Roll Call Number

Agenda Item Number
45

March 11, 2019
Date

Receive and file the "After Action Flash Flood Report, 2018"

Moved by _____ to receive and file.

COUNCIL ACTION	YEAS	NAYS	PASS	ABSENT
COWNIE				
BOESEN				
COLEMAN				
GATTO				
GRAY				
MANDELBAUM				
WESTERGAARD				
TOTAL				

MOTION CARRIED APPROVED

_____ Mayor

CERTIFICATE

I, DIANE RAUH, City Clerk of said City hereby certify that at a meeting of the City Council of said City of Des Moines, held on the above date, among other proceedings the above was adopted.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal the day and year first above written.

_____ City Clerk

AFTER ACTION

FLASH FLOOD REPORT 2018

EXECUTIVE SUMMARY

On June 30, 2018 at approximately 2:30 p.m. the National Weather Service issued a flash flood watch for portions of central Iowa with information that indicated heavy flooding rains were possible late in the afternoon and overnight. During the early evening hours, the Des Moines metropolitan area received an historic amount of rainfall over a relatively short period of time, particularly in areas north of Des Moines. The National Weather Service issued a Flash Flood Emergency for the Des Moines metro area at 9:30 p.m. CDT as widespread and severe flash flooding was ongoing in Polk and Dallas Counties. The intense rain caused flashing flooding of Walnut Creek, low lying areas, and streets initially in the northwest and north central areas of the City, and then later in the Four Mile Creek area on the east side of Des Moines. The Des Moines Communication Center received multiple requests for water related rescues and public assistance. (The attached After-Action Report from the Fire Department lists the water related rescues and public assistant in more detail).

The flash flood also caused stormwater backups across the City. Approximately 1,825 properties were damaged from either the stormwater backup or the flash flooding itself. Of those damaged properties, 27 were destroyed, 76 had major damage, 616 had minor damage and the remaining 1,130 were affected by the flooding.

At the July 16, 2018 Special City Council meeting, Council authorized the City Manager to designate funding and execute necessary agreements to establish a loan program for flood damaged one and two-family residential structures that were impacted by flash flooding events during the month of June 2018.

At the Council meeting of August 6, 2018 residents who were impacted by the flash flood requested to speak regarding the damage to their homes. Due to the number of properties that had been damaged from the flash flood and residents' concerns, City Manager Scott Sanders recommended that several subcommittees be formed to assist the citizen's concerns.

Those subcommittees that were identified included:

- Communications
- Debris Management
- Infrastructure/CIP
- Insurance

Mayor Cownie also requested that the Des Moines Citizen's Taskforce on Sustainability meet and draft recommendations for the city's ongoing work of flood mitigation and preparedness.

A flash flood community debriefing public meeting was held on September 4, 2018 to allow citizens to sign up for the subcommittees and to establish the first committee meeting dates.

Approximately 50 people were in attendance and several citizens volunteered to serve on the subcommittees. Following are the results and recommendations of the five committees along with referenced attachments in the appendices.

The recommendations for the five subcommittees were presented to the City Council at their January 7, 2019 Work Session. The recommendations and next steps from each subcommittee are listed below. Further details of the subcommittees are highlighted in the report.

COMMUNICATIONS SUBCOMMITTEE RECOMMENDATIONS:

- Establish an emergency response plan and review it annually with the public and essential parties.
- Encourage participation in severe weather awareness week
- Work with the business community to assist in distributing information (to both their employees and customers)
    - Greater Des Moines Partnership
    - Chamber of Commerce
- Each communication avenue/city department delivering information is informed and updated with each stage of the emergency.
- Keep neighborhood associations informed of the plan for emergency communication annually
- Establish a joint information website hosted by Polk County Emergency Management
    - lifespan of the information is important to keep in mind
    - everyone having access to update this site

Next Steps:

1. Conduct bi-annual meetings on the City's emergency communication plan
2. Work with partners on getting information out during Severe Weather Awareness Week

DEBRIS MANAGEMENT SUBCOMMITTEE RECOMMENDATIONS:

- Develop early, consistent messaging regarding debris pick up
- Integrate data from Polk Co. Emergency Management, Public Works, Engineering and Neighborhood Inspections into a comprehensive GIS map to facilitate routing of debris pick up
- Have GIS working the same hours as Public Works and Neighborhood Inspections to ensure map is updated in real time
- Have designated debris drop sites identified as part of debris management plan
- Coordinate debris drop sites with IDNR to ensure necessary permits are obtained in a timely manner
- Consider furnishing "Bagster" type containers to residents to assist in debris removal

Next Steps:

1. Identify sites for dumpsters and work with IDNR on permitting
2. Follow up with Polk County Emergency Management on Code Red alerts
3. Formalize a system of curbside pickup coupled with requested damage inspections

INFRASTRUCTURE/CIP SUBCOMMITTEE RECOMMENDATIONS:

To ensure that pending and future stormwater projects and any stormwater issues are funded and completed in a timely manner, the committee offers the following proposal for consideration and action:

- Regarding potential 1 cent sales tax increase:
  - Commit and set aside 3% of any additional income (beyond that required for property tax relief) to be used as needed to complete pending and future stormwater projects city-wide and to address any storm water issues.
- Regarding anticipated increase in Polk County assessed valuation:
  - Commit and set aside 2% of any additional tax income from Des Moines property to be used as needed to complete pending and future projects city-wide and help address any stormwater issues.
- By June 30, 2021, secure an independent study and assessment of stormwater issues city wide. Create a master plan, in a timely manner, to address identified needs. Work with neighboring cities to fully complete the master plan.
- Support City Staff recommendations:
  - Encourage residents to utilize all options available to them (i.e. rain gardens, rain barrels, etc.) to protect against future potential stormwater damage.
  - Require new construction projects, residential or commercial, to meet environmental and stormwater mitigation standards as determined by City staff.
- Develop a procedure for informing all new staff and council members of ongoing and pending projects approved by the council to ensure oversight and completion and keep residents informed regarding delays or changes.

Next Steps:

1. Amendment to the City of Des Moines Municipal Code Chapter 50 – Flood Plains
2. RFP for a Consultant for City Wide Master Plan for Storm Water
3. Add to the FY 2020 budget, a transfer from the sales tax revenues, if passed, to the Storm Water Utility
4. Ordinance needed to permit a 100% cost share in select watersheds targeted for small watersheds

INSURANCE SUBCOMMITTEE RECOMMENDATIONS:

- Educate the community about flood zones, flood insurance, and best practices.
- Distribute education in multiple formats.
- Provide education prior to the flood season.
- Encourage property owners to communicate with their insurance agents.
- Encourage prospective buyers and real estate agents to check flood zones.
- Lower flood insurance premiums by increasing the City's Community Rating System score.

Next Steps:

1. Amend Municipal Code Chapter 50 adopting new polices resulting in decreased flood insurance rates.
2. Educate citizens, business owners, and real estate agents about flood hazard areas and flood insurance.
3. Review and update educational materials annually

DES MOINES CITIZEN'S TASKFORCE ON SUSTAINABILITY RECOMMENDATIONS:

- Create a Citizen's Toolkit for Flood Prevention and Preparedness
- Complete a Climate Action Plan with concrete strategies for reducing greenhouse gas emissions and building resilience in the face of future extreme weather events.
- Increase city staffing and budget to complete the Climate Action Plan and implement sustainability and resilience strategies.
- Engage stakeholders throughout the Des Moines and Raccoon River watersheds to address flood mitigation, prevention, and resilience.

Next Steps:

1. Develop a "comprehensive flood mitigation and prevention plan" as outlined in Plan DSM (PIU39), including green infrastructure, urban forest master plan, etc.
2. Create a Citizen's Toolkit for Flood Prevention and Preparedness
3. Complete a Climate Action Plan with concrete strategies for reducing greenhouse gas emissions and building resilience in the face of future extreme weather events.
4. Increase city staffing and budget to complete the Climate Action Plan and implement sustainability and resilience strategies.
5. Engage stakeholders throughout the Des Moines and Raccoon River watersheds to address flood mitigation, prevention, and resilience

ATTACHMENTS

- Des Moines Fire Department After Action Report
- Storm Water Improvements CIP 2019-2020/2025-25
- Des Moines City Council January 7th, 2019 Work Session Flood Report PowerPoint
- Polk County Emergency Management After Action Report and Improvement Plan

COMMUNICATIONS

The goal of the communication subcommittee was to review communication efforts surrounding the flash flood, identify challenges, note solutions and draft a recommendation to the Des Moines City Council. Des Moines city staff worked alongside interested residents to address aforementioned communication matters. The committee met on September 18th, October 16th, November 15th and had a one-week online review.

During the first committee meeting, the subcommittee recapped the flash flood and communications throughout the event. Three main challenges were quickly accessed:

1. Residents were misinformed/uninformed
2. Residents didn't know where to go for information
3. Residents didn't know when to seek which pieces of information

As a result, the committee developed a crisis timeline identifying stages of an emergency event, foci during each stage, information/ communication areas per event and locations where the information should be available. The committee wrapped up with overall recommendations for improving the process to ensure the City's crisis communication process is clearly understood and best assist residents.

Below is a recap of the progress outlined per stage of the event:

Pre- Event

Before an actual emergency is known, predicted or in progress (no imminent danger)

Disseminate information of the proper process and locations to find information

During Event

When one's life or safety is at risk (something or someone is being actively damaged)

First priority is for emergency service actions to stabilize the incident.

The committee determined it would be best to provide emergency information via mobile, online and in person communication through the following avenues:

- Public Works 24-hour call center (Recording)
- National Weather Service
- Weather Alert
- Wireless Emergency Alert (WEA) - mobile system
- Code Red
- 9-1-1
- Media Alerts
- City's website - Online
- Neighbors
- 2-1-1

- Schools* (if event happens during school year)

POST EVENT

When persons or property are out of imminent danger.

Focus on property conservation, damage assessment and debris management.

During this stage of the emergency, residents would like to receive information digitally, in person, and by way of partner organizations via the following communication avenues:

- Public Works 24-hour customer service number
- Email
- Phone
- Social media
- 2-1-1
- Press Releases
- Media Outlets
- Website
- Neighbors
- Social Services
- Designated shelter

RECOVERY

After persons or property are out of imminent danger, priorities shift to sustaining safety while continuing assistance where needed (cleanup efforts, shelter, damage assessment etc.)

Residents would like to receive information in the recovery stage through the following communication avenues:

- Public Works 24-hour call center
- Metro Waste Authority website
- City of Des Moines website
- Social Media
- Press Releases
- Neighborhood Associations
- Shelter
- Social Services
- Media
- Faith Based Organizations
- Large businesses assist with sharing information (to employees and patrons)

COMMUNICATIONS SUBCOMMITTEE RECOMMENDATIONS:

- Establish an emergency response plan and review it annually with the public and essential parties.
  (See Polk Co. After Action Report, Improvement Item 1.28, page 36)
- Encourage participation in severe weather awareness week
- Work with the business community to assist in distributing information (to both their employees and customers)
  - Greater Des Moines Partnership
  - Chamber of Commerce
- Each communication avenue/city department delivering information is informed and updated with each stage of the emergency.
- Keep neighborhood associations informed of the plan for emergency communication annually
- Establish a joint information website hosted by Polk County Emergency Management
  (See Polk Co. After Action Report, Improvement Item 1.19, page 33 and Improvement Item 1.21, page 34)
  - lifespan of the information is important to keep in mind
  - everyone having access to update this site

NEXT STEPS:

1. Conduct bi-annual meetings on the City's emergency communication plan
2. Work with partners on getting information out during Severe Weather Awareness Week

DEBRIS MANAGEMENT

The goal of the debris management subcommittee was to examine the policies, procedures, and outcomes of the debris removal operation and make recommendations for improving the outcome of future iterations of this sort of undertaking.

