

November 4, 2019

Mr. Matthew Anderson, P.E., D.WRE., Project Manager  
City of Charlotte Storm Water Services  
600 E. Fourth Street  
CMGC-3<sup>rd</sup> Floor  
Charlotte, N.C. 28202-2844

Re: Chatham Storm Drainage Improvement Project  
Public Meeting Minutes from meeting on 10/29/19  
City of Charlotte Project Number 671-12-016  
City of Charlotte Contract Number 2015000216

Dear Mr. Anderson,

The Isaacs Group has prepared these meeting minutes for your review. Please bring to our attention at your earliest convenience any relevant omissions and any statements which you feel are inaccurate, misunderstood or incorrect.

**Items Discussed:**

1. The meeting began at 6:10 pm with Matthew Anderson making introductions. He introduced himself and Brad Ross with The Isaacs Group. He notified the attendees of the sign-in sheet and other informational items for the meeting.
2. Matthew Anderson discussed the purpose of the Chatham Storm Drainage Improvement Project Public Meeting and the agenda for the meeting. He explained the purpose of Storm Water Services and the department's goals.
3. Matthew Anderson provided a summary of the Chatham Storm Drainage Improvement Project. He explained that the City had received many requests for service within the Chatham project area and he stated that the project was created to address reported flooding issues within the project area.
4. Matthew Anderson discussed the steps of the project and stated this public meeting is for discussing the project's Recommended Design Alternative chosen to address the flooding issues. He turned the discussion over to Brad Ross to explain the project and discuss the Recommended Design Alternative.
5. Brad Ross pointed out on the provided exhibit the project boundary and the

limits of the project.

Statement: A resident commented on the project boundary and how the boundary resembles a circle.

Response: Brad Ross agreed and stated the project boundary is based on the existing topography and the way the land drains the storm water.

Brad Ross continued the presentation and noted a unique structure over one of the channel segments. He pointed out a stone bridge over the channel just downstream of Mecklenburg Ave.

Statement: A resident commented that the bridge was on their property.

Response: Brad Ross responded that there may have been a small pond at the bridge at one time.

Response: The resident stated they did not know if a pond had been there.

Brad Ross continued and noted that each project has unique features that give a project character.

6. Brad Ross pointed out the first task in the planning phase was to survey and gather field data for the project area. He reviewed the items surveyed and data collected that would allow for analysis and completion of the planning and preliminary design phase of the project. He stated the following items were surveyed:

- Existing channel
- Storm pipes and culverts
- Catch basins and junction boxes
- Roads
- Curb and gutter
- Utilities, such as, sanitary sewer, electric, gas, cable
- Houses
- Finished floor and lowest adjacent grade elevations
- HVAC
- Storage buildings
- Property corners
- Fences
- Trees and landscape areas

He stated the data collected was used in the analysis of the existing conditions.

7. Brad Ross explained the service requests the City had received and logged were concentrated in and around the open channel/creek locations and near road

culvert crossings. He referred to the existing conditions exhibit and pointed out the open service requests are indicated by the red dots. He explained the service request data helped in identifying flooding issues in the project area.

8. Brad Ross pointed out on the existing storm drainage exhibit there are 36 closed storm drainage systems and 13 open channel segments within the project area. He noted these storm drainage systems drain to Briar Creek.

Question: What is a culvert? What is a storm drainage system? How are they different?

Response: Brad Ross – He explained that a culvert is a pipe located under the road at a channel crossing that is open on both ends that allows the water to pass from one end to the other. He pointed out on the exhibit that a storm drainage system consists of pipes from a structure or inlet to another structure or inlet with the pipes carrying stormwater to be able to drain the road.

Response: Matthew Anderson – He stated a culvert allows the water to pass under the road, so that, the water does not back up and flood the road.

Brad Ross continued and pointed out that the storm drainage systems were analyzed for the existing conditions. He stated that some systems were functioning as intended and meet City standards while some systems are inadequate and do not meet City standards and are causing flooding issues. He pointed out that flooding issues had been identified at Chatham Avenue, Winter Street, Belvedere Avenue, Mecklenburg Avenue, Masonic Drive, and Midwood Park.

