

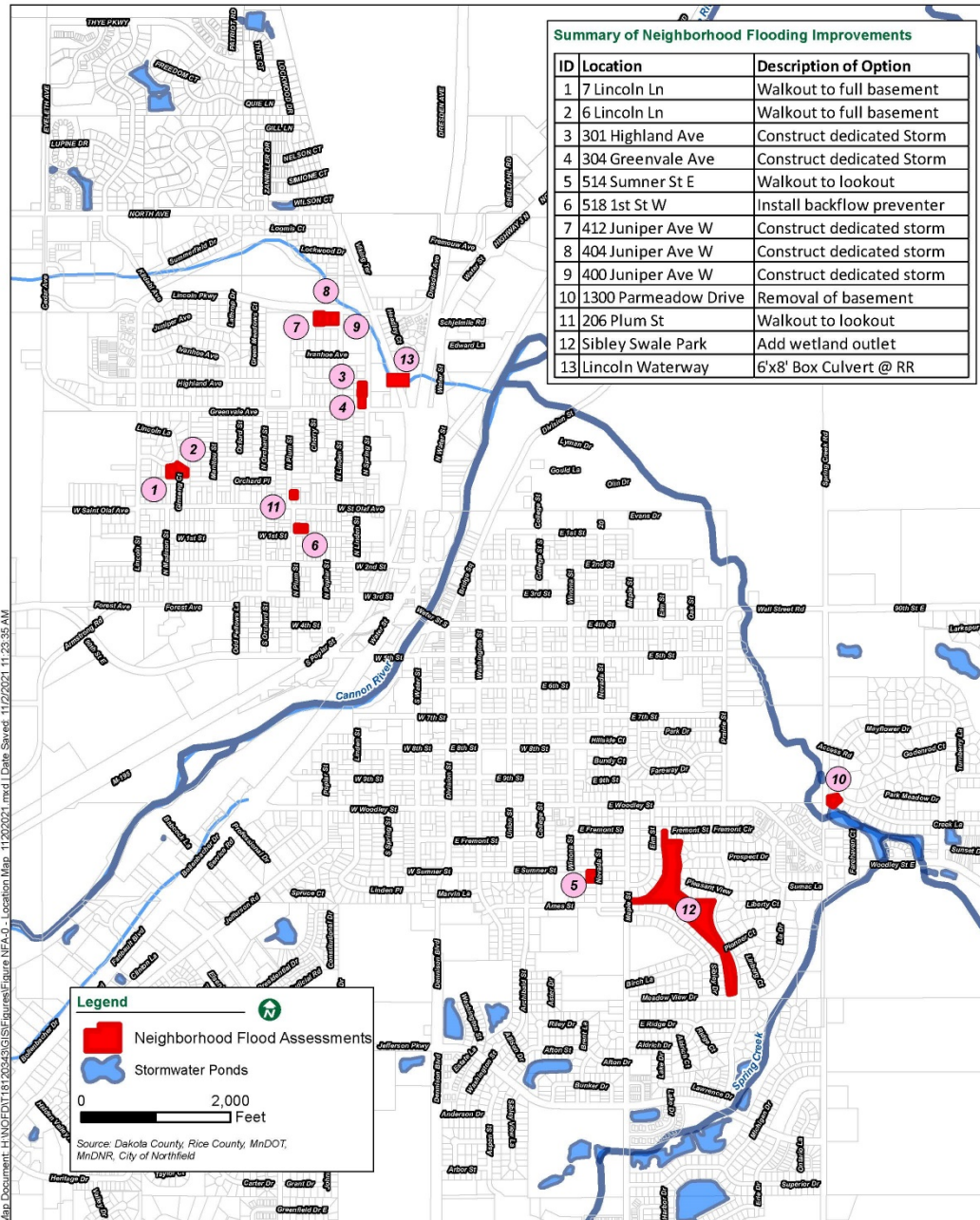
Neighborhood Flooding Issues Surface Water Management Policy

September 6, 2022



Background

- Climate Action Plan Adopted Nov. 5, 2019
 - Local Climate Hazards (Air, Weather, Water, Ecosystem)
 - Northfield – Flooding
 - Stormwater infrastructure that support community resiliency during heavy rainfall
 - Northfield Surface Water Model from 1995 was updated in 2020 with the most current rainfall data (Atlas 14)
 - City Council Discussions – Neighborhood Flooding Analysis
 - November 9, 2021 - Initial Discussion with Council outlining proposed mitigation projects
 - March 1, 2022 – Follow up discussion regarding Council's questions and requested clarification
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2024 Capital Improvement Costs

