



FEMA



compass
Identify, Interpret, Integrate

National Flood Insurance Program

2020 UFSMA MT-2 Presentation

October 2020

Henry Poburka, E.I., CFM – Compass (CDM Smith)

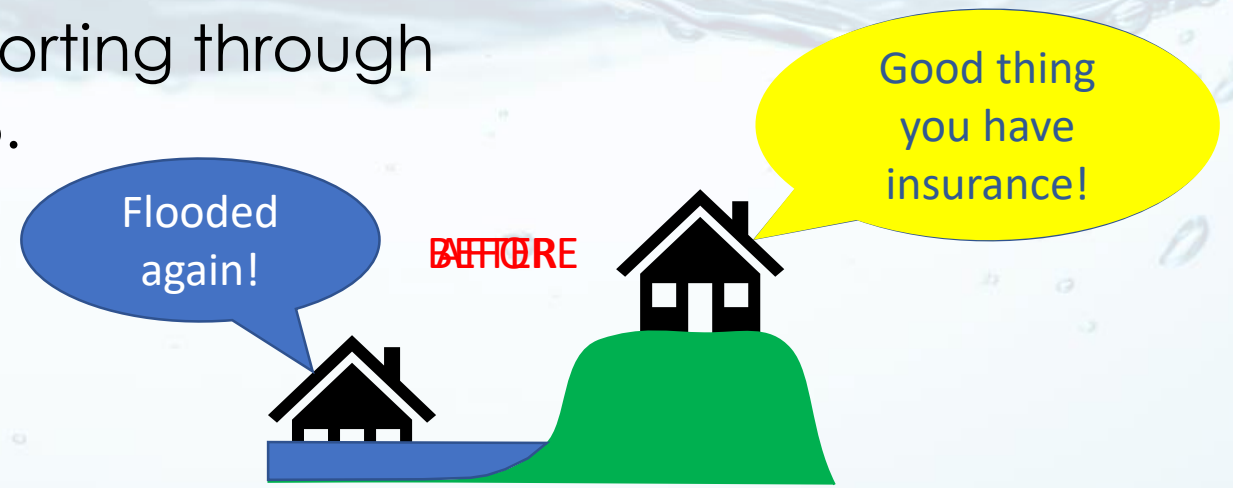
Presentation Overview

- National Flood Insurance Program (NFIP)
- Revisions
 - LOMRs
 - CLOMRs
 - PMRs
- Standards, Regulations, and Enforcement
- Obtaining Flood Hazard Data
- Submitting an MT-2
- FEMA Review Process and Determination
- Common Mistakes / Lessons Learned

National Flood Insurance Program (NFIP)

NFIP Background

- **1968:** National Flood Insurance Act creates NFIP with goal to shift the cost of disasters from tax payers to individual homeowners, and to take the emphasis off of structural flood control and disaster relief.
- Program has been self supporting through premium income since 1986.



National Flood Insurance Program (NFIP)

How does it work?

- Mutual agreement between FEMA and participating communities.
- Federally backed flood insurance available in return for communities regulating development in floodplains.
- Mandatory purchase requirement for Federally backed mortgages in mapped floodplains.



National Flood Insurance Program (NFIP)

Insurance

- Required for all residential/commercial structures within the SFHA, with Federally backed mortgages.
- Available to all residential and commercial structures in participating communities.



National Flood Insurance Program (NFIP)

Regulation

When FEMA provides flood hazard information for communities to regulate with, the community is required to adopt a floodplain management ordinance which meets or exceeds the minimum NFIP requirements.

Ordinance level is determined by the data adopted and is defined by CFR 44: §60.3:

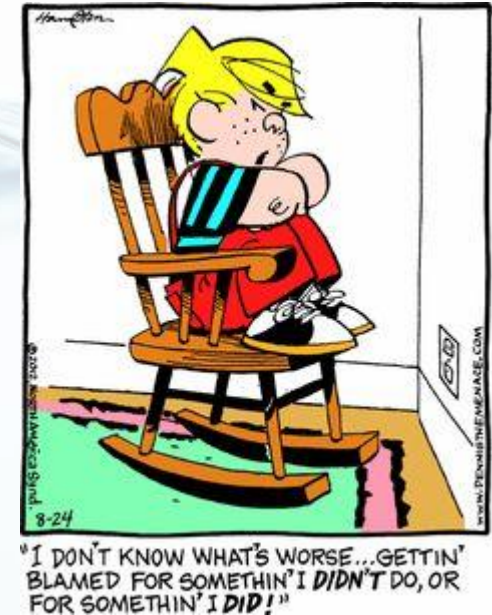
- a) No maps or data provided
- b) Approximate A Zones determined
- c) Detailed AE Zones with BFEs determined
- d) Detailed AE with Floodway determined
- e) Coastal high hazard zones (V Zones) determined

Communities: Contact your state NFIP coordinator for additional information and sample ordinances

National Flood Insurance Program (NFIP)

Regulation

- Permit requirements for floodplain development activity
- Failure to enforce regulations can lead to suspension from NFIP
 - Flood insurance will not be made available
 - Loss of eligibility for many Federal grants and loans for acquisition or construction in flood hazard areas
 - No Federal disaster assistance provided for insurable homes in identified floodplains



Flood Insurance Study Report

- **Community Narrative**

- Background information on area studied (i.e. purpose of study, historic flooding, community description)
- Hydrologic and hydraulic engineering methods
- Floodplain management application

- **Tables summarizing flood data**

- Floodway Data Table
- Summary of Discharges Table
- Vertical Datum Conversions

- **Flood Profiles**

- Detailed flood elevation data

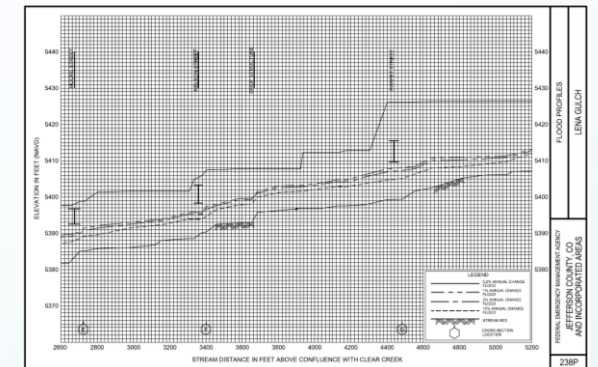
FLOODING SOURCE	CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET PER SECOND)	BASE FLOOD WATER SURFACE ELEVATION (FEET NAVD)			
						REGULATORY FLOODWAY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LENA GULCH	A	531	64	423	7.2	5367.7	5367.7	5367.7	0.0
	B	718	97	736	3.8	5371.8	5371.8	5371.8	0.0
	C	1,207	180	667	3.8	5381.5	5381.5	5381.5	0.0
	D	2,154	26	263	7.6	5381.3	5381.3	5381.3	0.0
	E	2,222	45	241	8.8	5381.3	5381.3	5381.3	0.0
	F	3,309	94	439	5.8	5387.3	5387.3	5387.3	0.0
	G	4,462	44	318	6.8	5408.1	5408.1	5408.1	0.0
	H	5,369	112	396	6.8	5419.2	5419.2	5419.2	0.0
	I	6,417	100	292	6.8	5427.8	5427.8	5427.8	0.0
	J	7,441	173	320	3.6	5438.8	5438.8	5438.8	0.0
	K	8,198	208	400	4.1	5443.5	5443.5	5443.5	0.0
	L	9,225	85	210	6.1	5451.5	5451.5	5451.5	0.0
	M	9,945	85	300	6.8	5453.4	5453.4	5453.4	0.0
	N	10,578	85	175	11.0	5470.0	5470.0	5470.0	0.0
	O	11,220	32	221	8.7	5478.4	5478.4	5478.4	0.0
	P	11,910	45	175	11.1	5485.5	5485.5	5485.5	0.0
RA	37,865	56	193	11.4	5627.6	5627.6	5627.6	0.0	
RY	37,590	59	198	12.3	5628.6	5628.6	5628.6	0.0	
RAZ	37,544	34	168	12.5	5642.7	5642.7	5642.7	0.0	
CA	38,752	62	206	9.1	6024.8	6024.8	6024.8	0.0	
CB	38,341	62	236	8.6	6024.8	6024.8	6024.8	0.0	
CC	38,935	80	195	8.5	6029.8	6029.8	6029.8	0.1	
CD	40,580	80	217	8.8	6037.4	6037.4	6037.4	0.0	
CE	41,000	22	135	14.1	6053.7	6053.7	6053.7	0.0	

* Stream distance in feet above confluence with Clear Creek

FEDERAL EMERGENCY MANAGEMENT AGENCY	FLOODWAY DATA
JEFFERSON COUNTY, CO (And Incorporated Areas)	LENA GULCH

Table 3: Summary of Discharges

Flooding Source and Location	Drainage Area (Square miles)	10-percent	2-percent	1-percent	0.2-percent
AIRPORT CREEK					
At confluence with Big Dry Creek	2.39	550	1,250	1,590	2,860
At confluence with North Branch Airport Creek	1.06	350	780	850	1,491
At upstream study limit	0.43	340	690	815	1,348
APEX GULCH					
At confluence with Lena Gulch	1.47	390	680	830	1,250
BEAR CREEK					
Below Mt. Carbon Dam	500	1,000	1,000	2,000	2,000
Below confluence with Mount Vernon Creek	174.00	2,270	8,410	14,000	41,400
At USGS Gage at Morrison	164.00	2,180	8,140	13,500	39,900
Below confluence with Sawmill gulch	158.00	1,930	6,750	10,800	30,500
Below confluence with Swede Gulch	146.00	1,710	5,850	9,500	25,000
Above confluence with Myers Gulch	139.00	1,660	5,350	8,500	22,500
Above confluence with Troublesome Creek	126.00	1,390	4,500	7,100	17,500
Above confluence with Buffalo Creek	96.00	950	2,780	4,200	9,500
At Western Jefferson County Line	85.00	800	2,250	3,250	7,050
Below confluence with Mount Vernon Creek	174.00	2,270	8,410	14,000	41,400
Above confluence with Mount Vernon Creek	164.00	2,180	8,140	13,500	39,900
USGS Gage No. 067105					
BEAR CREEK TRIBUTARY NO. 1					
At mouth	0.39	145	385	510	980
At upstream limit of detailed study	0.14	45	115	155	285



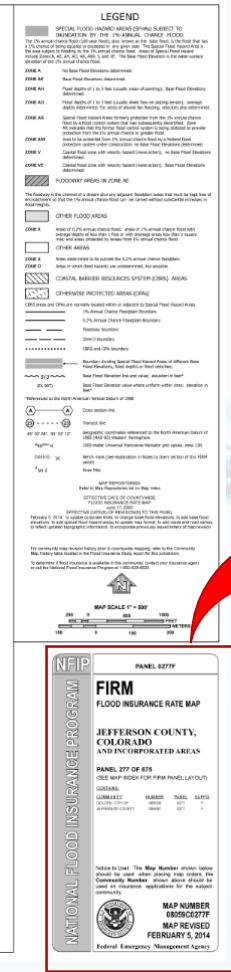
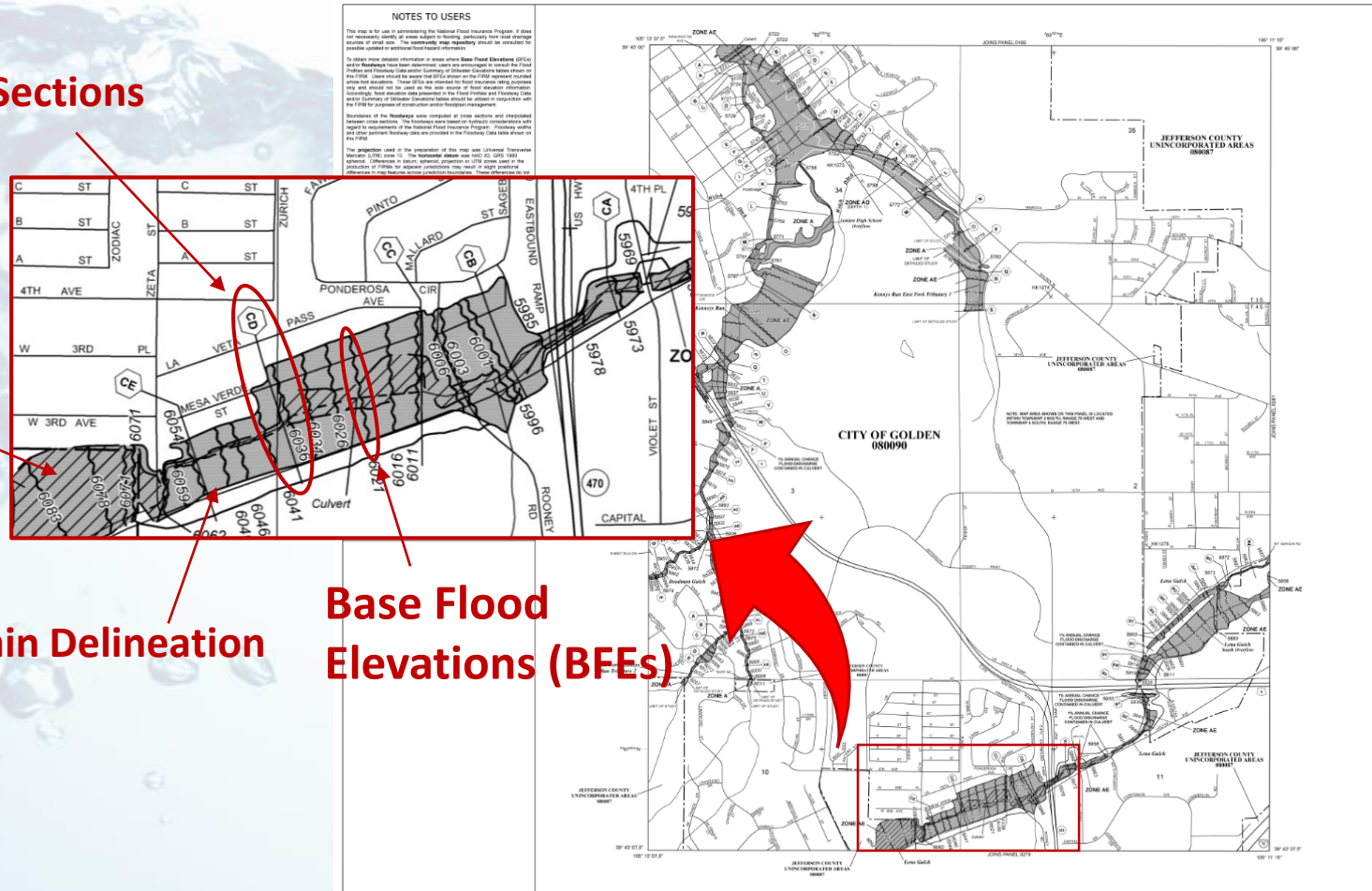
Flood Insurance Rate Map (FIRM)

Cross Sections

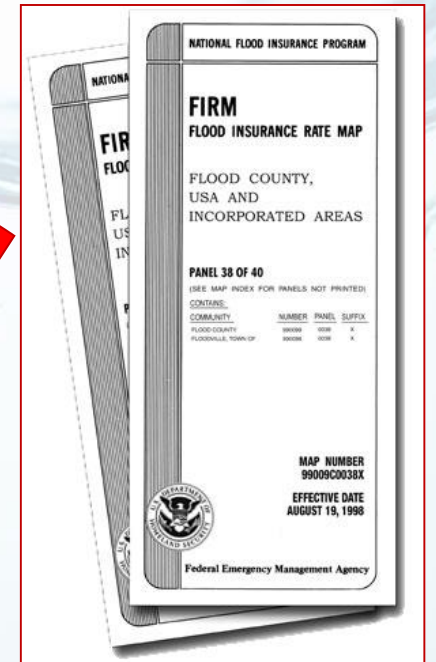
Floodways

Floodplain Delineation

Base Flood Elevations (BFEs)



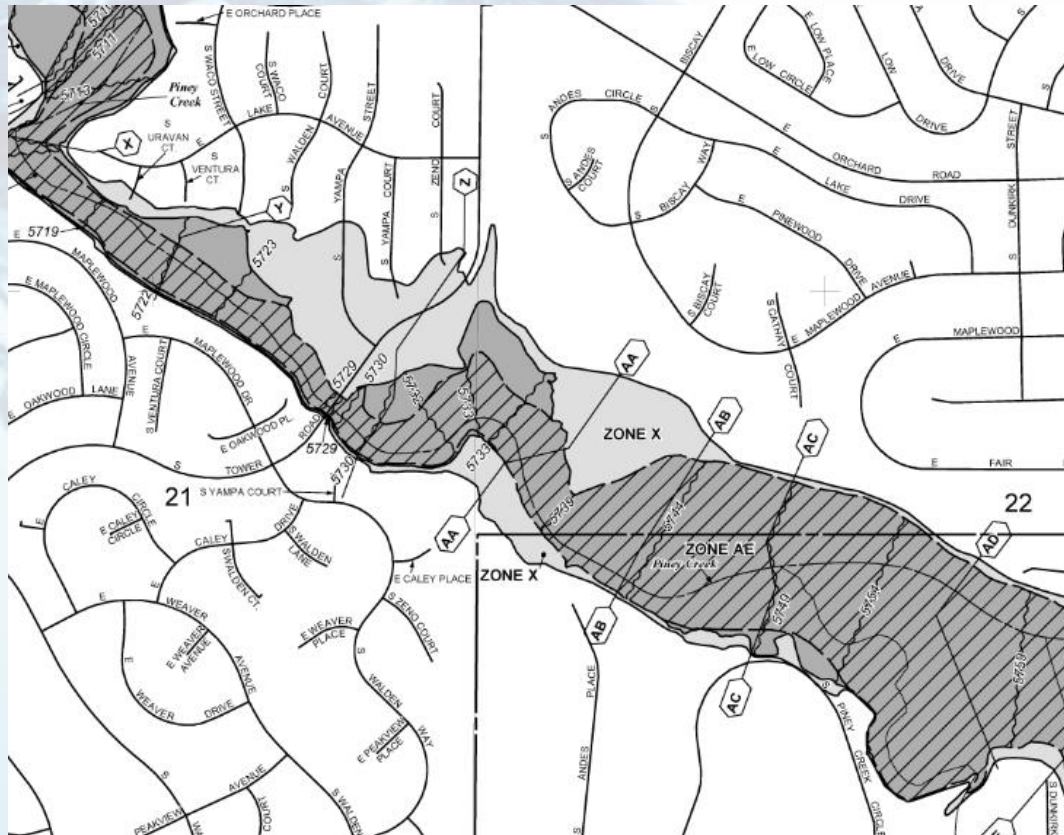
Community Information



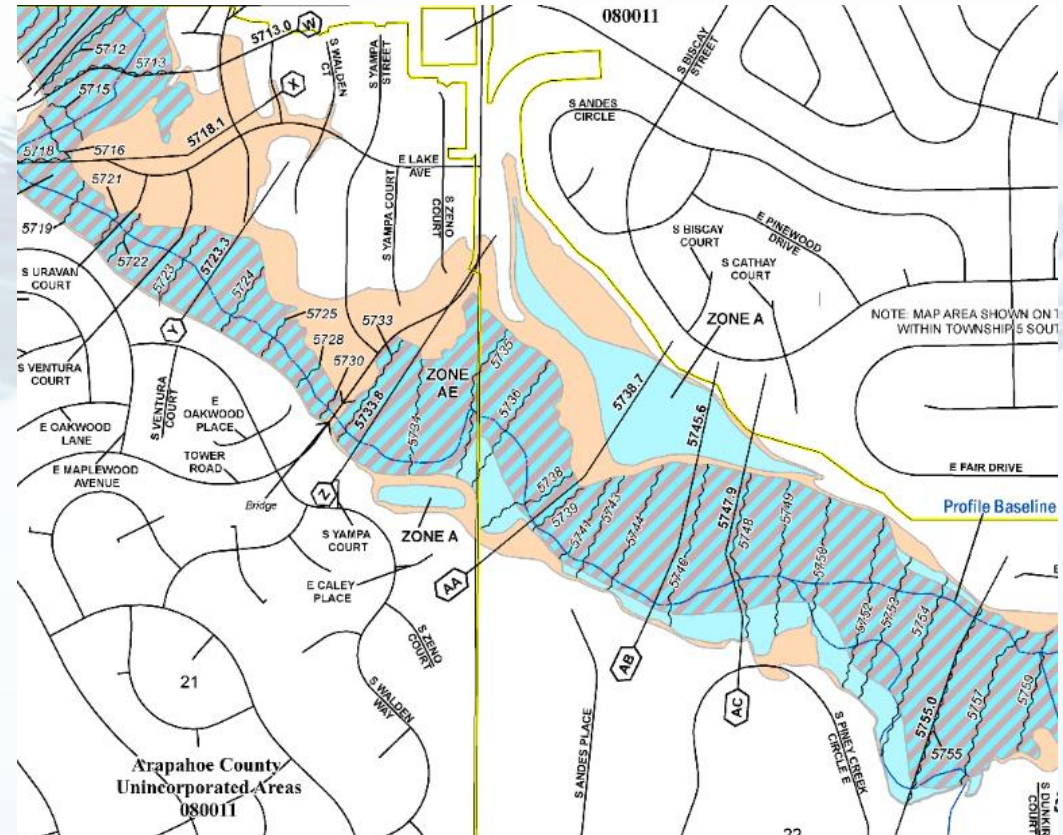
NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data Submitting MT-2s • FEMA Review Process • Common Mistakes

