



*A healthy watershed  
that meets the water  
needs of all users*

# Carson Water Subconservancy District Board of Directors Meeting June 21, 2023 Supplemental Materials

Material provided by staff to CWSD Board of Directors on June 15, 2023:

- Item 17 For Possible Action: Approval of Agreement #2023-15 – HDR Engineering -Pinenut Creek LOMR (FEMA Response), not to exceed \$6,784:

See attached FEMA Letter dated 3/29/23 to HDR re: Pinenut LOMR Required Data.

Supplemental materials posted in accordance with NRS 241.020.



NATIONAL FLOOD INSURANCE PROGRAM  
FEMA PRODUCTION AND TECHNICAL SERVICES CONTRACTOR

March 29, 2023

Mitch Blum, P.E., CFM  
Water Resources Engineer  
HDR Engineering  
7740 North 16<sup>th</sup> Street  
Phoenix, AZ 85020

IN REPLY REFER TO:  
Case No.: 22-09-0913P  
Community: Douglas County, NV  
Community No.: 320008

316-AD

Dear Blum:

This responds to your request dated March 23, 2022, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a revision to the Flood Insurance Rate Map (FIRM) for Douglas County, Nevada and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Pinenut LOMR
Flooding Sources:	Pinenut Creek, Fish Springs Creek, Cody Wash, Pinenut Creek Tributary, Cody Wash Tributary and Sheena Terrace Wash
FIRM Panels Affected:	32005C0286G, 32005C0267G, 32005C0259H, 32005C0258H, 32005C0266G, 32005C0254H and 32005C0265G

The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed on the enclosed summary.

If we do not receive the required data within 90 days, we will suspend our processing of your request. Any data submitted after 90 days will be treated as an original submittal and will be subject to all submittal/payment procedures, including the flat review and processing fee for requests of this type established by the current fee schedule. A copy of the notice summarizing the current fee schedule, which was published in the *Federal Register*, is enclosed for your information.

FEMA receives a very large volume of requests and cannot maintain inactive requests for an indefinite period of time. Therefore, we are unable to grant extensions for the submission of required data/fee for revision requests. If a requester is informed by letter that additional data are required to complete our review of a request, the data/fee **must** be submitted within 90 days of the date of the letter. Any fees already paid will be forfeited for any request for which the requested data are not received within 90 days.

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STARR II, under contract with the FEDERAL EMERGENCY MANAGEMENT AGENCY, is a  
Production and Technical Services Contractor for the National Flood Insurance Program

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program, please call the FEMA Mapping and Insurance eXchange (FMIX), toll free, at 1-877-FEMA MAP (1-877-336-2627). If you have specific questions concerning your request, please contact your case reviewer, Arslan Khalid, CFM by e-mail at arslan.khalid@atkinsglobal.com or by telephone at (240) 264-8033, or the Revisions Coordinator for your request, Preetham Thotakuri, P.E., CFM, at Preetham.Thotakuri@atkinsglobal.com or at (919) 431-5275.

Sincerely,

A handwritten signature in black ink that reads "Daven Patel". The signature is written in a cursive, slightly slanted style.

Daven Patel, P.E., CFM  
Revisions Manager  
STARR II

cc: Tom Dallaire  
Douglas County Community Director & Floodplain Administrator  
Douglas County



# NATIONAL FLOOD INSURANCE PROGRAM

FEMA PRODUCTION AND TECHNICAL SERVICES CONTRACTOR

March 29, 2023

## Summary of Additional Data Required to Support a Letter of Map Revision (LOMR)

Case No.: 22-09-0913P

Requestor: Mitch Blum, P.E., CFM

Community: Douglas County, NV

Community No.: 320008

The issues listed below must be addressed before we can continue the review of your request.

1. Our review of the historic FIRM panels 32005C0259F, 320005C0259G and effective FIRM panel 32005C0259H shows only 1-percent-annual chance floodplain (Zone AE) delineation for Fish Springs Creek with no separate floodway limits/delineation. However, our review of the historic (November 8, 1999 & January 20, 2010) and effective flood insurance study (June 15, 2016) reports show that floodway analysis has been performed for the Fish Springs creek (see screenshot below). Also, floodway data table for the fish springs creek has also been added to each of the flood insurance study report mentioned above. Please provide the revised floodway hydraulic model for the Fish Springs Creek.

