

TUTHILL DIKE WASH CHANNELIZATION

Town of Buckeye, Maricopa County, Arizona

LETTER OF MAP REVISION SUBMITTAL TECHNICAL DATA NOTEBOOK

January 2004

WP #011416.02

Case No. 02-09-1060R

Submitted to:

Federal Emergency Management Agency
Hazard Study Branch
Chief, Matthew Miller
Technical Services Division
500 C Street SW
Washington, DC 20472
Phone: (202) 646-2746

and

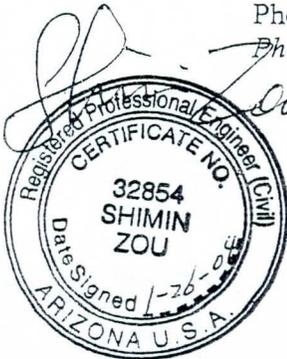
Town of Buckeye
100 North Apache
Buckeye, AZ 85236
Phone: (623) 386-2487

Prepared for:

DMB White Tank, LLC
c/o DMB Associates, Inc.
7600 East Doubletree Ranch Road
Suite 300
Scottsdale, AZ 85258
Phone: (480) 367-7000

Prepared by:

Wood, Patel & Associates, Inc.
2051 West Northern Avenue
Suite 100
Phoenix, AZ 85021
Phone: (602) 335-8500



Engineer



Peer Reviewer

To: Mr. Sacha Tohme

 Michael Baker, Jr. Inc.

 3601 Eisenhower Avenue, Suite 600

 Alexandria, VA 22304

Phone: (703) 960-8800 x3028

Date: February 25, 2004

Project: Tuthill Dike Wash LOMR

Project No.: 011416.03

Re: FEMA Case No. 02-09-1060R

<input type="checkbox"/> Delivery by Wood/Patel	<input type="checkbox"/> For Your Use	<input type="checkbox"/> Prints
<input type="checkbox"/> Courier	<input checked="" type="checkbox"/> As Requested	<input type="checkbox"/> Original Drawings
<input checked="" type="checkbox"/> Mail	<input type="checkbox"/> For Review and Comment	<input checked="" type="checkbox"/> Documents
<input type="checkbox"/> Federal Express	<input type="checkbox"/> For Action and/or Approval	<input type="checkbox"/> Reports
<input type="checkbox"/> Pick-up	<input type="checkbox"/> Other	<input type="checkbox"/> Other

Copies	Date	Description
1	2/25/04	Addenda to LOMR TDN Package

Remarks
<p>Sacha,</p> <p>Attached are the addenda to the TDN for the Tuthill Dike Wash LOMR, as noted below. Please insert them into appropriate sections of the TDN as you review. We believe that the attached information addresses your comments. If you require any additional information, please contact me at (602) 335-8500. Thanks.</p> <ol style="list-style-type: none"> Review Comments. Work Map 1A of 3 to show the revised base flood and floodway boundary delineations of Tuthill Dike Wash near Indian School Road. Culvert As-Built plans. A floppy disk with HEC-RAS electronic files.
<p>Copy To: File, AP</p>
<p>From: Ashok C. Patel, P.E., R.L.S.</p>

W:\2004\Projects\011416.03 LOT Michael Baker, Jr. Inc.doc



NATIONAL FLOOD INSURANCE PROGRAM
FEMA MAP COORDINATION CONTRACTOR

RECEIVED

FEB 10 2004

WOOD / PATEL

February 4, 2004

Mr. Ashok C. Patel, P.E., R.L.S.
Principal
Wood, Patel & Associates, Inc.
2051 West Northern, Suite 100
Phoenix, AZ 85021

IN REPLY REFER TO:
Case No.: 04-09-0544P
Community: Town of Buckeye, AZ
Community No.: 040039

316-ACK.FRQ

Dear Mr. Patel:

This responds to your request dated January 28, 2004, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Maricopa County, Arizona and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Tuthill Dike Wash Channelization
Flooding Sources:	Tuthill Dike Wash and Tractor Wash
FIRM Panel(s) Affected:	04013C2035 G and 2055 F

We have completed an inventory of the items that you submitted. The items identified below are required before we can begin a detailed review of your request.

1. The starting water-surface elevation (WSEL) for a tributary should be based on the slope-area method at a cross section on the tributary that is located just upstream of the confluence with the main stream. The proposed conditions HEC-RAS model for Tractor Wash that was submitted in support of the Conditional Letter of Map Revision issued on October 8, 2002, uses the slope-area method at a cross section on Tuthill Dike Wash, downstream of the confluence. Please provide a HEC-RAS hydraulic model for Tractor Wash, with the starting WSEL computed by the slope-area method at a cross section on Tractor Wash located at the confluence with Tuthill Dike Wash.
2. Please provide as-built plans, certified by a registered professional engineer, of the revised culvert under the Indian School Road crossing of Tuthill Dike Wash.

All required items are to be submitted to us at the address shown at the bottom of this page. If all required items are not submitted within 90 days of the date of this letter, we will treat any subsequent request as an original submittal, and it will be subject to all submittal/payment procedures.

If you are unable to meet the 90-day deadline for submittal of required items, and would like FEMA to continue processing your request, you must request an extension of the deadline. This request must be submitted to us in writing and must provide (1) the reason why the data cannot be submitted within the requested timeframe, and (2) a new date for the submittal of the data. FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, the fees will be forfeited for any request for which neither the requested data nor a written extension request is received within 90 days.

3601 Eisenhower Avenue, Alexandria, Virginia 22304-6425 PH: 703.960.8800 FX: 703.960.9125

Michael Baker Jr., Inc., under contract with the FEDERAL EMERGENCY MANAGEMENT AGENCY, is a
Map Coordination Contractor for the National Flood Insurance Program

When you write us about your request, please include the case number referenced above in your letter.

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please call the Revisions Coordinator for your State, Pernille Buch-Pedersen, who may be reached at (703) 317-6224.

Sincerely,



Andrea L. Ryon, P.E., Director
Engineering Division
Michael Baker Jr., Inc.

cc: Mr. Woodrow C. Scoutten, P.E.
Town Engineer
Town of Buckeye

Ms. Lynn M. Thomas, P.E., CFM
Manager
Floodplain Management Branch
Flood Control District of Maricopa County

Ms. Shanna Yager, CFM
Principal
Floodplain Administration
Flood Control District of Maricopa County

Mr. Brian Cosson
NFIP Coordinator
Arizona Department of Water Resources

TUTHILL DIKE WASH CHANNELIZATION

Town of Buckeye, Maricopa County, Arizona

LETTER OF MAP REVISION SUBMITTAL TECHNICAL DATA NOTEBOOK

January 2004

WP #011416.02

Case No. 02-09-1060R

Submitted to:

Federal Emergency Management Agency
Hazard Study Branch
Chief, Matthew Miller
Technical Services Division
500 C Street SW
Washington, DC 20472
Phone: (202) 646-2746

and

Town of Buckeye
100 North Apache
Buckeye, AZ 85236
Phone: (623) 386-2487

Prepared for:

DMB White Tank, LLC
c/o DMB Associates, Inc.
7600 East Doubletree Ranch Road
Suite 300
Scottsdale, AZ 85258
Phone: (480) 367-7000

Prepared by:

Wood, Patel & Associates, Inc.
2051 West Northern Avenue
Suite 100
Phoenix, AZ 85021
Phone: (602) 335-8500



Engineer



Peer Reviewer

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 FEMA MT-2 FORM 4

 2.1 Form 1 – Overview and Concurrence Form..... 4

3.0 HYDROLOGY, HYDRAULICS, AND MAP INFORMATION..... 7

 3.1 Hydrology..... 7

 3.2 Hydraulic Models..... 7

 3.3 Mapping 7

4.0 SUMMARY.....8

APPENDICES

Appendix A CLOMR Letter

Appendix B Community Acknowledgement Letter

Appendix C Property Owner Notification and Community Adoption and Enforcement Letter

Appendix D Operation and Maintenance Plan

EXHIBITS

Exhibit A As-Built Plan

jmb
Y:\WP\Reports\Public Works Dept\011416.02 Tuthill Dike Wash Channelization LOMR TDN.doc

FEDERAL EMERGENCY MANAGEMENT AGENCY
PAYMENT INFORMATION FORM

Community Name: Maricopa County, Unincorporated Areas

Project Identifier: Tuthill Dike Wash Channelization

THIS FORM **MUST BE MAILED**, ALONG WITH THE APPROPRIATE FEE, TO ONE OF TWO POST OFFICE BOXES (SEE BELOW) OR FAXED TO THE FAX NUMBER BELOW.

Type of Request:

MT-1 application fee }
MT-2 application fee } (Insert 3173 as the P.O. Box number in the address below)

External Data Requests (EDRs) (Insert 398 as the P.O. Box number in the address below)

Federal Emergency Management Agency
Revisions Fee-Collection System Administrator
P.O. Box 3173
Merrifield, Virginia 22116
Fax: (703) 849-0282

Case No.

Request No.: 02-09-1060R (if known)

Amount: \$3,800

INITIAL FEE* FINAL FEE FEE BALANCE** MASTER CARD VISA CHECK MONEY ORDER

*Note: Check only for EDR and/or Alluvial Fan requests (as appropriate).

