



Public Hearing on Improvements

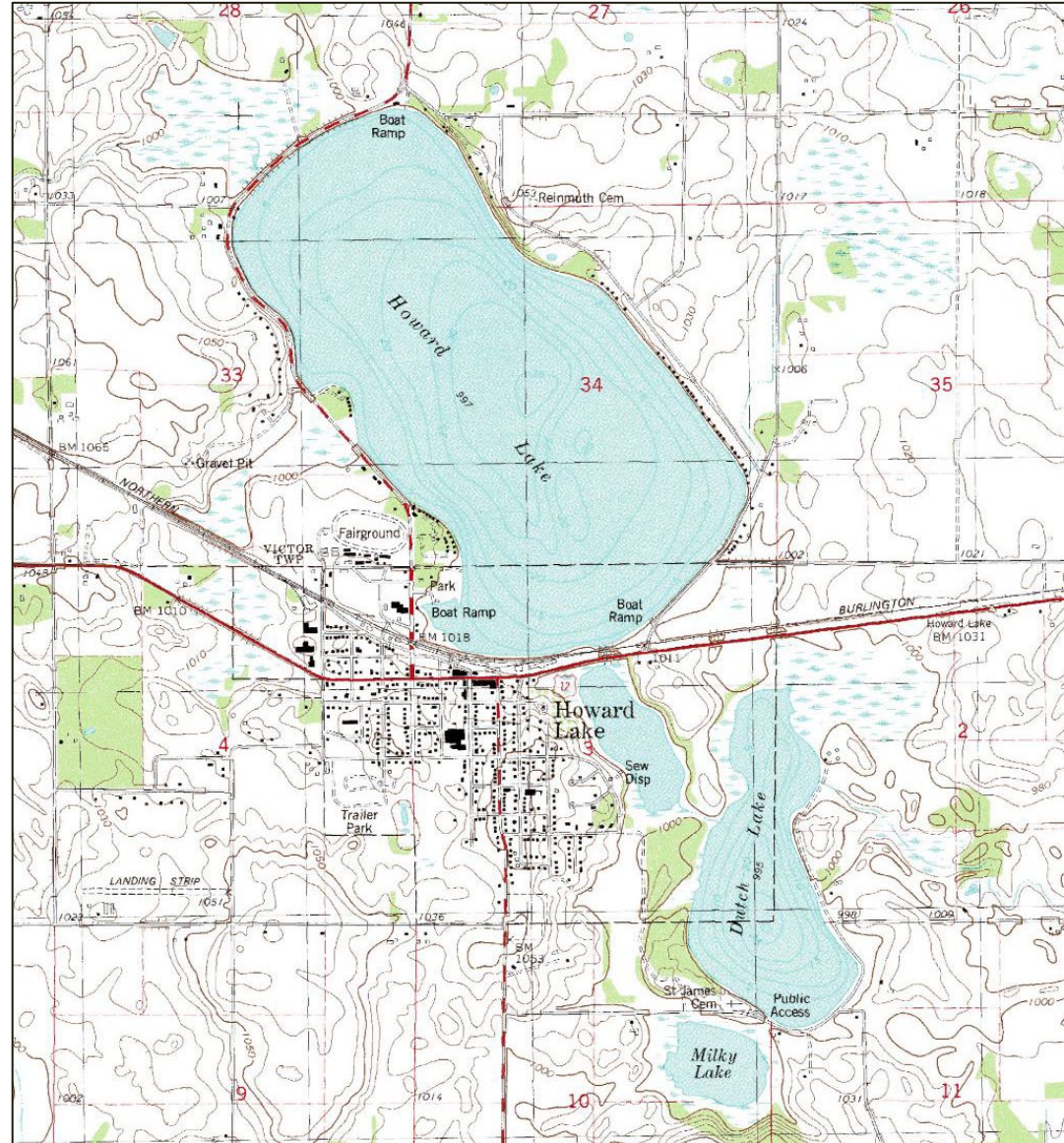
March 20, 2023

Water Treatment Facility, Tower, & Phase 2
Utility Improvements



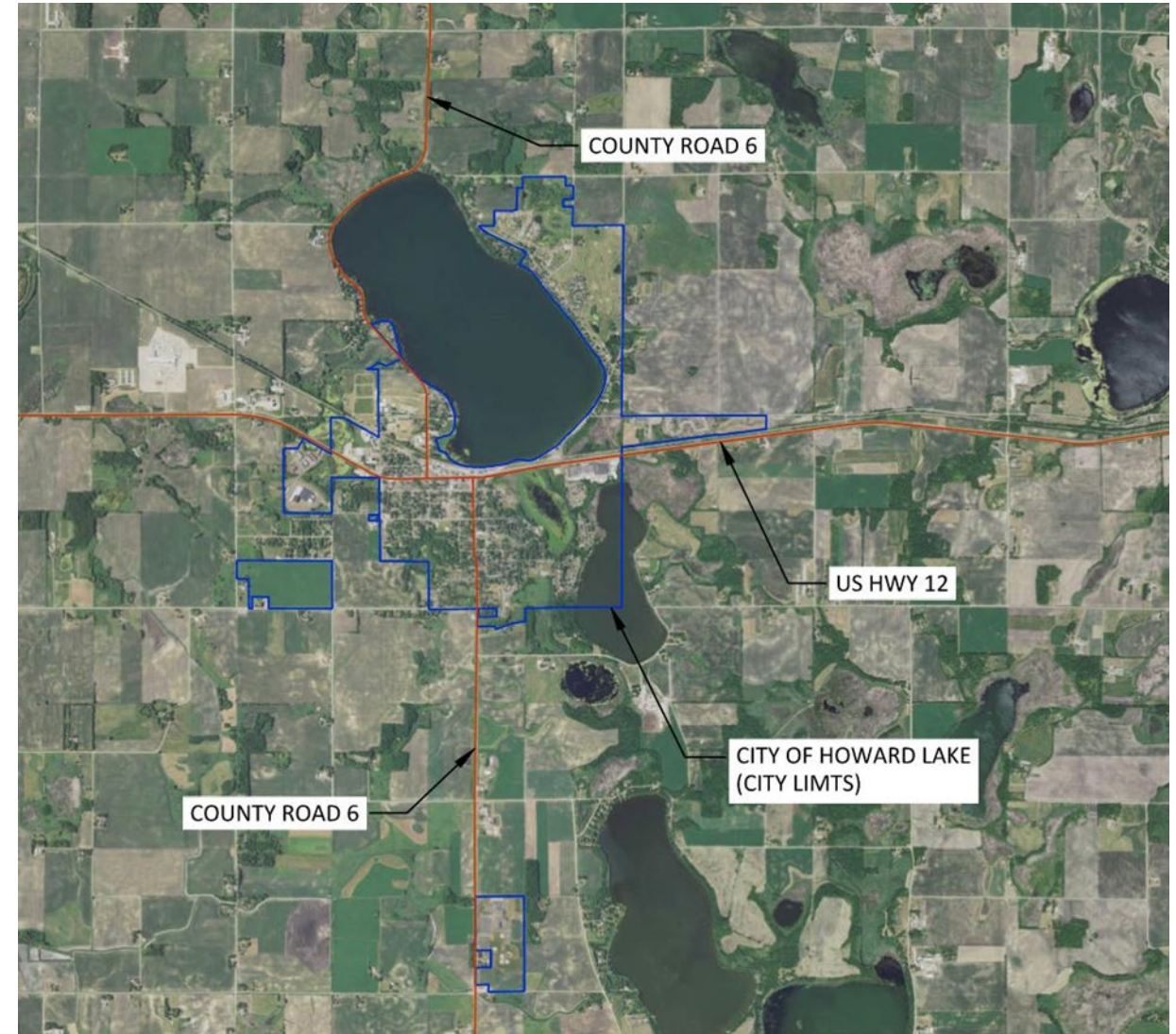
Hearing Overview

- Service Area
- Existing Facilities
- Project Need
- Alternative Considered
- Environmental and Economic Impacts
- Recommendations
- Potential Funding



