



Federal Emergency Management Agency

Washington, D.C. 20472

August 2, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Jonathan Rothschild
Mayor, City of Tucson
City Hall
255 West Alameda Street, 10th Floor
Tucson, AZ 85701

IN REPLY REFER TO:

Case No.: 16-09-0706P
Community Name: City of Tucson, AZ
Community No.: 040076
Effective Date of
This Revision: **December 14, 2016**

Dear Mayor Rothschild:

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 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/business/nfip>.

Sincerely,

Patrick "Rick" F. Sacbibit, P.E., Branch Chief
Engineering Services 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. Fred Felix, P.E.
Engineering Administrator
City of Tucson

Mr. Terry Hendricks, P.E., CFM
Chief Hydrologist
Pima County Regional Flood Control District

Mr. Gregory R. Carlson, P.E.
Project Manager
Greg Carlson Engineering, LLC



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LETTER OF MAP REVISION DETERMINATION DOCUMENT

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	City of Tucson Pima County Arizona	CULVERT FILL	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 040076		
IDENTIFIER	Sierra Morado Unit 3, Phase 3, Lots 129-131, 153, 157-158, 162-163, 168	APPROXIMATE LATITUDE & LONGITUDE: 32.147, -110.761 SOURCE: USGS QUADRANGLE DATUM: NAD 83	

ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES
TYPE: FIRM*	NO.: 04019C2320L DATE: June 16, 2011	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: September 28, 2012 NEW PROFILE(S): 285P, 286P SUMMARY OF DISCHARGES TABLE: TABLE 6

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

FLOODING SOURCE(S) & REVISED REACH(ES)	See Page 2 for Additional Flooding Sources
Civano Wash - from just upstream of East Drexel Road to just downstream of East Bilby Road	

SUMMARY OF REVISIONS				
Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
Civano Wash	Zone A	Zone AE	YES	YES
	Zone A	Zone X (unshaded)	NONE	YES
	No BFEs	BFEs	YES	NONE
	Zone X (unshaded)	Zone AE	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. Sacbbit, P.E., Branch Chief
Engineering Services Branch
Federal Insurance and Mitigation Administration



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

OTHER FLOODING SOURCES AFFECTED BY THIS REVISION

FLOODING SOURCE(S) & REVISED REACH(ES)

West Split of Civano Wash - from just upstream of East Drexel Road to just upstream of East Bilby Road

SUMMARY OF REVISIONS

Flooding Source	Effective Flooding	Revised Flooding	Increases	Decreases
West Split of Civano Wash	Zone A	Zone AE	YES	YES
	Zone A	Zone X (unshaded)	NONE	YES
	No BFEs	BFEs	YES	NONE
	Zone X (unshaded)	Zone AE	YES	YES

* BFEs - Base Flood Elevations

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
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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.

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 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 revision has met our criteria for removing an area from the 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 (1-percent-annual-chance) Flood Elevation.

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>.

A handwritten signature in black ink, appearing to read "Rick Sacbibit".

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



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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:

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

TABLE 6- SUMMARY OF DISCHARGES - continued

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
COLUMBUS WASH					
At confluence with Alvernon wash	1.71	*	*	2,500	*
At glenn street	1.55	*	*	1,100	*
CITRUS WASH					
Approximately 2,500 feet upstream of Oracle Jaynes Station Road	0.80	*	*	1,562	*
At Oracle Jaynes Station Road	0.80	*	*	1,152	*
CIVANO WASH					
At East Drexel Road	1.98	*	*	1,132	*
COCHIE CANYON					
At East Apex	2.82	*	*	1,777	*
COTTONWOOD CANYON					
At Pinal/Pima County Boundary	10.24	*	*	4,225	*
DERRIO CANYON					
At Pinal/Pima County Boundary	15.98	*	*	5,344	*
EARP WASH					
At confluence with Julian Wash	1.1	*	*	1,360	*
At Country Club Road	0.8	*	*	1,220	*
EAST BRANCH BRAWLEY WASH					
At Avra Valley Road	*	*	*	21,000	*
EASTERN LIMIT BASIN					
At upstream limit of detailed study	15.8	*	*	4,084	*
EL RIO WASH					
At Riverview and Dragoon Avenues	1.1	*	*	1,084	*
EL VADO WASH					
Approximately 1,000 feet upstream of 12th Avenue	3.2	*	*	974	*
At 12th Avenue	2.01	*	*	1,174	*
At confluence with Santa Cruz River	2.29	*	*	1,557	*
ENCHANTED HILLS WASH					
At confluence with West Branch Santa Cruz River	3.2	*	*	4,680	*
Approximately 400 feet upstream of Mission Road	3.1	*	*	4,775	*
At La Cholla Boulevard	3.0	*	*	5,045	*
Approximately 1,100 feet upstream of Greasewood Road	2.8	*	*	5,380	*