**Note: Check only if submitting a corrected fee for an ongoing request.

COMPLETE THIS SECTION ONLY IF PAYING BY CREDIT CARD

[REDACTED CARD NUMBER]

EXP. DATE

[REDACTED EXP. DATE]

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

CARD NUMBER

Month Year

Date

1/28/04

Signature

Ashok C. Patel

NAME (AS IT APPEARS ON CARD):
(please print or type)

Ashok C. Patel

ADDRESS:
(for your
credit card
receipt-please
print or type)

2051 West Northern Ave, suite 100
Phoenix, AZ. 85021

DAYTIME PHONE:

1.0 INTRODUCTION

The Federal Emergency Management Agency (FEMA) publishes a series of maps known as Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs). These maps show flooding hazard zones that are used by FEMA to administer flood insurance through the National Flood Insurance Program.

Changes to the published floodplain or floodway delineations that are caused by new development are incorporated into the next revision of the FIRMs and FBFMs via procedures called Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR).

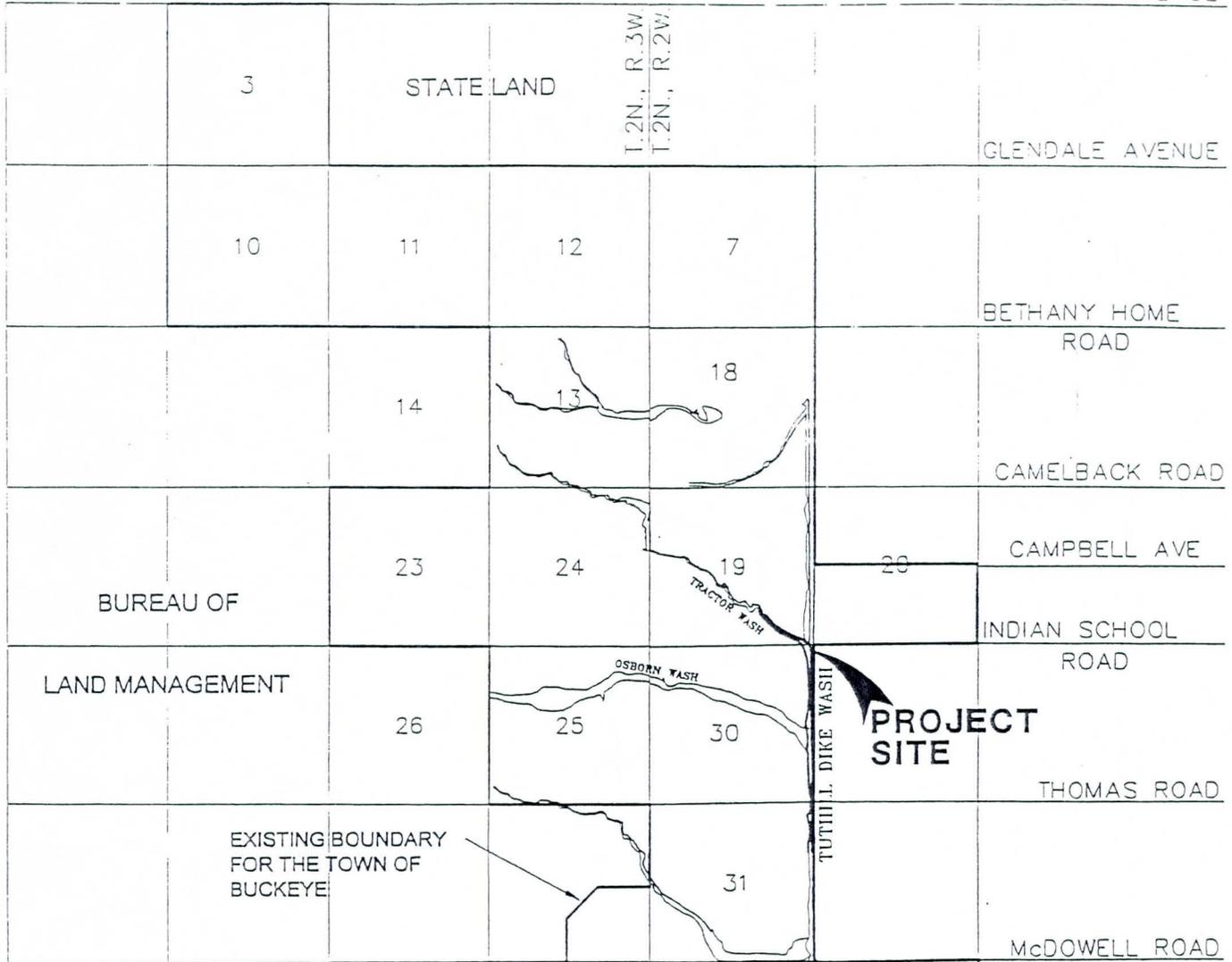
In a CLOMR request package, the proposed design is submitted to FEMA along with standard FEMA forms describing the technical details of the revised hydrologic and hydraulic analyses. When the package is approved by FEMA, a CLOMR is issued to the governing community stating that the FIRM or FBFM will be updated to reflect the revised floodplain and/or floodway boundaries, on the condition that the project is built as proposed.

Once the project is built, the governing community may obtain a LOMR by submitting a package to FEMA consisting of an as-built plan, along with FEMA forms describing the as-built hydrologic and hydraulic conditions. When FEMA confirms that the as-built hydrologic and hydraulic conditions match those proposed in the CLOMR request, a LOMR is issued to the governing community stating that the future revision of the FIRM or FBFM will reflect the revised floodplain and/or floodway boundaries.

This project site is located within Sections 30 and 31, Township 2 North, Range 2 West of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. The portion of Tuthill Dike Wash for which this LOMR has been prepared is located within the Verrado (Whitestone) master planned community in the Town of Buckeye, Arizona. The vicinity map of the project is shown on Figure 1, and the Town limits in the vicinity of this project are shown on Figure 2. This information is also available on the Town of Buckeye's website: <http://www.buckeyeaz.org>. The study reaches include portion of Tuthill Dike Wash along Tuthill Road alignment from 980 feet north of Indian School Road to about 1,370 feet south of Thomas Road, and a portion of Tractor Wash about 1,830 feet upstream of Tuthill Dike Wash to the confluence with Tuthill Dike Wash. Channelization of the washes has revised horizontal and vertical alignment and cross section geometry, reduced horizontal slopes as well as velocities at some reaches, improved the uniformity of the wash conveyance, therefore, increased the stability of the washes.

WHITE TANK MOUNTAIN
REGIONAL PARK

NORTHERN AVENUE



APACHE ROAD

WATSON ROAD

RAINBOW ROAD

DEAN ROAD

215h AVE

AIRPORT ROAD

TUTHILL ROAD

JACK RABBIT TRAIL
(195TH AVE)

