

**LARIMER COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN
2023-24 ANNUAL REPORT UPDATE- City of Fort Collins Mitigation Actions**

CRS Activity 510
The following is a summary document of updates and progress related to mitigation actions identified in the 2021 Larimer County Multi-Jurisdictional Hazard Mitigation Plan was adopted by the City in July 2021. This annual report was completed as part of a requirement of the City of Fort Collins' participation in the Federal Emergency Management Agency's (FEMA's) Community Rating System (CRS).

Table H-18 City of Fort Collins 2022 Mitigation Action Plan

ID	Related Goal(s)	Hazard(s) Mitigated	Description / Background / Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status / Implementation Notes	2023-24 Update
H1*	1, 4	Flooding	Green Infrastructure policies and outreach. Issue: Reduce Flooding by widening the policies that require green infrastructure, improving technologies used, increasing alternatives that can be used, improving available incentives, increasing awareness and mitigation by City Agencies and the public. Recommendation: Improved specifications, better technical details, easier access. Action: Enhancement of Green Infrastructure policies through incentives, outreach, and technical support for implementation.	City of Fort Collins - Stormwater Utility, City of Fort Collins Customer Connections Department	\$300,000/yr.	Fort Collins One Water Utility, Colorado Department of Health and Environment EPA Grant funding	High	Ongoing	Annual Implementation Policies have been updated to require all new development to install mitigation measures. City Capital projects now include Green Infrastructure as one of their flood mitigation control measures, a Green Infrastructure Implementation Manual has been adopted and is widely used in the community, routine updates are easily done through review and approval for technical specifications by Utility managers.	Basil Hamdan-- Contact Green Infrastructure policies are now fully implemented for all new developments in Fort Collins. Implementation of these policies for municipal operations is being pursued. GIS mapping has been completed identifying all Green Infrastructure locations, types and watershed area. Overall City coverage of watershed areas served by Green Infrastructure has been updated. New technologies have been adopted that have multi-disciplinary benefits including flood risk reduction such as installation of rain gardens in City street retrofits, integrating the design and installation of Green Infrastructure in large City capital improvement projects aimed at flood reduction such as the Downtown Sewer Project (DSP).
H2	1, 2	Flooding	Low Impact Development Retrofits. Issue: Improve water quality, Reduce Urban Flooding and Enhance community resiliency by retrofitting green infrastructure into existing City regional drainage facilities. Recommendation: Incorporated into Drainage Master Plan Updates approved by Water Board and City Council. Action: Retrofitting of Green Infrastructure facilities into existing regional facilities	City of Fort Collins - Stormwater Utility City of Fort Collins Parks, City of Fort Collins Natural Areas	Varies from project to project can range from \$10K to \$500K	Fort Collins Utilities, City of Fort Collins Parks and Recreation, Fort Collins Sustainability Services, Grants	Low	Ongoing	In Progress. We continue to implement retrofits to existing infrastructure as the City builds Capital projects where Green Infrastructure is incorporated into project design and construction.	Basil Hamdan -- Contact City capital project in downtown area will be addressing flooding by incorporating Green Infrastructure into a large storm sewer system. Though the Downtown Sewer Project will be mainly using a traditional sewer system to handle large flooding events, a hybrid system will be used to address water quantity and quality.
H3	1,2,3	All	Training in Disaster Management Large Scale Incidents. Issue: City Emergency Management and Security has assumed responsibility for disaster management training (outside of fire and wildland which remains with PFA) for community hazard response. As an emergency response organization, expanding their scope in areas other than response will increase the community's capability to be more resilient. Recommendation: Increase training and knowledge in disaster management. Action: As ICS understanding becomes more part of organizational operations, develop and participate in utilites focused exercises and trainings to assist staff in preparing for SME driven responses.	County-wide collaboration to include a multi-jurisdictional effort.	TBD	EMI/FEMA-Local	Ongoing	Scheduled- April 2024 August 2024 Ongoing	1. In April City of Fort Collins staff will participate in a 1-day exercise that deals with the impacts of a regional threat to water delivery, focussing on coordinated response and shared resources. 2. In August City Staff will join other jurisdictions from Larimer County at EMI to work through 4-days of disaster preparedness and response training and exercises. The scenario is based around natural disasters that impact water and electric utilities. 3. ICS training is ongoing through for staff, including a new, city-wide emergency communication plan and the development of EOC staff. This includes using an ICS based collaborative model for mitigation planning.	Jim Byrne -- Contact
H4	1, 3, 4	Drought, Extreme Temperatures, Flood, Severe Storm, Severe Winter Weather, Wildfire	Public Education and Awareness. Issue: To enhance our overall preparedness, City staff and the residential and business community members need access to ongoing education through awareness campaigns, events, public outreach, website, social media, and education workshops. Recommendation: Continue to identify, promote, and present education workshops, awareness campaigns and training opportunities for City staff, residents, non-profit organizations, and business owners. Promote web programmable thermostats for remote control of heat to prevent frozen pipes See Action Worksheet for additional details.	City of Fort Collins, Larimer County, Poudre Fire Authority, Fort Collins Police, LETA, United Way, American Red Cross, FEMA and other identified stakeholders and community response agencies as required to enhance overall knowledge and preparedness.	Most costs will be absorbed within existing annual budgeted line items, which currently support 24x7 OnCall communications support.	Annual budgets and mitigation grant opportunities.	Medium	Ongoing	In Progress. On track with education and outreach for drought, flood, severe storm, severe winter weather, and wildfire. More coordination on extreme temperatures is needed due to staff turnover.	Gretchen Stanford -- Contact No changes for 2023 - May 1 2024.