At the Debris Management Subcommittee meeting of September 13, 2018, two residents, Kathy Simpson, 2517 47th St. And Jami Smith, 2508 47th St. were in attendance along with staff from Public Works and Polk County Emergency Management and discussed several areas:

FEMA

- Polk County explained thresholds for FEMA assistance.
    - For private property assistance, we went into our ask knowing we were below the threshold. FEMA gave us a "no," but Gov. Reynolds sent an appeal late last week which FEMA is reviewing.
    - Public property assistance was granted, which we blew past the threshold for. Assistance covered sandbagging and debris removal for roads, bridges and other public infrastructure.
- Resident Kathy Simpson remembered receiving assistance in 2008 when the whole state was impacted by flooding. Polk County explained that disaster events in Iowa City, Parkersburg and Des Moines were rolled into a single disaster, making it easier than now to reach the private property assistance threshold.
- Polk County explained FEMA would not likely provide assistance for curbside debris pickup provided to residents since the curb is considered private property. Curbside debris removal was most expensive cost of the June 30 flash flood event. FEMA would be more likely to provide assistance for debris drop-off operations.
    - Resident Simpson recommended developing a disaster contingency fund to address situations where FEMA is unlikely to provide assistance. Start saving now to enable more flexibility to assist residents during next weather disaster.
- Polk County explained vegetation debris plan was developed 6 or 7 years ago. Before the current plan, every city was doing something differently and causing problems for residents along city borders. Capital Crossroads helped create a more consistent plan for all cities in Polk County.
    - If we routinely pick up vegetation debris from private property after every wind event, FEMA won't likely provide assistance when there's a disaster. Plan focuses on removing vegetation from right-of-way public infrastructure.
    - Capital Crossroads discussion included, "You planted it, you fertilize it, you maintain it. That responsibility doesn't end when it falls."
    - Curbside assistance is only an option in higher-end damage disasters. In this event, it was difficult to evaluate damage because of no external signs of internal private property damage.

OPERATIONS TIMELINE

- Prior to the storm the National Weather Service forecast had only predicted two inches of rain and did not anticipate the storm to "stall out and dump" over the Des Moines area.
- On Saturday night, June 30th around 8 or 9 p.m. - it started raining intensely.
    - Per the current emergency response plan, Public Works started its response to the weather by barricading Four Mile and Walnut Creek; places that have historically flooded.
        - Resident Simpson commented that we now have knowledge of a second layer of concern areas, beyond those located along waterways. i.e. Beaverdale and also asked why this keeps happening after looking at 2008 and other flood events.
    - Calls from Police and Fire started coming in to Public Works to report flooding in places where it's not normally seen. Those calls continued into Sunday.
- On Monday morning, July 2nd, first time debris removal was discussed after the water had receded enough. The emergency response plan was consulted to determine what level of response was afforded to assist residents.
    - At first evaluation, it was determined that damage to the Four Mile neighborhood was bad and that Walnut Creek was not as bad. Public Works had not been made aware of all the issues in the Beaverdale neighborhood at this point.
    - Damage inside homes could not be seen from the outside, so the full scope of damage was not known.
    - Debris drop-off sites were established without consulting the Iowa Department of Natural Resources (IDNR) for a permit. IDNR worked quickly to secure permits after sites were established. Public Works will work with IDNR prior to site selection in the future.
        - Residents Smith and Simpson explained their initial reaction to being told about debris drop-off sites:
            - "I didn't flood because I did anything wrong." The city was to blame. City told residents 15 years ago that the sewer system would be expanded, but that hasn't happened. "You damn city, you did it to me again."
            - With their vehicles totaled by flood water and with the City's sewer system causing damage to their property, it was "egregious" to be told they were on their own for removing debris from their property. "Heads would have popped off" had curbside pickup not been implemented.
                - Public Works explained that the extent of damage was not known prior to curbside pickup activation.
- On Monday afternoon, additional damage reports started making their way to Public Works.
    - Damage report data came slow to Public Works from outside sources.
        - Public Works used information from inspectors to prioritize which residents needed debris removal assistance the most. It took an extra 24-48 hours to get this information, causing frustration internally and with residents.

        - Inspector information was sent to GIS first for mapping, which meant that Public Works saw a resident's request for assistance 24-48 hours after it was initially made.
        - Urgency from residents to clear debris stemmed from needing space to getting in and out of their properties.
    - After getting into areas besides Four Mile and Walnut Creek and conducting damage assessments, Public Works realized that dumpster drop-off sites weren't going to be enough to assist residents.
    - With full understanding of the extent of damage, curbside pickup operations started.
    - Drop-off sites quickly became overwhelmed.
        - Metro-wide demand for dumpsters limited dumpster availability.
        - High demand overwhelmed our third-party vendor, so drop-off sites were overloaded and not cleared as often as the City would have liked.
    - West Des Moines, Clive and Waukee offered to help debris cleanup operations.
      (See Polk Co. After Action Report, Improvement Item 1.20, page 33)

DEBRIS MANAGEMENT SUBCOMMITTEE RECOMMENDATIONS:

- Develop early, consistent messaging regarding debris pick up
  (See Polk Co. After Action Report, Improvement Item 1.22, page 34)
- Integrate data from Polk Co. Emergency Management, Public Works, Engineering and Neighborhood Inspections into a comprehensive GIS map to facilitate routing of debris pick up
- Have GIS working the same hours as Public Works and Neighborhood Inspections to ensure map is updated in real time
- Have designated debris drop sites identified as part of debris management plan
- Coordinate debris drop sites with IDNR to ensure necessary permits are obtained in a timely manner
- Consider furnishing "Bagster" type containers to residents to assist in debris removal

NEXT STEPS:

1. Identify sites for dumpsters and work with IDNR on permitting
2. Follow up with Polk County Emergency Management on Code Red alerts
3. Formalize system of curbside pickup coupled with requested damage inspections

INFRASTRUCTURE/CIP

The goal of the Infrastructure/ CIP committee was to examine the state of the City's Stormwater utility infrastructure, the plan for improving it and lessons learned from the recent experience. The Committee was made up of representatives from the public as well as City of Des Moines Staff.

Council Actions

Soon after the June 30, 2018 flood, the Council authorized up to $9,500,000 for a buyout program of homes that were affected by the storm that met certain criteria. As of this report, 99 total eligible property owners were notified of the flood buyout program. Of those, 21 owners declined participation or did not respond after receiving notice. 11 of those that did not respond are outside the floodplain. The City also received an approximate $1,000,000 from Polk County Conservation for buyouts as well. 78 properties have agreed to participate and all the offers have been accepted. 76 of those properties have closed and are proceeding to the demolition phase. Of the 76 properties moving to demolition, 55 have been awarded to demolition contractors.

The City is working with Polk County to transfer over a majority of the properties that are in flood plain to them. Of those, there are 49 properties in the Fourmile Flood Plain that will be used for the Lower Fourmile Greenway Masterplan.

In addition to the buyouts, the Council also authorized an approximate $25,000,000 to be used to expedite some of the projects that were outside of the 5-year Stormwater CIP as well as an approximate $3,000,000 per year for more localized flood concerns. (Please see "Storm Water Improvements" in the attachments)

To pay for the buyouts and expedited projects, the City Council took immediate action by adopting an ordinance increasing stormwater fees by 6% in FY19, 6% in FY20, 6% in FY21, 5% in FY22 and 3% in FY22. In total, funding for projects in the Stormwater Enterprise will have increased from the previous 10-years $ 88,000,000 to $ 134,750,000 projected over the next 5 years.

LARGE WATERSHEDS

The City of Des Moines has been working on improving its flood resiliency for decades. Located at the confluence of two major rivers, flooding is not a new experience for Des Moines. With 21 miles of levees protecting low-lying areas, there is a substantial investment in flood prevention along the rivers. Faced with more frequent and more intense rainstorms due to our changing climate, the City must upgrade our levees and accompanying storm water infrastructure, such as pump stations and pipe gates. This will come at a cost over the next five years of over $80 million.

One layer lower on the watershed scale that affect our residents are the major tributaries to the Des Moines River. Two of these bear special mention as targets for the next generation of flood control.

Fourmile Creek is presently the subject of extensive planning and work in the floodplain itself to buy out the properties affected by flooding and return the area to greenspace.

Work in the Beaver Creek watershed is expected to both clean the water as it leaves the watershed and enters the city but also to slow it down. As the only tributary upstream of the city but not behind the dam of Saylorville Reservoir, it poses the greatest risk of flash flood damage to the city on the upper reaches of the Des Moines River.

Drainage internal to the City is another layer of watersheds down yet from earlier descriptions. This is where the work of the storm water utility has traditionally focused. With watersheds a couple thousand acres in size, flood resilience projects have been working for decades across neighborhood boundaries. With familiar names like Closes Creek and Leetown Creekway, the City has been upgrading inadequate and antiquated infrastructure to handle larger and more frequent rainstorms and protect more homes from flash flooding. These kinds of projects have filled the pages of the Capital Improvements Program for years and consume millions of dollars of resources. The coming five years of work at this large watershed scale is almost $120 million.

Similar to the work of upgrading inadequate existing infrastructure, the City is in the waning stages of creating a separate stormwater system in older neighborhoods where there has been only a combined sewer system. Working under a consent decree with the federal government, the City has until 2023 to finish separating these areas at a cost of another $18 million in stormwater revenues.

SMALL WATERSHEDS

Many of the flood-damaged homes were in places far away from traditional low-lying floodplains. Located inside neighborhoods, these areas faced an incredible amount of inundation from rainfall in a very concentrated area. Much of the urban fabric of Des Moines was created long before modern approaches to managing stormwater were invented. For example, streets and houses were laid out on the north-south grid and land was forced to adjust. This land development pattern left no room for excessive quantities of stormwater to safely leave the neighborhood without damaging homes.

The flash flood event showed us where the concentrations of water did the most damage, at times in watersheds as small as 20 acres. Work is underway now to plan and design infrastructure to solve these problems and improve the resilience of our neighborhoods. With a customized and high-contact approach, each neighborhood will get a set of solutions tailored to the needs of the area.

An essential part of working at the small watershed scale is to work on as much private property as possible with green infrastructure. Infiltration and detention practices installed on private property alleviate the peak demand in storm sewers and help keep more water safely on site. Since about 2/3 of any given watershed is either rooftops or yards, it makes sense to do as much as possible on private property. Working with an enhanced rebate program will let the City put more infrastructure in more places distributed throughout the neighborhood.

In the coming five years, $13 million is dedicated to these small watershed improvement efforts.

AMENDMENTS TO CITY'S MUNICIPAL CODE CHAPTER 50: FLOODPLAIN DEVELOPMENT

The City of Des Moines has participated in the National Flood Insurance Program (NFIP) since 1981. To participate in the program, the City must adopt and enforce floodplain management ordinances meant to reduce damage from future flood events. In exchange, the NFIP makes federally backed flood insurance available to homeowners, renters and business owners in these communities. In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the nation's floodplain. The Federal Emergency Management Agency (FEMA) and NFIP published new Flood Insurance Rate Maps for Polk County, Iowa and Warren County, Iowa which will become effective February 1, 2019 and November 16, 2018.

