

Follows Conditional Case No.: 07-09-0560R



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 Tucson Pima County Arizona	LEVEE	FLOODWAY HYDRAULIC ANALYSIS LEVEE CERTIFICATION NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040076		
IDENTIFIER	Santa Cruz River LOMR- Grant Road to Ft. Lowell Road	APPROXIMATE LATITUDE & LONGITUDE: 32.259, -111.009 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES	
TYPE: FIRM* NO.: 04019C1666L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C1667L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C1668L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C1669L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C1688L DATE: June 16, 2011 TYPE: FIRM* NO.: 04019C2276L DATE: June 16, 2011		DATE OF EFFECTIVE FLOOD INSURANCE STUDY REPORT: June 16, 2011 PROFILES: 210P, 211P AND 212P 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)

Santa Cruz River - from approximately 530 feet downstream of the confluence of Trails End Wash to approximately 3,150 upstream of West Grant Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Santa Cruz River	Zone AE	Zone AE	YES	YES
	Zone X (unshaded)	Zone X (shaded)	YES	NONE
	Floodway	Floodway	YES	YES
	BFEs*	BFEs	YES	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, Program Specialist
Engineering Management Branch
Federal Insurance and Mitigation Administration

122451 PT202.2.10092016P.H15

102-I-A-C



Federal Emergency Management Agency

Washington, D.C. 20472

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.

COMMUNITY REMINDERS

We based this determination on the base (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>.

A handwritten signature in cursive script that reads "Beth A. Norton".

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



Federal Emergency Management Agency
Washington, D.C. 20472

**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. 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>.

Beth A. Norton

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

122451 PT202.2.10092016P.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	
Santa Cruz River	At the confluence of Trails End Wash	2,253	2,254	04019C1667L
	Approximately 1,660 feet upstream of West Grant Road	2,311	2,310	04019C2276L

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. 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 BFEs presented in this LOMR may be changed.

A notice of changes will be published in the *Federal Register*. A short notice also will 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/fhtm/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: July 22, 2011 and July 29, 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 (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 PT202.2.10092016P.H15

102-I-A-C

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Santa Cruz River (continued)								
EA	125,797	420	3,980	17.6	2,200.3	2,200.3	2,200.3	0.0
EB	126,797	478	7,256	9.6	2,208.6	2,208.6	2,208.6	0.0
EC	127,797	710	4,294	14.0	2,211.1	2,211.1	2,211.1	0.0
ED	128,797	740	3,949	15.2	2,214.0	2,214.0	2,214.0	0.0
EE	129,797	1,035	5,937	10.1	2,218.2	2,218.2	2,218.2	0.0
EF	130,746	812	4,842	12.4	2,220.7	2,220.7	2,220.7	0.0
EG	131,749	810	6,203	9.7	2,224.4	2,224.4	2,224.4	0.0
EH	132,752	660	4,782	12.5	2,228.2	2,228.2	2,228.4	0.2
EI	133,755	445	5,666	10.6	2,231.6	2,231.6	2,232.5	0.9
EJ	134,758	459	5,222	11.5	2,232.7	2,232.7	2,233.6	0.9
EK	135,762	329	4,494	13.4	2,233.8	2,233.8	2,234.6	0.8
EL	136,237	391	4,376	13.7	2,235.9	2,235.9	2,235.9	0.0
EM	137,240	337	4,086	14.7	2,237.8	2,237.8	2,237.9	0.1
EN	138,243	295	3,151	19.0	2,242.8	2,242.8	2,242.8	0.0
EO	139,246	495	6,431	9.3	2,249.6	2,249.6	2,249.6	0.0
EP	140,250	373	3,874	15.5	2,249.6	2,249.6	2,249.6	0.0
EQ	141,253	360	4,216	14.2	2,253.2	2,253.2	2,253.5	0.3
ER	142,706	314	4,333	16.0	2,255.1	2,255.1	2,255.3	0.2
ES	143,875	332	3,930	15.3	2,258.9	2,258.9	2,258.9	0.0
ET	144,838	340	4,010	15.0	2,262.0	2,262.0	2,262.0	0.0
EU	146,016	286	3,484	17.2	2,265.2	2,265.2	2,265.2	0.0
EV	146,853	274	3,586	16.7	2,267.9	2,267.9	2,267.9	0.0
EW	147,805	337	3,901	15.4	2,271.4	2,271.4	2,271.4	0.0
EX	148,840	271	4,059	14.8	2,273.9	2,273.9	2,273.9	0.0
EY	149,767	402	4,451	13.5	2,276.2	2,276.2	2,276.2	0.0
EZ	150,739	381	4,300	14.0	2,278.2	2,278.2	2,278.2	0.0

¹ Feet above Limit of Detailed Study*

*Limit of detailed study is approximately 4,600 feet downstream of Pinal-Pima County boundary