9. Brad Ross stated the next step after existing conditions analysis was to evaluate alternatives and first, look at, the City Design Standard Alternative. He stated the City design Standard Alternative would address all the flooding issues and improve the storm drainage systems to meet all the City Design Standards. He indicated the cost for the City Design Standard was prohibitive at a cost of approximately \$23 million.

Question: What are the City standards?

Response: Matthew Anderson responded that the City has set standards for new development, so that, storm water is controlled and does not impact the roads and area in a negative way.

Question: What standards are the roads, culverts, or pipes to meet?

Response: Matthew Anderson – There are standards set based on the type of road the culvert or pipe is located on whether it is a major thoroughfare or a local side street. It varies based on the situation.

Brad Ross continued discussing that the City Design Standard Alternative was

cost prohibitive, and, also, would have had a huge amount of disturbance to the project area impacting the residents and property owners in a negative way.

10. Brad Ross stated after the City Design Standard Alternative Analysis an alternative analysis was conducted looking at alternatives that would address flooding issues and cost less. He stated 13 alternatives were evaluated for the open channels and 3 alternatives were analyzed for each of the closed storm drainage systems. He discussed hydrology and using the existing Cramer Pond for storage, such that, flow will be attenuated. He pointed out less flow will be in the channel allowing the culverts and storm drainage systems function better.

Statement: Cramer Pond is no longer a pond. It is silted in.

Response: Brad Ross stated the pond has silted in and in the past was much deeper, but there is still area that is used for storage of storm water.

Question: What happens to Cramer Pond?

Response: Brad Ross stated that Cramer Pond is maintained, and a Conservation Easement is going to be attained, so that, the pond is protected for storage of the stormwater.

Question: Where does the water go from the new subdivision? Isn't going to make it worse since they are building bigger houses?

Response: Brad Ross stated the subdivision is required to meet City standards for a new subdivision and construct detention basins that can hold an amount of storm water that is released into the storm drainage system at a rate that matches the existing condition, so that, the storm drainage systems downstream are not negatively impacted.

Brad Ross continued and stated these alternatives were evaluated and a Recommended Design Alternative was chosen from the many alternatives evaluated.

11. Brad Ross stated the Recommended Design Alternative consisted of various pieces developed in the alternative analysis that meets a reduced City standard along with addressing flooding issues and reducing the cost of the improvements. He pointed out that with Recommended Design Alternative some culverts are maintained and are not proposed to be replaced. He noted Country Club Lane, Mecklenburg Avenue, Belvedere Avenue, and Club Road culverts are maintained.

Statement: A resident stated that the culvert at Mecklenburg Avenue is half silted in and should be replaced.

Response: Brad Ross responded that he was not aware that the culvert is silted in.

Response: Matthew Anderson stated that the City and The Isaacs Group analyzed the culverts at full capacity for the planning and design. He stated all culverts require maintenance as debris and silt can accumulate at the culvert. He stated the City maintains culverts within the right-of-way.

Brad Ross continued to explain the Recommended Design Alternative. He stated the reduced flow in the channels leads to reduced flooding and reduced water surface elevations in the channels and storm drainage systems allowing for the systems to function better.

Brad Ross continued discussing the Recommended Design Alternative and focused on areas of proposed improvements. He noted Masonic Drive is located at the downstream end of the project near Briar Creek. He stated the existing 8'x5' dual reinforced concrete box culverts function and meet City standard when considering the attenuation at Cramer Pond. He stated the Chatham project was analyzed without impact from Briar Creek.

Question: Is there any impact on the project from Briar Creek?

Response: Matthew Anderson stated there is a regulated floodplain at Briar Creek. then referred to Brad Ross for further explanation.

Response: Brad Ross stated the project was analyzed without impact from Briar Creek and the regulated floodplain. He explained the project timing and the peak for the project will be out through the confluence with Briar Creek before the peak of Briar Creek reaches the confluence with the Chatham project. He stated that the area at Masonic Drive sees greater impact and flooding issues from Briar Creek than the Chatham project. He stated the Recommended Design Alternative improvements do not increase water surface elevations around Masonic Drive and conditions in the Masonic Drive area and near Briar Creek are no worse than existing conditions.