Flood Insurance Rate Map (FIRM)

Old Format FIRM

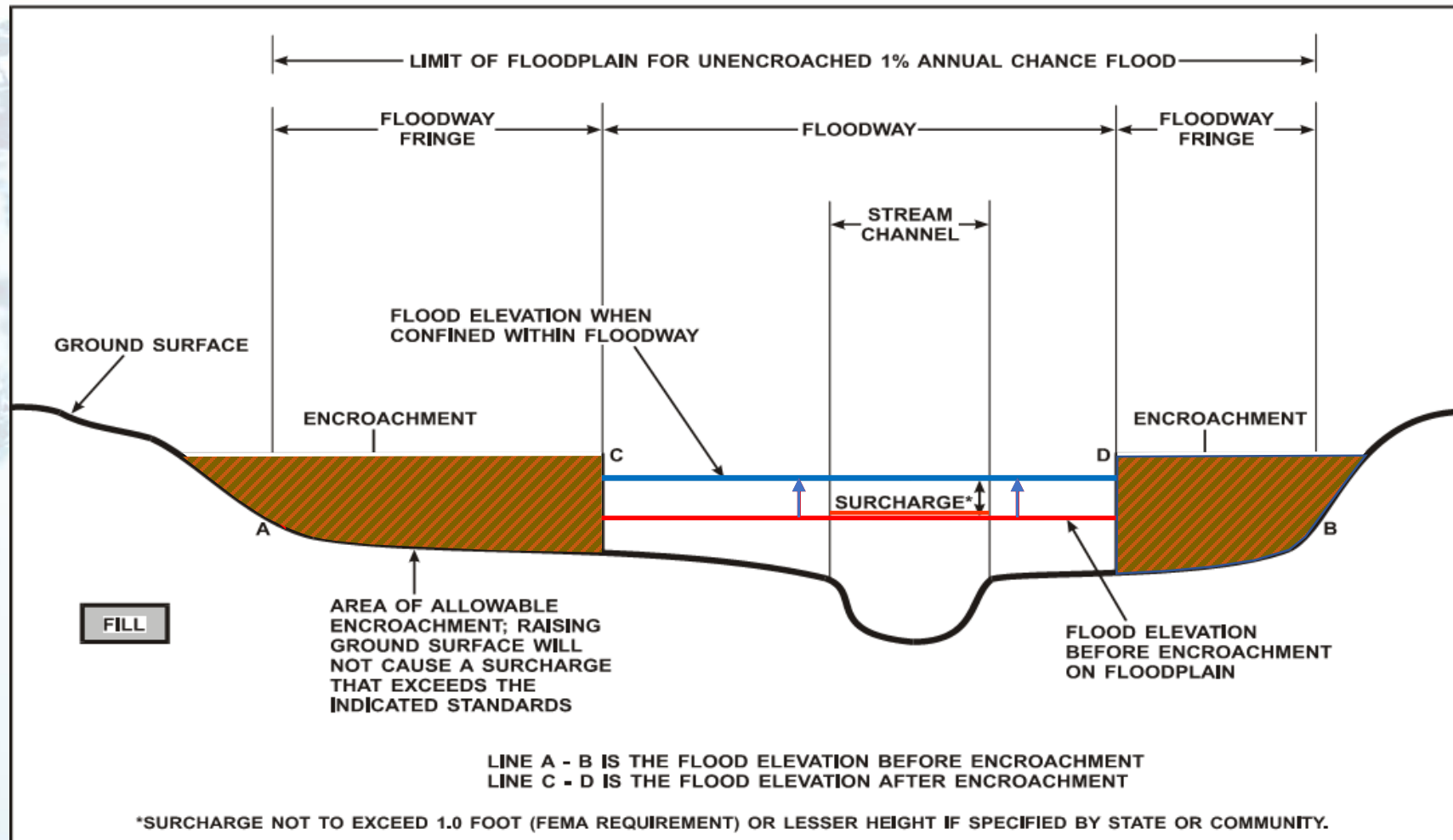


New Format DFIRM



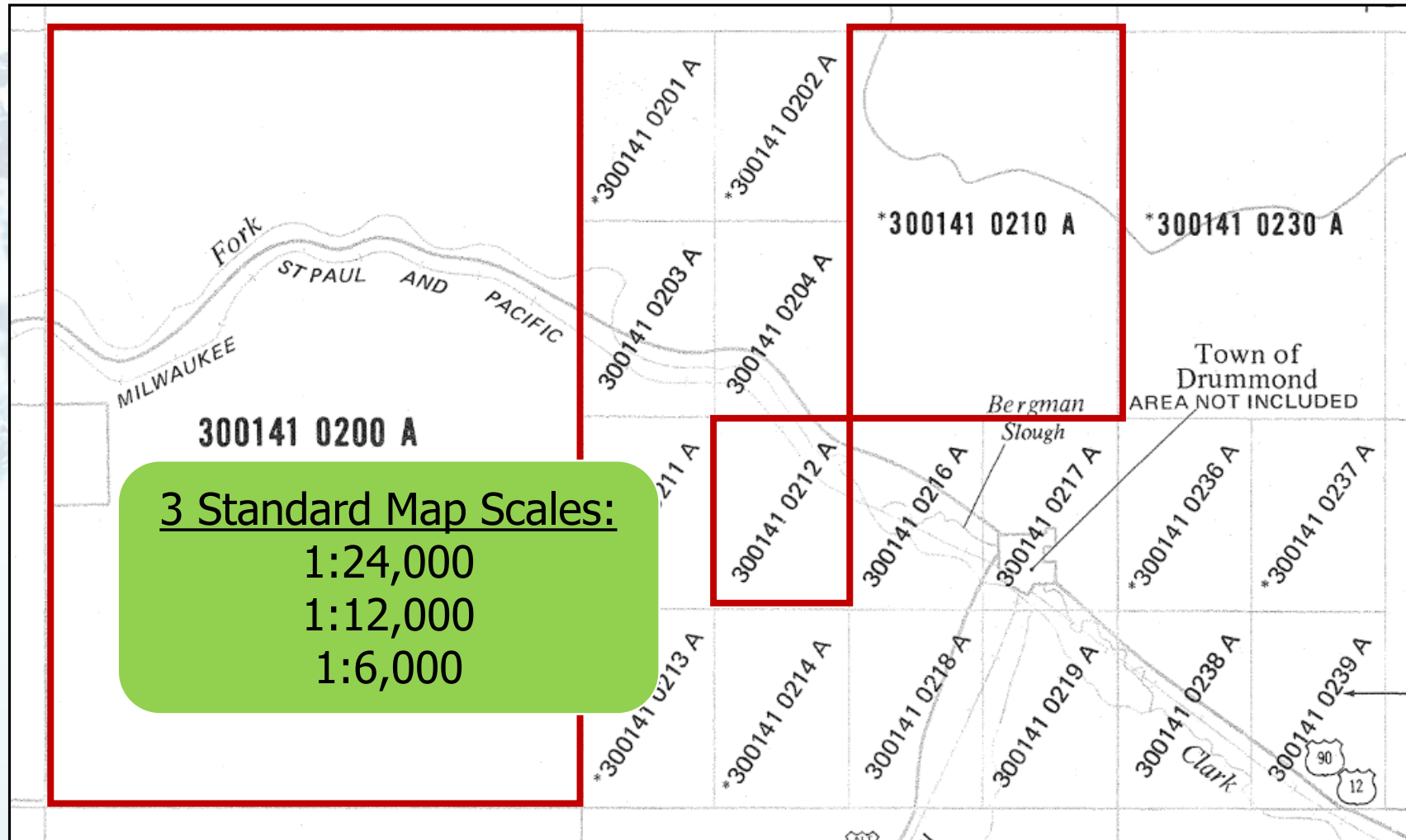
NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data Submitting MT-2s • FEMA Review Process • Common Mistakes

Special Flood Hazard Area (SFHA)



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Data Presentation and Limitations



Data Presentation and Limitations

FEMA Panel Scales – QA/QC to **5%** of Map Scale

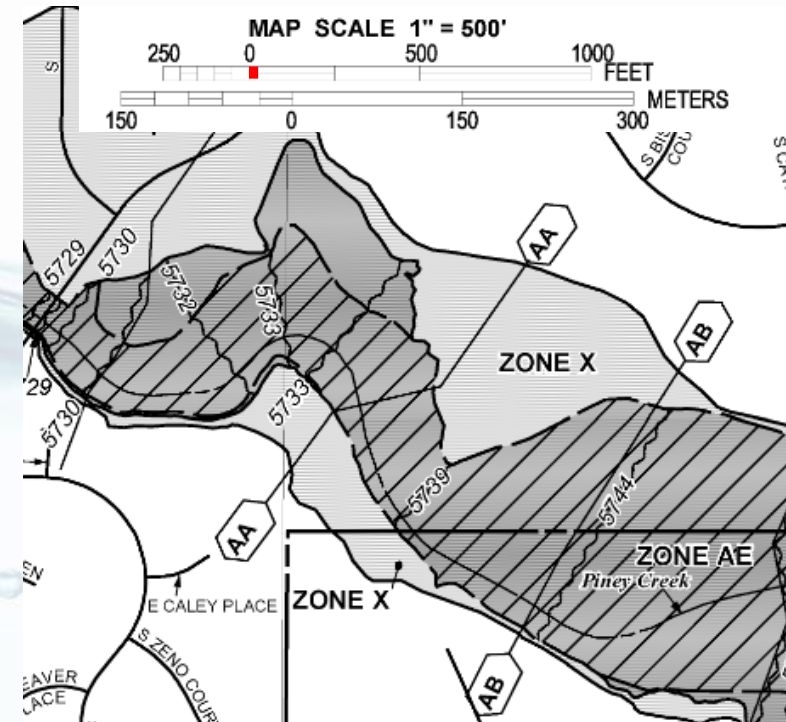
1:24,000, **1" = 2000'** **100' Tolerance**

1:12,000, **1" = 1000'** **50' Tolerance**

1:6,000, **1" = 500'** **25' Tolerance**

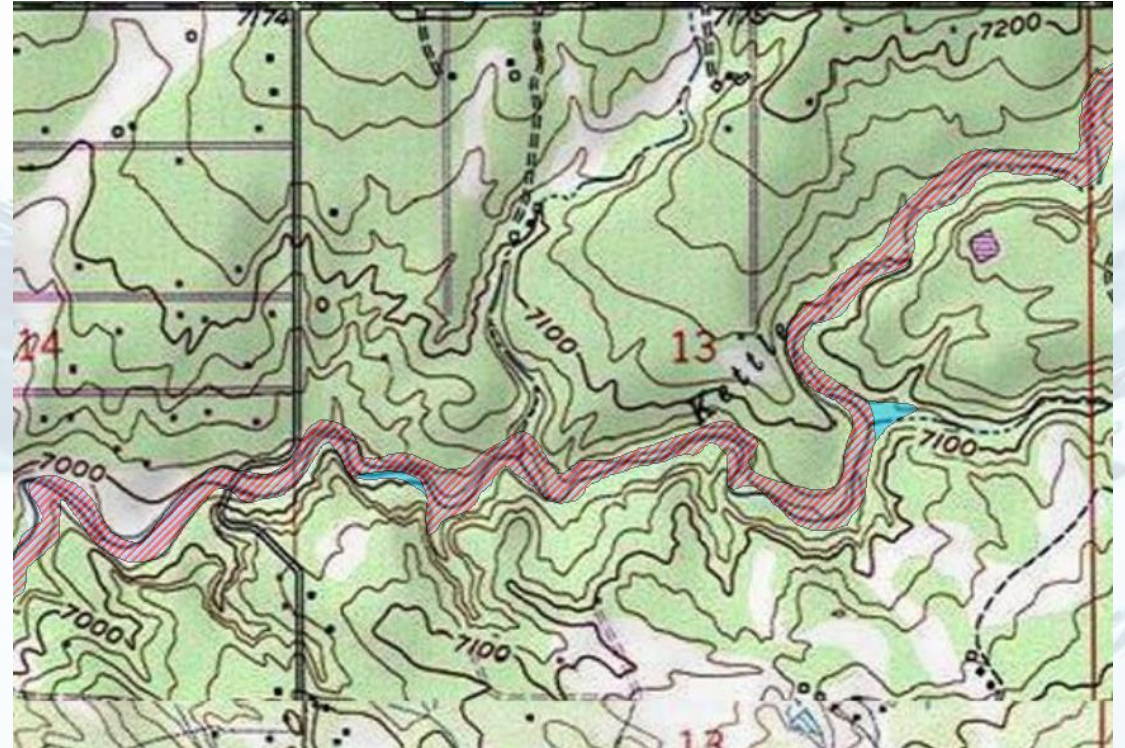
Base Flood Elevations (BFE)

- Rounded to nearest foot on older FIRM Panels
- Published to nearest tenth (0.1') in FWDT, Profiles, and new DFIRM panels



Data Presentation and Limitations

The mapped floodplain boundary may be used as a guide for determining whether property is within the designated floodplain, but the exact boundary shall be determined according to the base flood elevation.

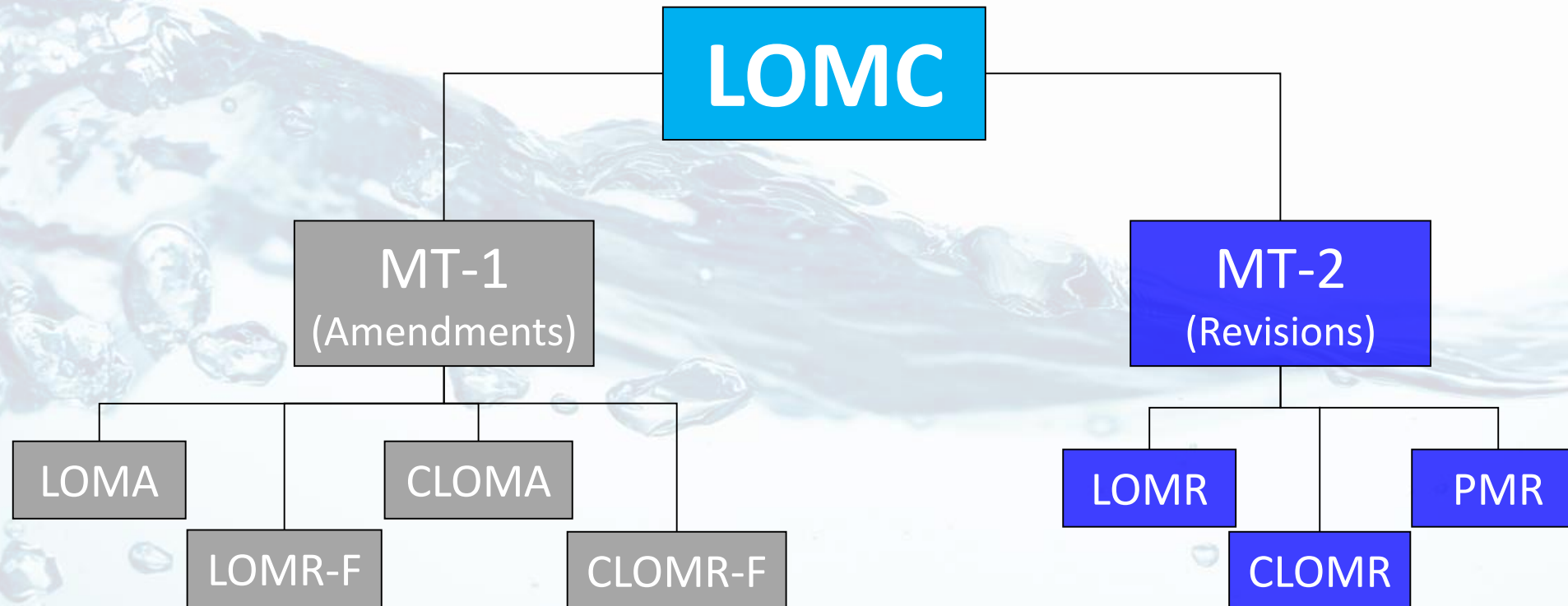


A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water is captured in mid-motion, creating a sense of energy and freshness.

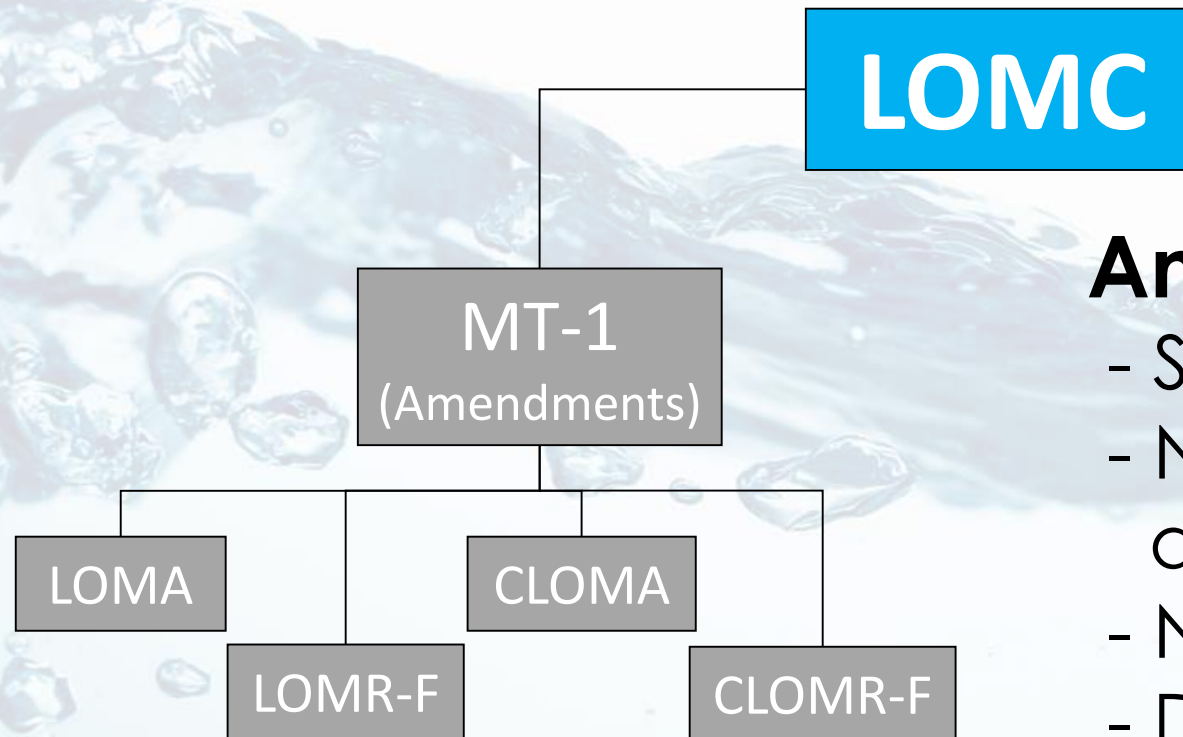
Types of Revisions

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Letters of Map Change (LOMC)



Letters of Map Change (LOMC)



Amendments:

- Structures or parcels
- No detailed engineering analysis
- No BFE changes
- Does not officially revise the FIRM

Letters of Map Change (LOMC)

Revisions:

- Variable size (not lot or parcel specific)
- Full engineering analysis (H&H)
- BFE changes
- Can result in mapping changes

LOMC

MT-2
(Revisions)

LOMR

CLOMR

PMR

Letters of Map Revision (LOMR)

Letters of Map Revision revise the effective FIRM and FIS report to show changes in flood hazard data (BFE, SFHA, Floodway).

