



Federal Emergency Management Agency

Washington, D.C. 20472

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Bob Walkup
Mayor, City of Tucson
255 West Alameda Street
Tucson, AZ 85701

IN REPLY REFER TO:

Case No.: 11-09-1158P
Follows Conditional
Case No.: 10-09-0417R
Community Name: City of Tucson, AZ
Community No.: 040076
Effective Date of
This Revision:

Dear Mayor Walkup:

The Flood Insurance Study report and Flood Insurance Rate Map for your community have been revised by this Letter of Map Revision (LOMR). Please use the enclosed annotated map panel(s) revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed which provide information regarding this LOMR. Please see the List of Enclosures below to determine which documents are included. Other attachments specific to this request may be included as referenced in the Determination Document. If you have any questions regarding floodplain management regulations for your community or the National Flood Insurance Program (NFIP) in general, please contact the Consultation Coordination Officer for your community. If you have any technical questions regarding this LOMR, please contact the Director, Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Oakland, California, at (510) 627-7175, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Sincerely,

Beth A Norton

Beth A. Norton, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

For: Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Letter of Map Revision Determination Document
Annotated Flood Insurance Rate Map
Annotated Flood Insurance Study Report

cc: Mr. Andy Dinauer
Floodplain Administrator
City of Tucson

Mr. Michael Daly, P.E.
PSOMAS

Mr. John Oliver, P.E., CFM
PSOMAS

Follows Conditional Case No.: 10-09-0417R



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Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Tucson Pima County Arizona	CHANNELIZATION FILL	HYDRAULIC ANALYSIS FLOODWAY NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040076		
IDENTIFIER	Pantano Wash Permanent Bank Stabilization	APPROXIMATE LATITUDE & LONGITUDE: 32.244, -110.844 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM*	NO.: 04019C2301L DATE: June 16, 2011	DATE OF EFFECTIVE FLOOD INSURANCE STUDY REPORT: June 16, 2011	
TYPE: FIRM*	NO.: 04019C2302L DATE: June 16, 2011	PROFILE(S): 125P and 126P	
TYPE: FIRM*	NO.: 04019C1713L DATE: June 16, 2011	FLOODWAY DATA TABLE: 8	

Enclosures reflect changes to flooding sources affected by this revision.

* FIRM - Flood Insurance Rate Map; ** FBFM - Flood Boundary and Floodway Map; *** FHBM - Flood Hazard Boundary Map

FLOODING SOURCE(S) & REVISED REACH(ES)

Pantano Wash - from approximately 400 feet downstream of Tanque Verde Road to approximately 1,260 feet downstream of Speedway Boulevard

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Pantano Wash	Zone AE	Zone AE	YES	YES
	Zone AE	Zone A	NONE	YES
	Floodway	Floodway	YES	YES
	Zone X (unshaded)	Zone A	YES	NONE
	BFEs *	BFEs	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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

Beth A. Norton

Beth A. Norton, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

122451 PT202.02.BKR.11091158P.H15 102-I-A-C



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LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

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.

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

COMMUNITY REMINDERS

We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards 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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. 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)**

This revision has met our criteria for removing an area from the base (1-percent-annual-chance) floodplain to reflect the placement of fill. However, we encourage you to require that the lowest adjacent grade and lowest floor (including basement) of any structure placed within the subject area be elevated to or above the Base Flood Elevation.

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. Sally M. Ziolkowski
Director, Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7175

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 panel(s) 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 (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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Federal Insurance and Mitigation Administration · 122451 PT202.02.BKR.11091158P.H15 102-I-A-C



Federal Emergency Management Agency
Washington, D.C. 20472

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

PUBLIC NOTIFICATION OF REVISION

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NAVD 88)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Pantano Wash	Approximately 260 feet downstream of Tanque Verde Road	2,501	2,500	04019C2301L
	Approximately 1,720 feet downstream of Speedway Boulevard	2,530	2,529	04019C2302L

Within 90 days of the second publication in the local newspaper, a citizen may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. This revision will become effective 30 days from the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice will also be published in your local newspaper on or about the dates listed below. Please refer to FEMA's website at https://www.floodmaps.fema.gov/fhm/Scripts/bfe_main.asp for a more detailed description of proposed BFE changes, which will be posted within a week of the date of this letter.