Service Area

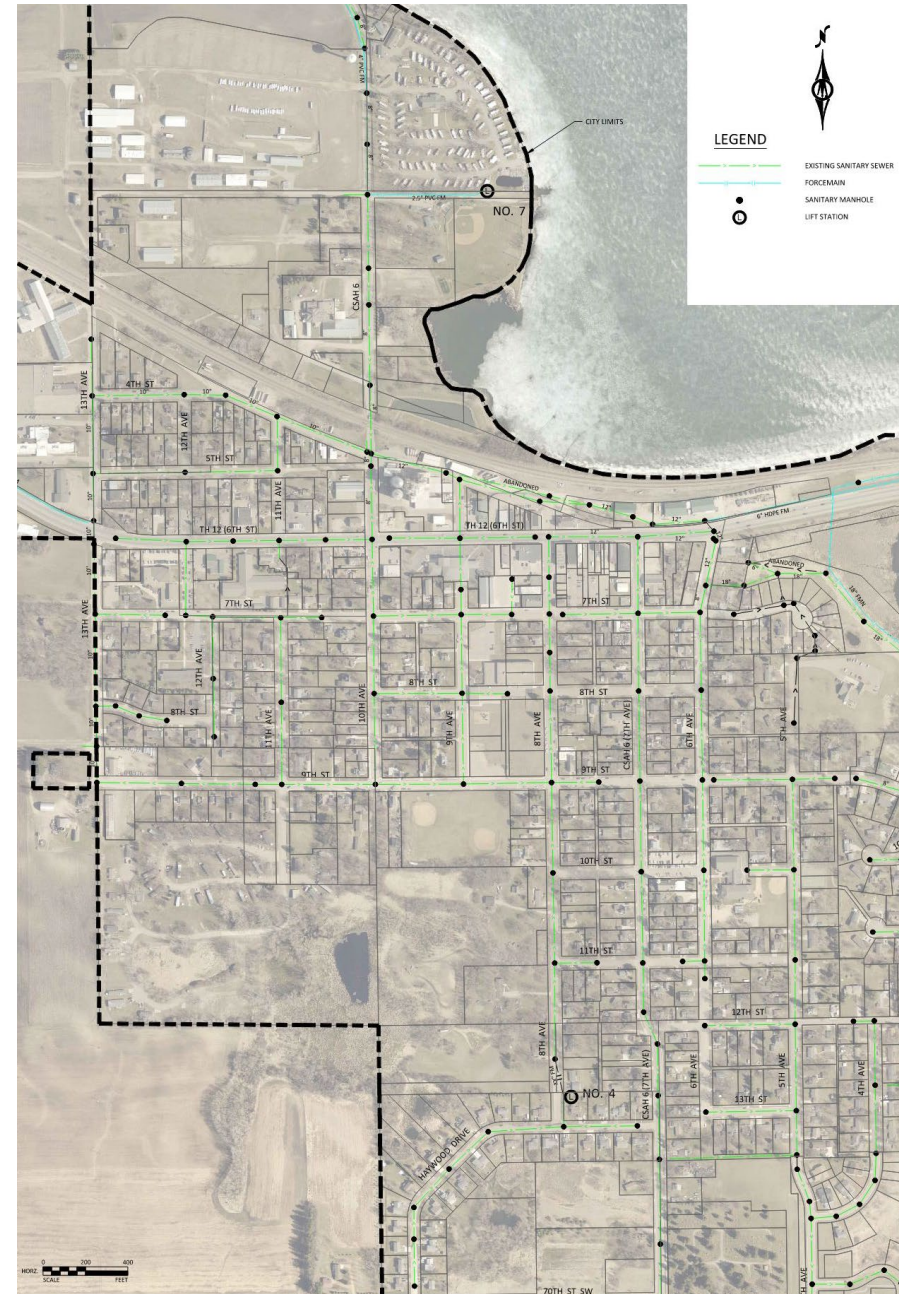
- Howard Lake Population (2020 Census)
 - 2,071
- Population Projection (2045)
 - 3,097 (based on County growth projection)
 - 3,275 (based on City growth projection)



