North Carolina Association of Floodplain Managers

FlashFlood NEWS

2013 Issue 2 Fall 2013

What's Inside

From the Chairman ... 2

NCAFPM Launches New Website ... 2

New FRIS System ... 3

Board of Directors ... 5

BW-12 Specific Rating Guidelines ... 5

State Mandated CFM Requirements ... 6

REPORT: ASFPM 2013 Conference ... 7

ASFPM Annual Conference 2014 ... 9

Western NC Flooding ... 10

Venting ... 11

NFIP Corner ... 9
- Map Maintenance Program ... 14
- NFIP Report ... 14

Watershed Approach 15

Regional Reports ... 19

Conferences ... 22

Resources ... 24

Registration is now open for the **8th Annual**

Fall Floodplain Institute

NORTH CAROLINA ASSOCIATION OF FLOODPLAIN MANAGERS

Cherokee, NC
November 13-15, 2013

The North Carolina Association of Floodplain Managers annually hosts a Fall Floodplain Institute, providing an opportunity to attend workshops and presentations, take the Certified Floodplain Manager exam, and mingle with your fellow floodplain managers. The Fall Floodplain Institute offers training in a professional, friendly environment, while also offering an opportunity — in addition to our spring Annual Conference — for Floodplain Managers to earn CECs.

This year's 8th Annual FFI will be held in Cherokee at Harrah's Cherokee Casino and Hotel Conference Center. To register for the conference, please follow the directions on our website (www.ncafpm.org). The registration fee is $200 ($170 early bird rate before October 17) and includes Wednesday afternoon plenary session, Wednesday Meet & Greet, Thursday lunch, Thursday evening social, Thursday and Friday conference presentations, and break refreshments. Guest tickets are available for the conference social. One day rates are available. Registration is online and payment may be made by credit card or by check. The deadline to register is November 8.

To reserve a room at the hotel, call 1-800-HARRAHS (427-7247). The rooms are listed under the NC Association of Floodplain Managers (use the group code S11AFPM). The rate for either a single or double room is $89+tax. Please make your room reservation before October 27, 2013. Room rates are not guaranteed after this date.

Don't forget the traditional golf outing, which will be held on Wednesday, November 13 at Sequoyah National, weather permitting. The cost to play is $55. Contact **Brad Burton** at 828-885-5630 or bburton@cityofbrevard.com to register and pay, or you can pay online with your conference registration.

Information about the Certified Floodplain Manager (CFM) exam, continuing education credits, and room reservations is available on the Certification page of our website.

The conference agenda will be posted in early October.

Register today at www.ncafpm.org.

From the Chairman's Desk

John Fullerton, CFM
NCAFPM Chairman

Your Board has been working diligently as we prepare for the 8th Annual Fall Floodplain Institute, to be held November 13-15 in Cherokee. **Cynthia Barcklow**, **Brad Burton**, and **Sarah Easter** are taking care of conference affairs while **David Key**, **Drew Blackwell**, and **John Gerber** are preparing the program. The Board has taken a close look at our finances and tweaked some things to insure that we remain solvent and responsible to you, the members. A re-vitalized web site, the beginnings of a mentor program, new communication tools and opportunities, building an association archive, and voicing our support of pending legislative issues are but a few Board initiatives. We welcome always your comments, ideas and suggestions as we move forward.

Our 8th FFI is the latest in the fall that it has been held and comes just two weeks before Thanksgiving. Thanksgiving has been celebrated since the 1500's and carried over to the New England settlements of the 1600's. President George Washington proclaimed the first nation-wide thanksgiving celebration in America marking November 26, 1789 "as a day of public thanksgiving and prayer to be observed by acknowledging with grateful hearts the many and signal favours of Almighty God."

We still have many things to be thankful for, including our freedom, country, families, and friends just to name a few. Certainly included in this list can be the thankfulness for the people of NCAFPM, both past and present. Our membership through the years has continued to support the association and its stated goals of managing floodplains in order to save lives and property. This support has been felt in leadership, instruction, volunteering, mentoring, and often un-rewarded hard work.

To you, the membership of NCAFPM, and indeed to all working in this field, we say "Thank you." The bottom line is people working together toward a common goal and helping each other as we do it. With sincere thanks to you we offer this sage advice (see inset) as you continue on the path(s) you have chosen.

— John

NCAFPM Launches New Website

NCAFPM is pleased to announce the release of our newly redesigned website. We have been hard at work refining the design and organizing the information into an easily navigable site that is more useful for our members, more user-friendly for our site visitors, and has fresh new look.

Links in the navigation bar at the top of the page will take you to main sections of the website: **About NCAFPM**, **Resources** (including our downloadable newsletters), **Certification** (one-stop-shop for the CFM program), **Conferences**, **Membership**, and **Contacts** (including State contacts). Direct links to some of the more useful pages are included at the bottom of the homepage.

The Board acknowledges Kelly Keesling and Shweta Chervu for their time, energy, and good judgement in developing the new website.

Living Life by Bonnie L. Mohr

Life is not a race – but indeed a journey. Be Honest. Work Hard. Be Choosy. Say "thank you" and "great job" to someone each day. Go to church, take time for prayer.

The Lord giveth and the Lord taketh. Let your handshake mean more than pen and paper. Love your life and what you've been given, it is not accidental – search for your purpose and do it as best you can.

Dreaming does matter. It allows you to become that which you inspire to be. Laugh often. Appreciate the little things in life and enjoy them. Some of the best things really are free.

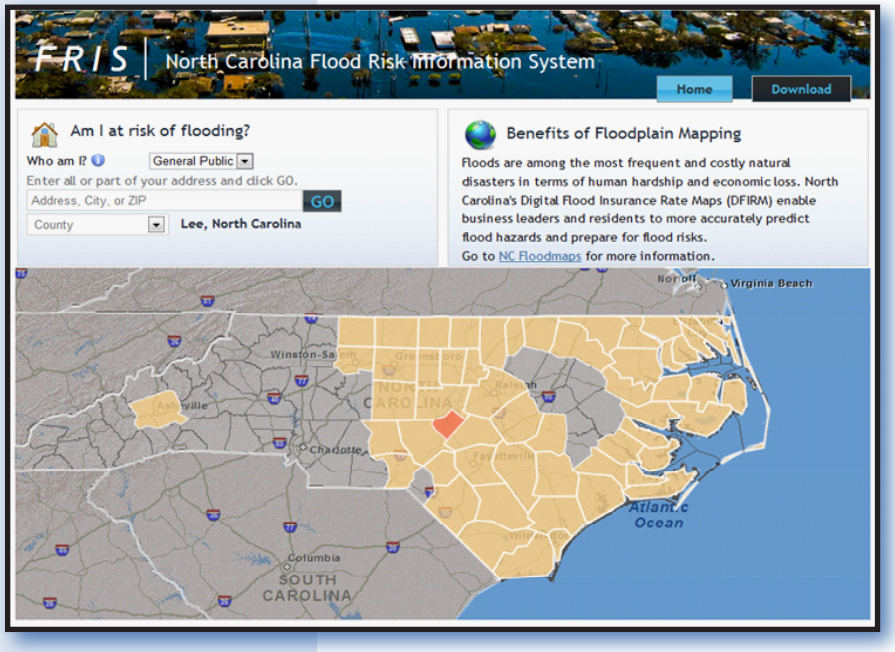
Do not worry, less wrinkles are more becoming. Forgive, it frees the soul. Take time for yourself – plan for longevity. Recognize the special people you've been blessed to know.

Live for today, enjoy the moment.

The New Flood Risk Information System (FRIS) is Live

By Stacey Bobbitt, CFM, Office of Geospatial and Technology Management

One of the longstanding achievements of the North Carolina Floodplain Mapping Program (NCFMP) has been to provide statewide flood hazard information on the internet, 24 hours a day, 7 days a week. Along with accessibility and availability, a major goal of the NCFMP was to establish a website as the source of all flood hazard mapping information incorporating flood risk analysis capabilities to assess and mitigate risk. The Flood Risk Information System (FRIS) website has been designed to achieve this goal and is currently available at http://fris.nc.gov/fris/ or via the link from the current Floodplain Mapping Information System (FMIS) home web page.



FRIS contains digitally accessible flood hazard and risk data that are database driven, allowing for print-on-demand products such as flood maps and Flood Insurance Studies (FIS). The website also provides geospatial base map data, updated and better defined 6" pixel resolution imagery, LiDAR data, along with effective hydraulic and hydrologic models that, if available, are downloadable for use. The NCFMP is currently in the process of migrating its current flood hazard website FMIS at http://floodmaps.nc.gov/fmis to the more comprehensive FRIS website. Once the transition is complete the FMIS website will no longer be available. In addition to the transition of FMIS to FRIS, the NCFMP has refined a new geodatabase schema that will hold all necessary flood hazard mapping and risk analysis information. This geodatabase was designed to capture detailed data and information regarding flood risks, including: field survey, terrain, hydrology, hydraulics, model groups, community information, raster grids, footprints, LOMC's, first floor elevation data and visualization layers for FRIS. As part of the new geodatabase, depth and elevation information will be provided through the implementation of a raster grid with 10 x 10 foot cells at the same level of quality as the effective profiles. This results in deriving the regulatory Base Flood Elevation (BFE) from a point and click on the digital map!