The City's floodplain regulations meet and exceed the NFIP criteria, and are designed to ensure that new buildings will be protected from the flood levels shown on the Flood Insurance Rate Map (FIRM) and that development will not make the flood hazard worse. Staff from the City's Engineering Department have presented the following recommend amendments to City's Municipal Code Chapter 50: floodplain development to further mitigate flood risk:

- Add Compensatory Storage Requirements (requiring new development to provide 1.5:1.0 ratio compensatory storage at hydraulically equivalent sites)
- Increase Freeboard Requirements (increase from one foot to three feet above base flood elevation)
- Add enclosure limit restrictions (prohibits enclosures below the base flood elevation, excluding crawl spaces with approved flood venting; allow enclosures less than 300 square feet in area)
- Add cumulative substantial improvement tracking (ensures that total value of all improvements, additions, repairs, and reconstruction that is permitted over time does not exceed 50% of the value of the structure without elevating or floodproofing said structure)

APPROPRIATE AMOUNT OF INFRASTRUCTURE FOR STORMWATER

There are very few Cities, if any, that can build out their stormwater infrastructure to handle every type of rain event. That said, the City has adopted a strategy to try and size the infrastructure to what is commonly called a "100-year storm". In addition, we will utilize resiliency projects (if practical) to allow us to capture more water during rain events. It should be noted that it is not always the amount of rain water we receive at any given time, but more the intensity of the rainfall.

The Committee discussed the increase in the frequency of 100-year storms. Some of the group also cited Climate Change data to further substantiate the frequency of these types of events. The committee also encouraged the City to factor in this data as they move forward in sizing stormwater infrastructure.

LESSONS LEARNED

Each of the Committee members were encouraged to submit what they deemed lessons learned.
(See under Lessons Learned/Challenges, pages 28-30)

RECOMMENDATIONS

Each of the Committee members were encouraged to submit their recommendations.
(See under Lessons Learned/Challenges, pages 31-47)

RECOMMENDATIONS FROM THE INFRASTRUCTURE/CIP SUBCOMMITTEE:

To ensure that pending and future stormwater projects and any stormwater issues are funded and completed in a timely manner, the committee offers the following proposal for consideration and action:

- Regarding potential 1 cent sales tax increase:
  - Commit and set aside 3% of any additional income (beyond that required for property tax relief) to be used as needed to complete pending and future stormwater projects city-wide and to address any storm water issues.
- Regarding anticipated increase in Polk County assessed valuation:
  - Commit and set aside 2% of any additional tax income from Des Moines property to be used as needed to complete pending and future projects city-wide and help address any stormwater issues.
- By June 30, 2021, secure an independent study and assessment of stormwater issues city wide. Create a master plan, in a timely manner, to address identified needs. Work with neighboring cities to fully complete the master plan.
- Support City Staff recommendations:
  - Encourage residents to utilize all options available to them (i.e. rain gardens, rain barrels, etc.) to protect against future potential stormwater damage.
  - Require new construction projects, residential or commercial, to meet environmental and stormwater mitigation standards as determined by City staff.

- Develop a procedure for informing all new staff and council members of ongoing and pending projects approved by the council to ensure oversight and completion and keep residents informed regarding delays or changes.

NEXT STEPS:

1. Amendment to the City of Des Moines Municipal Code Chapter 50 – Flood Plains
2. RFP for a Consultant for City Wide Master Plan for Storm Water
3. Add to the FY 2020 budget, a transfer from the sales tax revenues, if passed, to the Storm Water Utility

4. Ordinance needed to permit a 100% cost share in select watersheds targeted for small watersheds

(See all minutes of the CIP/Infrastructure Subcommittee meetings in Appendix A.)

INSURANCE

The goal of the insurance subcommittee was to answer insurance questions and develop recommendations on how to improve the level of insurance coverage in Des Moines. The subcommittee was composed of a citizen, an insurance agent, and staff from the City Manager's Office, Engineering Department, and Community Development Department.

The subcommittee found that even though many property owners throughout the community carried insurance, most flood damages sustained during the event were not covered by their policies.

Common Reasons for Insufficient Insurance Coverage:

- Property owners did not purchase flood insurance because it was too costly.
- Property owners didn't believe they would be impacted by flooding.
- Property owners didn't believe they could purchase flood insurance because their property was not located in the floodplain.
- Homeowner policies did not include writers to cover sewer backup or sump pump failure.
- Sewer backup or sump pump failure writers were too low to cover the extent of damages.

The subcommittee identified increasing the community's knowledge of homeowner and flood insurance policies as an opportunity to increase protection of citizens and business owners from flood loss. The subcommittee developed informational handouts that answer frequently asked questions, list best practices to minimize flood loss, and function as discussion guides to communicate with insurance agents and develop a better understanding of coverages.

INSURANCE SUBCOMMITTEE RECOMMENDATIONS:

- **Educate the community about flood zones, flood insurance, and best practices.**
  Increasing the community's level of awareness about insurance will make it better able to protect itself from future flooding disasters. The 2018 flash flood event dealt a swift and unexpected blow to the community. The unpredictability of the flash flood and the lack of insurance coverage caught many off-guard. Providing education to the community on how residents and business owners can better protect themselves from future disasters is a great way to reduce future flood impacts.

- **Distribute education in multiple formats.**
  Communicating in diverse formats will touch the most people. Spreading the word about how members of the community can protect themselves will be best delivered through social media, radio, TV, and hard copy mailings. Diversifying the delivery will maximize the reach and effectiveness of educational material.

- **Provide education prior to the flood season.**

  Timing of delivery is important. The community is hungry for knowledge following the 2018 flash flood. Delivering information prior to the next flood season, but at a time close enough to spring rains will maximize effectiveness of the message.

- **Encourage property owners to communicate with their insurance agents.**

  Insurance coverage options vary from company to company. The best way for property owners to better understand their coverage and additional options is to discuss it with their insurance agents. The delivery of all educational materials should emphasize the importance of understanding one's coverage, and asking the right questions. Flood maps change, and so does insurance coverage. The insurance agent is the best person to identify what coverages are available for their clients.

- **Encourage prospective buyers and real estate agents to check flood zones.**

  Encouraging buyers and real estate agents to be aware of flood zones at the time of property sales will help increase awareness of flood risks. This will increase the likelihood of investments being made to protect at-risk properties from the time they are acquired. Real estate agents deal with many property owners, and have the potential to distribute valuable information about flood risks and protection options.

- **Lower flood insurance premiums by increasing the City's Community Rating System score.**

  Flood insurance premiums can be decreased for all properties in the City by implementing floodplain development regulations that will increase the City's Community Rating System score. Several options were presented on October 31, 2018 in a City Council work session. Implementing these proposed regulations has the potential to decrease flood insurance premiums by as much as ten percent.

NEXT STEPS:

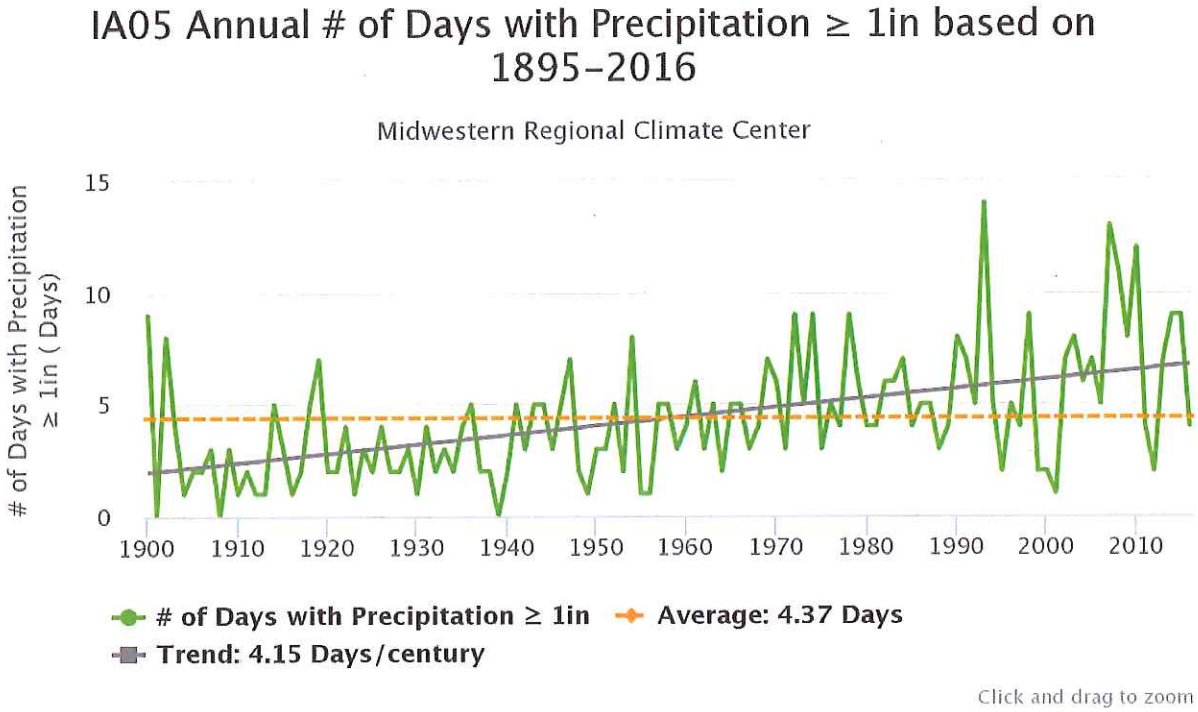
1. Amend Municipal Code Chapter 50 adopting new policies resulting in decreased flood insurance rates.
2. Educate citizens, business owners, and real estate agents about flood hazard areas and flood insurance.
3. Review and update educational materials annually.

SUSTAINABILITY

Since the September 4th 2018, meeting on Flash Flood Response, the Des Moines Citizen's Taskforce on Sustainability has met every two weeks to draft subcommittee recommendations for the city's ongoing work of flood mitigation and preparedness.

Context:

1. **Flooding and extreme weather are increasingly frequent and intense.**
   In the years ahead, Iowa is projected to face an increased risk of localized extreme precipitation and storm events like the one on June 30, 2018. These heavy rainfall events will continue to be more frequent and more intense. In addition, overall rates of precipitation are projected to increase, leading to increased risk of river flooding like 1993 and 2008. The city must prepare for these projected future threats, along with the increasing risk of other extreme weather, including heat waves, droughts, and winter storms.



2. **Flooding poses serious threats.**
As we have seen from past floods, extreme weather events pose significant risks to Des Moines, threatening public and private property, physical and mental health, natural resources, and critical infrastructure including energy, water, transportation, communications, and medical systems. These impacts pose special risk to vulnerable populations such as elderly and low income residents. As storms grow more frequent and intense, these threats are projected to be even more dangerous and costly. The 2018 National Climate Assessment estimates the annual cost of adapting urban storm water systems to more frequent and severe storms is projected to exceed $500 million for the Midwest by the end of the century[1]. It is imperative that the City of Des Moines work to mitigate and prepare for future floods.

