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**ASFPM's FINAL COMMENTS ON HUD PROPOSED RULE ON
Floodplain Management and Protection of Wetlands
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ASFPM is pleased to submit comments on HUD's proposed rule to implement the Federal Flood Risk Management Standard (FFRMS) as required by Executive Order 13690. ASFPM, a professional non-profit, represents 36 chapters and more than 17,000 state and local officials, as well as the private sector and other professionals engaged in all aspects of flood risk management and flood hazard mitigation. All ASFPM members are concerned with reducing our nation's flood-related losses. For more information on the association, its 14 Policy Committees and 36 state chapters, visit www.floods.org.

ASFPM applauds HUD for producing a draft document that lays out how the federal investment protections will be applied to HUD actions. HUD is showing leadership among federal agencies to protect taxpayer investments from repeat and future damage from flooding. We hope that ASFPM comments contained herein will be useful to advance wise floodplain management and improve community economic and social resilience throughout the nation.

Overall Impressions

ASFPM expresses strong overall support of the HUD action to move ahead in implementation of improved flood risk protection. This action is very important to protect taxpayer investments in taxpayer-funded disaster costs and mitigation actions. This is especially important in light of more intense storms and changing conditions that are leading to more intensive flooding and damages from extreme events such as those we have seen in the past 12 months in Iowa, Minnesota, Texas, South Carolina, Wisconsin, West Virginia, Louisiana, North Carolina and elsewhere. Approaches to reverse or stop the increase in damage are needed to reverse the loss of lives we are seeing when we do not plan for these increasing flood events. Increasingly, Congress is looking to HUD to help with community recovery from floods and other natural disasters. In reviewing disaster-specific spending by 17 federal agencies from fiscal years 2005 through 2014, GAO found that HUD's obligations accounted for nearly a quarter of the overall disaster-specific spending, coming in at \$30.7 billion, second only to the Department of Homeland Security.

Current practice only requires HUD –financed action to be elevated to the height of the 1% chance flood (which has a 26% chance of occurring over a 30-year mortgage period) if it is not practicable to locate outside the floodplain. Presently, over 11,000 HUD taxpayer funded public housing units are located in the 1% chance

Dedicated to reducing flood risk and losses in the nation.

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floodplain. The increase in extreme flood events and the increase in flood levels caused by watershed development beg for an improved approach to protect HUD taxpayer funded investments and avoid the need for taxpayer funded disaster relief time and again. This proposed rule is a strong initial action to increase the resilience of the housing and infrastructure funded by taxpayers through HUD. HUD has done a good job explaining the purposes and rationale for the proposed rule.

Minimum Property Standards

ASFPM strongly supports HUDs overall approach to amend its Minimum Property Standards to add two feet of freeboard as a resilience standard. As the rule indicates, HUD’s minimum standards for basic livability and safety have long included standards for construction in flood hazard areas. The resulting resilience that will be incorporated into 1-4 family housing by adding two feet of freeboard not only begins to address one of the moral hazards of providing federal assistance for housing in flood hazard areas (where those with the least means have the lowest ability to rebound from a disaster event), but also will result in new housing being more affordable - not less as many in the building industry would claim – for more people. While it is true that adding 2 feet of freeboard at the time of construction will marginally increase the cost of construction of such a home, the overall cost of home ownership will be decreased. This is due to the offsetting, decreased cost of flood insurance. ASFPM ran several scenarios for 1, 2 and 3 feet of freeboard using April 2017 NFIP flood insurance rates:



The Case for Freeboard

New Construction of 2,000 sq. ft. Primary Residence, A-Zone, Monthly Payment*

<p>At BFE \$963 – principle + interest <u>+\$150 – flood insurance</u> \$1,113</p>	<p>+1 Foot Freeboard \$ 983 – principle + interest <u>+\$ 74 – flood insurance</u> \$1,057 – 5% decrease</p>
<p>+2 Feet Freeboard \$1,002 – principle + interest <u>+\$ 47 – flood insurance</u> \$1,049 – 6% decrease</p>	<p>+3 Feet Freeboard \$1,022 – principle + interest <u>+\$ 39 – flood insurance</u> \$1,061 – 5% decrease</p>

*Assumes \$206,000 in initial construction costs with \$190,000 of those costs financed plus all freeboard costs financed at 4.5%, 30-year fixed rate. Freeboard assumed at 1.9% per foot of construction cost. Flood insurance amounts of \$200K/\$80K Bldg/Contents based on April 2017 rates.



