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Sent by email: Robert.Piel@dep.state.nj.us

**Re: Flood Hazard Area Control Act Rules, NJAC 7:13
Written Comments on Proposed Rule Amendments**

Dear Mr. Piel:

The New Jersey Association for Floodplain Management (Association)¹ is dedicated to reducing loss of life and property damage resulting from floods and promoting sound floodplain management at all levels of government. The New Jersey Department of Environmental Protection's proposal to modify NJAC 7:13, the Flood Hazard Area Control Act Rule (Rule), has our great interest as this regulation protects the citizens – the taxpayers, property and economy of the State.

With respect to any proposed amendments to the Rule, we support the maintenance of higher standards, especially with respect to: Zero Net Fill; prohibitions to building in the floodway; 0.2-foot rise to define floodway; freeboard for structures; and the 100-year plus 25-percent flow to define the State regulated floodplain. We also strongly support change in the Rule to address permit efficiency; reduction in the costs of permit applications; streamlining permit process and administrative requirements; adoption of more General Permits and Permits by Rule; promote stream restoration activities; and removal of duplication from overlapping permit requirements (i.e. stormwater and wetlands). The Association believes these enhancements will ease the burden of compliance on the regulated public and the taxpayers, without compromising the protection of lives and property that the higher standards provide.

Our membership consists of public officials; first responders; local, state and federal agency employees; public and private engineers and floodplain managers; while we promote the protection and enhancement of the natural and beneficial functions of the floodplain, we are not an “environmental” organization. The New Jersey Association for Floodplain Management is one of 33 Chapters of the national Association of State Floodplain Managers – our membership of 150 professionals are among the 14,000 national and state members of the collective ASFPM that are engaged in protecting the public and its property.

¹ www.njafm.org

Flood Threat to New Jersey

It is with the Association's extensive knowledge of the flood threats to New Jersey that we make our below comments on modification of the Rule. It cannot be understated that the State of New Jersey is at great risk to flooding due to our coastline and major inland river floodplains that are densely developed. The following striking statistics² demonstrate the vulnerability of New Jersey to flooding:

Recent National Flood Insurance Program Statistics

- \$494,959,000 Flood Insurance Total Claim Payments (between October 1, 2010 and September 30, 2011); **rank: #1 in nation;**
- 22,033 Flood Insurance Claims (between October 1, 2010 and September 30, 2011); **rank: #1 in nation;**
- \$53,776,280,500 Flood Insurance In-Force (NFIP liability, as of February 29, 2012); **rank: #5 in nation;**
- 234,717 Flood Insurance Policies in Force (as of February 29, 2012); **rank: #5 in nation**

Historical National Flood Insurance Program Statistics

- 111,701 Total Flood Insurance Claims (between January 1, 1978 and February 29, 2012); **rank: #4 in nation;**
- \$1,578,747,828 Total Paid (between January 1, 1978 and February 29, 2012); **rank: #5 in nation**

As New Jersey exceeds one and one-half billion dollars in claims paid, and after dramatic flooding from Hurricane Irene and Tropical Storm Lee in late summer 2011 that resulted in the highest number of claims and claims paid in the October 1, 2010 to September 30, 2011 period, it is clear that New Jersey homeowners and business owners depend on the National Flood Insurance Program standards and New Jersey's higher standards to minimize the flood losses. In fact, FEMA, through the NFIP regulations, specifically encourages states to adopt standards that exceed federal minimums (these federal minimum standards are designed for an insurance program, not specifically for public safety), as a means to mitigate current and future storm and flood damages and associated costs. This will become increasingly important with the increases in sea level that have been observed for decades.

