

Minutes of the Ad Hoc Stormwater Committee Village of Shorewood Hills

Wed., Dec. 5, 2018

(review and approved at the Jan. 9, 2019 Committee meeting)

1. Called to Order at 7 PM:

- a. **Roll Call:** Committee Members Present: Chair/Village President Dave Benforado, Gloria Beach, Carolyn Benforado, Greg Brauer, Peter Hans, Mark Mandel, Eric Riedner.
- b. **Others Present:** Village Administrator Karl Frantz, Village Engineer Brian Berquist (Town and Country Engineering), Village Trustee Mark Lederer, Village Administrative Services Manager/Deputy Clerk David Sykes, Village DPW Crew Chief John Mitmoen, City of Madison Deputy City Engineer Greg Fries, City of Madison Stormwater Engineer Janet Schmidt and approximately two Village residents.

2. Meeting Notice: D.Benforado inquired and K.Frantz confirmed that the meeting had been properly posted in compliance with open meeting laws.

3. Technical Update Regarding August 20, 2018, Flood and Future Stormwater Management Options (G.Fries): Fries' complete PowerPoint presentation is posted on the Village Stormwater Committee's Resources page. Highlights:

- a. **Dane County Lake Levels Technical Task Force:** City Engineer Rob Phillips and Deputy Engineer Fries are participating on that Task Force; expect to report to County Board by mid-February.
- b. **Dane County Land and Water Resources manages Yahara Chain lake levels:** solutions being examined to lessen the chance of downtown near east isthmus and downstream flooding in future years include improving system throughput by dredging at low points/choke points/RR bridges, weed harvesting up and down Yahara chain, pumping at certain key points.
- c. **University Ave stormwater corridor:** new stormwater conduits added at each end of the Univ Ave corridor in last ten years, except the stretch between Grand Ave and Shorewood Blvd.; new conduit under Univ Ave between Segoe and Shorewood Blvd perhaps "solved" 2012 flooding at Univ Ave/Midvale Blvd but amplified flooding and debris at Univ Ave/Shorewood Blvd (a result of which was the City building a cinder block wall in the new conduit at Midvale Blvd).
- d. **General stormwater terms and modeling approaches:** two factors to consider when discussing rainfall events – intensity and duration. Differences in meanings of 10 yr, 25 yr, 50 yr, 100 yr, 500 yr, 1000 yr rainfall events. Most stormwater pipes are designed to accommodate 10 yr events. Most culverts are designed to accommodate 25-50 yr events. Roads are designed and expected to act as overflow conduits for stormwater in extreme events (100+ yr events). Drainage of enclosed depressions (e.g., Uni Ave/Midvale intersection, Univ Ave/Shorewood Blvd intersection), are often designed for 25 yr events. Reviewed map of "hydric" soils in Madison area (former wetlands 500 years ago, areas that historically have flooded). One approach might be to divide the drainage basin that runs down University Ave corridor into two separate areas; a large tunnel or set of tunnels could drain the "Midvale Drainage area", the existing stormwater conduits could drain the remaining "Willow Creek area".

- e. **Rough estimated costs associated with potential techniques/solutions:** It cost the City \$14M to extend the 96” conduit pipe from Willow Creek to Grand Ave. Two techniques to bore a large deep tunnel (e.g., under BCC): (1) boring followed by pushing pipe segments, but experience has shown that 1500 ft is about as far as you can push 96” pipe segments; and (2) boring followed by immediate shoring of tunnel. Costs? Tunneling for 96” pipe costs roughly \$3400/LF versus open cutting/trenching a 96” pipe in from above costs roughly \$1000/LF. Unknown cost for tunneling and immediate shoring of tunnel. Cost for one 96” stormwater pipe from Univ Ave/Midvale Blvd intersection NW to Lake Mondota (under BCC): \$10M; three such pipes would be \$30M.
4. **Summary of Two Prior Village Stormwater Studies (B.Berquist):** Berquist reviewed and summarized the two prior Village stormwater studies, the 1997 Strand Study and the 2001 AES (Applied Ecological Studies) Study, noting the different rainfall distribution assumptions in each.
- a. **Conclusions of 1997 Strand Study** were that existing Univ Ave stormwater system would fail in a 10-year event, that Rennobohm Park and Lucia Crest Park basins would not significantly prevent flooding, that underground storage to prevent flooding was very expensive, that parallel stormwater conduits were desirable but would have to wait for reconstruction of Univ Ave, that a \$6.7M/108” tunnel option under BCC (initially discussed in 1965 Study) was the most cost-effective solution to a 100-year event, and that floodproofing Garden Homes neighborhood could be pursued as well.
 - b. **Conclusions of 2001 AES Study** were that if 18 upstream holding areas were established in the basin that the existing Univ Ave stormwater system could handle a 50-year event, and that Rennobohm Park and Hamilton School grounds were two crucial areas to hold stormwater upstream.
5. **Review Prior Meeting Minutes:** Committee reviewed draft meeting minutes from Nov. 14, 2018, meeting. Motion to approve by P.Hans, second by E.Riedner. Approved unanimously (7-0).
6. **Future Meetings:** Committee members brainstormed on potential future meeting topics and speakers.
- a. **City’s Stormwater Model Data:** inviting City of Madison’s G.Fries back to update the Committee on subsequent Univ Ave stormwater corridor computer model runs.
 - b. **Other Flood Damage Prevention Measures/Acceptable Levels of Flooding:** discussion; table top tour of the Village’s entire drainage network (i.e., how stormwater flows in the Village, to where, size of stormwater pipes).
 - c. **Village Debt/Ability to Finance Stormwater Projects:** presentation from K.Frantz on Village finances and policies, current debt load, general borrowing and Tax Increment District borrowing capability in future years for large stormwater projects.
 - d. **Village Stormwater Utility:** presentation from K.Frantz on current utility fee structure, stormwater utility budget uses and trends.
 - e. **June 14-15, 2018, Flooding in Village:** discussion; perhaps a table top tour of the Village’s entire drainage network
 - f. **Phrasing the Question(s)** (M.Mandel): discussion.
 - g. **Initial Findings/Recommendations to Board:** discuss and list.

7. **Future Meeting Dates:** Committee confirmed their next meeting date to be on Wed., Jan. 9 (7 PM). Otherwise, the remaining 2019 meeting dates are:
- a. Wed., Feb. 6, 2019;
 - b. Wed., March 6, 2019;
 - c. Wed., April 3, 2019;
 - d. Wed., May 1, 2019;
 - e. Wed., June 5, 2019;
 - f. Wed., July 3, 2019;
 - g. Wed., Aug. 7, 2019;
 - h. Wed., Sept. 4, 2019;
 - i. Wed., Oct. 2, 2019;
 - j. Wed., Nov.6, 2019.

8. **Adjournment:** Committee adjourned at 9:18 PM.

Respectfully submitted by Dave Benforado on Dec. 10, 2018.