Background

Although NFIP digital products are now generated primarily using GIS and other software production tools, the products themselves unduly replicate legacy analog products, thereby incurring unneeded cartographic costs. As a result, process improvements have reached a point of diminishing returns and "breakthrough" savings afforded by technological advances have not yet been achieved. Significant costs are still being incurred to prepare panel-based products designed to be printed on large format printer/plotters. The new digital format for flood hazard data will result in efficiencies and cost savings through significantly reducing or eliminating the development and distribution of hard-copy cartographic flood hazard and risk products. The need for a digital display

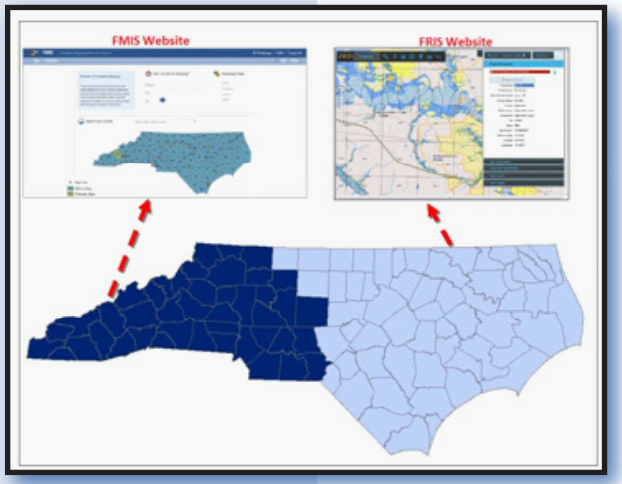
— *continued on next page*

FRIS, from page 3

environment breaking free from the cartographic constraints of the past was apparent. The North Carolina Floodplain Mapping Program defines the key elements of Digital Display Environment (D2E) as:

- Geospatially aware,
- Database driven,
- Allows on-demand products, and
- Without the constraints of cartographic rules.

In January 2012, the NCFMP Engineering and Mapping Contractors started to populate the effective information into the FRIS geodatabase for the eastern river basins in the state. Once the information was digitized and in the D2E geodatabase format, the NCFMP and contractors performed reviews on the geodatabase and a test environment FRIS website was created to ensure that all currently available flood hazard and risk information was captured correctly in the D2E geodatabase schema and shown accurately on the website.



Products

Once all of the effective regulatory flood hazard information is back-populated into the D2E geodatabase by riverine sub-basin for the state, flood hazard and risk information will be available for viewing and download on the FRIS website. All of the current effective and upcoming preliminary data will be available for download and use through the FRIS website.

Flood Hazard/Risk Product Comparison

CURRENT RISK MAP PRODUCTS	NEW FLOOD RISK PRODUCTS ON FRIS

• FIRMs
• FIS Report
• FIRM Geodatabase
• Flood Risk Geodatabase
• TSDN
	• NC FIRMette*
	• FIS Report*
	• D²E Geodatabase **
	  • Field Survey
	  • Terrain
	  • H&H Modeling
	  • Base Flood Elevation Raster
	  • Depth Grid Raster
	  • Risk Analysis
	  • Risk Assessment
	  • Floodplain Boundaries Standards Check
	  • TSDN Certification
	• FEMA MSC Deliverables
	  • Databases
	  • Digital FIS Report
	  • PNGs
	  • Digital TSDN
	
	* On-the-Fly creation & download via FRIS website
	** Download via FRIS website
	Risk Data & Products

A comparison between traditional flood study products and the new FRIS products is shown in the table (left). By creating FRIS, NC FIRMettes and FIS Reports will be developed on-the-fly by users as compared to receiving paper copies of panels and FIS Reports from the Map Service Center. The new auto-generated FIS Report will also allow users to select only certain sections or tables of the FIS Report that they need, as compared to using a scanned copy of the entire countywide FIS Report.

As new modeling is approved, the new modeling information will be compiled into the D2E geodatabase and issued preliminary and effective within the D2E geodatabase with supporting documentation, such as the FIS Report and NC FIRMettes. All future map maintenance Physical Map Revisions (PMRs) and all preliminary flood hazard mapping and risk analysis data will be placed on FRIS for review by affected communities. Letters of Map Change areas are also viewable on FRIS.

— continued on next page

continued on next page

FRIS, from page 4

Then, communities will have the option of submitting comments and/or appeals through the web for new flood hazard information. The NCFMP believes that the use of 'PMRs' will be obsolete, and will recommend that all revisions to flood hazard mapping and risk analysis data be referenced as Digital Data Revisions (DDRs).

The FRIS website presents information targeted to two audiences: the general public and the advanced users. The general public can identify the level of flood risk and estimated damage losses associated with their property. By typing in their address, users can locate their property and view the flood hazard and risk information associated with it such as the flooding source, the flood event water surface elevation, and the flood zone, if applicable. Advanced users, such as floodplain managers and government officials, will have the opportunity to download flood hazard data while also being able to identify levels of flood risk for buildings in the community.

The NCFMP has also developed a Risk Management Tool that will be available on FRIS to community officials. This tool will aid in the enhancement of Mitigation Plans and identifies various natural hazard risks and mitigation strategies that can be considered for each individual community. This tool will be accessible to the community officials at all times and can be developed and updated frequently.

Outreach

Since the FRIS website was released in the spring of 2013, the NCFMP has and will continue to utilize existing outreach activities through ongoing relationships with:

- local communities,
- FEMA,
- NFIP,
- Society of Surveyors,
- Professional Engineers of NC, and
- NC Department of Transportation (NC DOT).

The NCFMP Outreach, NCFMP GIS, and state NFIP teams will outreach at all future conferences and workshops to educate about new FRIS website. The NCFMP is also investigating how to reach out to the general public for individual property risk information. Questions and comments are welcomed on the FRIS.

Biggert Waters Flood Insurance Reform Act of 2012

The NFIP's Specific Rating Guidelines

The Federal Emergency Management Agency's (FEMA) is now taking the added step to provide the public with the Specific Rating Guidelines. This document is issued annually to FEMA's insurance partners, but due to increased public interest resulting from the reforms passed in the *Biggert-Waters Flood Insurance Reform Act of 2012* (BW-12), they are publicly releasing these Guidelines for the first time.

Please see the Resources page of the NCAFPM website (www.ncafpm.org) for this complete document with links to the NFIP Flood Insurance Manual, Specific Rating Guidelines and Actuarial Assumptions as well as examples demonstrating the kind of calculation that insurance companies will make to determine a policy rate when the lowest floor elevation is below the BFE using the Specific Rating Guidelines.

State Mandated CFM Requirements for Local Floodplain Administrators

Bill Tingle, PG, CFM, NCAFPM Executive Director

The responsibilities of floodplain managers across the country and especially in North Carolina continue to expand due to ever increasing flood losses coupled with pressures to develop or redevelop property in flood-prone areas. Of all vocations working in the floodplain management field, it is of utmost importance that the individual administering the local flood damage prevention ordinance at the local level (Floodplain Administrator [FPA]) possess a high level of knowledge and skill to ensure safe development and protection of the riverine environment. One means to ensure this level of knowledge and skill is for states to require that local FPAs possess the CFM certification.

A survey of CFMs by ASFPM's Professional Development Committee (PDC) in 2011 showed that 85% of 1900 respondents believe that states should require local floodplain administrators to possess the CFM certification. The PDC has since been tasked with producing a discussion paper to provide an overview of state mandated CFM requirements including the benefits, hurdles, and potential roadblocks for states to consider when deciding if this is an endeavor they wish to pursue. A draft document has been produced and is currently under review by PDC members and others. A final document is expected to be made to available to all state chapters in the next few months.

The basic objective of the state mandated CFM requirement would be to enact a law that would require Floodplain Administrators (FPA) in participating NFIP communities to be certified as CFMs in order to remain in good standing with the state. Of course, this would require a substantial amount of effort and time to achieve in most states but it would surely result in much larger benefits with regard to reduction of flood losses and protection of the natural functions of floodplains.

Currently, New Mexico is the only state to have passed a mandatory CFM requirement. The law was passed in 2003 and requires that all NFIP communities designate a CFM to administer their flood damage prevention ordinance. The states of Oklahoma, Arkansas, and West Virginia do not have a mandatory CFM requirement, but they do have mandatory annual continuing education requirements that must be obtained by FPAs in all NFIP communities.

Is it time for NCAFPM to begin the groundwork towards establishment of a state law requiring each local flood damage prevention ordinance to be administered by a CFM? The state of North Carolina and many of its communities are nationally recognized as leaders in floodplain mapping, risk assessment, flood mitigation and other floodplain management activities. North Carolina is in the top five states in the country with regard to the number of CFMs as well as the number of CRS communities. We are one of the fastest growing states with increased development occurring from the mountains to the sea, creating unique challenges from landslides to sea level rise. Maybe it is time we took the leadership role to ensure all of our communities possess the level of knowledge and skill required to safely manage and protect the state's floodplains. ▲

REPORT

National Floodplain Conference

Cynthia Barcklow, NCAFPM Vice-Chair

I attended the National Floodplain Conference in Hartford, Connecticut this past June. The theme of the conference, "Remembering the Past — Insuring the Future," had relevance both in the fact that Hartford is the home of several insurance companies' headquarters and that the recent Biggert-Waters legislation is changing the rate structure and future of flood insurance.

Hurricane Sandy

A plenary session focused on Hurricane "Superstorm" Sandy, which caused massive devastation along the mid-Atlantic coast and in the northeast in October 2012. The storm surge from Hurricane Sandy reached 12 feet in places, greatly exceeding base flood elevations in the current floodplain maps. Less than half of the structures that were flooded had flood insurance. Bill Nechamen, employed with the New York State Department of Environmental Conservation and the Vice-Chair of ASFPM, spoke about a compounded disaster in Breezy Point, Queens. A number of homes caught fire during the height of the storm due to utilities that had not been disconnected. The fire department's efforts in combating the fires were inhibited due to the storm surge. The fire spread, ultimately destroying 122 homes. Many coastal communities were similarly devastated with high winds and flooding. In total, the damage estimate from Hurricane Sandy is approximated at $60 billion — making it the second most costly storm in America's history.

> "Anyone who says there is not a dramatic change in weather patterns, I think is denying reality."
> — NY Governor Andrew Cuomo

The recovery efforts raised significant debate and national attention regarding climate change and coastal sea level rise. With the Presidential election dovetailing early recovery efforts, Hurricane Sandy brought additional scrutiny on FEMA, state and local floodplain cooperation and policy. In their recovery efforts, states focused on providing outreach to local communities, while coordinating communication between FEMA and the localities. There were dozens of housing forums held, with Community Development Block Grant recovery funds becoming available and zoning codes being analyzed for their impact on resiliency and relevance. In New Jersey, Governor Christie even appointed a cabinet level position to coordinate the state's recovery efforts.

