SEPTEMBER 29th, 2011 Meeting Summary Table of Contents

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Forest Park/Berry Watershed Area
Final Recommendations Public Meeting

September 29, 2011, 6:30 p.m.

Travis Avenue Baptist Church South Complex

AGENDA

1. Welcome & Overview
2. Where we've come from and where we are today
3. Presentation of Feasible Options
4. Presentation of Action Items
5. DISCUSSION/Q & A

City of Fort Worth Staff Members present:

- Greg Simmons, P.E., Assistant Director, Transportation & Public Works (TPW)
- Don McChesney, P.E., Engineering Manager, TPW Storm Water Management
- Steve Eubanks, P.E., Senior Professional Engineer, TPW Storm Water Management
- Linda Young, P.E., Senior Professional Engineer, TPW Storm Water Management
- Ranjan Muttiah, P.E., Professional Engineer, TPW Storm Water Management
- Michael Owen, Project Manager, Transportation & Public Works
- Clair Davis, P. E., CFM, Floodplain Administrator, TPW Storm Water Management
- Eric Fladager, AICP, Comprehensive Planning Manager
- Cristi Lemon, Neighborhood Education Manager
- Joe Komisarz, Business Manager
- Linda Sterne, Communications Officer, TPW Storm Water Management

Watershed Consultants Present

- Burton Johnson, P. E., Michael Baker Jr. Corporation - Feasible Options Study Project Manager
- Pam Roach, President, Pam Roach Public Relations – Feasible Options Study Public Involvement Consultant
- Zubin Sukheswalla, PE, CFM, Project Manager, AECOM
- Terry M. Barr, P. E., CFM, Halff & Associates
- Tom Smith, P. E., Green & Sustainable Services
- Dorian French, P. E., Brown & Gay Engineers

Stakeholders present:

- Alonzo Aguillar
- Linda Clark
- Lee Frampton
- James Hawks, Paschal N. A.
- Stephen James
- Rick Kubes, Berry Street Initiative
- L. A. Shepheard
- Rick Smith
- Robert Snoke, Rosemont N. A.
- Will Stallworth
- Kevin Walker
- Libby Willis, League of Neighborhoods

WHERE WE'VE COME FROM AND WHERE WE ARE TODAY

Greg Simmons, P.E., Assistant Director of Transportation & Public Works

STAFF PRESENTATION

(See presentation slide #s 2 - 9)

This is the final in a series of public and stakeholder meetings to obtain feedback on reducing flood risk in the Forest Park Berry watershed.

Tonight:

- Two alternative strategies will be presented
  - Increase storage (detention)
  - Increase conveyance (pipes and channels)
- Feasible options within those strategies
- Action items

Mr. Simmons said that several possible mitigation measures have been reviewed:,

1. **Increasing storage (**Detention**)**
2. **Increasing Conveyance** - Increasing the size and capacity of pipe systems to accommodate more water.
3. Avoidance – Flood-proofing homes or acquiring properties that are flood prone.
4. Coping – Making sure property owners stay up to date on weather alerts so they can take steps to avoid flood damages.

The first two measures have been the focus.

Bad News:

Mr. Simmons stated that the feasible options study did not result in a solution that would completely solve the flooding problem in a way that is affordable, effective and acceptable to the community. The challenges identified in previous studies were validated. The focus now is to optimize drainage improvements given the various constraints.

Good News:
The results of the feasible options study include smaller measures that, if implemented, will provide meaningful reductions in flooding. If priorities and funding allow, these measures can be implemented in a phased fashion over time with significant benefits.

System Capacity Goal (See Rain Gauge on slide #9).
The ideal level of service would be to accommodate a 100-year flood event which can handle about 4 inches of rain per hour, but would be cost prohibitive to implement and would take a very long time before benefits were realized. The existing system capacity can only handle about 1 inch of rainfall per hour (equivalent to a 2-yr storm), still leaving a huge gap between what the existing system can handle and the preferred level of service needed to significantly reduce flood damages. The 2004 flood event was the equivalent of a 5-year storm (about 2 inches per hour) and resulted in significant damages. When the dollar value of future damages are estimated based on the level of likelihood of the various rain intensities, the 10-year storm would be expected, over time, to cause the greatest amount of damage. Therefore, if we can put into place measures that can handle the 10-year event without there being any flooding then we will have eliminated the vast majority of potential flood damage. To get to that level of flood protection through detention we need about 68 acre-feet of storage. This is the equivalent of 11 acres of land (roughly the size of the Paschal High School campus), 6 feet deep in water. Our most probable approach at this point is to incrementally acquire areas for detention, gradually improving the drainage as we work toward the goal of 68 acre-feet of storage.

