Storm Water Task Force Final Report – November 2024

Background

A Storm Task Force was established in February 2024, by the Geneva City Council. The task force consisted of City staff, community members, and other stakeholders charged with working throughout 2024 to compile a set of recommendations for programs, protocols and policies that will mitigate weather impacts as well as often protection to the City during weather events.

Recruitment for task force members began immediately following the passage of the resolution and the following community members joined the task force:

Bryson Cochran	Jacob Fox	Julia Hoyle*	Anthony Noone
Erin Norris	Judy Salotti	Jim Sibeto	Cassie Sneider
Sara Wagner			

City Staff representing the City Managers' Office, Geneva Fire Department, Department of Public Works, and the Geneva Police Department supported the work of the task force. Representatives included:

Thomas DiCostanzo	Ronald Eveland	Amie Hendrix	Del Parrotta
Nick Raplee	Kevin Reed	Joe Venuti	

In March, the entire team came together to discuss the committee charge and to break into smaller working groups focused on Infrastructure, Emergency Planning and Community Education. The subgroups then met on an on-going basis with the full group coming together at least quarterly. Each subgroup was charged with gathering current information regarding the systems of the city, exploring best practices from other municipalities, and creating ideas for implementation in the City in 2024 and beyond. At the quarterly full group meetings the information from the smaller groups were shared, comparison of the information was conducted, and new charges for gathering more information were crafted. The results of the meetings are the proposals below, broken into several categories.

Ongoing Storm and Sanitary Sewer System Maintenance

Effective maintenance of storm and sanitary sewer systems is crucial for ensuring the efficient management of water flow and preventing flooding. This involves several key activities, each playing a vital role in maintaining the integrity and functionality of the systems.

Televising Lines

Televising sanitary and storm sewer structures is a proactive measure that involves using CCTV cameras to inspect the interior of the pipes & manholes. This process helps identify blockages,

*Ms. Hoyle resigned from the Task Force on June 24, 2024

cracks, or any structural issues within the sewer systems. Regular televising ensures early detection of potential problems, allowing for timely interventions and reducing the risk of larger,

more costly issues in the future.

Benefits of Televising Lines

- Early Detection: Identifies issues before they escalate.
- Cost-Effective: Prevents expensive repairs by catching problems early.
- Accurate Assessment: Provides a clear view of the pipe conditions.

Repairing

Once issues are identified through televising, targeted repairs are essential to restore the system's functionality. These repairs can range from simple patching of cracks to more extensive structural fixes. Ensuring that repairs are done promptly and effectively prevents further damage and extends the lifespan of the sewer and storm systems.

Common Repair Techniques

- Patching: For minor cracks and leaks.
- Sectional Repair: Replacing damaged sections of pipe.
- Joint Sealing: Fixing leaks at pipe joints.

Slip-Lining

Slip-lining is a method used to rehabilitate existing pipelines. It involves inserting a slightly smaller, new pipe into the existing, damaged pipe. This technique is less disruptive and more cost-effective than complete pipe replacement and is suitable for addressing various issues such as corrosion, leaks, and cracks.

Advantages of Slip-Lining

- Minimal Disruption: Requires less excavation compared to full replacement.
- Cost-Effective: Cheaper alternative to replacing entire pipe systems.
- Durability: Provides a long-lasting solution to pipe deterioration.
- Faster: Lining is typically many times faster than full replacement

Increasing Pipe & Inlet Sizes

In some cases, existing pipes & inlets (such as catch basins) may be inadequate to handle the volume of water, especially in areas experiencing growth or increased rainfall. Increasing the size of pipes & inlets is a crucial step in enhancing system capacity and efficiency. This involves replacing smaller pipes & inlets with larger ones to accommodate higher water flow.

Reasons for Increasing Pipe & Inlet Sizes

- Capacity Needs: Address increased water flow demands.
- Prevent Flooding: Reduce the risk of overflow during heavy rains.
- Future-Proofing: Prepare the system for future growth and climatic changes.

- General Improvement: Allows for replacement of older infrastructure.

Regular maintenance of storm and sewer systems, including televising lines, repairing, slip-lining, and increasing pipe sizes, is essential for ensuring efficient water management and preventing potential system failures. While each strategy is currently used in some form by the City, they can all have costs associated with their use. It is important we continue to provide these services in addition to the other recommendations throughout the report. By implementing these strategies, the City can continue to work to safeguard our current infrastructure and enhance resilience against both environmental challenges, and those that come with expanding development.

Digitization of City Storm and Sanitary Systems and System Inspection Records

Proper mapping and comprehensive information are essential for developing an effective routine maintenance plan for any system. It is imperative to identify and plot every structure and pipe to create a functional map of the city's infrastructure, which will serve as the foundation for the maintenance plan. Access to this data will enable us to adopt a proactive approach to routine maintenance while ensuring meticulous record-keeping for future reference and potential legal challenges. Currently, we lack a digital system that consolidates this critical information.

There exists both 1983 and 2004 infiltration studies that identify areas of possible storm water infiltration into the sanitary system. Combining our system mapping and maintenance program with a systematic approach of these report's repair recommendations is a solid blueprint for an action plan, without needing to hire additional consulting agencies.

Moreover, the digital documentation of routine maintenance practices within the Department of Public Works has not been standardized. Locating maintenance logs can be a cumbersome task. Establishing a systematic approach to record-keeping will facilitate easy access to information and help identify areas requiring attention. It is advisable to create a Policy and Procedure that alerts city staff when a structure has not been inspected within an appropriate timeframe.

