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Engineering Division
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FEASIBILITY REPORT

FOR

50th AVENUE IMPROVEMENTS

IMPROVEMENT PROJECT NO. 2023-02

CITY OF BROOKLYN CENTER, MINNESOTA

September 19, 2022

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota

Michael Albers

*Michael J Albers, P.E.
Reg. No. 47074
September 19, 2022*

I. BACKGROUND

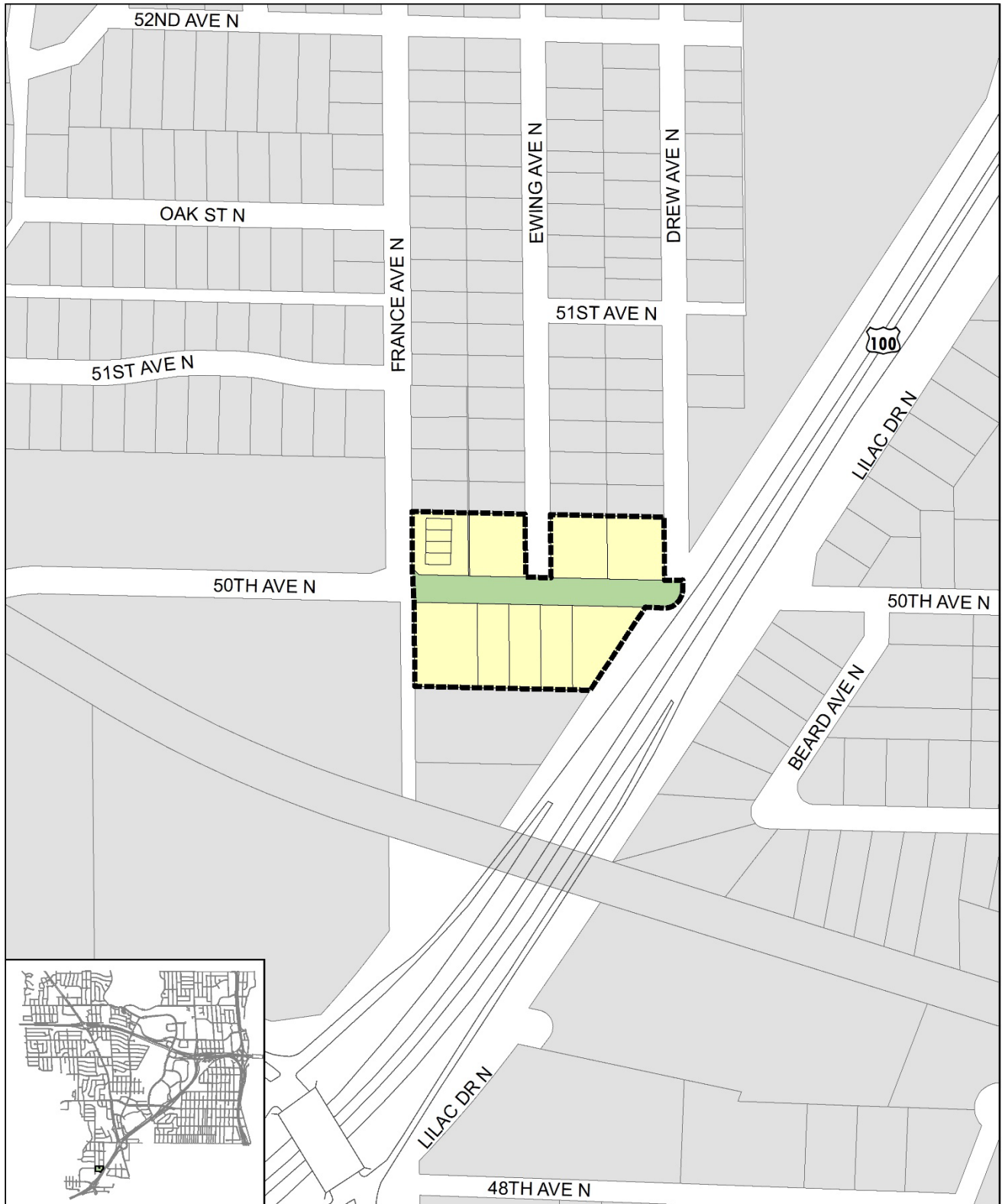
In 2023, the City of Brooklyn Center will be entering the 30th year of its long-range infrastructure rehabilitation program often referred to as the Neighborhood Street and Utility Improvement Program. This program has consisted of a systematic rehabilitation and/or replacement of the City's aging streets, water main, sanitary sewer, storm sewers, sidewalks, trails and street lights.

