



Museum Flood Area



Para Español, ver atrás

May 7, 2021

Dear Museum Flood Area Resident,

On behalf of the City of Flagstaff (City) and the Coconino County Flood Control District (FCD), we would like to again thank you and your neighbors for your patience and cooperation over the last two years with regard to the emergency flood mitigation measures that were installed in your neighborhood. As we move towards Monsoon Season 2021 after the two driest monsoon seasons on record, we want to provide you with an important update regarding flood preparedness for this spring. In addition to this letter, the City and FCD will be holding a Museum Flood Area Virtual meeting on May 17, 2021 at 6:30 p.m. Please see below for more information on this meeting and other upcoming communication.

Flood Risk Validation

First and foremost, it's critical to remember that the threat of flooding remains real and that your property remains at high risk for post-wildfire flooding. The technical consultant hired by the City and FCD recently validated the original model used to gauge flood risk in the Museum Flood Area. The original model generated in 2019 determined that the flood risk was increased ten-fold over pre-wildfire conditions. Our consultant was able to review the limited number of rain events impacting the Museum Burn Scar over the last two years and determine that the original model was still valid, which means that the threat of flooding is real and you should keep your sandbags and any other mitigation measures in place. This science-based model indicated that the moderate- to high-burn severity sections of the watershed have experienced very little natural recovery over the last two years and still pose a serious flood threat to over 400 homes and 50 businesses in the Museum Flood Area.

As a result and very importantly, **the City and FCD strongly recommend keeping your flood mitigation measures (sandbags and barriers) in place through at least the 2021 monsoon season.**

Property owners who are considering removing their measures need to consider the following:

The 2019 & 2020 “Nonsoon” Seasons

Although we are fortunate to have not experienced any flooding during the past two summers, it is equally important to note that the National Weather Service (NWS) classified the 2019 and 2020 monsoon seasons as the two driest since record keeping began in 1898 (as recorded at the Flagstaff Airport). In 2019, the San Francisco Peaks area received only about 20% of its normal rainfall amount



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during this monsoon season. The Museum Fire Burn Scar received only about 2.5 – 3.7 inches of rainfall during the 2019 monsoon season, which is about 35% of normal monsoon precipitation. In addition, rain that did fall on the burn scar was light to moderate in character and therefore did not create significant post-wildfire flooding downstream. Even though the rain events were light to moderate, flood flows still reached Cedar Avenue during several of these rain events and validated the potential for significant flooding if larger rain events occur on the Museum Fire burn scar.

The monsoon season of 2020 was again unusually dry with the Museum Fire scar receiving 28 – 36% of normal precipitation. A total of 2.9 – 3.7 inches of rain fell over the burn area, which was well below the 8 inches expected during a normal monsoon season.

Given these back-to-back “nonsoon” seasons, some residents might still wonder if they need to keep their emergency flood mitigation measures (sandbags) in place. All residents and property owners should, first because the NWS is predicting a return to normal monsoon conditions in 2021 and also for the following important reasons:

- ❖ Because of the historically dry 2019 and 2020 monsoon seasons, the flood mitigation measures in your neighborhood were not tested against anything close to normal rainfall conditions. A return to a normal monsoon in 2021 poses risks both from typical storms and, as the season progresses, from smaller-sized rain events falling over saturated ground, which can exponentially increase run-off.
- ❖ The few rain events that have occurred on the burn scar have shown that the watershed is very responsive to rainfall and can easily produce debris flows and a 10-fold increase in run-off (130 cubic feet per second (CFS) to 1,300 CFS). For example, the minor flood event on July 24, 2020, created debris flows and run-off that crossed Mount Elden Road and continued down to Cedar Avenue.
- ❖ The placement of flood mitigation in your neighborhood was based on science and the lessons learned from the Schultz and Slide fires. The science included a previously conducted FEMA-funded County-wide post-wildfire flood risk study, which confirmed that if burned, the Spruce Avenue watershed (watershed impacted by the Museum Fire) would create significant post-wildfire flooding, which would impact many residences and businesses downstream.
- ❖ Because of the nature of water, flood mitigation should be contiguous – not piecemeal - with no gaps. The mitigation installed in the Museum Flood Area was mostly designed to convey floodwaters downstream and out of your neighborhood. Removal of any section of this mitigation from an individual property may compromise the effectiveness of this system and could result in adverse flooding effects on adjacent properties, for which the private property owner who removed the mitigation could be held responsible for any damage.