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H5	1, 2	Flood	Magnolia Storm Sewer. Location: Old Town Fort Collins area along Magnolia Street to the Cache La Poudre River. Issue: This area of Fort Collins has old undersized storm sewers that do not meet current drainage standards nor have a proper outfall to the River. Recommendation: Install a new storm sewer system to improve the drainage and reduce flooding for storms up to and including the 100-year event and improve water quality for smaller more frequent storm event (2-year and more frequent). Action: design and construct new storm sewer.	City of Fort Collins - Stormwater Utility, CDOT, CWCB, FEMA	\$22M, updated to \$72M.	Stormwater Utility Fee, Grants	Medium	Replaced by Oak Street Project. Timing pushed back 10-15 years	In Progress. Magnolia Street Stormwater Outfall was the City's highest priority project, but now it is the fifth priority based on the 2019 Old Town Optimized Plan.	Matt Fater -- Contact Oak Street is now the #1 priority for the Downtown Stormwater Improvement Plan. The second priority is Maple Street. Magnolia will be pushed back 10-15 years.
H6	1, 2, 5	Flood	Stormwater Master Planning. Issue: The City has 13 Major drainage basins. Each has its own Master Basin plan. While the City has recently updated several of these plans, there are still plans that need to be updated. Recommendation: Update the Master Basin plans to delineate the 100 Year floodplain and floodway boundaries, which inform where development can safely occur. Action: The Master plans are also critical so that necessary infrastructure improvements can be efficiently designed, funded, and constructed. The identified projects and improvements are essential for protecting public safety as well as private and public infrastructure during flood events.	City of Fort Collins – Stormwater Utility. Larimer County Engineering, CWCB, FEMA, FC Natural Areas, Parks, Trails, etc.	\$1.4 over a 5 year period	Stormwater Utility Fee	High	Ongoing -- Goal is to update necessary parts of each plan every 6-8 years.	In Progress. Utilities Stormwater Engineering staff, supported by external consultants, will complete important updates to portions of six (6) priority Stormwater Basin master plans over the 2025-2026 planning period. The process of updating these plans includes conducting detailed modeling of the hydrology (how much water) and hydraulics (where does the water go) and flood hazard area mapping. Staff will also be incorporating remote sensing data (Light Detection and Ranging, or LiDAR), which will improve the topographical information, thus providing overall more accurate modeling results. Master plans also identify where opportunities exist to construct low-impact development and stormwater quality features, which reduce pollutants from stormwater prior to being discharged into the Poudre River or other receiving water bodies. Information from these plans supports more accurate conceptual cost estimation for identified projects, which are then able to be prioritized for consideration in the Water Utilities Capital Improvement Plan. These studies utilize multi-objective approaches that consider flooding risk, stormwater quality, stream rehabilitation, Natural Areas, trails, recreation, and Parks.	Ken Sampley -- Contact Proposed updates for 2025 and 2026 include: 2025 - Dry Creek (Selected Plan), Spring Creek (Hydrology Ph 2, Hydraulics), Boxelder/Cooper Slough, LiDAR 2026 - Fossil Creek (Hydrology), Spring Creek (Selected Plan), McClellands (Selected Plan). This is an On-going Program in the City's Budgeting process, so it is likely it will receive additional funding of \$200,000 in 2025 and \$300,000 in 2026.
H7	1, 2, 3, 4, 5	Utility Disruption, Drought, Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind & Tornado, Fire, Public Health, Hazmat	Electric Supply. Issue: Communication and Information shared with citizens within the area. Recommendation: Social Media posts on Utilities and PRPA sites. Contact local news agencies to provide updates and coverage of issues. Utilize banners hanging in cities and surrounding area to spread the information of potential risks. Also utilize vehicles such as buses and work trucks to spread the word. Information could contain things such as where to go to get information on suggested items for a "Go Bag", (banners are hung in Fort Collins yearly for reminders such as "Flood Awareness Week", "Mosquitos", other potential risks could be advertised to make people aware. Action: Coordination of hanging of banners in different areas and/or making of signs for use on vehicles.	Larimer County, City of Loveland, City of Estes Park, City of Fort Collins, Wellington, Timnath, Red Feather	\$50,000	Grants, future budgets.	Medium	Ongoing	In Progress.	Electric Supply issue: Communications and information shared with citizens within the area. Recommendations: All social media post on the Utilities and PRPA web sites. Also including the Mobile Apps of Pulse Point, Code Red and Larimer County Alerts. Contacting local news agencies to provide updates and coverage of issues and emergencies providing transparency to the public Utilizing banners hanging across the city and surrounding area's to spread the potential risk/hazzards in the area. Also utilize city and county vehicles such buses and work trucks to spread the word of upcoming and potential situations. The information could contain impotent instructions on where to go, and how to get supplies and including local and staged medical care. Banners are hung across the city for flood awareness week. Other potential risk could be advertized to keep citizens aware. Actions: The cordination of all entities is imperative for successful operations. All operations continued for 2023-24