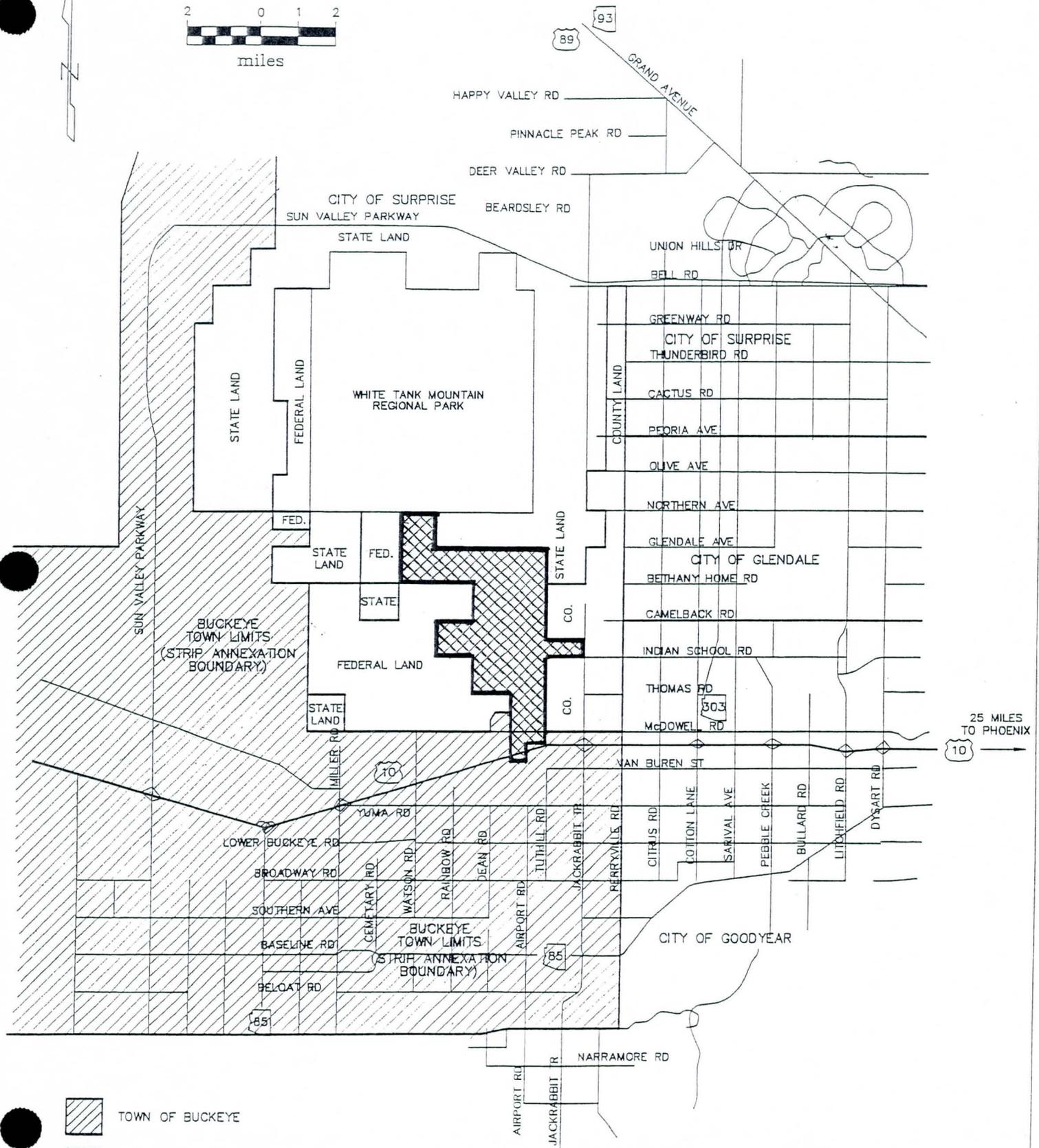
PERRYVILLE ROAD

FIGURE 1
VICINITY MAP

WHITESTONE
TUTHILL DIKE WASH

WOOD/PATEL
ASSOCIATES
Civil Engineers
Hydrologists
Land Surveyors
(602) 335-8500





-  TOWN OF BUCKEYE
-  VERRADO

BUCKEYE, ARIZONA

The purpose of this package is to complete the requirements for a LOMR request since the CLOMR package for this project was submitted to FEMA and approved by FEMA in October 2002 (see CLOMR letter issued by FEMA in Appendix A). A copy of the Community Acknowledgement Letter is included in Appendix B. A copy of the Property Owner Notification and Community Adoption and Enforcement Letter is included in Appendix C; and the Operation and Maintenance Plan is shown in Appendix D. The proposed construction is complete and the as-built plan is provided by Sundt Construction, Inc. (see Exhibit A for as-built plan).

2.0 FEMA MT-2 FORM

Since the as-built conditions are the same as the engineering plan submitted in the CLOMR package, the appropriate FEMA form needed from the current FEMA MT-2 packet (expires September 30, 2005) is Form 1 – Overview and Concurrence Form.

2.1 Form 1 – Overview and Concurrence Form

The attached “Overview and Concurrence Form” is provided per FEMA requirements for submittals. The basis for this revision request is physical change; specifically, channelization.

FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW & CONCURRENCE FORM

O.M.B No. 3067-0148
 Expires September 30, 2005

PAPERWORK BURDEN DISCLOSURE NOTICE

Public reporting burden for this form is estimated to average 1 hour per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing, reviewing, and submitting the form. You are not required to respond to this collection of information unless a valid OMB control number appears in the upper right corner of this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, SW, Washington DC 20472, Paperwork Reduction Project (3067-0148). Submission of the form is required to obtain or retain benefits under the National Flood Insurance Program. **Please do not send your completed survey to the above address.**

A. REQUESTED RESPONSE FROM FEMA

This request is for a (check one):

- CLOMR: A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60, 65 & 72).
- LOMR: A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See Parts 60 & 65 of the NFIP Regulations.)

B. OVERVIEW

1. The NFIP map panel(s) affected for all impacted communities is (are):

Community No.	Community Name	State	Map No.	Panel No.	Effective Date
Ex: 480301	City of Katy	TX	480301	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90
0037	Maricopa County, Unincorporated Areas	AZ	04013C	2055F	07/19/01
0037	Maricopa County, Unincorporated Areas	AZ	04013C	2035G	07/19/01

2. Flooding Source: Tuthill Dike Wash

3. Project Name/Identifier: Tuthill Dike Wash Channelization

4. FEMA zone designations affected: Zone AE (choices: A, AH, AO, A1-A30, A99, AE, AR, V, V1-V30, VE, B, C, D, X)

5. Basis for Request and Type of Revision:

a. The basis for this revision request is (check all that apply)

- Physical Change Improved Methodology/Data
- Regulatory Floodway Revision Other (Attach Description)

Note: A photograph and narrative description of the area of concern is not required, but is very helpful during review.

b. The area of revision encompasses the following types of flooding and structures (check all that apply)

- Types of Flooding: Riverine Coastal Shallow Flooding (e.g., Zones AO and AH)
- Alluvial fan Lakes Other (Attach Description)
- Structures: Channelization Levee/Floodwall Bridge/Culvert
- Dam Fill Other, Attach Description

C. REVIEW FEE

Has the review fee for the appropriate request category been included?

Yes

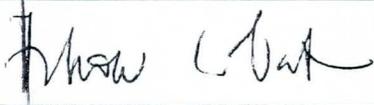
Fee amount: \$3,800

No, Attach Explanation

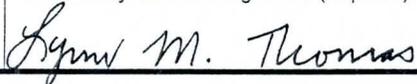
Please see the FEMA Web site at http://www.fema.gov/mit/tsd/frm_fees.htm for Fee Amounts and Exemptions.

D. SIGNATURE

All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

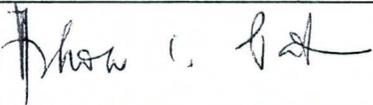
Name: Ashok C. Patel, P.E., R.L.S.		Company: Wood, Patel & Associates, Inc.	
Mailing Address: 2051 West Northern Avenue Suite 100 Phoenix AZ	Daytime Telephone No.: (602) 335-8500	Fax No.: (602) 335-8580	
	E-Mail Address: apatel@woodpatel.com		
Signature of Requester (required): 		Date: 1/26/04	

As the community official responsible for floodplain management, I hereby acknowledge that we have received and reviewed this Letter of Map Revision (LOMR) or conditional LOMR request. Based upon the community's review, we find the completed or proposed project meets or is designed to meet all of the community floodplain management requirements, including the requirement that no fill be placed in the regulatory floodway, and that all necessary Federal, State, and local permits have been, or in the case of a conditional LOMR, will be obtained. In addition, we have determined that the land and any existing or proposed structures to be removed from the SFHA are or will be reasonably safe from flooding as defined in 44CFR 65.2(c), and that we have available upon request by FEMA, all analyses and documentation used to make this determination.

Community Official's Name and Title: Lynn M. Thomas, P.E., Floodplain Branch Manager		Telephone No.: (602) 506-4779
Community Name: Flood Control District of Maricopa County	Community Official's Signature (required): 	Date: 1/27/04

CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is to be signed and sealed by a licensed land surveyor, registered professional engineer, or architect authorized by law to certify elevation information. All documents submitted in support of this request are correct to the best of my knowledge. I understand that any false statement may be punishable by fine or imprisonment under Title 18 of the United States Code, Section 1001.

Certifier's Name: Ashok C. Patel, P.E., R.L.S.	License No.: 10512	Expiration Date: 12/04
Company Name: Wood, Patel & Associates	Telephone No.: (602) 335-8500	Fax No.: (602) 335-8580
Signature: 	Date: 1/26/04	

Ensure the forms that are appropriate to your revision request are included in your submittal.

Form Name and (Number)

Required if ...

- | | |
|--|---|
| <input type="checkbox"/> Riverine Hydrology and Hydraulics Form (Form 2) | New or revised discharges or water-surface elevations |
| <input type="checkbox"/> Riverine Structures Form (Form 3) | Channel is modified, addition/revision of bridge/culverts, addition/revision of levee/floodwall, addition/revision of dam |
| <input type="checkbox"/> Coastal Analysis Form (Form 4) | New or revised coastal elevations |
| <input type="checkbox"/> Coastal Structures Form (Form 5) | Addition/revision of coastal structure |
| <input type="checkbox"/> Alluvial Fan Flooding Form (Form 6) | Flood control measures on alluvial fans |



3.0 HYDROLOGY, HYDRAULICS, AND MAP INFORMATION

3.1 Hydrology

No new hydrologic analysis was conducted for this study.

3.2 Hydraulic Models

Since the as-built conditions are the same as the engineering plan submitted in the CLOMR package, no new hydraulic modeling was conducted for the LOMR package.

3.3 Mapping

Field survey information for the as-built plan was provided by Sundt Construction, Inc. in December 2003 and the internal job number of Sundt Construction, Inc. is 110370.

4.0 SUMMARY

This package completes the requirements for a LOMR request for the Tuthill Dike Wash Channelization project since the CLOMR package for this project was submitted to FEMA and approved by FEMA in October 2002 (see CLOMR letter issued by FEMA in Appendix A). A copy of the Community Acknowledgement Letter is included in Appendix B. A copy of the Property Owner Notification and Community Adoption and Enforcement Letter is included in Appendix C; and the Operation and Maintenance Plan is shown in Appendix D. The proposed construction is complete and the as-built plan is provided (see Exhibit A for as-built plan).

The CLOMR letter from FEMA also requests additional information on channel hydraulics as described under the two bulleted items on page 4 (Appendix A). These issues were addressed and approved by FEMA review consultant prior to the receipt of the CLOMR letter from FEMA.

Since the as-built conditions are the same as the engineering plan submitted in the CLOMR package, no new hydraulic modeling was conducted for the LOMR package. The hydraulic modeling documentation was included in the CLOMR package. Field survey information for the as-built plan was provided by Sundt Construction, Inc. in December 2003 and the internal job number of Sundt Construction, Inc. is 110370. Both the study work maps and annotated FIRM panels were included in the CLOMR package.