The City's Capital Improvement Program identifies 50th Avenue for partial reconstruction in 2023. The proposed project includes roadway, utility and trail improvements within the project limits shown on Figure 1. The 50th Avenue project area extends from France Avenue to Drew Avenue.

This report was prepared in response to City Council Resolution No. 2022-70 dated July 25, 2022, directing staff to prepare a feasibility report and collect public input for the proposed project. Staff conducted a public informational meeting with residents and property owners located within the project area on September 15, 2022.

The 2023 project area consists of approximately 665 feet of streets and utilities. The neighborhood consists of approximately 6 residential properties that are zoned "R4", 5 industrial properties, and 1 commercial property.

Figure 1: Project Area



Project Area
50th Avenue Street and Utility Improvement Project



Figure 1

II. STREET IMPROVEMENTS

A. EXISTING CONDITIONS

A majority of 50th Avenue was originally constructed between 1951 and 1956 with the Brooklyn Manor and Twin Lake Woods 2nd Additions. The street was most recently improved in 1988 resulting in the existing street pavement being in service for approximately 35 years. The existing street is 36 feet wide with curb and gutter.

An existing pavement evaluation was conducted resulting with the road surface showing signs of deterioration such as some lateral cracking and potholes have occurred in some locations. The existing low volume pavement section within the project area generally consists of 4 inches of bituminous pavement and 6 inches of aggregate base per the typical section in 1988. Additionally, limited sections of deteriorated concrete curb and gutter were identified within the project area.

The existing trail on 50th Avenue is located in the north boulevard the entire length of the project area. The trail is showing signs of deterioration. See Figure 2 for existing sidewalk and trail locations.

A geotechnical investigation will be performed within the project area to obtain and analyze soil samples below the street pavement. The geotechnical evaluation report will contain information regarding the subsurface soil and groundwater conditions and includes appropriate design and construction recommendations.

Traffic on 50th Avenue is generally limited to local traffic access to residential and commercial properties within the neighborhood with traffic volumes of approximately 420 vehicles per day.

B. PROPOSED STREET IMPROVEMENTS

Based on the age and condition of the existing bituminous asphalt pavement surfaces and the proposed replacement of underlying utilities in certain locations, complete replacement of the street surface is warranted. Proposed street improvements include partial reconstruction with full depth pavement replacement for the existing streets. The existing concrete curb and gutter throughout the project area has not exceed its life expectancy and can be suitably rehabilitated with spot repairs. Approximately 50 percent of the concrete curb and gutter and concrete driveway aprons are estimated to be replaced due to heaving/settling issues and as warranted or impacted by other construction (e.g. public utility repairs).

In accordance with the Complete Streets Policy adopted by the City in 2013, all streets and trail projects, including design, planning, reconstruction, rehabilitation, maintenance or operations by the City of Brooklyn Center shall be designed and executed in a responsible, equitable and financially reasonable way to accommodate and encourage travel by bicyclists, pedestrians, public transportation, emergency and commercial vehicles in a balanced manner. Implementation of the City's Complete Streets Policy ensures that the needs and safety of pedestrians, bicyclists, motorists and transit riders of all ages and abilities are considered in the design and operation of roads.

Additionally, the Safe Routes to School Planning (SRTS) Assistance Memorandum prepared by MnDOT in June 2013 and the Pedestrian & Bicycle Plan (P&BP) adopted in March 2014 are used to plan additional sidewalk and trail routes. The SRTS and the P&BP do not identify missing sidewalk/trail connects and no additional pedestrian or bicycle facilities were identified within the project area.