3. **We applaud the City's existing commitments to flood mitigation and prevention planning and to green infrastructure as part of the solution.**
The City of Des Moines has already made significant commitments to flood mitigation and prevention in PlanDSM and GuideDSM. Because these efforts cut across numerous city departments and planning areas, it is essential the city follows through with development of a "comprehensive flood mitigation and prevention plan" as outlined in Plan DSM (PIU39)[2]. We strongly support the city's commitment to flood prevention strategies that enhance natural resources, including green infrastructure (mentioned in nearly every section of Plan DSM), regulations and incentive programs for residential and commercial property owners, and continued acquisition and enhancement of floodplains. These efforts have valuable co-benefits such as increased greenspace for recreation and improvements to water, air, and soil quality.

SUSTAINABILITY SUBCOMMITTEE RECOMMENDATIONS:

- **Create a Citizen's Toolkit for Flood Prevention and Preparedness**
We recommend the City create a flood prevention and preparedness toolkit, targeted at residents and businesses. This toolkit would provide clear information on what citizens should do before, during, and after a flood to reduce risk and respond to damage. This toolkit should include information on citizen opportunities for flood mitigation, including stormwater management rebate programs, which should be better funded and promoted. The toolkit should also clearly outline the roles and responsibilities of property owners and the City in flood response and recovery.

  Example Flood Preparedness Toolkit (City of Chicago):
  https://www.cityofchicago.org/city/en/depts/oem/supp_info/alertready/flood-preparedness.html

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[1]The National Climate Assessment assess the science of climate change and variability and its impacts across the United States, now and throughout this century. The Midwest report can be found here: https://nca2018.globalchange.gov/

[2] The City of Des Moines Comprehensive Plan, adopted April 25, 2016. https://plandsm.dmgov.org/

- **Complete a Climate Action Plan with concrete strategies for reducing greenhouse gas emissions and building resilience in the face of future extreme weather events.**

  Greenhouse gas emissions are a key factor in the increased risks of flooding and other extreme weather. Reducing these emissions also presents significant opportunities, to create green jobs, reduce energy and transportation costs, improve health for residents, and make Des Moines a more attractive place to live and do business. The City of Des Moines has committed to reducing greenhouse gas emissions 28% by 2025, but has not yet developed a plan for achieving this goal. Over the past year, City staff have partnered with the Citizen's Taskforce on Sustainability and the University of Northern Iowa to begin drafting a Climate Action Plan, and they recently completed the first step, an inventory and forecast of local emissions. We recommend the City commit to completing a Climate Action Plan in 2019, outlining concrete strategies for reducing greenhouse gas emissions.

  This planning process is also an opportunity to engage citizens and key professionals in conversations about how we adapt to the impacts of climate change, building community resilience in the face of future extreme weather events. The City's flood response meetings have provided an important opportunity to begin this resilience planning and foster dialogue between citizens and city staff. The Citizen's Taskforce on Sustainability is convening a series of "Climate and Community Conversations" focused on topics including Food Access, Housing & Energy, and Health & Safety. We recommend the City of Des Moines Climate Action Plan include a comprehensive plan for adaptation and resilience.

  Example of ghg mitigation and resilience plan (Iowa City Climate Action and Adaptation Plan): https://www8.iowa-city.org/weblink/0/edoc/1803121/Climate%20Action%20Plan.pdf

- **Increase city staffing and budget to complete the Climate Action Plan and implement sustainability and resilience strategies.**

  The Citizen's Taskforce on Sustainability has researched best practices in communities throughout the Midwest engaged in building resilience and preparing for extreme weather. Among the key lessons learned is that cities who are most effective in planning and implementing such strategies have at least one full-time staff person devoted to sustainability and resilience initiatives. Des Moines has made this a key priority, with sustainability one of the five key goals of Guide DSM. These efforts cut across city departments and require significant partnerships across the community, with schools, businesses, residents, and neighboring municipalities. As we have seen with the recent floods, this is critical work that requires centralized coordination. We recommend the City of Des Moines create a full-time staff position focused on sustainability and resilience, providing sufficient time and budget to complete the Climate Action Plan and implement recommended strategies.

- **Engage stakeholders throughout the Des Moines and Raccoon River watersheds to address flood mitigation, prevention, and resilience.**
  As we saw with the June 30th flooding, rainfall and runoff do not stop at municipal boundaries. The causes and impacts of flooding connect communities both upstream and downstream from Des Moines and require watershed-wide solutions. Flood mitigation and resilience at this scale will require significant investment to improve the capacity of land to absorb and store water. We need a collaborative effort like the "Iowa Watershed Approach" that can facilitate partnerships among municipalities, government agencies, businesses, non-profits, landowners, and colleges and universities. This will require investment of city staff time and city budget, including investments outside municipal boundaries, but such collaborative efforts also have the potential to leverage state, federal, and private grant funds. Like flood mitigation and resilience projects within the city, investments in the resilience of the watershed have many potential co-benefits, including improvements to water quality and quality of life. We recommend the City of Des Moines take a watershed approach to flood mitigation, prevention, and resilience.

  Iowa Watershed Approach Flood Resilience Overview:
  http://uiwa.wpengine.com/wp-content/uploads/2017/11/IWA-Resilience-Full-Handout_v4_OCT2017.pdf

  Additional Resources on Resilience Planning:
  https://climatereadycommunities.org/wp-content/uploads/2018/05/Guide-Full.pdf

  https://www.epa.gov/sites/production/files/2017-01/documents/smart_growth_fixes_climate_adaptation_resilience.pdf

NEXT STEPS:

1. Develop a "comprehensive flood mitigation and prevention plan" as outlined in Plan DSM (PIU39), including green infrastructure, urban forest master plan, etc.
   - Review best practices from other cities, especially on green infrastructure. (Central College students are helping with this.)
   - Pilot green infrastructure education and demonstration projects (rain barrels, rain gardens, permeable pavement, trees, etc.)
     - Target high flood risk neighborhoods.
     - Target environmental justice zones for improvements in empty lots, community centers, etc. Learn best practices from the 6th Avenue Streetscape and identify ways to replicate where applicable.
     - Host workshops at neighborhood level (Example: Cedar Rapids GSI Works "Train your Rain").
     - Establish pilot projects in partnership with schools, public libraries, churches, community centers, to build visibility and provide education.
     - Task Force will support these neighborhood-level projects.

- Include historical data and mapping
    - Of flood risk areas, micro-watersheds
    - Of vulnerable populations (low-income, elderly, disability, lack of transportation, non-English speaking, etc.) Commission, housing groups, etc.
    - Use data to inform development planning, permitting

2. Create a Citizen's Toolkit for Flood Prevention and Preparedness
   Review examples from other cities: Minneapolis, Chicago (Central College students are helping with this.)
    - Coordinate with Communications Committee and City departments
    - Include emergency management information, such as evacuation procedures
    - Create a communications plan around the toolkit

3. Complete a Climate Action Plan with concrete strategies for reducing greenhouse gas emissions and building resilience in the face of future extreme weather events.
    - City staff should help determine timeline, process, stakeholders
    - Mitigation
        - UNI Group ready to present GHG inventory
        - Identify funding source for the plan
        - Identify mitigation strategies with relevant stakeholders
        - Identify best practices from other cities
        - Pass and implement energy efficiency ordinance, with funding for supporting building owners, and for enforcement
    - Resilience
        - Incorporate resiliency into the climate action plan
        - Investigate best practices from other cities.
        - Convene resilience stakeholders, both professionals and residents

4. Increase city staffing and budget to complete the Climate Action Plan and implement sustainability and resilience strategies.

5. Engage stakeholders throughout the Des Moines and Raccoon River watersheds to address flood mitigation, prevention, and resilience.

SUCCESSES

EMERGENCY RESPONSE TO THE FLASH FLOOD

- Other than the citizen who was swept away prior to the Des Moines Fire Department (DMFD) arriving on scene, all residents who needed rescue/evacuation assistance were moved to safe areas.
- No Des Moines firefighter injuries were reported.
- Des Moines Fire Department personnel used Personal Flotation Devices (PFD's).
- The Des Moines Fire Department Water Emergency Team has good, dependable equipment (boats, PFD's, accessory equipment).
- The Des Moines Fire Department Water Emergency Team (WET) is skilled and well trained. One member of the Des Moines Fire Department who is not a WET member commented during the after-action review that the skill of the boat operator made the difference in safely evacuating the residents from the Mainstream Living Baker House.
- The call back of off-duty personnel to staff suppression resources and augment the water emergency team was a good decision.
- The overall command, control, and allocation of resources was good.
- When it was established, the centralized staging area at Hoyt Middle School was effective.
- Uniformed Des Moines police officers were more effective when ordering occupants to evacuate than Des Moines firefighters.

FLASH FLOOD RECOVERY

- Property damage assessment process began immediately.
- Recovery activities were implemented during a holiday week with low staff levels. Staff resources were pulled from multiple divisions to assist.
- Standard operating procedures were adapted to handle increasing volume of workload and changing conditions.
- All City services were maintained during the recovery process.
- City staff collaborated with other government entities and numerous service providers to provide assistance to the community.

DEBRIS MANAGEMENT

- Employee response was excellent, with some volunteering to work during holiday and planned vacations.
- Daily debriefing meetings with staff was helpful.
- Property damage data from Community Development was valuable.
- Resident Jami Smith, 2508 47th St.:
    - "The guys on the ground were awesome. Once you got to our street, the response was amazing. I couldn't think of a bad thing to say if I tried, once you got to me."
    - "You made us mad at first, but you did it right after quickly hearing our concerns." Heard our cries and did curbside pickup. The trucks that came had plenty of room and picked up all my appliances in one convenient trip.
- Resident Kathy Simpson, 2517 47th St.:
    - MidAmerican trucks were helping to carry children and assess safety of home. MidAmerican needed to leave to respond to explosions.
    - Angela Connolly stopped by to check in and lift spirits. "It was nice to see a familiar face."
    - Church of Christ on east side deserves recognition for its disaster relief program. Boxes of supplies left on doorstep and replaced washer, dryer, water heater and furnace with new units at no cost. Hauled old appliances away for recycling.
    - Polk County's Team Rubicon sent four guys to load away debris. "Having someone able to focus on just me in the moment was huge."
    - Public meetings have been good. It is nice to have support.