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H8	1, 2	Utility Disruption, Drought, Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind & Tornado, Fire, Public Health, Hazmat	Electric Distribution. Issue: Communication and Information shared with citizens within the area. Recommendation: Social Media posts on Utilities and PRPA sites. Contact local news agencies to provide updates and coverage of issues. Utilize banners hanging in cities and surrounding area to spread the information of potential risks. Also utilize vehicles such as buses and work trucks to spread the word. Information could contain things such as where to go to get information on suggested items for a "Go Bag", (banners are hung in Fort Collins yearly for reminders such as "Flood Awareness Week", "Mosquitos", other potential risks could be advertised to make people aware. Action: Coordination of hanging of banners in different areas and/or making of signs for use on vehicle	City of Fort Collins L&P	\$200,000	Within L&P budget	High	Unknown	In Progress.	Electric Supply issue: Communications and information shared with citizens within the area. Recommendations: All social media post on the Utilities and PRPa web sites. Also including the Mobile Apps of Pulse Point, Code Red and Larimer County Alerts. Contacting local news agencies to provide updates and coverage of issues and emergencies providing transparency to the public Utilizing banners hanging across the city and surrounding area's to spread the potential risk/hazzards in the area. Also utilize city and county vehicles such buses and work trucks to spread the word of upcoming and potential situations. The information could contain impotant instructions on where to go, and how to get supplies and including local and staged medical care. Banners are hung across the city for flood awareness week. Other potential risk could be advertized to keep citizens aware. Actions: The cordination of all entities is imperative for successful operations. All operations continued for 2023-24
H 10	1, 2	Flood	Open Space Preservation. Issue: Ideal use of the floodplain allows for natural flooding while limiting development to protect people and property. Recommendation: Protect as much of the floodplain as possible by preserving it as open space. Work to protect and maintain the quality of streams, rivers and other vital water resources. Action: Floodplain parcels owned and acquired by the City will be permanently preserved as riparian open space to reduce the flood hazard in the City. To the degree possible these flodplains will be restored to connect the river with over flow channels and maximize the capacity for the corridor of public linds to safely convey flood waters.	City of Fort Collins - Natural Areas City of Fort Collins- Stormwater Utility		Natural Areas Budget; Grants	Medium	Ongoing	In progress: Since 2016 Natural Areas has acquired 5 acres in the Poudre corridor and has protected another 89 acres through conservation easement. In the same time period, Parks acquired four properties on East Vine along the Poudre River. In addition, Natural Areas has acquired 145 acres of properties that intersect with floodplains of various tributaries to the Poudre. Both departments are still actively seeking additional lands along the river and its tributaries from willing sellers. MEanwhile, Natural Areas continues it's efforts to optimize the condition of these riparian floodplains and the resilience of the Poudre corridor to large floods. Over the past decade the function of riparian floodplains was restored at North Shields Ponds,McMurry and Homestead natural areas. In the next five to eight years Natural Areas is planning to continue restoration of floodplain function at two sites downstream of downtown. 2024 Update: In progress. Since 2022, the Natural Areas Department (NAD) has purchased 62 acres within designated floodplain areas either along the Cache la Poudre River or its tributaries of Boxelder and Dry creeks. The department continues to actively seeking additional lands along the river and its tributaries from willing sellers. In addition to purchasing and protecting floodplain areas, NAD actively restores lands along the Cache la Poudre River (Poudre River) and its tributaries. In 2023, NAD and the City of Fort Collins Utilities Department partnered on a river restoration project on the Poudre River that resulted in five acres of floodplain reconnection. This builds on a decade of completing riparian floodplain reconnection and restoration projects at North Shields Ponds, McMurry, and Homestead natural areas. In the next four years, NAD will continue efforts to optimize the condition of these riparian floodplains and the resilience of the Poudre corridor to large floods.	Bernadette Kuhn & Julia Feder Natural Areas -- Contact Natural Areas: we revised and updated Cell 55D and 55J. Not able to provide cost estimate. 5/1/2024 - The NAD currently owns 1599 acres of FEMA-designated floodplain that are protected as open space and play a critical role in mitigating flood impacts throughout the City.