- Built on as-built or existing conditions only (no future projects).
- Results in annotated FIRM and FIS attachments, but does not republish the full maps and/or report.

Letters of Map Revision (LOMR)

When is a LOMR Required?

- When requested by the community
- Physical changes resulting in BFE change
 - **CFR 44: § 65.3 Requirement to submit new technical data:** A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Administrator of the changes by submitting technical or scientific data in accordance with this part...
- Floodway changes
 - **CFR 44: § 65.7 Floodway Revisions:** ...When it has been determined by a community that no practicable alternatives exist to revising the boundaries of its previously adopted floodway...



CODE OF FEDERAL
REGULATIONS

Title 44
Emergency Management and
Assistance

Revised as of October 1, 2018

Containing a codification of documents
of general applicability and future effect

As of October 1, 2018

Published by the Office of the Federal Register
National Archives and Records Administration
as a Special Edition of the Federal Register

<https://www.ecfr.gov>

Letters of Map Revision (LOMR)

What can a LOMR be requested for?

- Better Data / More Detailed Analysis
 - Updated hydrology
 - New hydraulic modeling
 - Updated topographic data
 - Detailed study in an approximate area (Zone A)
- Physical Changes
 - Structures (Bridge/culvert, drop structure, levee, etc.)
 - Landscape (fill, grading, etc.)
 - Natural (erosion, channel migration, subsidence, etc.)
- Correcting Errors in Effective Data



LOMR – Final Product



Federal Emergency Management Agency

Washington, D.C. 20472

May 19, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Troy K. Walker
Mayor, City of Draper
[REDACTED]

IN REPLY REFER TO:

Case No.: 17-08-0291P
Community Name: City of Draper, UT
Community No.: 490244
Effective Date of
This Revision: **October 2, 2017**

Dear Mayor Walker:

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 revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed that 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 Denver, Colorado, at (303) 235-4830, or the FEMA Map Information eXchange (FMIX) 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/national-flood-insurance-program>.

Sincerely,

Patrick "Rick" F. Saebibit, 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. Dan Boles, AICP
Community Development Director
City of Draper



[REDACTED]
Project Manager
[REDACTED]



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

LOMR – Final Product

Page 1 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT				
COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST	
COMMUNITY	City of Draper Salt Lake County Utah	NO PROJECT	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA	
	COMMUNITY NO.: 490244			
IDENTIFIER	13485 South Minuteman Drive	APPROXIMATE LATITUDE AND LONGITUDE: 40.967, -111.890 SOURCE: USGS QUADRANGLE DATUM: NAD 83		
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES		
TYPE: FIRM*	NO.: 49035C0444G DATE: September 25, 2009	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: August 2, 2012 PROFILES: 34P-35P FLOODWAY DATA TABLE: 12		
Enclosures reflect changes to flooding sources affected by this revision. * FIRM - Flood Insurance Rate Map				
FLOODING SOURCE AND REVISED REACH				
Corner Canyon Creek - From approximately 610 feet downstream of Interstate 15 to approximately 320 feet downstream of 150 East Street				
SUMMARY OF REVISIONS				
Flooding Source	Effective Flooding	Revised Flooding	Increase	Decrease
Corner Canyon Creek	Zone AE	Zone AE	NONE	YES
	BFES*	BFES	YES	YES
	Floodway	Floodway	YES	YES
* BFES - Base Flood Elevations				
DETERMINATION				
This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.				
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		17-08-0291P 102-I-A-C		

Page 2 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
COMMUNITY INFORMATION				
APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION				
We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.				
We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.				
COMMUNITY REMINDERS				
We based this determination on the 1-percent annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.				
Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.				
We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.				
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
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Page 3 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:				
Ms. Jeanine D. Peterson Director, Mitigation Division Federal Emergency Management Agency, Region VIII Denver Federal Center, Building 710 P.O. Box 25267 Denver, CO 80225-0267 (303) 235-4830				
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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
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Page 4 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
PUBLIC NOTIFICATION OF REVISION				
A notice of changes will be published in the <i>Federal Register</i> . This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfc_status/bfc_main.asp				
LOCAL NEWSPAPER	Name: Salt Lake Tribune	Dates: May 26, 2017 and June 2, 2017		
Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.				
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, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
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NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

LOMR – Final Product

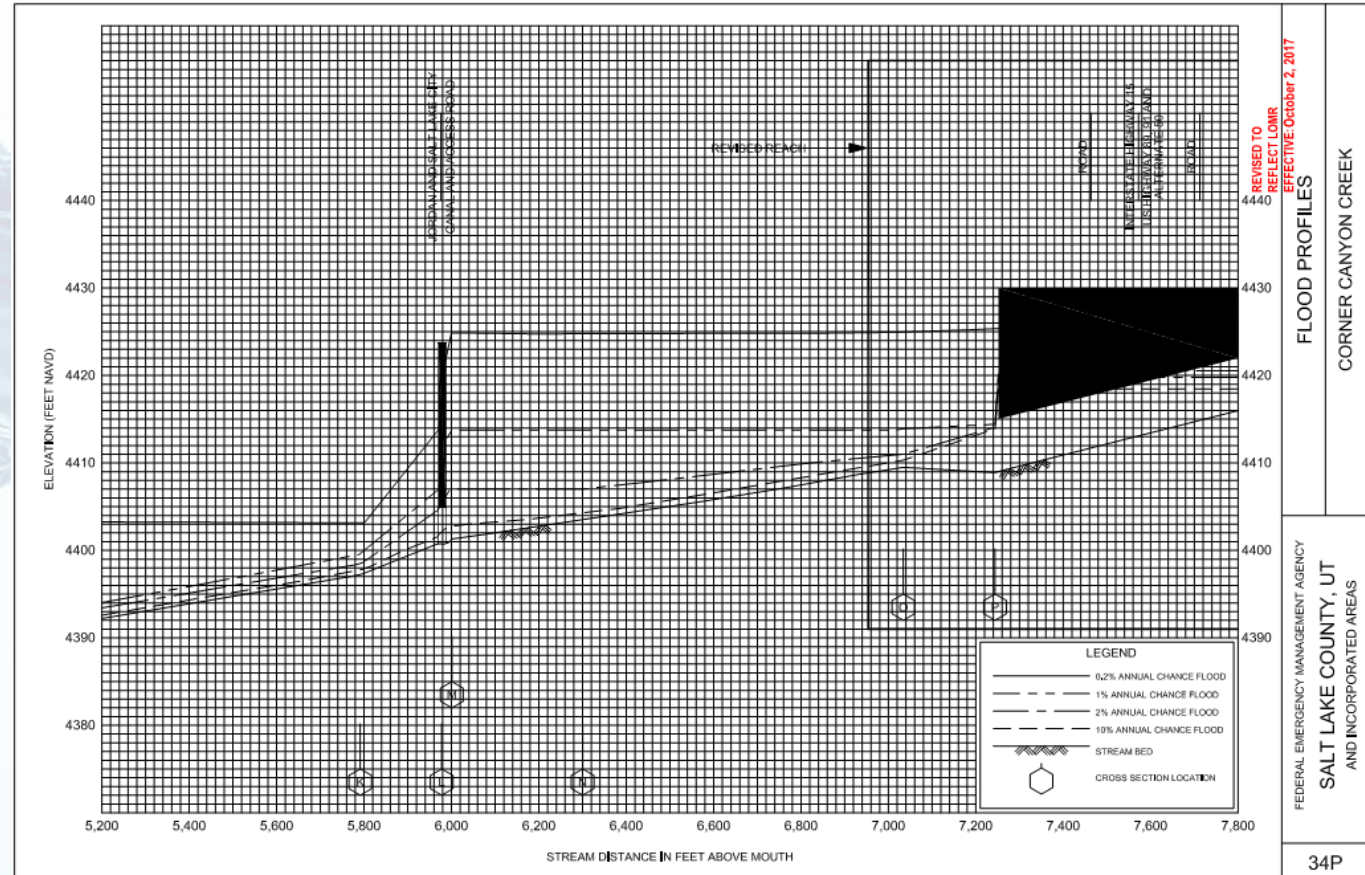
CROSS SECTION	DISTANCE ¹	FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
		WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY NAVD 88	WITHOUT FLOODWAY FEET (NAVD 88)	WITH FLOODWAY FEET (NAVD 88)	INCREASE
CORNER CANYON CREEK								
A	200	70	119	2.0	4,349.5	4,349.5	4,349.5	0.0
B	670	70	97	2.5	4,349.5	4,349.5	4,349.5	0.0
C	1,190	71	50	4.8	4,356.7	4,356.7	4,356.7	0.0
D	1,950	30	59	4.1	4,364.6	4,364.6	4,364.8	0.2
E	2,560	47	44	5.5	4,373.2	4,373.2	4,373.2	0.0
F	2,860	36	74	3.2	4,375.5	4,375.5	4,375.5	0.0
G	3,031	40	376	0.8	4,386.9	4,386.9	4,386.9	0.0
H	3,380	40	199	1.6	4,386.9	4,386.9	4,386.9	0.0
I	4,080	40	180	1.7	4,386.9	4,386.9	4,386.9	0.0
J	5,100	30	45	7.0	4,393.2	4,393.2	4,393.3	0.1
K	5,790	30	74	4.3	4,399.2	4,399.2	4,400.0	0.8
L	5,970	4	23	13.7	4,406.6	4,406.6	4,406.6	0.0
M	6,000	20	244	1.3	4,413.8	4,413.8	4,413.8	0.0
N	6,300	30	259	1.2	4,413.8	4,413.8	4,413.8	0.0
O	7,034	30	92	3.4	4,413.9	4,413.9	4,413.9	0.0
P	7,244	31	121	2.6	4,414.4	4,414.4	4,414.4	0.0
Q	7,958	38	49	6.5	4,424.5	4,424.5	4,424.5	0.0
R	9,347	20	96	3.3	4,436.4	4,436.4	4,436.4	0.0
S	9,846	31	79	4	4,443.7	4,443.7	4,443.7	0.0
T	10,205	15	59	5.4	4,445.0	4,445.0	4,445.0	0.0
U	10,785	29	75	3.8	4,447.8	4,447.8	4,447.8	0.0
V	11,240	26	62	4.6	4,450.4	4,450.4	4,450.4	0.0
W	11,960	20	43	6.7	4,454.7	4,454.7	4,454.7	0.0
X	12,200	36	53	5.4	4,457.4	4,457.4	4,457.4	0.0
Y	13,160	39	63	4.6	4,462.2	4,462.2	4,462.2	0.0
Z	13,440	36	46	6.2	4,464.7	4,464.7	4,464.7	0.0

¹ Stream distance in feet above confluence with Jordan River.

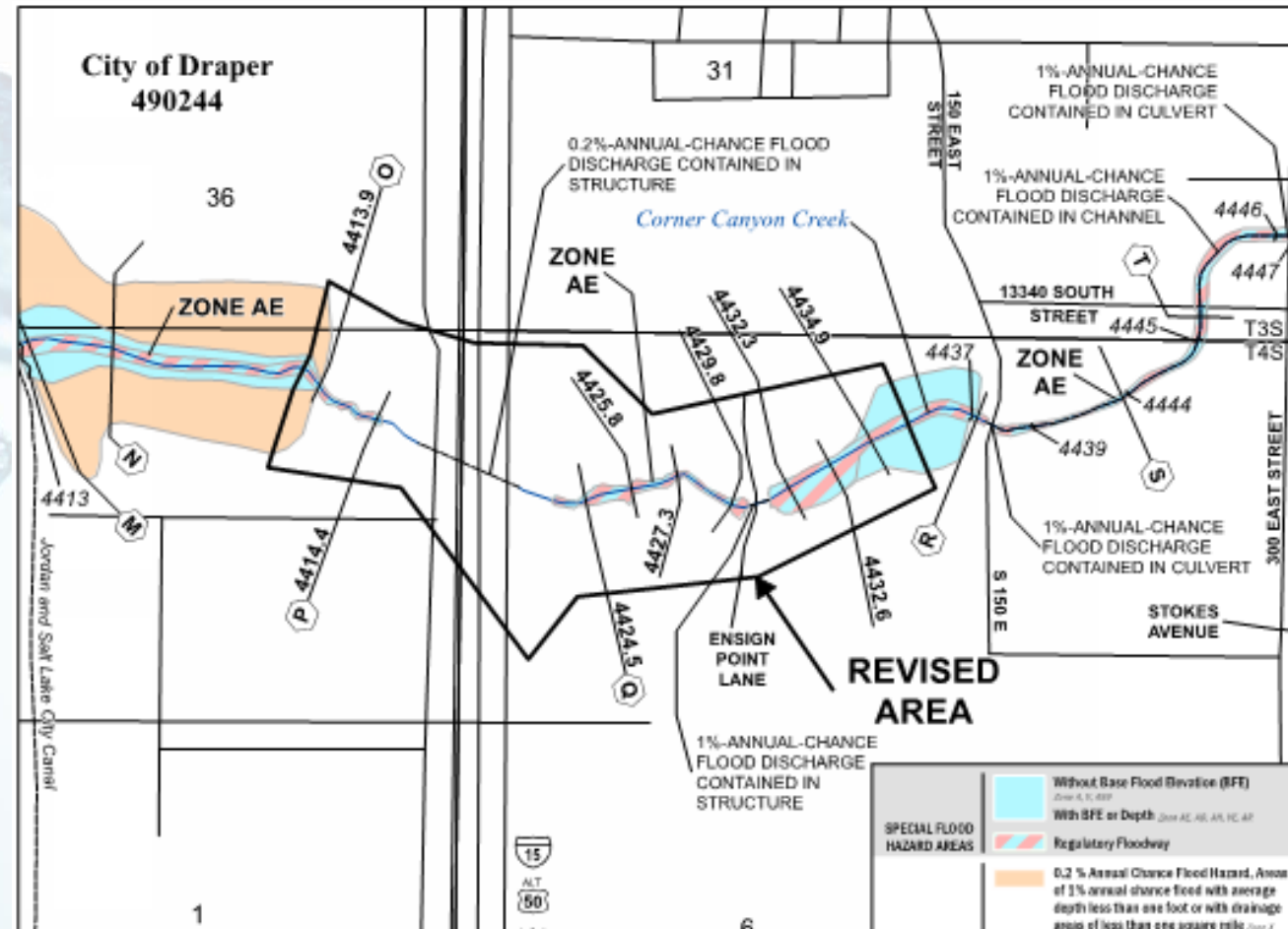
REVISED TO REFLECT LOMR EFFECTIVE: October 2, 2017

FEDERAL EMERGENCY MANAGEMENT AGENCY
**SALT LAKE COUNTY, UT
AND INCORPORATED AREAS**

FLOODWAY DATA
CORNER CANYON CREEK



LOMR – Final Product



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data Submitting MT-2s • FEMA Review Process • Common Mistakes

A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water appears to be moving from left to right, creating a sense of motion and freshness.

Participation

Participation

Q: True or False – The NFIP is dependent on tax revenue to operate.

Participation

Q: True or False – The NFIP is dependent on tax revenue to operate.

A: False - Program has been self supporting through premium income since 1986.

Participation

Q: True or False – a LOMR should be submitted for a proposed project.

Participation

Q: True or False – a LOMR should be submitted for a proposed project.

A: False – A LOMR is submitted to represent existing or as-built conditions.

Conditional Letters of Map Revision (CLOMR)

CLOMRs are submitted for proposed projects which impact flood hazard data, so FEMA can provide comment on the proposed changes and analysis.

- Completed prior to any floodplain permit issuance.
- Does not constitute a permit.
- Does not officially revise the flood hazard data.



Conditional Letters of Map Revision (CLOMR)

When is a CLOMR required?

- When requested by the community

* Recommended to include language in local floodplain ordinance

- When a proposed project:

- Encroaches on the regulatory floodway and causes BFE increases over 0.00 ft.

CFR 44 §60.3(d)(4): ...a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first applies for a conditional FIRM and floodway revision...

- Encroaches on the floodplain and causes BFE increases over 1.00 ft (0.5 ft in MT).

CFR 44 §60.3(c)(13): ... a community may approve certain development in Zones AI-30, AE, and AH, on the community's FIRM which increase the water surface elevation of the base flood by more than one foot, provided that the community first applies for a conditional FIRM revision...

For CLOMR requirements, an increase is based on comparison of the pre-project (existing) and post-project (proposed) conditions.

Conditional Letters of Map Revision (CLOMR)

Why submit a CLOMR?

- A project built without a CLOMR puts the Community in a bad position.
 - Potential violations may delay approval of LOMRs, and could lead to additional action:
 - Requirement to mitigate increase
 - Return to pre-project condition
 - Potential negative impact to CRS rating
 - Possible probation/suspension from NFIP
- Coordinate with Floodplain Administrator when submitting no-rise analysis. **A deficient no-rise may also lead to violations.**



Conditional Letters of Map Revision (CLOMR)

CLOMR Specific Requirements:

- **CFR 44 §65.12:** When a community proposes to permit encroachments ... which will cause base flood elevation increases in excess of those permitted under paragraphs (c)(10) [**1.0 ft no floodway**] or (d)(3) [**0.00 ft in floodway**] of Sec. 60.3 ...
 - CLOMR is required prior to floodplain permit
 - Consideration of project alternatives that would not create a rise
 - Certification of no structures negatively impacted
 - Individual property owner notification
 - Follow-up LOMR

Conditional Letters of Map Revision (CLOMR)

CLOMR Specific Requirements:

- **ESA Compliance for Threatened and Endangered Species**
 - Currently, CLOMR and CLOMR-F reviews require documentation to FEMA to confirm that ESA is met, but all LOMC's are required to adhere to ESA requirements.
 - FEMA **Procedure Memo 64** (Oct. 2010) defines how ESA compliance is approached for LOMCs



Conditional Letters of Map Revision (CLOMR)

ESA Section 7:

- “requires each **federal agency** to insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any listed species or result in the destruction of adverse modification of designated critical habitat.”
- **If federally funded or permitted**, ESA documentation takes the form of:
 - “No Effect” made or concurred by the federal agency
 - “Not Likely to Adversely Affect” determination with concurrence of the Services*
 - Biological opinion with “no jeopardy” determination
 - A copy of the federally issued permit

* “The Services”: U.S. Department of Interior’s Fish and Wildlife Service (FWS) and the U.S. Department of Commerce’s National Marine Fisheries Service (NMFS)

Conditional Letters of Map Revision (CLOMR)

ESA Section 9:

- “prohibits **anyone** from “taking” or “harming” endangered wildlife and similar prohibitions are generally extended through regulations for threatened wildlife.”
- For all **non-federal** projects, a “**No Take**” statement is required (meaning that the project has no potential to *harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct*).
- If a “Take” will or has a potential to occur, contact the Services to discuss how to eliminate the “Take.”
- If neither are possible, an Incidental Take Permit may be submitted showing that the project is the subject, or is covered by the subject, of the permit.

