

Background of flooding in the Central Arlington Heights (CAH) area

- The flooding problem in the CAH area is the same problem experienced in many older neighborhoods across the CFW and other cities nationwide
- Before the city started to develop, the area was drained by natural creeks and swales that took stormwater runoff to the trinity river
- As the area began to develop, to make it easier to build, many natural creeks and swales were converted into storm drain pipes and then structures we built on top of and around the drainage pipes
- The map on the slide shows plans from 1924 – you can see the natural creek in blue and the new proposed drainage pipe in red to convey the water instead of the creek
- The problem is that often times, the drainage pipes that were constructed weren't large enough to convey all of the stormwater runoff
- There are probably several reasons why this is
 - Different standards and expectations back then?
 - Did not anticipate future development and the amount of impervious surface we have today?
 - People's lifestyles may have been less vulnerable to flood damage?
 - Climate change?
- The flooding in the AH area has been going on for many years and was identified in the City's 1967 Drainage Master Plan
- So while we have been keeping pretty good track of reported flooding in this area since 2004, clearly there was significant past flooding in the area to be identified in the City 1967 plan

Drainage Basin Map

- This map shows the 3 drainage areas that make up the AH community- western, central and eastern AH
- Each area drains from the north west to the south east into the trinity river through systems mainly comprised of undersized storm drain pipes
- The blue areas on the map represent the approximate flood risk areas along the red drainage pipes
- The darker the area, the deeper the flood risk- the photos show some of the past flooding in the green circled area, which is the area we sometimes call "ground zero" due to the high number of reported flooding incidents in this general area. This area is the focus of tonight's meeting
- To mitigate the flooding throughout Arlington Heights, we have to get the water to the Trinity, which isn't easy due to the highways, railroad, fully developed area

What has been done

- There was a very large flood event in 2004 which actually helped form the CFW Stormwater Utility
- The rain event created significant flooding in the CAH area and since that time, the CFW has been working with various consulting companies, Freese and Nichols mainly who is on the call today, to understand the flood risk and evaluate ways to mitigate it.
- We have invested over \$1 million evaluating flood risk in the CAH area doing benchmarking of what other communities have done to mitigate similar types of flooding, have held multiple

public and community work group meetings, all working toward identifying an effective, affordable, and acceptable flood mitigation measure without moving the flooding to another area

- The affordable measures identified only provide a small amount of relief in the most frequent rain events – and basically nothing for the 100 year event
- The concepts on the screen show a couple types of measures we have looked at which range from storm drain improvements, tunneling, surface and underground detention, property buyout of varying numbers of homes to more greener methods such as bioswales and rain barrels

What has been done, continued

- Based on what was evaluated, the city has undertaken several projects to mitigate flooding as much as practically feasible
- Between 2012 and 2016 we designed and constructed
 - Surface detention at Hulen and Bryce across from the Walgreens by purchasing 3 commercial lots (this was an idea that came from a community member)
 - Under street detention on Bryce, Western, and Ashland
 - Together these provide roughly 5.5 acre feet of detention storage
 - To help explain how much 5.5 acre feet of stormwater storage is, 5.5 acre-feet would equate to about 12 CAH sized lots with the ability to detain stormwater to 2' deep. So that's a little over ½ a block on one side of the street holding 2' of water.
 - Another way to understand an acre-foot is that a football field is a little over an acre so 1 acre-foot is roughly equivalent to 1 foot of water across a football field.
 - In this case, the detention we have created so far would be equal to around 5 and a half feet of water covering a football field.
- The detention we have constructed only provides a small measure of flood relief in the most frequent events but we have been told by residents living downstream of them that it does make a difference
- For comparison purposes, our engineer determined that roughly 130 acre-feet of storage would be needed to mitigate the 100 year event which is roughly 60 residential properties converted into 4 multi-use detention basins roughly 15 feet deep between Bryce and Pershing
- Or using the football field analogy again, 130 acre feet would be a football field covered with water roughly 130 feet deep

Flooding continues

- After the construction of the basin and underground detention, the June 27, 2016 rain event dropped roughly 3" in 1 hour in the CAH area which is roughly a 25 year storm, or a storm that has a 4% chance of happening any given year in any given location
- Even with the basin and under street detention in place, significant home flooding still happened as shown in the photo on Western avenue

Conclusion of engineering evaluations

- After over 12 years of intensive evaluation the city determined that there isn't an effective, affordable and acceptable solution to mitigate the CAH flooding
- Out of all the measures evaluated, property acquisition was identified as the only effective and affordable solution but that it did not meet the goal of community consensus and acceptability

