCHARGES (cfs)</u>			
		<u>10% - Annual-Chance</u>	<u>2% - Annual-Chance</u>	<u>1% - Annual-Chance</u>	<u>0.2% - Annual-Chance</u>
GOODFELLOW DRAW					
At confluence with the Concho River	1.53	1,235	1,910	2,245	2,960
Approximately 1,755 feet downstream of Evelyn Avenue	1.11	915	1,425	1,670	2,195
GRAPE CREEK					
Upstream of confluence with North Concho River	111.74	9,590	20,580	26,070	40,940
Approximately 1.52 miles upstream of Grape Creek Road	106.56	9,830	21,950	27,730	43,300
Downstream of Grape Creek Road	105.71	10,070	22,320	28,090	43,530
Downstream of Tributary GC1	103.30	10,250	22,580	28,420	43,850
GRAPE CREEK DRAW					
Upstream of FM 2288	10.86	3,900	7,230	8,790	12,500
Upstream of confluence with Grape Creek	8.27	5,160	8,710	10,170	13,160
LAKE CREEK					
At Cauley Lane	5.77	254 ¹	410 ¹	490 ¹	619 ¹
Downstream of confluence with West Fork Lake Creek	5.25	258	415	496	628
Upstream of confluence with West Fork Lake Creek	4.15	169 ¹	272 ¹	325 ¹	411 ¹
Downstream of Robins Road	3.56	516	830	993	1,257
<div style="border: 1px solid black; padding: 5px; display: inline-block;">REVISED DATA</div> 					
MIDDLE CONCHO RIVER					
Downstream of Twin Buttes Reservoir Dam	3,989.41	12,500	21,000	25,000	25,000
At Atchison Topeka and Santa Fe Railway	1,693.80	24,450	48,920	61,240	98,500
At U.S. Route 67	1,689.80	24,400	48,790	61,070	98,360
Approximately 1.71 miles upstream of U.S. Route 67	1,679.70	24,460 ¹	48,760	61,100 ¹	98,840 ¹

¹Downstream discharge decreases due to storage routing effects

**REVISED TO
REFLECT LOMR
EFFECTIVE: May 3, 2017**

FLOODING SOURCE		FLOODWAY			1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY (FEET NAVD88)	WITHOUT FLOODWAY (FEET NAVD88)	WITH FLOODWAY (FEET NAVD88)	INCREASE (FEET)
LAKE CREEK								
A	1,580	849	2,149	1.5	1,919.6	1,919.6	1,920.4	0.8
B	3,990	900	3,095	1.3	1,922.3	1,922.3	1,923.3	1.0
C	9,900	200	600	2.6	1,939.2	1,939.2	1,940.1	0.9
D	16,820	230	631	2.5	2,003.1	2,003.1	2,004.1	1.0
E	18,130	140	431	3.7	2,015.5	2,015.5	2,016.4	0.9
F	19,580	130	444	3.6	2,027.1	2,027.1	2,027.9	0.8
G	20,200	120	206	4.9	2,032.8	2,032.8	2,033.2	0.4
H	21,760	150	293	2.7	2,051.1	2,051.1	2,052.1	1.0