Address	Cost	Improvement
301 Highland/304 Greenvale Avenue	\$605,200	Install new dedicated 48" storm sewer
518 First Street West	\$19,575	Backflow Preventer
Sibley Swale	\$89,175	Install Outlet
Lincoln Waterway (Design currently underway)	\$1,000,000	6x8 Box Culvert @ RR Improvement scheduled for 2023
Juniper Avenue (400, 404, 412)	\$407,600	Install new dedicated 36" storm sewer
Total Cost	\$2,121,500	



Potential Future Acquisition and/or Conversion Project

Address	22' Assessed Value (\$)	Cost (\$)	Improvement	Participation
7 Lincoln Lane	308,700	300,000	Walkout to Full Basement	Open to discussion/participation
6 Lincoln Lane	237,500	300,000	Walkout to Full Basement	Open to discussion/participation
514 Sumner Street	310,600	217,500	Walkout to Lookout	Not willing to participate
206 Plum Street	255,400	217,500	Walkout to Lookout	Willing to participate
1300 Parmeadow Drive	479,900	479,900+	Removal of Basement	Willing to participate as a Home Acquisition
Total Cost	-----	\$1,585,000	-----	-----



Cost Comparison

Project	Original Proposal (\$) 11/9/21	Current Proposal (\$)
Home Modifications/Acquisition	2,455,000	1,585,000
Drainage/Infrastructure Improvement	584,650	2,121,550
Total Cost	3,039,650	3,706,550

** Estimates do not include acquisition costs which would be in addition to modifications if home acquisition were part of the process.*



Purpose/Discussion

- Surface Water Management – Flood Control Policy
 - At 3/1/22 City Council Meeting, Council requested staff create a policy document to clearly define when and where the City provides assistance to mitigate flooding issues on private property.
 - High level information from the policy included in the following slides for Council to review



Surface Water Management - Flood Control Policy

- Overview of Policy
 - A. Purpose of City Surface Water Management and Conveyance System
 - B. Background on City Plans and Engineering Standards/Industry Guidance
 - C. Individual Property Drainage Issues (this is where the City doesn't get involved)
 - D. Regional Surface Water System impacting a single property or multiple properties (this is where the City would get involved)
 - E. Climate Adaptation and Resiliency
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Purpose of City Surface Water Management and Conveyance System

- To provide a safe and reliable infrastructure in accordance with engineering & industry standards to protect the health and welfare of the public and environment.



Background on City Plans and Engineering Standards/Industry Guidance and Permits

- Municipal Separate Storm Sewer Permit (MS4)
- City Ordinance
 - Chapter 22 Article VI – Surface Water Management
- 2007 Comp Surface Water Management Plan
- 2008 Comprehensive Plan
 - Chapter 5 – Environmental Resources
 - Chapter 6 – Sewer and Water Resources
- 2016 Spring Creek Watershed Model
- Climate Action Plan
- 2020 Comprehensive Surface Water Model
- City Policy 3.02 – Engineering Guidelines



Individual Property Drainage Issues (this is where the City doesn't get involved)

- Flat/minimum sloped yard (less than 2% positive slope)
- Lack of downspout/gutter
- Foundation leaks and/or Groundwater Intrusion
- Sump Pump Discharge or Failure
- Nuisance Water (poor grading, frozen ground conditions, snow impoundments, etc.)