Although implementing a comprehensive mapping and digitization system may require considerable time and financial investment, we recommend exploring an internship opportunity in 2025. This would allow a student to collaborate with the Department of Public Works on GIS mapping. The costs incurred by the City would primarily involve GIS programming, which is already budgeted, along with staff time dedicated to supervising interns, and managing collected information.

To ensure the successful digitization of maintenance projects, prioritizing this initiative among staff is crucial. This may necessitate delaying other tasks to establish standardized systems and processes.

With digital information of the city's storm and sanitary infrastructure, the entire system can be easily changed and monitored in one location, allowing it to always be up-to date system wide, and evolve with changing storm habits. This would allow us to potentially create a future hydraulic model of the city that would allow us to evaluate areas requiring increased infrastructure, and evaluate the impact of new upstream construction on downstream capacities.

Ordinance Review and Update

The City should commit to reviewing its ordinances to ensure they are conducive to effective storm water management. This review can help mitigate flooding, improve water quality, and enhance the city's resilience to extreme weather events.

1. Runoff Reduction Strategies

To effectively manage storm water, reducing runoff is essential. Ordinances should focus on:

> Limiting Impervious Surface Area: Set maximum limits on impervious surfaces for new developments and encourage the use of alternative materials. Additionally, revisit existing city code that sets limits on acreage of cultivation, gardening, and other activities. Specifically, limitations set under City code Chapter 100-1A. A sample ordinance for this can be found in Appendix B.
>
> Mandating Onsite Water Retention: Require new constructions to implement onsite water retention strategies, such as detention basins or underground storage tanks.

2. Green Infrastructure Incentives

Encouraging the use of green infrastructure can significantly improve storm water management. Geneva should consider ordinances that:

> Promote Permeable Surfaces: Incentivize the use of permeable pavements in new developments and retrofitting existing infrastructure.
>
> Encourage Green Roofs: Provide tax credits or grants for buildings that incorporate green roofs, which can absorb rainfall and reduce runoff.
>
> Support Rain Gardens: Facilitate the installation of rain gardens by streamlining permitting processes and offering technical assistance.

By reviewing and revising our ordinances to support effective storm water management, Geneva can enhance its environmental resilience, protect water quality, and reduce the risk of flooding. This proactive approach will demonstrate Geneva's leadership in sustainable urban planning and contribute to a safer and more livable city for all its residents.

The resources needed for this will be staff time to review and update all current city ordinances that relate to the above ideas, as well as ensuring that future developments meet city standards.

Sump Pump Ordinance

During storm events, the existing sanitary sewer system sees a dramatic spike in inflow to the treatment plant. This has been observed to be a direct result of storm water infiltration. One cause of storm water entering the sanitary system is improperly installed sump pumps in buildings. Sump pumps that are directly connected to the City Sanitary sewer are against building code. By inspecting the sump pump connections at the point of a home’s sale, it will allow the City to gradually reduce the storm water infiltration entering the Sanitary system, especially during rain events.

Homeowner sewer cost rates are calculated based on water usage, not discharge. Storm water entering the Sanitary system must be treated but is not measured via a ratio of water usage, like typical discharge would be. Overall, the less storm water infiltration, the less that needs to be treated at the sewer treatment plant which reduces operational costs and impacts to the plant. An additional benefit may be a reduction of operational costs realized as savings to homeowners on their city water bills, due to a sewer rate reduction.

The cost of installation would be on seller of the property at the time of sale. Costs to the city would be a proponent of existing staffs workload/hourly wages. Homeowners will have to schedule inspections as we need to enter their home, meaning time out of the DPW staff members day to take calls and schedule the inspection, the employee that has to go out and perform the inspection (1hr ea.) and any paperwork involved with the final report (30 ea.) Roughly 1.5 hour of city time per inspection (250 eligible buildings sold in 2023). A sample ordinance can be found in Appendix C.

Municipal and Businesses Engagement and Collaboration for Water Retention Initiatives

Addressing the challenges of stormwater management and flooding in the City of Geneva requires a collaborative approach involving multiple stakeholders beyond the City. Using a collaborative approach which invests in water retention strategies, Geneva and the surrounding municipalities and businesses can enhance its resilience to climate change, protect its infrastructure, and ensure a sustainable future for its residents and businesses. The task force recommends continued conversations and partnerships with the surrounding municipalities and businesses, such as Cornell University, to implement shared strategies including retention basins, green infrastructure, permeable pavements, and bioswales.

Educational Materials

A critical area identified by both the community education and emergency preparedness subgroup is the insufficient information available to residents regarding appropriate actions to take when a storm affects our city. To address this, both groups have reviewed various mechanisms for enhancing information dissemination and recommend the following solutions:

- Refrigerator Magnets: The City should develop magnets that include essential contact information for emergency services beyond the standard 9-1-1. These would encompass numbers for NYSEG, non-emergency fire services, and other relevant contacts. This initiative would ensure that vital information is accessible to all residents, making these magnets available at City Hall and through realtors during home sales.
- Information Pamphlets and Complementary Websites: The proposed pamphlets would provide critical information and contact details relevant during weather emergencies. They would build upon the City's existing social media posts concerning large-scale hurricane impacts and include guidance on storm preparation. A companion webpage would be developed for those who prefer digital formats. Both the pamphlet and website would feature contact numbers and descriptions of emergency services offered by various

agencies (Police, Fire, DPW, NYSEG). To enhance longevity, the pamphlets could be laminated for distribution in homes.

- Classroom and Office Posters: These would serve as supplementary materials to the pamphlets, made available in classrooms and public buildings to promote awareness.

These educational resources aim to empower the Geneva community to better prepare their homes for extreme weather events, offering guidance and awareness regarding available resources before, during, and after such occurrences.