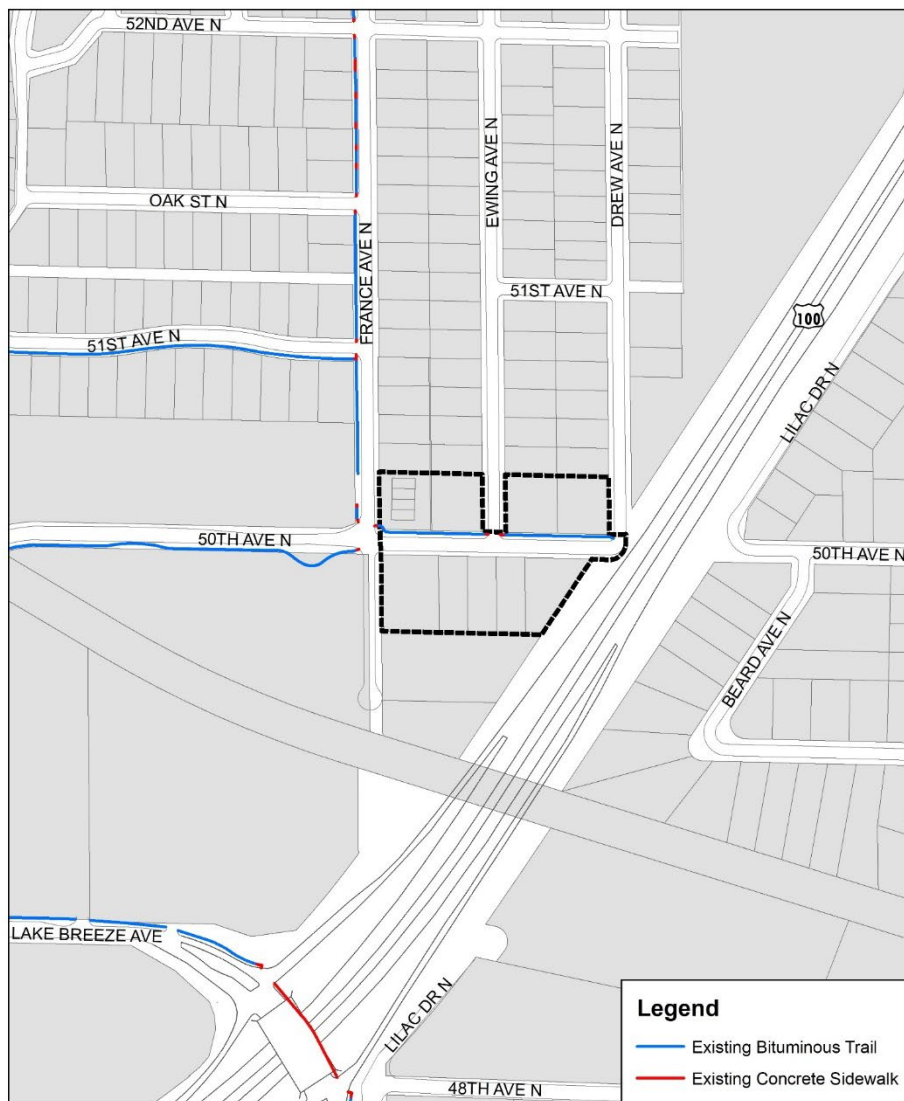
Based on these considerations, the following strategies and improvements are recommended:

- The existing bituminous trail on the north side of 50th Avenue will be reconstructed.
- Pedestrian curb ramps will be reconstructed throughout the project at each crosswalk location with truncated dome detectable warning systems in compliance with the Americans with Disabilities Act (ADA).

Other improvements include the repair of concrete driveway aprons, the replacement of trees, landscaping elements and irrigation systems that are impacted by the construction. Disturbed boulevard areas will be restored with topsoil and sod.