Conditional Letters of Map Revision (CLOMR)

ESA: Determining Species of Concern

- U.S. Fish & Wildlife Service Environmental Conservation Online System (ECOS)
 - <http://ecos.fws.gov/ecp>
 - Use IPaC tool to identify project area and identify potentially impacted threatened and endangered species (pursuant to 50 CFR 402.12).

IPaC Information for Planning and Consultation

- 1 Find location
- 2 Define area
- 3 Confirm

Verify the area where project activities will occur

Modify the shape by clicking and dragging the vertices or clicking on a solid vertex to remove it

AREA: 29.07 mi²

CONTINUE

START OVER

Resources

- ENDANGERED SPECIES 10
- CRITICAL HABITATS 1
- MIGRATORY BIRDS 4
- FACILITIES
- WETLANDS

What's next?

Define a project at this location to evaluate potential impacts, get an official species list, and make species determinations.

DEFINE PROJECT

Endangered species

Listed species and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

Additional information on endangered species data is provided below.

The following species are potentially affected by activities in this location:

Mammals

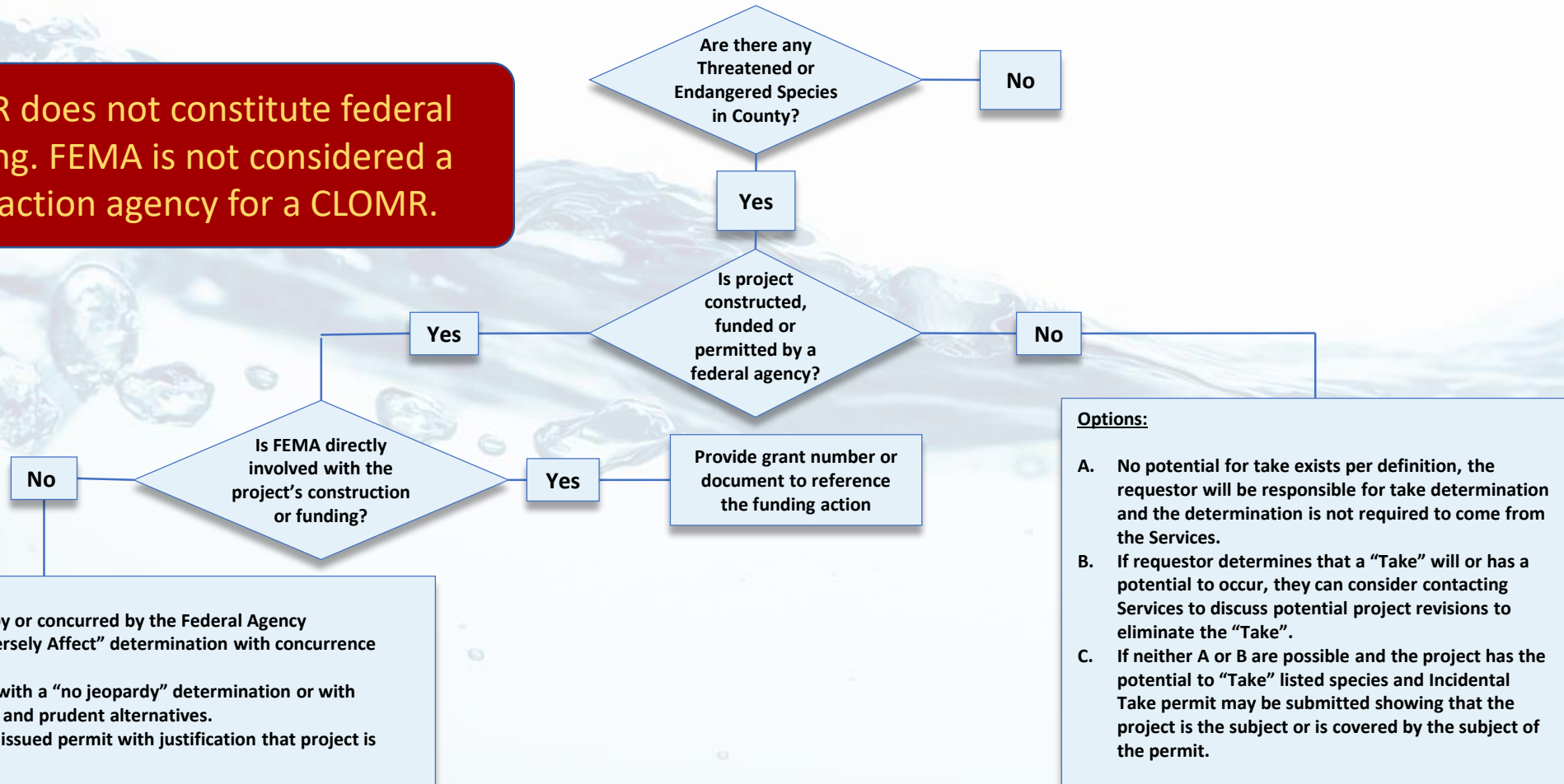
- North American Wolverine (*Gulo gulo luscus*) - Proposed Threatened
- Pribilof's Meadow Jumping Mouse (*Zapus hudsonius preblei*) - Proposed Threatened

Birds

- Least Tern (*Sterna antillarum*) - Endangered
- Mexican Spotted Owl (*Strix occidentalis lucida*) - Threatened
- Piping Plover (*Charadrius melodus*) - Threatened

Conditional Letters of Map Revision (CLOMR)


A CLOMR does not constitute federal permitting. FEMA is not considered a federal action agency for a CLOMR.



CLOMR Final Products

I've met the
what happens

requirements,

 Federal Emergency Management Agency
Washington, D.C. 20472
July 19, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Tom Donnelly
Chairman, Larimer County Board of Commissioners
██████████

IN REPLY REFER TO:
Case No.: 16-08-0387R
Community Name: Larimer County, CO
Community No.: 080101


104

Dear Mr. Donnelly:

We are providing our comments with the enclosed Conditional Letter of Map Revision (CLOMR) on a proposed project within your community that, if constructed as proposed, could revise the effective Flood Insurance Study report and Flood Insurance Rate Map for your community.

If you have any questions regarding the floodplain management regulations for your community, the National Flood Insurance Program (NFIP) in general, or technical questions regarding this CLOMR, please contact the Director, Mitigation Division of the Federal Emergency Management Agency (FEMA) Regional Office in Denver, Colorado, at (303) 235-4830, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our Web site at <http://www.fema.gov/national-flood-insurance-program>.

Sincerely,



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

List of Enclosures:
Conditional Letter of Map Revision Comment Document

cc: Mr. Mark Peterson, P.E.
County Engineer
Larimer County


Mr. Kevin Gingery, P.E.
Senior Engineer
City of Loveland

██████████
Project Manager


NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

CLOMR Final Products


Page 1 of 5 Issue Date: July 19, 2016 Case No.: 16-08-0387R CLOMR-APP

 Federal Emergency Management Agency
Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT

COMMUNITY INFORMATION	PROPOSED PROJECT DESCRIPTION	BASIS OF CONDITIONAL REQUEST		
COMMUNITY Larimer County Colorado (Unincorporated Areas) COMMUNITY NO.: 080161	BRIDGE CHANNEL RELOCATION	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA		
IDENTIFIER	Viestenz-Smith Mountain Park Re-Design	APPROXIMATE LATITUDE AND LONGITUDE: 40.420, -105.282 SOURCE: USGS QUADRANGLE DATUM: NAD 83		
AFFECTED MAP PANELS				
TYPE: FIRM* NO.: 08090C1141F DATE: December 19, 2005	*FIRM - Flood Insurance Rate Map			
TYPE: FIRM* NO.: 08090C1142F DATE: December 19, 2005				
FLOODING SOURCE AND REACH DESCRIPTION				
Big Thompson River - From approximately 4,600 feet downstream to approximately 1,270 feet downstream of Big Thompson Canyon Road.				
PROPOSED PROJECT DESCRIPTION				
Flooding Source	Proposed Project	Location of Proposed Project		
Big Thompson River	New Bridge	Approximately 2,850 feet downstream of Big Thompson Canyon Road.		
	Channel Relocation	From approximately 4,600 feet to approximately 2,490 feet downstream of Big Thompson Canyon Road.		
SUMMARY OF IMPACTS TO FLOOD HAZARD DATA				
Flooding Source	Effective Flooding	Proposed Flooding	Increase	Decrease
Big Thompson River	Floodway	Floodway	Yes	Yes
	BFEs*	BFEs	Yes	Yes
	Zone AE	Zone AE	Yes	Yes
	Zone X (shaded)	Zone X (shaded)	Yes	Yes
*BFEs - Base (1 percent annual-chance) Flood Elevations				
COMMENT				
This document provides the Federal Emergency Management Agency's (FEMA's) comment regarding a request for a CLOMR for the project described above. This document is not a final determination; it only provides our comment on the proposed project in relation to the flood hazard information shown on the effective National Flood Insurance Program (NFIP) map. We reviewed the submitted data and the data used to prepare the effective flood hazard information for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. Your community is responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received. State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the Special Flood Hazard Area (SFHA), the area subject to inundation by the base flood. If the State/Commonwealth, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.				
This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4905. Additional information about the NFIP is available on the FEMA Web site at http://www.fema.gov/national-flood-insurance-program .				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration 16-08-0387R 104				

Page 2 of 5 Issue Date: July 19, 2016 Case No.: 16-08-0387R CLOMR-APP

 Federal Emergency Management Agency
Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION


To determine the changes in flood hazards that will be caused by the proposed project, we compared the hydraulic modeling reflecting the proposed project (referred to as the proposed conditions model) to the hydraulic modeling used to prepare the Flood Insurance Study (FIS) (referred to as the effective model). If the effective model does not provide enough detail to evaluate the effects of the proposed project, an existing conditions model must be developed to provide this detail. This existing conditions model is then compared to the effective model and the proposed conditions model to differentiate the increases or decreases in flood hazard due to the proposed project.

The table below shows the changes in flood hazard due to the proposed project.

Existing vs. Effective	Maximum increase	Maximum decrease
Proposed vs. Existing	Maximum increase	Maximum decrease
Proposed vs. Effective	Maximum increase	Maximum decrease


Increase due to the proposed project Section 65.12 of the NFIP regulations regulations. Compliance with Paragraph 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.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4905. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/national-flood-insurance-program>.


 Patrick "Rick" F. Sacibit, P.E., Branch Chief
 Engineering Services Branch
 Federal Insurance and Mitigation Administration 16-08-0387R 104

A CLOMR determination does not constitute a permit.

Page 3 of 5 Issue Date: July 19, 2016 Case No.: 16-08-0387R CLOMR-APP

 Federal Emergency Management Agency

CONDITIONAL COMMENT

COMMUNITY

DATA REQUIRED FOR FOLLOW-UP LOMR

Upon completion of the project, your community must revise the effective FIRM and FIS Report. If the FIS report would be warranted.

* Detailed application and certification forms must be submitted to FEMA's fee schedule for reviewing and processing requests may be accessed at <https://www.fema.gov/flood-maps> received before we can begin processing the request. Part of the application forms lists which may be accessed along with the revision application, to the following address:

LOMC C
Attention: [redacted]
847 South
Alexandria, VA


or submit the LOMR using the Online LOMC portal at <http://www.fema.gov/online-locm>

After receiving appropriate documentation to show that the report. Because the flood hazard information (i.e., base flood elevations) will change as a result of the project, a 90-day appeal period will be initiated. Interested persons may appeal the revised flood hazard information to the LOMC Clearinghouse Professional.


* A copy of the public notice distributed by your community that it has notified all affected property owners of the project.

* Documentation of the individual legal notices sent to floodplain and/or any BFE increases along the Big Thompson River.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4905. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/national-flood-insurance-program>.


 Patrick "Rick" F. Sacibit, P.E., Branch Chief
 Engineering Services Branch
 Federal Insurance and Mitigation Administration 16-08-0387R 104

Page 4 of 5 Issue Date: July 19, 2016 Case No.: 16-08-0387R CLOMR-APP

 Federal Emergency Management Agency

CONDITIONAL COMMENT

COMMUNITY

DATA REQUIRED FOR FOLLOW-UP LOMR (continued)


LOMC C
Attention: [redacted]
847 South
Alexandria, VA

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. Jeanine P. Petterson
Director, Mitigation Division
Federal Emergency Management Agency, Region VIII
Denver Federal Center, Building VII
P.O. Box 25267
Denver, CO 80225-0267
(303) 255-4830

COMMUNITY REMINDERS

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304-4905. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/national-flood-insurance-program>.


 Patrick "Rick" F. Sacibit, P.E., Branch Chief
 Engineering Services Branch
 Federal Insurance and Mitigation Administration 16-08-0387R 104

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Large Revisions

Revisions >4 Full FIRM Panels Monitored as Potential:

- **Physical Map Revision (PMR)**
 - FEMA review of hydrologic and hydraulic analyses and mapping completed by the community
 - Republishes FIRM and FIS
 - Resolves protests and technical appeals
 - Revalidates LOMAs and LOMR-Fs as necessary
- **316-PMR**
 - Review of large revisions through the MT-2 process
 - Only provides comments on the revised H&H and mapping, does not republish FIRM/FIS.
 - Strongly recommend coordination with FEMA Regional Office

LOMR vs. PMR

LOMR:

- Smaller Scale (<4 panels)
- Faster
- Less Expensive
- Limited Distribution (annotated regulatory products only sent to community and requester)

PMR:

- Extensive Revisions (>4 panel)
- Longer Processing Time
- More Expensive (depends on Regional funding)
- Large Distribution (republishes full regulatory products)



A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water appears to be moving from left to right, creating a sense of motion and freshness.

Standards, Regulation and Enforcement

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Standards, Regulation and Enforcement

Code of Federal Regulations: Chapter 44

- **Major sections for MT-2:**
 - Section **60** (Criteria for Land Management and Use)
 - Section **65** (Identification and Mapping of Special Hazard Areas)
 - Section **72** (Procedures and Fees for Processing Map Changes)

Standards, Regulation and Enforcement

Responsibilities of the Community:

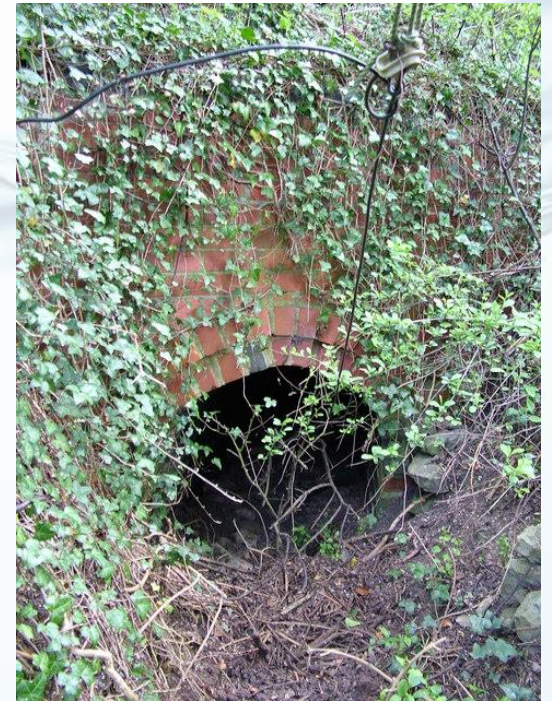
- Meet CFR 44 Section 60.3 (including but not limited to):
 - Require permits for floodplain development
 - Certify areas removed by fill are reasonably safe from flooding
 - Part of the assurance by signing MT-2 Form 1
 - Reference Technical Bulletin 10-01
 - Ensure all applicable Federal/State/Local permits have been received



Standards, Regulation and Enforcement

Responsibilities of the Community (cont.):

- Meet CFR 44 Section 60.3 (including but not limited to):
 - Ensure structure lowest floor is above BFE and/or meets local freeboard requirements
 - Prohibit BFE rises >1.0 ft in Zone AE, or >0.00 ft in Floodway
 - Ensure maintenance of any altered or relocated watercourse, including structures



Standards, Regulation and Enforcement

Common Parts of Section 65:

- **65.3:** Requirement to Submit New Technical Data
- **65.6:** Revisions of BFEs
- **65.7:** Floodway Revisions
- **65.10:** Mapping of Areas Protected by Levee Systems
- **65.12:** Revision of Flood Insurance Rate Maps to Reflect Base Flood Elevations Caused by Proposed Encroachments

Standards, Regulation and Enforcement

State and Local Regulations

- Participating communities must regulate to the minimum NFIP standards, but may enforce a more strict regulation locally. Check with your local community or state.

Ex: **Montana**

All floodways limited to a 0.5-ft surcharge.

State Notification Requirement (MCA 76-5-208)

DNRC Joint-review

Colorado

New floodways (post Jan. '11): 0.5-ft surcharge



Standards, Regulation and Enforcement

FEMA Policy Standards for Flood Risk Analysis and Mapping

Program Standards: Mandatory. Exceptions by HQ only
Working Standards: Mandatory. Exceptions by Region



SID #	Effective Date	Implementation Description	Category	Standard Type	Standard
66	11/1/2009	Existing standard. Already implemented.	Flood Profiles	Working Standard	Each modeled split or diverted flow path must be plotted with individual Flood Profiles.
67	11/1/2009	Existing standard. Already implemented.	2D Models	Working Standard	Grids or cells must not be artificially removed when two- or three-dimensional models are used.
69	11/1/2009	Existing standard. Already implemented.	Floodway	Program Standard	Floodway surcharge values must be between zero and 1.0 ft. If the State (or other jurisdiction) has established more stringent regulations, these regulations take precedence over the NFIP regulatory standard. Further reduction of maximum allowable surcharge limits can be used if required or requested and approved by the communities impacted.
70	11/1/2009	Existing standard. Already implemented.	Floodway	Working Standard	If a stream forms the boundary between two or more States and/or tribes, either the 1.0-foot maximum allowable rise criterion or existing floodway agreements between the parties shall be used.
71	11/1/2009	Existing standard. Already implemented.	Floodway	Working Standard	Revised floodway data must match any effective floodways at the limits of the Flood Risk Project.
72	11/1/2009	Existing standard. Already implemented.	Floodway	Working Standard	An equal conveyance reduction method must be used to establish the minimal regulatory floodway.
73	11/1/2009	Existing standard. Already implemented.	Floodway	Working Standard	To calculate floodways using methodologies other than steady-state, one-dimensional models, pre-approval must be received from the FEMA Project Officer and impacted communities and states with floodway authorities.
74	7/31/2013	For all ongoing and newly initiated projects.	H&H Analyses	Program Standard	The hydrologic, hydraulic, and coastal analyses and the final regulatory products must be certified by a registered professional engineer.

Standards, Regulation and Enforcement



Guidance: Suggested methods/techniques

<https://www.fema.gov/flood-maps/guidance-partners/guidelines-standards>

Best Practices/Lessons Learned: Any method, in addition to guidance, that meets or exceeds the standard

A dynamic background image showing a splash of clear water against a light blue gradient. The water is captured in mid-air, with numerous bubbles and droplets visible, creating a sense of movement and freshness. The overall color palette is cool and aquatic.