Local services are available to assist in the printing and production of these educational materials, with anticipated creation and production costs estimated at $8,000 plus resources for staffing for creation of the materials.

Community Engagement on Storm Water Management

Engaging the community in understanding the importance of stormwater can lead to more sustainable practices and shared responsibility among residents. Here are some strategies we propose to foster community engagement regarding stormwater management:

1. Educational Workshops and Presentations

Organize workshops and presentations that focus on the fundamentals of stormwater management. These sessions can be held at local community centers, schools, or virtual platforms to reach a broader audience. Topics could include:

- The impact of stormwater runoff on local ecosystems
- Best practices for reducing personal contributions to stormwater issues
- How to implement rain gardens and other green infrastructure solutions

2. Community Clean-Up Events

Hosting clean-up events in local parks or waterways helps raise awareness about the impact of litter on stormwater systems. Participants can see firsthand how debris can block storm drains and lead to flooding. These events also foster a sense of community and collective responsibility for maintaining clean and effective drainage systems.

3. Rain Barrel Workshops

Rain barrels are an effective way to manage stormwater at the residential level. By collecting rainwater, residents can reduce runoff and use the water for gardening or other non-potable purposes. Hosting workshops on how to build and maintain rain barrels can empower residents to take action at home.

4. Partnerships with Local Organizations

Collaboration with environmental groups and businesses to enhance community outreach is crucial for the success. These partnerships can provide additional resources and expertise to amplify the message and reach a wider audience. One such partnership may be working with Geneva Reads to incorporate water themed books into the story walk at the Lakefront park.

By engaging the community through these strategies, residents can better understand their role in stormwater management and how their actions can positively impact the environment and their neighborhoods.

The expected resource needs for community engagement would be staff times to develop the presentations, coordinate the clean ups and time to assist with rain barrel creations. The total cost is estimated in ~$15,000 of staff time per year.

Audible Alarm System

To assist in alerting the community when a weather event is to occur, an audible alarm system is recommended to be installed in the downtown area. This alarm would serve multiple purposes beyond just flooding. Uses would be to alarm the community of a breach of Castle Creek, and any other severe weather emergency such as a tornado warning.

The alarm system would be used to notify community residents within the radius of the alarm that danger is imminent, and they should prepare for said emergency. It is important to have a multi-purpose siren, not just for flood waters. The siren could have specific tones assigned to a natural disaster. For instance, three short bursts would indicate flood water and/or Castle Creek breaching. A steady wail would indicate a tornado warning.

One example of a product would be the 10v system from Sentry Sirens. This system can produce 115 dB(C) at an estimated 3,300 ft range. The cost for this siren is $7,500.00. The smallest model can produce 107 dB(C) at an estimated range of 1,700 ft with a cost of $5,400.00.

Lastly, Sentry Sirens also has the SV-8 option. It Is rated to 110-116 dB(C) with an effective range of up to 2,500-3,500 ft. This model has pre-recorded siren tones and “giant voice” messages customizable for municipal alerts.

Ongoing Support of the Emergency Response Trailer

In 2024, the City of Geneva purchased an Emergency Response trailer that is located at the Geneva Fire Department. Maintaining an emergency response trailer for storm events is crucial for ensuring that our emergency teams are prepared to respond efficiently and effectively when disaster strikes. A well-maintained trailer can be the difference between a rapid, organized response and a chaotic, delayed one. Below, we outline the key aspects of the ongoing maintenance and materials for this response tool.

1. Regular Inspections

Conducting regular inspections is vital to ensure that all equipment and supplies are in good working order and ready for immediate deployment. Inspections of the trailer supplies will occur monthly basis and ensure that all equipment, such as generators, lights, and submersible pumps are in proper working order.

2. Inventory Management

Keeping an updated inventory is essential for knowing what available and what needs replenishment within the trailer. A comprehensive checklist of all items stored in the trailer is

available on the trailer and members of the Fire Department will regularly check and restock essential supplies like first aid kits, water, and equipment located on the trailer.

3. Equipment Maintenance

Following any use of the trailer all equipment will be cleaned to protect it from weather elements to prevent rust and corrosion.

4. Training and Drills

Conducting regular training and drills ensures that teams are familiar with the trailer and its contents. All personnel will be trained on how to operate the equipment and perform basic maintenance and drills to simulate storm response scenarios can allow the teams to practice deploying and using the trailer's resources.

5. Documentation and Record Keeping

Maintaining accurate records is essential for accountability and improvement. The Fire Department will maintain logs of all inspections, maintenance activities, and inventory changes. Regularly reviewing logs and updating procedures based on past experiences and feedback.

The ongoing resource commitment will be in replacement of materials within the trailer once used.

Daylighting of Castle Creek

Preserving and protecting small streams is the most effective way to ensure environmental and community benefits, such as clean water and flood reduction. In urban areas like downtown Geneva, small headwater streams are often concealed and forgotten, making their protection challenging. Stream daylighting is a relatively innovative method that revitalizes these buried waterways by physically uncovering and restoring them. This technique helps communities tackle issues like polluted runoff, flash flooding, and enhances the livability of urban environments.

The advantages of daylighting are numerous, including increased hydraulic capacity for flood control & future upstream development, reduced water velocity to lessen downstream erosion, community and ecological revitalization, and improved water quality. Additionally, daylighting can be more cost-effective compared to underground repairs of a failing culvert. The design can also incorporate more aesthetic amenities compared to traditional grey infrastructure.

Implementing this program would require significant resources and take several years. Recently, Castle Creek has overflowed its banks multiple times. The volume of water attempting to pass through the closed culvert exceeds its capacity, leading to overflow situations. Resizing the existing underground culvert would be expensive, especially with structures above it. In fact, it might be more cost-effective to purchase and demolish buildings obstructing the waterway to enable open excavation rather than tunneling beneath existing infrastructure.