REVISED DATA

TABLE 8	FEDERAL EMERGENCY MANAGEMENT AGENCY PIMA COUNTY, AZ AND INCORPORATED AREAS	FLOODWAY DATA REVISED TO REFLECT LOMR EFFECTIVE: November 28, 2011
		SANTA CRUZ RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Santa Cruz River (continued)								
FA	151,859	285	3,872	15.5	2,280.5	2,280.5	2,280.5	0.0
FB	152,841	269	3,408	17.6	2,282.3	2,282.3	2,282.3	0.0
FC	153,746	273	3,644	16.5	2,286.3	2,286.3	2,286.3	0.0
FD	154,795	269	3,453	17.4	2,289.0	2,289.0	2,289.0	0.0
FE	155,840	269	3,375	17.8	2,292.4	2,292.4	2,292.4	0.0
FF	156,340	270	3,684	16.3	2,294.7	2,294.7	2,294.7	0.0
FG	157,536	249	3,345	17.9	2,297.9	2,297.9	2,297.9	0.0
FH	159,099	219	3,334	18.0	2,304.4	2,304.4	2,304.4	0.0
FI	159,253	222	3,579	16.8	2,306.0	2,306.0	2,306.1	0.1
FJ	160,085	236	3,700	16.2	2,308.3	2,308.3	2,308.3	0.0
FK	161,442	235	3,692	16.3	2,311.8	2,311.8	2,311.8	0.0
FL	162,426	233	3,709	16.2	2,313.2	2,313.2	2,313.2	0.0
FM	163,429	234	3,626	16.5	2,315.2	2,315.2	2,315.2	0.0
FN	164,432	234	2,565	16.8	2,317.3	2,317.3	2,317.3	0.0
FO	165,435	233	3,530	17.0	2,319.6	2,319.6	2,319.6	0.0
FP	166,386	216	2,894	20.7	2,321.5	2,321.5	2,321.5	0.0
FQ	166,966	185	2,733	22.0	2,324.4	2,324.4	2,324.4	0.0
FR	167,970	171	2,664	22.5	2,328.8	2,328.8	2,328.8	0.0
FS	168,709	225	3,710	16.2	2,335.8	2,335.8	2,335.8	0.0
FT	169,712	355	5,120	11.7	2,339.1	2,339.1	2,339.1	0.0
FU	170,715	350	4,214	14.2	2,340.6	2,340.6	2,340.6	0.0
FV	171,718	240	3,702	16.2	2,344.8	2,344.8	2,344.8	0.0
FW	172,194	205	3,672	16.3	2,347.3	2,347.3	2,347.3	0.0
FX	173,197	244	4,217	14.2	2,350.2	2,350.2	2,350.2	0.0
FY	174,200	317	4,668	12.9	2,352.4	2,352.4	2,352.4	0.0
FZ	175,203	192	2,870	20.9	2,353.2	2,353.2	2,353.2	0.0