It should also be noted that in-depth property surveys are not performed and when constructing the new driveway aprons, the determined location generally matches existing driveway locations and widths. It is not the intent under this project to verify and fix driveway-property line issues, which sometimes exist. Rather, the construction under this project generally occurs within City right-of-way.

Figure 2: Sidewalks and Trails



Sidewalks and Trails
50th Avenue Street and Utility Improvement Project



III. STREET LIGHTING SYSTEM

A. EXISTING CONDITIONS

The street improvement program has historically included the replacement of free-standing street lights located within the project area. Free-standing street lights are defined as lights mounted on poles which do not contain any other overhead utilities attached to them. There are no free-standing streetlights in the project area. The existing street light system throughout the project generally consists of lights on multiuse-style poles, which are unable to be removed and therefore are not planned to be replaced. The existing street lights on multiuse poles within the project area have overhead power service with a cobra-head type LED light fixture.

The City's Street Light Policy states that street lights may be provided at street intersections and at mid-block locations where the distance between intersections exceeds 700 feet. Street lights are currently located at most intersections.

B. PROPOSED STREET LIGHTING IMPROVEMENTS

No street light improvements are included within the scope of this project.

IV. STORM DRAINAGE AND TREATMENT SYSTEM

A. EXISTING CONDITIONS

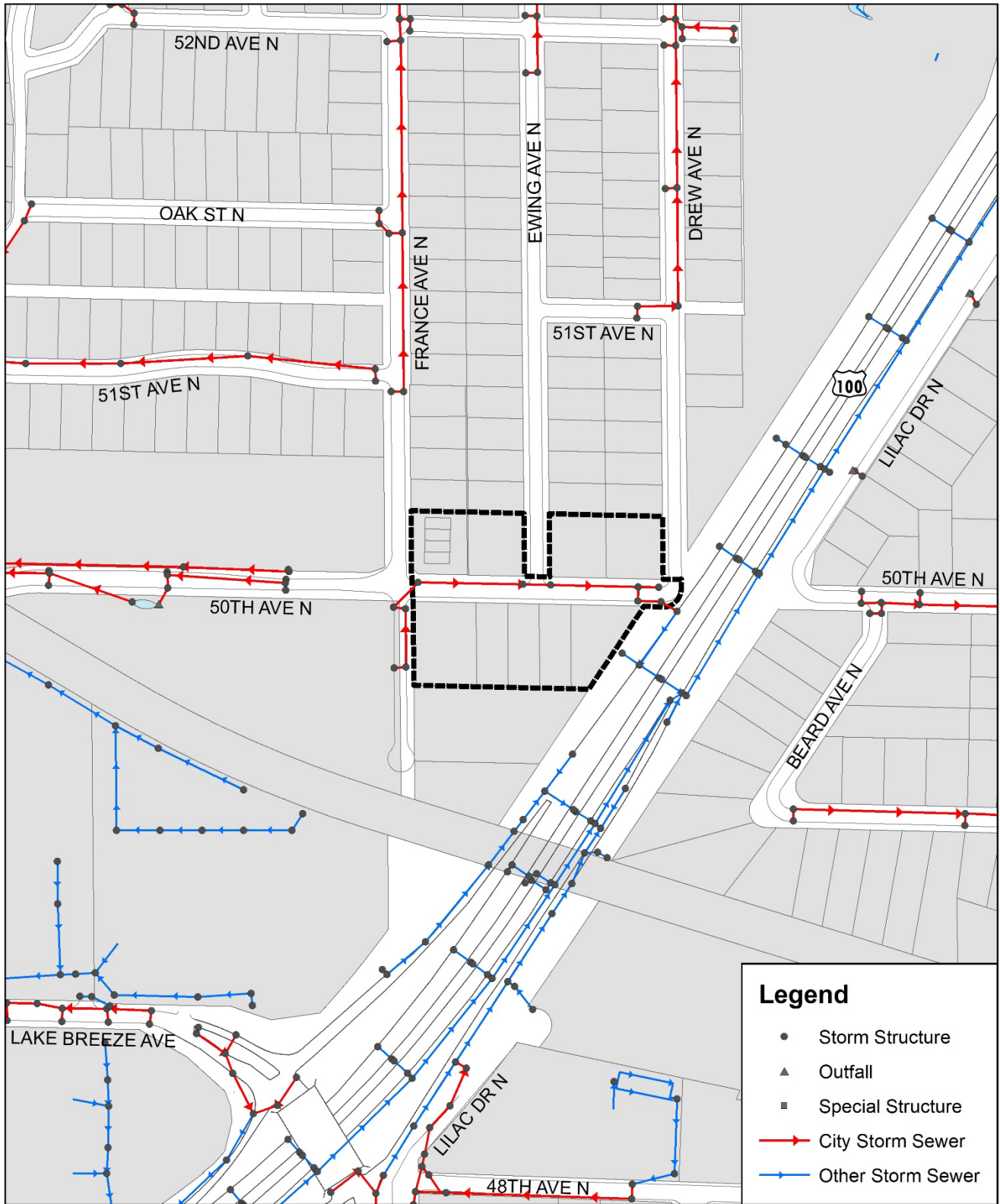
The project area is located within the Shingle Creek Watershed Management Commission area and ultimately flows to storm water treatment ponds at CenterBrook Golf Course and then to Shingle Creek. The existing storm drainage system in the project area consists of storm sewer pipes installed in 1988 and range in size from 15-inch to 24-inch diameter reinforced concrete storm sewer pipes (see Figure 3). A televising of the storm sewer in this area was conducted in the summer of 2022 and it was found to be in good condition.

