

DEPARTMENT OF HOMELAND SECURITY  
Federal Emergency Management Agency  
**RIVERINE HYDROLOGY & HYDRAULICS FORM (FORM 2)**

OMB Control Number: 1660-0016  
Expiration: 1/31/2024

**PAPERWORK BURDEN DISCLOSURE NOTICE**

Public reporting burden for this form is estimated to average 3.5 hours 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 it displays a valid OMB control number. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street, SW, Washington, DC 20472, Paperwork Reduction Project (1660-0016). 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.**

**PRIVACY ACT STATEMENT**

**AUTHORITY:** The National Flood Insurance Act of 1968, Public Law 90-448, as amended by the Flood Disaster Protection Act of 1973, Public Law 93-234.

**PRINCIPAL PURPOSE(S):** This information is being collected for the purpose of determining an applicant's eligibility to request changes to National Flood Insurance Program (NFIP) Flood Insurance Rate Maps (FIRM).

**ROUTINE USE(S):** The information on this form may be disclosed as generally permitted under 5 U.S.C § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA/NFIP/LOMA-1 National Flood Insurance Program (NFIP); Letter of Map Amendment (LOMA) February 15, 2006, 71 FR 7990.

**DISCLOSURE:** The disclosure of information on this form is voluntary; however, failure to provide the information requested may delay or prevent FEMA from processing a determination regarding a requested change to a (NFIP) Flood Insurance Rate Maps (FIRM).

Flooding Source: Tijeras Arroyo

**Note:** Fill out one form for each flooding source studied

**A. HYDROLOGY**

1. Reason for New Hydrologic Analysis (check all that apply):

- Not revised (skip to section B)    
  No existing analysis    
  Improved data  
 Alternative methodology    
  Proposed Conditions (CLOMR)    
  Changed physical condition of watershed

2. Comparison of Representative 1%-Annual-Chance Discharges

| Location | Drainage Area (Sq. Mi.) | Effective/FIS (cfs) | Revised (cfs) |
|----------|-------------------------|---------------------|---------------|
|          |                         |                     |               |

3. Methodology for New Hydrologic Analysis (check all that apply)

- Precipitation/Runoff Model → Specify Model: \_\_\_\_\_ Duration: \_\_\_\_\_ Rainfall Amount: \_\_\_\_\_  
 Statistical Analysis of Gage Records  
 Regional Regression Equations    
  Other (please attach description)

Please enclose all relevant models in digital format, maps, computations (including computation of parameters), and documentation to support the new analysis.

4. Review/Approval of Analysis

If your community requires a regional, state, or federal agency to review the hydrologic analysis, please attach evidence of approval/review.     4. HEC-RAS File Description\*\*:

5. Impacts of Sediment Transport on Hydrology

Is the hydrology for the revised flooding source(s) affected by sediment transport?      Yes      No

If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation.

## B. HYDRAULICS

1. Reach to be Revised

|                   | Description               | Cross Section | Water-Surface Elevation (ft.) |                  |
|-------------------|---------------------------|---------------|-------------------------------|------------------|
|                   |                           |               | Effective                     | Proposed/Revised |
| Downstream Limit* | Kirtland Air Force Base   | 2.9           | 5389.00                       | 5389.00          |
| Upstream Limit*   | 550 lf US of Juan Tabo Rd | 46            | 5471.32                       | 5471.48          |

\*Proposed/Revised elevations must tie-into the Effective elevations within 0.5 foot at the downstream and upstream limits of revision.

2. Hydraulic Method/Model Used: HEC-RAS v5.0.7

Steady State     Unsteady State     One-Dimensional     Two-Dimensional

3. Pre-Submittal Review of Hydraulic Models\*

DHS-FEMA has developed two review programs, CHECK-2 and CHECK-RAS, to aid in the review of HEC-2 and HEC-RAS hydraulic models, respectively. We recommend that you review your HEC-2 and HEC-RAS models with CHECK-2 and CHECK-RAS.