Mr. Simmons then turned the presentation over to Feasible Options Study consultant, Burton Johnson, P. E.

PRESENTATION OF FEASIBLE OPTIONS

Burton Johnson, P.E., *Project Manager, Michael Baker Jr. Corp.*
CONSULTANT PRESENTATION
(See slide #s 10 - 42)

DETENTION OPTIONS (See slide #s 11 - 21)

- Construct underground storage beneath the parking lots for the planned rail station.
  Goal is 12-acre feet. Cost is about $5 – $7.5 million

- Construct surface detention in conjunction with Transit Oriented Development.
  Goal is 23-acre feet. Cost is about $3 – $5 million

- Construct surface detention along the BNSF line running parallel with Biddison
  Goal is 5-acre feet. Cost is about $10 million

- Construct underground detention at various areas on the Paschal High School campus. ***Goal is 15-acre feet. Cost is about $6 - $10 million***

- Construct detention over time in conjunction with other projects (e.g. road reconstruction, TCU projects).
  Goal is 10-acre feet. Cost is about $5 - $7.5 million

- Types of underground storage units (See slide #12)
  - flexible pipe system -
  - modular – prefabricated plastic storage, great for parking lots and underneath ball fields
  - tunnel (concrete structure) – best for under city streets

<u>CONVEYANCE OPTIONS</u> (Slide #s 22 - 28)

- Tunnel to Trinity River – Enlarge the capacity of the drainage system by constructing a tunnel from the watershed to the Trinity River. This is a way to increase conveyance without harming Zoo Creek. This was the original concept that was determined to be way too expensive, and it is very expensive and cannot be considered affordable given current resources of the city. It is, however, very effective.
- **Goal is 16-feet Diameter. Cost is about $20 - $40 million.**

- Local Storm Drain Improvements –To convey water from flooded living rooms and streets to detention areas or tunnels, local storm drain improvements would be required.

  Estimated Cost - $5 – $20 million

Conveyance-Based Strategy

- Build a Tunnel
- Build local storm water improvements to tie to that tunnel
- Explore Transit Oriented Development opportunities
- Paschal High School conveyance will help drainage along Berry Street to the east of Cleburne.

Conveyance Strategy Summary

- Capacity level needed for conveyance – 100-year protection (at this level the likelihood of damages are significantly reduced)

- This option is very expensive (costs from $35 million, or could run as high as $50 – $75 million)
- Tunnel component would have to be constructed as one project over the course of two years; would require funding assistance.

Detention-based Strategy

If we don't have a tunnel, where do we store water?

- Underground Detention – Transit Parking
- Transit Oriented Development Detention
- Paschal High School Underground Detention
- Watershed wide detention
- Local storm drain improvements

Detention-based Strategy Summary

- Has good cost/benefit ratio
- 10-year protection will make a difference
- Can't get to original goal of 68-acre feet of storage due to the lack of availability of land in FPB, but there is a possibility of achieving up to 54-acre feet of storage.
- Cost is moderately expensive - $25 – $35 million
- Projects can be phased in over time with benefits realized upon the completion of each phase
- Will require maintenance commitment from the City – inspected annually and maintained as needed.

Mr. Johnson made the following final recommendations:

RECOMMENDATIONS

(See slide #32)

Recommended Strategy

1. Pursue phased-in implementation of the detention-based strategy - (This does not mean that the tunnel option has to be eliminated)

2. Pursue cost-sharing partnering options through grant programs. Challenges:
   - The federal government has limited funds for these kinds of projects.
   - Most likely scenario for funding: a flood event. FEMA has hazard-mitigation dollars that are sometimes made available following major flood events.

3. Promote Coping and Avoidance measures –

- Flood insurance Property owners can purchase flood insurance very affordably (less than $300 per year for $100K of protection). To obtain more information contact the City of Fort Worth's Transportation and Public Works Department (Storm Water Management Division), at (817) 392-6261. You can also, go to http://fortworthtexas.gov/tpw/stormwater .

- Education about flood protection

4. Voluntary Property Acquisition Program –
   - Develop city-wide acquisition program. The City should consider acquiring the property of any chronically flood-prone property about which the owner approaches the City seeking to sell.
   - Come up with a secondary use plan such as rain garden, community gardens, open space.
   - Put strong maintenance guidelines in place on how properties will be taken care of once they are purchased.