B. PROPOSED DRAINAGE IMPROVEMENTS

Storm sewer improvements will be made to the existing system that includes replacing catch basins casting and adjustments as necessary within the project area. Storm sewer improvements will also include replacing/repairing catch basins and laterals where necessary or impacted by other utility work. There are no indicators or comments regarding significant ponding or flooding issues within the neighborhood and expansion of the existing storm sewer system is not being planned.

The majority of the stormwater is already conveyed to downstream stormwater quality treatment facilities prior to being discharged to Shingle Creek. No additional stormwater quality facilities are being planned for the project.

Figure 3: Storm Sewer



Legend

- Storm Structure
- ▲ Outfall
- Special Structure
- City Storm Sewer
- Other Storm Sewer



Existing Storm Sewer
50th Avenue Street and Utility Improvement Project



Figure 3

V. SANITARY SEWER SYSTEM

A. EXISTING CONDITIONS

The existing sanitary sewer collection system within the project area consists of 30-inch diameter reinforced concrete pipe (RCP) sewer mains (see Figure 4). The sanitary sewer system is owned and maintained by the Metropolitan Council Environmental Services (MCES). The sewer line was installed in 1955 and was relined by MCES in recent years.

B. PROPOSED SANITARY SEWER IMPROVEMENTS

MCES interceptor pipes generally serve as collectors for the smaller City sewer mains, and several individual property services do connect into the interceptor pipe. It is proposed to replace individual service lines and coordinate with MCES to replace or adjust sanitary manhole castings and lids.

Figure 4: Sanitary Sewer



Existing Sanitary Sewer
50th Avenue Street and Utility Improvement Project



VI. WATER SYSTEM

A. EXISTING CONDITIONS

A majority of the water main within the project area consists of 8-inch and 10-inch diameter cast iron pipe (CIP) installed in 1958 and 1966. The water main pipe velocities on 50th Avenue are adequate as confirmed by water distribution modeling. Some of the existing water main in the project area is assumed to not have a cement based internal liner. There is a history of 1 water main break within the project area (see Figure 5). One property has been identified to have past frozen service issues.

B. PROPOSED WATER MAIN IMPROVEMENTS

Recommended water main improvements include complete replacement of the existing cast iron water main with new ductile iron water main. The proposed improvements also include replacement of valves, hydrants and water services extending from the water main in the street to the water curb stop located at the front property line. As part of this replacement, the service with a freeze history would be insulated. Replacement pipe materials include ductile iron pipe, which is more resistant to corrosion than cast iron pipe, and copper service pipe.

