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American Planning Association (APA) Knowledge on Floodplain Projects

Please consider the below summary of "Flood Warning", a well-researched article that appeared in Feb 2017 Planning Magazine, the professional trade journal of the American Planning Association, and how it applies to MREC. The article and magazine is not available to the public, it is available to members only, however, contact information may be available at www.planning.org

Planning Magazine Excerpts:

According to the Third National Climate Assessment, a federal report put together by a team of 300 experts, "The heaviest rainfall events have become heavier and more frequent, and the amount of rain falling on the heaviest rain days has also increased." Add to the mix more development in floodplains and coastal regions and you have a recipe for increased property-damaging floods.

James Schwab, manager of APA's Hazards Planning Center, says that a planner's most important tool for preventing flood damage is a map with more information and detail than what's available from a Federal Emergency Management Agency Flood Insurance Rate Map (FIRM). FIRMs represent past information and they are not updated frequently. New development in the floodplain means new risks downstream that are not reflected on old maps. FIRMs also don't reflect future conditions, such as shifts in rainfall patterns because of climate change.

"The planning horizon is different than the insurance horizon," says Marc Rosenberg, senior casualty policy analyst with the American Academy of Actuaries. "While planners look 20 years into the future, the insurance industry looks back at the last 15 years for the risk in the next year, but doesn't reflect the risk 20 years from now." FIRMs mirror the insurance industry perspective.

It wouldn't be unreasonable to ask a developer to pay for floodplain mapping.

An example in Charlotte, NC the staff revised FIRM maps to include future development. "There was a five-foot difference in flood heights for a hundred-year event, [Timothy] Trautman [manager of Charlotte storm water services engineering and mitigation program] says. In other words, they could follow all of FEMA's rules and still wind up 5 feet underwater a few decades down the road. "That was an eye-opener."

With respect to MREC:

It is reasonable to request the applicant provide full information on floodplain projections which incorporate future development, precipitation projections based on climate change, and characteristics specific to the site such as sediment transport modeling. A number of very significant projects are on the horizon that affect the MREC location including: Newhall Ranch development (Santa Clarita), Santa Paula East Area 1 and Santa Paula East Area 2.

Planning Magazine Excerpts (cont.):

On 2011 Cedar Falls IA created an ordinance that banned any platting in the 500-yr floodplain and restricted the amount of fill that could be used. The 100-year floodplain is still completely restricted but they recently decided that not allowing even an inch of a new lot within the 500-year floodplain was too restrictive and updated to allow limited development provided strict criteria are met.

In Augusta GA the building standard has failed repeatedly, from 1980s of ~1-ft above the 100-year floodplain (typical FIRM requirement) to 1990s of ~2-ft above the 100-year floodplain™ to 2000 ~3-ft above the 100-year floodplain™. Those years brought major flood damage to Augusta. Realizing that allowing buildings to be set an arbitrary height above the floodplain was not working, Augusta has taken a number of steps: buying out flood-prone properties, and establishing a conservation subdivision ordinance. The ordinance requires a percent of land proposed for development to be left unaltered. The rules passed a test in October 2016 when the city had no flood damages due to Hurricane Matthew.

In Licking County OH (outside of Columbus) new development requirements are based on an understanding that FIRMS were to some degree inaccurate and, more importantly, extremely limited in coverage. The obvious answer was to require the developer to conduct studies for all streams on land proposed for development in order to determine the 100-year flood elevation as well as to require that developers should consider future conditions when undertaking their engineering analyses of unstudied streams or adjacent to their proposed developments. Their county rules set forth that [partial]: (1) no area subject to the 100-year flood plain may be used for building sites, (2) stream bank buffers are required, the extent of which depends upon the upstream drainage area, (3) stream bank buffer areas must be kept in natural or scenic condition, with the exception of allowing for passive recreational uses such as hiking, biking, horseback riding, hunting and fishing, (4) essentially no development is permitted in the floodplain on newly created lots, including fill.

With respect to MREC:

Government agencies are finally exercising foresight in floodplain development and have started breaking the ~build-flood™ cycle. The same foresight is requested at the MREC location.

Planning Magazine Excerpts (cont.):

PRINCIPLES FOR SUBDIVISION DESIGN IN FLOOD HAZARD AREAS

APA General Principles

These five general principles lay the foundation or mitigating flood hazards within subdivision design.

1. Maintain natural and beneficial functions of the floodplain.
2. Adopt a ~no adverse impact™ approach to floodplain management.
3. Avoid new development in the floodplain whenever feasible.
4. Focus on data-driven decision making, using only the best available data to assess risk and inform decisions.
5. Consider future conditions of the floodplain, including development impacts and climate change.

With respect to MREC:

American Planning Association is the national leader in development of vital communities by advancing excellence in planning. They are a body of highly qualified professionals with thousands of educated members and are represented by a board of premier experts. The principles cited above from the referenced article are universal and can be used as extremely important advice for the MREC project.