CHALLENGES/LESSONS LEARNED

EMERGENCY RESPONSE TO THE FLASH FLOOD

- When the potential for a flash flood exists, partnering stakeholders (DMFD, Des Moines Police Department (DMPD), Des Moines Public Works Flood Engineer, National Weather Service, Polk County Emergency Management, and others) should convene to ask the question, "should a preemptive mandatory evacuation be issued" to enable residents to leave the area safely before conditions deteriorate and emergency rescue assistance is required to move them to safety? It should be noted that flash floods often impact areas that are not traditionally prone to flooding.
  (See Polk Co. After Action Report, Improvement Item 1.15, page 31)

- Due to the rapidly escalating nature of a flash flood, DMFD leadership staff should consider assigning:
  (See Polk Co. After Action Report, Improvement Item 1.7, page 29)
  - a Chief officer (other than the Asst. Chief of Operations) to dispatch to assist with resource assignments/allocation
  - a Chief officer to assume a planning section chief position
  - staff to prepare/initiate call back when directed
- Establish a unified command posture with DMPD to eliminate conflicting orders/assignment by fire and police command staff.
- Consider use of an area command system.
  (See Polk Co. After Action Report, Improvement Item 1.9, page 29)
- The use of structural firefighter gear during flood operations is generally discouraged because of the increased fatigue factor and weight of the gear when it becomes wet.
- The Water Emergency Team should only be assigned to and used for water rescue situations during flash flood emergencies. When they are not assigned to a water rescue/assist assignment, they should be placed in a stand-by status so that they are available when needed for another WET assignment (they should not be assigned to medical emergencies, alarm investigations, etc.).
- Need to establish a means to identify when an occupancy or vehicle has been searched. Use of the high-rise banner tape (24-inch length) affixed to the front door or car handle would be an appropriate identifier.
  (See Polk Co. After Action Report, Improvement Item 1.16, page 32)
- Call back of an adequate number of water emergency team staff to assist, augment, and relieve on-duty water emergency team members.
- All DMFD boats should be staffed/used (one boat was not used during this flash flood event).
- Because it is sometimes necessary to work together during emergency situations, DMFD WET members should conduct regular training with our mutual aid partners who have boats and conduct water rescue missions (establish a common operating picture).
- Consideration should be given to calling back off-duty 40-hour personnel to staff a vehicle(s) for the purpose of investigating non-emergency requests for service that may have been held.

- The use of Tactical Channels 6 and 7 may provide better communication on the east side of Des Moines, particularly during an extended event such as this flash flood incident.
- "V – wedge" training was suggested as a potentially effective tactic to access and remove trapped occupants from vehicles and residences without the use of boats. Further discussion and evaluation of this tactic is needed to decide if this tactic should be employed by WET members only because of the importance of understanding hazards of flood water, hydraulics, etc.
- A storm standard operating guideline (SOG) should be developed to identify operational changes and resource allocation variances during floods, blizzards, tornadoes, etc. **(See Polk Co. After Action Report, Improvement Item 1.13, page 31)**
- MidAmerican Energy should be consulted to help evaluate and identify electrical hazards during flash flood events. General electrical hazard information during flood events should be a component of the storm SOG.

EQUIPMENT NEEDS

- The Des Moines Fire Department should acquire more PFD's for large number of occupants who may need rescued/assisted during mass flooding events.
- Window punches are needed to break glass of doors and windows in lower level occupancies and vehicle windows to help equalize pressure from the flood water.
- The Des Moines Police Department needs access to/use of PFD's during flood rescue efforts.

FLASH FLOOD RECOVERY

- GIS applications and mobile technology are crucial to conduct damage assessments efficiently. Such technology should be ready and waiting for a quick response.
- Pre-planning to identify when to take on additional paid help from other government entities would prevent setbacks in recovery operations planning.
- Establishing an information hub for all departments/divisions to quickly identify what is happening in other areas and who to contact would help keep information accurate as it is distributed to the community.

DEBRIS MANAGEMENT

- Damage data was slow from partners.
    - Polk County is working to provide a better tool to provide real-time mapping of all damage reports from all storms to speed up the process.
    - Resident Jami Smith asked, "What could we do better to inform you? We abandoned our house by 1 a.m. when our basement filled almost to our first floor."
        - Public Works responded that Police or Public Works customer service lines would be appropriate.

        - Resident Jami Smith called Police and Fire, but Dispatch seemed overwhelmed. MidAmerican Energy trucks were the first response she noticed on her street.
- Power outage thwarted sump pump mitigation.
- Contractor for dumpsters overwhelmed.
    - National Guard could provide assistance in the future
    - Consider "bagster" dumpsters for residents
- Situational awareness organization-wide was lacking.
    - GIS team worked at different hours than the Public Works team, making it more difficult to exchange information.
- Abuse of curbside debris pickup. Some residents used opportunity to do some "spring cleaning," which placed unnecessary load on response teams.
- FEMA may not cover most expensive aspect of recovery, curbside pickup, because debris was on private property.
- Residents believe that damage was caused by City's inaction on improving sewer infrastructure.

Resident Jami Smith:

- "I didn't flood because I did anything wrong. The City messed up. We were told 15 years ago that the sewer would be upgraded. That didn't happen."
- "The city has failed me and my neighbors by not expanding sewer capacity like promised."
- "I'm happy paying my $4,000/year in property taxes because I know it goes towards important things. Why aren't you using this money to protect my home?"
- "A functioning sewer system isn't a sexy thing to sell to potential residents [compared to other amenities], but we need to spend money on it. I couldn't care less how you do it, just do it."

Resident Kathy Simpson:

- "Look at 2008 and other flood events. I've been at my address 28 years and have been flooded multiple times. Why does this keep happening?"
- "The combined sewers are a problem, but in a way homeowners are just as responsible as the City for knowing how they're connected to the sewer system. Four Mile property owners should need to sign waivers. Know what you need to know to help yourself."
- Communication, internally and externally
- Public Works received mixed messages internally. Unable to provide customer service call center representatives with a single message with clear instructions for residents.

Resident Jami Smith:

- Some furious residents rented their own private dumpsters before curbside pickup was announced, increasing their own costs. Requests that next time the city makes it clear immediately that curbside pickup may be implemented after full damage assessment.
- "211 was super ineffective." Called and debris would sit out for a week or more.

Resident Kathy Simpson:

- Lines were blurred on who was helping me from what agency. County, City, who is who?
- Confused about debris pickup deadlines. I worked alone to clean and salvage as much stuff as possible, but that increased how long it took to have all of the debris out of the house.
- Public Works intentionally didn't put a cap/deadline on when debris needed to be picked up by. Public Works finished debris pick up a couple of weeks ago. Some other cities DID set a deadline for drop-off.
- Communication about deadlines (or lack of deadlines) would be helpful. Not by mail, since that would have ended up in a pile.
- Kathy asked about a dedicated weather disaster number citizens could call or website they could visit with all information gathered. A resource that's available year-round that residents know they can turn to, but is updated immediately as soon as new information is available during disasters.
- We want to be told "we've got your back." One place for where people can go, planned ahead of time.
- Asked for information about sump pumps?
- What steps can you take to help yourself while you wait for City assistance?

- Public Works struggled with the Code Red alert system having a horrible time accessing it and activating a message."
  - Public Works staff worked continuously with Police for hours during the disaster.
  - From when City officials decided an evacuation notice needed to be sent, it took 4 hours before the alert was distributed (too late to help).
  - Public Works is working internally to develop a better process.
  - Polk County explained they've implemented the ability to create preset alert areas via shape files and pre-recorded alerts to speed up activation.
  - Polk County explained the system interface was updated, but their documentation was not fully updated. New procedure user's guide updated to help city staff get through the process easier.
  - Polk County warns that the City needs to be properly equipped to handle an additional large volume of calls if Code Red is ever activated in a large area. A test sent to every Polk County resident took 2.5 weeks of constant callbacks to address concerns from confused residents.
- Insurance coverage confusion

Resident Jamie Smith:

- Who thinks to have flood insurance in an area without waterways? I had sewer backup insurance, but didn't know there was separate flood insurance until after this event. State Farm has been terrific, they've been super stars, but they never told me to consider flood insurance until the most recent events."
- Flood insurance regulations are changing, possibly opening more opportunity for residents outside of a floodplain to buy.

INFRASTRUCTURE/CIP

CIP/INFRASTRUCTURE, LESSONS LEARNED (FROM SUBCOMMITTEE MEMBERS):

CIP Committee Member Submittal:

1. Debris Pick up decisions made quicker and better communicated.
2. Be proactive with our climate changing in Midwest, as well as around the planet, with predictions of more intense rainfalls, increased flooding, warmer summers, and increased droughts. Don't just look back historically, but look forward to the projections of a changing environment by 97-98% of all our scientists. (check out the "2018 Intergovernmental Panel on Climate Change", written by hundreds of scientists around the globe, the "2018 Climate Statement", written by 2018 Iowa scientists and researchers from most colleges and universities in Iowa, and the "2018 Climate Statement", a moral case for action written by faith leaders across Iowa.

CIP Committee Member Submittal:

1. There has been a lack of commitment to accept oversight of the storm sewer improvement proposal approved by the City Council in 2002 as a result of 1998 flooding. Example: For closer Creek (Maquoketa Dr. #'s 12-17 on table I of proposal) minimal amounts were spent in 2008 – 2010 and nothing was spent in 2011-2015. The cost to complete has now greatly increased and many of us have again suffered major damage.
2. Communication between the City and neighborhood residents has been sorely lacking.
3. There needs to be a procedure for recording damage (soliciting information) when disasters occur rather than just giving out information. Might have helped qualify Polk County residents for Federal Disaster Relief.
4. Infrastructure has not been a high priority - like bike trails have.
5. Staff has been respectful, patient and helpful as we work through this crisis.

CIP Committee Member Submittal:

1. The Des Moines City Council needs to be proactive.
2. Citizens that are impacted cannot wait four days for the City to respond with action when residents have eight feet of water in their basement.
3. Council members should be part of the solution! When I addressed the City Council on 7/25/16 and informed them of chronic flooding on 47th St., action should have been taken! It was irresponsible that this did not happen.

CIP Committee Member Submittal:

1. Have an emergency action plan developed with protocol PRIOR to emergency.
    - For example: XX % of effect residential damage and the protocol for debris removal is... This way the decisions are made efficiently, fairly and quickly. Debris pick up and communication of the plans were not timely for this emergency. And what is more insulting is to send us out in publication from the City Source on our tax payer dollar "our teams responded quickly. Within 24 hours of the flash flood event, Des Moines developed a debris management plan, began a pre-assessment plan and committed to work through the Fourth of July holiday." The debris curb side pickup was NOT developed and implemented in 24 hours. I personally would not have had to spend $600 for debris pick up if decisions were made more quickly. I understand that it is not the responsibility of the City for personal property debris pick up; however, it is the responsibility of our City to ensure the safety of its residents especially in the event of an emergency. Besides, you were reimbursed by FEMA. Individuals were not able to receive FEMA assistance.
    - Along with this Emergency Action Plan, a centralized recording/data collection site needs to be established. Maybe work with United Way or Polk County in developing a system to report losses, damages, etc. No one knew where to turn to report or receive assistance initially. We cannot wait until decisions are made days afterwards. For example, a website or hotline that you can gather information to be able to report to FEMA and other organizations for assistance. 211 is a referral agency and it was repeatedly told to residents to call 211 to report damages. It is no wonder FEMA was denied, because adequate information could not have been relayed if accurate information was not collected. Putting up yard signs, flyers on the doors, mailings, etc. was a waste of our tax payer dollars if it comes far too late. Information needs to be given to the residents MUCH quicker. By the time the flyers and such came out instead of debris removal and assistance, it should have covered mold issues, which would have been more prevalent.
    - Develop a standard, set requirement s for buyouts. Do not just randomly choose. Why does one home get bought out and the neighbor not? Even with more damage to foundation? Just because someone takes better care of their home does not make sense.
2. Plan for the FUTURE, not develop plans based on past data collected. IF the weather trends are changing and expected to change in the future, then plan your infrastructure to meet those expected needs, not the past needs.
3. Know your FACTS prior to speaking to the public. For example; the creek that was to have ran along/diagonally 57th street, is just not true. I have researched it and everyone that I have spoken to (State Historical, DNR, Polk County, Iowa State University Engineering Professors and comparisons to prior years mapping of the area), concluded that no creek had ever been in that area. It could possibly be a low lying area, or most likely that when the map photo was taken that the City is referring to with the darkened area. is from laying diagonal is readying the area for laying the current drainage pipe. I heard much misleading and confusing information throughout this whole process in regards to Merle Hay area. If you don't have the facts, don't say anything. Playing politics to appease people will only make the situation worse.

