



HIGH AND DRY

A Newsletter from the UTAH FLOODPLAIN PROGRAM and The UTAH FLOODPLAIN AND STORMWATER MANAGEMENT ASSOCIATION (UFSMA)

UFSMA Conference 2020

(Utah Floodplain & Stormwater Management Conference) The UFSMA conference was held virtually this year. We had a great turnout, and had very well received presentations. We want to thank all our presenters, and our attendees for an educational and interesting experience.

Save the Date

UFSMA Conference November 9-12, 2021 Moab, Utah

Held at The Hoodoo Moab, Curio Collection by Hilton



DENIS D. STUHFF AWARD OF EXCELLENCE 2020



Each year at our Annual Conference, we award those who have completed successful projects or have shown in some way a higher standard of getting a project done. We call it our "Denis D. Stuhff Award of Excellence" and it is given to an individual or a team who have exemplified extraordinary achievements in floodplain or stormwater management.

UFSMA 2020 AWARD RECIPIENT



UFSMA recognizes and honors Ricky Anderson, Jones and Demille & Associates for his dedication and professionalism in providing engineering solutions to communities for complex floodplain management issues and projects within the state of Utah.

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Mitigation Practice

by Eric Martineau

Building Codes Save

National Findings of Modeled I-Code® Savings

Total Losses Avoided
Based on building and content damages

Number of Post-
2000 Structures

Money Saved
annually, on average



Flood

786k

\$484
million



Seismic

2.4m

\$60
million



Hurricane Wind

9.2m

\$1.1
billion



Let Building Codes Save You from Flood Loss

Findings from across the nation indicate the adoption and enforcement of modern flood-resistant building codes since 2000 indicates an average annual savings of \$484 million. Texas and Florida account for 48% of the nation's total savings.

State

Number of
Post-2000
Structures

Money Saved
annually, on average

 TX	95k	\$63 million
 FL	311k	\$169 million
 National	786k	\$484 million

The study's model considers freeboard and requires building to have a design flood elevation higher than the minimum elevation standard to estimate the total annual average losses avoided to structural damage as well as content inside the building.

One of the most cost-effective ways to safeguard our communities against natural disasters is to adopt and follow hazard-resistant building codes. Not only are casualties reduced, but the cost of building damage is also reduced during a natural disaster. Building codes also help communities get back on their feet faster by minimizing indirect costs such as business interruptions and lost income. <https://www.fema.gov/emergency-managers/risk-management/building-science/building-codes-save-study>

Utah current codes: (Make sure you are checking for floodplain codes they are in there! Some are higher standards then FEMA's.)

Free I Codes information : <https://codes.iccsafe.org/>

Code Books <https://up.codes/codes/utah>

Building Code 2018 of Utah
adopts the IBC 2018 with amendments

Residential Code 2015 of Utah
adopts the IRC 2015 with amendments

Plumbing Code 2018 of Utah
adopts the IPC 2018 with amendments

Mechanical Code 2018 of Utah

adopts the IMC 2018 with amendments

Fuel Gas Code 2018 of Utah
adopts the IFGC 2018 with amendments



NFIP News

by Kathy Holder



Communities that participate in the National Flood Insurance Program (NFIP) adopt and enforce regulations and codes that apply to new development in the Special Flood Hazard Area (SFHA). To improve resiliency and reduce future flood damage, these development regulations and codes also apply to existing structures in an SFHA with proposed “substantial improvements” or repair of “substantial damage.” Any structure modified more than 50 percent may be determined to be substantially improved or substantially damaged (SI/SD). Local community officials (typically floodplain administrators) are responsible for SI/SD determinations.

Does your community have an established Substantial Improvement/Substantial Damage (SI/SD) process? Or has your community already implemented some of the essential components of the process: permitting, formal outreach, trained assessors? This Community Checklist will help you quickly determine which of these critical components your community has in place.

Answer the following questions pertaining to each of the major steps in the SI/SD process to help determine if your community is ready for an in-depth review of your SI/SD procedures. If you answer “yes” to 10 or more questions, your community is ready to complete the Guided Community Self-Assessment. The Guided Community Self-Assessment will walk you through a more detailed evaluation of your community’s existing resources and the current strategies in place for SI/SD implementation.