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H 11	1, 3, 4	Flood, Severe Storm	<p>Public Outreach. <u>Issue:</u> Increase public awareness concerning flood hazards and risks.</p> <p><u>Recommendation:</u> A comprehensive public outreach program outlined by the City's Program for Public Information (PPI) Committee to provide targeted outreach for flood hazards in the community.</p> <p><u>Action:</u> Utilizing the eleven Community Message Topics developed by the PPI committee the City will continue implementing numerous public information and education projects to increase the community's awareness of flood hazards and safety.</p>	<p>City of Fort Collins – Stormwater Utility FEMA, Red Cross, LETA911. OEM, Engineering Consultants, Realtors, Developers</p>	\$15,000/yr.	Commercial and Residential Stormwater Rates, OEM Budget, Grants	High	Ongoing	<p>Annual Implementation. The City will continue implementing numerous public information and education projects to increase the community's awareness of flood hazards and safety.</p> <p>In 2022 the City overhauled its Program for Public Information (PPI) plan with the cooperation of stakeholders and other departments. Meetings will continue to be held annually.</p>	<p>Claudia Quezada -- Contact</p> <p>The Annual PPI Meeting was held on April 11, 2024. Our outreach messages were reviewed and updated. Our Annual Flood Awareness Week is scheduled for May 2024.</p> <p>Included mailers to floodplain residents, mailer to Realtors, and displays at locations around town. Five bus benches are placed around town with message "Don't Drive Through Floodwater". Other outreach held throughout the year.</p> <p>This program and its costs are funded as part of our Stormwater Operating Budget and On-Going Funding program so it is funded annually.</p>
H 12	1, 3, 5	Flood	<p>Regulatory Programs. <u>Issue:</u> Unregulated development in the floodplain is unsafe for people and structures.</p> <p><u>Recommendation:</u> Develop and enforce safe development in the floodplain.</p> <p><u>Action:</u> Enforce current regulations for development in the floodplain and update regulations, as necessary.</p>	<p>City of Fort Collins – Stormwater Utility FEMA, CWCB</p>	\$300,000/yr.	Utilities – Stormwater Budget	High	Ongoing	<p>Annual Implementation. The City continues to enforce development regulations in the 100-year floodplain.</p>	<p>Theodore Bender -- Contact</p> <p>The Stormwater Utility continues to enforce the floodplain Regulations in Chapter 10 of City Code.</p> <p>The code was updated in April 2022 related to additions and substantial improvements. There have been no Code Revisions since then. The City hopes to adopt a "Best Available Information" provision for City and FEMA Floodplains in late 2024 or early 2025.</p> <p>This program including staff and related costs is funded as part of our Stormwater Operating Budget and On-Going Funding program so it is funded annually.</p>
H 13	1, 2	Flood	<p>Myrtle Street Stormwater Outfall. <u>Issue:</u> Properties and structures are flooded in the vicinity of Myrtle Street. <u>Recommendation:</u> This project involves the enlargement of the existing storm sewer along Myrtle Street from Remington Street west to Sherwood Street, and directing this storm sewer into the proposed Magnolia Street Outfall at Remington and Magnolia. <u>Action:</u> This project will reduce flood flows along Myrtle Street east of Sherwood Street, including overtopping of College Avenue. This reduction in flows along Myrtle Street will also serve to reduce surface flow diversions that direct runoff north to Mulberry Street along Peterson Street.</p>	<p>City of Fort Collins – Stormwater Utility CDOT</p>	\$15M updated cost estimate \$24M	Stormwater Utility Fee, Grants	V. Low	TBD	<p>On Hold.</p> <p>The associated Magnolia Street Stormwater Outfall was the City's highest priority project, but now is the fifth priority based on the 2019 Old Town Optimized Plan.</p>	<p>Matt Fater -- Contact</p> <p>Myrtle Street Outfall Project is now on hold and has been placed as a low priority on the Master Planning Priority list. This project may be removed from the next-cycle (2026) Hazard Mitigation Plan process.</p>

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H 14	1, 2	Flood, Severe Storm	Stream Rehabilitation and Enhancement Program. <u>Issue:</u> In 2012, The City of Fort Collins' Stormwater Master Plan was updated to include stormwater quality and stream restoration projects. The Master Plan update utilized results and information obtained from the Stormwater Utility Repurposing program in conjunction with basin- and stream- specific recommendations obtained from the following two program efforts: A.Basin-Specific Stormwater Quality Best Management Practices (BMP) Selected Plans; and, B.Stream Restoration and Stability Study and Prioritization with the Multi Criteria Decision Analysis (MCDA) Tool. <u>Recommendation:</u> Stream restoration projects were identified in an extensive study by Colorado State University (CSU). The study indicated that many of the City's streams suffer from severe bank erosion, impediments to fish passage, and have poor aquatic habitat. A Multi Criteria Decision Analysis (MCDA) Tool was utilized to prioritize the identified stream reaches for future restoration. The results of the MCDA Tool analysis are presented below for the 2nd through the 6th ranked stream reaches. The 1st ranked stream reach, Fossil Creek at Lemay Avenue is currently under construction.	City of Fort Collins – Stormwater Utility Larimer County	\$9M over a 5-year period	Stormwater Utility Fee, Grants	High	Ongoing	In Progress. Updated the action plan.	Jason Stutzman or Matt Fater -- Contact Action: Install WQ BMPs and construction stream enhancements throughout the City. Current projects underway are: Mail Creek at Two Creeks Natural and Fossil/Stanton Creek from Trilby to Lemay
H 15	1, 2	Flood	West Vine – Forney Pond. <u>Issue:</u> This area of Fort Collins was the historic flow path of Solider Creek that has been covered up or redirected by development over the years. <u>Recommendation:</u> This detention pond we capture runoff from upstream contributing area and detain it so reduced flooding downstream. <u>Action:</u> Flooding in downstream properties and homes.	City of Fort Collins – Stormwater Utility Larimer County	\$4M	Stormwater Utility Fee, Grants	Medium	10-15 years	The City purchased this property, and it is on the 5-year master plan priority list	Ken Sampley -- Contact. This project is in the 10-Year Stormwater CIP Priority list.