4. When plans are made, stick to them. The Beaverdale area plan was made and it is simply appalling to have this plan 50 years old! Realistic plans need to be made with realistic time tables.
5. The Four Mile Area is an area that you had known the flood area mapped by FEMA was going to be changing. There has been a strong history of flooding in this area for years. Continuing to offer buyout year after year is not acceptable. Do it one and done. If they continue to live in the area and refuse the buyout, move on, do not keep offering a buyout.

CIP Committee Member Submittal:

1. Stormwater management is a continuous process that requires attention and funding.
2. Watershed community involvement may provide the vehicle for transparent governess.
3. Just like you do not build a church parking lot for Easter Sunday, stormwater improvements will only provide protection for the agreed risk. So, an informed public should better understand their risk if any associated with flood events.

CIP Committee Member Submittal:

1. Even 100-year capacity infrastructure is unable to completely protect all residents from inundation in extreme events. Provide a path for the 500-year event.

CIP Committee Member Submittal:

1. Focus is always and should remain - protecting lives over property.
2. There are only two primary factors when it comes to mother nature: "Are we prepared?" and "Do we have a process?"
3. There are areas that can be improved but there are also areas that are just not financially feasible.
4. FEMA homeowner insurance does not cover damages as consumers hoped it would.
5. Most affordable homeowner's insurance policies do not cover much more than Fire damage and liability.
6. Homeowner were financially responsible for their own repairs (not enough volunteer/donation connections).
7. We also learned there is never enough money to fix the infrastructure and nothing seems to be built fast enough.
8. Flash flooding is the hardest disaster to prepare for, but what we learn can be applied to all disaster plans.
9. Funding to help repair and/or future projects (State – Federal Level – FEMA) need data to back need.

Lesson Learned

No system in place to report widespread damage for cost assessments.

CIP/INFRASTRUCTURE RECOMMENDATIONS (FROM SUBCOMMITTEE MEMBERS):

CIP Committee Member Submittal:

1. Work in managing water where it lands.
   - Incorporate the full spectrum of green infrastructure into roadway and stormwater reconstruction work
   - Subsidize the work on private property 100% in select watersheds
2. Conduct a city-wide survey of the existing drainage system to find the locations that are most vulnerable.

CIP Committee Member Submittal:

1. A procedure to educate new staff or city council members regarding recommendations (such as storm water projects) approved by the council to assure continuity in implementation.
2. Regarding potential 1¢ sales tax increase – Identify and commit a specific percentage or dollar amount for storm water projects (as part of infrastructure allocation) for 5 years or until projects are completed.
3. Regarding probable 10 % increase in assessed valuations – Commit a specific percentage or dollar amount of additional money Des Moines receives to stormwater projects for next 5 years or until completed.
4. Determine (with Polk County) an abatement policy for 2019 property tax and/or for increases with re-assessments for those who can validate $5,000 or more in flood related expenses. This would help limit appeal process and build good will.
5. Make these projects a priority!
6. There is administrative staff reluctance to use property tax money for storm water projects, but many folks I know across the City assumed this was being done because of the impact on property value when areas are flooded.
7. Staff and Council attention to these issues has been patient and professional – much appreciated! Thank you!

CIP Committee Member Submittal:

1. It is recommended that the Des Moines City Council approve 100% payment to residents in hot spots (lots of damage from flooding on 6/30/18) of "green infrastructure projects including but not limited to bioswales, permeable pavement, rain gardens, rain barrels, etc.
2. The City needs to build critical and strategic detention cells that will catch the water where it falls in areas of the City where flood damage was noticeable and severe (above or below ground) with as little damage as possible to the housing and neighborhood. We need to increase the speed of installing them in as many vulnerable neighborhoods as possible.
3. The City of Des Moines needs to adopt a Climate Action and Adaptation Plan where the city lowers its greenhouse gases drastically in areas like transportation, buildings, renewables, energy efficiency programs, green and gray Infrastructure, a Master Tree Plan, etc. to prevent further intense rainfall in the Des Moines area as well as prepare for these kind of extreme

weather events that are being predicted by our own Iowa scientists. Cities in Iowa like Dubuque and Iowa City have adopted Climate Action and Adaptation Plans. Madison, Wisconsin and Ft. Collins, Colorado, both about the same size as Des Moines also have excellent Climate Action and Adaptation Plans.

4. The City needs to not only look at rain events that have been happening in the past or historically but begin to take seriously the future predictions of our changing Midwest climate and act proactively. That will require that the Des Moines City Council allot more general fund money as well as CIP money to prevent future catastrophic weather events as well as prepare its residents to be more resilient when they do happen.
5. The small watershed approach with the neighborhood watershed committees made up of interested residents in those areas is a good idea for Des Moines to adopt.
6. The City needs to adopt a green building code.
7. The City could consider giving abatements for development that implements renewable energy projects, energy and water efficiency, zero waste, promotion if there are employees of employees using public transportation, and green infrastructure. The city would be reducing its greenhouse gas emissions and thus mitigating climate change, as well as becoming more resilient to future extreme climate events.

CIP Committee Member Submittal:

1. Recommend amendments to City's Municipal Code Chapter 50: floodplain development:
   - Add Compensatory Storage Requirements (requiring new development to provide 1.5:1.0 ratio compensatory storage at hydraulically equivalent sites)
   - Increase Freeboard Requirements (increase from one foot to three feet above base flood elevation)
   - Add enclosure limit restrictions (prohibits enclosures below the base flood elevation, excluding crawl spaces with approved flood venting; allow enclosures less than 300 square feet in area)
   - Cumulative substantial improvement tracking (ensures that total value of all improvements, additions, repairs, and reconstruction that is permitted over time does not exceed 50% of the value of the structure without elevating or floodproofing said structure)

CIP Committee Member Submittal:

1. Residential properties that incurred in excess of $1,000 in damages and reported said damage shall be exempt from any stormwater rate increase charges.
2. Residential properties that incurred in excess of $10,000 in unreimbursed damages and reported said damages within 60 days (before 1 September 2018) shall be exempt from any property tax increases until storm water mitigations/updates have been fully completed in their designated watershed district.
3. Residential properties shall be exempt from the stormwater rate increase if city approved efforts are implemented to reduce rainfall runoff (rain barrels, rain gardens, etc.)
4. Stormwater runoff in the 4-mile Creek basin must be better understood in terms of the expansion and growth of the city of Ankeny.
5. A percentage of property taxes from properties within watershed districts in which stormwater and/or sanitary sewer projects are not fully complete should be specifically allocated to those

infrastructure projects until complete.

CIP Committee Member Submittal:

1. I do not recommend 100% reimbursement for green infrastructure projects; especially to hot spot lots. For several of reasons 1) the lot that had the damage is typically from run off of other lots as a result of too small of drainage pipes. So thinking that the lot will be the sponge for everyone else's run off is ridiculous. 2) Give me REAL numbers on how it will decrease the problem. I don't think that it will really make that big of an impact. Fix the problem, don't try and put a Band-Aid over the problem. 3) The hot spot homeowner just spent thousands of dollars fixing their basement backup to create a livable environment. They do not have thousands leftover to do these other projects and wait to be reimbursed. 4) The homeowner that did not sustain damage is not vested to spend thousands to help someone downstream; especially if the problem will not really be fixed. 4) People will simply not due a lot of the things that you are asking. For example; the rain barrels. You will need to put a diverter on the gutter (this will not be covered by the reimbursement), the rain barrels have to be removed in the winter or they will freeze and crack, the barrels themselves can be FREE from other organizations currently (DNR, make and take projects, etc), once the barrel is full, it runs out right along your foundation compounding flooding and foundation issues further, in a heavy rain, you must open the spigot before it gets too full to divert the water out of the barrel so it does not over flow. Typically once the homeowner learns these things they don't want a rain barrel, or they would have already gotten it from other sources that currently off it free. So in a nutshell, you would have to have a VERY large percentage of participants upstream to create an impact that you need to make a difference. I would rather the money be used to fix the problem! Grant it, $3 million will not fix the problem, but it will be a start in the collection plate.
2. The City needs a feasibility study done on the smaller watershed areas like Merle Hay that do not currently have a plan. This needs to be done by an independent company and not by City Staff. This way you can get a true picture of the problem and possible ways to fix it. Every area in the City of Des Moines needs to be addressed fairly. Every resident needs to be able to feel safe in their home.
3. The cost of fixing this problem is big and needs to be made public of the current state of condition. I suggest that you use the City Source to state areas of concerns and not just toot your own horn. I believe that if the residents were informed of the conditions of the infrastructure, they would be more willing to raise taxes, cut corners in other areas, etc. to make sure that this problem was fixed.
4. Take a portion; say 3 percent, of the local sales tax (LOSST) and ear mark it to fixing the infrastructure. This problem has been ignored for too many years and will only get worse if not fixed. At this point in time, it is a big problem and will take many years and large amounts of money to fix.
5. Stronger guidelines to build by businesses and residential building needs to be put in place to protect and improve the infrastructure.
6. The City needs to seriously partner with neighboring cities in developing a plan to fix shared infrastructure. The idea of saying "Rocklyn water shed only affects a small number of Des Moines residents and then it becomes Urbandale Clive's problem" is unacceptable. Or to say

"we are knocking down sand castles so that you have smaller waves come towards your property". I don't live on the beach near the ocean, I should not have NAY waves coming towards my property.

7. Cut backs might need to be made in other area throughout the City budget to address this issue. You cannot keep putting on a new coat of paint on the car if the engine is not working. Fix the foundation (infrastructure) so it will be solid to build the City. Have a safe environment is an essential need, not a want.
8. I agree that Four Mile area needs to be converted to a wetland park area, no residential housing due to flooding issues.

CIP Committee Member Submittal:

1. If passed, 2.5% of the LOSST should be allocated to storm sewer repair/maintenance/studies until total completion of all projects, present & future.
2. Properties that had over $5,000 in unreimbursed damage shall have a tax abatement beginning 6/30/18 until the storm sewers are fixed in their area.
3. Continued e-mail notifications to CIP/Infrastructure Committee members (City staff and citizens) when there are items that are coming from this committee that will be addressed at a City Council meeting
4. Need to look closely at the dollars that are being budgeted for this process, where can we save money? (i.e. Maquoketa...is it cheaper to go down the middle of the street and lose the trees?)
5. The City of Des Moines needs to implement emergency procedures for flood protocol.
6. Need a reliable/accurate damage reporting system, not a referral service (like 211 was).
7. Have a formal policy for 47th & Holcomb regarding brining the external sump pump out; both now and in the future and also while the street is being "redone" 2019-2020.
8. Install a roundabout and lift station at 47th & Holcomb, this will have a dual purpose, flood prevention and slowing down traffic (47th is a through street from University Avenue to Douglas Avenue). This is proposed in addition to the impervious paver street project on 47th Street from Beavercrest to Hickman

CIP Committee Member Submittal:

1. Promote small watershed management practices to identify, to provide design guidance, to provide funding.
2. Accelerate sanitary sewer – storm separation.
3. Improve floodplain requirements to increase NFIP Community Rating System (CRS) to reduce community-wide insurance rates.
4. Promote City stormwater management practices, improvements, and problems through a continuous public relations campaign to include social media platforms and press releases.
5. Create GIS mapping platform to complement the Iowa Flood Center to include low lying/small watershed areas.