APPENDIX A

CLOMR Letter



Federal Emergency Management Agency

Washington, D.C. 20472

OCT 08 2002

RECEIVED

OCT 15 2002

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:
Case No.: 02-09-1060R

WOOD / PATEL

The Honorable Don Stapley
Chairman, Maricopa County
Board of Supervisors
301 West Jefferson, 10th Floor
Phoenix, AZ 85003

Community: Maricopa County, AZ
Community No.: 040037

104

Dear Mr. Stapley:

This responds to a request that the Federal Emergency Management Agency (FEMA) comment on the effects that a proposed project would have on the effective Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) report for Maricopa County, Arizona and Incorporated Areas, in accordance with Part 65 of the National Flood Insurance Program (NFIP) regulations. In a letter dated June 3, 2002, Mr. Ashok C. Patel, P.E., R.L.S., Principal, Wood, Patel & Associates, Inc., requested that FEMA evaluate the effects that updated topographic information, proposed channelization, and a proposed culvert under Indian School Road along Tuthill Dike Wash and updated topographic information and proposed channelization along Tractor Wash would have on the flood hazard information shown on the effective FIRM and FIS report.

All data required to complete our review of this request for a Conditional Letter of Map Revision (CLOMR) were submitted with letters from Mr. Patel.

We reviewed the submitted data and the data used to prepare the effective FIRM for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. The submitted corrected effective HEC-RAS hydraulic computer models for Tuthill Dike Wash and Tractor Wash, both dated October 2, 2002, were used as the base conditions models in our review of the proposed conditions models for this CLOMR request. We believe that, if the proposed project is constructed as shown on the topographic work maps entitled "Tuthill Dike Wash, Buckeye, AZ.," Sheets 1 and 2, and "Tractor Wash Buckeye, AZ.," Sheet 3A, all prepared by Wood, Patel & Associates, Inc., and dated April 17, 2002, and on the proposed construction plans entitled "Verrado, Buckeye, AZ., Tuthill Dike Wash & Tractor Wash - Phase I," Sheets 1 through 18, prepared by Wood, Patel & Associates, Inc., dated May 8, 2002, and the data listed below are received, a revision to the FIRM would be warranted.

As a result of the updated topographic information, proposed channelization, and proposed culvert, the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for Tuthill Dike Wash will decrease compared to the effective Base Flood Elevations (BFEs). The maximum decrease in BFE, 8.5 feet, will occur approximately 100 feet upstream of Thomas Road. The width of the Special Flood Hazard Area (SFHA), the area that would be inundated by the base flood, along Tuthill Dike Wash will increase in some areas, decrease in some areas, and shift in other areas

compared to the effective SFHA width. The maximum increase in SFHA width, approximately 90 feet, will occur approximately 100 feet upstream of Thomas Road and will be contained in the proposed channel. The maximum decrease in SFHA width, approximately 200 feet, will occur approximately 100 feet downstream of the confluence with Tractor Wash. The maximum shift in the SFHA, approximately 85 feet to the east, will occur approximately 200 feet downstream of the confluence with Tractor Wash and will be contained in the proposed channel. The width of the regulatory floodway along Tuthill Dike Wash will increase in some areas, decrease in some areas, and shift in other areas compared to the effective floodway width. The maximum increase in floodway width, approximately 90 feet, will occur approximately 100 feet upstream of Thomas Road and will be contained in the proposed channel. The maximum decrease in floodway width, approximately 150 feet, will occur just upstream of Indian School Road. The maximum shift in the regulatory floodway, approximately 85 feet to the east, will occur approximately 200 feet downstream of the confluence with Tractor Wash and will be contained in the proposed channel.

As a result of the updated topographic information and proposed channelization, the BFEs for Tractor Wash will increase in some areas and decrease in other areas compared to the effective BFEs. The maximum increase in BFE, 1.7 feet, will occur approximately 1,000 feet upstream of the confluence with Tuthill Dike Wash and will be contained in the proposed channel. The maximum decrease in BFE, 5.5 feet, will occur approximately 200 feet upstream of the confluence with Tuthill Dike Wash. The width of the SFHA along Tractor Wash will decrease in some areas and shift in other areas compared to the effective SFHA width. The maximum decrease in SFHA width, approximately 430 feet, will occur approximately 1,700 feet upstream of the confluence with Tuthill Dike Wash. The maximum shift in the SFHA to the north, approximately 70 feet, will occur approximately 1,300 feet upstream of the confluence with Tuthill Dike Wash and will be contained in the proposed channel. The maximum shift in the SFHA to the south, approximately 60 feet, will occur approximately 400 feet upstream of the confluence with Tuthill Dike Wash and will be contained in the proposed channel. The width of the regulatory floodway along Tractor Wash will decrease in some areas and shift in other areas compared to the effective floodway width. The maximum decrease in floodway width, approximately 70 feet, will occur approximately 1,700 feet upstream of the confluence with Tuthill Dike Wash. The maximum shift in the regulatory floodway to the north, approximately 70 feet, will occur approximately 1,300 feet upstream of the confluence with Tuthill Dike Wash and will be contained in the proposed channel. The maximum shift in the regulatory floodway to the south, approximately 60 feet, will occur approximately 400 feet upstream of the confluence with Tuthill Dike Wash and will be contained in the proposed channel.

Upon completion of the project, your community may submit the data listed below and request that we make a final determination on revising the effective FIRM and FIS report.

- Detailed application and certification forms must be used for requesting final revisions to the maps. Therefore, when the map revision request for the area covered by this letter is submitted, Form 1, entitled "Revision Requester and Community Official Form," must be included. (A copy of this form is enclosed.)
- The detailed application and certification forms listed below may be required if as-built conditions differ from the conceptual plans. If required, please submit new forms (copies of

which are enclosed) or annotated copies of the previously submitted forms showing the revised information.

Form 4, entitled "Riverine Hydraulic Analysis Form"

Form 5, entitled "Riverine/Coastal Mapping Form"

Form 6, entitled "Channelization Form"

Form 7, entitled "Bridge/Culvert Form"

Hydraulic analyses, for as-built conditions, of the base flood and the regulatory floodway must be submitted with Form 4, and a topographic work map showing the revised floodplain and floodway boundaries must be submitted with Form 5.

- Effective September 1, 2002, FEMA revised the fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps. In accordance with this schedule, the current fee for this map revision request is \$3,800 and must be received before we can begin processing the request. Please note, however, that the fee schedule is subject to change, and requesters are required to submit the fee in effect at the time of the submittal. Payment of this fee shall be made in the form of a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card. The payment must be forwarded to the following address:

Federal Emergency Management Agency
Fee-Charge System Administrator
P.O. Box 3173
Merrifield, VA 22116-3173

- As-built plans, certified by a registered professional engineer, of all proposed project elements
- Community acknowledgment of the map revision request
- A copy of the public notice distributed by your community stating its intent to revise the regulatory floodway, or a statement by your community that it has notified all affected property owners and affected adjacent jurisdictions
- A letter stating that your community will adopt and enforce the modified regulatory floodway, OR, if the State has jurisdiction over either the regulatory floodway or its adoption by your community, a copy of your community's letter to the appropriate State agency notifying it of the modification to the regulatory floodway and a copy of the letter from that agency stating its approval of the modification
- An officially adopted maintenance plan for the channel and culvert along Tuthill Dike Wash, and for the channel along Tractor Wash. This plan, which may be in the form of a written statement from the community Chief Executive Officer, an ordinance, or other legislation, must describe

the nature of the maintenance activities, the frequency with which they will be performed, and the title of the local community official who will be responsible for ensuring that the maintenance activities are accomplished.

- The starting water-surface elevation (SWSEL) for a tributary should be based on the slope-area method at a cross section along the tributary that is located just upstream of the confluence with the main stream. The submitted proposed conditions HEC-RAS model for Tractor Wash used the slope-area method at a cross section along Tuthill Dike Wash that is downstream of the confluence. Please provide a HEC-RAS hydraulic model for Tractor Wash with the SWSEL computed by the slope-area method at a cross section along Tractor Wash that is located at the confluence with Tuthill Dike Wash.
- The submitted proposed conditions HEC-RAS hydraulic model for Tuthill Dike Wash shows the formation of a hydraulic jump just downstream of the culvert on Indian School Road, in the mixed flow regime. A hydraulic jump that occurs at this location could cause scour on the earthen channel bed. Please submit an analysis to demonstrate that the channel bed will not erode during the base flood or that adequate erosion protection will be provided. If erosion protection is to be provided, information and calculations must be submitted to show that the channel lining will provide adequate protection. In addition, FEMA accepts base floodplain boundary delineations based on supercritical flow depths only for concrete-lined, engineered channels. Because the constructed channel is not concrete-lined, critical depth is the minimum depth permissible to map the base floodplain boundary delineations for this reach, and the BFEs should be corrected to show critical depth as the minimum depth if the mixed flow regime is used.

After receiving appropriate documentation to show that the project has been completed, FEMA will initiate a revision to the FIRM and FIS report. Because the BFEs would change as a result of the project, a 90-day appeal period would be initiated, during which community officials and interested persons may appeal the revised BFEs based on scientific or technical data.

The basis of this CLOMR is, in whole or in part, a channel-modification/culvert project. NFIP regulations, as cited in Paragraph 60.3(b)(7), require that communities assure 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 regulations. Consequently, the ultimate responsibility for maintenance of the modified channels and culvert rests with your community.

This CLOMR is based on minimum floodplain management criteria established under the NFIP. Your community is responsible for approving all floodplain development and for ensuring all necessary permits required by Federal or State law have been received. State, county, and community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction in the SFHA. If the State, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

If you have any questions regarding floodplain management regulations for your community or the NFIP in general, please contact the Consultation Coordination Officer (CCO) for your community.

