

MnDNR LOMC Guide

This document has been prepared by the Minnesota Department of Natural Resources floodplain staff and is intended to provide assistance with LOMR/CLOMR submittals. This information is intended for guidance purposes only and does not supersede applicable FEMA guidance, federal code, state statutes and rules, or local ordinances, all of which must be complied with. Definitions can be found on the last page of this guidance. Questions on special circumstances can be directed to DNR staff.

Why does a LOMR/CLOMR need to be completed?

Federal, State, and Local regulations require that a LOMR/CLOMR be submitted when there are changes in the regulatory floodplain. Table 1 outlines the sources for regulations and statutes at different governmental levels. These are also referenced throughout this document so the specific rules or regulations can be reviewed if additional guidance or clarification is needed. Local floodplain requirements should always be checked in case they are more restrictive than the state requirements.

Table 1: Federal, State and Local Government Rules applicable to LOMRs/CLOMRS submittal

Level		Source
Federal		44 CFR 65, "Identification and mapping of special hazard areas"
State	Rules	- MN 6120.5700, Subpart 4(a) - MN 6120.5600, technical standards and requirements for floodplain evaluation. - MN 6120.5700, Subpart 4: Delineation of the floodway. - MN 6120.5900, Subpart 6, Measures for flood control
	Statutes	- 103F.105, Floodplain Management Policy
Local NFIP Community		- Local community floodplain ordinance, which can be more restrictive than state and federal laws.

When is a LOMR/CLOMR required?

The need for a CLOMR, LOMR, and/or additional submittal requirements will depend on the type of work being done, the effective flood zone where the work or project will take place, and the proposed changes to the 1-percent annual chance water surface elevation.

The types of projects that often require a LOMR are:

- Proposed Projects that affect/change hydrologic conditions, such as a dam, diversion channel or detention basin (CFR Source – 44 CFR 65.6 (c)(1) through (3)).
- Proposed Projects that affect/change hydraulic conditions, such as channelization, new bridges or culverts, or levees (CFR Source – 44 CFR 65.6 (c)(1) through (3)).
- Proposed projects that change topographic conditions, such as grading or filling in the floodway (CFR Source – 44 CFR 65.6 (c)(1) through (3)). Note that topographic analyses must be completed by a PE or licensed surveyor.
- Proposed projects that change the floodway extents, with or without a change to the BFE, such as stream realignment, (CFR Source – 44 CFR 65.7). Note that floodway analyses must be completed by a PE. For proposed realignment to the floodway, the applicant must show that no fill has been placed in the flood fringe since the effective model was developed.

- If a proposed development extent is greater than 5-acres and/or more than 50-lots, a detailed (Zone AE) study is required.

A CLOMR is required if any of the above result in an increase (> 0.00-feet) in the regulatory floodplain elevation. For each CLOMR that is submitted pre-project, a LOMR must be submitted within six months of project completion.

A LOMR may be completed in the following situations if there is a wish to revise the FIRM, however it is not required:

- A mathematical error is found in the effective FIRM (CFR Source 44 CFR 65.6 (b))
- A measurement error is found in the effective FIRM (CFR Source 44 CFR 65.6 (b))
- There is better data available to improve the FIRM, such as topographic data or surveyed bridge/culvert data (CFR Source 44 CFR 65.6 (d))
- An improved method is used to calculate the water surface elevations, such as updated modeling (CFR Source 44 CFR 65.6 (b))

Table 2 outlines submittal requirements and the potential for approval based on the effective flood zone (AE or A) and the proposed change in water surface elevation.

Table 2: Submittal Requirements and Potential for Approval based on Flood Zone and Change in WSE

Proposed Change in 1-percent Annual Chance Water Surface Elevation (WSE)	Type of Submittal Required/Potential for Approval					
	CLOMR	LOMR	Community Approval	Special Approval by MnDNR ¹	Will not be Approved	No Rise Certificate Option ²
Decrease in WSE		AE ³	AE ³			
No change (0.00-feet) in WSE						A, AE
Increase in WSE 0.00-ft to 0.50-ft ⁴	A ⁵ , AE	AE	A, AE			
Increase in WSE 0.50-ft to 1.00-ft	A, AE	A, AE	A, AE	A, AE		
Increase in WSE > 1.00-ft					A, AE	
Any project that will increase flood risk to existing structures					A, AE	

¹ Special approval is given by DNR in rare and exceptional cases AND ONLY after the applicant adequately addresses alternative designs.