Future Uncertainty

Mapping produced through the National Flood Insurance Program and administered by the Federal Emergency Management Agency, are for static conditions at the time the Flood Insurance Study and Flood Insurance Rate Map are published. While the maps are completed with the best available data, it can be said that by the time these insurance products are adopted by the municipality, they are already out of date, under-representing future conditions and associated risk. The Association of State Floodplain Managers, the premier voice on floodplain management and flood risk in the nation, states in its National Flood Programs and Policies in Review 2007³ that mapping is, "...based on a relatively short history of flooding and rainfall, hydrologic calculations that have a significant inherent error, and other variables such as future development that are not accounted for in calculations to determine flood heights or velocities...." [emphasis by underline] **Higher standards are needed to offset this uncertainty in future flood risk.**

² National Flood Insurance Program statistics can be found here: <http://www.fema.gov/business/nfip/statistics/pcstat.shtm>
³ and ⁹ <http://www.floods.org/index.asp?menuid=442>

Flood Hazard Area Control Act

The Flood Hazard Area Control Act provides New Jersey's statutory basis for higher standards as described in detail below.

The Flood Hazard Area Control Act was created:

"...in the interest of the safety, health, and general welfare of the people of the State that legislative action be taken to empower the Department of Environmental Protection to delineate and mark flood hazard areas, to authorize the Department of Environmental Protection to adopt land use regulations for the flood hazard area, to control stream encroachments, to coordinate effectively the development, dissemination, and use of information on floods and flood damages that may be available..." [emphasis by underline]

The New Jersey Legislature empowered the NJDEP to:

"...adopt rules and regulations which delineate as flood hazard areas such areas as, in the judgment of the department, the improper development and use of which would constitute a threat to the safety, health, and general welfare from flooding." [emphasis by underline]

The reason that New Jersey has a Flood Hazard Area Control statute is that the companion federal statute is insufficient to provide adequate protection of people and property in our densely developed state. Prior Governors and Legislatures have determined and supported the need to adopt New Jersey specific laws and regulations that include higher standards appropriate to New Jersey's growing risk.

FEMA Support for Higher Standards

The Code of Federal Regulations (CFR) for the National Flood Insurance Program: 44 CFR Part § 60.1 (page E-16) state that:

The criteria set forth in this subpart are minimum standards for the adoption of flood plain management regulations by flood-prone, mudslide (i.e., mudflow)-prone and flood-related erosion-prone communities. Any community may exceed the minimum criteria under this part by adopting more comprehensive flood plain management regulations utilizing the standards such as contained in subpart C of this part. In some instances, community officials may have access to information or knowledge of conditions that require, particularly for human safety, higher standards than the minimum criteria set forth in subpart A of this part. Therefore, any flood plain management regulations adopted by a State or a community which are more restrictive than the criteria set forth in this part are encouraged and shall take precedence. [emphasis by underline]

FEMA acknowledges that the states have greater knowledge of flood threats and supports the adoption of higher standards to address flood risk. In fact, FEMA has the Community Rating System (CRS, likened to a "good driver" insurance program) that rewards community for engaging in higher practices by discounting flood insurance policy premiums in those communities and States. Since the State of New Jersey has higher standards, all municipalities qualify for CRS points that lead to reductions in flood insurance premiums. More on the CRS program can be found at this website: <http://www.fema.gov/business/nfip/crs.shtm> As of October 2011, 57 New Jersey communities were participating in good standing in the CRS program and according to a recent correspondence from FEMA Region II, higher standards save New Jersey NFIP policy holders \$12 million annually (note that CRS higher standards nationally save flood insurance policyholders over \$250 million annually).

The National Flood Insurance Program, while an insurance mechanism, did not establish standards by actuarial methods. The program uses minimum standards and, as above, encourages states and communities (for New Jersey, municipalities) to extend restrictions based on local knowledge and risk. Nationwide, flood damages and associated costs continue to increase, despite minimum federal standards.