Information on the CCO for your community may be obtained by calling the Chief, Community Mitigation Programs Branch, Mitigation Division of FEMA in Oakland, California, at (510) 627-7184. If you have any questions regarding this CLOMR, please call our Map Assistance Center, toll free, at 1-877-FEMA MAP (1-877-336-2627).

Sincerely,



Max H. Yuan, P.E., Project Engineer
Hazards Study Branch
Federal Insurance and
Mitigation Administration

For: Matthew B. Miller, P.E., Chief
Hazards Study Branch
Federal Insurance and
Mitigation Administration

Enclosures

cc: Ms. Lynn M. Thomas, P.E., C.F.M.
Branch Manager
Floodplain Management
Flood Control District
of Maricopa County

Ms. Shanna Yager
Branch Manager
Floodplain Administrator
Flood Control District
of Maricopa County

Mr. Victor Calderon
NFIP Coordinator
Arizona Division of Emergency
Management

Mr. Ashok C. Patel, P.E., R.L.S.
Principal,
Wood, Patel & Associates, Inc.

APPENDIX B

Community Acknowledgement Letter



Town of Buckeye

January 15, 2004

Mr. Sacha Tohme
Michael Baker, Jr., Inc.
3601 Eisenhower Avenue
Suite 600
Alexandria, VA 22304

Phone: (703) 960-8800

Fax: (703) 960-9125

Re: **Case No. 02-09-1060R**
Community No. 040037
Tuthill Dike Wash
Tuthill Dike Wash Floodplain Delineation, LOMR Request
FIRM Panels 04013C2035G & 2055F

Dear Mr. Tohme:

This letter is in reference to Case No. 02-09-1060R, Tuthill Dike Wash Floodplain Delineation, Letter of Map Revision (LOMR) Request. Tuthill Dike Wash is located in the Whitestone (Verrado) development, which is part of the Town of Buckeye. The Town has elected that the Flood Control District of Maricopa County (FCDMC) manage the floodplain related issues, including FEMA processing.

Wood, Patel & Associates, Inc. is the civil engineering firm performing the FEMA-related work for Tuthill Dike Wash. They have prepared all necessary Technical Data Notebooks in conjunction with Case No. 02-09-1060R.

The Town of Buckeye has acknowledged that there is a revision request for Tuthill Dike Wash. The Town understands that, with this revision, there will be an impact on the base flood elevations on Tuthill Dike Wash and that the floodplain and floodway will be impacted.

Should you have any questions regarding this LOMR, please contact me at (623) 547-4661 ext. 222.

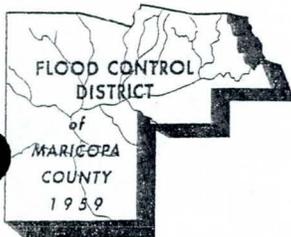
Sincerely,

Woodrow C. Scoutten, P.E.
Town Engineer
Town of Buckeye

cc: Joseph Blanton, Town Manager
Ashok C. Patel, P.E. – Wood, Patel & Associates, Inc.
Lynn Thomas, P.E. – Flood Control District of Maricopa County

APPENDIX C

**Property Owner Notification and
Community Adoption and Enforcement Letter**



FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5897

BOARD OF DIRECTORS
Fulton Brock
Andrew Kunasek
Don Stapley
Mary Rose Garrido Wilcox
Max W. Wilson

January 15, 2004

Mr. Monther S. Madanat, Director
Engineering Division
Michael Baker, Jr., Inc.

SUBJECT: Case No. 02-09-1060R (Tuthill Dike Wash Channelization - Letter of Map Revision)

Dear Mr. Madanat:

This letter serves to address comments received in your letter dated October 8, 2002 for the subject case. A copy of the letter that was sent to notify the affected property owner of the LOMR request is included for your files. In addition, the Flood Control District of Maricopa County agrees to adopt and enforce the modified regulatory floodway and floodplain.

Please contact me at (602) 506-4779 with any questions or if we can be of further assistance.

Sincerely,

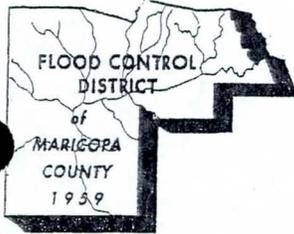
Lynn M. Thomas, P.E., C.F.M.
Floodplain Management Branch Manager

Copy to: Ashok C. Patel, P.E.
Woodrow C. Scoutten, P.E.

FLOOD CONTROL DISTRICT
of
Maricopa County

2801 West Durango Street • Phoenix, Arizona 85009-6399
Telephone (602) 506-1501
Fax (602) 506-4601
TT (602) 506-5897

BOARD OF DIRECTORS
Fulton Brock
Andrew Kunasek
Don Stapley
Mary Rose Garrido Wilcox
Max W. Wilson



RECEIVED

JAN 23 2004

WOOD / PATEL

January 21, 2004

Fidelity National Title Company TR B176
c/o DMB Associates, Inc.
7600 East Doubletree Ranch Road
Suite 300
Scottsdale, Arizona 85258

SUBJECT: FA01-104 (Tuthill Wash Channelization - Letter of Map Revision, LOMR
Parcel 502-78-147)
FEMA Case No. 02-09-1060R

Dear Gentlemen:

According to the records of the Maricopa County Assessor's Office, Fidelity National Title Company is the present owner of the above referenced parcel. The Federal Emergency Management Agency (FEMA) is presently reviewing a request for a LOMR submitted by Wood, Patel & Associates, Inc. to revise the effective 100-year floodplain and floodway of Tuthill Dike Wash. The channelization construction will have the effect of changing the 100-year floodplain and floodway alignment and Regulatory Flood Elevations. These changes are in conjunction with development of the Verrado (Whitestone) Master Planned Community in the Town of Buckeye.

These revisions will affect Maricopa County Community Panels 04013C2055F and, 2035G of the Flood Insurance Rate Maps. These map revisions are available for review at the Flood Control District's office located at 2801 West Durango Street, Phoenix, Arizona 85009. This notification is given as requested by FEMA.

Should you have any questions or comments, feel free to contact me at (602) 506-4779.

Sincerely,

Lynn M. Thomas, P.E., C.F.M.
Floodplain Management Branch Manager

Copy to: Ashok C. Patel, P.E. ✓
Woodrow C. Scoutten, P.E.

APPENDIX D

Operation and Maintenance Plan

Operation and Maintenance Plan

RE: Case No. 02-09-1060R - Wood/Patel's (WP#011416.02) Request for Letter of Map Revision, Tuthill Dike Wash Channelization, Town of Buckeye, Maricopa County, Arizona, Community Number 040037, Panel Numbers 04013C2055F and 04013C2035G, dates July 19, 2001.

In response to the Conditional Letter of Map Revision (CLOMR) dated October 8, 2002, from Max H. Yuan, P.E., Project Engineer, Hazard Mitigation Branch, issued for construction of Tuthill Dike Wash Channelization, in which additional data was requested to obtain the LOMR, upon completion of the project, the following operation and maintenance plan was proposed for the subject channel in accordance with item No. 8 on Page 3 of the CLOMR.

This segment of channel and the overbanks are public facilities. The Town of Buckeye is participating in FEMA Flood Insurance Program. The Town of Buckeye is responsible for ensuring that all necessary maintenance activities are accomplished for this reach of the Tuthill Dike Wash Channel. Inspections of the channel will be performed and documented on an annual basis. Additional inspections will be performed during and after major storm events. Maintenance activities for the channel include, but are not limited to:

- Removal of debris and excessive sediment from the channel bottom;
- Cleaning of storm drains, and culverts;
- Repair or replacement of damaged bank protection;
- Installation of additional erosion control measures as needed.

It is hoped this information will meet the requirements for technical review of the final Letter of Map Revision (LOMR).

EXHIBIT A

**As-Built Plan
(under separate cover)**



Federal Emergency Management Agency

Washington, D.C. 20472

MAY 27 2004

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Dusty Hull
Mayor, Town of Buckeye
100 North Apache Road, Suite A
Buckeye, AZ 85326

IN REPLY REFER TO:

Case No.: 04-09-0544P
Follows Conditional
Case No.: 02-09-1060R
Community Name: Town of Buckeye, AZ
Community No.: 040039
Effective Date of This Revision: **MAY 27 2004**

Dear Mayor Hull:

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, Federal Insurance and Mitigation Division of the Department of Homeland Security's Federal Emergency Management Agency (FEMA) in Oakland, California, at (510) 627-7103, or the FEMA Map Assistance Center 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,

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

For: Doug Bellomo, P.E., CFM, Acting Chief
Hazard Identification Section
Mitigation Division
Emergency Preparedness
and Response Directorate

List of Enclosures:

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

cc: Mr. Woodrow C. Scoutten, P.E.
Town Engineer
Town of Buckeye

Mr. Brian Cosson
NFIP Coordinator
Arizona Department of Water Resources

Ms. Lynn M. Thomas, P.E., CFM
Branch Manager
Floodplain Management Branch
Flood Control District of Maricopa County

Mr. Ashok C. Patel, P.E., R.L.S.
Principal
Wood, Patel & Associates, Inc.