LOCAL NEWSPAPER Name: *Arizona Daily Star*
Dates: 08/05/2011 and 08/12/2011

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, 7390 Coca Cola Drive, Suite 204, Hanover, MD 21076. Additional Information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

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FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION FEET (NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE	
Pantano Wash									
A	581	580 ²	4,713	6.8	2,434.6	2,434.6 ³	2,435.0 ³	0.4	
B	1,056	1,020 ²	2,753	11.6	2,439.2	2,439.2 ³	2,439.2 ³	0.0	
C	1,584	1,395 ²	5,803	5.5	2,441.6	2,441.6 ⁴	2,441.6 ³	0.0	
D	2,218	415 ²	2,352	13.6	2,445.1 ³ /2,444.3 ⁴	2,444.3 ⁴	2,444.3 ³	0.0	
E	2,746	259	1,936	16.6	2,446.4 ³ /2,446.8 ⁴	2,446.8 ⁴	2,446.8 ³	0.0	
F	3,326	450	4,646	6.9	2,450.6 ³ /2,451.7 ⁴	2,451.7 ⁴	2,451.7 ³	0.0	
G	3,802	516	3,688	8.7	2,451.3 ³ /2,451.9 ⁴	2,451.9 ⁴	2,452.0 ³	0.1	
H	4,330	218	1,906	16.8	2,453.8 ³ /2,453.9 ⁴	2,453.9	2,454.0	0.1	
I	4,858	160	1,719	18.6	2,456.2 ³ /2,456.3 ⁴	2,456.3	2,458.3	0.0	
J	5,386	575	3,152	10.2	2,461.1	2,461.1	2,461.3	0.2	
K	6,442	837	6,061	5.3	2,464.7	2,464.7	2,465.2	0.5	
L	6,970	729	3,471	9.2	2,465.2	2,465.2	2,465.4	0.2	
M	7,498	861	4,391	7.3	2,467.7	2,467.7	2,468.4	0.7	
N	8,078	664	2,786	11.5	2,470.7	2,470.7	2,470.7	0.0	
O	8,659	264	2,014	15.9	2,477.9	2,477.9	2,477.9	0.0	
P	9,187	353	2,984	10.7	2,482.3	2,482.3	2,482.3	0.0	
Q	9,610	328	2,175	14.7	2,483.6	2,483.6	2,483.6	0.0	
R	10,138	384	2,590	12.4	2,487.6	2,487.6	2,487.6	0.0	
S	10,666	293	2,139	15.0	2,491.5	2,491.5	2,491.5	0.0	
T	11,194	252	1,997	16.0	2,495.4	2,495.4	2,495.4	0.0	
U	11,969	230	2,261	14.2	2,499.8	2,499.8	2,499.8	0.0	
V	12,323	259	2,559	12.5	2,503.1	2,503.1	2,503.1	0.0	
W	12,667	306	3,056	10.5	2,505.4	2,505.4	2,505.4	0.0	
X	13,258	275	2,426	13.2	2,506.4	2,506.4	2,506.4	0.0	
Y	13,721	241	2,399	13.3	2,509.3	2,509.3	2,509.3	0.0	
Z	14,478	217	2,102	15.2	2,512.1	2,512.1	2,512.1	0.0	

REVISED DATA

¹ Feet above confluence with Rillito Creek and Tanque Verde Creek
² Combined flooding effects with Tanque Verde Creek
³ Elevation computed with consideration of levee
⁴ Elevation computed without consideration of levee

FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
PIMA COUNTY, AZ AND INCORPORATED AREAS	PANTANO WASH

T A B L E 8

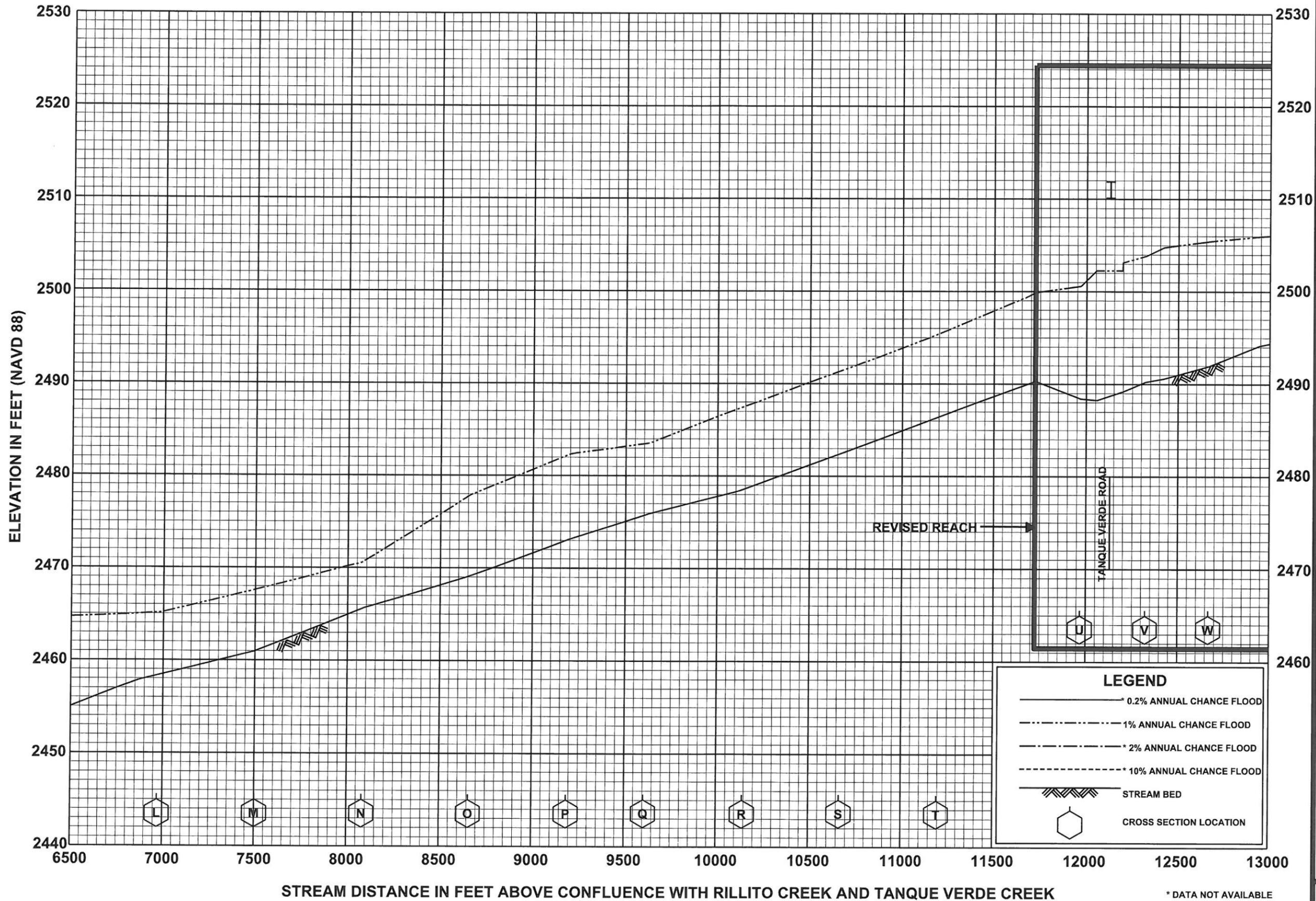
FLOODING SOURCE		FLOODWAY				BASE FLOOD WATER-SURFACE ELEVATION FEET (NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE	
Pantano Wash (continued)									
AA	14,856	150	1,683	19.0	2,515.3	2,515.3	2,515.3	0.0	
AB	15,701	205	2,910	11.0	2,522.1	2,522.1	2,522.1	0.0	
AC	16,310	283	2,638	12.1	2,523.1	2,523.1	2,523.1	0.0	
AD	16,838	222	2,122	15.1	2,531.4	2,531.4	2,531.4	0.0	
AE	17,530	279	2,135	15.0	2,535.1	2,535.1	2,535.1	0.0	
AF	18,374	338	2,610	12.3	2,540.0	2,540.0	2,540.0	0.0	
AG	18,850	289	2,083	15.4	2,542.6	2,542.6	2,542.6	0.0	
AH	19,272	296	2,505	12.8	2,545.3	2,545.3	2,545.3	0.0	
AI	19,958	276	2,055	15.6	2,547.2	2,547.2	2,547.2	0.0	
AJ	20,835	278	2,198	14.6	2,551.4	2,551.4	2,551.4	0.0	
AK	21,463	274	2,047	15.6	2,553.8	2,553.8	2,553.8	0.0	
AL	22,229	294	2,013	15.9	2,559.4	2,559.4	2,559.4	0.0	
AM	23,021	293	2,293	14.0	2,563.6	2,563.6	2,563.6	0.0	
AN	23,707	273	2,046	15.6	2,566.4	2,566.4	2,566.4	0.0	
AO	24,182	226	1,921	16.7	2,573.7	2,573.7	2,573.7	0.0	
AP	24,235	246	1,978	16.2	2,580.5	2,580.5	2,580.5	0.0	
AQ	24,394	268	2,497	12.8	2,584.1	2,584.1	2,584.1	0.0	
AR	24,869	261	2,034	15.7	2,584.8	2,584.8	2,584.8	0.0	
AS	25,661	265	2,342	13.7	2,588.7	2,588.7	2,588.7	0.0	
AT	26,189	258	2,012	15.9	2,590.2	2,590.2	2,590.2	0.0	
AU	26,717	282	2,433	13.2	2,593.5	2,593.5	2,593.5	0.0	
AV	27,509	218	1,984	16.1	2,596.5	2,596.5	2,596.5	0.0	
AW	28,010	236	1,952	16.4	2,598.8	2,598.8	2,598.8	0.0	
AX	28,538	240	1,967	16.3	2,602.0	2,602.0	2,602.0	0.0	
AY	29,066	231	1,935	16.5	2,604.7	2,604.7	2,604.7	0.0	
AZ	29,885	240	2,678	11.9	2,614.7	2,614.7	2,614.7	0.0	