REVISED
DATA



*Data not available

**REVISED TO
REFLECT LOMR
EFFECTIVE: December 14, 2016**

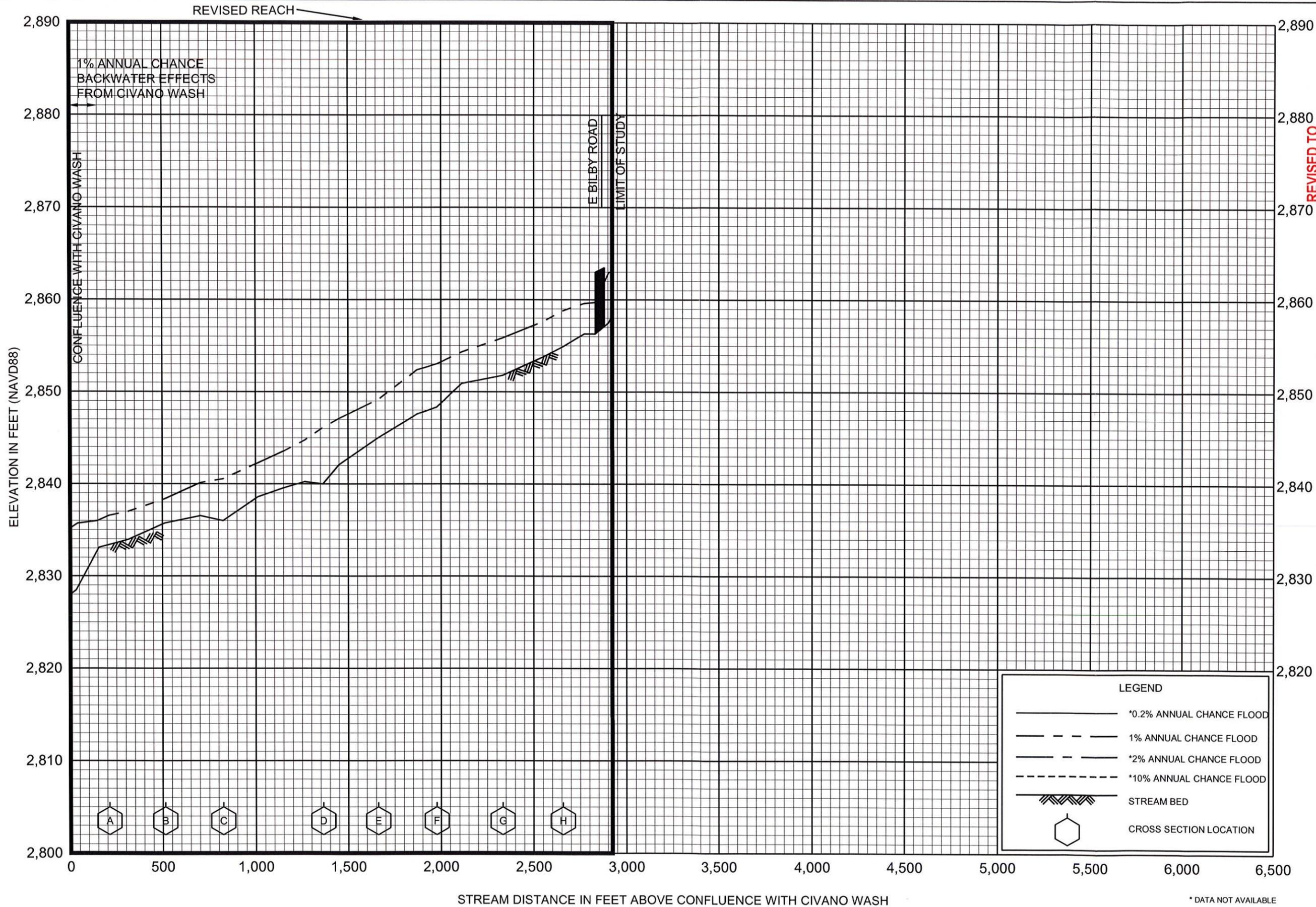
TABLE 6- SUMMARY OF DISCHARGES - continued