Obtaining Flood Hazard Data

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Obtaining Flood Hazard Data

FEMA Flood Map Service Center:
Welcome!

Looking for a Flood Map? 

Enter an address, a place, or
longitude/latitude coordinates:

Enter an address, a place, or longitude/

Search



Looking for more than just a current flood
map?

Visit [Search All Products](#) to access the full range of flood risk products for your
community.

About Flood Map Service Center

FEMA Map Service Center

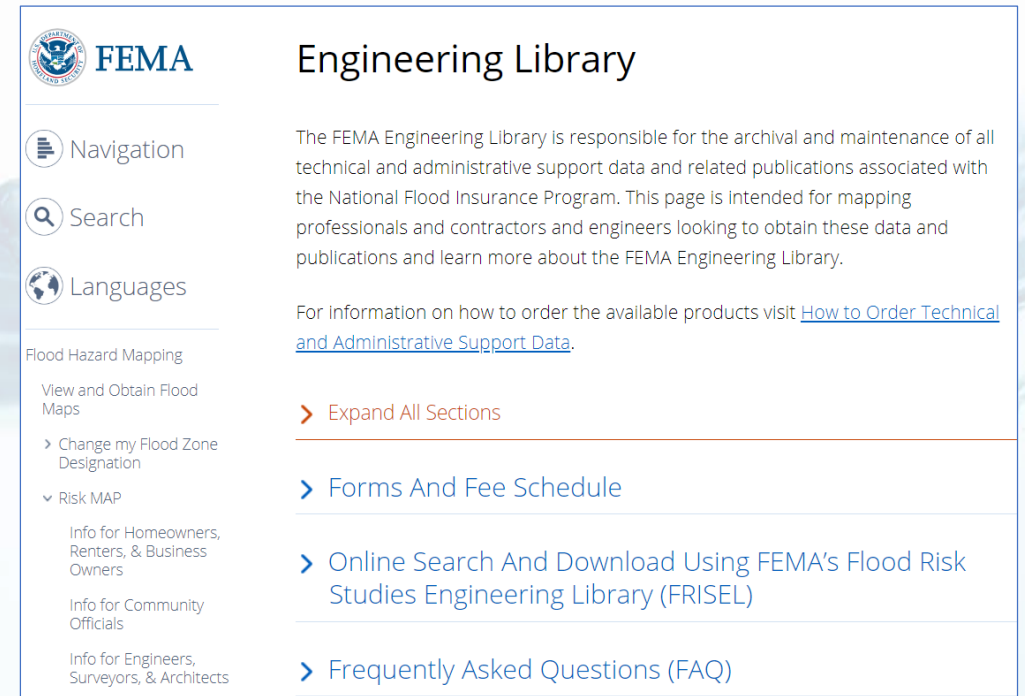
<http://msc.fema.gov>

- Effective, preliminary, and historic FIRM, FIS, and LOMCs (no conditional cases)
- National Flood Hazard Layer (NFHL) download (digital communities)
- Interactive map viewer
- Does not include engineering analysis

Obtaining Flood Hazard Data

FEMA Engineering Library

- FIS and LOMC backup data
 - Hydrology, hydraulics, work maps, reports, etc.
- Forms and instructions available on website. Requests submitted by mail.
- 2-3 weeks to fulfill requests
- Initial cost of \$300 plus additional \$40 per hour beyond 4 hours of research
- Community requests are free

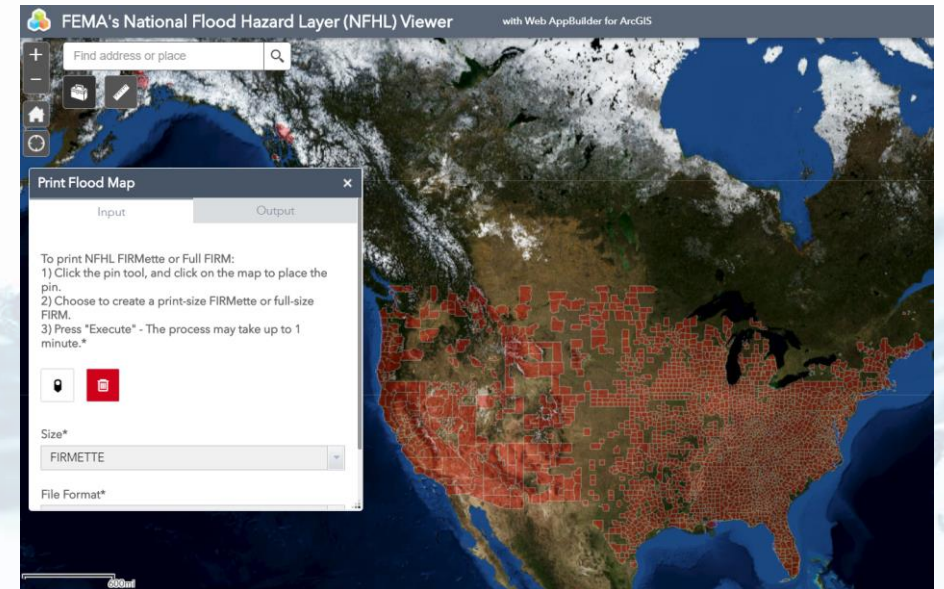


The screenshot shows the FEMA Engineering Library website. On the left is a navigation menu with icons for Navigation, Search, and Languages. Below this is a section for Flood Hazard Mapping, which includes links to 'View and Obtain Flood Maps', 'Change my Flood Zone Designation', and 'Risk MAP'. Under 'Risk MAP', there are links for 'Info for Homeowners, Renters, & Business Owners', 'Info for Community Officials', and 'Info for Engineers, Surveyors, & Architects'. On the right side of the page, the title 'Engineering Library' is followed by a paragraph explaining the library's purpose. Below this is a link to 'How to Order Technical and Administrative Support Data'. A red arrow points to 'Expand All Sections'. Further down, there are three blue arrows pointing to 'Forms And Fee Schedule', 'Online Search And Download Using FEMA's Flood Risk Studies Engineering Library (FRISEL)', and 'Frequently Asked Questions (FAQ)'.

Obtaining Flood Hazard Data

Other Resources:

- Mapping Information Platform (MIP)
<https://hazards.fema.gov>
 - Run reports to view LOMCs in community
- Flood Risk Study Engineering Library (FRiSEL)
<https://hazards.fema.gov/wps/portal/frisel>
 - Study data only (no LOMRs)
- FEMA GeoPlatform
<https://fema.maps.arcgis.com>
- NFHL Viewer
<https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>
- Google Earth NFHL Viewer
<https://hazards.fema.gov/femaportal/wps/portal/NFHLWMSkmzdownload>



A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water appears to be moving from left to right, creating a sense of motion and freshness.

Participation

Participation

Q: True or False – If a CLOMR is approved, a floodplain development permit is still required.

Participation

Q: True or False – If a CLOMR is approved, a floodplain development permit is still required.

A: True – An approved CLOMR does not constitute a permit.

Participation

Q: True or False – Proposed work in the floodway fringe requires an approved CLOMR.

Participation

Q: True or False – Proposed work in the floodway fringe requires an approved CLOMR.

A: (Trick question) – A CLOMR not required by NFIP minimum standards may still be required if requested by the community.

A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water is captured in mid-motion, creating a sense of energy and freshness.

MT-2 Submittals

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Submitting an MT-2

LOMR and CLOMR Requirements:

- ❖ <https://www.fema.gov/flood-maps/change-your-flood-zone/paper-application-forms/mt-2>
- Completed and signed MT-2 Forms
- Review Fee
- Project Narrative
- Hydrologic and/or hydraulic analysis
- Certified topographic work map
- Annotated FIRM
- Property owner notification

MT-2 Form 1: Overview and Concurrence

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
OVERVIEW & CONCURRENCE FORM

O.M.B. No. 1669-0016
Expires February 28, 2014

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 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, 1800 South Bell Street, Arlington, VA 20958-3005, Paperwork Reduction Project (1680-0016). 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).

A. REQUESTED RESPONSE FROM DHS-FEMA

This request is for a (check one):

- CLOMR:** A letter from DHS-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 DHS-FEMA officially revising the current NFIP map to show the changes to floodplains, regulatory floodway or flood elevations. (See 44 CFR Ch. 1, Parts 60, 65 & 72)

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
Example: 480301	City of Katy	TX	48473C	0005D	02/08/83
480287	Harris County	TX	48201C	0220G	09/28/90

2. a. Flooding Source:

- b. Types of Flooding: Riverine Coastal Shallow Flooding (e.g., Zones AO and AH)
 Alluvial fan Lakes Other (Attach Description)

3. Project Name/Identifier:

4. FEMA zone designations affected: (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 Base Map Changes
 Coastal Analysis Hydraulic Analysis Hydrologic Analysis Corrections
 Weir-Dam Changes Levee Certification Alluvial Fan Analysis Natural Changes
 New Topographic Data 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 structures (check all that apply)

Structures: Channelization Levee/Floodwall Bridge/Culvert
 Dam Fill Other (Attach Description)

6. Documentation of ESA compliance is submitted (required to initiate CLOMR review). Please refer to the instructions for more information.

C. REVIEW FEE

Has the review fee for the appropriate request category been included? Yes Fee amount: \$
 No, Attach Explanation

Please see the DHS-FEMA Web site at http://www.fema.gov/plan/prevent/fhm/fm_fees.shtm 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: Company:
Mailing Address: Daytime Telephone No.: Fax No.:
E-Mail Address:
Signature of Requester (required): Date:

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 requirements for when fill is 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. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. 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: Community Name:
Mailing Address: Daytime Telephone No.: Fax No.:
E-Mail Address:
Community Official's Signature (required): Date:

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 data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. 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: License No.: Expiration Date:
Company Name: Telephone No.: Fax No.:
Signature: Date: E-Mail Address:

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

Seal (Optional)

MT-2 Form 2: Riverine Hydrology and Hydraulics

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE HYDROLOGY & HYDRAULICS FORM

O.M.B. No. 1660-0016
Expires February 28, 2014

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 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, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington VA 20068-3005. 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, 2008, 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: _____

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)

- Statistical Analysis of Gage Records
 Precipitation/Runoff Model → Specify Model: _____
 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.

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 Elevations (ft.)	
		Effective	Proposed/Revised
Downstream Limit*	_____	_____	_____
Upstream Limit*	_____	_____	_____

*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: _____

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.

Models Submitted	Natural Run		Floodway Run		Datum
	File Name:	Plan Name:	File Name:	Plan Name:	
Duplicate Effective Model*	_____	_____	_____	_____	_____
Corrected Effective Model*	_____	_____	_____	_____	_____
Existing or Pre-Project Conditions Model	_____	_____	_____	_____	_____
Revised or Post-Project Conditions Model	_____	_____	_____	_____	_____
Other - (attach description)	_____	_____	_____	_____	_____

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

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: _____ Date: _____

Accuracy: _____

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) increase? Yes No

a. 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.

b. Does this LOMR request cause increase in the BFE and/or SFHA compared with the effective BFEs and/or SFHA? Yes No

If Yes, please attach proof of property owner notification and acceptance (if available). Elements of and examples of property owner notifications can be found in the MT-2 Form 2 Instructions.

2. 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.

3. For LOMR requests, is the regulatory floodway being revised? 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. (Not required for revisions to approximate 1%-annual-chance floodplains [studied Zone A designation] unless a regulatory floodway is being established. Elements and examples of regulatory floodway revision notification can be found in the MT-2 Form 2 Instructions.)

4. 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.

* Not inclusive of all applicable regulatory requirements. For details, see 44 CFR parts 60 and 65.

MT-2 Form 3: Riverine Structures Form

DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
RIVERINE STRUCTURES FORM

O.M.B. NO. 1660-0016
Expires February 28, 2014

PAPERWORK BURDEN DISCLOSURE NOTICE
Public reporting burden for this form is estimated to average 7 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 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, Department of Homeland Security, Federal Emergency Management Agency, 1800 South Bell Street, Arlington, VA 20566-3005, 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; Letter of Map Amendment (LOMA) February 15, 2008, 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: _____
Note: Fill out one form for each flooding source studied.

A. GENERAL
Complete the appropriate section(s) for each Structure listed below:
Channelization.....complete Section B
Bridge/Culvert.....complete Section C
Dam.....complete Section D
Levee/Floodwall.....complete Section E
Sediment Transport.....complete Section F (if required)

Description Of Modeled Structure

1. Name of Structure: _____
Type (check one): Channelization Bridge/Culvert Levee/Floodwall Dam
Location of Structure: _____
Downstream Limit/Cross Section: _____
Upstream Limit/Cross Section: _____

2. Name of Structure: _____
Type (check one): Channelization Bridge/Culvert Levee/Floodwall Dam
Location of Structure: _____
Downstream Limit/Cross Section: _____
Upstream Limit/Cross Section: _____

3. Name of Structure: _____
Type (check one): Channelization Bridge/Culvert Levee/Floodwall Dam
Location of Structure: _____
Downstream Limit/Cross Section: _____
Upstream Limit/Cross Section: _____

NOTE: FOR MORE STRUCTURES, ATTACH ADDITIONAL PAGES AS NEEDED.

B. CHANNELIZATION

Flooding Source: _____
Name of Structure: _____

1. **Hydraulic Considerations**
The channel was designed to carry _____ (cfs) and/or the _____-year flood.
The design elevation in the channel is based on (check one):
 Subortical flow Critical flow Supercritical flow Energy grade line
If there is the potential for a hydraulic jump at the following locations, check all that apply and attach an explanation of how the hydraulic jump is controlled without affecting the stability of the channel.
 Inlet to channel Outlet of channel At Drop Structures At Transitions
 Other locations (specify): _____

2. **Channel Design Plans**
Attach the plans of the channelization certified by a registered professional engineer, as described in the instructions.

3. **Accessory Structures**
The channelization includes (check one):
 Levees [Attach Section E (Levee/Floodwall)] Drop structures Superelevated sections
 Transitions in cross sectional geometry Debris basin/detention basin [Attach Section D (Dam/Basin)] Energy dissipator
 Weir Other (Describe): _____

4. **Sediment Transport Considerations**
Are the hydraulics of the channel affected by sediment transport? Yes No
If yes, then fill out Section F (Sediment Transport) of Form 3. If No, then attach your explanation for why sediment transport was not considered.

C. BRIDGE/CULVERT

Flooding Source: _____
Name of Structure: _____

1. This revision reflects (check one):
 Bridge/culvert not modeled in the FIS
 Modified bridge/culvert previously modeled in the FIS
 Revised analysis of bridge/culvert previously modeled in the FIS

2. Hydraulic model used to analyze the structure (e.g., HEC-2 with special bridge routine, WSPRO, HY8): _____
If different than hydraulic analysis for the flooding source, justify why the hydraulic analysis used for the flooding source could not analyze the structures. Attach justification.

3. Attach plans of the structures certified by a registered professional engineer. The plan detail and information should include the following (check the information that has been provided):
 Dimensions (height, width, span, radius, length) Distances Between Cross Sections
 Shape (culverts only) Erosion Protection
 Material Low Chord Elevations – Upstream and Downstream
 Beveling or Rounding Top of Road Elevations – Upstream and Downstream
 Wing Wall Angle Structure Invert Elevations – Upstream and Downstream
 Skew Angle Stream Invert Elevations – Upstream and Downstream
 Cross-Section Locations

4. **Sediment Transport Considerations**
Are the hydraulics of the structure affected by sediment transport? Yes No
If Yes, then fill out Section F (Sediment Transport) of Form 3. If no, then attach an explanation.

D. DAM/BASIN

Flooding Source: _____
Name of Structure: _____

1. This request is for (check one): Existing dam/basin New dam/basin Modification of existing dam/basin

2. The dam/basin was designed by (check one): Federal agency State agency Private organization Local government agency
Name of the agency or organization: _____

3. The Dam was permitted as (check one): Federal Dam State Dam
Provide the permit or identification number (ID) for the dam and the appropriate permitting agency or organization
Permit or ID number _____ Permitted Agency or Organization _____
a. Local Government Dam Private Dam
Provided related drawings, specification and supporting design information.

4. Does the project involve revised hydrology? Yes No
If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2).
Was the dam/basin designed using critical duration storm? (must account for the maximum volume of runoff)
 Yes, provide supporting documentation with your completed Form 2.
 No, provide a written explanation and justification for not using the critical duration storm.

5. Does the submittal include debris/sediment yield analysis? Yes No
If Yes, then fill out Section F (Sediment Transport). If No, then attach your explanation for why debris/sediment analysis was not considered?

6. Does the Base Flood Elevation behind the dam/basin or downstream of the dam/basin change? Yes No
If Yes, complete the Riverine Hydrology & Hydraulics Form (Form 2) and complete the table below.

FREQUENCY (% annual chance)	Stillwater Elevation Behind the Dam/Basin	
	FIS	REVISED
10-year (10%)	_____	_____
50-year (2%)	_____	_____
100-year (1%)	_____	_____
500-year (0.2%)	_____	_____
Normal Pool Elevation	_____	_____

7. Please attach a copy of the formal Operation and Maintenance Plan

E. LEVEE/FLOODWALL

+ 8 pages for levee certification

Review Fees

<https://www.fema.gov/flood-maps/change-your-flood-zone/status/flood-map-related-fees>

Product or Service - <u>LOMR</u>	User Fee	Online Submission Fee
Bridge, Culvert, Channel or Combination	\$8,250	\$8,000
As-Built Follow-up to CLOMR	\$8,250	\$8,000
Levee, Berm, or Other Structural Measure	\$9,250 ¹	\$9,000 ¹
LOMR based on structural measures on alluvial fans	\$7,250 ¹	\$7,000 ¹
Based solely on more Detailed Data	\$0	\$0
¹ Initial Fee Only - \$60/hr thereafter		

<https://hazards.fema.gov/fema-portal/online-locator/signin>

Review Fees

<https://www.fema.gov/flood-maps/change-your-flood-zone/status/flood-map-related-fees>

Product or Service - <u>CLOMR</u>	User Fee	Online Submission Fee
New Hydrology, Bridge, Culvert, Channel or Combination	\$6,750	\$6,500
Levee, Berm, or Other Structural Measure	\$7,250 ¹	\$7,000 ¹
CLOMR based on structural measures on alluvial fans	\$7,250 ¹	\$7,000 ¹
¹ Initial Fee Only - \$60/hr thereafter		

Review Fees

<https://www.fema.gov/flood-maps/change-your-flood-zone/status/flood-map-related-fees>

Product or Service - <u>PMR</u>	User Fee	Online Submission Fee
New Hydrology, Bridge, Culvert, Channel or Combination	\$8,250 ¹	\$8,000 ¹
As-Built Follow-up to CLOMR	\$8,250 ¹	\$8,000 ¹
PMR based on a levee, berm, or other structural measure	\$9,250 ²	\$9,000 ²
PMR based on structural measures on alluvial fans	\$7,250 ²	\$7,000 ²
¹ Plus \$2,500 per FIRM panel		
² Plus \$2,500 per FIRM panel and plus \$60/hr thereafter		

Review Fees

Fee Exemptions:

- Fixing mapping or study **analysis errors**
 - Existing conditions LOMRs reflecting **natural changes** within the SFHA
 - Federally sponsored **flood-control projects** where 50 percent or more of the project's costs are federally funded
 - Detailed H&H conducted to **replace Zone A with detailed study**
 - Homeowner Flood Insurance Affordability Act of 2014 (Public Law 113-89, section 22): a project where: (1) primary purpose is **habitat restoration**; and (2) the project is funded in whole or in part with Federal or State funds.
- ❖ **Improvements to flood maps or studies that partially or wholly incorporate manmade modifications within the SFHA will not be exempt**



MT-2 Submittal Requirements

Project Narrative

- Describe the project area and what work was done
 - Describe the objective of this LOMC (ex: establish BFEs in a previous Zone A)
 - Explain engineering judgement, including model input variables, model progression (effective » pre-project » post-project), unique/complex aspects of analysis, etc.
 - Provide explanation for any fee exemption or special response requested on MT-2 Forms
- ❖ **Failure to identify basic components of the revision will require clarification to your reviewer, and may delay the overall processing time**



MT-2 Submittal Requirements

Hydrology and Hydraulics Revision

- ❖ **Before you start, ensure you are using a model on the list of FEMA approved models**

*Due to some recent platform changes, these site links may be unavailable.