¹ Feet above confluence with Rillito Creek and Tanque Verde Creek

T A B L E 8

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA
PANTANO WASH



**FLOOD PROFILES
PANTANO WASH**

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
AND INCORPORATED AREAS

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 1713L

FIRM FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1713 OF 4750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX
PIMA COUNTY 040073 1713
TUCSON, CITY OF 040076 1713 L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

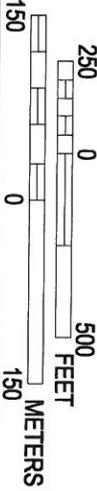


MAP NUMBER
04019C1713L
MAP REVISED
JUNE 16, 2011

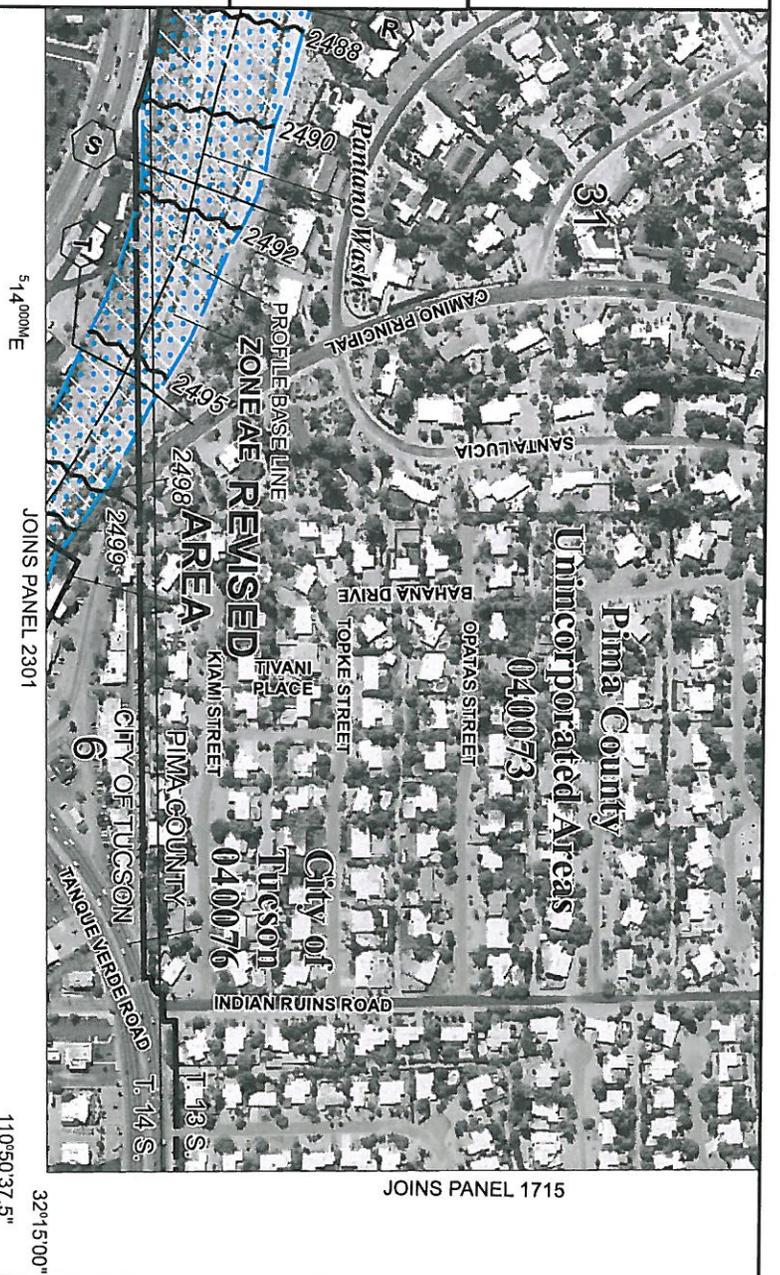
Federal Emergency Management Agency



MAP SCALE 1" = 500'