H 16	1	Drought, Flood, Fire, Public Health	Water Treatment Utilities-Water Treatment Process Improvements. <u>Issue:</u> Additional treated water storage is required to serve the citizens of Fort Collins in case of drought, flood, fires, or public health emergencies. <u>Recommendation:</u> Improvements to the water treatment process. <u>Action:</u> Construct a new 10-million- gallon treated water storage tank at the Water Treatment Facility.	City of Fort Collins: Water Treatment Utilities CDPHE	\$14M	Utilities reserves, State DWRP	Medium	2030	Continue - Not completed. This is a long-term Capital Project that will be implemented within the next 10 years, depending upon funding.	Greg Stonecipher or Jason Graham -- Contact 7/19/2022 - There is no change in the status of this project. 5/1/2024 - There is no change in the status of this project. Community water usage has not yet reached the threshold requiring the planned additional storage to be built. - GDS

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H 17	1, 2	Drought, Public Health, Hazmat	Water Treatment Utilities-Water Treatment Process Improvements. Issue: The Water Treatment Facility currently provides secondary disinfection to the City's water supply through the addition of chlorine. The chlorine is delivered to the Water Treatment Facility via truck on a weekly basis. The chlorine supply is extremely hazardous and is a threat to public safety in the event of an accident during transportation or in the case of a leak at the Water Treatment Facility. The City's water supply is also vulnerable to contamination due to an interruption in the delivery of chlorine. A mitigation strategy is to construct a sodium hypochlorite generation facility at the Water Treatment Facility in lieu of chlorine gas. This will ensure a safe and reliable supply of bleach with which to disinfect the City's drinking water supply.	City of Fort Collins: Water Treatment Utilities. CDPHE	\$12M	Utilities reserves, State DWRP	Medium	2024	Continue - Not completed. This is a long-term Capital Project that will be implemented within the next 10 years, depending upon funding.	Greg Stonecipher or Jason Graham -- Contact 7/19/2022 - There is no change to the status of this project. 5/1/2024 - There is no change in the status of this project. Adequate funding is not available yet available for this project. GDS Recommendation: Improvements to the reliability and safety of the water treatment process. Action: Replacement of Chlorine gas with on-site generation of Sodium hypochlorite
H 18	1, 2	Drought, Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind & Tornado, Fire, Public Health, Hazmat	Water Treatment Utilities-Water Treatment Process Improvements. Issue: Rehabilitation of the existing Poudre River 24" Pipeline. This pipeline serves the City of Fort Collins with the majority of its drinking water. The line is almost 100 years old is a potential weakness in the City's supply system. The line is susceptible to failure from forest fires, land subsidence, and hazmat spills in the river. Recommendation: Improvements to the drinking water supply process. Action: Rehabilitate the Poudre River 24" water supply line.	City of Fort Collins: Water Treatment Utilities. CDPHE	\$12M	Utilities reserves, State DWRP	Medium	2024	Continue - Not completed. This is a long-term Capital Project that will be implemented within the next 10 years, depending upon funding.	Greg Stonecipher or Jason Graham -- Contact 7/19/2022 - This project has been submitted for proposed funding for the 2023/2024 cycle. 5/1/2024 - A small section of the twin to this line, the 27" line adjacent to the 24", was replaced this year at the first river crossing. The design of the new crossing is much more robust and resilient. Additionally the section replaced was upsized to 36" to be compatible with future replacement of both line with one 36" line. An offer to fund advancement of either rehabilitation of 24" line or replacement of both line is under consideration for the 2025/2026 budget cycle. However, very limited funds for capital projects, due to decreased revenues, make funding of the project extremely uncertain.
H 19	1	Drought, Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind & Tornado, Fire, Public Health, Hazmat	Water Treatment Utilities-Water Treatment Process Improvements. Issue: Water Quality in the Cache la Poudre River watershed and the Colorado-Big Thompson water system can be degraded due to Fires (drought and extreme high temperatures create a potential for fire hazards) and Pine Beetle deforestation. Recommendation: Improvements to the water treatment process. Action: Installation of a UV Disinfection system, Installation of Granular Activated Carbon filters, Installation of Biologically Active Carbon filtration.	City of Fort Collins: Water Treatment Utilities CDPHE	\$27 million-\$100 million depending on the severity of the degradation in source water quality	Utilities Reserves, State DWRP	Medium	2030	Continue - Not completed. This is a long-term Capital Project that will be implemented within the next 10 years, depending upon funding.	Greg Stonecipher or Jason Graham -- Contact 7/19/2022 - There is no change to the status of this project. 5/1/2024 - This has not been implemented and is not planned to be implemented in the next two years. Funding for this project will be pursued when the need is indicated by degradation in source water quality. Estimated timeframe is within 10 years.

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H 20	1	Drought, Extreme Temperatures, Flood, Fire, Public Health	Water Treatment Utilities: Redundant Second Outlet Installation. <u>Issue:</u> A second outlet from Horsetooth Reservoir to the Water Treatment Facility would provide an alternate drinking water supply to the City of Fort Collins in the case of a wildfire or a flood in the Colorado-Big Thompson watershed. The City currently has an outlet from the Reservoir at a single depth. The new outlet would allow for diversion for a different location and at multiple depths to mitigate the water quality effects of a fire in the watershed.	City of Fort Collins: Water Treatment Utilities Bureau of Reclamation, Northern Colorado Water Conservancy District	The City of Fort Collin's Cost share would be ~\$5 million	State of Colorado Drinking Water Revolving Fund, Fort Collins Utilities Reserves	Medium	2025	Continue - Not completed. This is a long-term Capital Project that will be implemented within the next 10 years, depending upon funding.	Greg Stonecipher or Jason Graham -- Contact 7/19/2022 - There is no change to the status of this project. Recommendation: Redundant second outlet form Horsetooth Reservoir to the Water Treatment Facility. Action: Installing a new outlet and pipeline (redundant second outlet) from Horsetooth Reservoir to the Water Treatment Facility. 5/1/2024 - Initial investigations have been performed preliminary to design, but the project is currently on hold. Estimated time frame is 5 to 10 years. This would need to be a joint project working with Bureau of Reclamation and the Northern Colorado Water Conservancy District.