<u>FLOODING SOURCE AND LOCATION</u>	<u>DRAINAGE AREA (sq. miles)</u>	<u>PEAK DISCHARGES (cfs)</u>			
		<u>10-PERCENT</u>	<u>2-PERCENT</u>	<u>1-PERCENT</u>	<u>0.2-PERCENT</u>
TUCSON ARROYO					
Near confluence with Santa Cruz River, at I-10	11.35	2,896	5,398	6,773	15,900
At Perry Avenue (storm drain)	11.07	2,819	5,295	6,663	15,500
At Tenth Street	8.93	2,568	4,954	6,295	14,200
At Park Avenue	8.67	2,501	4,859	5,363	*
UNNAMED TRIBUTARY TO ROLLERCOASTER WASH					
Approximately 300 feet upstream of confluence with Rollercoaster Wash	*	*	*	6,602	*
UNNAMED WASH					
At Tangerine Road	2.20	*	*	1,515	*
UNNAMED WASH					
At Cortaro Farms Road and Union Pacific Railroad	1.4	*	*	690	*
VAN BUREN WASH					
At confluence with Alamo Wash	0.5	*	*	941	*
At Pima Street	0.3	*	*	633	*
VENTANA CANYON WASH					
At confluence with Tanque Verde Creek	16.64	5,066	9,030	11,527	18,238
Downstream of River Road	*	5,325	9,453	12,058	19,072
Upstream of Sabino Canyon Road	15.87	7,271	12,547	45,939	25,162
Downstream of confluence with Esperero Canyon Wash	14.14	8,122	14,053	17,753	27,253
Upstream of confluence with Esperero Canyon Wash	7.94	5,271	9,151	11,484	17,544
Upstream of Sunrise Road	6.98	5,378	9,448	12,044	17,805
Upstream of Resort Drive	3.85	5,179	8,813	10,596	14,864
WEST SPLIT OF CIVANO WASH					
At East Drexel Road	0.65	*	*	644	*
WILD BURRO CANYON					
At Dove Mountain Boulevard	6.24	*	*	3,634	*
WILSON WASH					
At Mountain Avenue	3.0	*	*	2,715	*
At Campbell Avenue	1.8	*	*	2,279	*

REVISED DATA

*Data not available

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REVISED TO REFLECT LOMR EFFECTIVE: December 14, 2016