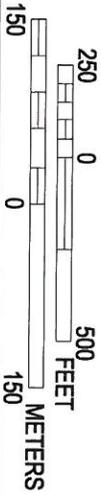
- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain



- Legend
-  1% annual chance (100-Year) Floodplain
 -  1% annual chance (100-Year) Floodway
 -  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 500'



NFIP

PANEL 2301L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2301 OF 4750

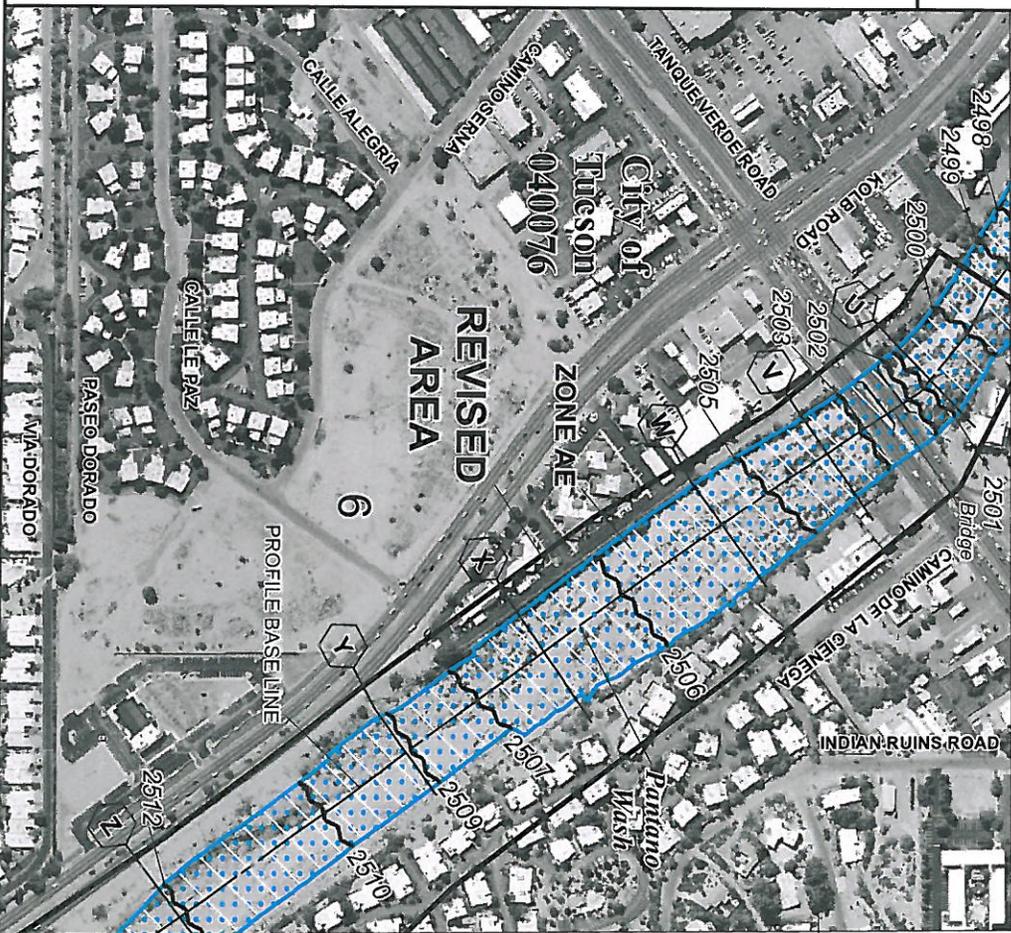
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SHEET
TUCSON CITY OF 040076 2301 L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



Federal Emergency Management Agency

MAP NUMBER
04019C2301L
MAP REVISED
JUNE 16, 2011



NATIONAL FLOOD INSURANCE PROGRAM

NFIP

PANEL 2302L

FIRM FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2302 OF 4750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX
TUCSON CITY OF 040076 2302 L

