CITY OF RALEIGH
STORMWATER MANAGEMENT ADVISORY COMMISSION (SMAC)
Minutes

Raleigh Municipal Building · 222 W. Hargett Street · Conference Room 305
3:00pm · Thursday, February 5, 2015

Commission Members Present: Michael Birch (Chair), JoAnn Burkholder, David Webb, Chris Bostic, Marc Horstman, Francine Durso, Vanessa Fleishmann and Matthew Starr

Stormwater Staff Present: Blair Hinkle, Kelly Daniel, Suzette Mitchell, Brad Stuart, Kevin Kidd, Kevin Boyer, Veronica High, Ben Brown, Lauren Witherspoon, McKenzie Gentry, Scott Bryant, Wenju Zhang and Sheila Thomas-Ambat

Members Absent: Kevin Yates (Vice-Chair) and Will Service

Guests: Rob Hopper, Burwill Stark, Matthew Hornack and Joseph Kirby

Meeting called to order: 3:07 p.m. by Mr. Birch

Motions (Absentees and Minutes)

- Absence: Mr. Birch said with no objection from the board, we will excuse Mr. Yates from the meeting.
- January Meeting Minutes: Mr. Webb made a motion to approve, and Ms. Burkholder seconded. The motion was approved unanimously.

The following items were discussed with action taken as shown.

Item 1 – Commission/Stormwater Staff Update on Matters of Importance to the Stormwater Management Advisory Commission

1.1 **Stormwater Staff Report:** (Blair Hinkle)

- Staffing Update -
  - *Veronica High – promoted to Senior Project* Engineer *(Capital Improvement Program)*
  - *Stream Cleanup – Scheduled for Saturday, March 28th at Walnut Creek – more information to follow.*
- LID/GI Stakeholder Process Update –
  - *Kevin Boyer is working with TetraTech to get the workplan finalized and prepared to go to Council on March 3rd.*

Item 2 – Presentation and Discussion of Draft Water Quality Cost Share Policy

2.1 Kevin Boyer – At the last meeting, the Commission considered establishing a new cap on funding, based on the cost per unit of pollution reduced by the device funded. However, the Commission decided against the new cap, and asked staff to consider reporting on each proposed project per nitrogen reduction. In addition, the Commission asked staff to consider additional incentive for projects in certain areas of the City *(TMDL streams, water supply water sheds and downtown business districts)*, increasing city contribution from 75% to 90%, and to consider other areas in the city that might warrant special attention for additional city contribution. In the agenda packets, are staff's new recommendations for revising the Stormwater Quality Cost Share Policy and the draft policy revisions from 12/5/13 and 1/8/15 meetings. Each recommendation lists the issue, the current policy, the recommended revisions, and the example.

2.2 Brad Stuart – *(overview on identifying priority targeted areas*) Staff looked at the basins and overlays that already exist for water protection, water quality, and water quality improvements. We looked at the impervious area in general, basin by basin, and we looked to use existing boundaries and

overlays rather than creating news ones. We looked at the number of regulated BMPs in those areas and the overlay for the city.

2.3 Blair Hinkle – At the last meeting, the Commission generally supported the idea behind the policy recommendations. Staff provided a map and the boundaries of the increased target areas. We kept with the idea of established boundaries, so we don't get in the business of establishing target areas outside of some other established area.

Motions:

2.4 Mr. Birch made a motion to recommend to the Public Works Committee, recommended revisions #1, and recommended revision #2, with this change, let the watershed boundaries be the watershed boundaries, and not the overlay district boundaries.

2.4.1 Mr. Bostic and Mr. Hortsman both seconded. The motion was passed unanimously.

Item 3 – Impervious Area Exemption Update

3.1 Blair Hinkle – The Commission voted and provided a recommendation in October 2013. Currently, this is where residential properties are exempt from storm requirements. *(It provides for some maximum impervious area on residential properties, beyond which those properties would have to provide stormwater controls)* The Mayor and Councilor Stephenson expressed an interest in where this is; and we found several other items that were approved by the Commission, but were not sent to Council for approval. We just wanted the Commission to re-affirm their support and recommendation, and/or provide additional comments.