¹Feet above Cauley Lane

REVISED TO
REFLECT LOMR
EFFECTIVE: May 3, 2017

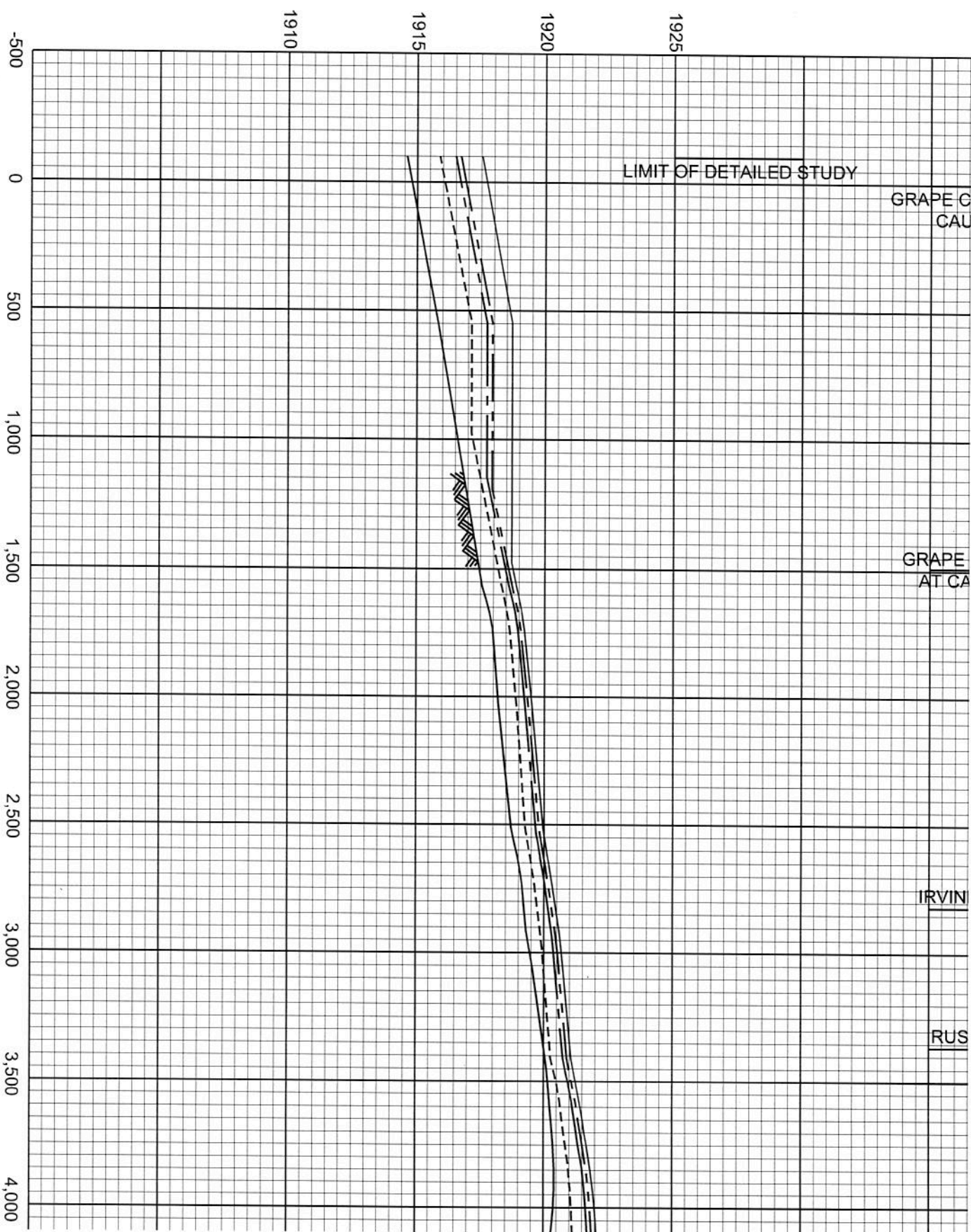
FEDERAL EMERGENCY MANAGEMENT AGENCY
TOM GREEN COUNTY, TX
AND INCORPORATED AREAS

FLOODWAY DATA

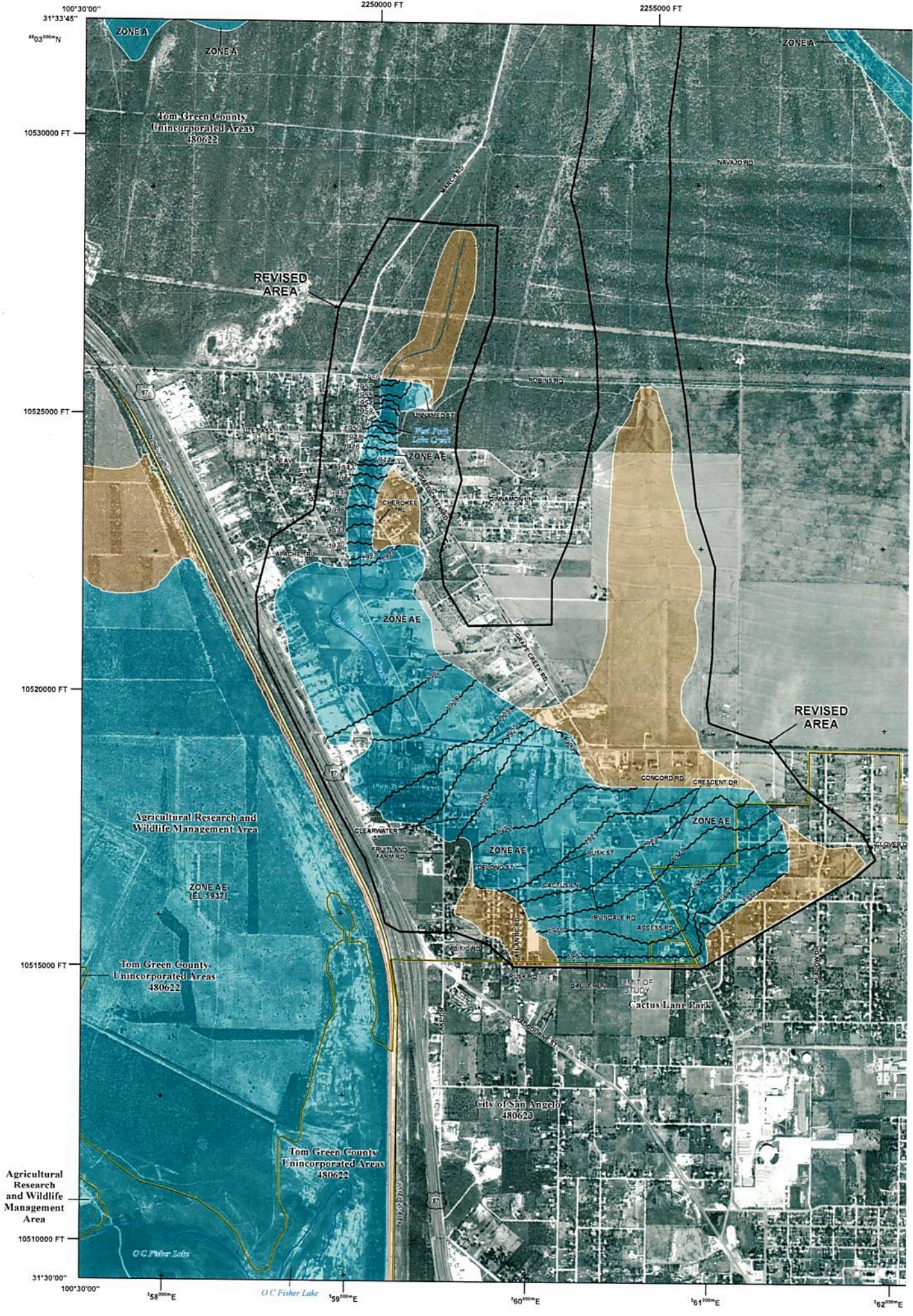
LAKE CREEK

TABLE 8

ELEVATION IN FEET (NAVD 88)



STREAM DISTANCE IN FEET ABOVE CAULEY LANE



100°30'00"

2250000 FT

2255000 FT

31°33'45"

4031000N

10530000 FT

10525000 FT

10520000 FT

10515000 FT

10510000 FT

10505000 FT

10500000 FT

10495000 FT

10490000 FT

10485000 FT

100°30'00"

158°00'00"E

159°00'00"E

160°00'00"E

161°00'00"E

162°00'00"E

ZONE A

ZONE A

ZONE A

Tom Green County
Unincorporated Areas
480622

NAVAJO RD

REVISED
AREA

ROBINS RD

UNNAMED ST

Man Park
Lotto Circle

ZONE AE

CHEROKEE
TRL

ZONE AE

REVISED
AREA

Agricultural Research and
Wildlife Management Area

ZONE AE
(EL 1937)

Tom Green County
Unincorporated Areas
480622

CLEARWATER

FRUITLAND
FARM RD

ZONE AE

DELOND ST

CACTUS LN

IRVINDALE RD

ACCESS RD

CONCORD RD

CRESCENT DR

ZONE AE

RUSK ST

IRVINDALE RD

ACCESS RD

GAULEY LN

LIMIT OF
STUDY

Cactus Lane Park

City of San Angelo
480623

Agricultural
Research
and Wildlife
Management
Area

O.C. Fisher Lake