- The city felt that voluntary buyout would provide relief to residents most at risk and that the flood risk was urgent enough to move forward without community consensus
- Voluntary buyout provides 100% flood mitigation for the properties acquired and gives the City the potential to provide for stormwater detention to mitigate risk to residents downstream
- However, as mentioned earlier, due to the amount of stormwater runoff, a few lots can only provide a small amount of additional protection
- The detention could also serve as a green recreational area for the community
- City began applying for grant funding for voluntary buyout in 2017- applied for several grants and received one from FEMA in 2018
- A public meeting was held in October 2018 to discuss the city's plan to move forward with voluntary buyout and greenspace/detention development
- Due to community concerns expressed pursuant to that meeting, the City decided to pursue selling the properties we acquired through voluntary acquisition for redevelopment instead of creating a greenspace and detention basin

Property acquisition status

- After the October 2018 public meeting, the city began the process to acquire property with the main purpose to mitigate risk to the most floodprone homes (ground zero)
- Again the buyout itself will do nothing to mitigate flood risk to other residents- only detention created on these properties could provide just a small amount of mitigation
- 9 properties on western and Carleton were acquired between the summer of 2019 to the summer of 2020 at a cost of \$3.8M
- The map shows the 9 properties in blue along with the 100 year event flood risk, which has a 26% chance of occurring over a 30 year mortgage
- The 2 green hatched properties on Western are the properties that we are acquiring with grant funding
- City council will be asked to approve the purchase of these 2 homes on May 24
- The grant covers \$550k out of a total acquisition cost of \$667k for these 2 properties
- The grant stipulates that the structures be demolished within 90 days of closing
- and the property remain greenspace in perpetuity since the purpose of the grant is to mitigate continued claims on the National flood insurance program and restore natural floodplain functions to property that shouldn't have been developed

Notice of Sale (NOS)

- As mentioned earlier, based on the community's concern about the creation of a greenspace and detention basin out of the property we voluntarily acquire, we have been working on developing a Notice of Sale to sell these properties to a developer for redevelopment that complies with very specific guidelines and conditions
- We are planning to finalize the NOS in June and issue it this summer after considering feedback from the residents on Western and Carleton closest to these properties
- We plan to issue the NOS for 60 days to ensure developers have enough time to think about this project since it isn't cookie cutter
- While the NOS is open, we will have a pre-bid meeting and an opportunity for developers to visit the properties to help them better put together their proposal
- We are planning to share the NOS with the FW development community and over 100 historic preservation community contacts in the hopes of identifying a viable bidder

- We will also seek input from local residential real estate professionals on the best way to get the word out about this opportunity.
- While the city will reserve the right to reject any bidder, the purpose is to ID a viable bidder and if so, the hope is to complete the sale of the property by the end of the year
- However, if we don't ID a viable bidder, the city would fall back to creating the greenspace and detention concept that we originally planned to construct and work closely with the community on the design of this area

Notice of Sale key features

- After tonight's meeting, I'll send out a link to the recording and the draft NOS documents but I want to highlight a few of the key points in the NOS tonight
- Must buy all 9 properties- since this project is very unique and complex, we want 1 developer to coordinate with- we do not want to sell each lot to an individual developer/resident or sell the lots from Carleton separate from Western- we really want to ensure a coordinated approach to the redevelopment.
- We have received requests from community reps that we allow sales to multiple developers.
- It's already going to be a challenging process to manage effectively and that will be multiplied with multiple developers which is why we are selling all 9 properties together
- The 2 FEMA Grant funded properties will stay green and City-owned
 - FEMA doesn't allow the properties to be sold -per Federal code, they have to remain owned by a public entity or a qualified conservation organization
- However, they could be incorporated into yards of adjacent future property owners and be maintained by these residents vs the city
- Best value method to select the developer- will discuss this in more detail in a couple more slides
- The NOS will stipulate a minimum acceptable bid price
 - An appraisal will be done to determine the value of the property taking into account the restrictions being imposed on the developer
 - We expect the value of the properties to be much less than what the city purchased for them.
 - The city's appraisal was done to make the property owner whole and did not take the flood risk into account while this appraisal will take the risk into account
 - The restrictions that will be placed on the property will also reduce the profitability of the redevelopment to prospective bidders
- A developer must complete all redevelopment within 30 months of closing
- If developer fails to meet conditions City has option to buy properties back
- New or elevated homes must be 2' above flood level & comply with other Stormwater regulations
 - Elevating or flood-proofing at least 2' above the flood risk is a CFW requirement for all development in all flood prone areas
- Based on the flood level and 2' requirement, if the existing homes are elevated, they will be ~3' to 4.5' higher than current finished floor elevation
- Explain photos – line shows the new FFE- bottom photo shows what a future home could look like elevated
- Ultimate purchasers must sign a statement acknowledging the remaining flood risk- we really want to make sure that future owners or renters know that the properties are flood prone since the past residents did not know this when purchasing these properties- we don't want anyone to be surprised that even though the homes are elevated, the properties will continue to flood- cars, landscaping, garages/sheds will flood, fences knocked down....will continue