Mr. Ted Collins
Principal Floodplain Administrator
Flood Control District of Maricopa County

Follows CLOMR Case No.: 02-09-1060R



Federal Emergency Management Agency
Washington, D.C. 20472

**LETTER OF MAP REVISION
DETERMINATION DOCUMENT**

COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST
COMMUNITY	Town of Buckeye Maricopa County Arizona	CHANNELIZATION CHANNEL RELOCATION FILL CULVERT	HYDRAULIC ANALYSIS NEW TOPOGRAPHIC DATA
	COMMUNITY NO.: 040039		
IDENTIFIER	Tuthill Dike Wash Channelization	APPROXIMATE LATITUDE & LONGITUDE: 33.4824, 112.4965 SOURCE: USGS QUADRANGLE DATUM: NAD 83	

FLOODING SOURCE(S) & REVISED REACH(ES)

Tuthill Dike Wash – Approximately 2,800 feet downstream of Thomas Road to approximately 1,600 feet upstream of Indian School Road
Tractor Wash – From confluence with Tuthill Dike Wash to approximately 2,800 feet upstream of the confluence with Tuthill Dike Wash

SUMMARY OF REVISIONS

TUTHILL DIKE WASH			TRACTOR WASH			
Effective Flooding:	Zone AE	BFEs*	Floodway	Zone AE	BFEs*	Floodway
Revised Flooding:	Zone AE	BFEs*	Floodway	Zone AE	BFEs*	Floodway
Increases:	YES	YES	YES	YES	YES	YES
Decreases:	YES	YES	YES	YES	YES	YES

* BFEs – Base Flood Elevations

ANNOTATED MAPPING ENCLOSURES			ANNOTATED STUDY ENCLOSURES		
TYPE: FIRM*	NO.: 04013C2035 G	Date: July 19, 2001	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: July 19, 2001		
TYPE: FIRM	NO.: 04013C2055 F	Date: July 19, 2001	Tuthill Dike Wash: PROFILE: 805P, 806P, 807P, 808P, 809P FLOODWAY DATA TABLE		
			Tractor Wash: PROFILE: 796P, 797P FLOODWAY DATA TABLE		

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

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 Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

MHC 10 Lynn

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

102426 DA.04090544 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.

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 modified channel and culvert rests with your community. We may request that your community submit a description and schedule of channel and culvert activities.

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.

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 Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

MHC 10 LYR

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

102426 DA.04090544 102IAC



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

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.

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, Federal Insurance and Mitigation Division
Federal Emergency Management Agency, Region IX
1111 Broadway Street, Suite 1200
Oakland, CA 94607-4052
(510) 627-7103

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 Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

MHC 10 Cym

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

102426 DA.04090544 102IAC



Federal Emergency Management Agency

Washington, D.C. 20472

LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)

PUBLIC NOTIFICATION OF REVISION

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. Because all changes in BFE and the widths of the Special Flood Hazard Area, the area that would be inundated by the base (1-percent-annual-chance) flood, and the regulatory floodway are located on property owned by the Caterpillar Foundation in partnership with DMB White Tank, LLC, which hired the requester, Wood, Patel & Associates, Inc., this revision is effective as of the date of this letter. However, until the 90-day period has elapsed, the revised BFEs presented in this LOMR may be changed.

This information will be published in the *Federal Register* and your local newspaper as detailed below.

LOCAL NEWSPAPER

Name: *Buckeye Valley Newspaper*

Dates: 06/17/2004 06/24/2004

PUBLIC NOTIFICATION

FLOODING SOURCE	LOCATION OF REFERENCED ELEVATION	BFE (FEET NGVD)		MAP PANEL NUMBER(S)
		EFFECTIVE	REVISED	
Tuthill Dike Wash	Approximately 200 feet upstream of Thomas Road extended	1,177	1,168	04013C2055 F
	Approximately 200 feet upstream of Indian School Road extended	1,215	1,216	04013C2055 F
Tractor Wash	Approximately 200 feet upstream of confluence with Tuthill Dike Wash	1,216	1,210	04013C2055 F
	Approximately 1,000 feet upstream of confluence with Tuthill Dike Wash	1,216	1,218	04013C2055 F

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 Assistance Center toll free at 1-877-336-2677 (1-877-FEMA MAP) or by letter addressed to the LOMR Depot, 3601 Eisenhower Avenue, Alexandria, VA 22304. Additional information about the NFIP is available on our website at <http://www.fema.gov/nfip>.

MC 10 Lynn

Max H. Yuan, P.E., Project Engineer
Hazard Identification Section
Mitigation Division
Emergency Preparedness and Response Directorate

102426 DA.04090544 102IAC

CHANGES ARE MADE IN DETERMINATIONS OF BASE FLOOD ELEVATIONS FOR THE TOWN OF BUCKEYE, MARICOPA COUNTY, ARIZONA, UNDER THE NATIONAL FLOOD INSURANCE PROGRAM

On July 19, 2001, the Department of Homeland Security's Federal Emergency Management Agency identified Special Flood Hazard Areas (SFHAs) in the Town of Buckeye, Maricopa County, Arizona, through issuance of a Flood Insurance Rate Map (FIRM). The Mitigation Division has determined that modification of the elevations of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood) for certain locations in this community is appropriate. The modified Base Flood Elevations (BFEs) revise the FIRM for the community.

The changes are being made pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (Public Law 93-234) and are in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, Public Law 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65.

A hydraulic analysis was performed to incorporate the effects of placement of fill, a new culvert, and channelization and relocation of Tuthill Dike Wash from approximately 2,800 feet downstream of Thomas Road to approximately 1,600 feet upstream of Indian School Road, and channelization and relocation of Tractor Wash from the confluence with Tuthill Dike Wash to approximately 2,800 feet upstream. This has resulted in a revised delineation of the regulatory floodway, increases and decreases in SFHA width, and increased and decreased BFEs for both watercourses. The table below indicates existing and modified BFEs for selected locations along the affected lengths of the flooding source(s) cited above.

Location	Existing BFE (feet)*	Modified BFE (feet)*
Tuthill Dike Wash:		
Approximately 200 feet upstream of Thomas Road extended	1,177	1,168
Approximately 200 feet upstream of Indian School Road extended	1,215	1,216
Tractor Wash:		
Approximately 200 feet upstream of confluence with Tuthill Dike Wash	1,216	1,210
Approximately 1,000 feet upstream of confluence with Tuthill Dike Wash	1,216	1,218

*National Geodetic Vertical Datum, rounded to nearest whole foot

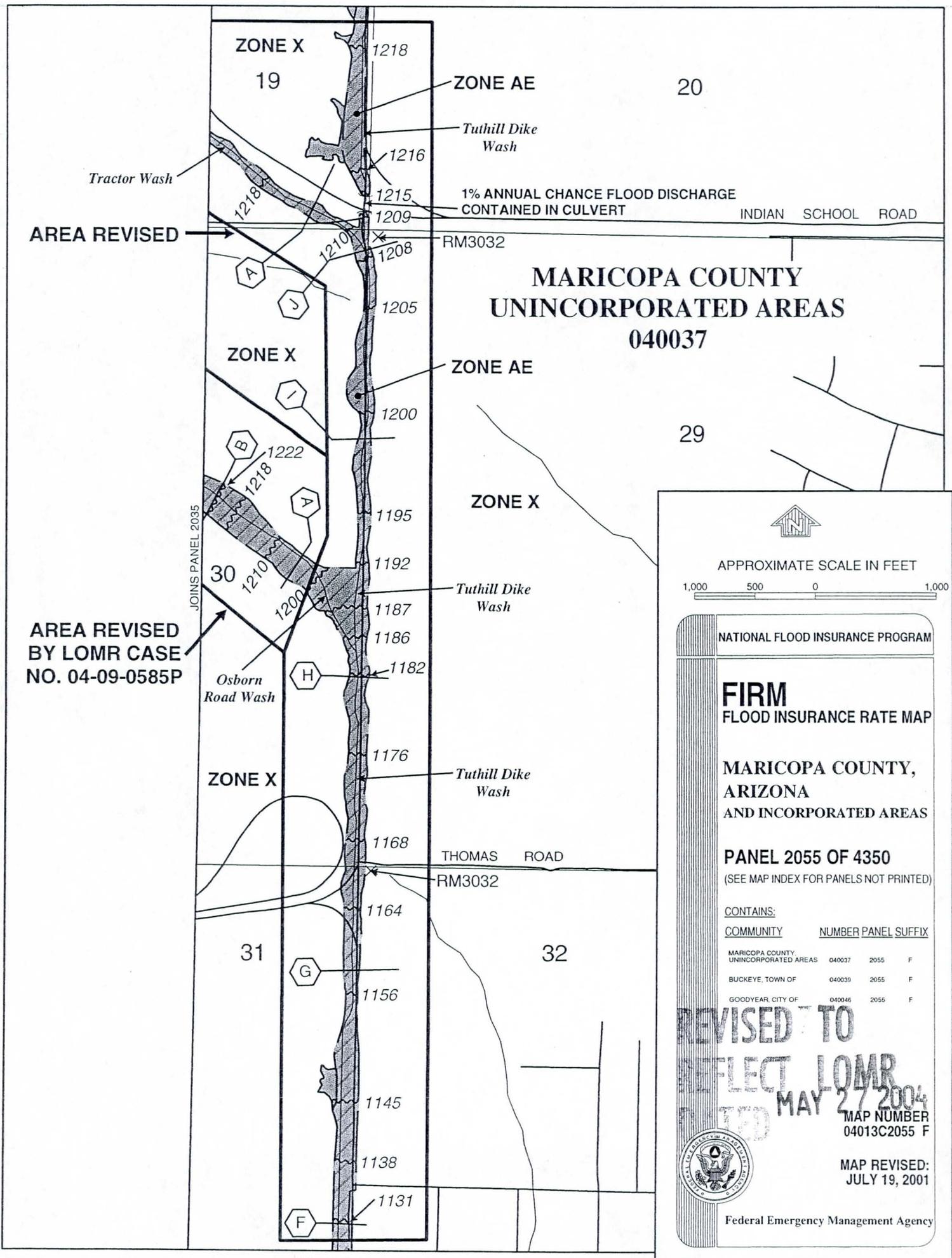
Under the above-mentioned Acts of 1968 and 1973, the Mitigation Division must develop criteria for floodplain management. To participate in the National Flood Insurance Program (NFIP), the community must use the modified BFEs to administer the floodplain management measures of the NFIP. These modified BFEs will also be used to calculate the appropriate flood insurance premium rates for new buildings and their contents and for the second layer of insurance on existing buildings and contents.