² See Page 6 for additional information on No Rise Certification.

³ LOMR required for AE when elevation decreases by more than 0.1-ft or floodplain width changes by more than 25-feet.

⁴ Floodway Stage increase is not allowed above 0.50-ft according to MR Part 6120.5700(4A).

⁵ Unless exempted by the local community, stage increase in A-zones of from 0.00-ft to 0.50-ft may require a CLOMR to be submitted.

The change in water surface elevation is calculated using the **proposed** and **effective** conditions models (details on the model types can be found on page 4). This is regardless of the water surface elevations calculated in the intermediate modeling steps. As an example, if the proposed conditions cause an increase over the existing conditions, but there is an overall decrease from effective conditions, then a CLOMR may not be required. Conversely, if the proposed conditions cause a decrease over existing conditions, but there is an overall increase above the effective conditions then a CLOMR may be required.

How do you apply for a LOMR/CLOMR?

The MT-2 application is required for all CLOMRs and LOMRs. The application, along with instructions for completing individual forms, can be found on FEMA’s website: <https://www.fema.gov/mt-2-application-forms-and-instructions>. Table 3 summarizes the individual forms required as part of the MT-2 application.

Table 3: Summary of MT-2 Application Forms

Form no.	Title	Comments
Form 1	Overview & Concurrence Form	Two signatures are required: <ul style="list-style-type: none"> - Under Section D “Signature” of the MT-2-Form1, CEO of community affected by the revision representing the community responsible for floodplain management or the Floodplain Administrator of the NFIP community (not applicable for MNDOT, consultant, owner, etc.). If more than one community is affected, then the CEO for each community must sign. - Certification by a registered PE or Land Surveyor (registration # and expiration date must be included).
Form 2	Riverine Hydrology & Hydraulic Forms	<ul style="list-style-type: none"> - If flows change, then make sure project is submitted to the MN Interagency Hydrology Review Committee. - If floodway changes, make sure the floodway run is included. If floodway run stays the same, then verify that the cumulative surcharge still meets the state requirements.
Form 3	Riverine Structures Form	
Form 4&5	Coastal Analysis/Structures Forms	
Form 6	Alluvial Fan Flooding Form	

Supporting documentation and data used to complete the MT-2 application also must be submitted to FEMA and the MnDNR. This includes, but is not limited to, the following items:

- Hydrologic and/or hydraulic calculations to support the changes in water surface elevation and/or inundation area. For Zone AE areas, the 10-percent, 5-percent, 1-percent, and 0.2-percent annual chance profiles must be submitted. For Zone A areas, only the 1-percent annual chance profile must be submitted. The floodway model must be submitted if there are changes in the floodway extents.
- Documentation that supports modeling assumptions and explanations of changes in water surface elevation between the different modeling scenarios.
- For Zone AE areas, shapefiles of the 1-percent annual chance inundation area, the 0.2-percent annual chance inundation area, and the floodway extents (if applicable) must be submitted. For Zone A areas, the 1-percent annual chance inundation area only must be submitted.
- Topographic data used for mapping the inundation areas.
- Cross-section locations used in the hydraulic modeling.

What is needed to support hydrologic or hydraulic calculations?

To show changes in flow rate or water surface elevation, hydrologic and/or hydraulic models must be submitted to FEMA and the MnDNR as part of the LOMR/CLOMR. H&H modeling software, for both Zone AE and Zone A CLOMRs and LOMRs, must be approved by FEMA and be included in their list of accepted models. Hydraulic models accepted by NFIP are found in the following link: <http://www.fema.gov/software>.

The applicant should show incremental progression from the effective model to the proposed conditions model, and explain changes in water surface elevation after each modeling change. Table 4 describes the modeled scenarios that must be submitted as part of the LOMR/CLOMR application.

Table 4: Summary of the model scenarios required for LOMR/CLOMR submittal

Model Scenario	Description
Effective Model	Hydraulic model that was used to calculate the water surface elevations in the effective FIRM. The DNR has some of these models, and they can be provided upon request. Models can also be requested directly from FEMA.
Duplicate Effective Model	Reproduction of the effective model in the current version of the software being used for submittal (e.g. – the HEC-RAS model run of an old HEC-2 model)
Corrected Effective Model	Reproduction of the duplicate effective model, correcting any obvious errors from an earlier version.
Existing (Pre-project) Conditions Model	The existing conditions model incorporates any changes to the system since the effective model was developed. These changes can include culvert replacements, fill in the floodplain, etc. Model changes to represent existing conditions will be reviewed to determine potential floodplain ordinance violations. Violations are reported to the NFIP community.
Proposed (Post-project) Conditions Model	This incorporates the proposed project into the existing conditions model.

The following information may be helpful with the development of the hydrologic/hydraulic models:

- *Vertical Datum:* Vertical Datum must be specified. Federal Regulation 44 CFR 65.6(a)(4) states “the datum and date of re-leveling of benchmarks, if any, to which the elevations are referenced must be indicated”.
- *Tie-in Elevation:* Elevations should be tied in at 0.5-ft. Federal Regulation 44 CFR 65.6(a)(2) states “unless it is demonstrated that it would not be appropriate, the revised and unrevised base flood elevations must match within one-half foot where such transitions occur.” The new FEMA standard requires a tie-in for all profiles in Zone AE areas.
- *Floodway surcharge:* Cumulative floodway surcharge must not exceed 0.5-ft. MR Part 6120.5700 subpart 4A) states “the limits of the floodway shall be designated so that permissible encroachments on the floodplain will not cause an increase in stage of the regional flood of more than 0.5 feet in any one reach or for the cumulative effect of several reaches of a watercourse. If the increase in flood stage will materially increase the flood damage potential, the commissioner may require that such increases be less than 0.5 feet. The commissioner may authorize increases greater than 0.5 feet where studies show that further increases in flood stages will not materially increase the flood damage potential.”
- *Conversion of HEC-2 to HEC-RAS:* Conversion from HEC-2 to HEC-RAS should comply with guidelines in the “Policy for Use of HEC-RAS in the NFIP” memorandum issued by FEMA on April 30, 2001.

What is the expected timetable for review and approval?

CLOMRs must be approved by FEMA and the MnDNR before work can begin on a proposed project. LOMRs must be submitted within six months after project completion.

LOMR/CLOMR review time can vary significantly from project to project. The shortest time an applicant should expect a final determination is within 90-days of FEMA’s receipt of a complete LOMR submittal. Incomplete submittals or projects that include changes in hydrology will take additional time to review. The following outlines FEMA’s potential timeline for LOMR/CLOMR review.

- *Initial Review Time:* Within 30-days after LOMR/CLOMR submittal, FEMA will send the applicant comments and inform whether additional information is needed.
- *Additional Information Review Time:* After receipt of additional information from applicant, FEMA has an additional 30-days to review the new information and request additional information. This process can repeat until satisfactory responses are made to all information requests, at which time the submittal becomes complete.
- *Final determination Time:* Final determination will be made within 90 days after receiving the completed LOMR/CLOMR submittal.
- *Hydrology Review (allow additional six week review time prior to submitting the CLOMR to FEMA)*
 - Projects in Zone AE areas that include a change in hydrology require a separate review by the state before the LOMR/CLOMR is submitted to FEMA.
 - The hydrological model is subject to review by the MN Interagency Hydrology Review Committee (IAHRC). The IAHRC is chaired by Minnesota Department of Natural Resources and includes members from the following agencies: MNDNR, USACE, USGS, NRCS and NWS.

In addition to review/approval by FEMA, the MnDNR must review all LOMR/CLOMRs. An applicant can submit their LOMR/CLOMR to the DNR prior to, or concurrent with, the submittal to FEMA. Once a case number has been assigned by FEMA, it should be passed along to the state LOMR reviewer. State review can usually be completed within 30 days after receipt of a complete submittal.

What LOMR/CLOMR submittals are considered fee-exempt?

LOMR/CLOMR fee summary can be found on FEMA’s website (<https://www.fema.gov/flood-map-related-fees>). The following types of submittals are fee-exempt, when not combined with another type of project:

- Modeling providing more detailed or better data (note that these models will be reviewed for their potential impact to existing structures)
- Federally funded projects > 50%
- Projects involving habitat restoration, dam removal, or installation or the installation of fish passages (as of March 21, 2014, in accordance with the Homeowner Flood Insurance Affordability Act).

When does a LOMR/CLOMR submittal require a public notification?