Existing Facilities

Sanitary Sewer System

- Mostly constructed between 1940s – 1970s
- Reconstruction Projects replaced mains and services
- Original system televised for condition
- 12 lift stations in good condition
- Wastewater regionalization with Maple Lake and Annandale (2009)



Existing Facilities

Water Distribution System

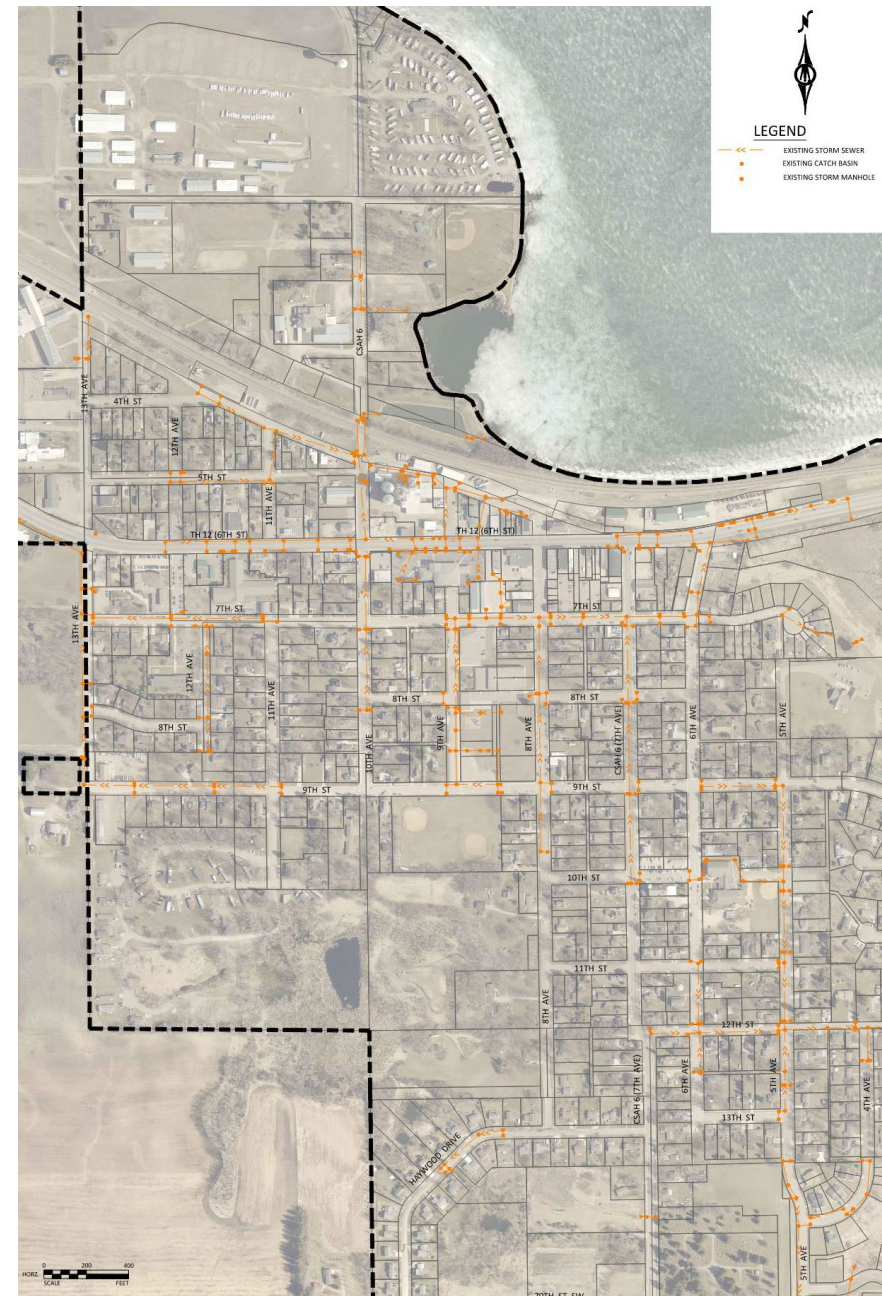
- Mostly constructed between 1940s – 1970s
- Reconstruction projects replaced mains, services, hydrants, and valves
- Original system is undersized



Existing Facilities

Storm Sewer System

- Constructed as City expanded
- Reconstruction Projects replaced mains, structures, and catch basins
- Improvements during US Highway 12 recon. project in 2000
- Storm ponds added during development construction.