In the last few years, FEMA has conducted Listening Sessions as part of its “Rethinking the National Flood Insurance Program” and will be working with the United States Congress on improvements to the program. Under the section called Higher Regulatory Standards in the NFIP Stakeholder Listening Session: Findings & Next Steps Phase I Report⁴, commenters stated that “FEMA should require local adoption of development standards that place more restrictions or add new prohibitions in identified flood hazard areas” and specifically listed:

- Prohibit the use of fill in floodplains
- Establish no-build High Hazard areas specifically citing Erosion zones, Floodways, V or Coastal A Zones
- Consider the following in relation to development in flood plains:
 - Sea-level rise/climate change
 - Future/ultimate development in the watershed
- Add freeboard of 1-3 feet for constructing buildings to be safe from flooding
- Open foundations in A zones
- V Zone standards in Coastal A Zones

Additional Support for Higher Standards

Even with the longstanding higher standard in the Passaic River Basin for Zero Net Fill, the Governor’s Passaic River Basin Flood Advisory Commission Report⁵ (page 13) discovered:

Land use decisions within the Passaic River basin continue to exacerbate flooding and flood damage. Although development within the basin is not a recent phenomenon and many communities are close to being built-out, encroachment on the floodplain remains a salient issue. NJDEP GIS datasets on Land Use/Land Cover from 1995/1997, 2002, and 2007 provide evidence that continued development is occurring within the floodplain.

When development raises flood levels, existing property owners are adversely impacted. This is detrimental to the property rights of existing taxpayers.

Experts in the floodplain management profession nationwide are telling us that the federal minimum standards are not sufficient to keep losses from rising. The Passaic River Basin Flood Advisory Commission Report⁶ issued January 2011 to Governor Christie states (page 14):

“Higher safety standards regulated through the Flood Hazard Area Control Action Rules (N.J.A.C 7:13) have set important restrictions on more recent building, redevelopment and reuse in the floodplain. Now and especially in the future, these rules will provide economic benefits by minimizing damages. Floodplain standards, above the minimum required by the Federal Emergency Management Agency (FEMA), have proven effective in making communities more resilient to flooding.”

⁴ http://www.fema.gov/pdf/business/nfip/nfip_stakeholder_listening_phase_i_report.pdf

^{5 and 6} <http://www.nj.gov/dep/passaicriver/docs/passaic-report201101.pdf>

Under the Mitigation Strategy of the 2011 State Hazard Mitigation Plan⁷ (Section 5.6 “Progress on Other State Mitigation Actions”, page 42), overseen by the New Jersey Office of Emergency Management, the 2007 adoption of the Rule and its higher standards is specifically highlighted. This Mitigation Plan calls on the work of the New Jersey Flood Mitigation Task Force Report⁸ dated August 22, 2006, wherein it states (page 2):

“In view of continued development pressures and expected continued increases in hurricane activity over the next several decades, significant changes in policy, management, planning, and development will be needed to limit New Jersey’s risk of loss from future flood events in the Delaware basin.”

Also under Section 5.6.1.1. “Updated Flood Hazard Area Control Act Rules” of the 2011 State Hazard Mitigation Plan (page 42):

“On November 5, 2007, the NJ Department of Environmental Protection adopted new Flood Hazard Area Control Act rules (N.J.A.C. 7:13), which incorporate more stringent standards for development in flood hazard areas and riparian zones adjacent to surface waters throughout the State. The Department has adopted these new rules in order to better protect the public from the hazards of flooding, preserve the quality of surface waters, and protect the wildlife and vegetation that exist within and depend upon such areas for sustenance and habitat.”

Zero Net Fill

New Jersey Flood Mitigation Task Force Report (page 16) spoke to the importance of Zero Net Fill since “The cumulative displacement of flood storage...causes the depth and velocity of flooding to increase, since floodwaters must seek other areas to occupy.” The Task Force recommended that the Flood Rule “...prevent any net-displacement of flood storage statewide (0% net-fill) except in cases of clearly proved public need or hardship.” Further, the Task Force said that “Preserving flood storage in this way ensures that development will not exacerbate flooding.” The Passaic River Basin Flood Advisory Commission Report spoke on the importance of flood storage in the developed Passaic River Basin. Zero Net Fill is exceedingly important in urbanized areas as the lack of storage directly results in greater flooding. The Association supports the continuation of Zero Net Fill in any modified Rule.

Please note that the Zero Net Fill requirement does not apply to tidal flood hazard areas, where the requirement would not result in additional flood storage benefits. Because these tidal areas include significant urban redevelopment projects, it is important to recognize that the Zero Net Fill requirement of the Rule does not impede or otherwise increase costs of compliance for these important urban renewal projects.