Cities across the nation, including Bee Creek, Iowa; Arcadia Creek, Michigan; and Saw Mill River in Yonkers, NY, have successfully undertaken daylighting projects.

The anticipated cost for daylighting of Castle Creek could be $1-5 Million, with a full reconstruction being well over $10 Million. The project scope would need to be further developed as the City reviewed purchasing properties to make daylighting occur.

Conclusion

There is a wide range of work that can be done to assist the city in preparing for and mitigating the impact of weather events. The eight items contained in this report vary in complexity, resource needs, and impact to the City. While some solutions can be put in place very quickly, others could take years to complete. It will be important for City Council to choose which areas they would like to take on in the short term and which goals they would like to aspire to in the long term.

Appendix A: Meeting Notes from Task Force Meetings

Mission of the Task Force

This task force consisting of City staff, community members, and other stakeholders, are charged with working throughout 2024 to compile a set of protocols and policies that will protect our city. Individual teams may be created within the Task Force to tackle different areas of preparedness and response. Recommendations will be presented to Council by November 2024.

March 12 Full Task Force Meeting Notes

The members of the Storm Task Force meet on March 12 and reviewed their charge, which is to research and provide recommendations to council for ways to respond to and mitigate storms in the City.

The members have divided into three teams focused on Infrastructure (Headed by Director Venuti - B. Cochran, E. Norris, J. Sibeto) Preparation and Emergency Planning (Headed by Acting Chief Eveland & Chief Parrotta, A. Noone, J. Salotti, S. Wagner) and Communications and Community Education (headed by CM Hendrix, J. Fox, J. Hoyle, C. Sneider).

The teams will be meeting on a regular basis and then come back as a Task Force at least quarterly. The Staff will be working with the teams to identify resources for the group to create their recommendations.

A few ideas that the groups brainstormed include:

- Alarm system to check Creek water levels monthly (Possibly used in the Rochester area?)
- Regulations on leaf collection. Requiring City residents to place leaves in bags as opposed to piling on the side of the road.
- Preparing a brochure of some sorts with misc. educational ideas to City residents.
- Explore temporary emergency housing if people are misplaced.
- Creating a campaign focused on capturing water vs. run off
- Reviewing ordinances related to rain gardens
- Researching the infrastructure and developing annual plans that are clearly communicated
- Changing the way debris is collected in the city
- Create neighborhood alert programs and neighborhood response programs during weather events
- Create homeowner packets on obtaining abstracts, what to know during an event, who to call

Emergency Preparedness Working Group Meeting Notes

March 12 Notes

I wanted to thank you all for your comments and suggestions last night as we discussed some emergency preparedness and planning ideas. Some topics of discussion were:

Alarm system to check Castle Creek water levels monthly (Possibly used in the Rochester area?)

Regulations on leaf collection. Requiring City residents to place leaves in bags as opposed to piling on the side of the road.

Preparing a brochure of some sorts with misc. educational ideas to City residents. Could be placed in water bill envelope to reduce on postal fees. Some ideas for the brochure were reminding residents to clear out catch basins prior to a storm, turning off utilities if experiencing flooding etc. Could also put information out in the newspaper.

Explore temporary emergency housing if people are misplaced.

We had lots of discussions and I may have missed a thing or two, but these topics were the ones discussed the most.

Our next meeting is scheduled for **Thursday, April 4th at 5:00 p.m. at the Public Safety Building.**

April 4 Notes

- Discussed identifying and communicating flood zones with the public via an accessible flood map
- Educate citizens on alerts (flood watches and warnings)
- Further education on properly securing utilities
- In the event of a storm causing families the need to relocate, possibly speaking with hotels to see if they would offer accommodations
- Debris clean up post storm. It was brought up that many people in Geneva do not have the ability to access a truck and/or trailer to assist with large debris clean up.

Judy brought in a brochure she purchased on Amazon. We discussed the idea of making a brochure that is of nicer quality in the hopes that people actually keep the brochure and not toss it in the trash can.

We discussed a siren system again when the creek water is elevated and could experience flooding. There were many discussions about the old siren system at City Hall and if we could ever get the system back in place. Budget was a big part of this conversation.

We discussed a text-alert system to notify residents of potential flooding. Similar system used with our winter snow emergency notifications.

Follow Ups:

- Anthony will review some of the budget concerns that were raised
- Sarah is going to look up historical weather data for dates of flood events.

Next meeting is scheduled for **May 2nd, 2024 @ 5pm at the PSB.**

Infrastructure Working Group

March 12 Notes

- Land use & development – City developed a questionnaire/survey/form to be filled out that has questions that may help future actions