Foundation Leak/Groundwater Intrusion



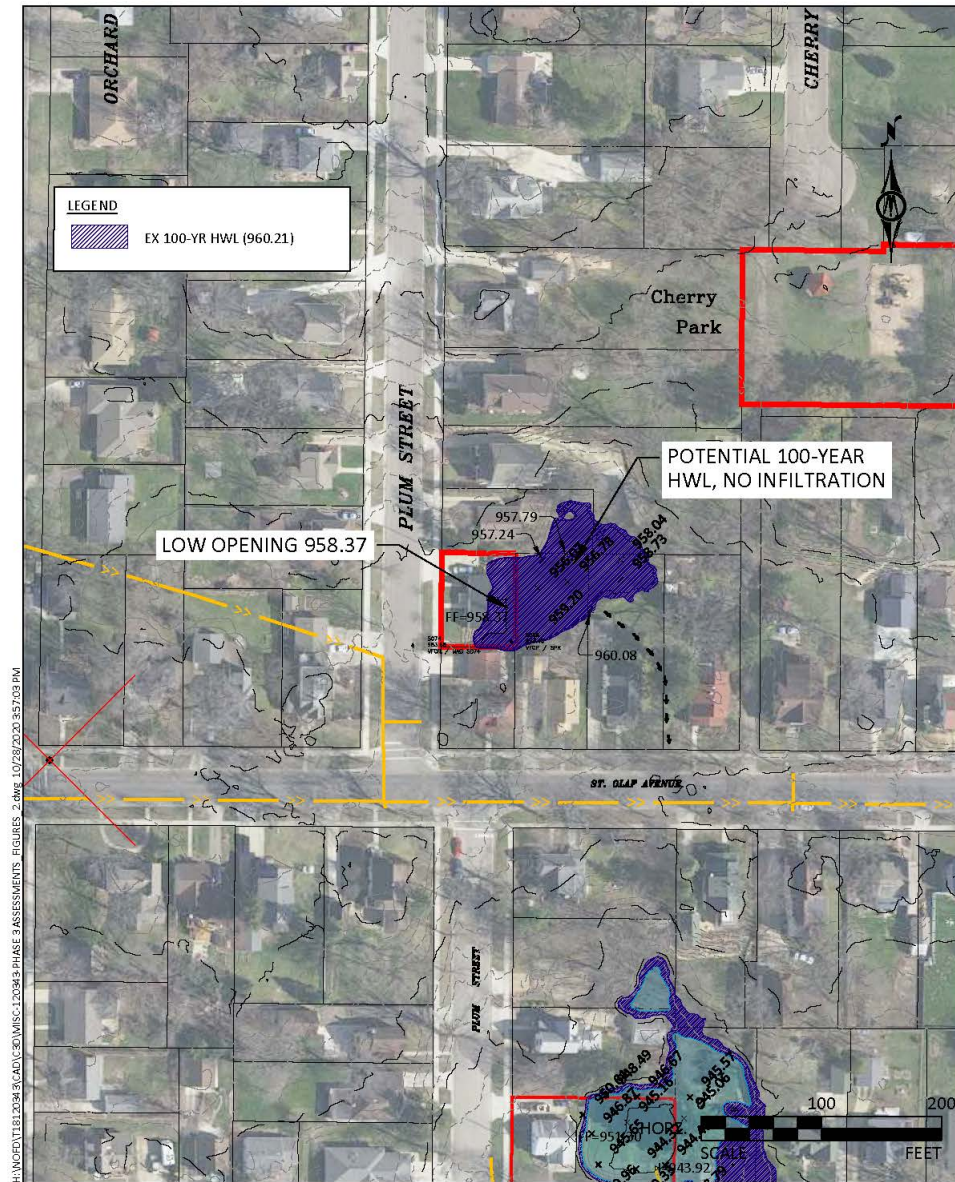
Flat Yard/Snow Impoundment/Frozen Ground Conditions



Individual property or properties affected by a regional drainage issue (this is where the City will get involved)

- Rate Control
 - Pipe and or ditch channel size, overland/sheet flow
 - Lincoln Waterway Box Culvert improvement is a prime example of a rate control modification
- Volume/Storage Capacity
 - Modification or Creation stormwater BMP's or storage nodes
 - Usually consists of increasing storage capacity upstream
- Stormwater Flow Direction
 - Creation of levees and or berms to redirect stormwater flows or keep it away from a defined area
- Modification and/or Acquisition of Existing Property
 - Modification maintains the existing housing stock in Northfield
 - Acquisition and demolition removes housing stock and the flooding issue





Climate Adaptation and Resiliency

- Recognizing many flooding impacts stemming from climate change. Precipitation events trending towards more intense storms
- Future flooding issues may arise as climate continues to change
- Climate Emergency Declaration – Jan 18, 2022
- Incorporation of Green Infrastructure/Low Impact Development into future planning to help curb the affects of climate change



Feedback in Preparation of September 20th Council Meeting

- Is the City Council supportive of the draft policy?
- Is the City Council comfortable proceeding with exploring next phases of Home Modifications/Property Acquisition?

Option 1 - Explore modification/acquisition with property owners

- Staff would meet again with Property Owners to explore interest
- Staff would explore property appraisals
- Staff would engage and Architect/Builder
- City Council review of property refined cost estimate/project scope
- CLOSED SESSION: City Council review of property appraisal for consider purchase offer options (or not)

Option 2 – No action – do not pursue property further

- Property owners would be responsible for flood protection on their individual properties



Thank You

Questions