4. HEC-RAS File Description\*\*:

| Models Submitted                         | Natural Run    |                     | Floodway Run   |             | Datum  |
|--|----------------|---------------------|----------------|-------------|--------|
| Duplicate Effective Model*               | File Name:     | Plan Name:          | File Name:     | Plan Name:  |        |
|  | TijerasArroyo  | Duplicate Effective | TijerasArroyo  | Dup Eff FW  | NGVD29 |
| Corrected Effective Model*               | File Name:     | Plan Name:          | File Name:     | Plan Name:  |        |
|  | Tijeras Arroyo | Corrected Effective | Tijeras Arroyo | Corr Eff FW | NAVD88 |
| Existing or Pre-Project Conditions Model | File Name:     | Plan Name:          | File Name:     | Plan Name:  |        |
|  |                |                     |                |             |        |
| Revised or Post-Project Conditions Model | File Name:     | Plan Name:          | File Name:     | Plan Name:  |        |
|  | Tijeras Arroyo | As-Built            | Tijeras Arroyo | As-Built FW | NAVD88 |
| Other - (attach description)             | File Name:     | Plan Name:          | File Name:     | Plan Name:  |        |
|  |                |                     |                |             |        |

\* For details, refer to the corresponding section of the instructions.

\*\*See instructions for information about modeling other than HEC-RAS.  Digital Models Submitted? (Required)

## C. MAPPING REQUIREMENTS

A **certified topographic work map** must be submitted showing the following information (where applicable): the boundaries of the effective, existing, and proposed conditions 1%-annual-chance floodplain (for approximate Zone A revisions) or the boundaries of the 1%- and 0.2%-annual-chance floodplains and regulatory floodway (for detailed Zone AE, AO, and AH revisions); location and alignment of all cross sections with stationing control indicated; stream, road, and other alignments (e.g., dams, levees, etc.); current community easements and boundaries; boundaries of the requester's property; certification of a registered professional engineer registered in the subject State; location and description of reference marks; and the referenced vertical datum (NGVD, NAVD, etc.).

Topographic Information:

Digital Mapping (GIS/CADD) Data Submitted (preferred)

Source: Field Survey

Date: Jan 1, 2018

Vertical Datum: NAVD88

Spatial Projection: NAD83 - New Mexico Central (us-ft)

Accuracy: 1 ft

Note that the boundaries of the existing or proposed conditions floodplains and regulatory floodway to be shown on the revised FIRM and/or FBFM must tie-in with the effective floodplain and regulatory floodway boundaries. Please attach a **copy of the effective FIRM and/or FBFM**, at the same scale as the original, annotated to show the boundaries of the revised 1%-and 0.2%-annual-chance floodplains and regulatory floodway that tie-in with the boundaries of the effective 1%-and 0.2%-annual-chance floodplain and regulatory floodway at the upstream and downstream limits of the area on revision.

Annotated FIRM and/or FBFM (Required)

**D. COMMON REGULATORY REQUIREMENTS\***

1. For LOMR/CLOMR requests, do Base Flood Elevations (BFEs) or Special Flood Hazard Areas (SFHAs) increase compared to the effective BFEs?  Yes  No
- If Yes, please attach **proof of property owner notification**. Examples of property owner notifications can be found in the MT-2 Form 2 Instructions.
2. For CLOMR requests, if either of the following is true, please submit **evidence of compliance with Section 65.12 of the NFIP regulations**:
- The proposed project encroaches upon a regulatory floodway and would result in increases above 0.00 foot compared to pre-project conditions.
  - The proposed project encroaches upon a SFHA with or without BFEs established and would result in increases above 1.00 foot compared to pre-project conditions.
3. Does the request involve the placement or proposed placement of fill?  Yes  No
- If Yes, the community must be able to certify that the area to be removed from the special flood hazard area, to include any structures or proposed structures, meets all of the standards of the local floodplain ordinances, and is reasonably safe from flooding in accordance with the NFIP regulations set forth at 44 CFR 60.3(A)(3), 65.5(a)(4), and 65.6(a)(14). Please see the MT-2 instructions for more information.
4. Does the request involve the placement or proposed placement of fill?  Yes  No
- If Yes, attach **evidence of regulatory floodway revision notification**. As per Paragraph 65.7(b)(1) of the NFIP Regulations, notification is required for requests involving revisions to the regulatory floodway Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.
5. For CLOMR requests, please submit documentation to FEMA and the community to show that you have complied with Sections 9 and 10 of the Endangered Species Act (ESA). For actions authorized, funded, or being carried out by Federal or State agencies, please submit documentation from the agency showing its compliance with Section 7(a)(2) of the ESA. Please see the MT-2 instructions for more detail.