- City is working on new maps/GIS things to understand and track maintenance
    - Required to track maintenance due to permits (NPDES?)
- Thoughts on Pre Emption Road with curbing and increased development with more drainage (impervious surface) going to Castle Creek/getting to Castle Creek faster
    - This was done/20-25 years ago, but there are still feelings in the City about the effects
- Some systems in the city are over 125yrs old
- City will be pursuing a DWSP2 Plan this year
- Last study (flood? Hydraulic? Hydrology?) was done ~20 years ago clarification: infiltration and inflow study was done 20 yrs. ago, cemetery creek study was commissioned in 2018 and finished in 2020.
    - Officials would like to look back at that study and see what exactly was done
- The City works with/partners with Town of Geneva Code Enforcement
- Castle Creek is a trouble area – walking the creek is possible to an extent, can see walls caving in
    - Are there easements?
- Loomis Creek – woods across from the High School – land donated to City to be forever green
- Hydraulic study for water mains (performed 2021)
    - Plan to do for sewer and stormwater
    - Move everything over to digital format
- Working Group Aim: pick 2 or 3 topics as a goal to achieve
    - Meet April to October
    - Presentation to Council in November
- Challenges for the City:
    - #1 is Castle Creek (biggest watershed an all goes down to one small point), awful lot of debris in the stream (often DEC and EPA say to leave it, but that doesn't always sit well with residents and others)
        - Ramada hotel had a cave in once
    - Grants/funding opportunity
        - City responsibility vs. private property
            - Ex: Captain's Room and rental store are built right over creek and they have big structural issues
    - Behind the funeral home, lost significant portions of the parking lot
    - Retaining wall on Dorchester Ave
    - Glenwood Creek (goes from Pultney to Hobart and there are dams behind the bookstore
- Next Meeting: Wednesday, March 27 at 5pm. Kevin/Joe will send an invite.

March 27 Notes

Proposal: Amend City code to include an ordinance that would see that Sump Pump inspections be performed at the point of sale.

Further Detail/Background: It is current code that residential sump pumps be connected to the storm system and not sanitary. However, it is known that many homes that have existed since

before these requirements are connected into the Sanitary system and have been “grandfathered” in. During rain events, not only does this increased water cause greater load on our sanitary treatment system, it creates a backflow hazard into the basements of the homes, where raw sewage can potentially come back into people’s basements.

Objective 1: Add a line in our code book requiring inspection of sump pump discharge at the point of sale, if it is connected to the Sanitary system, the owner must repair prior to selling.

Notes:_Joe provided example code of other municipalities, as well as a draft of a proposal for Geneva. Request funding for a staff member to perform these inspections?

ACTIONS:

- Kevin to get print outs of relevant code sections and send to group for review (sewer code is section 277). Include link to ecode 260.
- Group to review an provide thoughts, compare to other towns/cities. Joe to send to legal review.

Proposal: Mapping or City Sanitary & Storm Systems / Maintenance Recording

Further Detail/Background: our current mapping system was last updated in the 1970’s and our Storm system in 1967. In the 2010s, and effort was made to collect GIS data of the system and create new maps. Unfortunately, budget changes, transition of staffing, and transferring of data have lead us to having incomplete data for the system.

Objective 1: Complete data collection of storm and sanitary systems (currently 90%) and map accordingly *(see example map)*

Objective 2: Using the new mapping system, create Sanitary and Storm maintenance checklists that include the entirety of structures, and piping within the system. Include data on the checklist that will allow us to track the age, material, and last time maintained of the runs. *(see example sheet)*

Notes: Updating maps and structure inventory before creating maintenance trackers would be best, but do not want to wait on doing it if map creation is going to be too long of a wait.

Ian smith – with Geneva as a member of the intermunicipal org, can we use their equipment and interns for GIS info tracking? This would be a great resource going forward once we have a plan.

ACTIONS:

- Kevin to get maintenance plan from city workers for next meeting to discuss for cleaning and repair
- Kevin and Bryson to meet individually to discuss data and existing maps
- Kevin to distribute colored storm drainage map

Proposal: Research Grants that could be used to assist goals

ACTIONS: Erin Discussed looking into grants that other municipalities have used, as well as others existing that would align with our goals

Additional Notes/Comments:

- How does property access work in areas of castle creek that we do not have easements on? What has been done historically? Great question, developing a system for this would be very useful and is part of the greater castle creek planning!
- Discussed waste water plant budget (1.474mil) and sewer budget (757k)
- The city of Geneva is part of an MS4 Program
- Discussed Storm water utility tax. See if City of Ithaca did. Use to fund mitigation, studies, grant work, use a matching fund, etc. – City of Wilmington Delaware.
- No development fee for City of Geneva Discussed how the town uses fees to fund their park.
- Bryson expressed interest in castle creek and mapping:
- Sanitary run along creeks…make a path along the right of way for clearing…make into a trail in the future.

Next Meeting TBD

Communications and Community Engagement Working Group

March 12 Notes

What should we be communicating to residents?

- How to prepare and plan for weather events
- What they should know about their properties
- What the City is doing
- The importance of our water system
- How to prevent water build up
    - Rain Barrels
    - Plantings
    - Mow free zones

What things we would like to change/encourage

- Ordinance on % of yard that can be planting
- Compost uses
- More communications from City
    - What the city is doing

March 19 Notes

- Work with Geneva Reads on book for children regarding Water on the book walk
- Create copy to put in weekly updates from City
    - Once we have copy Amie can work with her staff
- Can we create maps for communicating current sewer lines?
- Send out messages on SM for City (Rough Copy below)

- First one- Hey Geneva! There has been a lot of crazy storms in the last few years we want to start this series to keep you well informed about what is going on / messaging about how you can help reduce stormwater in the city
    - include info about disaster preparedness
    - where do I go if I am in the different wards during a big storm
    - who do I call if my house is flooding / other natural disaster / pollution questions
    - include info about how homeowners should prepare (electricity safety, gas and other hazardous materials storage, etc…)
- Second one - Hey Geneva here are some things we are doing as the city
    - brook st stabilization project
    - the city has been cleaning out pipes (show pictures)
    - explain why they go so clogged and how residents can help them stay unclogged / information about ongoing maintenance
    - We would like you to not pour bad things down drains, don't use disposals and other ways to make the city work easier and less frequent