Prohibitions to Building in the Floodway

The Floodway is considered the most dangerous, erosive and damaging part of the floodplain. It is the area that carries the most flood flow, contains debris, and has the highest velocities and tractive forces. Unlike the floodway fringe, or the floodplain area outside the floodway, which has static forces on foundations, the floodway with higher velocities exert additional lateral force on structures, with or without debris. Water is a force that well exceeds wind loads and must be respected. Velocities in floodways make them dangerous for walking or driving. The majority of deaths from flooding result from people driving in flooded areas, and not being able to survive when swept away.

⁷ http://www.ready.nj.gov/programs/mitigation_plan2011.html

⁸ <http://www.nj.gov/dep/njflood/docs/finalnjtaskforcereport20060822.pdf>

There are appropriate uses to a previously developed floodplain and floodway that include stream restoration, passive use such as parks and trails, ball fields and golf courses, sound rehabilitation of infrastructure such as bridges and roads and other thoughtful activities that respect the high flows, velocity and erosion.

The Flood Hazard Area Control Act gave the NJDEP the right to set standards based on the "...reasonable and proper use [of the floodplain] according to relative risk, including the delineation of floodways [as] necessary to preserve the flood carrying capacity of natural streams." The Association supports the continuation of prohibitions to building in the Floodway in any modified Rule.

0.2-Foot Rise to Define Floodway

We know from empirical data and physical observations that high velocity floodwaters are not limited by the boundaries of river banks. Two cases in point are observations made on the Delaware River at the Lambertville Station Hotel, City of Lambertville, Hunterdon County and the residential area in Signac, Little Falls Borough in Passaic County. Both of these locations were considered in the referenced New Jersey Flood Mitigation Task Force Report and Passaic River Basin Flood Advisory Commission Report. In the case of the Hotel, the structure shows impact and erosion damage, although offset 45-feet from the Delaware River bank – the defined location of the floodway with a 1-foot rise floodway. In the Signac section of Little Falls Borough, river momentum causes the floodwaters to continue straight at a bend in the Passaic River – this is the classic floodway and the Little Falls Police Department has had to acquire two National Guard 6 by 6 trucks to manage evacuations and security of the area with the high velocity waters. The Association supports the continuation of the 0.2-foot rise to define the floodway in any modified Rule.

Freeboard

New Jersey's freeboard requirements are typical with respect to other states and communities in the nation. According to the Association of State Floodplain Managers, freeboard is the most common higher regulatory standard adopted by communities and states.

The Association of State Floodplain Managers, comments in its National Flood Programs and Policies in Review 2007⁹ (page 49):

"The NFIP requirements should require that new construction have from 1 to 3 feet of freeboard above today's estimated base flood elevation. This would acknowledge and mitigate uncertainties, account for increased runoff caused by climate change and future development, allow for wave action from the wakes of rescue boats, and provide a margin of safety for wind-induced wave action on wide flooded areas. It also would result in significantly reduced flood insurance rates for owners of such buildings."

Specific to Coastal Development and Construction, the ASFPM states that (page 69):

"...many Flood Insurance Rate Maps do not show up-to-date base flood elevations. Structures that are built according to the minimum standards, therefore, are still likely to be damaged. A relatively minor increase (1 or 2 feet) in the elevation of the building's floor can translate to significant damage reduction over the long term and also serve to lower flood insurance premiums on that structure."

The benefits for freeboard outweigh the costs. According to a 2006 FEMA study¹⁰, the costs of adopting freeboard on new structures is minimal, typically adding between 0.25 to 1.5 percent to the total construction expenses for

¹⁰ Storm Smart Coasts: <http://www.mass.gov/czm/stormsmart/regulations/freeboard.htm>

each foot of elevated height. For homeowners, this generally results in a minor increase in monthly mortgage payments, but the resulting monthly savings on flood insurance premiums typically far exceeds the additional mortgage cost. Ultimately, freeboard protects homeowners and first responders, and produces aggregate cost savings. The Association supports the continuation of freeboard in any modified Rule.