H 21	1	Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind & Tornado, Fire, Public Health, Hazmat	Wastewater Collection, Sewer By-Pass Pumping. <u>Issue:</u> Loss of function in wastewater collection system. <u>Recommendation:</u> Follow emergency repair manual created for trunk main emergencies. Guidance in manual is to contract on-call contractors with appropriate equipment for sewer pumping, bypass and all appropriate appurtenances.	City of Fort Collins: Wastewater Collection City of Fort Collins Traffic Operations; Other Wastewater Districts (Boxelder and South Fort Collins)	The City of Fort Collin's Cost share would be ~\$100,000	Potential Federal Grants.	Medium	TBD	This project is on track from the standpoint that in an emergency we are prepared to rent/hire the assembly or placement of emergency bypass.	Ray Fisher & Christina Schroeder or Andrew Gingerich -- Contact 5/1/2024 -No changes - On track
H 22	1, 2	Earthquake, Land Subsidence, Extreme Temperatures, Flood, Severe Storm, Wind &	Water Distribution: Temporary Water System. <u>Issue:</u> Loss of a portion of the water distribution system. <u>Recommendation:</u> Temporary water system. <u>Action:</u> Construct temporary water main with services until permanent service is restored. Temporary system would be constructed on the surface and connected to a fire hydrant located outside of the damaged zone.	City of Fort Collins: Water Distribution City of Fort Collins Traffic Operations; Other Water Districts (ELCO,	The City of Fort Collin's Cost share would be ~\$100,000	Potential Federal Grants.	Low	TBD	Temporary water distribution line can be constructed in the event of an emergency. On Call contractors are available and able to assist in providing temporary water systems.	James Carder and Gregg Stonecipher or Andrew Gingerich - Contact 5/1/2024 Updated Hazard to reflect outside support enlisted
H 23	1,2,3	Dam Failure/Incident	Boxelder Creek Watershed Dams. <u>Issue:</u> A series of flood control dams were built in the 1970s and 1980s to protect agricultural lands from flooding and erosion damage. In 2014, the State Engineer's Office (SEO) completed a routine review of the dams for certification. The land use changes downstream of Dams B-2, B-3 and B-4 from agricultural use to suburban and urban development required a change in the dam classification from "moderate" to "high hazard". The regional communities protected from flooding by these dams needs to meet the SEO Division of Dam Safety's Regulations. <u>Recommendation:</u> Regional Partnership investigated the feasibility and costs to provide expensive rehabilitation and/or reconstruction of the dam emergency spillways and embankments. The SEO Division of Dam Safety recently updated its regulations governing dams of this type to allow for a Risk and Consequence analysis approach. This approach is different than prior prescriptive regulations and introduces the determination of "potential failure modes" and characterizes the "likelihood" of the failure mode within a risk context. <u>Action:</u> Pursue the Risk and Consequence analysis.	City of Fort Collins, Larimer County, Town of Wellington, Town of Timnath North Poudre Irrigation Company, State Engineer's Office Division of Dam Safety, Natural Resources Conservation Service	Fort Collins' share of costs over the next five years is approximately \$65,000 annually. Funding is allocated according to risk percentages for 5 government partners/sponsors.	City of Fort Collins, Larimer County, Town of Wellington, Town of Timnath budgets	High	2019 - 2025	New to this list in 2021. Ongoing Operations and Maintenance and creation of \$1M rehabilitation fund for Dams B-2, B-3 and B-4. All were determined through the Risk and Consequence Analyses to have a LOW Failure Likelihood and a Consequence LEVEL 3. In accordance with SEO Requirements, this rating does not compel physical dam and/or spillway modifications. The Emergency Action Plans (EAPs) have been completed. The flood water elevation monitoring systems at BCW Dams B 2, B 3 and B 4 are being installed in mid 2024. Fort Collins' share of costs over the next five years is approximately \$65,000 annually.	Ken Sampley -- Contact Dams B-2, B-3 and B-4 all were determined through the Risk and Consequence Analyses to have a LOW Failure Likelihood and a Consequence LEVEL 3. In accordance with SEO Requirements, this rating does not compel physical dam and/or spillway modifications. The Emergency Action Plans (EAPs) have been completed. The flood water elevation monitoring systems at BCW Dams B 2, B 3 and B 4 are being installed in mid 2024. Fort Collins' share of costs over the next five years is approximately \$65,000 annually. This program's funding is included as a contractual mandate due to the City's IGA with 4 other governmental entities. It should receive annual funding.

ID	Related Goal(s)	Hazard(s) Mitigated	Description / Background / Benefits	Lead Agency and Partners	Cost Estimate	Potential Funding	Priority	Timeline	Status / Implementation Notes	2023-24 Update
H 24	1,2,3,4,5	Flooding	<p>Flood Walk App. Launched in June of 2019, the groundbreaking FloodWalk mobile application uses augmented reality (AR) technology and storytelling to bring flood risk to life and demonstrate the benefits of mitigation. In the FloodWalk application, AR casts 3D visualizations of flooding onto the real world. What was once a familiar location is overtaken by dangerously high waters as a narrator recounts the impact of historic flooding and what has been done to make the area safer. Research shows that it's difficult for people to conceptualize future risk. We also know that those who have experienced flooding are far more likely to take action to prepare. The FloodWalk app allows users to see risk in a way that isn't possible from data and maps alone. By bringing the experience of flooding directly to the hands of the public, flood risk becomes something people can see, feel, and become motivated to reduce. The app can also help users visualize risk reduction projects that mitigate the risk of flooding in the community. Through AR, users can see how mitigation has transformed the land around them and learn how these critical projects help protect their homes and keep their families safe from disaster. Fort Collins has been selected as the second location to be showcased in the app. Locations along Spring Creek, the Poudre River and on the CSU Campus will be included. Past flood events such as the 1997 Spring Creek flood and the 2013 flood on the Poudre River will demonstrated using the AR technology. Past and future mitigation projects will also be included.</p> <p>Spring Creek, the Poudre River and on the CSU Campus will be included. Past flood events such as the 1997 Spring Creek flood and the 2013 flood on the Poudre River will demonstrated using the AR technology. Past and future mitigation projects will also be included.</p>	City of Fort Collins Stormwater Utility, FEMA	\$200,000	City of Fort Collins Stormwater Fund	Medium	End of 2021	New in 2021.	<p>Claudia Quezada -- Contact</p> <p>Waiting for FEMA to move forward. No progress in 2021-2022.</p> <p>5/1/2024: FEMA Contractor Vince Hancock stated that the code for this application is now 5 years old, and its foundation needs updating. FEMA is still looking for funding for these upgrades.</p>