Figure 5: Water Main Break Locations



Water Main Break Locations
50th Avenue Street and Utility Improvement Project



Figure 5

VIII. RIGHT-OF-WAY AND EASEMENTS

Generally, public infrastructure owned, maintained and operated by the City in the project area is located within City easements and/or right-of-way with the exception of the easterly 50 feet of the project area which falls in MnDOT right-of-way. It is not anticipated that the City will need to obtain any additional easements for any existing or proposed improvement located within the roadway.

IX. ESTIMATED COSTS AND FUNDING CONSIDERATIONS

The total estimated cost of the proposed project is \$410,000.00. Table 1 provides a summary of the estimated project costs and recommended funding amounts from the various sources as indicated. Funding for the project is further described below.

A. FUNDING FOR STREET IMPROVEMENTS

The estimated project cost of roadway improvements in this project area is \$190,000.00. This preliminary estimate includes the cost for project administration, legal, engineering and construction contingency. Special assessments for street improvements are proposed in accordance with the 2023 rates which are expected to be considered for adoption by the City Council on November 14, 2022.

The commercial properties, industrial properties and multi-family properties that are zoned R4 within the project area would be assessed based on an area basis (see figure 6). An “A” zone benefit includes the area abutting the street to be improved, extended to the depth of 200-feet and a “B” zone of lesser benefit for the remainder of the property area. The “A” zone rate is based on assessing 70 percent of the total street project cost deemed to benefit the property and the “B” zone rate is based on 30 percent. Based on cost estimates for full street reconstruction, the full unit rate has been determined to be “A” zone rate of \$0.4292 per square foot and a “B” zone rate of \$0.1839 per square foot. It should be noted that historically the assessments have been levied based on estimated costs rather than actual costs, understanding that the project costs are levied at a reduced percentage (70 and 30 percents as indicated above).

A total estimated special assessment amount of \$52,265.67 would be levied for street improvements. The remaining street construction costs would be funded from the Street Reconstruction Fund. A summary of the proposed special assessments for street improvements is provided in Appendix A.

B. FUNDING FOR STORM DRAINAGE IMPROVEMENTS

The total estimated cost for storm drainage improvements within the project area is \$40,000.00. This preliminary estimate includes the cost for project administration, legal, engineering and construction contingency. The City has not historically assessed storm sewer improvement costs as part of a partial reconstruction project. The storm sewer improvement costs would be funded from the Storm Drainage Fund.

C. FUNDING FOR UTILITY IMPROVEMENTS

The estimated cost of sanitary sewer improvements is \$20,000.00; and the estimated cost for water main improvements is \$160,000.00. As previously noted, these total cost estimates include the costs for project administration, engineering, legal and construction contingency. All costs for water and sanitary sewer improvements will be funded by their respective utility funds in accordance with established policy for such improvements.

Table 1: Cost and Funding

Table 1. Cost and Funding
Improvement Project No. 2023-02
2023 50th Avenue Improvements (France Ave to Drew Ave)
 Feasibility Report, September 19, 2022

	Streets	Storm Drainage	Sanitary Sewer	Water Main	Street Lights	Estimated Total
Estimated Expenditures						
Estimated Construction Cost Street & Utility	\$144,000.00	\$30,000.00	\$15,000.00	\$121,000.00	\$0.00	\$310,000.00
Contingencies (10%)	\$14,000.00	\$3,000.00	\$2,000.00	\$12,000.00	\$0.00	\$31,000.00
Administration, Engineering, Legal (20%)	\$32,000.00	\$7,000.00	\$3,000.00	\$27,000.00	\$0.00	\$69,000.00
Total Estimated Project Costs (Feasibility)	\$190,000.00	\$40,000.00	\$20,000.00	\$160,000.00	\$0.00	\$410,000.00
Estimated Revenue						
Street Special Assessments	\$52,265.67					\$52,265.67
Storm Drainage Special Assessments						\$0.00
Sanitary Sewer Utility Fund			\$20,000.00			\$20,000.00
Water Utility Fund				\$160,000.00		\$160,000.00
Storm Drainage Utility Fund		\$40,000.00				\$40,000.00
Street Light Utility Fund					\$0.00	\$0.00
Street Reconstruction Fund	\$137,734.33					\$137,734.33
Total Estimated Revenue (Feasibility)	\$190,000.00	\$40,000.00	\$20,000.00	\$160,000.00	\$0.00	\$410,000.00