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2021 Shore-Up of Flood Mitigation Measures

Based on the information above, the City and FCD strongly encourage all property owners to both keep their sandbags in place and prepare for the 2021 season. Sandbags are susceptible to the elements, especially the ultraviolet (UV) rays of sunlight, and after two years many of them are falling apart. The City/FCD team recently conducted an evaluation of current flood mitigation in Museum Flood Area neighborhoods and found that 30% - 40% of sandbags are deteriorated and need to be replaced prior to the monsoon season.

As was done last year, City & FCD crews will place new sandbags throughout the Museum Flood Area neighborhoods so property owners and residents can replace their deteriorated sandbags. Also, the City will place dumpsters or other trash receptacles for disposing of deteriorated sandbags and cinders/sand. Sand and unfilled sandbags will also be available at County Health & Human Services at 2625 N. King Street beginning in mid-May through the monsoon season.

Please note that disposal of old sandbags is exclusively each property owner's responsibility. Sandbags cannot be put in City trash cans or placed curbside for City bulk pickup. Also, the City recommends that residents keep gutters and storm water inlets clear of trash, debris, and sandbags to allow for efficient drainage. Clogged drains should be reported to the City's Stormwater Inspector at (928) 213-2474.

Sandbags and dumpsters will be transported into neighborhoods beginning the second or third week of May. Residents who are elderly or disabled can contact the Museum Flood Call Center at (928) 679-8525 to request assistance. After securing updated cooperator agreements, Arizona Conservation Corps will remove and replace broken sandbags for the elderly and disabled. **All shore-up work should be completed by July 1, 2021.**

Please also note that a good way to help prolong the life of your new sandbags is to cover them in dark plastic sheeting (clear plastic sheeting will not protect against UV rays). Thicker sheeting will last the longest and also help protect your sandbags against rain and snow. Plastic sheeting in a variety of colors and thicknesses is available at any hardware store.

Monsoon Season Preparations & Outreach – Upcoming Virtual Meeting

The City and FCD are committed to keeping Museum Flood Area residents aware and informed before and during the upcoming monsoon season. The City and FCD will be hosting a virtual Museum Flood Area Joint Public Meeting at 6:30 p.m. on Monday, May. 17, 2021. This Zoom meeting is a great opportunity to learn more about monsoon season preparations, emergency notifications, and the 2021 sandbag shore-up. Information to join this important meeting or watch it life-streamed on YouTube is available at www.coconino.az.gov/MuseumFire/FloodArea. The Museum Flood Area Joint Public Meeting also will be recorded on YouTube and available for viewing later by anyone who is not able to attend.



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In addition, the FCD will be providing an updated 2021 Museum Flood Preparedness and Mitigation Guide, which will be mailed out in late May/early June. The City and FCD will be hosting several "Meet in the Streets" events in May and June to talk with residents and property owners, and answer questions about monsoon season preparedness and to encourage residents to sign up for Emergency Notifications at www.coconino.az.gov/ready. "Meet in the Streets" information is available at www.coconino.az.gov/MuseumFire/FloodArea.

Long-Term Flood Mitigation Projects

Long-term flood mitigation is critical in post-wildfire areas. Last spring the City and FCD completed projects to stabilize alluvial fans, reduce downstream sediment, and improve channel capacity to convey floodwater more safely through neighborhoods. Information regarding these projects as well as projects underway this spring can be found at www.coconino.az.gov/MuseumFire/FloodArea.

These projects are great news for Museum Flood Area residents. However, it remains extremely important to remember that flood measures mitigate but will not eliminate the flood threat in your area. As we learned from the Schultz Flood, the threat of flooding will remain in your neighborhood for years to come. As such, **the City and FCD strongly encourage all property owners to purchase and maintain flood insurance.**

Please know that the City of Flagstaff and the Coconino County Flood Control District will continue to work hard in partnership with you to help mitigate flooding in your neighborhood to the fullest extent possible. If you have any questions or concerns, then please email our staff at museumfloodinfo@coconino.az.gov. More information also is available at www.coconino.az.gov/MuseumFire/FloodArea. Thank you for your continuing partnership.

Sincerely,

Handwritten signature of Paul Deasy.

Paul Deasy
Mayor
City of Flagstaff

Handwritten signature of Patrice Horstman.

Patrice Horstman
County Supervisor
District 1

Handwritten signature of Jeronimo Vasquez.

Jeronimo Vasquez
County Supervisor
District 2