Town of Chapel Hill Stormwater Management Summer, 2013

THE CURRENT

Oh, the Woes of Flooding!

On June 30th when five inches of rain fell – three inches within two hours- boats would have been more appropriate than cars on West Franklin Street. This four-day rain event produced just over eight inches of rain. Water levels at Jordan Lake, a 14,000 acre reservoir into which all our creeks drain, rose six feet over the same four days.

Downtown Chapel Hill and many other flood-affected areas in Chapel Hill were built before stormwater management and floodplain regulations were in place. Neither urban storm drain systems -nor natural areas, creeks or rivers- can hold large volumes of runoff from intense downpours that occur over short periods of time.

For Chapel Hill's Flood Damage Prevention Ordinance, information on drainage assistance, mosquito control, flood insurance and hazard mitigation, click here.

QUICK TOPICS

Alert

Stormwater management structures should be inspected after rain events.

Bioretention basins, rain gardens, level spreaders, porous pavement and other stormwater BMPs may need maintenance and repair after any heavy rain. Check structures for clogging and erosion, and repair as necessary. Consult your Operations & Maintenance Agreement or go to the NC BMP Manual online.

Be Prepared

Excessive rains will lead to flash flooding in any circumstance. Be prepared.

Everyone can purchase flood insurance but the rate is determined by zones. Those living in flood zones must provide an elevation certificate, and the policy cost will be higher than for those living in preferred zones with lesser risk of flooding.

Town of Chapel Hill Engineering Division
Stormwater Management 919-969-RAIN
www.townofchapelhill.org/stormwater

Can We Improve Our Drainage Systems?

623. That's how many gallons are produced by one inch of rain falling over 1,000 square feet. Water runs off, evaporates, or is captured in vegetation, soil or storage. Drainage design accommodates most storms, but cannot economically or physically provide for the unusual flooding rains.

Drainage solutions must use a systemic approach and consider a number of factors. Increasing the size of a pipe or a channel may speed drainage in one place but can lead to worse flooding downstream, severe erosion and other problems.

The Stormwater Management Master Plan includes two subwatershed studies and makes recommendations for studying the remaining subwatersheds.

Questions From the Flood

Does the Town own the creeks? No- in North Carolina, property owners own all the land on their plat, unless otherwise stated. However, local, state and federal regulations **DO** apply to water quality issues, buffers and use of the creeks. Permits or approved exemptions are needed for activity in a creek, floodplain or stream buffer. More

Why did the Town allow building in the floodplain? Congress created the National Flood Insurance Program (NFIP) in 1968. The NFIP provided approximate mapping to the Town in 1974; the first Flood Insurance Study for Chapel Hill was adopted by the Town when it entered the regular program in 1978. Many of the areas that flooded in June 2013 were developed before the flood insurance program and its regulations existed. Today, construction in those areas would not be permitted or, if allowed, would be subject to the Town's floodplain management regulations.

Can we receive a flood warning? There are a number of free apps and paid subscriptions that can be downloaded to your smart phone. Search "severe weather alerts" online or check local TV station websites. More

Was June 30th a record flood? Hurricane Fran in 1996 may have been worse according to stream gage data. The July 2000 rain in Chapel Hill also created a damaging flood.

Uneven distribution of rain, rainfall intensity (amount of rainfall per hour), saturated soil conditions, and more developed areas contributing to runoff are all factors to consider in comparing the various years.

Tips

- Check storm drains on your neighborhood streets and call us at 919-969-RAIN (969-7246) if they need cleaning out.

- Property owners are responsible for channels and drains on their property. Many plumbers can service storm pipes and catch basins.

- Consider [total loss] comprehensive automobile coverage before future floods or downed trees cause damage to your vehicles.

Do you have flood insurance?

Photo by Jim Huegerich

Residents from the Colonial Heights neighborhood watch Umstead Drive be what it is… a floodplain!

Floodplains are necessary to accommodate overflow of stormwater from creeks and rivers. They allow floodwater to spread out and slow down, reducing the volume and velocity in the creek channel.

Rain events like that on June 30th make us realize the power of water and the speed at which "flash" flooding can occur. Compound all the surface runoff and discharge from pipes in the watershed, add velocity, debris as large as cars, and trees picked up in flood waters, and you have damage!

Drainage around your home and business may not be enough to protect you from flooding. Assess the drainage patterns from property around you as well as on your own property. Is your land graded to allow drainage to flow away from the house? Do you have structures that should be removed from the floodway or floodplain? You may need to talk with neighbors to fix drainage problems together.

Be mindful when renting or buying homes in low areas and consider buying flood insurance if you experience drainage problems. A policy takes 30 days to go into effect from the time of application. Both owners and renters can buy policies that cover loss of contents (personal property). Check with your insurance agent.