RECOGNIZING REGULATORY AND LEGISLATIVE AUTHORITY	YES	NO
Does your community participate in the NFIP?		
Does your community adopt and enforce regulations on development in the SFHA?		
Has your community adopted any of the following that can regulate the SI/SD process: building codes, floodplain ordinance(s), zoning/land use ordinance(s)?		
If you answered “yes” to the previous question, do any of these codes/ordinances address SI/SD processes such as how structure owners appeal a designation?		
Does your community have permitting procedures in place?		
In the event of a disaster, do you have access to resources outside your community (Memorandum of Understanding or other)?		
COMMUNITY ENGAGEMENT & THE CURRENT STRUCTURE	YES	NO
Would your community’s existing methods for communicating day-to-day messaging be applicable for communicating SI/SD information post-event? For example: to remind residents that permits are required for any rebuilding activities.		
Does your community have a method in place to communicate with the public during post-event recovery? For example: do you know how your community would communicate that a structure has been substantially damaged and must now comply with applicable building codes and ordinances?		

More on the next page:



Please don’t forget to do outreach to your communities.

Flood safety awareness is important!



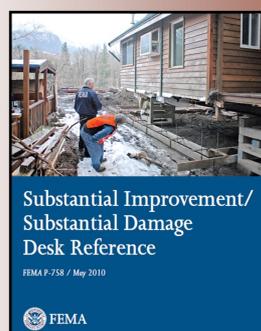
DETERMINING IMPACT AREA		YES	NO
Does your community have flood maps showing the location of the SFHA?			
Does your community know what structures are in the SFHA?			
After an event, is your community able to determine the affected area and the number of structures impacted?			
IDENTIFYING AVAILABLE PERSONNEL		YES	NO
Does your community have staff members trained in SI/SD?			
Does your community have appropriate personnel available to manage and/or complete damage assessments?			
If you answered "no" to the previous question, does your community have a plan to get the right people in place to conduct assessments?			
If you answered "yes" to the previous question, has your community defined the roles and/or organization of an SI/SD team?			
DETERMINING TIMEFRAMES		YES	NO
Does your community have a method in place for estimating how long it will take to conduct SI/SD determinations?			
ESTABLISHING SI/SD DETERMINATION PROCESS & METHODOLOGY		YES	NO
Has your community identified a methodology for conducting SI/SD determinations?			
If you answered "yes" to the previous question, how does your community assess structure value?			
Is your community familiar with FEMA's Substantial Damage Estimator (SDE) Tool?			
COMMUNICATING DAMAGE TO PARTNERS (LOCAL/STATE/AND FEDERAL)		YES	NO
In the event of a disaster, does your community know how to request State and Federal resources?			
COMMUNICATING SI/SD INFORMATION TO STRUCTURE OWNERS		YES	NO
Has your community identified a method for communicating SI/SD determinations to structure owners?			
Has your community identified or implemented appeal procedures?			

If you are unsure about the process, or if your community is unable to answer "yes" to 10 or more questions, please contact the state NFIP coordinator/state floodplain manager and/or FEMA for technical assistance on how your community can get essential SI/SD components in place.

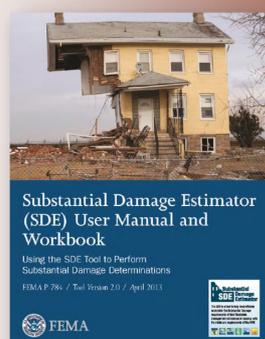
Additional Resources:

Information on the NFIP regulations can be found online: <http://www.fema.gov/national-flood-insurance-program/laws-and-regulations>.

FEMA 758: Substantial Improvement / Substantial Damage desk reference is the principle source of guidance for how to define and regulate SI/SD and provides detailed information about the inspection and determination process.



FEMA 784 (The Substantial Damage Estimator Tool – 2017) provides a standardized approach to data collection management and the determination of substantially damaged structures for local officials. This tool also includes template determination letters communities can utilize.





Utah Risk MAP Corner

By Jamie Huff

We wanted to give you information on a great new Discussion Paper written and published by ASFPM Stormwater Management Committee. Here is the introduction from the paper and a link to the rest of the story.