Three commissions were formed in New York following the storm to outline strategies for rebuilding. The commissions' findings included ways to implement sustainable recovery. Examples include strengthening the building code; targeted elevations and buyouts; using green and natural infrastructure when possible; engaging in wetland and beach restoration; providing incentives for sustainable development; and including climate change considerations in environmental impact assessments.

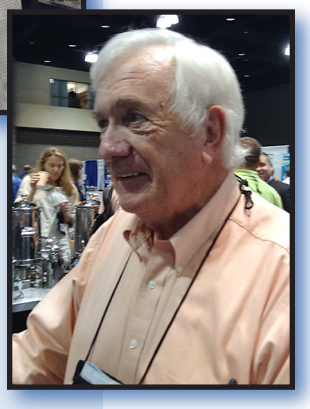
Flood Risk and Flood Policy

Another presentation, during Wednesday's Plenary Session, focused on managing flood risk and developing a cohesive flood policy. The presenters emphasized that policy which severely limits all development and rebuild in coastal communities is neither sustainable nor feasible. A holistic policy considers both the social and environmental impacts of

— *continued on next page*

National Conference, from page 7

existing and future development. Consideration should be given to minimize and mitigate damage while also supporting sound economic use of resources. Many of America's most culturally significant landmarks and tourist destinations, and much of our national infrastructure and commerce, lie within the 100-year floodplain. To discount the importance of, or fail to plan for, the continuation and resiliency of the economic engine that already exists in these sensitive areas is shortsighted and one-dimensional.



Board members Bill Tingle (top) and John Fullerton at the National Conference (June 2013).

Wednesday's session on managing flood risk reminded me of a presentation on "Community Based Urban Waterfront Design" from the APA Planning Conference held in Chicago earlier this year. The speakers discussed urban coastal areas, particularly in New York, and the vitality around the waterfront. With industrial development, marshes and wetlands were filled and people and their neighborhoods were cut off from the waterfront. With infrastructure and highways built to service this industry and facilitate commerce, communities were further removed. The few neighborhoods that remained in waterfront areas were mostly reduced to slums. The waterfront became a place most people avoided. Speaker Claire Weisz emphasized the inherent conflicts in waterfront land uses, including transportation, recreation, food source cultivation, commerce and housing. In recent years, there has been a push to make the most out of the waterfront area while also safeguarding communities and their access to the waterfront. In 1992, the Comprehensive Waterfront Plan for New York City included a zoning provision for new development requiring public access to be provided along the waterfront at the developer's expense. The plan was updated and is continued today with the Vision 2020 NY City Comprehensive Waterfront Plan. In developing this plan, public input was widely encouraged. The public was challenged to discuss the barriers that existed for what they wanted being realized; this forced awareness of the various tensions between often disparate goals. The resulting eight goals of the plan are: 1) expand public access; 2) enliven the waterfront; 3) support the working waterfront; 4) improve water quality; 5) restore the natural waterfront; 6) enhance the blue network; 7) improve governmental oversight; and 8) increase climate resilience.

The layering of goals, and the struggle along the waterfront to maintain commerce, improve public access, increase recreation opportunities, maintain operable critical facilities, restore wetlands, and encourage greater distances between the water's edge and housing, is ultimately the challenge of blending sustainability, resiliency, and safety. This continues to be a policy and practical challenge for all of us: New York and North Carolina, urban and rural, coastal and riverine.

Ed Horstkamp and Neal Banerjee at the National Conference (June 2013).

Perhaps the new flood insurance legislation will help to further resiliency goals in the long term. No doubt the changes should force prospective buyers and builders to acknowledge and understand that risk exists, and choices must be made with consequences- including financial commitments- in mind. Efforts to team up with those professionals who can communicate this risk early in the decision making process (i.e., realtors, mortgage lenders, insurance agents, surveyors, building officials, and local floodplain managers) is a key first step.

See page 5 for information on the 2014 ASFPM Annual Conference.

ASFPM 2014 Annual Conference

Mark your calendar for ASFPM's 38th Annual National Conference, "Making Room for Floods & Fish," which will be held June 1-6, 2014 at the Washington State Convention Center in Seattle, Washington.

The ASFPM annual conferences are recognized as the most important floodplain conference in the United States year after year. With more than 100 speakers and well over 1200 participants, they are the national conferences all community, state and federal floodplain managers plan to attend. And because of that, many of the most important consulting firms and product vendors associated with floodplain management attend.

In recent years, the attendance has had about an equal number of private, local, state and federal participants from all over the United States and several foreign countries.

Key Dates

- October 31, 2013 — Call for Presenters deadline
- January 2014 — Program unfolds on conference web page (on www.floods.org)
- March 2014 — Conference registration opens
- June 1 - 6, 2014 — ASFPM's 38th Annual National Conference

Call for Presenters

This Call for Presenters seeks a broad range of professionals to address the many issues and problems associated with managing flood risk, reducing flood damages, making communities more sustainable, and protecting floodplains and fragile natural resources.

The CALL FOR PRESENTERS can be downloaded at www.floods.org/ace-files/Conferences/2014/ASFPM_2014_Call.pdf. The conference page will soon be updated and will contain Speakers instructions, Sponsorship and Exhibitors information, and a link to the conference hotel.

In addition to the **Concurrent Session** Presentations, ASFPM is also accepting proposals for a limited number of 2- and 4-hour **Training Workshops**.

- Workshops are 2-4 hour long courses which include a syllabus, course objectives, and exercises. Workshops should be targeted at offering continuing education for floodplain management professionals. Workshop attendees may pay a fee in addition to their conference registration to attend.
- Concurrent Session presentations are 25-30 minutes in length and fit within the standard conference agenda. Concurrent session attendance is included with conference registration. Presentations fit within conference topical tracks, which you will be able to select from on a following page after choosing "Concurrent Session."

Workshop submissions are different than Concurrent Session submissions and each require separate submission forms and information. Submission form previews and the link to the submission form through Survey Monkey collector have been posted on the NCAFPM Facebook page and are also available at www.surveymonkey.com/s/2014_ASFPM_Conf_Presentation_Submission_Form.

Western NC Flooding: Summer of 2013

By Terry Foxx, CFM, NCEM/NFIP Western Branch Planner

In a glass it's a clear, cool refreshing drink; when it unleashes its power it is devastating, very expensive, sometimes deadly and definitely a mind opening experience. The summer of 2013 may well go down in history as one of the wettest seasons ever seen in Western North Carolina history. In early April, the rain began to fall and didn't seem to stop falling until August. Many areas across western North Carolina saw record numbers of rainfall totaling over 40 inches in many areas.

This first picture is typical of many of the areas across the region. Roads were flooded and/or washed out completely. Many bridges were damaged or completely destroyed making travel in many cases impossible even for emergency responders. On June 14 a very large storm centered itself over western North Carolina causing major damage in Cabarrus and Stanly counties.

Not only were roads impassable, heavy rains and flash flooding occurred during July knocking down trees and power lines, prompted mudslides and damaged homes, businesses and roads across Burke, Caldwell, Lincoln, Cleveland and Iredell counties. Two weeks later, on July 27 between 10 and 12 inches of rain fell within a few hours in portions of Catawba and Lincoln counties. The torrential rainfall prompted many areas to flood for the second or third time in the past two months. The picture at left is picture of Cline Creek North at the confluence of Lyle Creek. The water rose several feet and covered this retired school bus almost completely.

As Cline Creek meanders farther south and adjacent to the Hickory Motor Speedway, the water rose well out of its banks flooding the complete infield of the facility, but not even Mother Nature can stop the activities of a good race. The speedway held its regular events later that evening.

In many of the western counties Swiftwater rescue teams saved lives by their efforts in getting residents to safety; however 2 lives were lost due to the flooding. Efforts continue to seek and provide assistance to the affected areas with recovery from the flooding.

Governor Pat McCrory has requested a disaster declaration by the U.S. Small Business Administration (SBA) so flood victims in Catawba and the adjacent counties of Alexander, Burke, Caldwell, Iredell, Lincoln and Mecklenburg can apply for financial assistance following the severe flooding.

On August 7, 2013, Governor McCrory proclaimed a state disaster declaration enabling those who do not qualify for SBA loans to seek state funds to help them recover. While Catawba was the only county that met the threshold for SBA assistance, residents and business owners in the surrounding counties of Alexander, Burke, Caldwell, Iredell and Lincoln can also apply for the financial assistance.

In closing, the next time you take a drink from that clear, cool refreshing glass of water, remember when it unleashes its fury, it is a very costly and potentially deadly substance.

Reducing Flood Risks and Insurance Premiums with Venting

Wendy Lathrop, PLS, CFM

(TOP) When measuring non-engineered openings such as air vents it's important to measure the net open area, not the gross. Louvers, grills and other coverings will impede the flow of floodwater and will trap debris clogging the vent.

(BOTTOM) ICC-ES Certified Flood Vents like Smart Vent are designed, tested and certified engineered openings and can be easily retrofitted into a home.

The 2012 Biggert-Waters Act begins to phase-in actuarial flood insurance rates over five years, affecting non-primary "pre-FIRM" ,and "post-FIRM" rates and is reducing the scope of what is covered under "NFIP grandfathered" provisions. These changes plus FEMA/NFIP's remapping projects will affect all areas of the country, current flood zones and properties. The end result will be flood insurance rates more closely reflecting actual risks and better covering the costs of payouts.

Simple structural retrofit options will help reduce the scope and costs from a flooding event, and there are times that it may also offer a partial mitigation credit while satisfying National Flood Insurance Program (NFIP) and local ordinance requirements.

One approach is to raise machinery and equipment servicing the structure, which can include placement on platforms above Base Flood Elevation (BFE), suspension from the ceiling, or moving facilities to the next higher floor in the building. On the Elevation Certificate (EC), compare the elevation of these facilities from Line C2e with the BFE reported in B9.