CIP Committee Member Submittal:

1. Recommend that the Des Moines City Council approve 100% payment to residents in designated "hot spots", regarding green infrastructure, including but not limited to rain gardens, bioswales, restored soil, 4 in. topsoil, pervious driveways and parking areas, rain barrels, and green roofs. Included in green infrastructure is the planting of more trees. Commit to moving forward on the "Forestry Master Plan" that is being formulated at this time, so that the tree canopy coverage is increased in Des Moines in the next couple of years.
2. Conduct a city-wide survey of existing drainage systems and find locations most vulnerable. Create a "Storm Water Master Plan".
3. The City Council and City Staff need to not only look at rain events that have been happening in the past or historically, but they must begin to take seriously the future predictions of our changing Midwest climate and act proactively (the Fourth Federal Climate Assessment). That will require that the City Council allot more general fund money as well as CIP money to preventing future catastrophic weather events as well as prepare its residents to be more resilient when extreme weather events happen.
4. Also like Steven Naber's recommended amendments to City's Municipal Code Chapter 50: floodplain development.

CIP Committee Member Submittal:

1. Accept that weather conditions are changing and standards we use for future planning are based on outdated models and not keeping up with the changes.
2. Accept that weather conditions are unpredictable; and homeowners need to be prepared to keep themselves, their family and neighbors safe.
3. Work with homeowners at risk for flooding or effected by a disaster
4. Allow homeowner ways to better mediate damage; example: solid fencing to redirect majority of the flow
5. Allow variances and donated work for permits to ease recovery efforts.
6. Create a better way of tracking damage and damage estimates to be used for applying for FEMA or other grant programs for financial assistance and/or to be used to evaluate current infrastructure for future reconstruction or greenbelt planning and the prevention of future deaths.
7. Encourage stakeholders (property owners) to do their part by allowing and/or using green building ideas when financially feasible.
8. Learn more about ways neighborhoods can help each other before, during or after a disaster.
9. Be honest with homeowners – if it is better for the homeowner to move instead of having their property damaged over-and-over again – give them the facts (they will be mad – but then the choice is theirs). Storm drainage systems alone will not fix the outdated infrastructure and will not prevent homeowners from receiving future damages during a 100-year event – which are occurring more often. Some homes will either need to be raised, moved or demolished.
10. If home can be moved, at a cost below a buy-out, move it. Wave fees, grant variances, work with the mover to make the move easier on the homeowner.
11. If the home can be raised, at a cost below a buy-out, raise it. Wave fees, grant variances, work with the contractor to make the construction easier on the homeowner.

12. Look into ways the State Universities can help with the infrastructure planning/modeling process
13. Look into grant money to be used for water quality improvements or green building.
14. When abandoning infrastructure, remove abandoned infrastructure from private properties and release easements back to homeowners.
15. Funding to help repair and/or future projects. (State – Federal Level – FEMA) need data to back need.
16. Lesson Learned – (This is communication – but it effected Infrastructure's ability to receive extra funding – and I don't want it to fall between the cracks of two committees)
17. Lesson Learned - No system in place to report widespread damage for cost assessments. Need some kind of system to report WIDESPREAD damage for a more accurate total disaster cost to report to FEMA.
18. When it comes to flooding (including flash flooding) – different levels of water effect different things:
    - Minor sewer back-up (water in adjoining yards, coming up through sanitary sewer or down side of walls)
    - Always assume rainwater has some form of sewage with it – be it animal feces, or cross contamination with sanitary sewer system)
    - Level does not affect any appliances or utilities (other than storm and sanitary sewer)
        - Appliance damage level - affecting one or more appliances (FEMA covers Furnace, water heater, washer & dryer)
        - Utility damage level - affecting one or more utility (usually electricity) – Basement outlet are to be placed 3' from the floor if they are installed to current code standards.
        - Major utility damage level - level reaches main breaker panel
        - Minor structural damage level - level reaches first floor – but no first floor appliances are affected
        - Major appliance damage Level - appliances on main level are affected
        - Major structural damage - affecting either the foundation integrity and/or the livability of the main floor. Condemned structure is deemed not repairable. Each advancing level may or may not contain the lower levels (i.e. structures with crawl spaces – or manufactured homes with electricity in the basement area and appliances are on the main level).

CIP Committee Member Submittal:

1. The City needs to reevaluate the common practice of reusing existing natural creeks and streams to manage storm water discharge through new areas of residential development. Understandably avoiding the installation of traditional "grey pipe" in place of reusing unprotected stream banks on private property saves developers and the City a considerable amount of money. Unfortunately, this practice places an unfair maintenance burden from a nontraditional storm water infrastructure on property owners and home owner associations who are not equipped to handle the issues associated with storm water management. Neighborhood creeks and streams that are part of an area storm water infrastructure should be

viewed as a part of the City's overall storm water drainage system and the City should be responsible for the maintenance.

2. My specific position on this recommendation delivered to select City officials:

   - Our commitment to finding solutions to long neglected Brook Run storm water infrastructure was elevated when Tom Gratias turned control of the Brook Run Village Owners Association (BRVOA) over to the neighborhood and a new five-member board of directors on June 4, 2018. To help address these problems we established a Brook Run Storm Water Committee. Our meeting with you was just one of many we arranged with city and county officials, private storm water engineers and experts to help us understand and solve these problems. We are bothered by your position that the approximately 3,200+ feet of streams in our neighborhood are proper drainage vehicles and that the design would be virtually the same if the neighborhood were being built today. We heard that the city would have no jurisdiction or maintenance responsibility with these water ways and wouldn't require the developer or mandated HOA to carve out easements before lots are sold and houses build. We heard that a developer in this situation today not would be required to do erosion controls along similar streams.

   - We believe Brook Run is discriminated against because we have natural streams being used as main storm sewers instead of "grey pipe" used in other areas for the same function. Because of location and topography, our neighborhood is a drainage basin not only for our own storm water runoff but also serves a greatly larger area, much of it continuing to be redeveloped from farmland to residential housing. Curiously, we don't see unprotected streams in these new housing additions, only wet or dry water detention areas which drain onto Brook Run. Pipes are being laid by developers, but the city acquires maintenance responsibility for them.

   - In 2012 neighbors facing severe stream bank erosion encouraged the BRVOA lead by Tom Gratias to contract with Snyder and Associates to develop a conceptual design study of storm water improvements to address channel erosion issues. The study delivered in June 2012 highlighted the severity of our non-traditional unprotected storm water distribution system including bank erosion, channel degradation, channel widening, undercutting of trees, fallen trees, flooding and property damage. The 2012 estimated cost to fix the approximately 3,200+ feet of streams was $2,585,000 (with a 20% contingency). We have recently asked Mark Land with Snyder and Associates to update the 2012 study.

   - We feel many of these storm water erosion problems were foreseeable and should have been addressed during Brook Run's initial design, plat mapping and city review process. The cost at that time would be significantly less than the dated Snyder and Associates estimate. We have found no original plans that show how these unprotected natural streams would handle the increased storm water resulting from new neighborhood construction runoff or the expectation of new surrounding development. There appeared to be no city mandated requirements for erosion control or a plan for public right-of-way for creek maintenance or repair.

- In our meeting we heard that the City's current position is they have no obligation to help Brook Run fix a massive storm water erosion problem and would only contribute up to a maximum of $2,000 per property for stream bank erosion mitigation. This presents a huge challenge for the BRVOA. Our interest is in protecting homes, neighborhood property values and reputation. Without legal authority over the stream banks and a monumental repair bill that lacks funding the road ahead seems awful steep from a HOA perspective.
- Reevaluate the new residential development practice of allowing the use of existing unprotected natural creeks and streams located on private property to manage neighborhood storm water discharge.
- A non-traditional storm water infrastructure of unprotected streams places a significant maintenance burden on private property owners and home owners associations that are not equipped to handle the issues associated with storm water management. Neighborhood creeks and streams that are part of a larger area storm water infrastructure should be viewed as a part of the City's overall storm water drainage system and the City should be responsible for the maintenance.
- The Brook Run neighborhood is an example of what bad can happen when developers are allowed to surround and crowd unprotected existing streams with residential develop. We are located in a natural watershed basin. Residential and farm land surrounding us are contributing volumes of storm water to our 3,200 feet of unprotected streams without easements for access for repairs. Due to severe channel and stream bank erosion, pond siltation and property damage, the neighborhood contracted with Snyder and Associates to perform a storm water study. The study highlighted the poor condition of our non-traditional unprotected storm water distribution system with an estimated cost to fix at $2,585,000.
- I understand that many neighborhoods with traditional aging or neglected "grey pipe" storm water management systems were impacted by the June rain events.
- The June 30th rain hit our neighborhood pretty hard too causing additional extreme stream bank erosion, the flooding of 10 home finished basements and bank cutting in a couple locations that will cause foundation damage.
- Many of these neighborhood storm water erosion problems were foreseeable and should have been addressed during Brook Run's initial design, plat mapping and city review process. The cost of doing things right at that time would have been significantly less than what it will cost to fix it in the future.
- Please consider the significance of my recommendation and pass it along to the City Council.

CIP Committee Member Submittal:

1. Conduct a city-wide evaluation of the existing storm water drainage system to identify locations unable to sufficiently handle a 25 to 100 year rainfall event.
2. Project metrics must be established to complete projects within desired timeframes. These metrics may constitute financial penalties (reimbursements to residences affected) or financial incentives to construction contractors.
3. Improve floodplain requirements and complete existing stormwater improvement projects to increase NFIP Community Rating System to reduce insurance rates.
4. Properties that had over $5,000 in unreimbursed damage expenses and were reported to the city prior to 1 September 2018 should be granted a tax abatement for a period of eight (8) years or until the storm sewer projects are completed within that area.
5. Additional stormwater sewer infrastructure funding should be allocated from property tax revenues, LOSST revenues, or extracted from other departmental budgets.

APPENDIX A

CIP/INFRASTRUCTURE COMMITTEE MEMBERS

CITY STAFF

Pam Cooksey, Assistant City Manager

Bob Fagen, Finance Director

Jonathan Gano, PW Director

Steve Naber, City Engineer

Daniel Pritchard, Civil Engineer III

Kurt Rueckel, Sr. Budget Analyst

Nick Schaul, Asst. Finance Director

Anna Whipple, IT Director

Shekinah Young, CCO

COMMUNITY MEMBERS

Nancy Suby-Bohn

Steve Wallace

Margie Brown

Liz Seiser

Gloria Hoffmann

LeAnn Auxier

George Cockanye

Carolyn Uhlenhake-Walker

Steve Wade

Paula Deleeuw

Bob VanderLinden

Jenni Klise

Marlu Abarca

CIP/INFRASTRUCTURE MEETING MINUTES

DATE: September 17, 2018

PRESENT WERE:

Bob Fagen; Jonathan Gano; Kurt Rueckel; Gloria Hoffman; Shekinah Young; Bob Vanderlinden; Steve Naber; Pam Cooksey; Paula DeLeeuw, 2808 56th Street (Merle Hay/Beaverdale); LeeAnn Auxier, 3120 57th Street; Steve Wade; Jenni Klise, 2505 47th Street; Carolyn Uhlenhake Walker, 4111 Ingersoll #110 (member of Citizens Task Force on Sustainability); Dan Pritchard; Nancy Suby-Bohn, 312 Corning Avenue; George Cockayan, 2624 61st Street; Mark Land, Snyder & Associates; Nick Schaul; Anna Whipple; Ned Whipple

MINUTES:

Committee Goal: Examine the state of the City's stormwater utility infrastructure, the plan for improving it and lessons learned from our recent experience.