Brad Ross pointed out areas of proposed channel work to address erosion issues along Masonic Channel. He stated there are three areas and pointed them out on the exhibits.

Brad Ross reviewed that the culvert at Belvedere Avenue meets City standard and is functioning and is to be maintained. He stated the endwalls are in need of repair and are proposed to be replaced. He pointed out the storm drainage system at Belvedere Avenue sag location is to be replaced and upsized and tied

to the downstream endwall.

Brad Ross discussed System Segment 4 replacing, upsizing and re-aligning the system on Belvedere Avenue. He stated inlets are to be added and the system is re-aligned to the center of the road to avoid utilities. He stated and pointed out on the exhibit System Segment 29 is to be tied to system Segment 4 near the Chatham Avenue and Belvedere Avenue intersection. He stated this removes and re-directs some flow from the channel at Chatham Avenue. He stated removing an amount of flow from the channel helped maintain existing culverts at Club Road and Belvedere Avenue.

Question: Are there existing pipes along this road?

Response: Brad Ross responded yes. He pointed out the location of the existing system on the exhibit.

Question: What is an inlet?

Response: Brad Ross stated an inlet is where storm water is collected such as a catch basin on the side of the road or a drop inlet.

Response: Matthew Anderson stated the grates you see along roads are called catch basins.

Question: Why are inlets or catch basins proposed to be added?

Response: Brad Ross stated inlets are proposed to address locations where ponding along roads have been identified, so that, these flooding locations are addressed.

Brad Ross explained the improvements discussion would be moving to the channel to the east that crosses Mecklenburg Avenue and Country Club Lane. He noted the culvert at Mecklenburg Avenue is to be maintained. He stated erosion on the channel upstream of Mecklenburg Avenue has been identified and is proposed to be addressed.

Question: Does the blue line represent channel improvements?

Response: Brad Ross replied yes.

Question: What work is proposed at the channel?

Response: Brad Ross stated the channel banks could be sloped back flatter from the toe of bank to top of bank or some type of retaining wall could be proposed. He stated the improvements will be finalized in design.

Brad Ross discussed the proposed improvements for the existing system going east on Mecklenburg Avenue. He stated the system is upsized for the additional flow that is captured with proposed storm drainage system in the rear yard at 2331 Mecklenburg Avenue.

Brad Ross discussed the culvert crossing at Country Club Lane. He stated the existing culvert is maintained and is helped by the storage provided by Cramer Pond. He stated a conservation easement is proposed to be obtained to preserve the area of the pond.

Brad Ross discussed the proposed improvements to storm drainage system on Brook Road and Fort Street. He noted these storm drainage improvements are to address flooding issues in this area of Brook Road.

Brad Ross stated the summary would now be moving back to Belvedere Avenue culvert crossing and the channel system that goes to the west. He pointed out the culverts on Club Road are to be maintained and meet the City Standard. He indicated the culverts function is helped by the reduced flow in the channel from the upstream diversion and Cramer Pond storage.

Brad Ross discussed the Chatham Avenue culvert crossing. He stated the existing arch culvert is inadequate and is not functioning as intended and is proposed to be replaced with an 8'x4.5' 3-sided reinforced concrete box culvert. He explained this culvert type allows for a natural channel bottom through the culvert that helps maintain the natural feature of the channel or creek.

Question: Why is a natural channel bottom important?

Response: Brad Ross pointed out a natural channel bottom will allow wildlife passage through the culvert much easier than a pipe or a culvert with a hard bottom. He pointed out the permitting agencies look favorable on this type of culvert.

Brad Ross continued and noted the proposed culvert size should allow for a cleaner replacement of the existing culvert during construction.

Question: On the exhibit what are the green squares representing?

Response: Brad Ross stated the green squares are catch basins that are meeting the City standards.

Brad Ross continued discussing the culvert crossing. He stated the house at 2200 Chatham Avenue will see a reduction in flooding, but, flooding has not been eliminated due to the low finished floor and garage elevations relative to the channel. He stated a catch basin is proposed to be added near the driveway at 2200 Chatham Avenue to intercept storm water runoff from the road before it

enters the driveway and drains toward the house.

