



Town of Chapel Hill
Stormwater Management Program
Lower Booker Creek Subwatershed Study

Meeting Summary
Public Meeting 1, Session 1
January 7, 2016, 11:30 AM

Town of Chapel Hill and Consultant Attendees

Sue Burke, Stormwater Engineer, Town of Chapel Hill	David Kiker, WK Dickson
Wendy Smith, Stormwater Education	Kevin Nunnery, Biohabitats
Dave Milkereit, Stormwater Education	Ted Brown, Biohabitats
Tom Murray, Project Manager, WK Dickson	Inga Kennedy, PEQ
Scott Whalen, WK Dickson	Marla Hill, PEQ

1. Welcome and Purpose of Meeting

Residents of the Lower Booker Creek subwatershed were invited to attend a public meeting on January 7, 2016 at the Chapel Hill public library, to learn more about the Lower Booker Creek subwatershed study and to give input on stormwater issues and challenges they have experienced, including the significant flooding events in December 2015.

Two meetings were held on the morning and afternoon of the 7th to accommodate residents' work schedules. Each meeting began with a 15-minute open house during which attendees were invited to view maps of the Lower Booker Creek subwatershed maps to mark the location of their property, identify areas of flooding and other stormwater issues, and speak with staff and consultants about their problems and observations. Attendees were also given comments cards to provide additional written feedback and input if desired. This summary represents the morning meeting and a total of 32 persons attended.

2. Overview of PowerPoint Presentation

Tom Murray kicked off the presentation portion of the meeting and spoke on the following topics:

- Setup and organization of the current public meeting being held.
- Scope of the project.
- Goals of the project.
- Progress to date with the project.

Inga Kennedy next informed the group of the different ways that the project team will be reaching out to the public for their feedback and input. She encouraged ongoing participation and the sharing of information with interested neighbors. The following approaches are being used to collect this information:

- Online website specifically set up for this project that includes links to an online survey



- Survey (online and hard copy).
- Public meetings.
- Outreach to local groups and events.
- Stakeholder interviews.
- Email and direct mail.

Tom Murray then covered the following topics:

- Existing conditions analysis.
- Conditions assessment of collected inventory data.
- Strategies for improving water quality and reducing flooding.
- Deliverables: Capital project list, updated GIS information, public outreach feedback, and engineers report.
- Next steps moving forward.

A copy of this presentation can be found on the project website.

3. Verbal Questions/Comments by Participants following the Presentation

- **Question:** How will the project team estimate rainfall amounts as these rainfall totals vary widely from one side of Chapel Hill to the other? **Response:** For validating historical flooding, hourly rainfall will be provided by the State Climate Office and will come from the gage found at the Horace Williams Airport. Rainfall totals for the synthetic NRCS storms will come from NOAA's website. (Tom Murray)
- **Question:** How will hydrology be evaluated? **Response:** An EPA SWMM model will be used to evaluate both hydrology and hydraulics. Hydrology helps us to calculate how much stormwater there is and how much runoff results. It requires us to look at the entire Booker Creek watershed. The hydraulic analysis helps us determine water surface elevation, local flooding, etc. The capital projects resulting from this study will be in the Lower Booker Creek watershed only. We are also looking at existing and future conditions of hydrology based on zoning and future development information from the Town of Chapel Hill's Planning Department. (Tom Murray)
- **Question:** Over the last 30 years the watershed protections have been lost. Booker Creek has been treated like a storm sewer. What will be the guideline for what a healthy Booker Creek looks like? For example, the stream buffer requirement was reduced. Will you make different recommendations? Also, what about wetlands protection? Will you be constrained by plans for development? **Response:** Ideally, we would want to restore the natural hydrology and daylight to the greatest extent possible. Of course that is not always possible with development, but there are other methods that can help. For example, downspouts traditionally channel all water to the nearest water body. We might recommend disconnecting downspouts and daylighting pipes to allow the water to flow over the land. We would also like to "unstraighten" streams that have been straightened. The primary challenges with natural stream restoration projects



are securing buy-in and easements from property owners, but we can sometimes restore sinuosity to sections of the stream. In general, we are not constrained in our recommendations. (Tom Murray)

- **Question:** How far into the future will land use conditions be evaluated for? **Response:** We look at current town zoning, existing conditions, projected development within the watershed and potential for rezoning. The project team will use zoning maps with ultimate build-out conditions. The project team will work with UNC to determine future land use conditions at Carolina North and expected impacts with respect to impervious surface. (Tom Murray)
- **Question:** Some development is already in progress and future land use conditions are not reflective of the zoning maps. Projects developing and already within the approval process show a total estimated 2.8 million square feet of impervious surface. How will this be handled? **Response:** The project team will sit down with the Town and get a handle on where the zoning maps may differ from actual development that has gone in or will go in soon. (Tom Murray)
- **Question:** People in Carrboro are vulnerable to flooding as a result of the future Carolina North development. What can be done to mitigate this future flooding? **Response:** This is outside the project area and will not be addressed in the Lower Booker watershed evaluation. (Tom Murray)
- **Question:** Will another meeting be held to go over the proposed alternatives? **Response:** Yes. Residents and stakeholders will be notified of this meeting. (Tom Murray)
- **Question:** Will recommendations be provided to the Town prior to the general public? **Response:** Yes. The Town will receive the recommendations prior to the general public but this process will be open throughout the project. (Tom Murray)
- **Question:** Will the project team look downstream of Booker Creek and how Bolin Creek might affect the flooding along Booker Creek. **Response:** Yes. FEMA has already developed a flood study of Bolin Creek and this will be reviewed as part of this project. (Tom Murray)
- **Question:** Will the project team model Booker Creek in a day-lighted condition through the Eastgate Shopping Center? **Response:** The project team is not sure what alternatives will be evaluated at this time. (Tom Murray)

