

## Public Works Committee Staff Notes

9/7/2021

- a. **US-78 Drainage Basin Discussion.** Explanation of the drainage basin conditions and the reasoning for the mitigation recommendation. Further explanation of other long-term mitigation solutions.
- b. **Germantown Drainage Basin Discussion.** Explanation of the drainage basin conditions and the status of mitigation efforts as well as future mitigation efforts.
- c. **Shepard Street & Parkwood Drive Intersection Discussion.** This item was considered in March 2016. Staff recommendation then was to convert Shepard Street to one-way in a westerly direction from Simmons Avenue to Simmons Avenue. This would remove the unsafe condition along the eastern approach to the intersection, which has limited sight distance. Affected residents were polled on this idea at the time. There was mostly opposition to this idea because of the inconvenience it would cause with 11 people against the idea and two supportive. The only other way to address the condition is to acquire additional R/W and clear the vegetation causing the sight obstruction. Staff recommendation at this time is to convert Shepard Street to a one-way street from Parkwood Drive to the western intersection with Simmons Avenue. This would eliminate the concern along the eastbound approach of Shepard Street & Parkwood Drive, while leaving the eastern portion of Shepard Street unaffected.
- d. **White Gable Drive and Central Avenue Intersection.** Discussion on the installation of a traffic signal.
- e. **Proposed Traffic Solutions for North Little Main.** The parking area in front of Groucho's restaurant is under the maintenance responsibility of the Town. It was proposed that the parking be converted to angled parking and converting the area to one-way in a southerly direction. After reviewing the area and the driveway on Main Street, it was determined this needs to remain a full access driveway because of the bank access and rear access to the restaurant. Staff agrees that the parking area could be converted to angled parking pointing south. The drive aisle is only 20' in width currently. Angled parking would allow easier maneuvering. Large pick-up trucks that back in the perpendicular spaces sometimes have their rear bumpers hanging into the travel lane on main Street. Staff recommends converting the parking to angled once the parking area is resurfaced.

## US-78 Drainage Basin

- **89-acre drainage basin**
- **Two buildings are being flooded on US-78**
- **Inlets**
  - Ditch/canal that drains from 9<sup>th</sup> Street through the middle between Gum St and Magnolia St
  - Piped system from the 800 Block of Main Street
  - Piped system from the 600 block of Main Street near 6<sup>th</sup> Street
  - Both piped systems discharge into the canal between 6<sup>th</sup> St and 7<sup>th</sup> St
- **Outfall**
  - Existing outfall is a 36" pipe that flows under the building at 600 North Gum Street at US-78.
  - Appropriately sized outfall is dual 6'x6' box culverts.
  - Outfalls to Sawmill Branch Canal south of US-78. Flooding does not occur on or downstream of US-78.
- **Mitigation Solutions explored**
  - **Detention** (ponds) was explored and determined that five-acre pond(s) would be required to protect the properties from flooding.
  - 7+ acres of property would need to be acquired. The cost to purchase, relocated, and demolish, and construct detention is estimated to be \$5 - \$6 million.
  - **Upgrade downstream conveyance** Between 1,000' – 1,500 feet of dual 6'x6' box culverts would be required to be upgraded from the flooded property to Sawmill Branch canal. This conveyance system would require additional easement acquisition, possible further hydraulic studies, utility coordination, crossing Berlin Myers Parkway and possibly US-78. This solution is estimated to cost \$8 - \$10 million.
  - **Basin Diversion** Further study will be required to divert drainage of portions of the basin into another basin to the west. This is forthcoming as staff studies the Azalea Park basin.
  - **Purchase Flooded Property** If the wish is to mitigate flooding, the recommended solution in the study is to purchase the flooded property. This cost is \$1 - \$3 million.
  - **Development Restrictions** This long-term solution was implemented August 2021. This requires property being developed or redeveloped within the basin to implement additional detention or mitigate any extra downstream impacts. This solution will cease degradation of the basin and will only provide improvements to the basin as properties are developed or redeveloped, which will be decades.

## Germantown Drainage Basin

- **100+ acre drainage basin**
- **Problem** is significant infill development over the past 20+ years
- **Street Flooding** on Shepard Street, Waring Street, Jessen Street, and Simmons Avenue; yard flooding adjacent to these streets. Structural Flood at 115 Jessen Street.
- **Water draining** from Shepard Street, Simmons Ave – both directions, from Gadsden Street to near the intersection of Jessen Street and Simmons Avenue
- **Solutions – Basin diversion and detention**
  - Construction of a 2.6-acre retention pond at Shepard Street and Parkwood Drive. This pond will allow the diversion of 22-acres to drain to the pond. Pond is in place, and work will begin on putting pond in service in the next two weeks. This also will reduce the amount of water flowing into the Azalea Park basin and divert in into the Tea Farm drainage basin.
  - Upgrade piped system along Peters Street and intercepted the water from Simmons Avenue to flow down new system on Peters Street – **This has been implemented.**
  - Upgrade pipe system along Waring Street to divert water to outfall sooner.
  - The diversion and detention solutions reduce the volume of water trying to flow through one point. The Peters Street and potential Waring Street diversion project reduces the volume of water to the problem area and conveys the water to the outfall faster, reducing the volume at the time of concentration.
  - Temporary solutions on Waring Street have been implemented.
  - **Development Restrictions** This long-term solution was implemented August 2021. This requires property being developed or redeveloped within the basin to implement additional detention or mitigate any extra downstream impacts. This solution will cease degradation of the basin and will only provide improvements to the basin as properties are developed or redeveloped, which will be decades.