Appropriately flood venting buildings to equalize the weight and pressure of floodwaters against a building's walls is another method to reduce both flood damage risks and flood insurance costs. Flood openings are highly effective in maintaining structural integrity, reducing buoyancy and hydrostatic pressure by allowing the free flow of floodwater into and out of enclosed areas below the BFE. The use of flood vents, called "wet floodproofing," is the only permissible means of floodproofing residential structures. Non-residential structures may also utilize "dry floodproofing", although such methods and designs may be costly.

The placement, number, and size of flood openings can significantly affect flood insurance costs. Improper placement or insufficient amount of opening area can change the floor serving as the basis for premium rating to cause dramatic rate increases. When the elevation of the structure's lowest floor rather than the next higher floor serves as the rated element, premiums can double or more.

The EC reports information about only those flood vents for which the bottom of the opening (where water first enters the structure) is within 1.0 foot of the higher of the exterior or interior adjacent grade or floor directly beneath that opening. Line A7 of the EC reports the Building Diagram most closely representing the structure to be insured. Lines A8a-d and A9a-d provide details about flood vents or openings, including square footage of enclosed areas, the number of flood openings within one foot of adjacent grade, and the total net area of flood openings. When insufficient or improper flood openings are the cause of high premiums, homeowners can realize dramatic savings in insurance by proper placement and proper amount of flood vent openings, often with a return on investment in as little as two years.

There are two kinds of flood openings: non-engineered and engineered. Each must allow free flow of floodwater in both directions without any human intervention. Standard

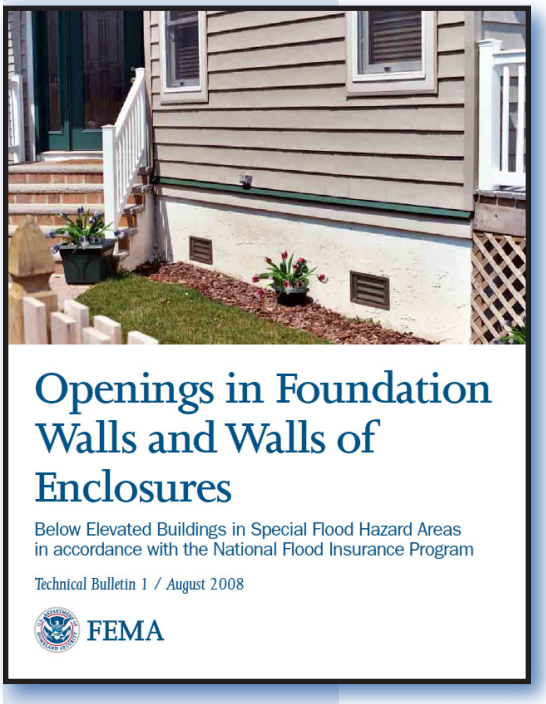
— continued on next page

Venting, from page 7

doors, windows, and air vents do not satisfy this requirement (unless air vents are broken to remain in the open position). While non-engineered openings may have a screen or grill over them to keep out creatures, they cannot have covers or be blocked in any way. Obstruction to water flow from grills or other screening is subtracted from the total overall amount of opening in determining if the opening is compliant for the enclosure area served.

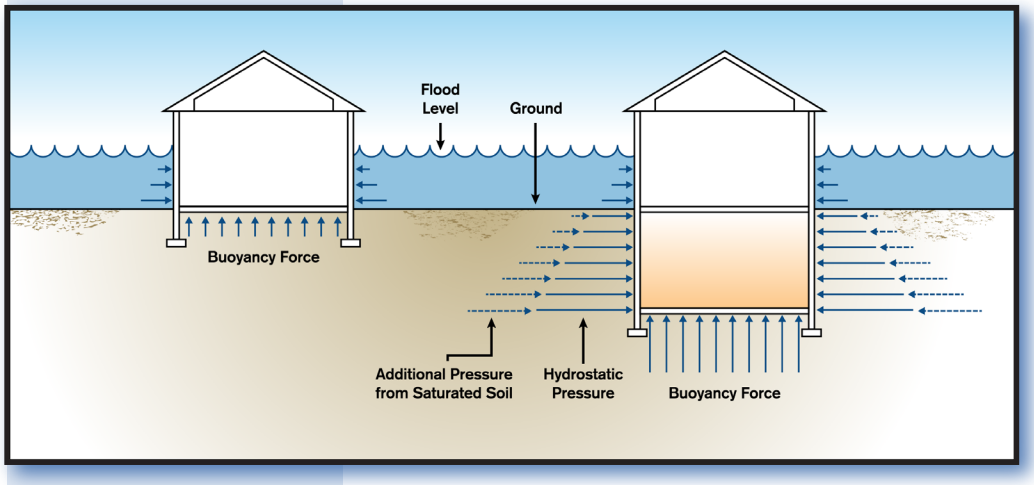
All the details to meet the flood venting requirements are found in FEMA's Technical Bulletin 1.

Engineered flood openings are of two types. One is manufactured openings for which the International Code Council Evaluation Service (ICC-ES) has issued an Evaluation Report (freely available on-line at www.icc-es.org and NFIP accepted). These automatic foundation flood vents have been designed, performance tested, and certified to mitigate against effects of hydrostatic pressure on foundations or other enclosure walls. The alternative is to use unique openings designed for a specific building and individually certified by a licensed design professional as meeting design and performance requirements established by FEMA and the local community.



Photographs accompanying the EC clarify how the selected idealized Building Diagram (Line A7) may vary from actual construction, and show details of flood opening types and locations. These images help in assessing flood insurance premiums by providing extra detail that standard diagrams and checklists cannot fully express.

Understanding appropriate flood openings and how they are reported on the EC allows you to provide the best service to clients by rating structures correctly. Being able to advise about retrofitting openings to reduce risk and premiums can add value to your services, improving relationships with current clients and earning new ones by referrals. For more information on flood openings, see FEMA's Technical Bulletin 1, "Openings in Foundation Walls and Walls of Enclosures," downloadable from www.fema.gov.



Flood Vents are required to relieve hydrostatic pressure from foundations and other walls of enclosures that are below the BFE.

Wendy Lathrop is licensed as a professional Land Surveyor in NJ, PA, DE, and MD. She is a Certified Floodplain Manager through the ASFPM and owns Cadastral Consulting providing continuing education and floodplain management expertise to industry professionals. This article was originally printed in the June 2013 issue of Connection, *published by the National Association of Professional Insurance Agents, www.pianet.com. Contact Wendy at Cadastral Consulting (www.cadcon.com. 800-666-1320, w-lathrop@usa.net).*

SMART VENT®
Foundation Flood Vents

ICC ES
FEMA Accepted.
ICC-ES Certified. ESR-2074

www.smartvent.com
(877) 441-8368

WET FLOODPROOFING
NON-RESIDENTIAL BUILDINGS

SMART VENT has a team of Certified Floodplain Managers on hand to help you with your next commercial project. Take the floodproofing design liability off your shoulders and put it on ours, while reducing costs.

We have the capabilities of designing and manufacturing custom project multi-frames to accommodate our 16-in. x 8-in. flood doors. These custom frames allow you to get the required flood protection for the project square footage with fewer openings. These frames and flood doors are constructed of 316 Marine Grade Stainless Steel with a variety of powder coat paint finishes available.

We offer full CAD and spec wiriting capabilities that allow you to implement the custom frame design easily into your project drawings. We will assist in proper vent placement and help with all phases of the project to assure the flood vent system is installed correctly and is to your specifications.

James E. Clyburn Research Center at the
Medical University of South Carolina. Charleston, SC
4 x 3 multi-frame = 2,400 sq. ft. of flood protection

Silver Reef Hotel Casino Spa. Ferndale, WA
2 x 3 multi-frame = 1,200 sq. ft. of flood protection

NFIP Coordinators Corner

Randy Mundt, AICP, CFM
Outreach Coordinator
Office of Geospatial & Technology Management
Ph: 919-825-2339
Fax 919-715-0408
www.ncfloodmaps.com

The North Carolina Floodplain Mapping Program's (NCFMP) Digital Map Maintenance Program

The North Carolina Floodplain Mapping Program (NCFMP) released new Preliminary Flood Hazard information in conjunction with Map Maintenance in a new digital format starting with the August 30, 2013 release of Alamance, Chatham, and Orange Counties map maintenance. Under the Federal Emergency Management Agency's (FEMA) Map Modernization and now under Risk MAP, FEMA and North Carolina, as FEMA's Cooperating Technical Partner, have made positive strides in transitioning the mapping of flood hazards to a digital environment. The Flood Insurance Reform Act of 2004 allowed FEMA to treat the digital flood hazard information as official, regulatory data for the purposes of flood insurance and floodplain management activities, with equivalent legal standing to the analog (paper) products. With this release of the first three counties for digital map maintenance, North Carolina is making the transition from traditional hard-copy flood hazard data and products (i.e., Flood Insurance Studies and Flood Insurance Rate Maps) to flood hazard data within a digital geodatabase.

While positive programmatic strides have occurred, significant cost savings are now being realized by the NCFPM through the reducing or eliminating of cartographic map development and distribution. In April 2013 the NCFMP began providing the database driven generation, management, and digital display of all flood hazard data and products through the Carolina the website, Flood Risk Information System (FRIS). FRIS linked to the current NC Flood Mapping Information System (http://floodmaps.nc.gov/fmis/), allowing for the transition of the digital data display environment (D2E) for the 50 eastern counties in North Carolina. While cutting costs is important, the NCFMP is committed to ensuring that this new digital environment meets all current FEMA and NCFMP technical, quality, statutory, and regulatory standards, and expanding this to deliver all North Carolina's flood hazard data.

The NCFMP is now tentatively scheduling for the release of Preliminary flood hazard data in early-2014 for the following Counties: Duplin, Johnston, Wayne, Columbus, Bladen, New Hanover, Durham and Wake Counties. Pending FEMA approval of the final coastal modeling for the North Carolina, other Counties that should receive Preliminary issuances in 2014 include: Pender, Onslow, Dare, Camden, Pasquotank, Perquimans, Chowan, Hyde, Pamlico, Beaufort, Jones, Craven, Carteret & Tyrell. All subsequent Preliminary flood hazard data will be issued to Map Maintenance Counties digitally through the FRIS.