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



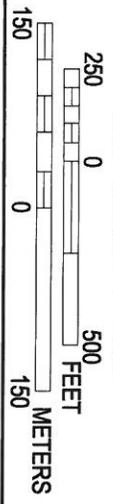
MAP NUMBER
04019C3302L
MAP REVISED
JUNE 16, 2011

Federal Emergency Management Agency

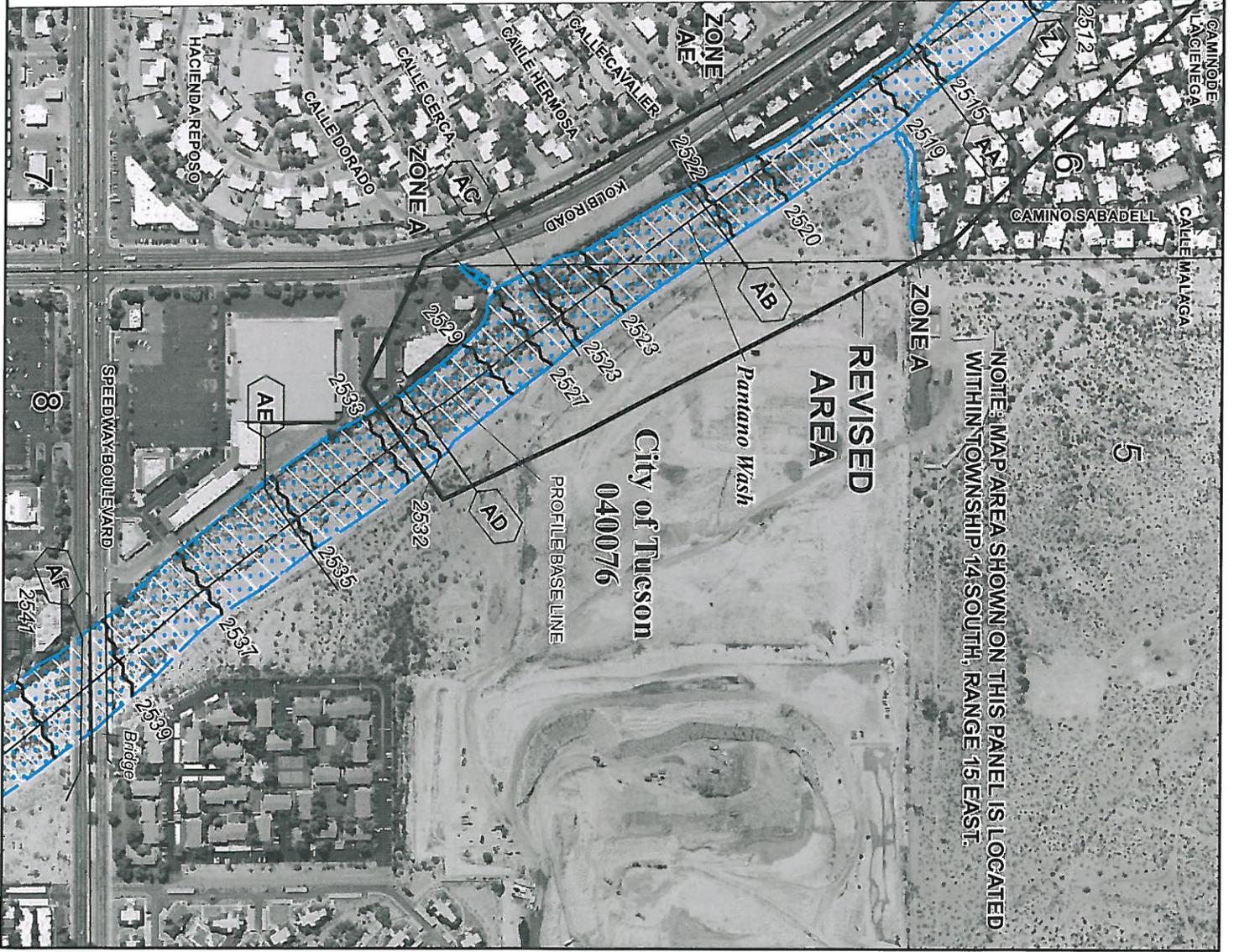
- Legend
- 1% annual chance (100-Year) Floodplain
 - 1% annual chance (100-Year) Floodway
 - 0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 500'



JOINS PANEL 2301



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 14 SOUTH, RANGE 15 EAST.