Existing Facilities

Water Treatment Facility

- Original construction in 1988
 - Treats iron, manganese, and iron
- Improved in 2015
 - Extends facility 8-10 years
- Treatment Capacity – 170 GPM or 204,000 GPD
- Treatment Train – chemical oxidation, gravity filtration, fluoridation, and chlorine disinfection



Existing Facilities

Water Storage and Supply

- Tower No. 1 (south)
 - Constructed in 1947
 - Steel Structure – multi-legged style
 - 75,000-gallon capacity
- Tower No. 2 (north)
 - Constructed in 2000
 - Steel Structure – single pedestal, spheroid style
 - 250,000-gallon capacity
- 2 water supply wells (constructed in 1970 and 1988)



Tower No. 1



Tower No. 2



Project Need

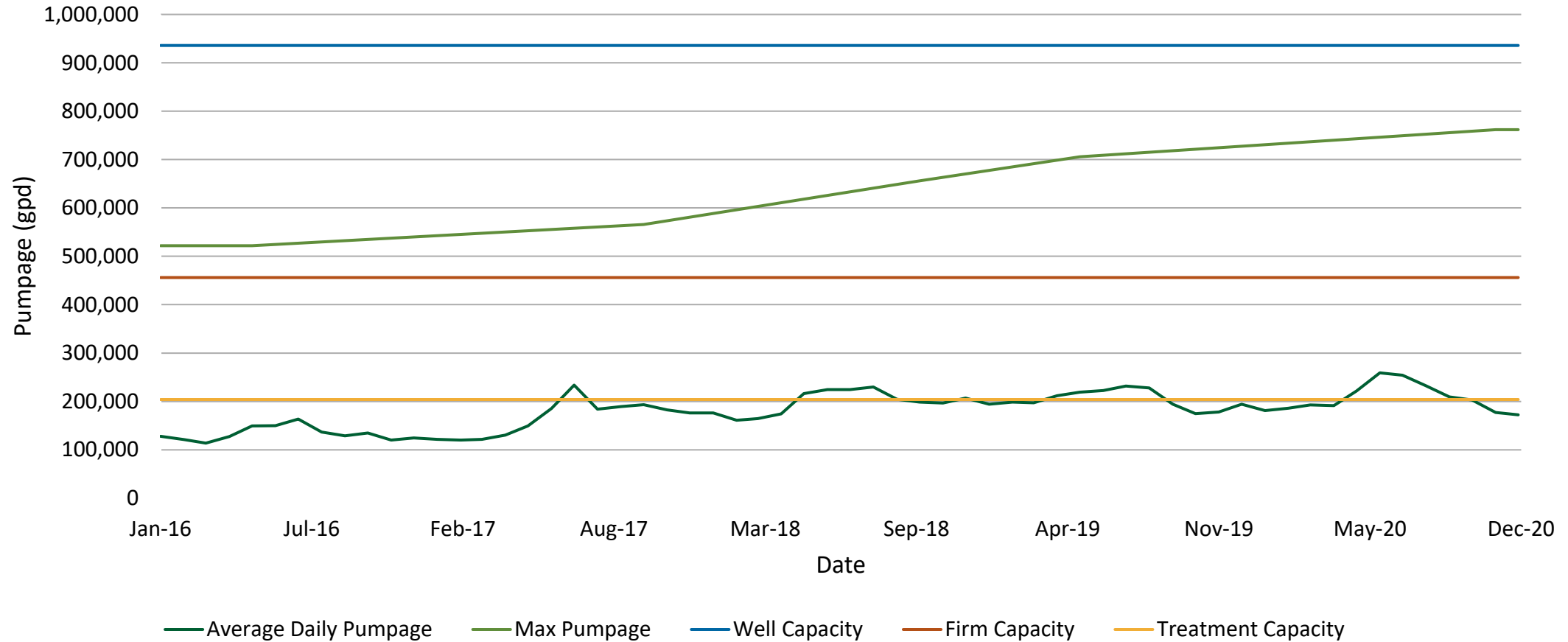
System	Condition
Sanitary Sewer	<ul style="list-style-type: none">• Aged Infrastructure• Poor condition• Leaky joints, root intrusion, sags
Water Distribution	<ul style="list-style-type: none">• Aged Infrastructure• Health of the community• Undersized
Storm Sewer	<ul style="list-style-type: none">• Aged Infrastructure• Limited catchment in areas
Water Treatment Facility	<ul style="list-style-type: none">• Aged Infrastructure – near end of life• Facility cannot meet future demand
Water Storage & Supply	<ul style="list-style-type: none">• Water supply cannot meet future demand• Aged Infrastructure• Tower has some lead paint