The National Flood Insurance Program (NFIP) in North Carolina

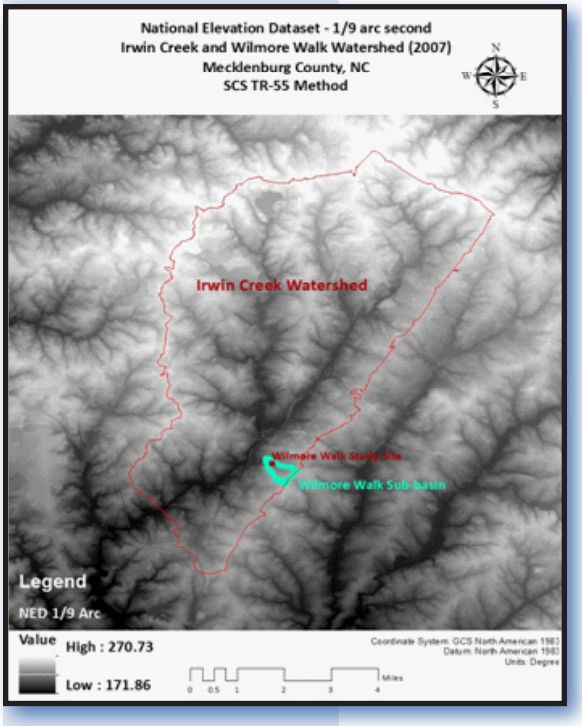
From the desk of Milton Carpenter

This past year, the National Flood Insurance Program welcomes seven (7) new Participating Communities; Proctorville of Robeson County, Sawmills of Caldwell County, Sims of Wilson County, Spring Hope of Nash County, Troutman of Iredell County, and Boiling Springs and Kingstown, both of Cleveland County.

At fiscal year-end, North Carolinas spent 105 million dollars for 32.6 billion dollars of flood insurance coverage in the National Flood Insurance Program. This consisted of 139 thousand policies, of which 80 thousand were Zone A/AE policies, 52 thousand were Zone X policies and 7 thousand were Zone V/VE policies.

Growing with the Flow Part II: A Watershed Approach

By Christopher J. Estes, PLA, ASLA



So, to what extent can flooding downstream of an urban district be reduced? Three years ago, in an article of the *FlashFlood News* (Winter 2010 issue), entitled "Growing With the Flow: Reversing the History of Urban Hydrology," I discussed the future of urban hydrology and the proven potential of decentralized stormwater LID "retention" practices in the Piedmont. LID retention techniques evolved from common sense science and practical application. The efficacy of these techniques has been monitored and validated by years of research. These volume-based techniques are now being adopted in state and local regulatory ordinances throughout the country. It is expected that the eventual revised national stormwater rule will emphasize retention based performance standards while encouraging a watershed approach to stormwater management. This is a logical, science based approach that if implemented well, would undoubtedly produce significant overall benefits to the health, welfare and safety of our nation's water resources and associated human environments. Recent research presented here, attempts to answer the opening question and give insight to the probable outcome in flood reduction and water quality improvement on a watershed scale. This is shown through modeling several permeable pavement urban retrofit scenarios in Arc GIS.

In October of 2012, North Carolina adopted a revised chapter in their Best Management Practices Manual for permeable pavement. This chapter endorses the statewide practice of stormwater infiltration utilizing permeable pavements in place of traditional impervious surfaces. The chapter incentivizes the practice by giving credit for volume, water quality and built upon area. In May of this year, the City of Atlanta revised its stormwater management criteria to require retention of the first one inch of rainfall for all development as well as encouraging permeable pavement retrofitting in order to help maintain predevelopment hydrology and reduce the indirect impacts to groundwater recharge, stream base flows and water quality. The City of Atlanta incentivizes pervious pavement and infiltration through exemptions.

Currently, the phrase "watershed approach" is perceived within the context of "stormwater water quality" where watershed prioritization is based on water quality indices that include years of collecting chemical and habitat data at strategic locations throughout the watershed. These watersheds are typically rural with high inputs of nutrients from agricultural practices. Though regionally, agriculture may claim the lion's share of nutrient pollution, developing areas are catching up. For example, a study in Maryland released in 2011, demonstrated that approximately 30 percent of Chesapeake Bays phosphorus load comes from urban and suburban sprawl. Maryland's largest crop, by far, is Fescue, with 1.3 million acres of grass planted statewide, compared to 1.5 million acres of all other crops combined. Impervious surfaces and stormwater infrastructure serve as a highly efficient nutrient delivery system directly to our surface waters.

In the Piedmont, sediment, by volume, is our greatest source of impairment to water quality. It affects our surface waters physically, chemically and biologically. In urban watersheds, flooding, stream bank erosion and the associated sediment and nutrient loads

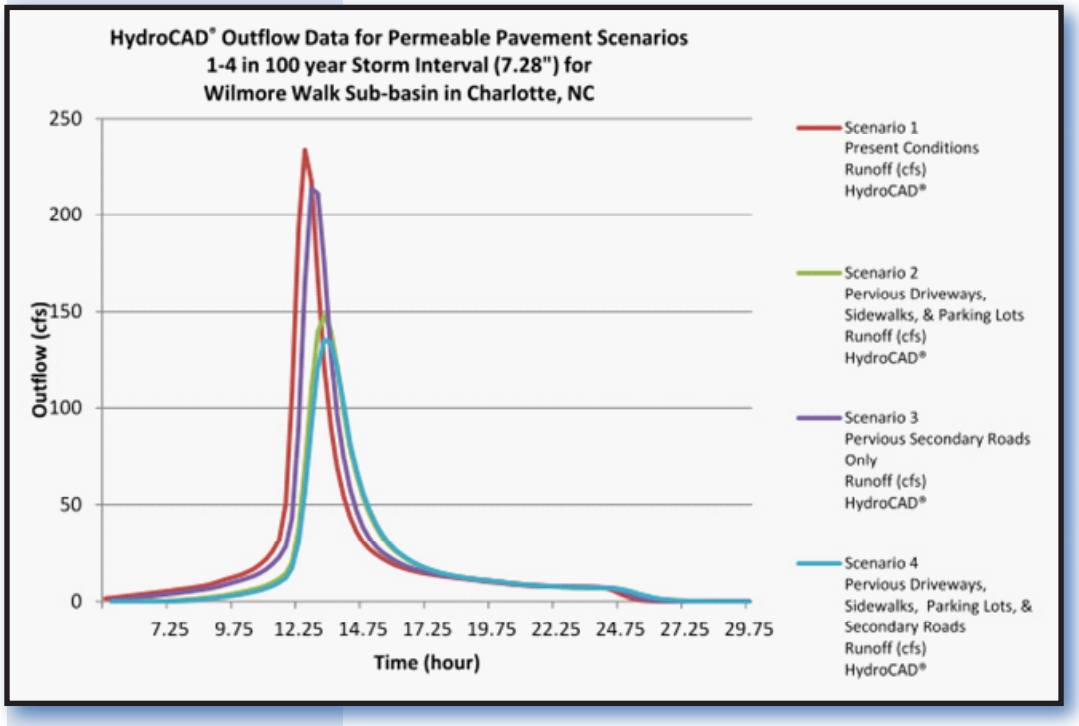
— *continued on next page*

Growing with the Flow, from page 14

are attributable to increased stormwater volumes.

What the EPA's stormwater program is proposing when it says "watershed approach" is broadening that definition to include an overall management of stormwater, which includes coordination of developing urban and suburban communities where stormwater volume is key. Urban development is a rapidly growing water quality concern where impacts are directly proportional to the increase of impervious surfaces.

	Scenario 1 Present Conditions - 2007			Scenario 2 Pervious Driveways, Sidewalks, & Parking Lots			Scenario 3 Pervious Secondary Roads Only			Scenario 4 Scenarios 2 & 3 Combined (Pervious Driveways, Sidewalks, Parking Lots, & Secondary Roads)		
	%	Acres	Avg CN	%	Acres	Avg CN	%	Acres	Avg CN	%	Acres	Avg CN
Pervious	32.39	28.51	89.93	59.06	51.98	79.96	41.23	36.29	86.56	67.91	59.77	76.69
Impervious	67.61	59.51		40.94	36.03		58.77	51.72		32.09	28.24	
Difference	0	0	0	26.67	23.47	-9.97	8.84	7.78	-3.37	35.52	31.26	-13.24



Recent research completed by Megan Gray at UNCC utilizes ArcGIS and Hydrocad to predict the probable average SCS curve numbers (CN) when retrofitting a heavily urbanized watershed with permeable paving systems. The Wilmore Walk watershed is a sub-basin of the Irwin Creek watershed in the metropolitan area of Charlotte, North Carolina. Four scenarios are modeled that include: 1. Existing condition, 2. Parking lots, driveways, and sidewalks are permeable, 3. Secondary roads are permeable, and 4. Parking lots, driveways, sidewalks and secondary roads are permeable. For this study, impervious = CN98 and permeable = CN61.

Curve number maps representing the four scenarios were compiled using a Digital Elevation Model for seven precipitation maps (P maps) ranging from 1.25 to 100-year storm events. A hyperspatial image of Irwin Watershed was used to create land use maps and a SSURGO soil survey map was used in combination with land use maps to create the CN maps. The CN maps were then used to calculate "S" maps (S=(1000/CN)-10). Runoff maps (Q maps) were calculated from the P maps and S maps.