New Construction of 2,000 sq. ft. Primary Residence, V-Zone, Monthly Payment*

At BFE \$963 – principle + interest <u>+\$599</u> – flood insurance \$1,562	+1 Foot Freeboard \$ 983 – principle + interest <u>+\$ 493</u> – flood insurance \$1,476 – 6% decrease
+2 Feet Freeboard \$1,002 – principle + interest <u>+\$373</u> – flood insurance \$1,375 – 12% decrease	+3 Feet Freeboard \$1,022 – principle + interest <u>+\$ 271</u> – flood insurance \$1,293 – 17% decrease

*Assumes \$206,000 in initial construction costs with \$190,000 of those costs financed plus all freeboard costs financed at 4.5%, 30-year fixed rate. Freeboard assumed at 1.9% per foot of construction cost. Flood insurance amounts of \$200K/\$80K Bldg/Contents based on April 2017 rates.

Using very conservative estimates for the cost of freeboard, in every scenario for both A and V zones, the monthly principle + interest + insurance cost (which is important because most buyers will be financing their homes and affordability is based on a monthly housing budget, not the actual cost of construction) is less with freeboard than the current standard which is at the base flood elevation. ASFPM cannot understand why the building industry wouldn't be more supportive of a standard that makes housing more accessible/affordable to more people. Inasmuch as it affects HUD's mortgage insurance and low-rent public housing programs – it will have a net positive effect by ensuring that such housing is resilient and that residents will be better able to withstand the devastation caused by a major flood.

We are concerned with HUD's decision not to consider the horizontal extent of the FFRMS floodplain as one-to-four family residential structures, and we urge the Department to carefully reconsider that approach, again looking at the experience of past floods that have damaged homes and businesses beyond the lateral extent of the 1-percent-annual chance floodplain and recognizing the fact that a significant percentage of the National Flood Insurance Program's (NFIP's) claims (up to 1/3 of them) are filed from properties outside of this area. Indeed, as HUD points out, the recent FEMA study conducted by AECOM makes it clear that the size of the 1% annual chance floodplain in many areas will continue to increase over time (up to 45% nationally), so failure to elevate newly constructed or reconstructed buildings outside of but near the 1-percent-annual chance floodplain may allow those buildings to be subject to significant flood risks in the future. ¹

Development and Eventual Use of CISA to take over for of the Freeboard Approach

The proposed HUD rule recommends using the freeboard approach as opposed to using Climate Informed Science Approach (CISA). ASFPM does not oppose using FVA approach for a short term, or where data does not exist to develop CISA. The FVA is a proven method for mitigating flood risk and multiple states and communities have already implemented elevation requirements that either meet or exceed the elevation requirements under the

¹ Claims statistic from the National Research Council's "Mapping the Zone: Improving Flood Map Accuracy" (2009) and future floodplain size is from AECOM's report "The Impact of Climate Change and Population Growth on the NFIP Through 2100" (2013).

Proposed Rule. Indiana, Montana, New York, and Wisconsin have a two-foot freeboard requirement for all development, both private and public, occurring in the 100-year floodplain. Additionally, over 230 communities across the nation have minimum elevation requirements of two feet for any new home located in the 100-year floodplain. The Proposed Rules' requirement that non-critical HUD-funded infrastructure be protected two-feet above the 100-year floodplain is a common practice across the United States for mitigating flood risk.

However, the rule does not anticipate moving to CISA in an appropriate timeframe or where adequate data exists and while the proposed HUD rule explains the challenges to implementing CISA, the absence of any plan of action to eventually transition to a CISA approach is of significant concern. CISA implementation needn't be complicated. In coastal areas is nothing more than projecting sea level rise over the expected life of the proposed action. There are adequate sea level rise projections for the federal agencies to select a high, medium or low projection based on the criticality of the proposed action. Further, for critical actions in coastal areas, this is especially important since sea level may rise between 3 and 6 feet by the end of the century (significantly above the FVA elevation). In riverine areas CISA means calculating future hydrology using the projected 1% rainfall and the resultant runoff to determine future flood levels, again using the expected life of the proposed action as well as accounting for future development conditions. While there not detailed information on projected future rainfall events throughout the nation, there is detail in a number of places in the US, and more information will become available in many other areas. For example, climate informed data is available in the Northwest which was produced by the University of Washington Climate Change group. In the Chicago area, the Illinois State Water Survey data recently published and the state of Illinois is updating its hydrology Bulletin 70, and in the Northeast NOAA published climate informed science flows for some New England rivers.