- Must *protect* downstream and adjacent properties during redevelopment- I'll cover this more in a couple slides

Redevelopment guidelines

- Based on the feedback we received from AH leadership and residents, we put together guidelines for redevelopment of the homes modeled after the historic Fairmount guidelines
 - New structure should harmonize with existing structures
 - Guidelines for height and width, setbacks, building form, site configuration, materials, etc.
- Developer's plans will be reviewed for compliance with guidelines and conformance will all CFW development standards prior to issuance of a building permit
- Concepts on the slide show the look and feel the guidelines are trying to accomplish – such as that we want the new homes to maintain a similar building line and garages should be placed at the back of the properties
- The restrictions in the NOS are the only requirements being placed on the bidders relative to the final product that are above and beyond existing City requirements and are all based on input from the community.

Consideration of adjacent/downstream properties

- As mentioned earlier, the developer Must protect downstream and adjacent properties during redevelopment
- They will need to demonstrate they aren't aggravating the existing flood risk and the city will be reviewing both the ultimate and interim development plans for compliance with city standards- we typically don't ask for or review interim development plans but due to the risk in this area, we want to make sure the risk is considered during the development process
- The developer will be required to maintain the existing fencing around the sides and backs of the properties since the fences really control the flow of the stormwater in this area – removing them could increase flood risk to others
- If the developer maintains the flow paths around the homes, maintains or offsets new impervious cover, and doesn't significantly change the grading they can develop in a way that doesn't aggravate flooding to others
- I will note that we have been asked about could we require a developer to add larger pipes, detention, bio-swales on these properties as part of the development- as mentioned earlier due to the significant amount of stormwater running through these areas, these things won't have any meaningful benefit which is why we aren't requiring them

Selection Process

- As mentioned earlier, the city is using a best value selection to select the bidder we want to work with
- This means that we are considering other factors besides price when reviewing the bids
- The best value bidder is the one who gets the most points
- Points will be awarded based on a 100 point system and given for
 - Highest bid
 - Elevation of 4 of the more significant homes shown on the screen since resident feedback has indicated a preference for these existing homes to be elevated instead of a new build

- Addressing Community preferences- tree preservation, bio-swales, permeable pavement, rain barrels, elevation according to secretary of the interior historic standards
- A community group will evaluate the bids based on the community preferences the developer is willing to accommodate and rank each bid from poor to exceptional and the city will assign points based on the community score
- We will work with the AH leadership to ensure that the majority of the group that is scoring lives on the blocks of western and Carleton where the project is located

Open Space Use Plan

- FEMA requires the city to perform historic mitigation for the demolition of these 2 homes shown on the slide
 - *Most of the homes were built in the 20s-30s*
 - *Due to the age of the homes purchased with grant funding (built in 1923) and their contribution to the historic character of the neighborhood,*
- Part of the mitigation is to create an OS use plan for how the properties will be used/maintained after purchase and demolition while complying with FEMA guidelines for allowable uses
- In general, there is very little that can be done with the properties other than just keep them undeveloped and not change anything that could make flooding worse.
- The draft plan we have created for community review and feedback is based on the feedback received in the past from the community about these buyout properties
 - Not a community gathering area
 - Doesn't attract unwanted uses
 - Potential future use by adjacent residents
- We want to get resident feedback on the OS use plan tonight and within the next week so we can consider that feedback and then begin the historic consultation process working toward finalizing the plan
- The groups on the screen are part of the historic consultation process, which includes a representative from the NA

Current

- This photo shows what the properties look like today with the 2 being acquired by grant funding being on both sides of the slide

Proposed future

- This illustration shows what the properties would look like after the 2 grant funded structures are demolished and the home between and on either side of them remain.
- As you can see the homes and impervious surfaces are removed
- Sprinklers and turf grass will be added
- The existing trees will be saved if possible
- The back and side fencing will remain
- The city will mow, water and maintain them appropriate for a residential neighborhood
- And as mentioned earlier, in the future, the properties could potentially be used and maintained by residents on either side of them as long as they comply with FEMA guidance approved uses- play space, gardening, outdoor furniture

Not allowed uses would be buildings, paved parking.