100-Year Plus 25-Percent as the State Regulated Floodplain

Flows used in FEMA Flood Insurance Studies are based on historical flow data. This data can be taken from stream gages that have only 30 years of record and may not have experienced a major event in the record. When used for floodplain mapping, future risk determination and land use regulation (versus Flood Insurance), the risk may be severely understated.

The Report of the 2004 Assembly of the Gilbert F. White National Flood Policy Forum titled “Reducing Flood Losses - Is the 1% Chance Flood Standard Sufficient?”¹¹ found that (page xi):

“There is a ‘gray area’ of uncertainty surrounding the calculation and the mapped floodprone zone, resulting from inadequate data, lack of consideration of changing and future conditions within watersheds, and oversimplified assumptions. Because of this uncertainty, there is considerable doubt whether management practices are actually being applied to the entire 1% floodplain.”

The Association supports the continuation of the 100-Year Plus 25-Percent flow as the State Regulated Floodplain in any modified Rule.

The Hardship Waiver provisions of the Rule allow for some relief in cases where it can be demonstrated that the cost of strict compliance outweighs the benefits of strict compliance. The Association concludes that this is a reasonable provision that allows for case-by-case analyses, but requires real science to support the waiver. We believe that allowing relief in specific cases, when technically justified, is much preferred to lowering standards for all development, which can put people and property at risk.

Public Safety and New Jersey’s Economy

It is important to recognize that the above higher standards, or, as called in the structural engineering profession “factors of safety” (often in the range of 40 to 70-percent of the anticipated load), represent uncertainty in engineering, climatic data, future conditions and the significance of underreporting flood risks to people’s safety and property damage. The costs to development interests, building materials and labor and inhibited land use is very small when compared to the benefits of keeping citizens safer and communities more resilient to future flood events.

The higher standards in the Rule point to broad economic benefits and ultimately reduce burdens on taxpayers and government at all levels, help states and communities to better manage their budgets, and create resilient, sustainable communities. There is no doubt that higher standards are in the best long-term financial interests of taxpayers. Studies and historical data shows that between 25% and 60% of businesses do not reopen after a significant flood event, resulting in the loss of inventory, sales, productivity, profits, jobs, income and tax revenue. Personal impacts of flooding include physical and social impacts including loss of jobs, wages, increases in bankruptcies, dislocation of communities, and mental health impacts. Communities often take years to recover from major flood events. Good planning and regulatory programs can eliminate risk before a flood.

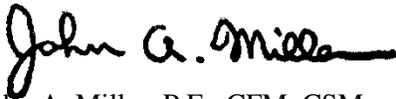
The NJDEP must realize that the Flood Hazard Area Control Act Rules are not just an “Environmental Regulation” under its jurisdiction, but contain a very important set of standards that make New Jersey more safe,

¹¹ http://www.asfpmfoundation.org/forum/2004_Forum_Report_Final_Color.pdf

and ultimately, more resilient to the devastating damage of flooding. The Rules provide protections to the real stakeholders – the citizens and business that occupy the floodplain and adjacent lands, and importantly, the taxpayers, who will be asked to pay disaster costs for flood damages. These rules are vitally important to building occupants, first responders including police and fire services, community vitality and the long-term economy of the State of New Jersey. Commissions, Task Forces and a multitude of groups for over a hundred years, have recommended restrictions to building in the floodplain. With our existing exposure, and the exposure increasing into the future, administration of higher standards is intelligent, based on irrefutable statistics and the right thing to do. Current economic conditions and politics do not justify lowering standards that will increase flood vulnerability, risk and costs to the New Jersey taxpayer over the long term.

The New Jersey Association for Floodplain Management appreciates the opportunity to submit these comments to the NJDEP in light of modifying the Flood Hazard Area Control Act Rules. If the NJDEP has any questions on our position, we would be happy to correspond or meet with you on the intent. We look forward to continuing to work with the NJDEP to promote good science, awareness, professionalism and sound floodplain management.

On behalf of the Association,



John A. Miller, P.E., CFM, CSM
Legislative Committee Member
Certified Floodplain Manager

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