Public notification may be required depending on the proposed impact to existing structures. Notification must be made through letters to affected owners and publication of notice in the newspaper. Notification is required in the following instances:

- Changes in floodway impacting owners [44 CFR 65.7(b)(1)].
- Any projects impacting property owners or changing the status of their FEMA floodplain designation.

Are Endangered Species Act (ESA) related documents required for submittal?

For CLOMR submittal, ESA compliance must be documented to FEMA prior to issuance of CLOMR. FEMA must receive confirmation of ESA compliance from the applicant, which they can request from the DNR.

For LOMR submittal, ESA compliance is required independently of FEMA’s process. The community needs to ensure that permits are obtained per requirements under Section 60.3(a)(2) of FEMA’s regulations, which state the following: “Review proposed development to assure that all necessary permits have been received from

those governmental agencies from which approval is required by Federal or State law, including section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.”

What about a No-Rise Certificate?

Projects that have no impact (0.00-foot increase or decrease in water surface elevation) do not require a LOMR/CLOMR, however a No-Rise Certificate must be completed for any work completed in a Zone A area or the floodway portion of a Zone AE area. The No-Rise Certificates are reviewed and approved by the community; however we suggest a copy also be sent to the DNR Area Hydrologist or the DNR Floodplain staff for record keeping purposes.

Hydraulic calculations or modeling for the purpose of issuing a No-Rise Certificate do not need to meet FEMA’s modeling requirements for LOMR/CLOMRs. However, the No-Rise Certification must be signed by a PE, and it must be based on the effective FEMA profile. In some circumstances, if there is minimal change ($\leq \pm 0.02$ -feet), the MnDNR can review the energy gradient in addition to the water surface profile and deem the project to be “No-Rise”.

What are the requirements for 2-D LOMC submittals?

- Please refer to the following two documents for instructions on LOMC submittals using 2-D models:
 - *Guidance for Flood Risk Analysis and Mapping, Hydraulics: Two-Dimensional Analysis*, FEMA, December 2020: https://www.fema.gov/sites/default/files/documents/fema_hydraulics-two-dimensional-analyses.pdf
 - *Guidance for Flood Risk Analysis and Mapping: Floodway Analysis and Mapping*, FEMA, December 2020: https://www.fema.gov/sites/default/files/documents/fema_floodway-analysis-and-mapping.pdf
- These guidelines apply to 2-D models approved by FEMA such as 2D-HEC-RAS, 2D-SRH and 2D-XPSWMM.
- For 2-D models, the output representing the whole terrain becomes subject to evaluation and review.
- No-Rise evaluation:
 - The terrains representing the existing and proposed conditions models can be generated and subtracted from each other to determine impacts, to be evaluated according to FEMA’s guidelines.
- 2-D LOMC Submittals:
 - The effective model should be considered as the baseline model.
 - The 2-D model should tie in within 0.5-ft at both ends of the effective model referred to in Part 5(a). In addition, the model should extend long enough in order to incorporate any short remaining segments of 1-D reaches and/or prevent “patching-up” of short 2-D reaches connected to 1-D reaches.
 - Modelling and mapping criteria should be implemented in accordance with *Hydraulics: Two-Dimensional Analysis* document, referred to in 1(a).
 - For floodway determination, mapping and validation, refer to Section 5.1.2 of the *Floodway Analysis and Mapping guidance* document, referred to in 1(b). However, please note that the State of Minnesota adopted a surcharge of 0.5-ft, in accordance with MR Part 6120.5700 subpart 4A.

Definitions/Acronyms:

CLOMR – A Conditional Letter of Map Revision (CLOMR) is FEMA’s comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of an effective floodplain. The CLOMR does not revise an effective DFIRM, it only indicates whether the project, if built as proposed, would be recognized by FEMA.

FIRM – Flood Insurance Rate Map

LOMR – A Letter of Map Revision (LOMR) is FEMA's modification to an effective FIRM. LOMRs are generally based on the implementation of physical measures that affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification the effective floodplain. The LOMR officially revises the FIRM

Zone AE – The 1-percent annual chance inundation area that has been modeled by detailed modeling methodology. Zone AE areas typically have associated 10-percent, 2-percent, and 0.2-percent annual chance profiles and a defined floodway.

Zone A – The 1-percent annual chance inundation area that has been modeled by approximate (or basic) modeling methodology. Floodways and other flood profiles are typically not defined for Zone A areas.