Upon the second publication of notice of these changes in this newspaper, any person has 90 days in which he or she can request, through the Chief Executive Officer of the community, that the Mitigation Division reconsider the determination. Any request for reconsideration must be based on knowledge of

changed conditions or new scientific or technical data. All interested parties are on notice that until the 90-day period elapses, the Mitigation Division's determination to modify the BFEs may itself be changed.

Any person having knowledge or wishing to comment on these changes should immediately notify:

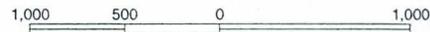
The Honorable Dusty Hull
Mayor, Town of Buckeye
100 North Apache Road, Suite A
Buckeye, AZ 85326



**MARICOPA COUNTY
UNINCORPORATED AREAS
040037**



APPROXIMATE SCALE IN FEET



NATIONAL FLOOD INSURANCE PROGRAM

**FIRM
FLOOD INSURANCE RATE MAP**

**MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS**

PANEL 2055 OF 4350
(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:

COMMUNITY	NUMBER	PANEL SUFFIX
MARICOPA COUNTY UNINCORPORATED AREAS	040037	2055 F
BUCKEYE, TOWN OF	040039	2055 F
GOODYEAR, CITY OF	040046	2055 F

**REVISED TO
REFLECT LOMR
MAY 27 2004**

MAP NUMBER
04013C2055 F



MAP REVISED:
JULY 19, 2001

Federal Emergency Management Agency

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY		INCREASE
						WITH FLOODWAY		
					(FEET NGVD)			
Tuthill Dike Wash								
A	0.186	113	391	10.4	1,043.7	1,043.7	1,043.2	-0.5
B	0.314	135	498	8.2	1,048.0	1,048.0	1,048.1	0.1
C	0.729	131	425	9.5	1,065.3	1,065.3	1,065.3	0.0
D	1.067	44	282	14.4	1,085.0	1,085.0	1,085.0	0.0
E	1.260	238	772	8.5	1,097.0	1,097.0	1,097.0	0.0
F	1.710	89	472	13.1	1,130.9	1,130.9	1,130.9	0.0
G	2.107	143	561	11.6	1,156.7	1,156.7	1,156.7	0.0
H	2.557	158	566	10.8	1,181.7	1,181.7	1,181.7	0.0
I	2.930	96	307	9.8	1,197.8	1,197.8	1,197.8	0.0
J	3.233	138	573	5.2	1,208.2	1,208.2	1,208.2	0.0
K	3.631	55	151	9.4	1,222.2	1,222.2	1,222.2	0.0
L	4.006	61	143	8.8	1,249.7	1,249.7	1,249.7	0.0
M	4.375	98	215	5.9	1,274.3	1,274.3	1,274.5	0.2
N	4.725	100	163	6.8	1,285.3	1,285.3	1,285.3	0.0

REVISED DATA

REVISED TO
REFLECT LOMR
DATED MAY 27 2004

¹Miles Above White Tanks Structure #4

T
A
B
L
E

5

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

TUTHILL DIKE WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	(FEET NGVD)		
						WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tractor Wash			REVISED DATA ↓					
A	0.099	125	348	4.7	1,212.0	1,212.0	1,212.0	0.0
B	0.396	52	160	10.6	1,231.0	1,231.0	1,231.0	0.0
C	0.720	83	198	6.5	1,249.8	1,249.8	1,250.3	0.5
D	0.985	53	139	9.3	1,273.8	1,273.8	1,273.8	0.0
E	1.463	210	186	5.1	1,330.1	1,330.1	1,330.1	0.0
F	1.755	59	115	8.2	1,332.5	1,332.5	1,332.5	0.0
G	2.173	74	116	4.1	1,369.3	1,369.3	1,369.3	0.0
H	2.428	56	96	4.9	1,394.4	1,394.4	1,394.4	0.0
I	2.717	24	56	8.5	1,451.9	1,451.9	1,451.9	0.0

REVISED TO
REFLECT LOMR
DATED MAY 27 2004

¹Miles Above Confluence With Tuthill Dike Wash

T
A
B
L
E
5

FEDERAL EMERGENCY MANAGEMENT AGENCY
MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA
TRACTOR WASH

JOINS PANEL 1570

22

23

24

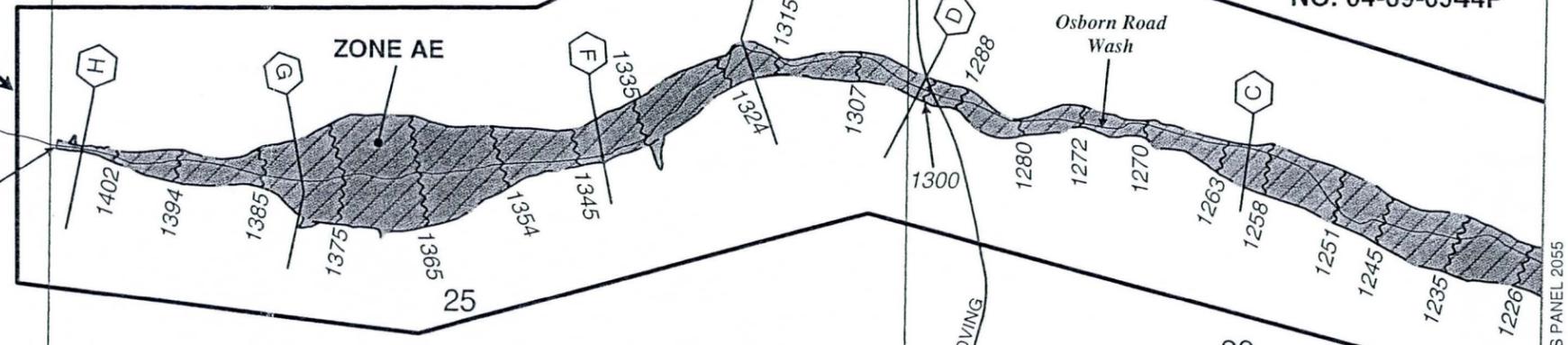
27

REVISED AREA

LIMIT OF DETAILED STUDY

AREA REVISED BY LOMR DATED MAY 20, 2003

AREA REVISED BY LOMR CASE NO. 04-09-0544P



26

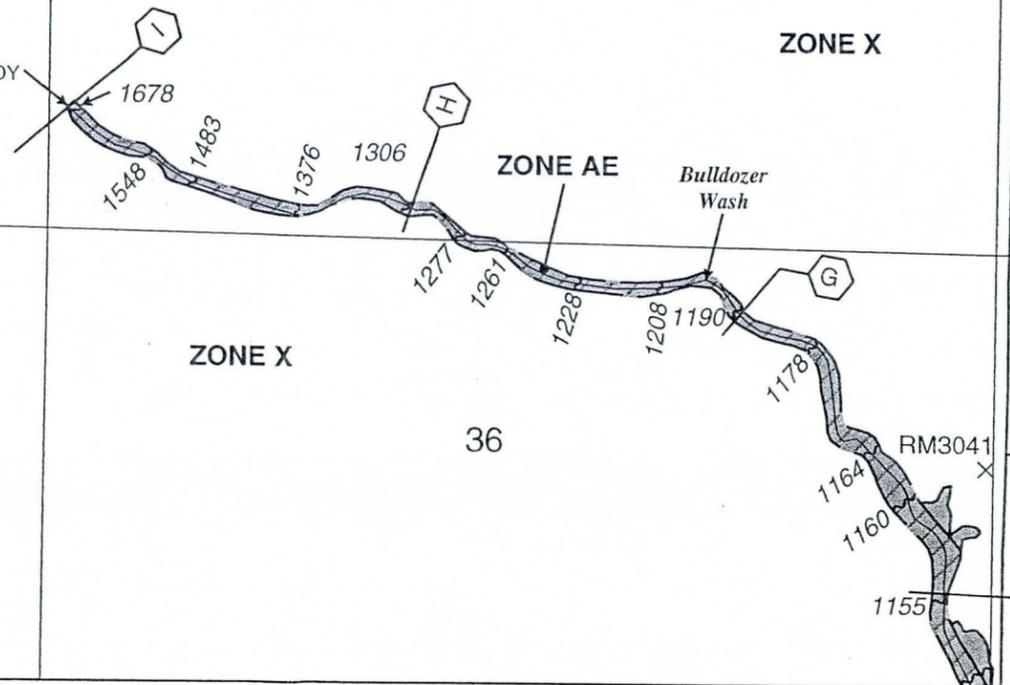
25

30

MARICOPA COUNTY
UNINCORPORATED AREAS
040037

WHITE TANKS
PROVING GROUND

LIMIT OF DETAILED STUDY



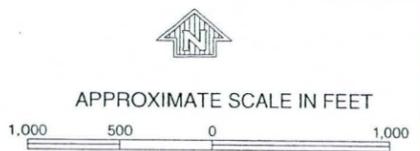
ZONE X

36

RM3041

31

35



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 2035 OF 4350
(SEE MAP INDEX FOR PANELS NOT PRINTED)