- Third one - hey geneva here are some things you should do
    - "leave your leaves" - leaves are meant to biodegrade and provide food for your soil. Let your leaves breakdown over winter and there will be a noticeable improvement in your soil health which will help capture stormwater and foster pollinators / other important insects and birds
    - compost your food scraps - we have a drop-off facility at Doran Ave, we have compost pickup, and we have backyard composters for free for city residents
    - spread compost on your land and make rain gardens
    - this is a good opportunity to talk about the change in zoning and why we want rain gardens more than lawns and why
    - add a rain barrel to your downspout (city will be hosting a rain barrel workshop apr 27 at mission zero
    - - signup link for rain barrel workshop https://docs.google.com/forms/d/e/1FAIpQLScCKGUUziRzzdKNHmaX1WIFX1SvhzGF9kj4E2C98xj7gY6kuQ/viewform?usp=sf_link

- Fourth one
- highlight the wastewater and water treatment facilities. Talk about what they are doing down there and how we compare to the rest of the state in our water / wastewater treatment

- Some other opportunities for part of the series
    - highlight on upland retention work already done in the town and the city and talk about the importance
    - talk about the process of soil and water and how projects can get done through a collaboration between homeowners/ residents and soil and water and local municipalities

Next Meeting: April 15 7:30am – Water and Waste Water Treatment Plant Tours

June 24, 2024 Full Task Force Meeting Notes

Present, Joe Venuti, Judy Salotti, Ron Eveland, Tom decosztanzo (FD), Nick Raplee (FD), Kevin Reed, Sarah Wagner, Cassie Snyder, Amie Hendrix, Anthony Noone

Education and Outreach

- Came up with the idea to break down the information into seasons and distribute appropriate info. Discussed changes in policies and practices ex: landscaping in lawns and how different plants and arrangements can aid in flood prevention
- Discuss ordinance changes, suggest rain barrels,
- Use existing resources for education (book walk at lakefront to have info on storm water? ((editor's note: maybe a future castle creek walk could have information placards along the creek walk 😊)))
- Needs: make existing and proposed print media more appealing via canva and other resources, budget implications: no existing money is slotted for this type of education, perhaps we can introduce funding in the future budgets.

Emergency Planning

- Collecting information via surveys and discussions to understand repair costs from previous events, things they'd like to assist with future events, tools to help them during flooding,

Infrastructure

- Sump pump infrastructure: update codes to have sump pump inspections at point of sale. No existing inspections unless you complain. Language presented to team for review. (Had discussion with member about how sump pumps and storm water relate to sewer overloading. Good example of why we need to have information available and communicated to people)
- Mapping, gis data: Bryson discussed reaching out to HWS/ FLX institute to receive help with GIS. Maybe a student can complete the data trove we have. I believe he reached out but no one was working on this summer.
- Backflow Preventers: education about sewer backflow preventers for areas prone to sanitary backing up and coming back into basements. Member brought up good point about looking in to how this will change the way backed up water will accumulate.
- Maintenance program and tracking: discussed with DPW staff on their cleaning and maintenance programs, hoping to develop a more robust schedule that tracks info better
- Castle Creek: daylighting, homes over the creek, proactive vs. reactive

August 2024 Full Task Force Meeting Notes

Present: Bryson Cochran, Anthony Noone, Cassie Sneider, Judy Salotti, Kevin Reed, Nicholas Bielowicz, Ronald Eveland, Thomas DiCostanzo, Nicholas Raplee

Each committee discussed the following:

- What are the areas that the committee has been working on?
- What recommendations would the committee like to formally present to Council?
- Justification/What impact will each recommendation have on both existing and forecasted issues?
- What is the time table for each recommendation? (Can we pilot it this year? Is it a multi-year process? Continuous improvement?)
- What is the approximated budget of each recommendation?
- Are there any additional needs of committee for the development of their recommendations? (short term needs to provide recommendation, or long term needs to evaluate ongoing improvements/changes)

Recommendations:

Recommendation: educational materials, fridge magnet, pamphlet that's quality/well made. Maybe classroom posters? (small laminated posters that could go on the wall)

Justification: Bring awareness and resources to community

Time: short term, design and find printing options, distribution system

Additional Needs: Have information for both responding to emergency and preventing it…(things that could go on each list…see picture of Judy Salotti's list on cell phone…add backflow to the list?..) (Cassie to make mockup? We could include either an infographic attachment to this presentation, or slides depending on the format)

Recommendation: Getting an alarm system back up for flooding and other events

Justification: Could prevent loss of life

Time: Long term

Time Table(please re-evaluate, double check, & provide final answers): long term

Budget: large, get estimate of a few systems if possible.

Additional Needs: research on different systems

Recommendations: SUMP PUMP ORDINANCE

Justification: reduce surcharging and overloading of sewer plant (could add more storm water)

Time: 6 months – council approval

Recommendation: digitizing information-mapping, using information to map system and digitize record keeping of inspections and maintenance

Recommendation: re-work maintenance program, more slip lining, complete previous recommendations.

Recommendation: Daylighting of Castle Creek

October 2024 Full Task Force Meeting Notes

Present: Bryson, Ron, Amie, Judy, Nick, Kevin, Cassie, Del

Emergency Planning

Focus on materials and alert system. Committee to share Ron's information.

Community Education

Information will be completed based on other committee's feedback

Infrastructure

SUMP PUMP ORDINANCE – Upon the sale of a property , the existing sump pump shall be inspected to confirm it does not tie into, or drain into the sanitary system. Sump pumps shall be connected into storm drains or discharge within city code parameters outside of the building.