3.2 Ben Brown – The reason why this has not gone for a text change, is because there was a miscommunication with the Planning Department. Our staff had concerns on the study section *(what was actually going to be measured with that increase*). The section that it references, is speaking of structural flooding, and that's where you'll find an increase. You won't necessarily have structural flooding downstream of these items. The other point is the effectiveness of having a study, rather than just putting the 2 to 10 year requirements on these developments. This will go through a lengthy text change process. First, it has to go to Council just to be approved to be heard, then to the Planning Commission, then back to Council to make a text change, and once it's written in ordinance language, it goes back to Council for actual text change, and then it can be discussed again.

Action Items

- Bring back a recommendation to address the reference point on the study, and bring back alternative language that will allow for the study option or the 2 and 10 year option.

Item 4 – Additional Detention Requirements

4.1 Blair Hinkle – The City Council expressed an interest in the pros and cons of requiring detention of the 100 year storm for new and re-development.

4.2 Ben Brown – Staff reviewed the impact of increasing our rate control numbers based on the 25 year storm, and up to the 100 year storm event. Staff looked at a mixture of commercial and residential sites. We did broad assumptions and looked at the container size. Staff attempted in translating the area on what it would cost, land value wise, and any other consideration and/or impacts for detaining these large storms. The current rate says the peak stormwater runoff linear site, must be controlled from the 2 to 10 year storm to pre-development levels at each construction point. The Mayor and City Council asked us to look into increasing those requirements, while keeping everything else the same. We need to look at each discharge point; look at the 2 to 10 year storm and not override it with the 25 and 100 year storm.

4.3 McKenzie Gentry *(Senior Conservation Engineer)* – presentation on additional detention

- *Three scenarios each for commercial - 1, 5 and 10 acre site- each 50, 70 & 90 % impervious.*
- *Residential site for R4 (10 & 20 acres)*
- *Each 4 foot deep box depth*
- *Each existing site forest cover*

- *Proposed pervious just lawn and impervious condition*
- *Waded curb numbers for each different % impervious site*
- *Existing conditions time of concentrations* Commercial scenarios
  - 10 acres *(20 minutes)*
  - 20 *acres (30 minutes)*
- *Proposed time of concentration*
  - *5 minutes (10 acres) commercial*
  - *10 minutes (10 acres) residential*
  - *20 minutes (20 acres) residential*
- Average % footprint increase to detain storm
  - *12% for 25 year storm (commercial)*
  - *35% for 100 year storm(commercial)*
  - *24% for 25 year storm (residential)*
  - *45% for 100 year storm (residential)*

4.4 Ben Brown – Another consideration is the upstream infrastructure leading to the devices. They need to capture the 100 year storm, which currently, they are not design to do. You have to have larger pipes leading into the devices, which would increase the cost. From the Floodplain Management standpoint, detaining a larger storm can potentially increase your flooding impacts on already flooded creeks and rivers. For example, Crabtree Creek takes up to six hours of a storm to start flooding. If you are holding back every site around Crabtree Creek to six hours, it's going to have those impacts that are going to be gone already. This would be something to consider, if you are around a floodplain and map floodplain. Additionally, large devices will conflict with LID/GI principles. Currently, the storms are too big to be contained with the LID devices. The underground stormwater devices will be deeper, which will impact any re-development sites.

Action Items

- Provide expanded cost range of detaining 25 year storm.
- Provide a more refined explanation between the difference peak flow attenuation and stormwater volume control.
- Provide case study of existing site to see how it would change current standards for a 25 year storm.
- Consider not only pond size, but infrastructure upgrades required to convey a 25 year storm.
- How would increasing the attenuation requirements impact LID.
- More details on maintenance requirements for underground storage detention.

Item 5 – Other Business

- Two presentations will be provided at next SMAC meeting - (*Comprehensive Plan Update and Six Fork Road Conceptual Design)*

Meeting adjourned at: 4:51pm

Suzette Mitchell