It is important that the federal government begins now to plan for and take the necessary actions to allow for the use of CISA. HUD has worked with other federal agencies over the past decade to embrace a risk management approach. A simple statement that allows CISA data to be used if data is available is inadequate. Instead ASFPM would like to see a plan and actions on how it will begin to transition to CISA. For example, a number of the key federal agencies (FEMA/USACE) are already undertaking some of the basic research to evaluate and develop riverine methods to generate CISA data, HUD participates in the federal interagency group MitFLG, and that group should be used to agree on the CISA approach so all federal agencies use consistent approaches. The topic of CISA was the subject of the [2015 Gilbert White Forum](#) on "Addressing the Challenge of Change" and those finding can be reviewed here: http://www.asfpmfoundation.org/ace-files/forum/Meeting_the_Challenge_of_Change.pdf.

The Mitigation Federal Leadership Group (MIT-FLG) and Federal Interagency Floodplain Management Task Force could commit to a goal to work with all federal agencies to develop a CISA approach for coastal and riverine areas within a set timeframe or outline the kinds of data needed to determine CISA. It is important that the key federal agencies (FEMA, USACE, DOT, USGS, NRCS, EPA, HUD) agree on a process and parameters so the states and local governments do not see a myriad of federal approaches, but rather a consistent process. For coastal areas, the Technical Mapping Advisory Council (TMAC), whose job is to advise FEMA on the priorities and direction of the flood mapping program, in their December 2015 report *Future Conditions Risk Assessment and Modeling*, calls on FEMA to use global mean sea level scenarios adjusted to reflect local and regional conditions to determine future coastal flood hazard estimates. This recommendation was identified as "short-term" – defined in the report as something that can or should be implemented within two years of the December 2015 report's completion.

Finally, we wish to point out that projecting future flooding conditions has another equally important consideration; that of increased watershed development. Current NFIP flood maps do not consider future planned or projected watershed development, which can result in significantly increased flood levels. The 2012 NFIP Reform bill directed the NFIP to consider these future conditions, but that has not yet happened. When implementing the FFRMS, federal agencies should take future watershed development into consideration when calculating the hydrology.

FFRMS Floodplain

For non-critical actions HUD proposes using 2 feet of freeboard and for critical action HUD proposes using the 500 flood level or 3 feet of freeboard, whichever is greater; ASFPM supports this. The proposed rule also indicates that new or substantially improved non-critical, non-residential structures must be elevated or floodproofed to 2 feet above BFE. While that is consistent with current FEMA standards, we would point out that dry floodproofing is not really feasible beyond 3 feet, so that technique has limited application for many buildings.

The proposed rule adopts the traditional definition of substantial damage and substantial improvement HUD has used in the past, including the exception for historic buildings. ASFPM does not support this and believes that there should not be an exception for historic buildings; rather that they should go through the 8-step process to determine if there are practical mitigation alternatives. Because the FFRMS standard is a resiliency standard – there very well may be other options to better ensure resiliency of the historic structure that does not affect its designation. In light of rising sea level and increased storm intensity this does not bode well for historic buildings in high risk areas like St. Augustine, Florida. These building will be receiving federal taxpayer disaster funds again and again from FEMA and not elevating these buildings will lead to continual deterioration and likely complete loss of some of these buildings. Thousands of historic buildings have received the variance during rebuilding, even if "substantial improvement or substantially damaged". It is long past due for this variance to be eliminated, especially in the grant programs subject to the FFRMS, and the historic buildings must come into compliance. The building elevation/moving technology have greatly evolved so mitigation of these buildings is totally viable. The variance only increases the future flood risk and the historic pre-FIRM buildings are all seeing NFIP premium rate increases to actuarial. This course of action is not sustainable for the owners of historic buildings or the federal taxpayers.

Categorical Exclusion

ASFPM does not support a categorical exclusion to remove the qualification that the footprint of a rehabilitated structure may not be increased in a floodplain or wetland when HUD performs a review. Expanding the footprint of a building in the floodplain can increase risk to the subject property, adjacent properties, and may increase the base floodplain level. We recognize that reviewing what are perceived as minor improvements to existing structures can seem like a trivial matter. However, it has been ASFPM's experience that the cumulative effect of continual encroachments into the floodplain can result in significant impacts on others, including increased physical property damage for which a property owner can also be legally liable, and once again increases taxpayer exposure in future flood events. This provision will be less impactful if the expansion is not allowed in floodways or Coastal High Hazard areas.

HUD's 8-Step Process

The proposed rule does a good job in explaining the 8 step process; ASFPM specific comments on the process include:

- In Step 3 on evaluating alternatives to the action HUD indicates that natural systems and ecosystem processes and nature based approaches will be considered where possible. ASFPM strongly supports that approach, and also supports the statement that Locations outside the FFRMS will be considered. However, ASFPM is concerned that the proposed rules do not strongly emphasize avoidance of flood hazard areas. The first approach to actions should always be to avoid the FFRMS floodplain.
- In step 4 we support the focus on avoiding/evaluating adverse impacts. Too often actions in the floodplain adversely impact other lives and property in the floodplain or natural systems.
- Step 5 appropriately requires that the required by the process be recorded on the Elevation Certificate or Floodproofing Certificate.
- Step 5 also covers how the impacts on the floodplain or wetland of an action will be mitigated. It is imperative that HUD (and all federal agencies) do not cause and increase in flood level or flood velocity on any other property as a result of a proposed action. Such increases adversely impact the property rights of those impacted and must be either avoided, or compensated in a manner suitable to those impacted.

Other Comments

- We note HUD is not applying this proposed rule to manufactured housing, but indicates HUD expects to address this in future rulemaking. Doing so will be important, since the nation's floodplains have many, many manufactured homes, and flooding of those facilities has major impacts on the residents and on the federal taxpayers.
- In defining the FFRMS floodplain HUD states the basic application of the 2 foot and 3 foot freeboard, but goes on to indicate it will use state, tribal or locally adopted code or standards if those require higher elevations, setbacks or other floodplain management measures. ASFPM fully supports and appreciates HUD use of those State, tribal or local standards.
- ASFPM supports ensuring that natural features, including green infrastructure, are included as practicable alternatives for preserving the floodplain, but remain concerned that the proposal does not provide adequate guidance on how to incorporate nature-based approaches into the analysis. We recommend HUD define how to consider natural systems, ecosystem processes and nature-based approaches specifically for riverine systems and to direct recipients of HUD grants who must comply with these standards to credible sources of information.
- ASFPM appreciates HUD references to the best data sources, including use of ABFE, Preliminary FIRM, and other FEMA data, unless they are less than the current FIRM elevation. Use of other viable sources where FEMA data does not take into account future scenarios is wholly appropriate.
- ASFPM supports the use of electronic public notice in lieu of printed media.

Specific HUD Questions for Comment

In response to HUD's request for comments about the impact of the proposed elevation requirements on the accessibility of facilities, ASFPM proposes that the overall impact will be beneficial. The disabled and elderly populations for whom accessibility to elevated buildings would be a challenge are also the populations that are at higher risk for injury or loss of life during flood events. These persons face increased difficulties when evacuating

and often require greater physical resource commitment and specialized assistance from first responders during disasters. A reduction of accessible housing in high-risk floodplains would encourage relocation of disabled and elderly populations to safer areas, and thus improve their personal safety and enhance community resilience.

In response to HUD's request for comments about its application of the horizontal extent of the floodplain in certain situations and whether to allow for voluntary community agreements to limit the horizontal extent, ASFPM would be concerned that once you limit the scope of application of the rule through limiting the extent, there is essentially no review process required. ASFPM would be concerned that even in communities where there are no safely developable sites in a community outside of the FVA floodplain (which likely means it is a high risk community from the threat of floods), such a limitation on the applicability of the rule would preclude even partial mitigation or considerations on how to minimize impacts – that is the inherent benefit of going through the 8-step process. The bottom line is that ASFPM would be very concerned with any mechanism to limit the horizontal extent and that if there is consideration of such an approach, it must be well defined, should be rarely used, and well documented.

In response to the question about alternative approaches to define the FFRMS floodplain for critical actions, ASFPM first thinks it is imperative that we understand the basic definition of a critical action - that even the slightest chance of flooding carry dire consequences. **As such, ASFPM supports the determination of the flood elevation and FFRMS floodplain based on the freeboard value approach, .2% chance annual flood (500-year) and CISA approaches and then using the highest of those determinations. Further, the flood of record should be considered as part of the CISA analysis.** We wish to point out that past guidance documents for implementation of EO 11988 recommended that critical actions consider a protection level which was the higher of the .2% chance annual or flood or flood of record. We certainly wouldn't want to see a lesser standard being proposed now.

ASFPM also believes that the HUD rules indicate clearly that all critical facilities must be fully operational and accessible during the 500-year event, and some may require even higher standards (e.g. a nuclear power plant). Finally, the existing HUD rule for this matter indicates HUD will not approve critical actions in the floodway or coastal high hazard area. While HUD is not proposing to change this, we feel it is important to strongly support that provision.