REDUCE SURCHARGING AND OVERLOADING OF SEWER PLANT (COULD ADD MORE STORM WATER) During storm events, the existing sanitary sewer system see a dramatic spike in inflow to the treatment plant. This has been observed to be a direct result of storm water infiltration. One cause of storm water entering the sanitary system is improperly installed sump pumps in buildings. Sump pumps that are directly connected to the City Sanitary sewer are against building code. By inspecting the sump pump connections at the point of a home's sale, it will allow the City to gradually reduce the storm water infiltration entering the Sanitary system, especially during rain events.

Homeowner sewer cost rates are calculated based on water usage, not discharge. Storm water entering the Sanitary system must be treated, but is not measured via a ratio of water usage, like typical discharge would be.

The less storm water infiltration, the less that needs to be treated at the sewer treatment plant. Reducing operational costs

2 months for council approval process

Cost of installation would be on seller. Costs to the city would be a proponent of existing staffs workload/hourly wages. Homeowners will have to schedule inspections as we need to enter their home, meaning time out of the DPW staff's day to take calls and schedule the inspection, the employee that has to go out and perform the inspection (1hr ea.) and any paperwork involved with the final report (15 min ea.) Roughly 1.5 hour of city time per inspection (146 homes sold in 2023)

Check old infiltration studies for sump pump inspection recs

DIGITIZING INFORMATION-MAPPING, USING INFORMATION TO MAP SYTSEM AND DIGITIZE RECORD KEEPING OF INSPECTIONS AND MAINTINENCE Complete digitization of city Storm and Sanitary Systems & System Inspection Record Keeping

Proper mapping and information is crucial in developing a routine maintenance plan of any system. Every structure and pipe must be known and plotted in order to develop a working map of city infrastructure for a routine maintenance plan to then be built off of. Having this data will allow us to be proactive in our routine maintenance, as well as have detailed record keeping for future events and legal challenges.

Reference old infiltration studies for their maintenance ideas. **include info on why having digital information could assist in future development

): 2 Years, 2 months for council approval and budget allocation, 6 months for bid and contract process, 1 year for information gathering and mapping. Ongoing costs for the system

Depending on our approach, this could be funded via HWS internships and student GIS work in the summer, or be hired out to a consultant.

RE-WORK MAINTINENCE PROGRAM, MORE SCIPP LINING, COMPLETE PREVIOUS RECOMMENDATIONS* go through reports and check for what was recommended and not completed. Should included a section for observed issues and level of severity

Impact on Existing/Future Issues: line x streets/year and x manholes/year

Daylighting of Castle Creek

explain daylighting as well. Castle creek has overflowed its banks a number of times in recent years. The volume of water trying to flow through the closed culvert is greater than the volume of the culvert, creating overflow situations. The culvert needs to be re-sized and with structures on top of it, the cost would be immense. It would be cheaper to buy and demolish any buildings on top of the structure and do an open excavation that it would be to try and tunnel under the existing infrastructure.

There are additional positives of daylighting. Include David west's input, Bryson add whatever you want.

Multi-Million: can be broken into phases, properties can be purchased and demolished one at a time, and culvert replacements performed as we go.

$5-$10 million depending on scope of project. Removal of buildings and daylighting of existing culvert est. $2-$3 million.

Appendix B: Sample Ordinance Related to Lawns and Yard Maintenance

The current ordinance regarding lawns and yard maintenance is written in a way in which gardening with the intent of creating a flood-resistant yard is not allowable, and the Flooding Task Force is suggesting a change in the ordinance from:

"100-1 Control of growth; harmful vegetation. A. It shall be unlawful for any owner, or occupant or person having control of any lot or land in the city to cultivate more than 10% of said lot or land or 1/10 of an acre, whichever is less, for the purpose of establishing a natural area of wildflowers and shrubs. The area must be clearly defined by the utilization of fencing, mulching or other form of delineation and shall be located not nearer than 25 feet to any public highway, street or right-of-way. The remainder of said property, lot or land, to include the area between the property line and the curb or for 10 feet outside the property line if there is no curb, shall be maintained to ensure that no growth of weeds or grass shall exceed six inches on average or to allow any accumulation of dead weeds, grass or brush.

[Amended 7-7-1993 by Ord. No. 93-7]"

to:

"100-1 Control of growth; harmful vegetation. A. It shall be unlawful for any owner, or occupant or person having control of any lot or land in the city to cultivate foliage in a manner that will affect the health or safety of the city as per § 350-7.10 “Fences, hedges and walls.” Areas of cultivation and natural vegetation including rain gardens must be clearly defined by the utilization of fencing, mulching, or other form of delineation and shall not include any noxious weeds or invasive species. The remainder of said property, lot, or land shall be maintained to ensure that no growth of weeds or grass shall impact public safety or visibility.

[Amended 7-7-1993 by Ord. No. 93-7]

Appendix C: Sample Ordinance Related to Sump Pump

The ordinance below outlines proposed changes to an existing ordinance to include language about discharging into the sanitary sewer system.

§ 118-32 **Discharge of certain waters into sanitary sewer prohibited.**

No person shall discharge or cause to be discharged any stormwater, surface water, groundwater, swimming pool water, roof runoff, subsurface drainage, cooling water or unpolluted industrial process waters to any sanitary sewer.

§ 118-33 **Discharge of stormwater and unpolluted water.**

Stormwater and all other unpolluted drainage shall be discharged to such sewers as are specifically designated as storm sewers or to a watercourse approved by the Superintendent. Industrial cooling water or unpolluted process waters may be discharged, upon approval of the Superintendent, to a storm sewer or natural outlet.

§ 118-34 **Discharge of certain wastes prohibited.**

A.

Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewer:

(1)

Any liquid or vapor having a temperature higher than 150º F. (65º C.).

(2)

Any waters or wastes which contain grease or oil or other substance that will solidify or become discernibly viscous at temperatures between 32º F. and 150º F.