REVISED
DATA

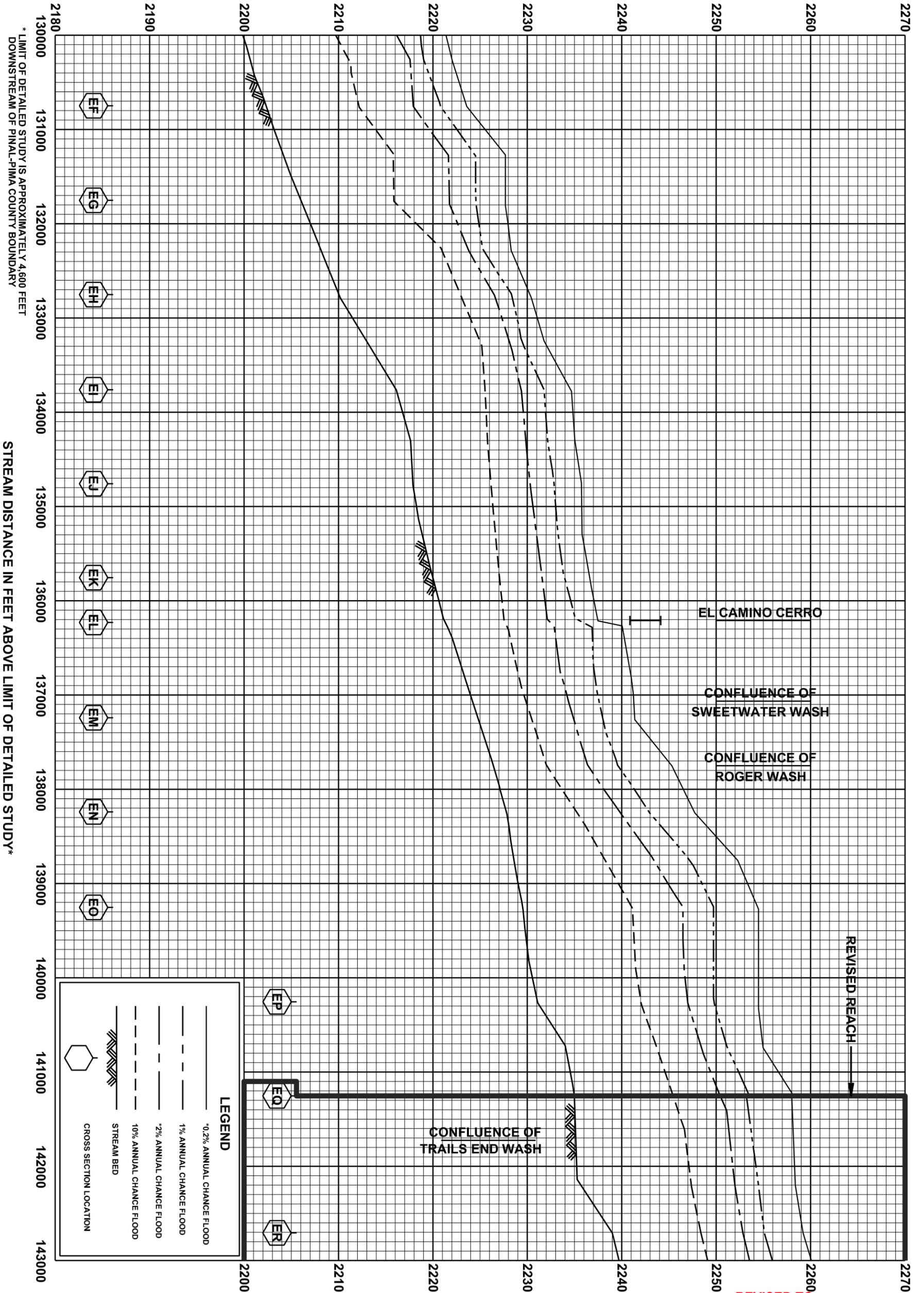
¹ Feet above Limit of Detailed Study*

* Limit of detailed study is approximately 4,600 feet downstream of Pinal-Pima County boundary

REVISED TO
REFLECT LOMR
EFFECTIVE: November 28, 2011

TABLE 8	FEDERAL EMERGENCY MANAGEMENT AGENCY PIMA COUNTY, AZ AND INCORPORATED AREAS	FLOODWAY DATA
		SANTA CRUZ RIVER

ELEVATION IN FEET (NAVD 88)



* LIMIT OF DETAILED STUDY IS APPROXIMATELY 4,600 FEET
DOWNSTREAM OF PINAL-PIMA COUNTY BOUNDARY

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- - - 2% ANNUAL CHANCE FLOOD
- - - 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

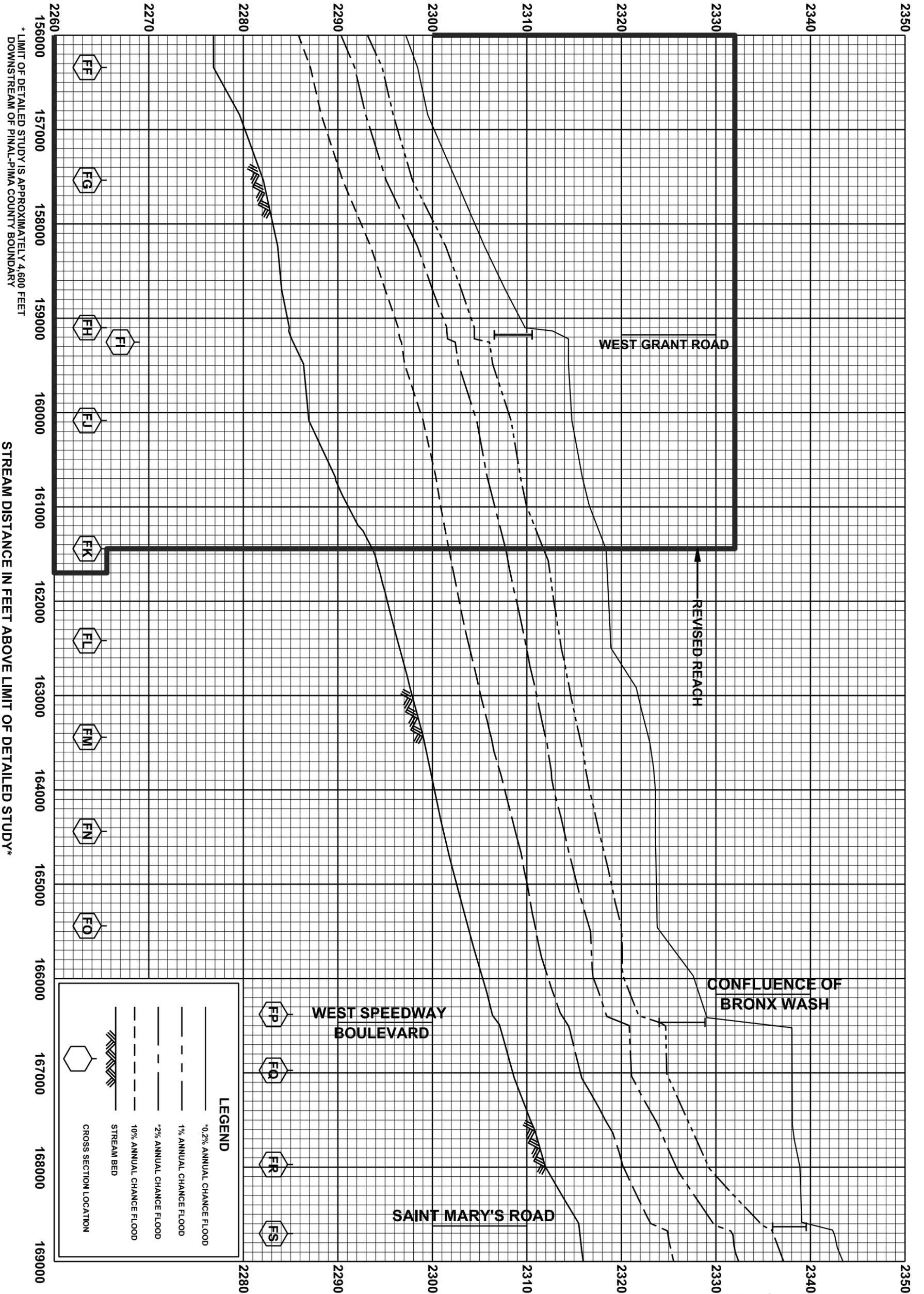
REVISED TO REFLECT LOMR EFFECTIVE November 28, 2011

FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
AND INCORPORATED AREAS

FLOOD PROFILES
SANTA CRUZ RIVER

210P

ELEVATION IN FEET (NAVD 88)



* LIMIT OF DETAILED STUDY IS APPROXIMATELY 4,600 FEET DOWNSTREAM OF PINAL-PIMA COUNTY BOUNDARY

STREAM DISTANCE IN FEET ABOVE LIMIT OF DETAILED STUDY*

LEGEND

- 0.2% ANNUAL CHANCE FLOOD
- - - 1% ANNUAL CHANCE FLOOD
- · - · 2% ANNUAL CHANCE FLOOD
- · · · 10% ANNUAL CHANCE FLOOD
- STREAM BED
- CROSS SECTION LOCATION

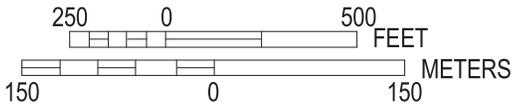
REVISED TO REFLECT LOMR EFFECTIVE: November 28, 2011

Legend

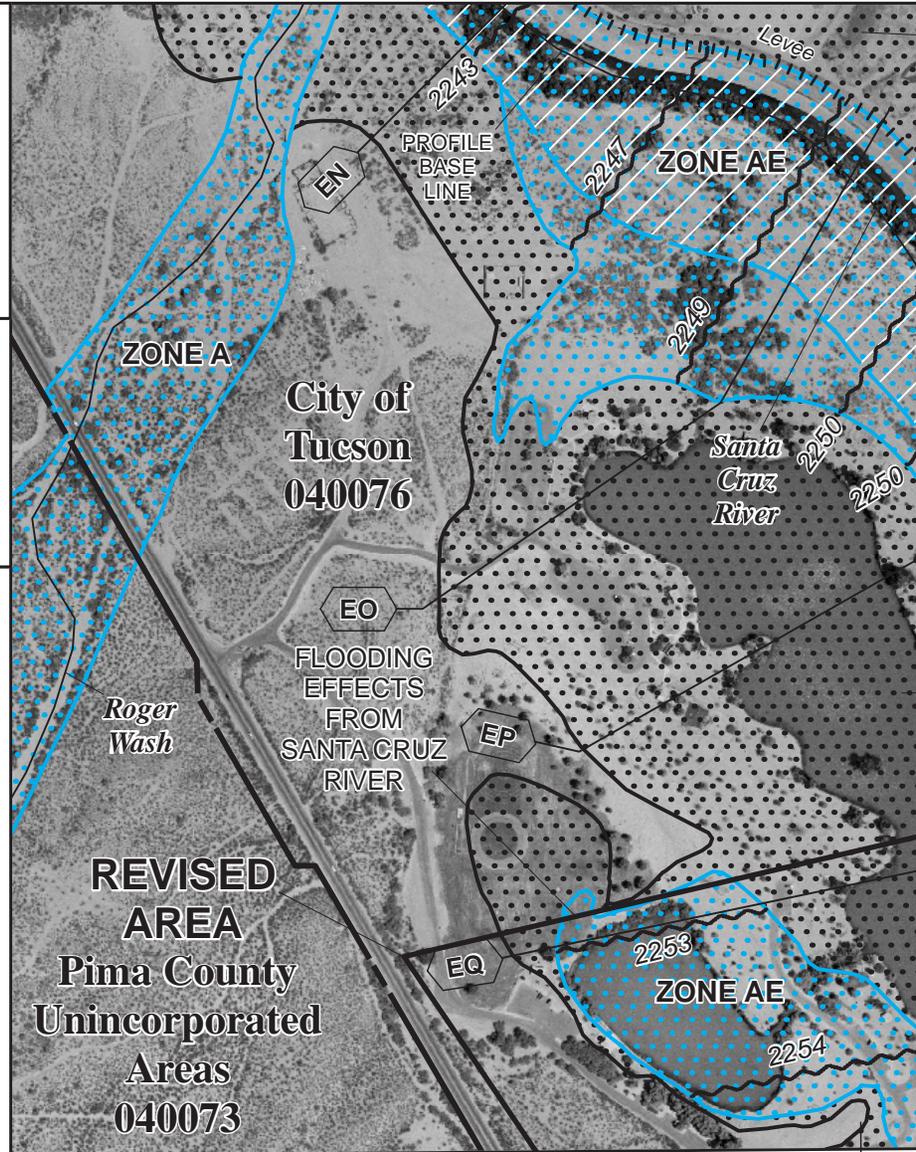
-  1% annual chance (100-Year) Floodplain
-  1% annual chance (100-Year) Floodway
-  0.2% annual chance (500-Year) Floodplain



MAP SCALE 1" = 500'



NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE ACCREDITED LEVEE NOTE IN NOTES TO USERS.