Hydraulics:

<https://www.fema.gov/hydraulic-numerical-models-meeting-minimum-requirement-national-flood-insurance-program>

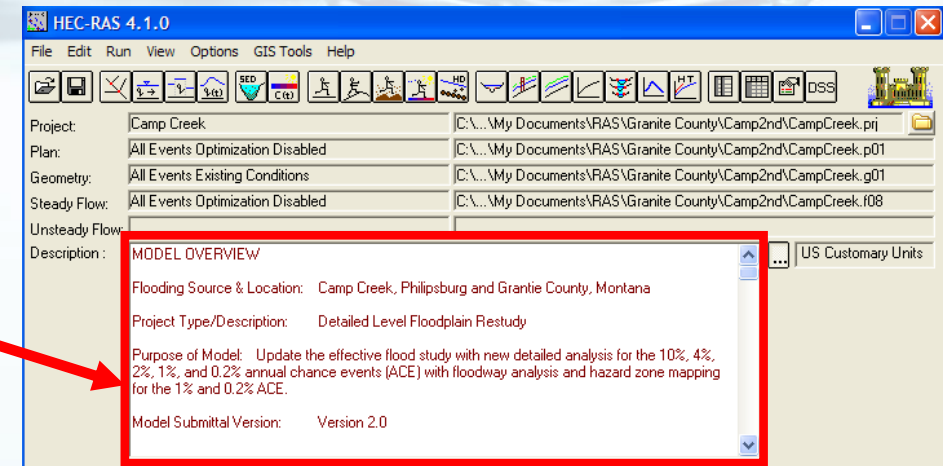
Hydrology:

<https://www.fema.gov/hydrologic-models-meeting-minimum-requirement-national-flood-insurance-program>

MT-2 Submittal Requirements

Hydrologic/Hydraulic Models:

- Provide digital (executable) version of the model
- Document input variables in the report (ex: manning's-n, vertical datum conversions, soil types, rainfall depths, etc.)
- Submit appropriate as-built or proposed plans to verify structures in model (certified and datum listed)
- Recommended to list vertical datum and details in the description box



MT-2 Submittal Requirements

Hydraulic Model Progression

1. **Duplicate Effective Model:** A reproduction of the Effective model covering the area of revision. (Contact FEMA engineering library or community)
 2. **Corrected Effective Model:** Used to correct errors in the Duplicate Effective model. Must not reflect any man-made physical changes since the date of the Effective model.
 3. **Existing/Pre-Project Conditions Model:** Reflects current conditions/terrain. Used to evaluate actual impacts of the project.
 4. **Revised/Proposed/Post-Project Conditions Model:** Incorporates the physical changes to the model.
- ❖ Good to describe changes between models in Project Narrative

MT-2 Submittal Requirements

Why all these models?

- Duplicate effective
 - Confirms you have the effective model
 - Allows for revision to be integrated into the effective data
- Comparisons:
 - Existing vs. Duplicate/Corrected Effective – identify potential violations
 - Existing vs. Proposed/Post-project – what are the true impacts of the project?
 - Proposed/Post-project vs. Effective – what regulatory data will be changing, and who needs official notification?

MT-2 Submittal Requirements

Hydraulic Model Requirements

- CFR 44 § 65.6(a)(2): When BFEs established, a revised analysis must **tie-in vertically within 0.5-ft** at upstream and downstream ends.
- CFR 44 § 65.6(a)(8): A revision must study the **same recurrence intervals as studied in the effective** FIS (0.2%, 1%, 2%, 10%).

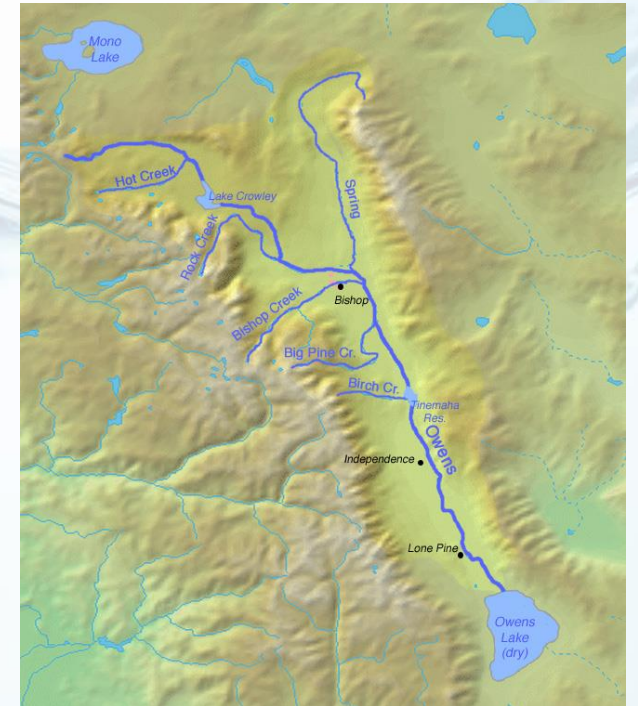
Unless basis of request is new methodology or it can be shown that effective methods are inappropriate, **revision should be made in the same model type as the effective.**

- For requests where an executable effective model is available, the revision should be incorporated into that model and not truncated to the revision area.

MT-2 Submittal Requirements

Hydrologic Analyses

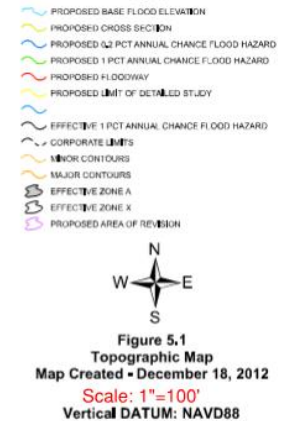
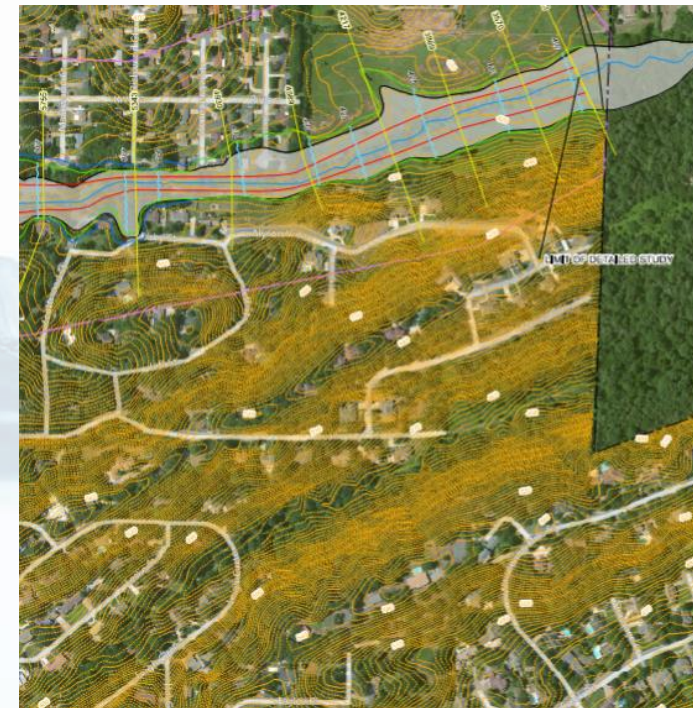
- All backup calculations (Tc, CN, regression eqns., etc.)
 - Supporting data (soil types, land use, gage data)
 - Certified topographic drainage area map
 - Ensure change in hydrology is significant (>5%)
 - Appropriate level of detail:
 1. Gage analysis (best)
 2. Rainfall Runoff
 3. Regression (lowest detail)
- * Revised hydrology should be as good or better than the effective analysis**



MT-2 Submittal Requirements

Topographic Work Map

- Certified (signed, sealed, dated)
- Effective floodplain delineations
- Revised floodplain delineations
- Graphical tie-in
- Topography: Use best available. Must be as detailed or better than effective.
- Vertical Datum, Scale, North



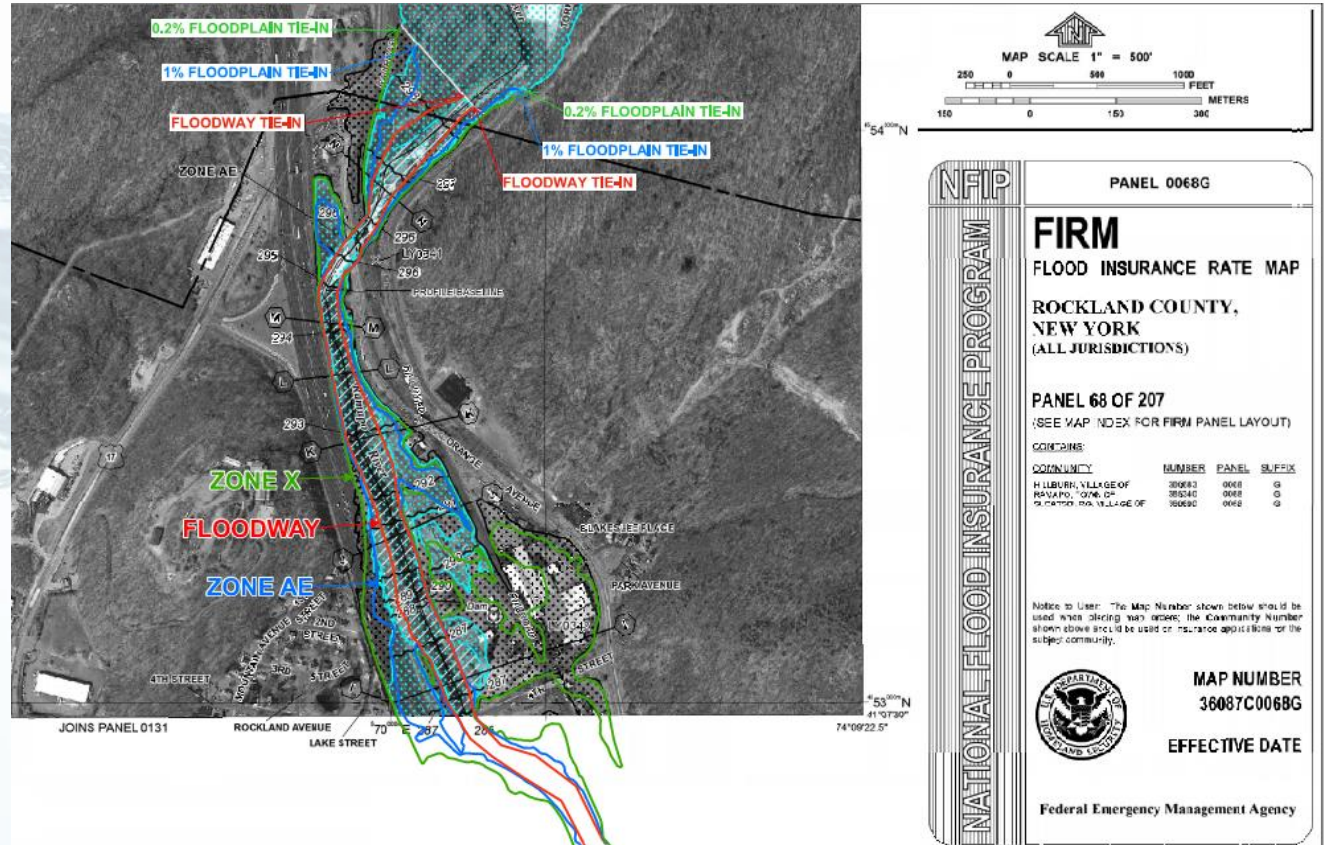
Seal and sign the workmap here.

LOMRs - submit digital mapping files associated to work map (GIS or CAD)

MT-2 Submittal Requirements

Annotated FIRM

- Obtain effective FIRM
- Overlay revised delineations
- Show floodplain tie-in
- Maintain scale and title block of FIRM



MT-2 Submittal Requirements

Property Owner Notification

WHO: MT-2 applicant responsible for notification, but community must be involved for floodway changes

WHY: Any floodway changes, BFE/SFHA increases, or existing vs. proposed increases [1 ft for no floodway, 0.00ft for floodway – CLOMR only]

CONTENT: Draft form letters available in the MT-2 Instructions document (Community, FIRM panel, reach description, floodway changes, SFHA/BFE increases, contacts to review data)

MT-2 Submittal Requirements

Property Owner Notification

Notification may take the form of individual notifications or newspaper notifications. **Some stipulations.**

Floodway:

Individual notifications sent on community letterhead, or a statement provided by community official that everyone affected by floodway revision has been notified.

***Newspaper notification still acceptable.**

CLOMR:

If 65.12 is required, **individual notifications are mandatory.**

A dynamic splash of clear water against a light blue background, with numerous bubbles and droplets scattered throughout. The water is captured in mid-motion, creating a sense of energy and freshness.

MT-2 Review Process

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Review Process and Determination

Roles in the Review Process:

- **Technical Review of Request**

Technical review comments are combined into FEMA's AD (additional data) request letter and sent by email.

- FEMA Region VIII PTS Contractor: Compass JV (CDM Smith)

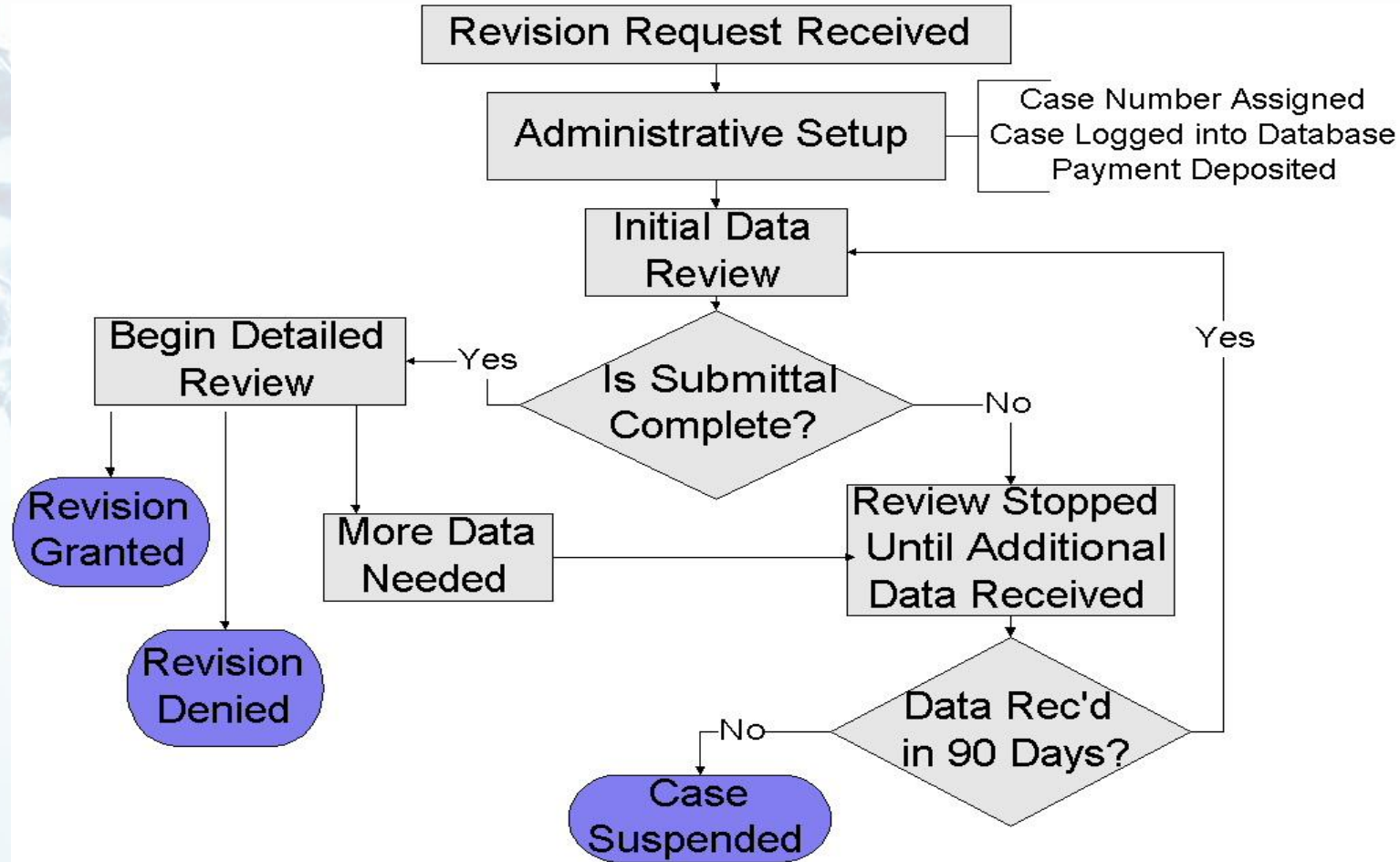
- **Technical Assistance and Violation Resolution**

FEMA Regional Offices

- **Final Review and Signature**

FEMA Headquarters

Review Process and Determination



Review Process and Determination

Initial Data Review:

Basic overview and completeness check

- Fee
- MT-2 Forms (and signatures)
- Models
- Maps
- Notifications
- Tie-in to effective data

MT-2 REVISION REQUEST SUBMITTAL CHECKLIST

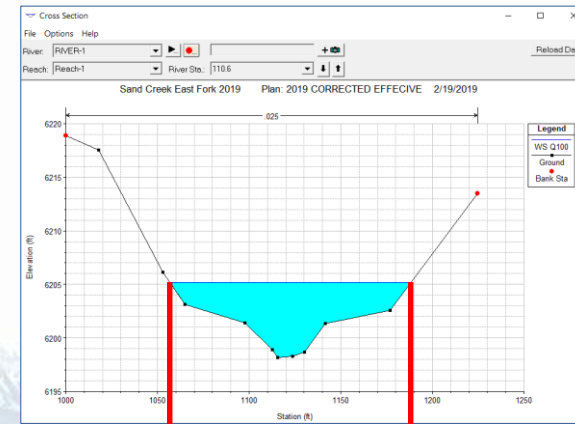
PART A: GENERAL REQUIREMENTS

ELEMENTS	Yes	N/A
NARRATIVE: Please provide a written description of the purpose of the request, the scope of the proposed/as-built project, and the methodology used to analyze the project effects.		
MT-2 APPLICATION FORMS: Please provide completed forms applicable to your request. Ensure that MT-2 Form 1 was signed by the requester, certifying engineer, and each community affected by the revision.		
HYDROLOGIC ANALYSIS: If applicable, please provide a FEMA-acceptable hydrologic analysis in digital format, a drainage area map, and associated backup information (e.g., calculations used to determine lag time, CN, and loss values, as well as land use and soil maps). FEMA-acceptable models can be accessed at https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping-numerical-models-meeting-minimum-requirements .		
HYDRAULIC ANALYSIS: Please provide a FEMA-acceptable hydraulic analysis in digital format. Information on FEMA-acceptable models can be accessed at https://www.fema.gov/national-flood-insurance-program-flood-hazard-mapping-numerical-models-meeting-minimum-requirements .		
CERTIFIED TOPOGRAPHIC WORK MAP: Please provide a certified topographic work map that meets the mapping requirements outlined in MT-2 Form 2. If available, please provide spatially referenced Geographic Information System (GIS) data. If GIS data are not available, you may submit digital Computer-Aided Design (CAD) data.		
ANNOTATED FIRM: Please submit a revised Flood Insurance Rate Map (FIRM), at the scale of the effective FIRM, which shows the revised boundary delineation of the base (1-percent-annual-chance) floodplain, 0.2-percent-annual-chance floodplain, and regulatory floodway and how it ties into the boundary delineation shown on the effective FIRM at the downstream and upstream ends of the revised reach.		
REVIEW FEE PAYMENT: Please include the appropriate review fee payment. The current fee schedule is available on the FEMA website at https://www.fema.gov/flood-map-related-fees .		
MEET 65.10 REQUIREMENT: If you intend to show that a berm/levee/floodwall reduces the flood hazard, please submit all the NFIP data requirements outlined in Title 44, Chapter 1, Section 65.10 of the Code of Federal Regulations (44 CFR §65.10).		
OPERATION AND MAINTENANCE PLAN: If the request involves a berm, levee, floodwall, dam, and/or detention basin project, please submit an officially adopted operation and maintenance plan.		
PROPOSED/AS-BUILT PLANS: Please submit proposed/as-built plans, certified by a registered Professional Engineer, for all project elements for which this applies.		
FLOODWAY NOTICE: If the revision results in changing or establishing regulatory floodway boundaries, please provide a floodway public notice or a statement by your community that it has notified all affected property owners, in compliance with the National Flood Insurance Program (NFIP) regulations at 44 CFR §65.7(b)(1).		
PROPERTY OWNER NOTIFICATION: If the revision results in any widening/shifting/establishing of a base floodplain and/or any increasing/establishing of Base Flood Elevations (BFEs), please provide copies of the individual legal notices sent to all property owners affected by increased flood hazards.		

