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Preliminary Engineering Report

2023 Street & Utility Improvements

City of Wabasha, Minnesota

July 2022

Submitted by:

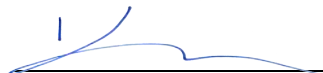
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Certification

Preliminary Engineering Report
for
2023 Street & Utility Improvements
City of Wabasha, Minnesota
H19.120756
July 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.

By:


Kathryn A. Gehler, P.E.
License No. 45976

Date: July 27, 2022

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I. EXECUTIVE SUMMARY

This report is for a proposed street and utility reconstruction project of Bridge Avenue (County Road 58) from 4th Grant Boulevard West to Main Street, Main Street (County Road 58) from Bridge Avenue to Pembroke Avenue, and Pembroke Avenue (County Road 65) from Main Street to 4th Grant Boulevard in Wabasha, Minnesota.

The corridor pavement surfaces and utilities in the project area are deteriorating and in need of repair. If the infrastructure is not replaced, maintenance costs will continue to rise as deterioration continues until the infrastructure items ultimately fail.

Most of the project area lies within county right-of-way. The street surfaces and storm sewer catch basins are owned by Wabasha County and maintained by the City through contracted services. The public utilities are owned and maintained by the City of Wabasha. The City and County have entered into a Cooperative Agreement to complete the project design. As defined in this agreement, the city will be the lead for project development and construction with the county contributing funding for project costs.

The project scope currently includes the reconstruction of street pavement, curb and gutter, sidewalks, private driveways (as needed), street lighting, and some aesthetic/landscaping improvements. The project will also include replacement of storm sewer, sanitary sewer, watermain, and the associated service lines within the project area.

The estimated total project cost is approximately \$8.19 Million. Funding for the project will come from multiple sources. Wabasha County will contribute \$450,000 through the Cooperative Agreement. In addition, the city was successful in securing a grant award through the Minnesota Department of Transportation's (MnDOT) Local Road Improvement Program (LRIP) in the amount of \$1,250,000. The remaining funds will be financed through a low interest loan from the Public Facilities Authority (PFA) to be repaid through user rate fees and bond proceeds to be repaid through special assessments and ad valorem tax revenues.

Based on the City's Local Improvement Policy, the proposed improvements are classified as a Class D improvement that is assessable to the benefitting properties. The policy considers three assessment types that include street/storm sewer, water and sewer. The total amount estimated to be assessed for the project is \$680,419. The estimated assessment for an Equivalent Residential Unit is as follows:

Assessment Type	Project ERUs	Amount per ERU
Street and Storm	75-82	\$4,103 - \$4,459
Water	66-71	\$2,374 – \$2,554
Sewer	66-71	\$2,500 – \$2,689
Total		\$8,977 - \$9,701

The estimated assessments for individual properties on the project are between \$1,213 and \$10,866. These estimates appear to be generally consistent with previously completed street and utility improvement project assessments in similar communities.

From an engineering standpoint, the proposed improvements are feasible, cost effective, and necessary and can be best accomplished by letting competitive bids for the work. We recommend that the Council

accept this Preliminary Engineering Report and call for a public hearing on the proposed improvements. If approved, the design process would extend through the fall of 2022 and construction would begin in the spring of 2023.

II. PROJECT INTRODUCTION

This Preliminary Engineering Report considers street and utility reconstruction on Bridge Avenue from the intersection with 4th Grant Boulevard to the intersection with Main Street, Main Street from the intersection with Bridge Avenue to the intersection with Pembroke Avenue, and Pembroke Avenue from the intersection with Main Street to the intersection with 4th Grant Boulevard. A project location map is illustrated in **Figure 1** of **Appendix A**.

In accordance with Minnesota Statutes, Chapter 429, the City Council has authorized the preparation of a Preliminary Engineering Report to define the scope and determine the feasibility of the proposed project. The specific objectives of this Preliminary Engineering Report are to:

1. Evaluate the need for the project.
2. Determine the necessary improvements.
3. Provide information on the estimated costs for the proposed project.
4. Determine the project schedule.
5. Determine the feasibility of the proposed project.

The project would consist of surface and underground utility improvements. Additional details are provided in the following sections.

III. EXISTING CONDITIONS

A. Street and Surface

The existing streets in the project area are bituminous with B624 curb & gutter. The existing street surfaces are deteriorated with block cracking and heavy weathering and alligator cracking at joints. The table below provides a summary of existing street widths.

Table 1 – Existing Street Widths			
Street	From	To	Existing Street Width (ft)
Bridge Avenue	4 th Grant Boulevard	Main Street	44'
Main Street	Bridge Avenue	Walnut Avenue	52'
Main Street	Walnut Avenue	Pembroke Avenue	64'
Pembroke Avenue	Main Street	4 th Grant Boulevard	44'

The platted right-of-way is 60 feet along Bridge Avenue and Pembroke Avenue and 90 feet along Main Street. In general, Bridge Avenue has relatively flat grades and flat boulevard slopes. Main Street has several parking areas that appear to have steeper street grades (greater than 5 percent) while the main driving lanes are relatively flat along with relatively flat boulevards. Pembroke Avenue has steeper boulevard slopes and street grades from Main Street to 2nd Street before returning to relatively flat terrain through the rest of the corridor. With the majority of the project area being in a downtown district, there are fairly tight design constraints due to building fronts and entryways.

B. Sidewalk

The existing concrete sidewalk within the project corridor was found to be mostly out of compliance with the current American Disabilities Act (ADA) requirements. Compliance issues included excessive cross slopes, trip hazards, and several missing or non-compliant pedestrian ramps at intersections.