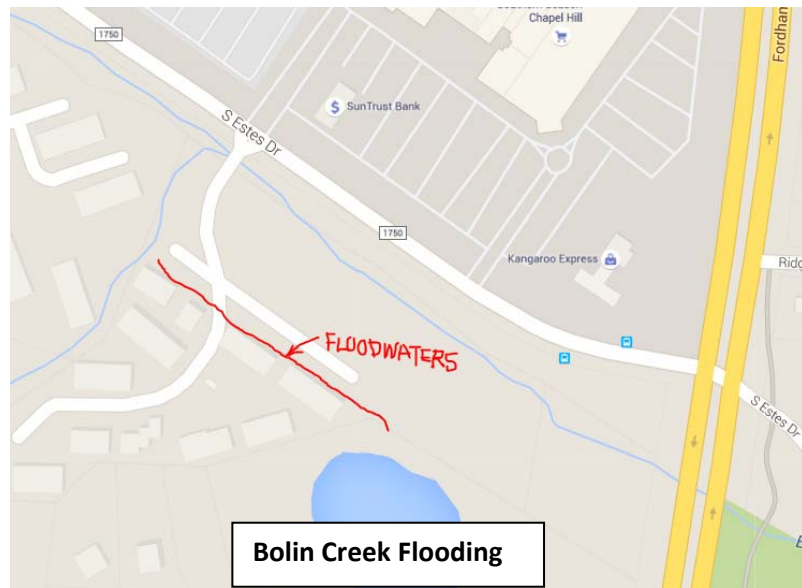
4. Feedback at Maps with Consultants

- Lew Brown and Sally & Frank Binkowski - Lew is the president of the Meadows Subdivision HOA while Sally is the treasurer. They are concerned that future development will adversely impact their community which is already vulnerable to flooding. Frank expressed an interest in collecting rainfall data for the project for future rainfall events. Frank is a retired meteorologist. Frank indicated that if the Town supplied a gage (estimated cost \$70) he would collect rainfall data.



Clover Dr. and Lark Circle intersection is vulnerable to flooding after debris accumulates in culvert. Open swale at southern side of Meadows Subdivision is not being maintained. This appears to be a private ditch. No insurable structures are affected from this flooding.

- Neil Stahl at 431 Ridgefield Road – Neil has lived at this home for 1.5 years. Floodwaters have flooded yard three times since they moved in. It has not flooded first floor in that time. Water was within 10 feet of home in the December flood event.
- Anne Lofton 905 Emory Drive – The June 30, 2013 flood event was 4 feet into home (above the first floor elevation). House was too expensive to participate in FEMA buy-out program.
- Julie McClintock and Will Raymond of the Chapel Hill Stormwater Advisory Board expressed a concern that all meetings shall be publically held. Reach out to Ed Kerwin of Orange Water and Sewer Authority (OWASA) would be a good resource to collecting historical high water marks from flood events. They were also concerned that form based zoning is occurring in Chapel Hill and traditional checks and balances are not being adhered to. They were specifically concerned with the Central West development. Will Raymond was asked if he would be willing to delineate a map to show where future development would be more dense than what is shown on the current zoning maps. Will gladly volunteer this effort.



- There is an absence of maintenance throughout the town on many conveyance elements (streams, culverts, ditches/swales) and perhaps detention/retention facilities.
- Question about adequate infrastructure size to pass flows. Mostly Bolin Creek related downstream of confluence with Booker. Does that cause a backwater effect that impacts property and can it be improved to help pass larger flows more efficiently.
- Concern about future development in the watershed. Ephesus-Fordham for sure, but also near MLK Blvd (Booker Headwaters subshed). Modeling will be important tool to show any negative impacts or it could possibly be no net change, or improved conditions reflecting SWM where it previously did not exist.
- Local nuisance flooding issues seemed common. In some cases, there may be solutions, but in some cases the properties were clearly in the FEMA floodplain where it will take significant interventions for the floodplain to become smaller.
- Ridgewood pool was interested in discussing retrofit options in the stream valley upstream of property which the Town apparently owns. Also expressed interest in permeable paving parking lot. There may be opportunity to also tie this to the neighborhood green streets
- More discussion about daylighting of creek through Eastgate Mall area and creating a more engaging gateway to Chapel Hill that would combine open space with mixed use/retail set off of the riparian corridor.
- There is concern that growth will simply exacerbate current conditions. By the same token, there was not a vocal call for improved watershed health or improved water quality. It was mostly about flooding and impact to individual's property. This might suggest that there is an opportunity for broader watershed education and stewardship.
- Review areas of first cover and significant forest patches in the watershed. Evaluate the value of preservation and/or no net loss. Trees can have big hydro benefit. Apparently some remaining patches in lower Booker are tagged for development.



5. Feedback from Comment Forms

- In general, Colony Woods neighborhood doesn't flood, but the houses located on Ferrell Road (the dead end) and the contiguous properties on Tinkerbell (500's) and Ephesus Church Rd. do get basement flooding from Tracy Branch (H2O that lows from the potentially-to-be-developed American Legion property), through the Ephesus Woods, along the backyards of houses on Tinkerbell (400s). The culvert under Ephesus Church Rd. is problematic...it needs attention.
- Runoff is significant from upstream in the area of the American Legion property down to the Lark Circle cul de sac. If the area is developed as proposed, the impact of increased runoff could be significant.
- Give equal name association to grassroots organizations as business groups. Include the following organizations: Friends of Bolin Creek, Booker Creek Watershed Alliance, Morgan Creek Alliance and Sierra Club.
- Ensure anonymity for feedback.
- No private consultation meetings with public groups.
- Meeting should start on time. 15 minutes late is bad.