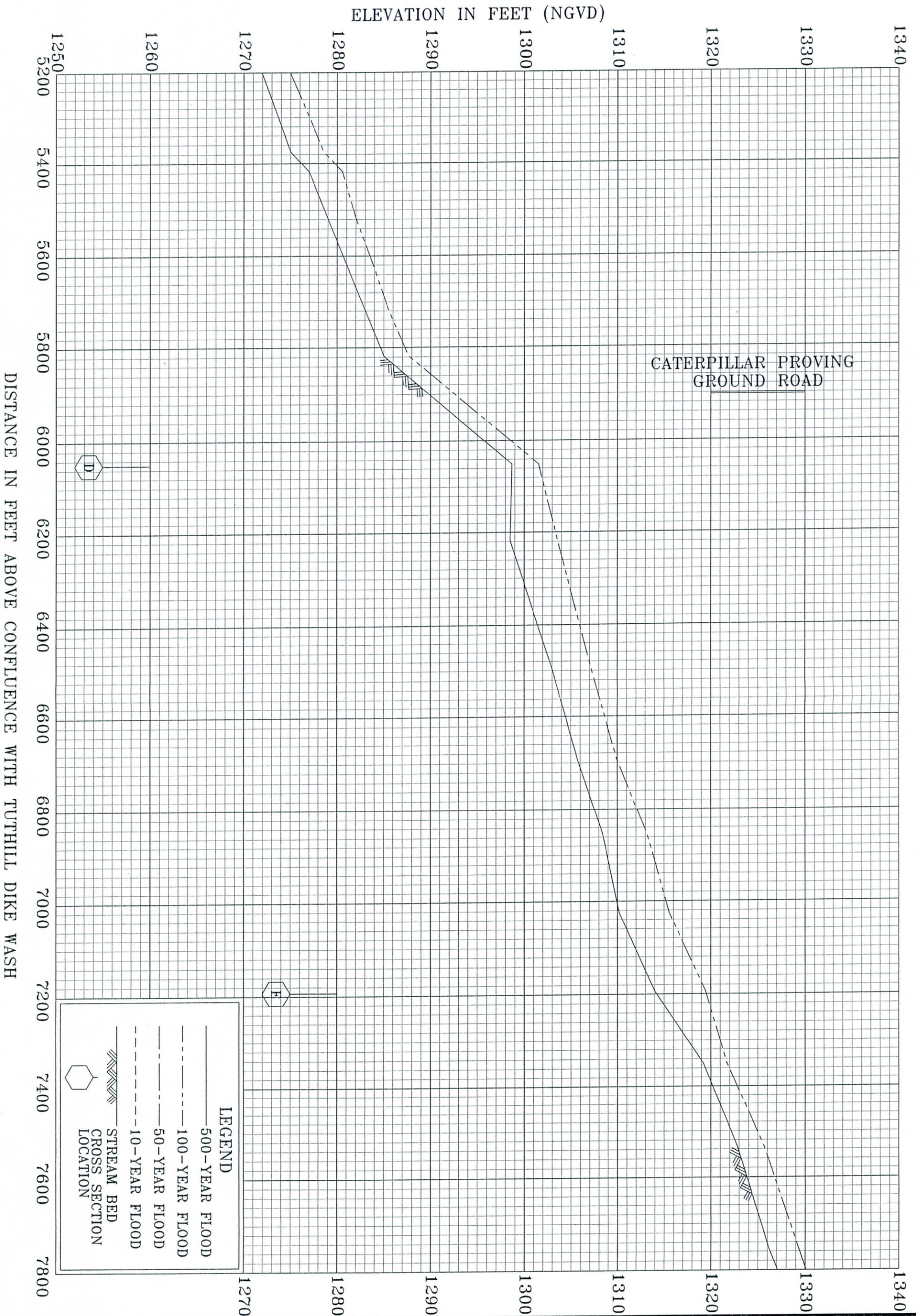
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
MARICOPA COUNTY UNINCORPORATED AREAS 040037 2035 G
BUCKEYE TOWN OF 040039 2035 G

REVISED TO REFLECT LOMR DATED MAY 27 2004

MAP NUMBER 04013C2035 G
MAP REVISED: JULY 19, 2001

Federal Emergency Management Agency

JOINS PANEL 2055

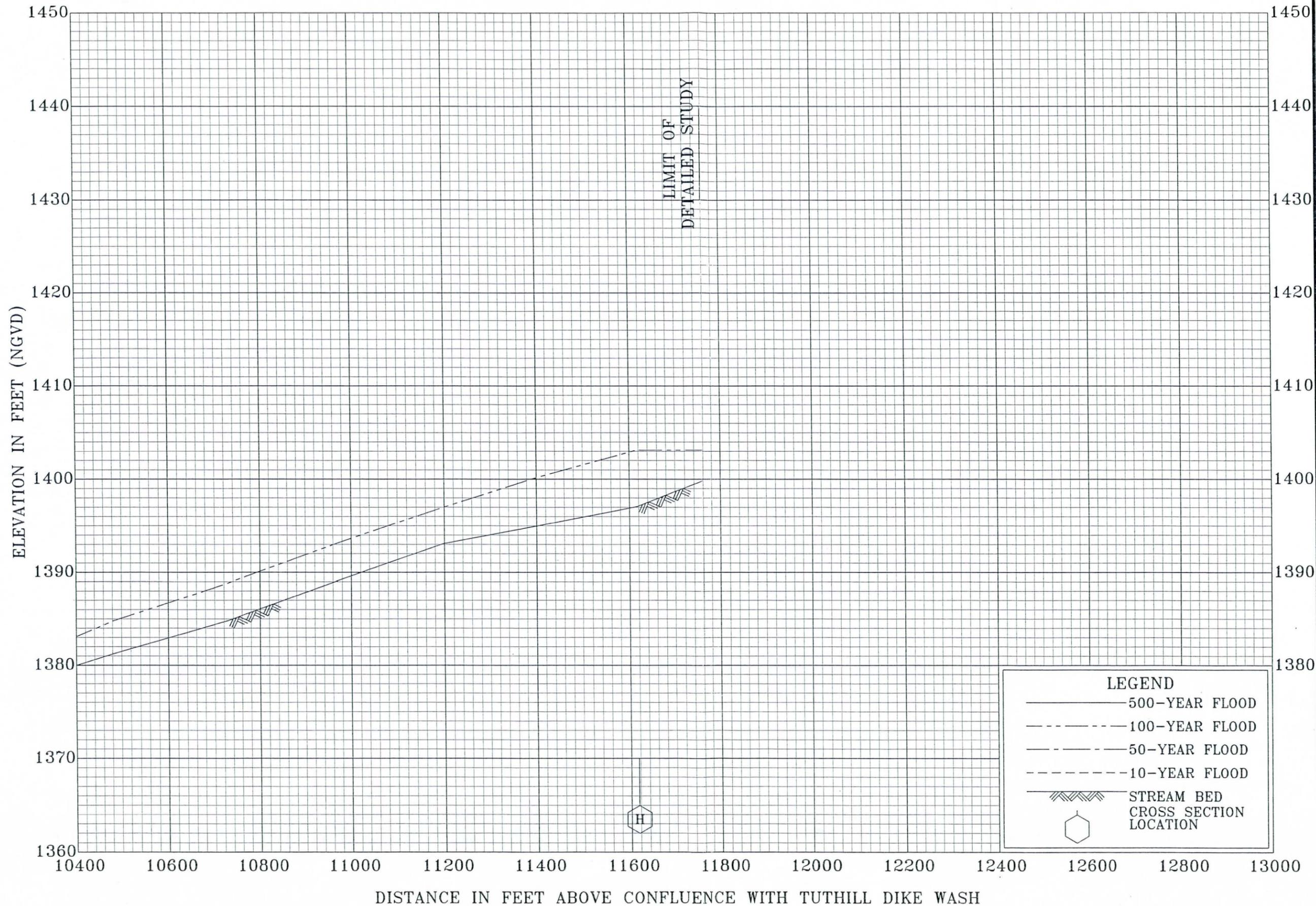


FEDERAL EMERGENCY MANAGEMENT AGENCY
 MARICOPA COUNTY, AZ
 AND INCORPORATED AREAS

645P

FLOOD PROFILES
 OSBORN ROAD WASH

REVISED TO
 REFLECT LOMR
 DATED MAY 27 2004



DISTANCE IN FEET ABOVE CONFLUENCE WITH TUTHILL DIKE WASH

LEGEND

- 500-YEAR FLOOD
- - - 100-YEAR FLOOD
- · - 50-YEAR FLOOD
- · · 10-YEAR FLOOD
- ▨ STREAM BED
- ⬡ CROSS SECTION LOCATION

FEDERAL EMERGENCY MANAGEMENT AGENCY
 MARICOPA COUNTY, AZ
 AND INCORPORATED AREAS

FLOOD PROFILES
 OSBORN ROAD WASH

REVISED TO
 REFLECT TO
 DATE MAY 27 200

647P