(3)

Any waters or wastes containing either soluble fats, wax, grease or oils, whether emulsified or not, exceeding an average of 50 milligrams per liter (417 pounds per million gallons).

(4)

Any gasoline, benzine, naphtha, fuel oil or mineral oil or other flammable or explosive liquid, solid or gas.

(5)

Any noxious or malodorous gas, such as hydrogen sulfide, sulfur dioxide or nitrous oxide or other substance, which, either singly or by interaction with other wastes, is capable of creating a public nuisance or hazard to life or preventing entry into sewers for their maintenance and repair.

(6)

Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of 3/4 horsepower or greater shall be subject to the review and approval of the Superintendent.

(7)

Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastic, cardboard, wood, paunch manure, hair and fleshings, entrails, lime slurry, lime residues, beer or distillery slops, whey, chemical residues, paint residues, cannery waste, bulk solids or any other solid or viscous substance capable of causing obstruction to the flow of the sewers or other interference with the proper operation of the sewage works.

(8)

Any waters or wastes, acid and alkaline in reaction, having corrosive properties capable of causing damage or hazard to structures, equipment and personnel of the sewage works. Free acids and alkalis must be neutralized at all times, within a permissible ph range of 6.0 to 9.5.

(9)

Any cyanides in excess of two milligrams per liter as CN.

(10)

Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Engineer in compliance with applicable state or federal regulations.

(11)

Any waters or wastes that, for a duration of 15 minutes, have a concentration greater than five times that of normal sewage as measured by suspended solids and BOD and/or which is discharged continuously at a rate exceeding 1,000 gallons per minute except by special permit. Normal sewage shall be construed to fall within the following ranges:

[Amended 9-14-2021 by L.L. No. 2-2021]

Constituents	Permissible Range (mg/l)
Suspended solids	200 or less
BOD	200 or less
Chlorine requirements	5 to 15
Total organic carbon	100 or less
Chemical oxygen demand	400 or less

(12)

Any stormwater, roof drains, spring water, cistern or tank overflow, footing drain, discharge from any vehicle wash rack or the contents of any privy vault, septic tank or cesspool or the discharge or effluent from any air conditioning machine or refrigeration unit.

§ 159-19**Circumstances requiring inspection of existing systems.**

The authority having jurisdiction shall conduct an on-site inspection of an existing wastewater treatment system as follows:

A.

Prior to a change of use. The owner of the property shall arrange for a wastewater treatment system inspection before any change of use is undertaken. The authority having jurisdiction shall determine whether the change represents an increased hydraulic loading to the system. In instances where a site plan approval, special use permit or variance is required, the authority having jurisdiction shall incorporate the wastewater treatment system inspection report into the review process of the appropriate Planning Board, Zoning Board of Appeals, or Board of Appeals.

B.

Prior to a conveyance of real property. The owner of the property shall arrange for a wastewater treatment system inspection prior to the conveyance of real property. In addition, property owners may request a wastewater treatment inspection for real estate transactions or other certifications to lending institutions, purchase offer conditions of buyers of real property or other requests or investigations.

C.

Expansion greater than 50%. The owner of the property shall arrange for a wastewater treatment system inspection as an integral part of the building permit application process. The authority having jurisdiction shall determine whether expansion of the building or dwelling, including its use, represents an increased hydraulic loading to the system. For the purpose of this chapter, an existing wastewater treatment system shall be defined as an accessory structure and, as such, subject to regulation pursuant to Part 1230 of Subchapter E, Conversions, Alterations, Additions and Repairs to Existing Buildings of the New York State Uniform Fire Prevention and Building Code.

§ 159-20 **Inspection procedure.**

Inspections for all existing on-site wastewater treatment systems requiring an inspection pursuant to this chapter shall be performed by the authority having jurisdiction in accordance with the specifications established as follows:

A.

The septic tank, inspection ports, distribution boxes or other distribution devices shall be uncovered and accessible to the inspector. In the event that any component of the system cannot be reasonably located, the inspector shall so note it on the inspection report.

B.

Sanitary disposal fields shall be staked out or otherwise identified by general area of location.

C.

At the discretion of the authority having jurisdiction, the septic tank shall be pumped at the expense of the property owner in order to ensure that the tank is not leaking and that the inlet and outlet baffles are in place and properly functioning.

D.

At the discretion of the authority having jurisdiction, drop and distribution boxes shall be checked for blockages and function.

E.

The authority having jurisdiction shall visually inspect buildings on the property, noting the number of bedrooms and the layout and location of all water-using fixtures and plumbing, including but not limited to faucets, sinks, toilets, drains, overflows, laundry equipment, floor drains, sump pumps, water softeners and related systems that may impose an improper or potential adverse hydraulic loading on the disposal field.

F.

Verify connection of all drains to an appropriate disposal system.

G.

All outside areas, to include nearby lawns, slopes, hillsides, ditches and watercourses, swales and the shoreline of ponds, lakes and wetlands, shall be observed for aboveground seepage and to note the quantity and general quality of surface water where it occurs.

H.

Conduct dye testing and other methods as may be necessary to determine system function.

§ 159-21**Report of findings.**

A.

Upon completion of the inspection, the authority having jurisdiction shall document all procedures and furnish the owner with a report of findings.

B.

The report of findings shall contain, at a minimum, the location, the address, the name of owner, the representative present, the dates of testing/inspection, the procedures used, the observations and the sketches showing fixture, drain and system layout to adequately document the wastewater treatment system inspection.

Appendix D: Additional Information

City of Geneva Inflow and Infiltration Report August 2004

O'Brien and Gere Sewer System Evaluation Survey April1983