JOINS PANEL 1667

35° 72' 000m N

32° 16' 52.5"

JOINS PANEL 1668

111° 01' 52.5"
497° 000m E

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1666L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1666 OF 4750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PIMA COUNTY	040073	1666	L
MARANA, TOWN OF	040118	1666	L
TUCSON, CITY OF	040076	1666	L

REVISED TO REFLECT LOMR
EFFECTIVE: November 28, 2011

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
04019C1666L

MAP REVISED
JUNE 16, 2011

Federal Emergency Management Agency

REVISIED
AREA
Pima County
Unincorporated
Areas
040073

City of
Tucson
040076

FLOODING
EFFECTS
FROM
SANTA CRUZ
RIVER

Roger
Wash

Santa
Cruz
River

ZONE A

ZONE AE

ZONE AE

PROFILE
BASE
LINE

EO

EP

EQ

EN

2243

2247

2249

2250

2250

2253

2254

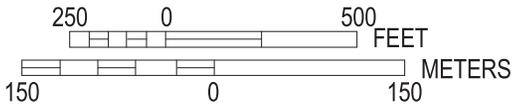
Levee

Legend

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



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1667L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1667 OF 4750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PIMA COUNTY	040073	1667	L
TUCSON, CITY OF	040076	1667	L

**REVISED TO
REFLECT LOMR
EFFECTIVE: November 28, 2011**

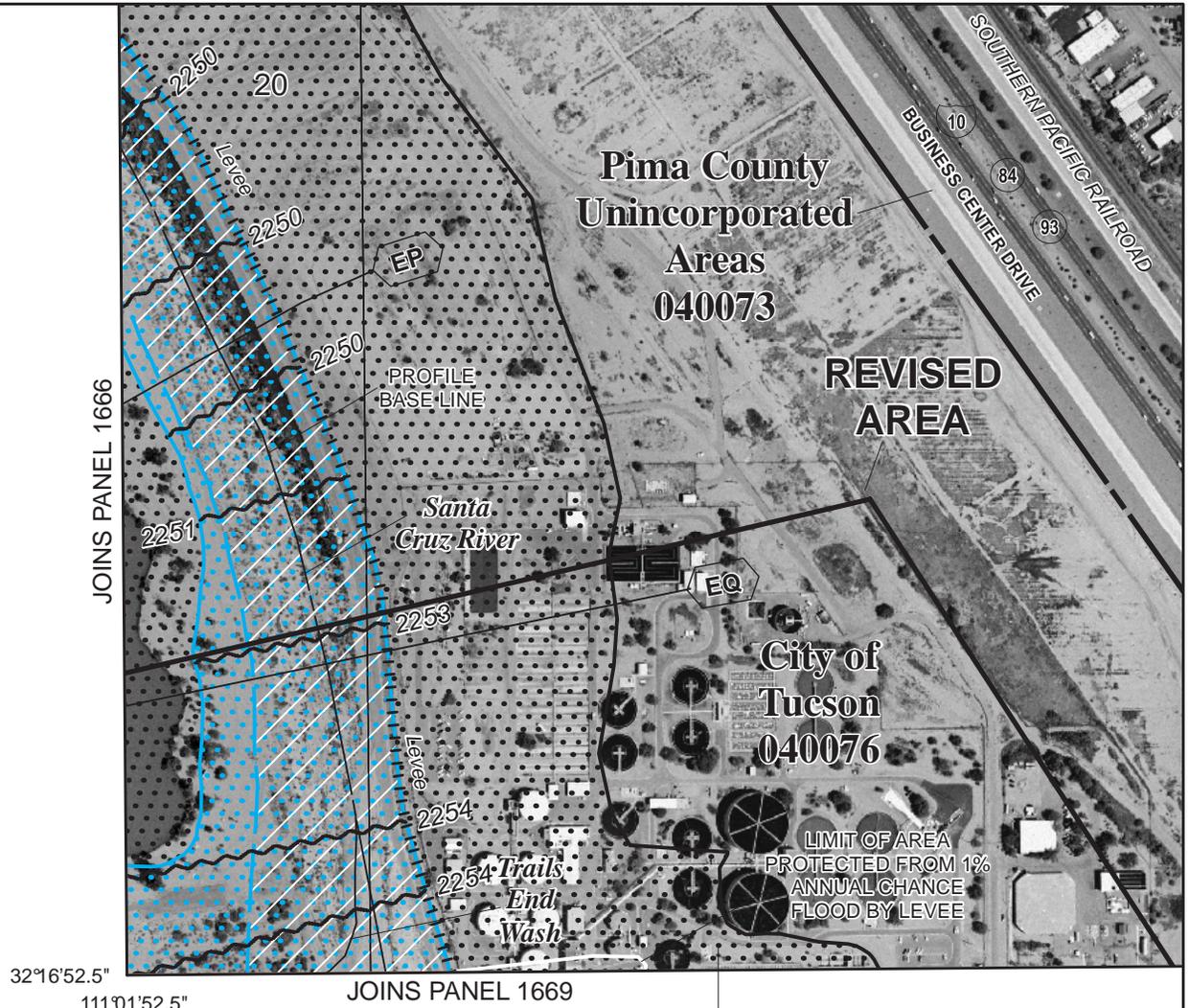
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
04019C1667L

MAP REVISED
JUNE 16, 2011

Federal Emergency Management Agency



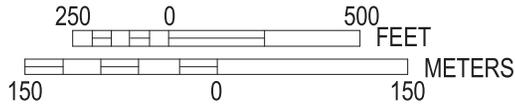
NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE ACCREDITED LEVEE NOTE IN NOTES TO USERS.