H 25	1,2,3,4,5	Flooding	<p>Flood Warning System Enhancement. Issue: From 2021-22, the City's Flood Warning System (FWS) has upgraded its legacy ALERT gages using new equipment that meets the National Hydrologic Warning Council's ALERT2 (A2) protocol. Six (6) gages will be upgraded the remainder of 2022, leaving only 8 gages out 72 remaining in Legacy ALERT. The Upgrade Program ensures the City can continue to meet its public safety mission for early detection and warning of flood conditions. Benefits: Loss of Life, Property & Infrastructure Damage.</p>	City of Fort Collins Stormwater Utility	\$200,000	City of Fort Collins Stormwater Fund	Medium	End 2021	Completed 2021 - 2022 for 64 of the 72 gages total.	<p>Chris Lochra -- Contact</p> <p>5/1/2024 - Planned scope of work complete as six (6) weather stations upgraded. In addition, the City has re-established its backup base station using the new ALERT2 protocol.</p>
H 26	1,2	Flooding	<p>Maple Street Stormwater Improvements Issue: This area is in the oldest portion of Fort Collins and was constructed before there was stormwater drainage criteria. The area is subject to frequent flooding in smaller events and large-scale flooding for larger storm events.</p> <p>Recommendation: Design and install large stormwater conveyance improvements and some detention where opportunities exist.</p> <p>Action: This is the second Downtown Stormwater Improvement (DSIP) to be constructed.</p>	City of Fort Collins Stormwater Utility, Natural Areas, Streets, Parks, City Engineering, Water and Wastewater Utilities, FCMoves	\$40M over 3 years	City Stormwater Utility Fees	High	2027-- 2029	New to this list inn 2024. This area was built in the 1900's over an historic flow path. The project has been designed and floodplain permitting is in progress. This is the #2 Stormwater CIP Project in the 10-Year CIP Prioritization.	<p>Ken Sampley -- Contact</p> <p>Design is anticipated to begin in late 2026 or early 2027. Construction is anticipated to begin in 2028. This project was scheduled to follow the Oak Street Stormwater Improvements project in order to coordinate and take advantage of the downstream upsized conveyance facilities that will have recently been installed. The combination of these two projects will make a significant reduction in flooding in this area and remove a large number of structures and residences from the 100-year floodplain.</p>

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H 27	1,2,4	Flooding	<p>Lincoln-Willow Phase 2 Stormwater Project. Issue: This area of Fort Collins has old undersized storm sewers that do not meet current drainage standards. The Lincoln-Willow Outfall was completed in 2015 and has not been extend up to Jefferson per the Downtown Stormwater Improvement Plan (DISP).</p> <p>Recommendation: Install a new storm sewer system to improve the drainage and reduce flooding for storms up to and including the 100-year event and improve water quality for smaller more frequent storm events (2-year and below).</p>	City of Fort Collins	\$8M	City Stormwater Utility Fees	Medium / High	Within the next 15 years	Recent 2023/2024 submittal.	<p>Ken Sampley -- Contact</p> <p>This project is in the 10-year Stormwater CIP Funding Program. It is subject to review. It may not be funded until 10-15 years based on other high priority needs.</p> <p>Overall benefits are to protect people, property, and natural resources; Improve capability to reduce disaster losses; Integrate hazard mitigation into other planning mechanisms</p>
H 28	1,2,5	Flooding	<p>Oak St Extension Stormwater Project. Issue: This area of Fort Collins has old undersized storm sewers that do not meet current drainage standards. The Oak Street Outfall was completed in 2001 and has not been extend up to Shields per the Downtown Stormwater Improvement Plan (DISP). Install a new storm sewer system to improve the drainage and reduce flooding for storms up to and including the 100-year event and improve water quality for smaller more frequent storm events (2-year and below).</p>	City of Fort Collins Utility PDT	\$20M updated cost estimate \$45M	City Stormwater Utility Fees	High	Design: 2021-22; Construction: 2023-24	New in 2021.	<p>Matt Fater or Heather McDowell -- Contact</p> <p>5/1/2024 -Construction is planned to started in July 2024 and finishing July 2026.</p>
H 29		Drought	<p>Drought Planning</p> <ul style="list-style-type: none"> <input type="checkbox"/> Develop and use water budgets to manage indoor and outdoor water use. <input type="checkbox"/> Update the Fort Collins Utilities Water Shortage Action Plan in 2025. <input type="checkbox"/> Develop a regional water shortage approach <input type="checkbox"/> Update Fort Collins Utilities Water Supply and Demand Management Policy and Water Efficiency Plan to incorporate drought mitigation efforts, as applicable. <input type="checkbox"/> Acquire additional storage (e.g., Halligan) or agreements for short-term water supply (raw water users who can transfer Horsetooth water rights for municipal use). <input type="checkbox"/> Code review and amendments to reduce water use year-round and into the future by keeping reservoirs full (e.g. update the land use code, building/plumbing codes, and others that can improve water use efficiency and reduce waste). <input type="checkbox"/> Incorporate risk reduction principles into code, policy documents and initiatives; Reduce the vulnerability of local assets to the impact of hazards; Reduce the severity and duration of drought and associated impacts. 	