Brad Ross reviewed the proposed storm drainage improvements at Winter Street. He explained that the existing 36" RCP is to be maintained and supplemented with a new system. A 6'x3' reinforced concrete box culvert is proposed to carry the higher flow storm events while the existing pipe carries the main flow. He explained additional inlets are to be added to address flooding on Winter Street.

Brad Ross explained the storm drainage system at Midwood Park is proposed to be replaced, upsized and re-aligned to remove the storm drainage system from private property and address flooding issues in Midwood Park from overland flow. He stated the existing system is to be maintained for local drainage. He stated additional inlets are proposed to be added in Midwood Park to intercept the overland flow before reaching the Amphitheater. He explained the storm drainage system on Chambwood Drive is proposed to be connected to the Midwood Park system to redirect storm water from private property. He indicated additional storm drainage pipes and inlets are proposed on Chambwood Drive to address road flooding such that City standards are met.

Brad Ross continued the Recommended Design Alternative summary with an explanation of the proposed system improvement on Norcross Place. He stated the system is proposed to be upsized and re-aligned to the road with the existing system on private property to remain for local drainage. He indicated additional inlets are proposed to address road flooding and meet City standards. He pointed out the existing system upstream of Norcross Place is to remain as the system was part of a City project in the mid 1980's and the pipes are in good condition. He stated overland flow in this area has been reported and modeled. He stated an analysis has been completed and the results showed no house is impacted from the overland flow.

Brad Ross completed the summary of the Recommended Design Alternative and handed over the presentation to Matthew Anderson.

12. Matthew Anderson discussed the next steps and path forward of the project. He stated any information discussed or obtained from this meeting will be considered and incorporated where applicable. He stated the Recommended Design Alternative will be finalized then move into the Design Phase. He stated the Design Phase should begin in the next couple of months and may take 4-5 months to complete and then there will be another public meeting to discuss the design and construction plans once plans are at 70%.

He explained that 401/404 permitting will take place during the design phase and approvals are needed from the State and Corp of Engineers to complete the work. Mathew Anderson pointed out that once the design is completed



Easement Acquisition will begin. He stated property owners where easements are needed will be contacted by the City to discuss.

Question: What do you mean by easements?

Response: Matthew Anderson explained there are many different types of easements that a property owner may be asked to donate, such as, storm drainage easement, temporary construction easement, utility easement, and others. He stated these easements give the City permission to be on a property to construct the proposed improvements shown on construction plans.

Matthew Anderson continued and reviewed the steps of the design phase and the various components of the construction plans. He indicated that once Construction Plans are finalized, and easements are obtained the project will be placed out for bid. He stated the lowest qualified contractor will be award the project then construction phase begins.

13. Mathew Anderson asked whether anyone had any general question about the Chatham Storm Drainage Improvement Project before breaking into to discussion groups for property specific questions.

Question: I have heard discussed and was informed from someone with the City that neighbors should voice their concern regarding property development where new houses and garages cover more of a property as we are seeing around here. Who regulates this? Who controls the rules?

Response: Matthew Anderson stated that for a new development the City has standards in place that must be met, but he is not aware of guidelines for re-development.

Question: How long will this take?

Response: Matthew Anderson indicated that design could possibly begin in January and take 4-5 months to complete to 70% design plans then the next public meeting will be held. He stated the next step will be the construction plans along with specifications and a cost estimate. The plans will be finalized, and the project will be ready for bid. He communicated bid process will take several months and the lowest qualified contractor/bidder will be awarded the project. He indicated the length of time to complete the project varies and is project specific.

14. Matthew Anderson explained that for anyone with specific property questions we were now going to divide into two groups. He stated Brad Ross will be fielding questions from those located along Masonic Drive and Masonic Channel up through Belvedere Avenue along the channel to Mecklenburg Avenue then up

to Country Club Lane and Cramer Pond area. He stated he would be fielding questions from those located from Belvedere Avenue through Club Road, Chatham Avenue, Winter Street, Midwood Park, Chambwood Drive, and Norcross Place. Matthew Anderson thanked the attendees for coming and we appreciated their input.