Urban Flood Hazards: Challenges and Opportunities ASFPM Stormwater Management Committee

INTRODUCTION: Urban flooding is a multi-faceted hazard and has numerous causes. As defined in the recently published summary report of the 2019 Gilbert F. White National Flood Policy Forum published by the Association of State Floodplain Managers (ASFPM) Foundation, *Urban Flooding, Moving Towards Resilience*, urban flooding is defined as “flooding that occurs in a densely populated area. Whatever the specific cause(s) of inundation—cloudburst, hurricane, groundwater seepage, river overflow, infrastructure failure—stormwater systems are overwhelmed, and water accumulates in the paved-over, built up urban environment with nowhere to go.” The impacts of urban flooding, both financial and social, pose significant challenges to local government leaders, managers, and the citizens who reside in these at-risk communities.

This discussion paper, developed by ASFPM’s Stormwater Management Committee, focuses on one specific area of urban flooding, mainly areas outside of riverine and coastal flooding zones that are inundated due to surface runoff, i.e. areas where excess stormwater runoff exceeds the conveyance capacity of pipe and roadway systems, resulting in flooding that inundates structures and prevents safe access for emergency vehicles and personnel. Specifically, this paper seeks to provide a discussion of the associated challenges of urban flooding, concepts related to planning and mitigation to reduce future flood losses, and recommendations at the local and national scale to address urban flooding in communities nationwide. This paper provides background and discussion, however it does not represent a position or policy of the ASFPM, a non-profit organization dedicated to the No Adverse Impact approach to reducing flood losses and protecting floodplain functions and resources in the United States. (floods.org)

[Link to article](#)

If there are any questions about any of the information, please contact

Jamie Huff, Risk MAP Program Manager, Utah Division of Emergency Management at 801-538-3752 or jhuff@utah.gov

SILVER JACKETS

US Army Corps of Engineers, Sacramento District



USACE Silver Jackets at the Be Ready Utah Webinar

Its 2020, Need We Say More? Utah State's official emergency preparedness campaign, [Be Ready Utah](#), recently held a public virtual conference to discuss preparedness for different disasters that have impacted the state this year. The two-day conference (13 – 14 November) held four different sessions each day. Sessions covered: pandemic preparedness, earthquakes, flood after fire, surviving without power, water storage, disaster mental health, conversations on preparedness, and disaster myths. The initial in-person presentation was scheduled for 13 – 14 March but was cancelled due to COVID-19. The rescheduled virtual event in November was full, with over 140 participants and included interested homeowners to emergency management experts from all levels of government.

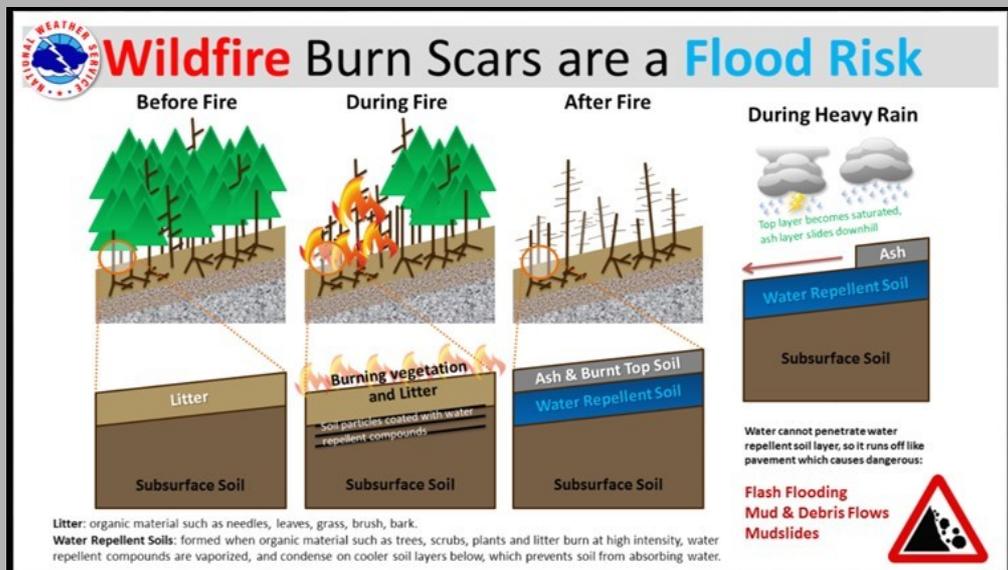
The U.S. Army Corps of Engineers (USACE), Sacramento District's Flood Risk Management (FRM) team members, Mr. Hunter Merritt, Ms. Elise Jarrett, and Ms. Danae Olsen collaborated with the Utah Division of Emergency Management's Ms. Kathy Holder to discuss current flood after fire efforts and preparedness. The presentation gave a brief overview of the USACE's role in preparing for post-wildfire flooding hazards, emergency preparedness, and flood risk preparedness.