Project Need



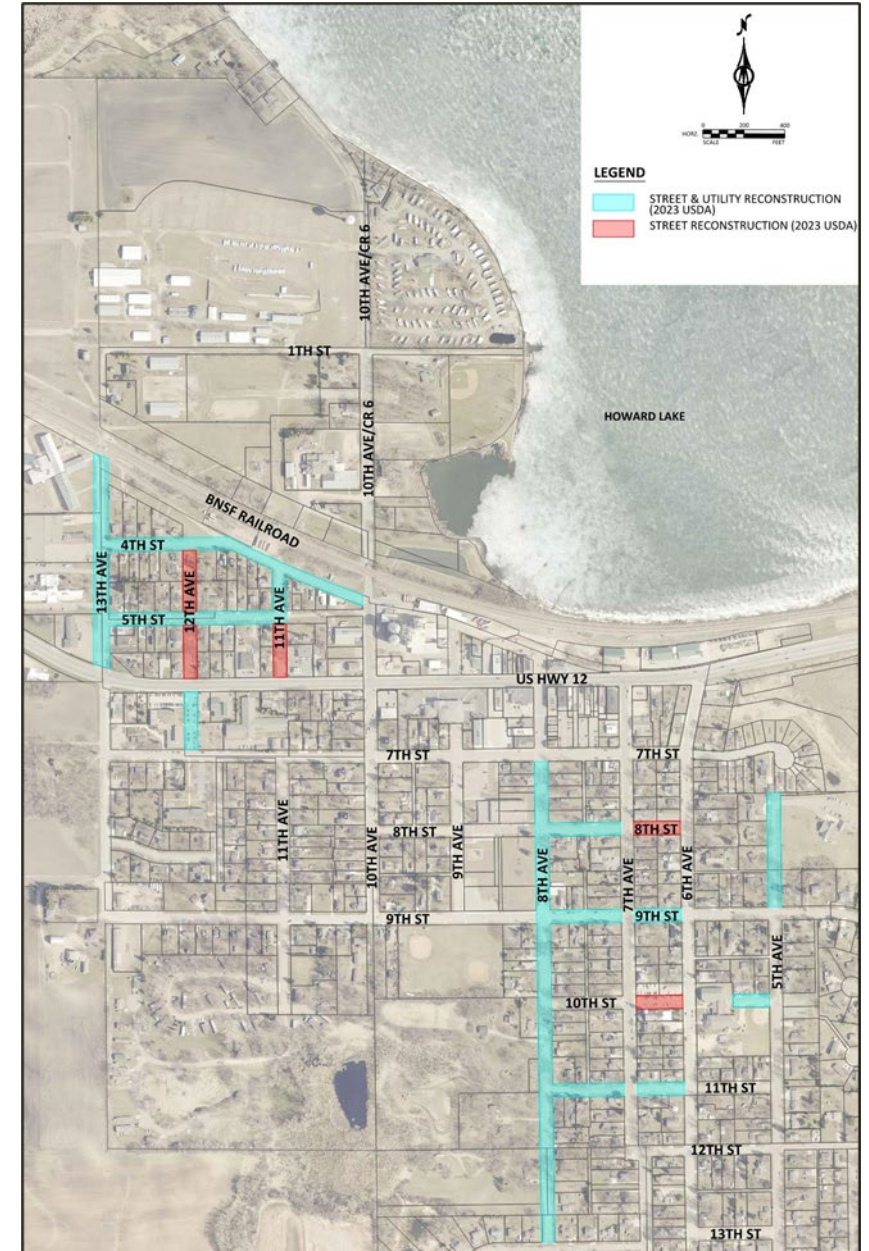
Project Need – Current Well Capacity



Proposed Improvements

Project Improvement Phases

- Phase 1 – Street and Utility Reconstruction
- Phase 2 – Water Treatment Facility Improvements
- Phase 3 – Water Tower and Water Supply Improvements



Alternatives Considered – Phase 1

Alternative 1: Open Trench Construction

- Typical construction method – open trench utility construction
- Construct new streets including concrete curb and gutter

Alternative 2: Trenchless Construction and Spot Repair

- Amend existing deteriorated utilities with liners
- Water services is open cut
- No corrections to vertical alignment
- Patchy street rehabilitation

Alternative 3: Do Nothing

- Leave street and utilities as is

Alternatives Considered – Phase 2

Alternative 1

Gravity Filtration

Alternative 2

Gravity Filtration
with Lime Softening

Alternative 3

Gravity Filtration
with Reverse
Osmosis



Alternatives Considered – Phase 3

Water Storage and Supply

- Alternative 1: Replacement
 - Construct new water tower and demolish the existing tower
 - Drill and construct a third supply well.
- Alternative 2: Rehabilitation
 - Rehabilitate existing Tower No. 1
 - Refurbish existing well components
- Alternative 3: Do nothing
 - Maintain existing facilities



Tower No. 1

Project Recommendations

Phase 1: Street and Utility Construction	Phase 2: Water Treatment Facility	Phase 3: Water Treatment Facility
Alternate 1: Open Trench Construction	Alternate 1: Gravity Filtration	Alternate 1: Gravity Filtration
Estimated Capital Costs: \$ 10,062,500	Estimated Capital Costs: \$ 12,466,000	Estimated Capital Costs: \$ 4,012,800
Life Cycle Analysis: \$ 21,125,000	Life Cycle Analysis: \$ 13,454,500	Life Cycle Analysis: \$ 1,838,300