Legend

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



MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1668L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1668 OF 4750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PIMA COUNTY	040073	1668	L
TUCSON, CITY OF	040076	1668	L

**REVISED TO
REFLECT LOMR
EFFECTIVE: November 28, 2011**

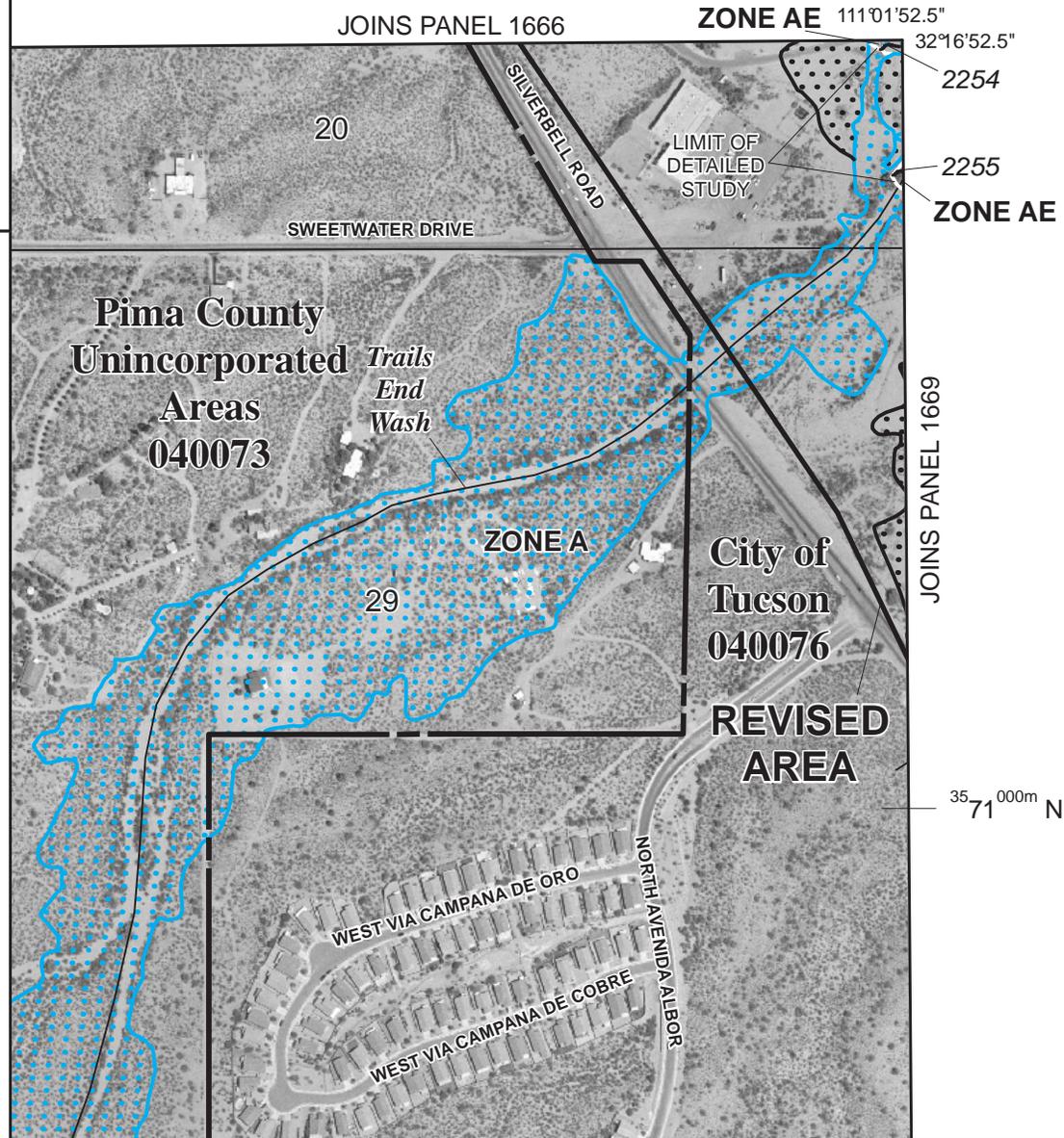
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
04019C1668L

MAP REVISED
JUNE 16, 2011

Federal Emergency Management Agency



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was the Arizona State Plane - central zone (FIPSZONE 0202). The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of the FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSM-C-3, #9202
1315 East-West Highway
Silver Spring, MD 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was derived from multiple sources. Base map imagery for eastern Pima County was provided in digital format by the Pima Association of Governments. These data were developed at a 1-foot Ground Sample Distance (GSD) from color aerial photography flown in 2002. Base map imagery for the State of Arizona and produced at a scale of 1:12,000 from photography dated 2006 and 2007.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