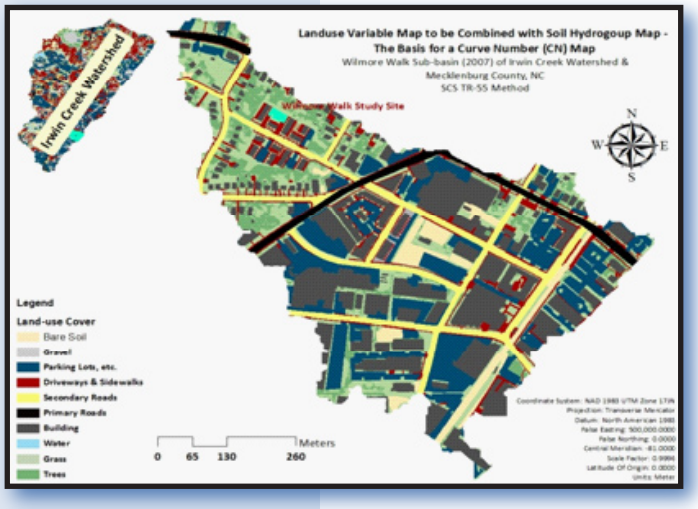
The results are compelling. Parking lots, driveways, and sidewalks account for 75% of the potential land area where permeable pavement might be installed and are typically privately owned. HydroCAD predictions for scenario 2 estimates approximately 38% reduction in peak flow for the 1.25 year rain event and a approximately 19% reduction in peak flow for the 100 year event. The use of CN 61 is conservative and is based on a study by NC State that includes a high safety factor for longevity and maintenance efficiencies. However, the calculated CN for the Wilmore Walk project was in the CN 30 range and a

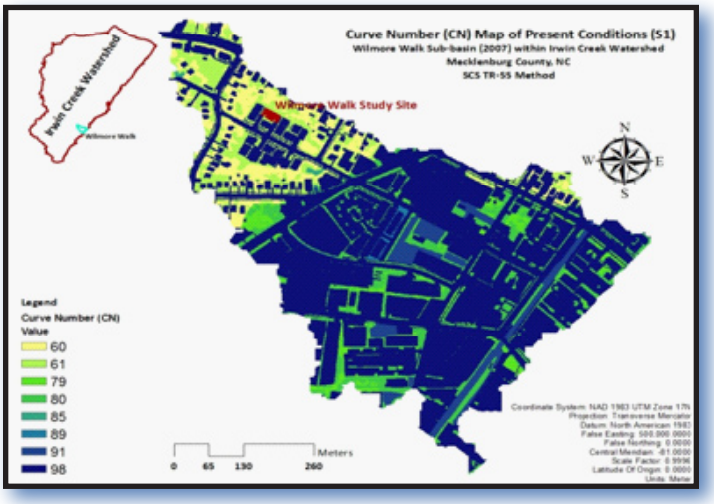
— continued on next page

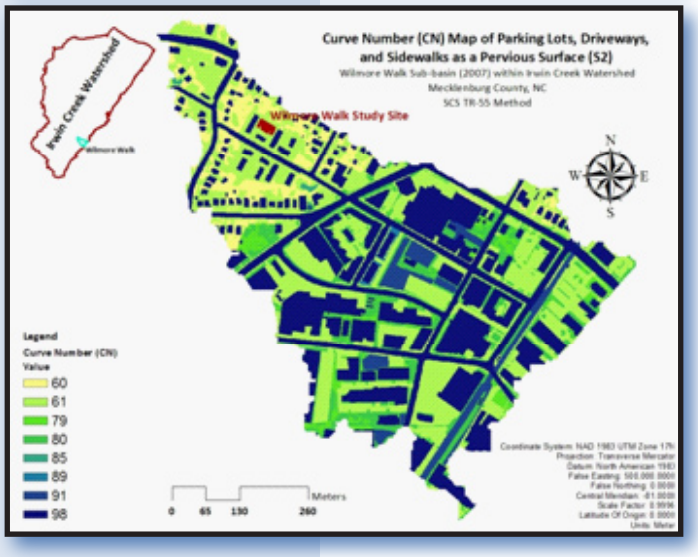
Growing with the Flow, from page 15

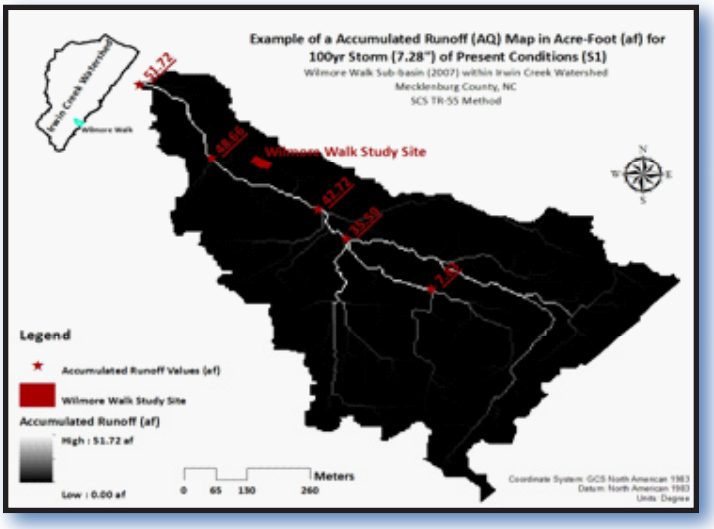
system that consistently retains 2" of rainfall would have a calculated CN 50.

So to what extent can flooding downstream of an urban district be reduced? When this concept is expanded and applied in conjunction with more detailed modeling, we will know a more precise answer. Until then, we know enough to say it can be significant and that reversing the history of urban hydrology is within our reach.









References

"Growing with the Flow: Reversing the History of Urban Hydrology," North Carolina Association of Floodplain Managers, *FlashFlood News*, Winter 2010, www.ncafpm.org/flashflood/FlashFlood_2010_Issue1.pdf

Christopher J. Estes, President of Estes Design Inc. Charlotte, NC, www.estesdesign.com

"Urban Fertilizers & the Chesapeake Bay: An opportunity for Major Pollution Reduction," Environment Maryland Research and policy Center, March 28 2011, www.environmentmaryland.org/reports/mde/urban-fertilizers-chesapeake-bay

North Carolina Division of Water Quality Stormwater Best Management Practices Manual Chapter 18 Permeable Pavement, October 2012, http://portal.ncdenr.org/web/wq/ws/su/bmp-manual

Office of Watershed Protection, Implementing Green Infrastructure: Atlanta's Post Development Stormwater Management Ordinance, www.atlantawatershed.org/greeninfrastructure/

Effect of Permeable Pavement Parking Lot on Runoff From The Irwin Creek Watershed, A Research Report Submitted to the Faculty of the Department of Geography and Earth Sciences at The University of North Carolina at Charlotte, Megan Gray, May 2013

Flood Barrier Shield for Doors or Windows Helps Safeguard Building Contents

This removable barrier answers pleas from builders for help in protecting doors and building contents from water ingress in flood-prone areas. When water from heavy rains accumulates, the ***Flood Barrier Shield*** effectively blocks up to a foot or more of flood waters from permeating door or window openings.

Available in 10, 20, 24, 30 and 36 inch high barriers (other sizes available upon request), the lightweight aluminum shield requires no tools or muscle strength for insertion into premounted vertical channels attached to either the door frame or adjacent walls. Additional shield sections can be stacked if greater height is needed.

The unit complies with guidelines of the Federal Emergency Management Agency (FEMA) and Federal Insurance Administration (FIA) for use on doors in flood-prone areas.

The key to the shield's impermeability is the use of closed cell sponge (CCS) neoprene rubber engineered by Zero to ensure a water-tight seal. The rubber lines the aluminum channel brackets and the bottom of the shield. The neoprene also compensates for gaps at the threshold.

Flood Barrier Shield for Doors

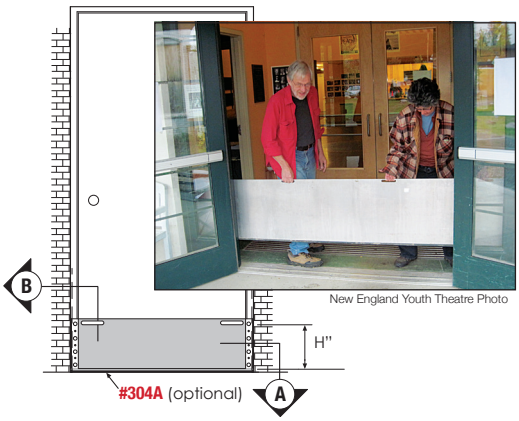
Part#	2070A - 10	10" High
	2070A - 20	20" High
	2070A - 24	24" High
	2070A - 30	30" High
	2070A - 36	36" High

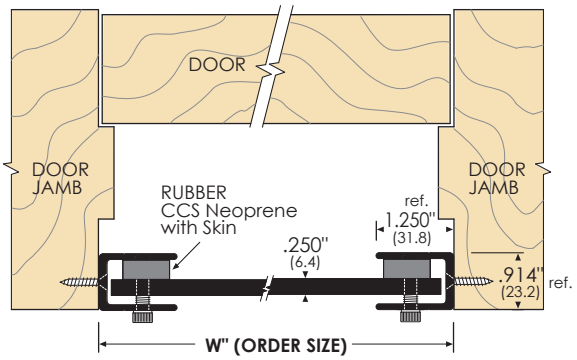
Each Flood Barrier Shield is custom fabricated
Specify exact width needed and installation option required.

Flood Barrier Shield for Windows

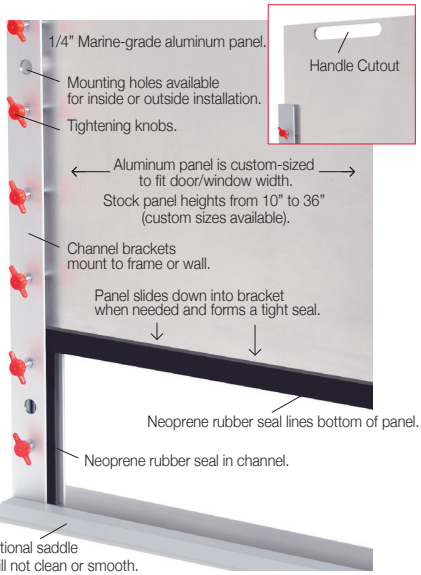
Part#	2080A - 10	10" High
	2080A - 20	20" High
	2080A - 20	20" High

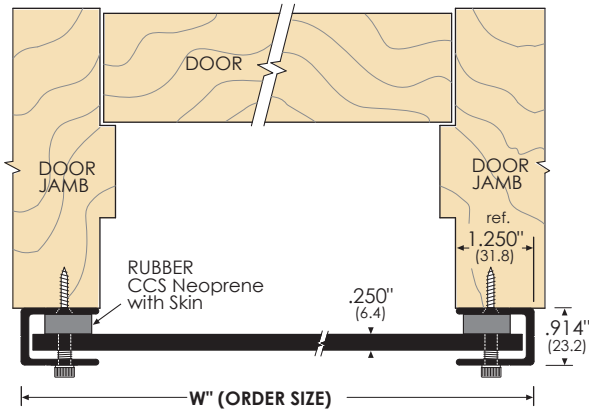
According to insurance underwriters, flood insurance premium costs may be reduced on submittal of proper product and installation documentation regarding use of Flood Barrier Shield. Zero will provide product certification for this purpose.





