



COLORADO
Colorado Water
Conservation Board
Department of Natural Resources

AECOM



LiDAR LOMA - Colorado

Project Summary

The Colorado Water Conservation Board (CWCB) developed a repeatable process for using Light Detection and Ranging (LiDAR) data to assess and remove multiple properties and structures from the FEMA-designated and community-adopted Special Flood Hazard Area (SFHA) at one time.¹ LiDAR uses laser light to measure distances and can efficiently create accurate topographic (elevation) data on a large scale. Using LiDAR for multiple structures can be mutually beneficial to property owners and FEMA. Property owners benefit because they do not need to prepare the standard Letter of Map Amendment (LOMA) submittal or pay for the certified elevations required as part of the traditional LOMA process. FEMA benefits because they do not bear the expense of processing many individual LOMA applications. For additional information about the standard LOMA process, please visit <https://www.fema.gov/letter-map-amendment-letter-map-revision-based-fill-process>.

Why are there LOMAs, and why aren't the FIRMs correct?

Flood studies are generated on a large scale basis, typically over a watershed. Limitations in either scale or topographic detail may cause small isolated areas of high ground to be mapped into the SFHA inadvertently. The LOMA process is used to remove those inadvertently mapped areas from the SFHA and amend the effective Flood Insurance Rate Map (FIRM).

What are the Requirements for a LiDAR LOMA?

A LiDAR LOMA submittal is possible if Quality Level 3 or greater LiDAR data, as defined by the United States Geological Survey, is publicly available from a federal, state, local, or tribal government entity. For submittals using contours based on LiDAR data, FEMA will subtract one half the contour interval or one foot, whichever is greater, from the lowest contour closest to the structure or property (but not going through) in order to account for the accuracy of the data. For structures or properties that cannot be removed with this method, certified elevations will be required. For submittals utilizing LiDAR point data, FEMA will subtract two feet from the lowest point immediately adjacent to the structure to determine the Lowest Adjacent Grade (LAG) or on the property to determine the Lowest Lot Elevation (LLE). For structures or properties where FEMA has already been provided certified elevation data (typically in the form of an Elevation Certificate or site survey), the certified data will be used in lieu of LiDAR. For more detailed information, see

How do I find out more about LiDAR LOMA?

In Colorado, contact:

Thuy Patton, CWCB
thuy.patton.state.co.us
303-866-3441

Rigel Rucker, AECOM
rigel.rucker@aecom.com
575-545-1107

For all inquiries regarding FIRMs and LOMAs, as well as general inquiries, please contact the FEMA Map Information eXchange (FMIX):

1-877-FEMA-MAP
(1-877-336-2627)

Monday - Friday, 8:00 a.m. - 6:30 p.m. Eastern Standard Time (EST)

For flood insurance inquiries, please contact FloodSmart:
1-888-379-9531

¹ This fact sheet references removal of structures only; however, both structures and properties (i.e., land) can be removed from the floodplain through the LOMA process.



Section 5.0 in the MT-1 Technical Guidance document provided by FEMA at <https://www.fema.gov/media-library/assets/documents/34953>.

CWCB prepared a User's Guide presenting process documentation that is meant for communities' use to be able to conduct LiDAR-based LOMAs. The User's Guide can be found on www.coloradohazardmapping.com.

For Structures Removed from the SFHA

A Federal requirement to purchase flood insurance applies to structures in SFHAs that carry a mortgage backed by a federally-regulated lender or servicer. If the LiDAR LOMA removed your structure from the SFHA, Federal flood insurance requirements no longer apply. However, a lender may still require flood insurance as a condition of the loan. Structures removed from the SFHA may also be eligible for a Preferred Risk Policy (PRP) at a lower rate for those still interested in purchasing flood insurance. If the LiDAR LOMA removed your structure from the SFHA, you can provide a copy of the letter to your lender and discuss PRP flood insurance options with your insurance agent. The issuance of a LOMA or LOMR-F does not mean the structure or lot is safe from all flooding; it means that the risk of flooding is not as high as it is in the SFHA. All structures are prone to flooding.

What if a LiDAR LOMA Doesn't Result in a LOMA?

There may be several reasons structures were not removed from the SFHA after requesting a LiDAR LOMA, including:

- The structures may be outside of the project area included in this LiDAR LOMA.
- The structures may not have been included because of LiDAR data resolution constraints.
- The structures may be correctly designated within the SFHA with the ground elevation below the Base Flood Elevation (BFE, the water surface elevation of the 1-percent annual chance flood) based upon the LiDAR LOMA analysis, and, therefore, cannot be removed from the SFHA.

If a property is found ineligible for removal from the SFHA through the LiDAR LOMA request, the structure may be eligible for removal through the standard LOMA or Letter of Map Amendment Based on Fill (LOMR-F) processes. Consider submitting a LOMA or LOMR-F request if a property meets these minimum requirements for removal:

- For a structure, the LAG to the structure must equal or exceed the BFE in the area of the structure.
- For a parcel of property, the LLE of the property must equal or exceed the BFE for the structure.

As part of a LiDAR LOMA, structure data will be produced that may be of interest to homeowners. This data could include building footprints with lowest adjacent grade as well as water surface elevations. Further outreach to homeowners is encouraged. With the addition of an elevation certificate, a LOMA might be possible for structures not identified through the LiDAR LOMA process.