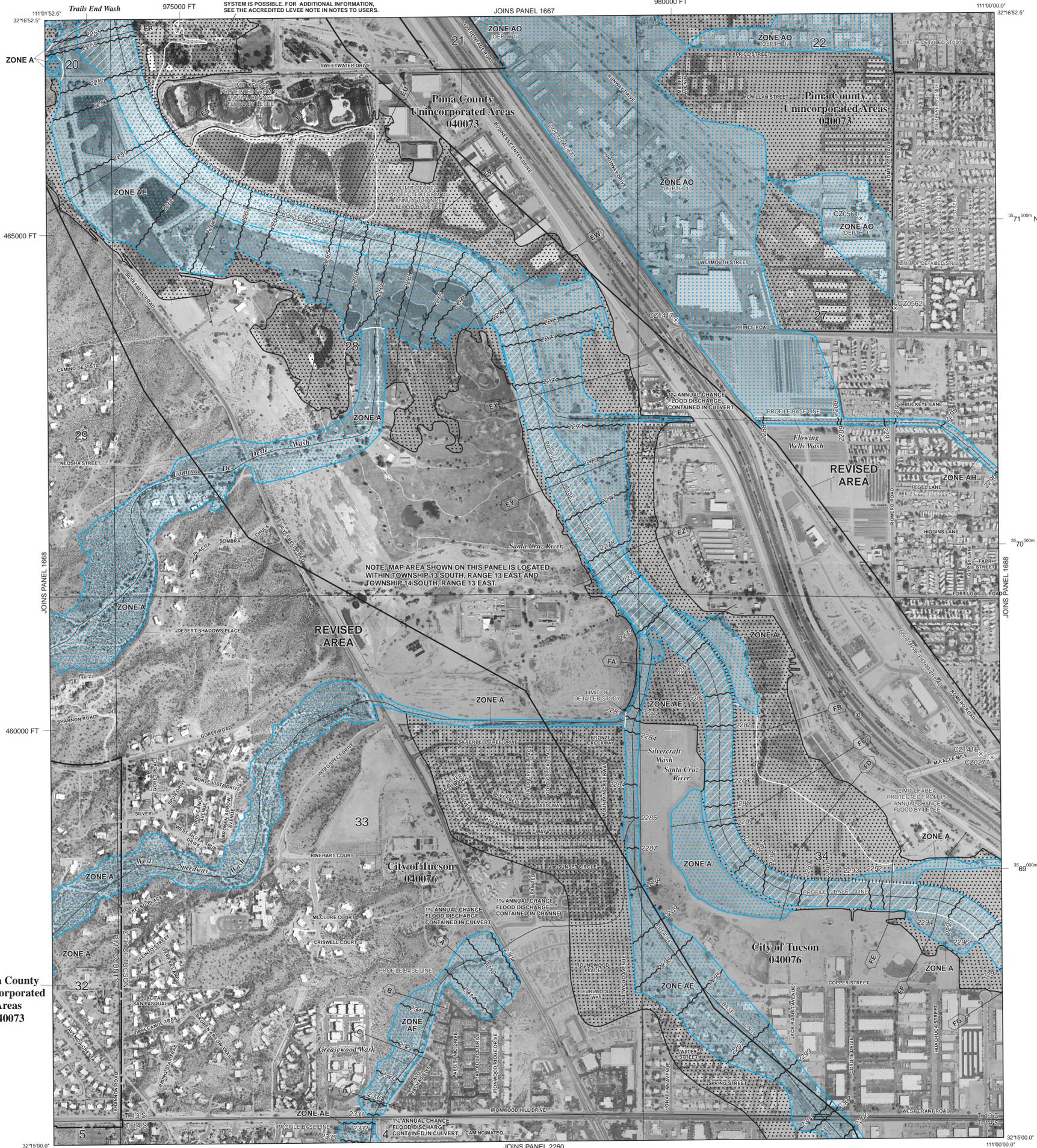
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **FEMA Map Service Center** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map** how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/>.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance-level) and Emergency Action Plan, on the levee system(s) shown as providing protection for area on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at <http://www.fema.gov/business/nfi/index.shtm>.

NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE ACCREDITED LEVEE NOTE IN NOTES TO USERS.



NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 13 SOUTH, RANGE 13 EAST AND TOWNSHIP 14 SOUTH, RANGE 13 EAST.

Pima County Unincorporated Areas 040073

LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
- The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A**
No Base Flood Elevations determined.
- ZONE AE**
Base Flood Elevations determined.
- ZONE AH**
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO**
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR**
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99**
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V**
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE**
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.
- FLOODWAY AREAS IN ZONE AE
- The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.
- OTHER FLOOD AREAS
- ZONE X**
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- OTHER AREAS
- ZONE X**
Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D**
Areas in which flood hazards are undetermined, but possible.
- COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
- OTHERWISE PROTECTED AREAS (OPAs)
- CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.
- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; elevation in feet*
- * Referenced to the North American Vertical Datum of 1988 (NAVD 88)
- Cross section line
- Transsect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 1000-meter Universal Transverse Mercator grid ticks, zone 12
- 5000-foot grid ticks: Arizona State Plane coordinate system, central zone (FIPSZONE 0202), Transverse Mercator
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile
- MAP REPOSITORIES**
Refer to Map Repositories list on Map Index
- EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP**
February 6, 1999
- EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL**
June 16, 2011 - to update corporate limits, to change Base Flood Elevations and Special Flood Hazard Areas, to update map format, to add roads and road names, and to incorporate previously issued Letters of Map Revision.
- For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.
- To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1669L

FIRM FLOOD INSURANCE RATE MAP

PIMA COUNTY, ARIZONA AND INCORPORATED AREAS

PANEL 1669 OF 4750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PIMA COUNTY	040073	1669	L
TUCSON CITY OF	040076	1669	L

REVISED TO REFLECT LOMR EFFECTIVE: November 28, 2011

Notes 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 04019C1669L
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'



N
F
I
P

PANEL 1688L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1688 OF 4750

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PIMA COUNTY	040073	1688	L
TUCSON, CITY OF	040076	1688	L