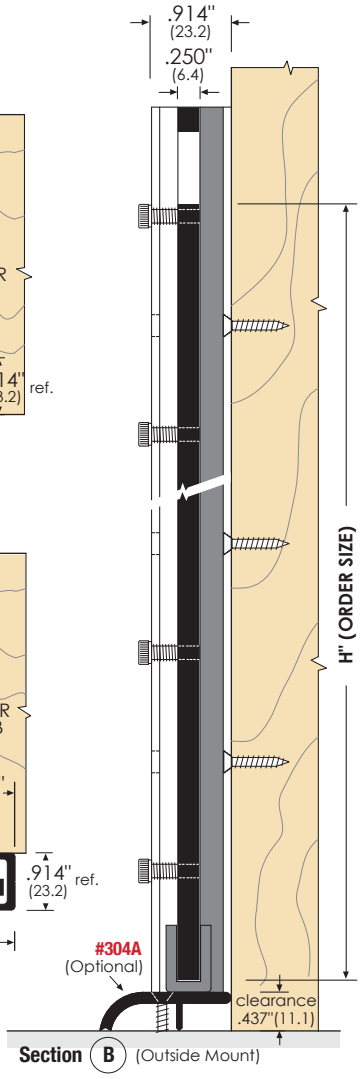
Section (A) Installation option - INSIDE MOUNT





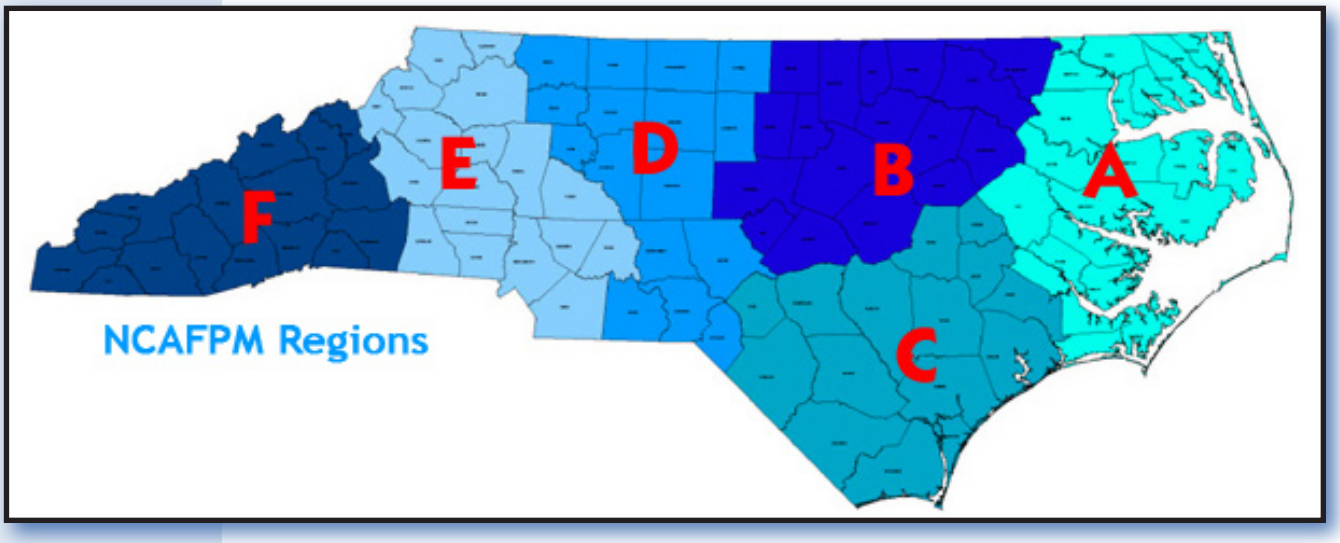
Section (A) Installation option - OUTSIDE MOUNT

Full illustrations not to scale



Section (B) (Outside Mount)

NCAFPM Regional Reports



Region B

Randy Mundt, AICP, CFM

In April and June the Counties of Franklin, Wilson, Lenoir, Greene and Wilson adopted the 1st Map Maintenance updates to their flood hazard data. Because the NCFMP applies a seamless, statewide paneling scheme for mapping flood hazards, twenty-eight other communities that had at least some portion of their jurisdiction shown on panels being updated panels for the new effective panels for the above listed County updates also adopted the new data and panels; this included nine other counties (Craven, Granville, Johnston, Jones, Nash, Pitt, Vance, Wake, and Wayne).

In August NCFMP released the first truly digital Preliminary Map Maintenance updates for Orange County (and also for Alamance and Chatham Counties, which are not in Region B). This Preliminary release is the first to not provide hard copy, legacy NFIP products, but rather provides the communities with the geodatabase of the entire flood hazard dataset, from which on-the-fly FIS, FIRMs, and the digital data can be incorporated into the communities GIS for ease of access and review. The following Counties in Region B are tentatively scheduled to have new Preliminary data released in this coming winter: Johnston, Durham, Wake, Lee and Harnett Counties.

There continues to be progress on mitigation activities in Wake County: the Milner Inn on Capital Blvd. in Raleigh is using PDM repetitive flood claims funding to purchase and remove the commercial motel, and should be removed within a year annually flooded. The Town of Chapel Hill has submitted a mitigation project through the Flood Mitigation Assistance grant program to remove the 10 buildings (80 dwelling units) of Camelot Apartments. Two regional Hazard Mitigation Plans will be getting funded and underway for Nash, Edgecombe, and Wilson Counties, and another regional plan for the Cape Fear River Basin Counties of Chatham, Lee, Moore and Harnett.

— continued on next page

NCAFPM Regional Reports

Region C

Tony Wilson, CFM

On May 16, 2013, the Town of Wrightsville Beach held a Town Hall Meeting to discuss the Biggert–Waters Act of 2012. Mr. John Gerber, State NFIP Coordinator, was brave enough to explain this latest frightening directive from FEMA to the citizens of Wrightsville Beach. The subject was discussed in detail and many were shocked when the effect on individual homeowners was presented.

As a result from this meeting, the Town has passed resolutions urging Congress to amend BW-12. We should all be sharing this information with local officials, stakeholders and local citizens in order to allow time for property owners to prepare for those changes.

Our region's floodplain managers should be teaming up and working to get higher discounts on their community's flood insurance by becoming more involved in CRS (community rating system). This is the most powerful tool a community has to help homeowners and businesses get lower insurance rates. Keep up the great work because, "Higher standards equal lower rates."

Region D

Drew Blackwell, CFM

The City of Greensboro's Department of Water Resources is currently working on a water quality and stream enhancement project for South Buffalo Creek. South Buffalo Creek is an impaired stream and flooding has led to erosion causing poor water quality and aquatic habitat. 'Development of the watershed took place before stormwater rules were in effect and the degradation of the stream continues,' says Virginia Spillman, City of Greensboro Stormwater Engineering Supervisor. The project will require floodplain restoration and wetland enhancements, and the City retained Kimley Horn & Associates to do the design as well as the inspections and construction administration. Eagle Wood was awarded the construction services. The work will also consist of restoration and enhancement of Kersey and Piedmont Tributaries.

The project will be broken up into three phases. Funding for Phase I comes from a grant obtained from the Clean Water Management Trust Fund (CWMTF), accounting for 41% of the Phase I cost. The remaining funds have come from a Storwmater Improvement Capital Fund Account. Spillman noted that, 'the City's stormwater division has worked on this project for several years and acquired the properties surrounding the area. This is the second grant we have obtained obtain from the CWMTF. We only have funding for Phase I, but Phase II and III are currently designed and we hope to get some funding this year if available.'

The design proposes "rock and roll" structures to simulate pool and riffle structure and improve the habitat of Kersey Tributary. The engineer created a natural channel in hopes to increase the aquatic habitat and improve the aquatic life on that tributary. A-vanes were proposed along Piedmont Tributary to reduce erosion. On South Buffalo Creek, there is a combination of log vanes, soil lifts and rock clusters. 'Soil lifts are being proposed because it's a good way to match the banks in a natural way. They worked well in other projects and we have seen vegetation established in a short period of time,' Spillman added. A slough is also being built off of South Buffalo Creek to improve aquatic habitat on the main creek.

For more information on this project, please contact Virginia Spillman, City of Greensboro Department of Water Resources, Stormwater Engineering Supervisor.

— continued on next page

NFIP Summer Workshop held in Winston-Salem, NC

The North Carolina Office of Emergency Management held a 2-day NFIP Summer Workshop in Winston-Salem over August 14th and 15th. The workshop covered topics ranging from the Flood Risk Information System (FRIS), Biggert Waters 2012, compliance with floodways and non-encroachment areas, and preliminary FIRMs and appeals. There were about 30 floodplain managers in attendance for this training opportunity.

For more information on training opportunities, please visit http://www.ncafpm.org/training.html

NCAFPM Regional Reports

Region E

Karl Dauber, CFM

Like everywhere else in NC, Region E has experienced a high level of precipitation this year. Though there have been numerous reports of flooding in various locations, the flood control projects and buy-outs that have occurred over the previous 10 or so years are clearly paying dividends in terms of a reduced number and severity of flooding problems. However, in response to the recent high level of rainfall, the Mecklenburg County Flood Mitigation Program is fielding additional video cameras to augment its Flood Information and Notification System (FINS). For more information on FINS, go to: http://charmeck.org/stormwater/drainageandflooding/pages/fins-floodinformationandnotificationsystem.aspx.