Encroachment into areas subject to inundation by floodwaters having hazardous velocities aggravates the risk of flood damage and heightens potential flood hazards by further increasing velocities. A listing of stream velocities at selected cross sections is provided in Table 10, "Floodway Data." To reduce the risk of property damage in areas where the stream velocities are high, the community may wish to restrict development in areas outside the floodway.

Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplains will not cause more than a 1.0-foot increase in the BFEs at any point within the county.

Floodways were developed originally for Airport Wash, Bobwhite Wash, Buckeye Creek, Calle Hermosa Wash, Cody Wash, Fish Springs Creek, Juniper Road Wash, Pine Nut Creek Tributary, Pine Nut Road Wash and Sunrise Pass Wash.

Prior revisions added floodways to Carson River, Clear Creek and East Fork Carson River. The floodways for the Carson River and Clear Creek extend beyond the limits of Douglas County.

**Figure 1:** Effective FIS outlining the flooding sources with the floodway development

2. Please provide the revised HEC-HMS model with the correct curve numbers for all sub-basins (to avoid any discrepancy between the curve number calculations sheet and curve number values

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imported with in the HEC-HMS model) which eventually should be utilized for obtaining excess precipitation.

3. Our review of the updated TSDN report shows the HEC-HMS model submitted for the modeling hydrology is in version 4.4, however digital copy of the HEC-HMS shows the model is in version 4.8. Please update the TSDN report to match the version of digital HEC-HMS model used for modeling the hydrology i.e., version 4.8.
4. HEC-RAS 2D (Rain-On-Grid) model does not contain all of the files and results provided in the previous submittal. Please review this model, ensure all data is provided, and clean-up the model as necessary so that verification can be completed on range of inconsistencies. The updated Rain-On-Grid model should be submitted and used as the final model for flow extraction. Please also update the hydraulics model used for the mapping of special flood hazard areas and TSDN report results section accordingly.
5. Please provide the proof of the stochastic results validation as a justification for selecting 24 hour duration storm event as a controlling event. Also, please provide the sensitivity analysis that the 24-hour storm event is the most conservative event is needed to verify the selected storm duration.
6. Please provide the annotated floodway data table for Fish Springs Creek, Cody Wash & Pinenut Creek Tributary and annotated FIS profiles for all of the flooding sources for base flood event and 0.2-percent-annual chance event (where applicable). Please refer to page 22, 23 of the floodway analysis and mapping guidance (December 2020 - [https://www.fema.gov/sites/default/files/documents/fema\\_floodway-analysis-and-mapping.pdf](https://www.fema.gov/sites/default/files/documents/fema_floodway-analysis-and-mapping.pdf)) and screenshot below for the calculation of floodway surcharges along the evaluation lines.