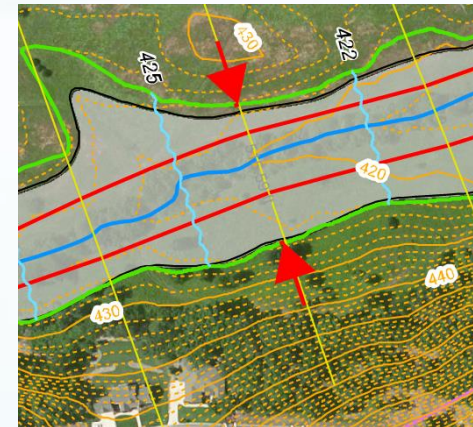
Review Process and Determination

Detailed Review:


- Technical review of Hydrology and Hydraulics
- Check compliance with Guides and Specs, as well as best practices
- Map-Model agreement
- Check for potential violations
- * Data is reviewed to the fullest extent possible



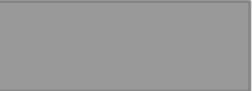
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Additional Data Requests

 **NATIONAL FLOOD INSURANCE PROGRAM**
FEMA PRODUCTION AND TECHNICAL SERVICES CONTRACTOR

November 20, 2018

 IN REPLY REFER TO:
Case No.: 18-08-1159R
Community: Town of Herriman, Utah
Community No.: 490252
316-AD

Dear Mr. Shurtz:

This responds to your request dated August 27, 2018, that the Department of Homeland Security's Federal Emergency Management Agency (FEMA) issue a conditional revision to the Flood Insurance Rate Map (FIRM) for Salt Lake County, Utah, and Incorporated Areas. Pertinent information about the request is listed below.

Identifier:	Butterfield Creek
Flooding Source:	Butterfield Creek
FIRM Panels Affected:	49035C0418G and 49035C0425G

The data required to complete our review, which must be submitted within 90 days of the date of this letter, are listed on the attached 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. The fee schedule is available for your information on the FEMA website at <http://www.fema.gov/forms-documents-and-software/flood-map-related-fees>.

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 if the requested data are not received within 90 days.

LDMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6420 / PH: 1-877-FEMA-MAP / FX: 1-800-358-9620

Compass, under contract with the Federal Emergency Management Agency, is a Production and Technical Services provider for the National Flood Insurance Program

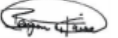
90 Day Deadline

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

30- and 60-day reminders will be sent to emphasize deadline

Page 2 of 2

If you have general questions about your request, FEMA policy, or the National Flood Insurance Program (NFIP), please contact the FEMA Map Information 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, Ms. Casey Martin, by e-mail at martinc@cdmsmith.com or by telephone at (303) 383-2333, or the Revisions Coordinator for your state, Mr. Henry Poburka, by e-mail at noburkahw@cdmsmith.com or by telephone at (303) 383-2369.


Sincerely,

Benjamin Kaiser, P.E., CFM
Revisions Manager
Compass PTS JV

Attachment:
Summary of Additional Data
Legal Notice Templates


cc: Mr. Blake Thomas, P.E.
City Engineer
City of Herriman

316-AD

Case No.: 18-08-1159R

 **NATIONAL FLOOD INSURANCE PROGRAM**
FEMA PRODUCTION AND TECHNICAL SERVICES CONTRACTOR

Summary of Additional Data Required to Support a Conditional Letter of Map Revision (CLOMR)

Case No.: 18-08-1159R Requester: 

Community: Town of Herriman, Utah Community No.: 490252

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

- The submitted narrative indicates that the corporate limits have changed from what is showing on the Flood Insurance Rate Map (FIRM) Panels 49035C0418G and 49035C0425G. Please submit a copy of the official annexation agreement. Please note that the corporate boundaries will not be updated on the final LOMR documents.
- If all proposed changes are not contained within the corporate limits of the Town of Herriman, please submit a copy of MT-2 Form 1, signed by a community official (preferably the Floodplain Administrator) for all affected communities.
- Our review of your submittal revealed that backup information for the parameters in the hydrologic model was not provided. This information includes a certified drainage area map with labeled contours, land use and soils information, curve number calculations, and time of concentration calculations. Please provide this information to support the hydrologic analysis.
- Please indicate which plan in the HEC-HMS hydrologic model is the correct model and ensure that the flows in the HEC-RAS hydraulic model are consistent with the output discharges from the hydrologic model.
- Our review revealed that the existing culvert at Cross Section 945 has not previously been modeled. Please submit certified (sealed, signed, and dated) as-built plans or surveys for each hydraulic structure included in the hydraulic model. The plans should include the dimensions of the structures and all elevations necessary for verification of the hydraulic modeling. Also, please ensure that the vertical datum is referenced on each plan. If the modeling of a structure has changed from the effective modeling or not previously been modeled, please revise MT-2 Form 3, entitled "Riverine Structures Form," to include this information.
- Our review of the submitted hydraulic analyses revealed the following issues. Please revise the hydraulic analyses appropriately or provide an explanation for why the requested changes are not necessary.
 - FEMA accepts 1-percent-annual chance (base) flood calculations based on supercritical flow depths only for concrete-lined, engineered channels. Because the existing channel is not concrete lined, critical depth is the minimum depth permissible to map the base floodplain boundary delineations along this reach. Please revise the hydraulic analysis for this model to use subcritical modeling or provide an explanation for why this is not necessary.

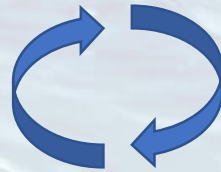
LDMC Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6420 / PH: 1-877-FEMA-MAP / FX: 1-800-358-9620

Compass, under contract with the Federal Emergency Management Agency, is a Production and Technical Services provider for the National Flood Insurance Program

Review Process and Determination

Review Timeline:

FEMA required to issue a determination or notify of additional data required within **90 days**



If Additional Data is required, the requester has **90 days** to fully address all requested items

Reviews progress in 90-day (potentially less) increments. Most revisions require at least 1 data request. Plan schedule accordingly



Review Process and Determination

Review Completion:

- Technical Review Completed
- Determination document and cover letter prepared
- Annotated FIRM attachment created [LOMR]
- Annotated FIS attachments prepared (profiles, tables)[LOMR]
- Package sent to FEMA HQ for final review and signature

LOMR – Final Product



Federal Emergency Management Agency

Washington, D.C. 20472

May 19, 2017

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Troy K. Walker
Mayor, City of Draper

IN REPLY REFER TO:

Case No.: 17-08-0291P
Community Name: City of Draper, UT
Community No.: 490244
Effective Date of
This Revision: **October 2, 2017**

Dear Mayor Walker:

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 revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals issued in your community.

Additional documents are enclosed that 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 Denver, Colorado, at (303) 235-4830, or the FEMA Map Information eXchange (FMIX) 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/national-flood-insurance-program>.

Sincerely,

Patrick "Rick" F. Saebibit, 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. Dan Boles, AICP
Community Development Director
City of Draper




██████████
Project Manager



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

LOMR – Final Product

Page 1 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT				
COMMUNITY AND REVISION INFORMATION		PROJECT DESCRIPTION	BASIS OF REQUEST	
COMMUNITY	City of Draper Salt Lake County Utah	NO PROJECT	FLOODWAY HYDRAULIC ANALYSIS UPDATED TOPOGRAPHIC DATA	
	COMMUNITY NO.: 490244			
IDENTIFIER	13485 South Minuteman Drive	APPROXIMATE LATITUDE AND LONGITUDE: 40.967, -111.890 SOURCE: USGS QUADRANGLE DATUM: NAD 83		
ANNOTATED MAPPING ENCLOSURES		ANNOTATED STUDY ENCLOSURES		
TYPE: FIRM*	NO.: 49035C0444G DATE: September 25, 2009	DATE OF EFFECTIVE FLOOD INSURANCE STUDY: August 2, 2012 PROFILES: 34P-35P FLOODWAY DATA TABLE: 12		
Enclosures reflect changes to flooding sources affected by this revision. * FIRM - Flood Insurance Rate Map				
FLOODING SOURCE AND REVISED REACH				
Corner Canyon Creek - From approximately 610 feet downstream of Interstate 15 to approximately 320 feet downstream of 150 East Street				
SUMMARY OF REVISIONS				
Flooding Source	Effective Flooding	Revised Flooding	Increase	Decrease
Corner Canyon Creek	Zone AE	Zone AE	NONE	YES
	BFEs*	BFEs	YES	YES
	Floodway	Floodway	YES	YES
* BFEs - Base Flood Elevations				
DETERMINATION				
This document provides the determination from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) regarding a request for a Letter of Map Revision (LOMR) for the area described above. Using the information submitted, we have determined that a revision to the flood hazards depicted in the Flood Insurance Study (FIS) report and/or National Flood Insurance Program (NFIP) map is warranted. This document revises the effective NFIP map, as indicated in the attached documentation. Please use the enclosed annotated map panels revised by this LOMR for floodplain management purposes and for all flood insurance policies and renewals in your community.				
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		
17-08-0291P		102-I-A-C		

Page 2 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
COMMUNITY INFORMATION				
APPLICABLE NFIP REGULATIONS/COMMUNITY OBLIGATION				
We have made this determination pursuant to Section 206 of the Flood Disaster Protection Act of 1973 (P.L. 93-234) and in accordance with the National Flood Insurance Act of 1968, as amended (Title XIII of the Housing and Urban Development Act of 1968, P.L. 90-448), 42 U.S.C. 4001-4128, and 44 CFR Part 65. Pursuant to Section 1361 of the National Flood Insurance Act of 1968, as amended, communities participating in the NFIP are required to adopt and enforce floodplain management regulations that meet or exceed NFIP criteria. These criteria, including adoption of the FIS report and FIRM, and the modifications made by this LOMR, are the minimum requirements for continued NFIP participation and do not supersede more stringent State/Commonwealth or local requirements to which the regulations apply.				
We provide the floodway designation to your community as a tool to regulate floodplain development. Therefore, the floodway revision we have described in this letter, while acceptable to us, must also be acceptable to your community and adopted by appropriate community action, as specified in Paragraph 60.3(d) of the NFIP regulations.				
COMMUNITY REMINDERS				
We based this determination on the 1-percent-annual-chance flood discharges computed in the FIS for your community without considering subsequent changes in watershed characteristics that could increase flood discharges. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges subsequent to the publication of the FIS report for your community and could, therefore, establish greater flood hazards in this area.				
Your community must regulate all proposed floodplain development and ensure that permits required by Federal and/or State/Commonwealth law have been obtained. State/Commonwealth or community officials, based on knowledge of local conditions and in the interest of safety, may set higher standards for construction or may limit development in floodplain areas. If your State/Commonwealth or community has adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.				
We will not print and distribute this LOMR to primary users, such as local insurance agents or mortgage lenders; instead, the community will serve as a repository for the new data. We encourage you to disseminate the information in this LOMR by preparing a news release for publication in your community's newspaper that describes the revision and explains how your community will provide the data and help interpret the NFIP maps. In that way, interested persons, such as property owners, insurance agents, and mortgage lenders, can benefit from the information.				
This determination is based on the flood data presently available. The enclosed documents provide additional information regarding this determination. If you have any questions about this document, please contact the FEMA Map Information eXchange toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMR Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		
17-08-0291P		102-I-A-C		

Page 3 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:				
Ms. Jeanine D. Peterson Director, Mitigation Division Federal Emergency Management Agency, Region VIII Denver Federal Center, Building 710 P.O. Box 25267 Denver, CO 80225-0267 (303) 235-4830				
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 LOMR Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		
17-08-0291P		102-I-A-C		

Page 4 of 4	Issue Date: May 19, 2017	Effective Date: October 2, 2017	Case No.: 17-08-0291P	LOMR-APP
 Federal Emergency Management Agency Washington, D.C. 20472				
LETTER OF MAP REVISION DETERMINATION DOCUMENT (CONTINUED)				
PUBLIC NOTIFICATION OF REVISION				
A notice of changes will be published in the <i>Federal Register</i> . This information also will be published in your local newspaper on or about the dates listed below, and through FEMA's Flood Hazard Mapping website at https://www.floodmaps.fema.gov/fhm/bfc_status/bfc_main.asp				
LOCAL NEWSPAPER	Name: Salt Lake Tribune	Dates: May 26, 2017 and June 2, 2017		
Within 90 days of the second publication in the local newspaper, any interested party may request that we reconsider this determination. Any request for reconsideration must be based on scientific or technical data. Therefore, this letter will be effective only after the 90-day appeal period has elapsed and we have resolved any appeals that we receive during this appeal period. Until this LOMR is effective, the revised flood hazard determination presented in this LOMR may be changed.				
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 LOMR Clearinghouse, 3601 Eisenhower Avenue, Suite 500, Alexandria, VA 22304-6426. Additional information about the NFIP is available on our website at http://www.fema.gov/national-flood-insurance-program				
 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		 Patrick "Rick" F. Sacibit, P.E., Branch Chief Engineering Services Branch Federal Insurance and Mitigation Administration		
17-08-0291P		102-I-A-C		

NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

LOMR – Final Product

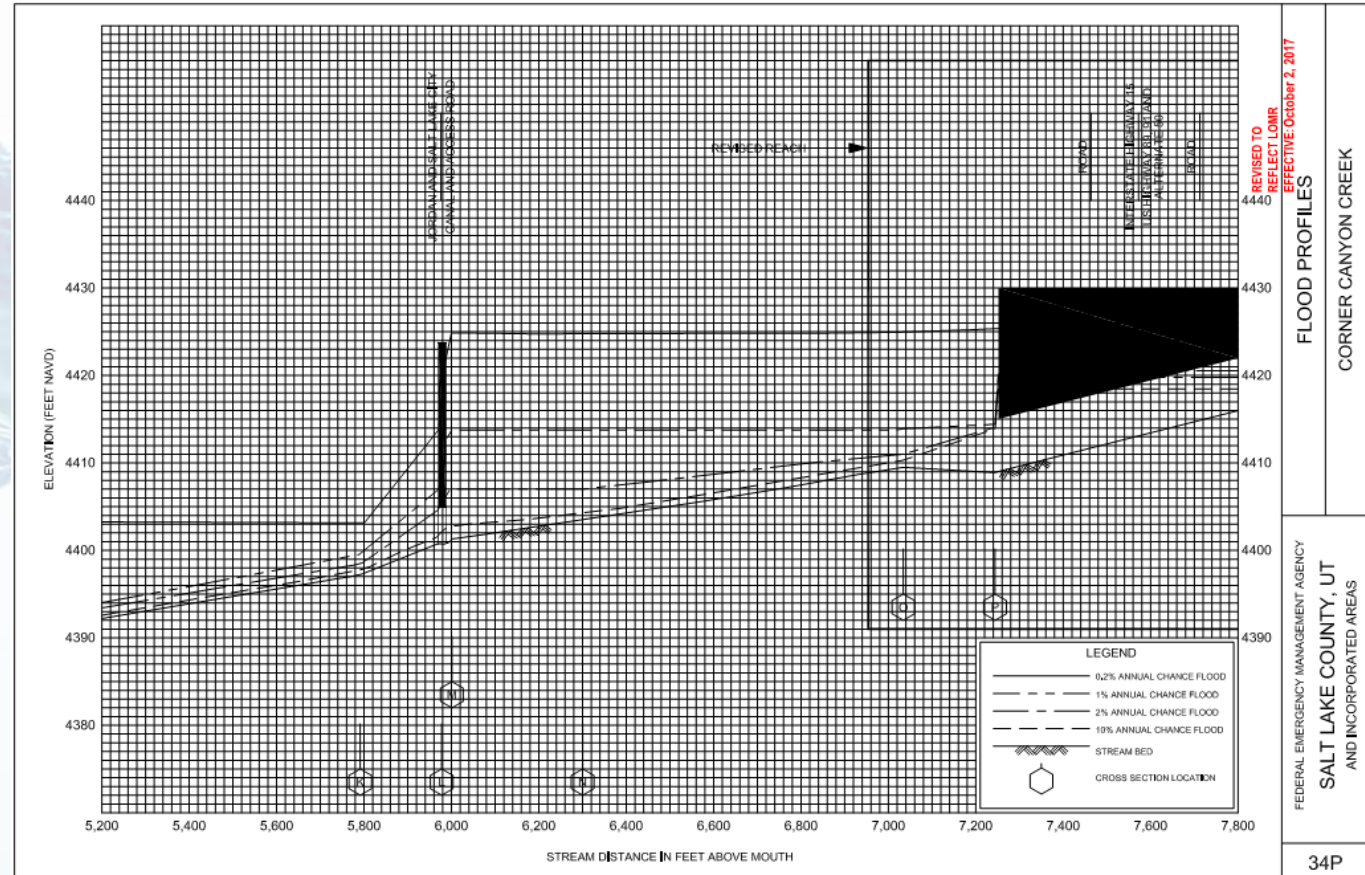
CROSS SECTION	DISTANCE ¹	FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION			
		WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY NAVD 88	WITHOUT FLOODWAY FEET (NAVD 88)	WITH FLOODWAY	INCREASE
CORNER CANYON CREEK								
A	200	70	119	2.0	4,349.5	4,349.5	4,349.5	0.0
B	670	70	97	2.5	4,349.5	4,349.5	4,349.5	0.0
C	1,190	71	50	4.8	4,356.7	4,356.7	4,356.7	0.0
D	1,950	30	59	4.1	4,364.6	4,364.6	4,364.8	0.2
E	2,560	47	44	5.5	4,373.2	4,373.2	4,373.2	0.0
F	2,860	36	74	3.2	4,375.5	4,375.5	4,375.5	0.0
G	3,031	40	376	0.8	4,386.9	4,386.9	4,386.9	0.0
H	3,380	40	199	1.6	4,386.9	4,386.9	4,386.9	0.0
I	4,080	40	180	1.7	4,386.9	4,386.9	4,386.9	0.0
J	5,100	30	45	7.0	4,393.2	4,393.2	4,393.3	0.1
K	5,790	30	74	4.3	4,399.2	4,399.2	4,400.0	0.8
L	5,970	4	23	13.7	4,406.6	4,406.6	4,406.6	0.0
M	6,000	20	244	1.3	4,413.8	4,413.8	4,413.8	0.0
N	6,300	30	259	1.2	4,413.8	4,413.8	4,413.8	0.0
O	7,034	30	92	3.4	4,413.9	4,413.9	4,413.9	0.0
P	7,244	31	121	2.6	4,414.4	4,414.4	4,414.4	0.0
Q	7,958	38	49	6.5	4,424.5	4,424.5	4,424.5	0.0
R	9,347	20	96	3.3	4,436.4	4,436.4	4,436.4	0.0
S	9,846	31	79	4	4,443.7	4,443.7	4,443.7	0.0
T	10,205	15	59	5.4	4,445.0	4,445.0	4,445.0	0.0
U	10,785	29	75	3.8	4,447.8	4,447.8	4,447.8	0.0
V	11,240	26	62	4.6	4,450.4	4,450.4	4,450.4	0.0
W	11,960	20	43	6.7	4,454.7	4,454.7	4,454.7	0.0
X	12,200	36	53	5.4	4,457.4	4,457.4	4,457.4	0.0
Y	13,160	39	63	4.6	4,462.2	4,462.2	4,462.2	0.0
Z	13,440	36	46	6.2	4,464.7	4,464.7	4,464.7	0.0

¹ Stream distance in feet above confluence with Jordan River.