Separately, in response to reduced FEMA funding for buy-outs, Mecklenburg County is implementing a locally-funded "Orphan Parcel Program" which will use local funds to buy-out parcels that have "fallen through the cracks" during previous FEMA-funded buy-outs which have left isolated structures in place. The new program is expected to eventually remove 40-50 structures from flood hazard.

Region F

Brad L. Burton, CFM

Greetings to all once again from the "pointy" end of the Old North State. It's already getting a bit chilly in the mornings in this neck of the woods — fall is clearly right around the corner.

Well, as you read this my jurisdiction has been through a Community Assistance Visit conducted by the one and only Terry Foxx: the distinguished Western Planner with NCEM. Ah yes, the guv'ment checking up on the guv'ment … how so very comforting, huh? In an effort to propagate political correctness years ago they settled on calling the whole endeavor an "assistance visit." Yeah.

Friends, it's an audit plain and simple followed by an office-wide quiz show that culminates in a motorized version of show and tell. I'm told my city hasn't "had one" in fifteen years … oh boy. I guess we've got a lot of catching up to do.

Call me a glutton for punishment, but I am actually looking forward to it. Thanks to Janice our awesome office manager our files are in pretty doggone good shape and I know our crew is up-to-speed on our FDPO and our violation procedures. I actually have a few things I want to discuss with Terry (there is a "local concerns" section as per Mr. Ashe's letter announcing the visit) that are, well … concerns that I have about stuff that I just plain want some answers on.

We will have some problems and we'll get gigged on something (maybe a few things), rest assured. All good. We'll fix whatever Terry finds that needs fixing and we'll do it post haste.

I view Mr. Foxx's "Assistance Visit" to our community as just that; an opportunity to provide us helpful assistance by assuring our program is in compliance and running smoothly. My hope is that the communication conduit is open at both ends and I get to have my concerns heard also as a part of the process.

I am anticipating that this will be the case — find me in Cherokee and I'll tell you how it all went.

You are coming to the Fall Conference in Cherokee aren't you?

2014 Conferences & Annual Meetings

Global American South Environmental Conference

University of North Carolina at Chapel Hill
February 21-22, 2014

Profound shifts in the way we think, use and protect water, rapid immigration and demographic change (the 'graying' and 'browning' of the United States), and immense urbanization have made the American South a bellwether of environmental change for both America and the world at large.

Cities, Rivers, and Cultures of Change: Rethinking and Restoring the Environments of the Global American South aims to bring together graduate students, faculty, independent scholars, and a broader public audience to share current research that explore these themes from the point of view of 1) southern culture, history, and ethics, 2) efforts to restore natural and built environments, and 3) the implications and connections between changes to the American South and the inter-connected global environment in which we live.

Call for Proposals: We invite proposals for papers, panels, and presentations from the full range of disciplines that engage with water, immigration and demography, environmental restoration, and the Global American South. Deadline: November 15, 2013. For more information, go to http://globalsouth.unc.edu

2014 NCAFPM Annual Conference

Atlantic Beach, NC
April 27-30, 2014

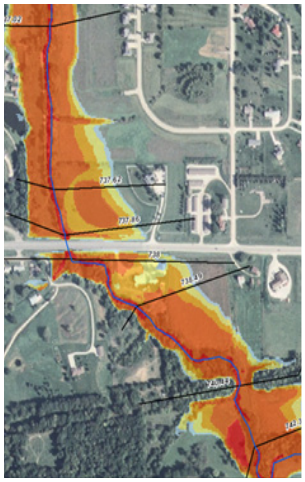
Mark your calendar for NCAFPM's 23rd annual conference. More information and registration will be available in the next issue of *FlashFlood.* Information and details from past conferences are available at www.ncafpm.org/conference.html.

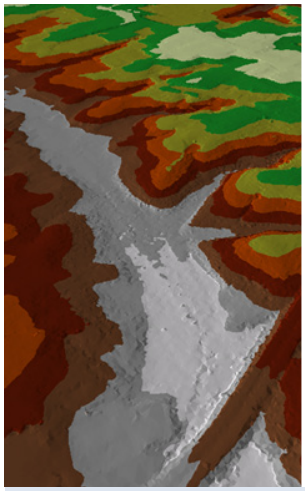
StormCon 2014

Oregon Convention Ctr, Portland, OR
AUGUST 3-7, 2014

StormCon is the only North American event dedicated exclusively to stormwater and surface-water professionals across the continent: municipal stormwater and public works managers, industrial stormwater managers, engineering consultants, regulatory personnel, watershed management professionals, and others concerned with stormwater and surface-water quality.

Forester Media Inc., publisher of Stormwater magazine, is seeking papers for presentation at StormCon 2014, which will feature seven program tracks: BMP Case Studies, Green Infrastructure, Stormwater Program Management, Water-Quality Monitoring, Industrial Stormwater Management, Advanced Research Topics, and Coastal Protection Symposium. Presentations for StormCon 2014 will be 30 minutes each, including a question-and-answer period. Deadline: November 14, 2013. For more information, go to http://www.stormcon.com/2014cp.htm.





Thank you to the sponsors of *FlashFlood News!*

SMART VENT®
Foundation Flood Vents
Page 13

ESP
ESP Associates, P.A.
Page 23

ZERO INTERNATIONAL
Page 18

FlashFlood is funded by sponsorships from consultants and vendors. Please see the Media Kit on our website with details about the newsletter, sponsorship options, and deadlines for submittal. If you are interested in sponsoring or would like more information, contact Kelly Keesling at kgkeesling@carolina.rr.com.

Calendar

November 13-15, 2013
FALL FLOODPLAIN INSTITUTE
Harrah's Cherokee Casino and Hotel Conference Center
Cherokee, NC
www.ncafpm.org

February 21-22, 2014
GLOBAL AMERICAN SOUTH ENVIRONMENTAL CONFERENCE
University of North Carolina at Chapel Hill
Chapel Hill, NC
globalsouth.unc.edu

April 27-30, 2014
NCAFPM ANNUAL CONFERENCE
Doubletree Hotel
Atlantic Beach, NC
www.ncafpm.org

June 1-6, 2014
ASFPM NATIONAL CONFERENCE
Washington State Convention Center
Seattle, WA
www.floods.org

Floodplain Management Resources

Technical Assistance (State)

NC Emergency Management National Flood Insurance Program

NFIP State Coordinator: John Gerber, PE, CFM
jgerber@ncem.org | 919-825-2317

NFIP Planners
Central Area: Milton Carpenter, CFM
mcarpenter@ncem.org | 919-825-2302

Eastern Area: Maureen O'Shea, AICP, CFM
moshea@ncem.org | 252-565-3206

Western Area: Terry Foxx
tfoxx@ncem.org | 828-228-8526

NFIP Engineer: Dan Brubaker, PE, CFM
dbrubaker@ncem.org | 919-825-2300

NC CLOMR/LOMR Submittals

www.ncfloodmaps.com/mt-2_forms.htm
LOMC Manager/Community Development Planner: Steve Garrett, CFM
sgarrett@ncem.org | 919-825-2316

Meck. Co. CLOMR/LOMR Submittals

David C. Love, PE, CFM..... 704-432-0006

Hazard Mitigation Grant Program & Flood Mitigation Assistance Prog

Chris Crew, Mitigation Section Chief
919-825-2305

Maps & Flood Insurance Studies

FEMA Map Information eXchange (FMIX)

1-877-336-2627 (1-877-FEMA-MAP)

NC Floodplain Mapping Program

919-715-5711
www.ncfloodmaps.com

Technical Assistance (FEMA)

National Flood Insurance Program Floodplain Management and Insurance Branch: FEMA Region IV

www.fema.gov/about/regions/regioniv/

Branch Chief: Susan Wilson, CFM
susan.wilson@dhs.gov | 770-220-5414

Natural Hazards Program Specialist
Collis Brown
collis.brown@dhs.gov | 770-220-8784

FEMA Region IV Insurance Specialist
Janice Mitchell
janice.mitchell@dhs.gov | 770-220-5441

Individual Lot LOMA/LOMR

FEMA LOMA DEPOT
3601 Eisenhower Avenue
Alexandria, VA 22304-6425
Attn: LOMA Manager

Flood Insurance Policy Issues

www.fema.gov/business/nfip/nfip_regions.shtm#4
Regional Manager: Lynne Magel
lmagel@ostglobal.com | 813-788-2624

Regional Liaison: David Clukie
dclukie@ostglobal.com | 813-767-5355

Websites

NCAFPM..... www.ncafpm.org
ASFPM ..... www.floods.org
FEMA..... www.fema.gov
NFIP..... www.floodsmart.gov
NCEM ..... www.nccrimecontrol.org/nfip
NC Maps ..... www.ncfloodmaps.com

---

*Flash***Flood NEWS** is a semi-annual online publication which offers information and education on topics that are of current interest in the field of floodplain management and the National Flood Insurance Program.

Information and opinions do not necessarily reflect the views of the North Carolina Association of Floodplain Managers.

All inquiries and article ideas should be directed to: Kelly Keesling, Editor (kgkeesling@carolina.rr.com).

For more information about the North Carolina Association of Floodplain Managers, see our website at www.ncafpm.org.

SPONSORS

For information on sponsoring *Flash***Flood NEWS**, see our Media Kit on the NCAFPM website at www.ncafpm.org.

MEMBERSHIP

For more information about becoming a member of NCAFPM or for a membership application, go to www.ncafpm.org.

*Flash***Flood NEWS**, *Fall 2013 (2013 #2).*
Published by the North Carolina Association of Floodplain Managers in cooperation with the North Carolina Division of Emergency Management.

EDITOR & CREATIVE DIRECTOR

Kelly Keesling
kgkeesling@carolina.rr.com