Non-monetary Factors: More cohesive system with less road and drainage maintenance. Improved grade for sanitary sewer.	Non-monetary Factors: Current facility uses similar technology; city staff is familiar with process.	Non-monetary Factors: Meets future storage and supply needs. Removes health concerns.

Environmental & Economic Impacts

Land Use	All proposed improvements is within the existing right-of-way and City-owned property.
Water Resources	The project as proposed does not cause any negative impacts to surface water. A MN DNR water appropriation permit will be required for the project.
Wetlands	The project as proposed will not have negative impacts to existing wetlands.
Biological Resources	There are no known rare plant communities, sensitive ecological resources, or waterbird nesting colonies in any area that is proposed for construction-related soil disturbance. Two ESA Listed Threatened Species and nine migratory bird species were identified as potentially found in the region; however, an urbanized setting is unlikely to provide desirable habitat for these species.
Cultural Resources and Historic Properties	The Howard Lake City Hall is the only structure in the community on the National Register of Historic Places. Water Tower No. 1 may be eligible and may require additional review from the State Historical Preservation Office.
Human Health & Safety	The project improves energy efficiency and allows the City to meet the needs of the community for safe drinking water and efficient sewage collection.
Maintenance	An overall reduction of maintenance is anticipated as a result of the project.
Water Quality	Improved water quality and pressure will result from the project.



Financing

Various options for financing the project improvements

General Obligation Bonding

Small Cities Development

- Loans

USDA Rural Development

- Loans
- Grants based on affordability

Project Schedule



All Phases complete – July 2026

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