Figure 6: Assessment Map

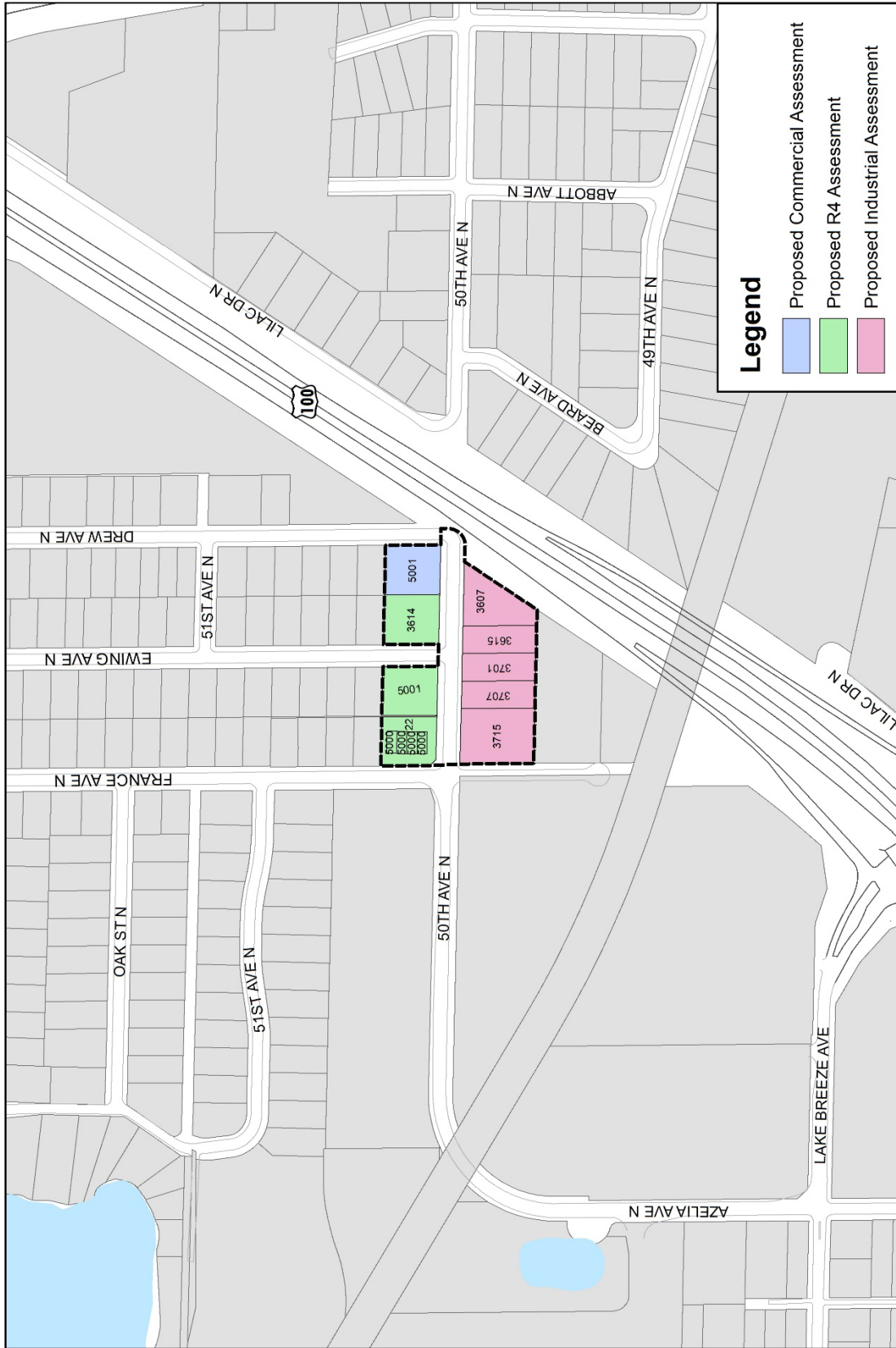


Figure 6

Assessment Map
50th Avenue Street and Utility Improvements



X. RECOMMENDED PROJECT SCHEDULE

Table 2 is the preliminary schedule for the project.

Table 2. 50th Avenue Improvements – Schedule

Action	Target Date
City Council Receives Feasibility Report and Calls for an Improvement Public Hearing	September 26, 2022
City Council Holds Improvement Public Hearing, Authorizes the Project and Orders Preparation of Plans and Specifications	October 24, 2022
City Council Establishes 2023 Assessment Rates, Declaring Costs to be Assessed and Calling for a Public Hearing on Proposed Special Assessments	November 14, 2022
City Council Holds Assessment Public Hearing and Certify Assessment Roll	December 12, 2022
City Council Approves Plans and Specs, and Authorizes Advertisement for Bids	January 2023
City Receives and Opens Project Bids	February/March 2023
City Council Considers Award of Contract	March 2023
Start Project Construction	Spring/Summer 2023
Construction Substantially Complete	October 2023

XI. CONCLUSIONS AND RECOMMENDATIONS

The overall condition of the City's street and utility infrastructure systems is critical to the operation, safety, welfare and economic health of the entire community. As a result of the infrastructure needs described and the proposed solutions and estimated costs provided in this report, the proposed project is considered to be necessary, cost effective and feasible.