City of Fort Collins – Utilities/Water Conservation	\$0 to >\$1million per project	Utilities – Water Fund Colorado Water Conservation Board grant funding Bureau of Reclamation – WaterSmart grant funding Norther Water grant funding	High	Ongoing	New in 2021.	<p>Jen Dial or Donnie Dustin -- Contact</p> <p>We have developed landscape water budgets as an optional tool for customers to use, upon request, or in coordination with other incentives (commercial, HOA, MF and irrigation only accounts) and we created indoor/outdoor budgets for 90% of single-family developments. We are not currently using these to manage water shortages. They are informational only, but we'd like to move in that direction in the future. Possibly outline a plan for that in the 2025 updates to the Water Shortage Action Plan. We have started conversations with regional partners such as a Front Range Drought Group, but a local approach amongst water providers in the City has not happened yet. Some code changes have been made – increased efficiency on indoor plumbing fixtures, xeriscape changes to land use code is in progress. There is much more room for code amendments to improve efficiencies, especially outdoors. We will be focusing on this in the coming years. We have continued to pursue Halligan Reservoir for future water supply security and drought protection.</p> <p>5/1/2024 - No changes for 2023 - May 1 2024.</p>
H30	1,2	Flooding	<p>Northeast College Corridor Outfall (NECCO) Major Phase I and II of this major stormwater outfall were constructed between 2015 and 2020. Issue: Two major branch lines (A2 and A3) have to be constructed.</p> <p>Recommendation: Have an adjacent development (The Enclave) build these two stormwater major laterals and reimburse them upon construction from City Funds</p> <p>Action: Staff is including this requirement in their in-progress Development Agreement and is negotiating reimbursement amounts.</p>	City of Fort Collins - Utilities / Stormwater Engineering	\$2 M from 2024 - 2025	Development fees, stormwater fees	High	Design and contract In-progress. Construction in late 2024 through 2025	New Phase in 2023-2024.	<p>Ken Sampley -- Contact.</p> <p>Phases I and II construction completed between 2015 and 2020. Additional development is necessitating the need and opportunity to construct Major branch lines A2 and A3.</p>

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H31	1,2	Flooding	Mulberry-Riverside Stormwater Improvements	City of Fort Collins - Utilities / Stormwater Engineering	\$3.5M	HMGP Grant, Local Funding (SW fees)	Medium	Complete		Ken Sampley - Contact Construction was completed in 2018-19.
H32	1,2,3	All	Fort Collins Emergency Preparedness: Training in Emergency Preparedness and Response	City of Fort Collins - Emergency Preparedness and Security	Total dollars are \$80K for all City programming	General Fund w/ some dedicated funds from Utilities	High	Ongoing	Programming and training done in conjunction with internal and regional partners.	Jim Byrne -- contact No changes for 2023 through May 1 2024.
H33			City-Wide Emergency Communication Plan - This will create a comprehensive, centralized approach to managing communication for events that have the potential for significant impact on the community. This is an all-hazards, all-events approach that align for internal and external communications. Plan will be align with city and regional partners and best industry practices.	City of Fort Collins - Emergency Preparedness and Security, Utilities, CPIO	\$125K	ARPA	High	Target-6/1/2023 Completion	New in 2022	
H34 new	1,2,5	Flooding	North Mason Stormwater Project. This project will provide stormwater infrastructure in a portion of the City does not currently have any infrastructure. The project will extend along North Mason St. from the Poudre River to Hickory St.	City of Fort Collins Utility PDT, North College URA	\$10 Million	City Stormwater Utility Fees and URA funding	High	Design 60% level waiting on ROW acquisition; Construction TBD	The Stormwater Utility is waiting to move forward with final design and construction until the City's Engineering Dept. completes the ROW acquisition for the ROW of future North Mason	Matt Fater - contact
H35 new	1,2	Flooding	Stormwater Small Capital Program Issue: Each year, the Stormwater Utility designs and constructs storm sewer lines and infrastructure replacement projects to correct deficiencies in the system, upgrade facilities, expand capacity and rehabilitate underserved areas. Recommendation: The design and construction of these projects are done with Utility in house staff and construction crews, which allows for schedule flexibility, construction efficiencies and reduced design and construction costs. Action: Budget approximately \$2M annually to this program. •Construction of Laporte Ave Stormwater Improvements – from Whitcomb to Mason (design was completed with prior offer) •Replacement of assets in the Mulberry and Shields Intersection •Construction of Foothills Basin Stormwater Improvements in coordination	City of Fort Collins Utilities / Stormwater Engineering, SW Maintenance, Streets, Trails, City Engineering	\$2M annually	Stormwater Utility Service and System Development Fees	High	Projects are prioritized every 2 years. Design and construction performed on executable projects. Distribute across the City.	New item in 2024 This offer will fund design and construction of smaller, high-priority stormwater improvement projects. The Small Capital Projects are coordinated with other City departments to capitalize on opportunities for collaborative projects. An example of an opportunity project is replacing old or broken storm pipe before the Streets department paves the road to eliminate the risk of cutting new asphalt to repair the pipe later. Another example would be making repairs to streams or riverbanks ahead of Parks and Natural Areas trail projects.	Andrew Gingerich -- Contact Replacing these facilities brings them up to current standards, lowers long term maintenance needs, and protects habitat and property. As part of its Asset Management Program, Utilities determines its Small Capital Project priorities through established levels of service for sustainability, product quality, product availability, regulatory compliance, customer satisfaction and safety. The offer will target areas with frequent flooding and aging pipe with high maintenance costs along with opportunities to coordinate with Engineering and Street Maintenance Programs: