Cooperating Technical Partners – ASFPM CTP subcommittee Monthly Call – Sep 06, 2022

Attendees: Alan Lulloff, Dave Guignet, Darryl Rockfield, Brooke Seymour and Laura Algeo

Webinars

National Water Model

The National Water Model webinar is scheduled for September 29th.

Safety Grates on Culverts

We have agreed that the next webinar would be on safety grates on culverts. MHFD worked with Colorado State University to evaluate different designs related to pinning hazards and catching debris. We discussed topics to be included related to culverts.

There are issues with culverts due to the fact that increasing the size of culverts while it makes them more resilient - it also causes increased flooding on those downstream.

Mile High Flood District has a policy in which the storage provided by culverts is not included in hydrology analysis. We discussed the potential of including a presentation on this as part of the webinar.

Maryland has a separate state permit. MD state law does not allow an action that causes increased flooding unless those impacted are compensated. Therefore, MD DOT replaces damaged structures with the same size structure..

MO is implementing a process in conjunction with PA projects that culverts be properly sized appropriately for their use – able to pass 100, 50 and 25 year events respectively for state, county or local roads. The analysis can be conducted at minimal cost when done in conjunction the overall 2D modeling process. This is being done so that in the aftermath of the flood event the bridges/culverts damaged can be replaced with structures that have adequate capacity to pass these flood flows.

Laura suggested including a presentation on mitigation planning with a focus on stream crossings could pull this all together. An example mention was North Carolina. NC has a partnership in which NC DOT is included in the flood mitigation planning process. Initial indications are that FEMA could provide such a presentation.

The culvert webinar would be conducted in the Oct – Dec timeframe. Late October or early November would be best.

Unsteady flow analysis

MI has raised a concern regarding FEMA Region V proposing to use unsteady flow modeling for a watershed in MI. Rain on mesh 2D modeling is inherently unsteady flow modeling. We discussed the issue of FEMA moving towards 2D modeling. They have to balance the long term vision against short term needs as FEMA moves from deterministic to probabilistic concepts.

Beyond the technical issues one issue is ensuring that the state is in concurrence with the FEMA region's proposed approach. It is suggested that the issue could be a topic for the next Operating Partners meeting. In addition, this is an issue being discussed by the 2D modeling Integrated Planning Team. Laura indicated that this topic has not yet been addressed by the IPT but the IPT is scheduled to

complete their work within the next 4 to 6 months. Therefore, it would be a good issue to be provided to the IPT. Laura asked that the information be provided to her so that it would be presented to the IPT. Having a real world example would be useful to the IPT.

BFE + 1

ASFPM has been funded to prepare materials promoting higher standards floodways. One component is evaluating the number of structures impacted by BFE+1 flood extents. Maryland did an analysis of BFE+3 along the coast. If a county had 2000 structures in the SFHA they found that in some instances there were 4000 structures in the BFE +3 zone. In some instances, the ratio was even higher. They have done some work doing a comparison in riverine areas. The ratio seems much lower than along the coast.

MO is doing an analysis of BFE +1, 2 and 3 in conjunction with the 2D modeling being conducted. The objective of their effort is to promote the adoption of freeboard standards in communities.

ASFPM has requested some information from MD and MO to support the floodway higher standards project.

AL 9/07/22