Today's agenda is to set a baseline.

Determine appropriate amount of protection for stormwater.

Minor storm – stay within street.

Major storm – stay within ROW.

Nancy Suby-Bohn and LeeAnn Auxier: Request for more information to be readily available – flooding information, sewer locations

Jenni Klise: Will presentations be available (emailed to committee)?

Jonathan Gano: Presentations will be available on the City website.

Jenni Klise: What was total damage from storm reported?

Jonathan Gano: City does not have that information.

LeeAnn Auxier: Kept hearing call 211 to provide data for FEMA, but 211 responders stated they were not a data collection service. Need better communication on what processes are.

Jonathan Gano: City is starting this year a small watersheds program (i.e. 30-50 acres) and looking at green infrastructure (marketing 100% cost share for green infrastructure); Also looking at a neighborhood watershed committee to shepherd improvements along.

LeeAnn Auxier: All the rain barrels won't fix issue when Merle Hay is next door with seas of concrete pavement; need to rezone and protect little green space left.

DATE: October 1, 2018

PRESENT WERE:

Bob Fagen, Jonathan Gano, Pam Cooksey, Dan Pritchard, Steve Naber, Nick Schaul
Gloria Hoffman, LeeAnn Auxier, Jenni Klise, Liz Seiser, Keith S, George Cockayan, Marge Brown, Nancy Suby-Bohn, Paula Deleeuw

MINUTES:

I. Citizen Committee Comments/Requests:
   a. Jenni Klise:
      i. Requested information regarding project completion dates
      ii. Requested a copy of the 2002 Closes Creek Study
      iii. Commented that taxes have increased
   b. Bob Fagen noted that the City's General Funds have not historically been used to pay for storm water improvement projects.
   c. Paula Deleeuw;
      i. Noted she has many neighbors not reporting and therefore not showing up on damage map
   d. Nancy Suby-Bohn;
      i. Called 211 and was told 211 was not taking information; she is looking for an avenue to submit
      ii. LeAnn Auxier: needs to be a reporting agency (211 is a referral source)
   e. Jenni Klise asked how much of a difference (calculated) will rain barrels and soil quality restoration help?
   f. Multiple Citizen Committee Members request a presentation on storm water rebate eligibility
   g. LeAnn Auxier requested an infrastructure map for her neighborhood (3120 57th St.)
   h. Gloria Hoffman – Suggested direct some of general funds to storm water to assist with project completion timeline.
   i. Jonathan Gano
      i. Noted 57th St. is located on Rockland Creek, which flows to Urbandale, to Clive, to Walnut Creek, and finally into the Raccoon River.
      ii. Small watershed approach will be looking at neighborhoods that had identifiable problems/damage.

II. Presentations Given (Nick Schaul to email the link address to presentations when posted)
   a. Nick Schaul: Government Finance; Governmental Funds and Proprietary Funds (i.e. sewer, parking)

III. Next Meeting to be held October 29th, committee requests locations outside of the downtown area.

DATE: October 29, 2018

PRESENT WERE:

Bob Fagen; Keith J.S.; Steve Wallace; Paula DeLeeuw; Nancy Suby-Bohn; Jenni Klise; Daniel Warfel; Carolyn Uhlenhake-Walker; Steve Naber; Bob Vanderlinden; Jonathan Gano; Dan Pritchard; Kurt Rueckel; Liz Seiser; Nick Schaul; Steve Wade; Pam Cooksey; Margie Brown; Gloria Hoffman

MINUTES:

Stormwater Best Management Practices

Jonathan Gano gave apresentation on Stormwater Best Management Practices (BMPs).

The City currently provides a 50% rebate City-wide for Stormwater BMPs for residential and commercial properties, and will consider 100% rebate in areas of public interest.

Question: Is the redevelopment of Franklin Junior High looking at best management practices?

Response: City staff believes they are very early in conceptual design and is not at that stage in the design process.

Committee members discussed considerations for possible abatements for developments who implement green infrastructure.

Committee members discussed possible "targeted areas" which have more progressive development/stormwater requirements.

If every home in 47th and Holcomb watershed (180 homes) had two rain barrels (2 cubic feet), 15% of rooftop surface runoff would be managed.

No single best management practice tool is a single bullet, but collectively can make a large impact.

Des Moines Small Watersheds Manual

Jonathan presented a draft Des Moines Small Watersheds Manual which is aimed at watersheds which are 100 acre or less, preferably at the top of the hill/watershed (no pass through flow).

Steve Wallace: Are maps showing flood damage available? Steve would like to see his neighborhood (Brook Run).

Jonathan Gano: City staff will create PDF(s) of map and make it available to Committee members. For small water sheds, the City will tailor its first efforts toward areas with the most severe damage.

Paula: What are plans for 57th Street area (Rockland Creek)?

Jonathan: The City is looking at a joint project with Clive and Urbandale looking at Merle Hay Mall (in conjunction with potential redevelopment of Merle Hay Mall).

Gloria Hoffman: Asked about funding for small watersheds

Jonathan: The City Council has approved a rate hike for stormwater utility which included an additional $2M per year for 5 years (which made the budget for small watersheds budget increase from $1M per year to $3M per year).

General fund has not been and is not used for stormwater projects because the City has a designated enterprise for stormwater (stormwater rates collected Citywide only for stormwater purposes).

Plans that do not re-direct the flow of stormwater do not require community approval beyond that of the Working Group.

Major projects will require a combination of public improvements and private improvements.

Gloria Hoffman: Believes an allocation of LOSST should go toward these stormwater programs.

If LOSST were to happen, it would likely be in March.

DATE: November 13, 2018

PRESENT WERE:

Bob Fagen; Jonathan Gano; Pam Cooksey; Kurt Rueckel; Roy Ferrani; Jenni Kline; Gloria Hoffaman; Keith Szastrom; Margie Brown; Carolyn Uhlenhake Walker; Steve Wade; Dan Pritchard; Bob VanderLinden; Nick Schaul; Steve Naber

MEETING MINUTES:

City Engineer, Steve Naber, offered a presentation to the committee regarding the following program projects:

- Separation Projects
- Flood Mitigation
- Stormwater

Remaining time was spent in discussion/collaboration regarding the committee's Report to Council

All members were asked to submit "lessons learned" and "recommendations to council" to Jena Johnson at jnjohnson@dmgov.org by Wednesday November 21. Jena will distribute submittals daily as received by committee members.

DATE: November 26, 2018

PRESENT WERE:

LeeAnn Auxier; Jenni Klise; Gloria Hoffmann; Keith Sjostrom; Dan Pritchard (City); Nancy Suby-Bohn; Bob Fagen (City); Jonathan Gano (City); Nick Schaul (City); Kurt Rueckel (City); Pam Cooksey (City); Steve Naber (City); Carolyn Uhlenhake Walker; Steve Wade

MEETING MINUTES:

Lessons Learned (Discussion):

1. Design infrastructure to accommodate 1% annual exceedance rainfall event; encourage properties in 0.2% annual exceedance rainfall event to obtain flood insurance. Encourage building resiliency in designs to accommodate climate change (more intense events occurring more frequently) – plan for future and don't develop plans based on past data.

2. Need to improve communication on Capital Improvement Program projects / plans and progress.

3. City has a good referral system (211 Call Center) but does not have a good recording system for damage when disasters occur rather than just giving out information. Concern for not having damage recorded may impact federal disaster assistance.

4. Post cards/mailings and yard signs were sent out too late.

5. Needs to be standard on why some homes are bought out and others aren't. Criteria for what is considered to be a buyout needs to be made public. Two homes with yellow tags could have drastically different amount of damage costs.

6. Raise stormwater management standards for new infill development (in established neighborhoods) especially in "hot spots" and consider incentivizing higher stormwater management standards in "hot spot" neighborhoods.

Recommendations to Council (Discussion):

1. Make sure as new staff comes on board, make sure they are educated on past commitments, plans, and studies (and assure continuity in implementation).

2. Commit a specific / healthy percentage or dollar amount of potential Local Option Sales Tax to storm water projects for five years or until projects completed.

3. Any new money the City receives (i.e. increased property valuations) should be allocated to stormwater management projects for five years or until projects completed.

4. Work with Polk County abatement policy for property assessments for those who can validate $5,000 or more in flood related expenses (this would help appeal process).

5. Create a city-wide stormwater master plan.

6. Interest in continuing communication with the CIP/Infrastructure Committee after providing recommendations/lessons learned document. Everyone on committee gets an email anytime stormwater management matters are discussed.

City staff will compile comments in single document/report for December 10, 2018 meeting.

As a committee, come up with summarized most passionate recommendations, but include all comments/recommendations/lessons learned as an appendix to report.

City Budget Meeting scheduled for 7:30AM, December 17, 2018 and will present overall Stormwater Budget; however, that meeting will likely have a very similar presentation slides/topics discussed at the November 13, 2018 CIP/Infrastructure Committee Meeting.

DATE: December 10, 2018

PRESENT WERE:

Bob Fagen, Carolyn Uhlenhake Walker, Kurt Rueckel, Pam Cooksey, Jenni Klise; LeAnn Auxier; Dan Pritchard; Keith Sjostrom; Gloria Hoffmann; Nick Schaul; Bob VanderLinden; Steve Wade; Steve Naber; Nancy Suby-Bohn

MEETING MINUTES:

Review of draft recommendations. Gloria Hoffman offered some edits related to future projects and funding.

1. Recommendation from Leann Auxier:
   By June 30, 2021 secure an independent study and assessment of stormwater issues city wide. Create a master plan to address identified needs. Work with neighboring cities to fully complete the master plan.

- Need a plan
- Want accountability
- No more than two years to get the study.

Masterplan RFP for consultant after LOSST passes, March 2019. Work starts after July 1, 2019

Target consultant agreement for June 24, 2019. RFP issue by end of March 2019.

Include item as number 3

Work Session – January 7 planned at 7:30 am. Not planning for everyone to speak. Name a spokesperson

Recommend – For hot spot areas increase reimbursement from 50% to 100% and raise cap above $2000.

How many people have used program? What is barrier? Money up front?

Steve Wallace recommendation – currently seen as a private property issue. Committee position? Put into report at end with all recommendations.

Climate change – be visionary. Iowa City has a climate action plan and an adaptation plan. UNI prepared for Iowa City and has offered to help Des Moines. Has proposed to perform with students for $25,000.

Development/ subdivision design. No drainage on Urbandale Ave – city should do its part. Citizens do their part. Be proactive. Put in drainage, catch it where it lands. Want masterplan to help identify areas for this type of improvement.

Only include first six items. Include rest of recommendations in the end of report.

Next steps

Draft report will be distributed for review and comment by the end of week (12/14/18)

Committee members are asked to respond back by 12/21/18.

Stormwater work session is planned for 12/17/18. Meeting will be located in lower level of City Hall at 7:30 am.

Presentation of recommendations at January 7th Council work session.