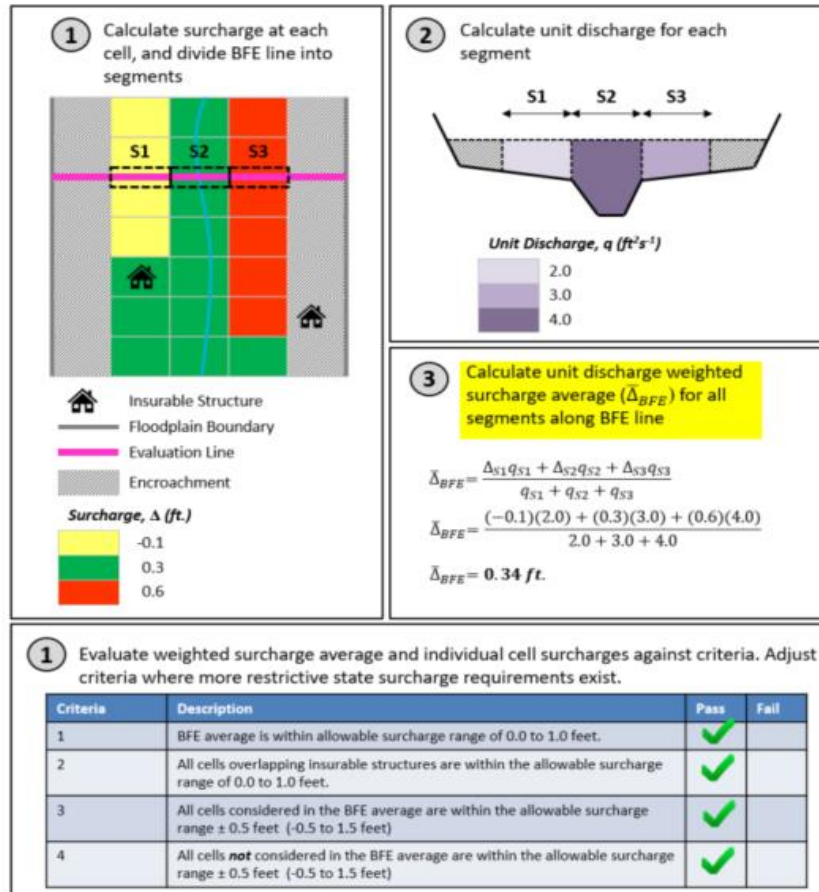


Figure 9: Example of surcharge averaging across an evaluation line for a floodway analysis performed using a 2D model

Figure 2: Surcharges calculation methodology for 2D Evaluation Lines

7. Our review found that the submitted existing conditions base floodplain contains numerous areas of disconnected flooding, numerous small dry islands, and rough edges. Inundated areas mapped in the base floodplain should have clear inflows and outflows. Furthermore, small dry areas within the floodplain should be removed. Please smooth the submitted base floodplain delineation to allow for easier interpretation on the final Flood Insurance Rate Maps for this area. Please also make sure revised floodplain ties-in with the effective floodplain at upstream and downstream end of revision areas for all revised reaches.
8. Please submit the annotated FIRM panels at the scale of the effective FIRM panels which shows the tie-ins at both upstream and downstream ends of the effective and revised base (1-percent-annual-chance) floodplain, regulatory floodway, and the 0.2-percent-annual-chance floodplains.
9. Please submit a revised topographic work map, certified by a registered professional engineer, that shows all applicable items listed in Section C of Application/Certification Form 2, entitled "Riverine Hydrology & Hydraulics Form," including the following information:
  - a. Boundary delineations of the existing conditions base (1-percent-annual-chance) floodplain,

- b. 0.2-percent-annual-chance floodplain, and regulatory floodway
  - b. Boundary delineations of the currently effective base floodplain, 0.2-percent-annual-chance floodplain, and regulatory floodway
  - c. Logical tie-ins between the revised and effective flood hazard boundary delineations
  - d. Topographic contour information used for the boundary delineations of the base floodplain and 0.2 percent annual chance floodplain
  - e. The flow line (significant flow paths in case of 2D models) used in the hydraulic model
  - f. Certification by a registered professional engineer; and
  - g. Reference to a datum, such as the North American Vertical Datum of 1988 (NAVD 88).
10. Please provide digital GIS data for the above-referenced topographic work map. Please ensure the digital data are spatially referenced and cite what projection (coordinate system, example: UTM/State Plane) was used, so that the data may be used for accurate mapping.
11. Please submit a copy of the public notice distributed by Douglas County stating their intent to revise the regulatory floodway or provide a statement that County officials have notified all affected property owners, in compliance with Paragraph 65.7 (b)(1) of the National Flood Insurance Program regulations. These notices must include the extent of revision, the changes to the regulatory floodway, and contact information for any interested parties
12. Please submit documentation of the individual legal notices that were sent to property owners who are affected by any increases in width and/or shifting of the floodplain of the flood having a 1-percent chance of being equaled or exceeded in any given year (base flood). Legal notice may take the form of certified mailing receipts or certification that all property owners have been notified, with an accompanying mailing list and a copy of letter sent. Examples of individual notices can be found on pages 20 through 23 of the instructions for the MT-2 application/certification forms. You may submit a draft copy of the notification letters to us for verification prior to distribution of the notification.

Please send the required data and/or fee directly to us at the address shown at the bottom of the first page attention to Arslan Khalid, CFM STARR II. For identification purposes, please include the case number referenced above on all correspondence.