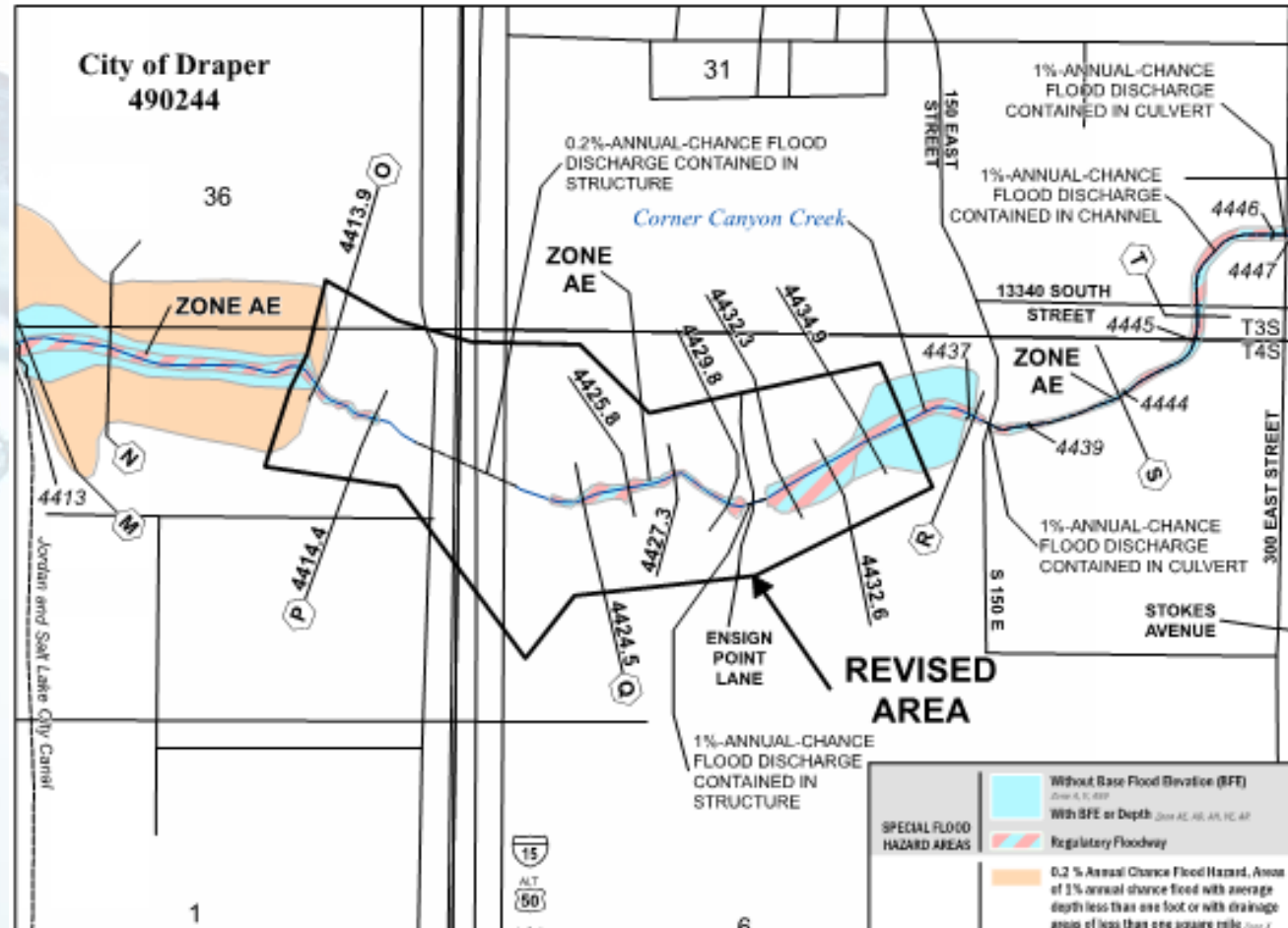
REVISED TO REFLECT LOMR EFFECTIVE: October 2, 2017

FEDERAL EMERGENCY MANAGEMENT AGENCY
**SALT LAKE COUNTY, UT
AND INCORPORATED AREAS**

FLOODWAY DATA
CORNER CANYON CREEK



LOMR – Final Product



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data Submitting MT-2s • FEMA Review Process • Common Mistakes

Review Process and Determination

When is my LOMR effective?

As of December 1, 2011, all LOMRs are subject to Expanded Appeal Process (EAP)

*Approximately 4.5 months from issue date for case to be effective



- When revision requires ordinance update, additional 3 months added for ordinance adoption timeline
- Only exception to appeal period is Reissuance cases

Review Process and Determination

Effects on MT-1:

All effective MT-1 cases (LOMA, LOMR-F, CLOMA, CLOMR-F) within a LOMR revision area will be automatically superseded.

LOMR requester, affected property owner, or community must request that affected MT-1 cases be reevaluated, or a new MT-1 application must be made.

A background image featuring a dynamic splash of clear water against a light blue gradient. The water is captured in mid-air, with numerous droplets and bubbles visible, creating a sense of movement and freshness. The overall tone is clean and refreshing.

Participation

Participation

Q: True or False – It costs \$8000 (online) review fee for me to update the maps for the erosion that has occurred in my channel.

Participation

Q: True or False – It costs \$8000 (online) review fee for me to update the maps for the erosion that has occurred in my channel.

A: False – A LOMR submitted to reflect natural changes in a reach is fee exempt as long as no man-made changes are present.

Participation

Q: True or False – My LOMR is ready for use the day I get it in the mail (or electronically).

Participation

Q: True or False – My LOMR is ready for use the day I get it in the mail (or electronically).

A: False – All LOMRs that revise regulatory data (BFE, SFHA, floodway) are subject to an appeal period

Common Mistakes and Lessons Learned



NFIP Overview • Revisions • Standards and Regulations • Flood Hazard Data
Submitting MT-2s • FEMA Review Process • Common Mistakes

Common Mistakes and Lessons Learned

General:

- MT-2 Forms missing or not filled out
- **Missing acknowledgement from affected communities**
 - Just because the project is in one community, doesn't mean that other communities aren't affected. If flood hazard data changes, community concurrence is required.
 - Provide annexation documentation if necessary
- **Incorrect property notification language**
 - Recommended to send a draft with initial submittal
- Missing/incorrect fees

D. SIGNATURE		
<small>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.</small>		
Name: <input type="text"/>	Company: <input type="text"/>	
Mailing Address: <input type="text"/>	Daytime Telephone No.: <input type="text"/>	Fax No.: <input type="text"/>
	E-Mail Address: <input type="text"/>	
Signature of Requester (required): <input type="text"/>	Date: <input type="text"/>	
<small>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 requirements for when fill is 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. For Conditional LOMR requests, the applicant has documented Endangered Species Act (ESA) compliance to FEMA prior to FEMA's review of the Conditional LOMR application. For LOMR requests, I acknowledge that compliance with Sections 9 and 10 of the ESA has been achieved independently of FEMA's process. For actions authorized, funded, or being carried out by Federal or State agencies, documentation from the agency showing its compliance with Section 7(a)(2) of the ESA will be submitted. 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.</small>		
Community Official's Name and Title: <input type="text"/>	Community Name: <input type="text"/>	
Mailing Address: <input type="text"/>	Daytime Telephone No.: <input type="text"/>	Fax No.: <input type="text"/>
	E-Mail Address: <input type="text"/>	
Community Official's Signature (required): <input type="text"/>	Date: <input type="text"/>	
CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR		
<small>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 data, hydrologic and hydraulic analysis, and any other supporting information as per NFIP regulations paragraph 65.2(b) and as described in the MT-2 Forms Instructions. 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.</small>		
Certifier's Name: <input type="text"/>	License No.: <input type="text"/>	Expiration Date: <input type="text"/>
Company Name: <input type="text"/>	Telephone No.: <input type="text"/>	Fax No.: <input type="text"/>
Signature: <input type="text"/>	Date: <input type="text"/>	E-Mail Address: <input type="text"/>

Common Mistakes and Lessons Learned

General (cont.):

- Missing narrative
- As-built, proposed plan, or survey not provided
- Vertical datum not provided
- Using the wrong effective data
 - Effective LOMR, or new study
- Wrongful identification of levee features
 - Man-made features providing protection from the 1% flood must be accredited through 65.10 requirements.



Common Mistakes and Lessons Learned

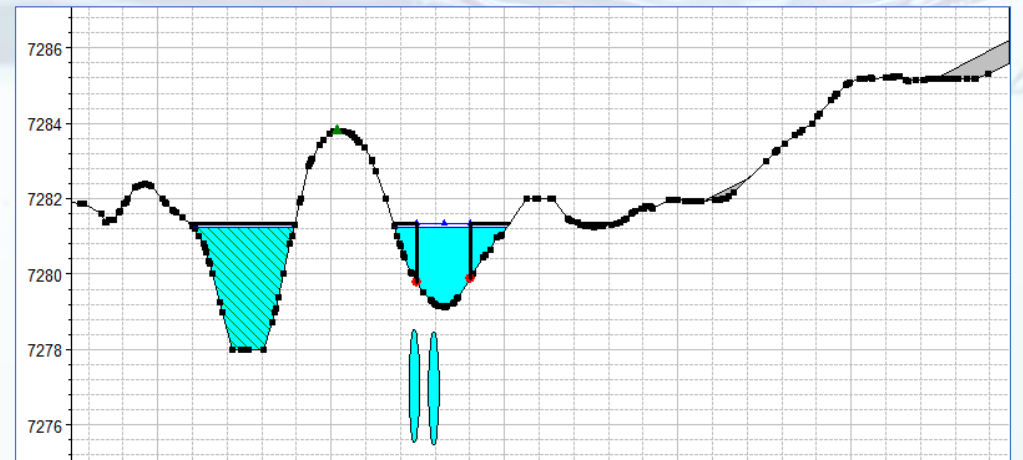
Hydrology:

- **Using model/method not approved by FEMA**
 - “FEMA list of approved models”
- Updated hydrology with insignificant change
 - 68% confidence interval test (Guidelines for Flood Risk Analysis and mapping – General Hydrologic Considerations)
 - 0.5 foot BFE test (Guidelines for Flood Risk Analysis and mapping – General Hydrologic Considerations)
 - * General check – do flows change by more than 5%
- Missing or insufficient drainage area map (no topo, not certified)
- Backup calculations or inputs not provided

Common Mistakes and Lessons Learned

Hydraulics:

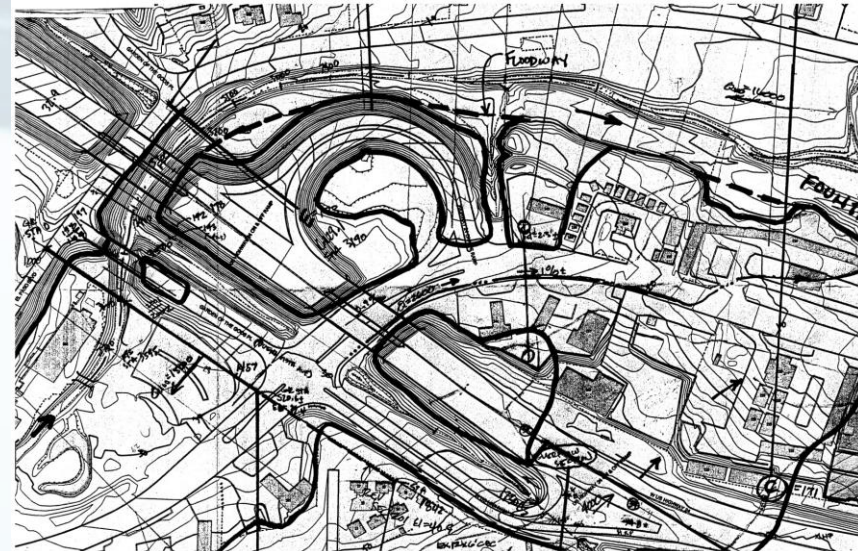
- **Downstream boundary condition**
 - Tying-in to Zone AE → Known WSEL
 - At a confluence (no coincident peaks assumed) → Normal depth
 - Tying-in to Zone A → Normal depth
- Mixed or supercritical flow regime
- Hydraulic structures
 - XS placement
 - Loss coefficients
 - Ineffective flow at openings
 - Not matching plans



Common Mistakes and Lessons Learned

Mapping:

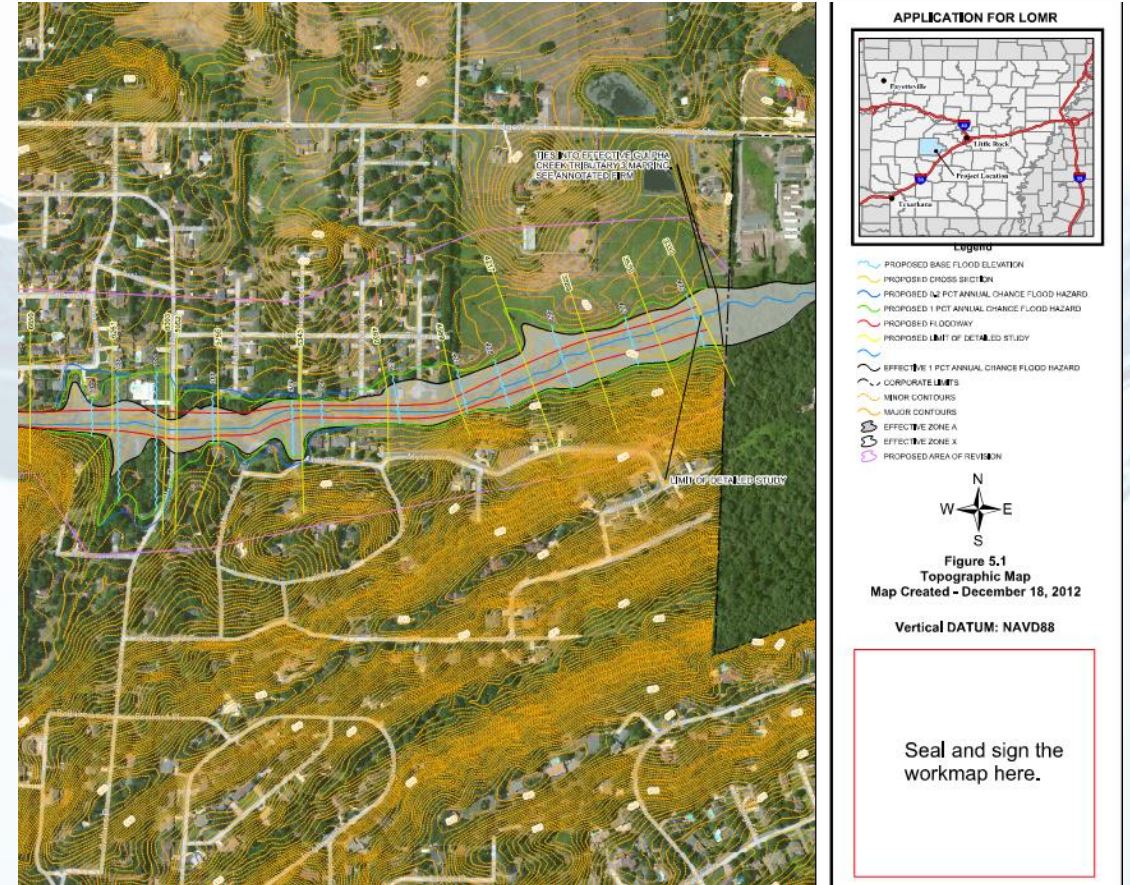
- Map/model disagreement (top width, reach length, contours)
 - 5% of FIRM scale is the tolerance
 - Areas shown in model but not mapped should be explained
- Insufficient topography
 - Illegible
 - Not extensive enough
 - Not labeled
 - Missing vertical datum
- Graphical tie-in missing



Common Mistakes and Lessons Learned

Mapping (cont.):

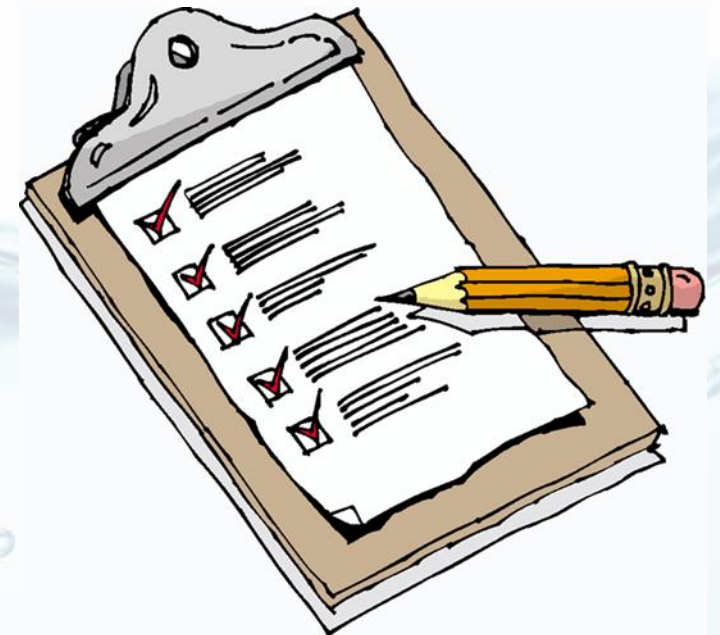
- Missing key items
 - Cross Sections
 - Effective flood zones
 - Certification by P.E.
 - Vertical Datum
 - Digital mapping files (especially LOMR)



Common Mistakes and Lessons Learned

Recommendations for a Timely Review

- Review MT-2 instructions document closely
- Provide explanations for any unique engineering judgement
- Submit all backup/supporting data
- Conduct internal agreement checks before submitting



An aerial photograph showing a residential area severely affected by flooding. In the center, a house is under construction, with its wooden frame exposed and partially submerged in murky brown water. To the right, a completed house with a blue roof is partially visible. The surrounding area is filled with green trees, many of which are also partially submerged. The water level is high, reaching up to the second floor of the houses in some areas. The overall scene depicts significant property damage and displacement.

Questions?

Henry Poburka, CFM
Region 8 MT-2 Coordinator
Compass PTS / CDM Smith
303-383-2369
Poburkahw@cdmsmith.com



Picture Citations

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<https://i.ytimg.com/vi/ROuoTi7HaM4/maxresdefault.jpg>