**REVISED TO
REFLECT LOMR
EFFECTIVE: November 28, 2011**

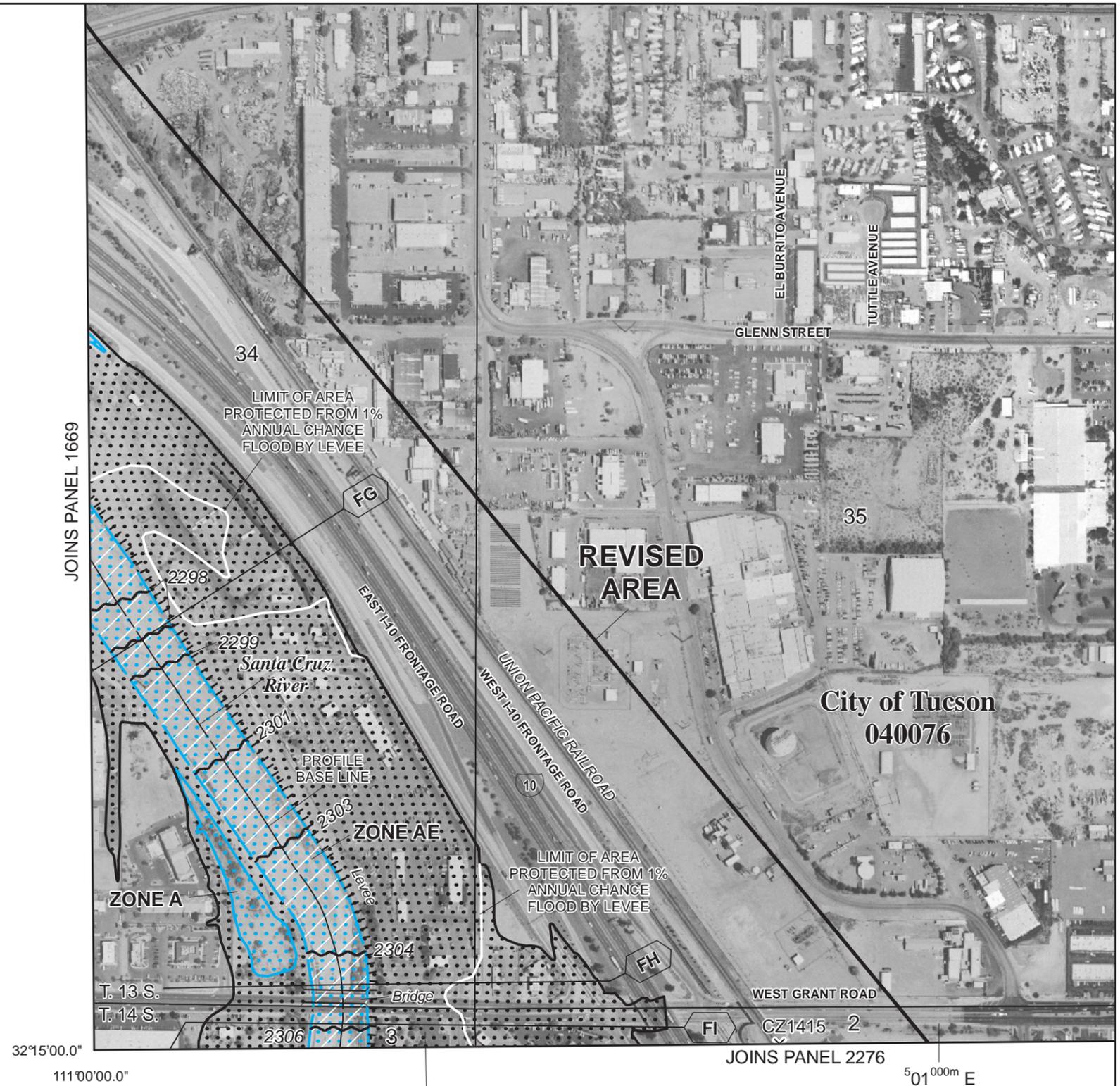
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
04019C1688L

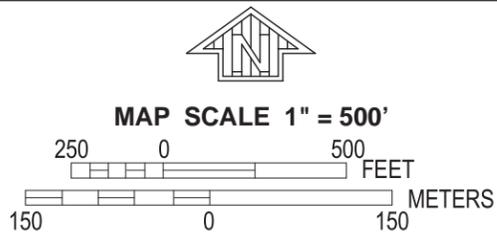
MAP REVISED
JUNE 16, 2011

Federal Emergency Management Agency



NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE "ACCREDITED LEVEE NOTE" IN NOTES TO USERS.

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



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 2276L

FIRM
FLOOD INSURANCE RATE MAP

PIMA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2276 OF 4750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
TUCSON, CITY OF	040076	2276	L

REVISED TO REFLECT LOMR EFFECTIVE: November 28, 2011

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 04019C2276L
MAP REVISED JUNE 16, 2011

Federal Emergency Management Agency

NOTE: THIS AREA IS SHOWN AS BEING PROTECTED FROM THE 1-PERCENT-ANNUAL-CHANCE OR GREATER FLOOD HAZARD BY A LEVEE SYSTEM. OVERTOPPING OR FAILURE OF ANY LEVEE SYSTEM IS POSSIBLE. FOR ADDITIONAL INFORMATION, SEE THE ACCREDITED LEVEE NOTE IN NOTES TO USERS.