Appendix A

DRAFT Proposed Pending Assessment Roll

CITY OF BROOKLYN CENTER PROPOSED PENDING ASSESSMENT ROLL

September 19, 2022

**2023 50TH AVENUE IMPROVEMENTS
IMPROVEMENT PROJECT NO. 2023-02**

DRAFT

PROPERTY ID	HOUSE	STREET NAME	LEVY#	STREET	NOTES
1011821130059	3607	50th Ave N		\$ 9,308.25	Industrial I2 (A) 21,687.45 sf (B) 0 sf
1011821130051	3614	50th Ave N		\$ 4,340.24	Multi Family R4 (A) 10,112.40 sf (B) 0 sf
1011821130083	3615	50th Ave N		\$ 6,440.16	Industrial I2 (A) 15,005.04 sf (B) 0 sf
1011821130061	3701	50th Ave N		\$ 6,440.25	Industrial I2 (A) 15,005.04 sf (B) 0 sf
1011821130062	3707	50th Ave N		\$ 6,440.16	Industrial I2 (A) 15,005.03 sf (B) 0 sf
1011821130080	3715	50th Ave N		\$ 6,445.30	Industrial I2 (A) 15,017.01 sf (B) 0 sf
1011821130073	5000	France Ave N; Unit D		\$ 1,056.47	Multi Family R4 - Split between 4 units (A) 2,461.49 sf (B) 0 sf
1011821130074	5000	France Ave N; Unit C		\$ 1,056.47	Multi Family R4 - Split between 4 units (A) 2,461.49 sf (B) 0 sf
1011821130075	5000	France Ave N; Unit B		\$ 1,056.47	Multi Family R4 - Split between 4 units (A) 2,461.49 sf (B) 0 sf
1011821130076	5000	France Ave N; Unit A		\$ 1,056.47	Multi Family R4 - Split between 4 units (A) 2,461.49 sf (B) 0 sf
1011821130003	5001	Drew Ave N		\$ 4,343.16	Commercial C1 (A) 10,119.21 sf (B) 0 sf
1011821130042	5001	Ewing Ave N		\$ 4,282.27	Multi Family R4 (A) 9,977.32 sf (B) 0 sf
Total Assessments				\$ 52,265.67	