FLOOD PROFILES WEST SPLIT OF CIVANO WASH

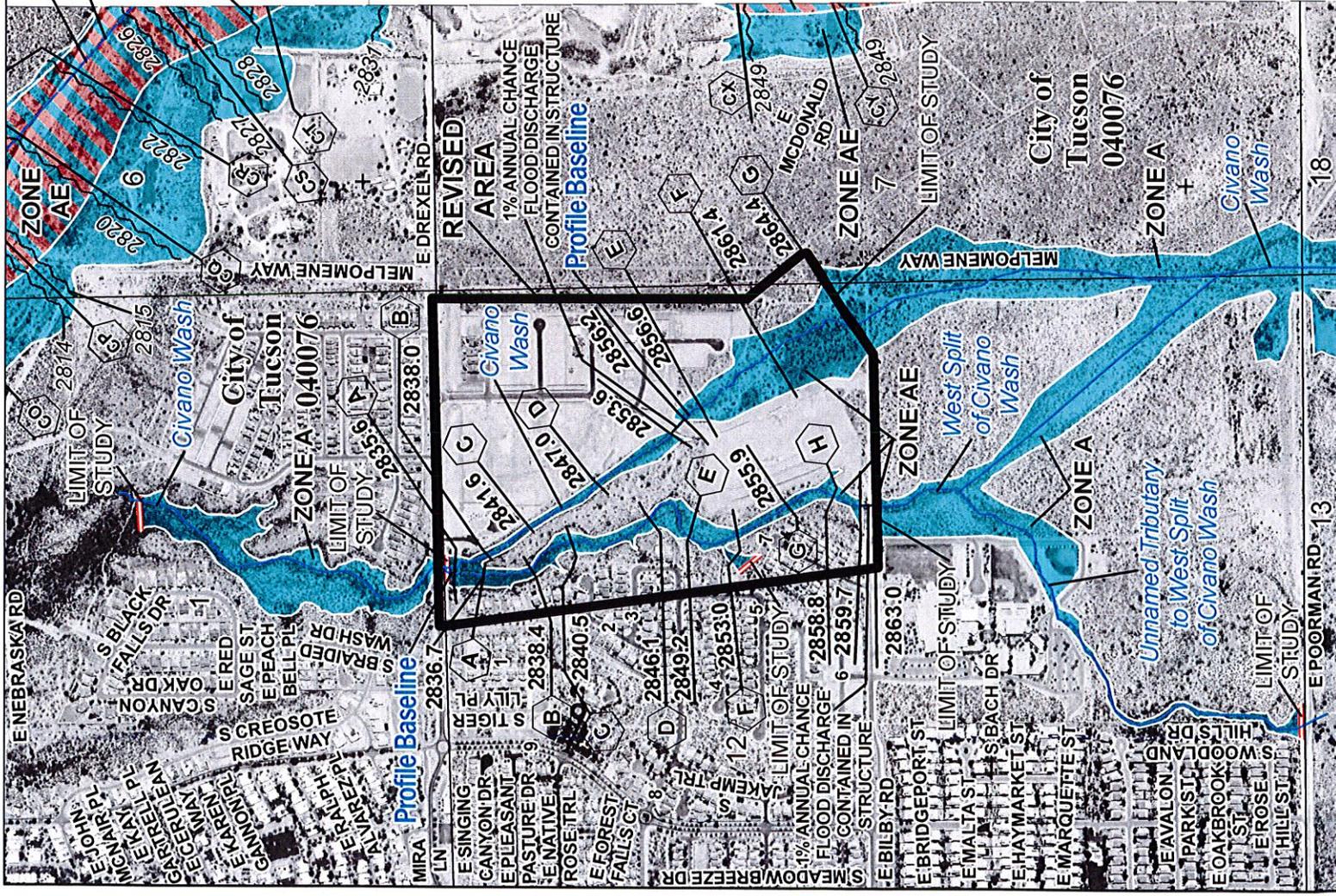
FEDERAL EMERGENCY MANAGEMENT AGENCY
PIMA COUNTY, AZ
 AND INCORPORATED AREAS

286P

* DATA NOT AVAILABLE

- ROAD KEY**
- 1.S LADY SLIPPER PL
 - 2.S COPPER HILLS DR
 - 3.E DEEP SKY DR
 - 4.E ORCHID CACTUS LN
 - 5.E SANCTUARY RIDGE LN
 - 6.E WINTER GOLD DR
 - 7.S HAWKS HOLLOW CT
 - 8.E SALSABILA RD
 - 9.S METROPOLITAN DR

Pantano Wash
Profile Baseline



Without Base Flood Elevation (BFE)
 Zone A.V, A99

With BFE or Depth Zone AE, AO, AH, VE, AR

Regulatory Floodway

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee See Notes. Zone X

SPECIAL FLOOD HAZARD AREAS

OTHER AREAS OF FLOOD HAZARD

SCALE

Map Projection: NAD 1983 HARN StatePlane Arizona Central FIPS 0202 Feet Intl. Western Hemisphere, Vertical Datum: NAD 88

1 inch = 1,000 feet

0 500 1,000 2,000 Feet

0 150 300 600 Meters

NATIONAL FLOOD INSURANCE PROGRAM
 FLOOD INSURANCE RATE MAP

PIMA COUNTY, ARIZONA
 and Incorporated Areas

2320 of 4750

FEMA

Panel Contains:
 NUMBER 040073
 COMMUNITY PIMA COUNTY TUCSON, CITY OF
 PANEL SUFFIX 2320 L

REVISED TO REFLECT LOMR EFFECTIVE: December 14, 2016

VERSION NUMBER 1.1.1.0
 MAP NUMBER 04019C2320L
 EFFECTIVE DATE JUNE 16, 2011