The Silver Jackets motto "[Many Partners, One Team](#)" was highlighted when discussing current flood after fire support to the Utah communities of Mapleton and Saratoga Springs. Both communities have experienced wildfires this year and the FRM team discussed how bringing together emergency management officials at the city, county, state and federal level, will better inform both Mapleton and Saratoga Springs of their flood after fire risks and generate ideas to mitigate those risks. [One of the risk-mitigating tools mentioned was the Flood After Fire Toolkit](#). This toolkit has been developed for California and is easily transferable to communities across the mountain west. The FRM team also shared an upcoming (17 November 2020) free online training from the Watershed University, *Preparing for Floods after Fires: Tools and Teams* with webinar attendees.

After introducing the USACE and Silver Jackets flood after fire support in Utah, the FRM team got into the bulk of their presentation and took participants on a journey through the hazards that can persist for weeks, months or even years following a wildfire. One of the main post-wildfire hazards covered in the presentation was debris flows. Post-wildfire debris flows occur when water runs downhill through burned areas creating major erosion and picking up large amounts of ash, sand, silt, rocks, boulders, and vegetation (trees, shrubs, plants). The anatomy of a debris flow was covered in detail with graphics that stressed how fast moving and highly destructive a debris flow can be. Throughout the presentation, the FRM team encouraged overall flood and debris flow preparedness and gave practical tips for community members such as "Do not walk through moving water or attempt to drive through flooded areas."

During the question answer session, Ms. Jarrett responded to a question regarding how wildfires effect soil properties by explaining that "When the ground burns at a high intensity for a long enough duration the soil particles, which include water repellent compounds, begin to vaporize and condense. When this happens a water repellent soil layer is formed causing water that otherwise would absorb into the ground to now run off downhill, which can lead to flash flooding and debris flows."

Overall, Ms. Olsen said, "the presentation went really well" and she and the whole FRM team are excited about continuing to build on the *Be Ready Utah* webinar momentum through future Utah flood risk education outreach and workshops.



Utah Floodplain Management Weekly Lunch Time Webinar “Learn As You Lunch” Wednesdays at Noon (Except for Holidays)



Reducing Flood Losses Through the International Codes

Coordinating Building Codes and Floodplain Management Regulations
1st Edition, October 2019



Flood Resistant Design and Construction

This document uses both the International System of Units (SI) and customary units.

ASCE



This is a weekly series for Utah Floodplain Management Administrators, their staff, and other floodplain enthusiasts

In this weekly virtual meeting, we will cover important floodplain management topics. This will help you learn and stay in compliance with; your floodplain management program, the NFIP, floodplain regulation related to IBC, IRC Codes. As well as ASCE 24, 7, and any other regulations that apply to Utah flood-

Who Should Participate?

All Utah Community Floodplain Administrators, POC's and those who will be regulating and inspecting your development sites in the Special Flood Hazard Area. Any other floodplain management enthusiast.

This is a good open line of communication where we can all learn, and grow together, we can help each other keep our State safer from flood disasters and compliance issues.

*Special Note: We are trying to help our local Floodplain Administrators (FPA) to know and understand their position. Many of our FPA's have limited experience and we want to help you. I know you are all busy professionals with many different hats your wear in you daily job duties. This is a way to take a bit of time each week to become more proficient in floodplain



Other Upcoming trainings:

We will be sending out information as we move our other trainings to webinar's. Please check checking the ufsma.org website, and watch for announcements from Kathy Holder, State Floodplain Manager.

For FEMA trainings please check the following websites:

Full EMI Schedule: <https://training.fema.gov/emcourses/schedules.aspx>

Catalog of available courses: <https://www.firstrespondertraining.gov/frt/npccatalog/EMI>

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