PRESENTATION OF ACTION ITEMS

(See slide #s 33 – 40)

BEGIN NOW

1. Coordination with potential partners for detention options:
   - FWISD
   - The "T"
   - BNSF Railroad
   - Berry Street Initiative
   - City of Fort Worth Planning (TOD)
   - TCU Master Plan (Redevelopment opportunities)

2. Develop flood prone property acquisition process

OVER THE NEXT TWO YEARS (Slide #s 37 and 38)

3. Prove up feasibility of detention options and tunnel conveyance options - Mr. Johnson emphasized that the feasible options study was only a cursory engineering analysis to vet out options to reduce flooding. Moving forward, he said the next level of engineering will include schematics where the City verifies and refines costs and pursues funding partnerships (whether it's for tunnel or with other options).
4. Develop form-based code for Transit Oriented Development to include detention – Coordinate with the City's Planning Department

5. Coordinate with other city projects with opportunities for detention.

NEXT 3 to 10 YEARS (Slide #39)

6. Get underground detention while streets are being constructed.
7. Get ahead of transit oriented development.

ONGOING (Slide #40)

- The online community survey results showed that people want to be involved, therefore, continue engaging neighborhood associations and stakeholders. Hold meetings as needed to provide updates on the process.
- Continue commitment to maintenance
- Remain forward looking and optimistic

DISCUSSION/Q & A

1. **How do you plan to keep the water flowing through a tunnel to protect it from clogging with debris?**

   Consultant Response*:*
   - There are ways to retrofit the inlet structures to capture floatables prior to water entering the storage chambers to keep out debris.

   Staff Response (Don McChesney)
   - We have a pilot program in progress right now to retrofit inlets to capture debris and floatables before they go into the pipes. That's a new effort that we're learning from and determining how to apply it to other areas.

2. **Grease traps are being emptied into the water systems. Can you do something about this?**

   Staff response (Greg Simmons)
   - If these are reported when observed the Environmental Management Division of the Transportation and Public Works Department can investigate. Call 817.392.8100.

3. **I like the idea of putting in experimental detention.** The ideal spot is the bus station transit parking lot which will be there for a while. Please consider putting cement storage underground with culverts on 8th Ave to drain off water. We need to start while we have the

opportunities such as under TCU's Performing Arts Center and Paschal High School. Putting things underground versus buying out properties is preferred.

Consultant response

- The parking lot is one we're wrestling with but the proper detention tool has yet to be proven up and evaluated. We've looked at detention underneath playing fields, and under streets.

Staff response (Greg Simmons)

- We've had contact with FWISD, the "T" and initial talks with TCU to make sure we don't miss any windows of opportunity.

4. **Even though folks are anxious to get started, everything must be thought out and every community needs to know how they fit into the equation regarding implementation of each option.**

Staff Response (Greg Simmons)

- We will go forward moving as quickly as we can on each opportunity given funding availability.

5. **How many water detention areas is the City planning to install (surface or underground)?**

Consultant response

- Right now we are evaluating the following: underneath the transit center parking lot, underneath and Paschal High School athletic fields. There's still an unknown number that could go under city streets as they are rebuilt.

Staff Response (Greg Simmons)

- We have a long way to go .The launching point from here is to get the design engineer engaged to flesh out these options. We still have to work with other agencies to coordinate these efforts which will drive which options can work and when they can be done.

6. **How much time will it take before something goes into the ground?**

Staff Response (Greg Simmons):

- It depends on a lot of different things. Generally, it will be about 3 years or so before we can build. We will work them all aggressively to see if something can occur sooner, however, realistically it will probably be 3 years.

7. **Is anyone tracking when drains get stopped up?**

   Staff response (Greg Simmons):
   - Yes. We do have staff responsible for inspecting the drains regularly and we count on residents to report problems.

8. **The Rosemont neighborhood would like to be responsible for the Greenbelt along Biddison.** We have a lot of retired senior citizens who would love to take care of it. All we have right now is garbage everywhere, broken glass and tires. If you give us a chance on Biddison Street, we won't disappoint.

   Staff response (Greg Simmons):
   - I know you won't. Thank you.

9. **Has anyone gone underground in other cities to see if underground vaults filled up with silt?**

   Consultant response:
   - Our contact with people familiar with these facilities indicates they are reasonably maintainable.

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