Currently, there is sidewalk along the entire corridor. The sidewalk widths range from 3.5 feet to 12 feet with a varying cross slope ranging from 0.5 percent up to 20 percent which is out of compliance with current ADA standards. Current ADA standards recommend a width of 5 feet and require a cross slope no greater than 2 percent. The cross section from the back of curb varies with having grass boulevards, concrete boulevards and sidewalk up to the back of curb.

In summary, the condition of the existing sidewalks within the project corridor can be characterized as poor and in need of replacement.

C. Storm Sewer

Storm Sewer is present within the entirety of the project area. The existing storm sewer contains several structures with varying degrees of structural integrity. Pipe sizes range between 12" and 21" in diameter. The existing storm sewer system within the project limits drains to five different discharge points. The storm drainage system is illustrated in **Figure 2, Storm Drainage of Appendix A.**

The existing storm sewer is illustrated on the Existing Utilities Map, **Figures 3.A-3.C of Appendix A.**

D. Sanitary Sewer

The existing sanitary sewer within the project area consists of mostly 8-inch to 12-inch vitrified clay pipe (VCP) mains. In most cases, service lines connected to mains are of similar construction to the main.

Complete as-built records for sanitary sewer within the project area were not available, although, it appears that most of the sanitary sewer was installed in the early 1930's and consists of VCP.

The sanitary sewer within the project area can be characterized as poor and in need of replacement. Aside from the structural integrity of this pipe, sanitary sewer of this condition is often susceptible to groundwater infiltration, which leads to excessive flows at the Wastewater Treatment Facility. Prior to moving forward with design, sanitary sewer within the project limits will be verified to better understand the locations and conditions of services lines.

The existing sanitary sewer collection system is shown on the Existing Utilities Map, **Figures 3.A-3.C of Appendix A.**

E. Watermain

The Existing water distribution system within the project area consists of a combination of 6-inch, 8-inch, 10-inch and 12-inch diameter cast iron pipe all constructed in 1913. Based on limited record information on water service lines, there may be shared service lines along the project.

The cast iron watermain within the project area is over 100 years old and has become susceptible to more frequent watermain breaks. There have been four watermain breaks in the project area since 2008. In the 2018 Water Supply Plan update approved by the Minnesota Department of Natural Resources, water loss was found to be 30% of the water pumped from water sources. A Water Loss Reduction Plan was developed as part of this plan and identified replacement of the older cast iron watermain as a strategy to reduce water loss within the community.

The existing water distribution system is shown on the Existing Utilities Map, **Figures 3.A-3.C** of **Appendix A**.

F. Other Utilities

Other non-municipal owned utilities are present in the right-of-way. These include electric, natural gas and telecommunication. The locations of these utilities have been collected during the initial project survey, using the gopher one call system.

IV. PROPOSED IMPROVEMENTS

A. Street and Surface

All street surfaces within the project corridor are proposed for complete reconstruction, including the excavation of the existing section and replacement with new aggregate base, bituminous pavement and concrete curb and gutter.

The following table summarizes the proposed street widths within the project area:

Table 2 – Proposed Street Widths					
Street	From	To	Existing Street Width ¹ (ft)	Proposed Street Width ¹ (ft)	Parking
Bridge Avenue	4 th Grant Blvd	Main Street	44'	44'	Both Sides
Main Street	Bridge Ave	Walnut Ave	52'	52'	Both Sides
Main Street	Walnut Ave	Pembroke Ave	65'	65'	Both Sides
Pembroke Avenue	Main Street	4 th Grant Blvd	44'	44'	Both Sides

Notes: ¹Curb Face to Curb Face

The street width of 44-feet along Bridge Avenue and Pembroke Avenue will allow for two 14-foot travel lanes and two 8-foot parking lanes. On Main Street, from Bridge Avenue to Walnut Avenue, the proposed street width of 52-feet will provide 10-foot parking lanes on both sides of the street and two 16-foot driving lanes. On Main Street, from Walnut Avenue to Pembroke Avenue, the proposed street width of 65-feet will provide 20-foot, 45 degree angled parking areas on both sides of the street with two 12.5-foot driving lanes.

The roadway will be designed to a 10-ton standard. Typically, this will result in a pavement structure consisting of 4-inch thick bituminous pavement over 10-inches of aggregate base and 12 inches of select granular borrow (sand). Soil borings will be completed as part of the final design process and will be utilized to determine the exact pavement section that is required.

Bump-outs are proposed along the Main Street portion of the project as a way to reduce the street width at pedestrian crossings to create a safer corridor. Bump-outs are also a proven traffic calming method to help reduce vehicle driving speeds.

Private driveway aprons along the entire project will be reconstructed from the back of the new curb to the right-of-way.

All disturbed turf will be restored with topsoil borrow, seeding and/or sod upon completion of grading. Trees or bushes located within the street right-of-way may need to be removed in order

to facilitate underground utility reconstruction. Attempts will be made to reduce impacts to existing trees; however, some tree removals should be expected.

A plan view of the proposed street and surface improvements is illustrated in **Figures 4.A – 4.C of Appendix A**. The proposed typical roadway sections are provided in **Figure 5 of Appendix A**.

B. Sidewalk

All of the existing public sidewalk within the project area will be replaced with new concrete walk, in order to bring it into compliance with current ADA requirements. Due to the significant slopes, particularly in the downtown area, there may be need for alternative solutions such as designated non-walkable boulevard areas through the use of textured concrete, v-curb, planter boxes, etc. These areas will be evaluated during the final design phase and coordinated with the City.

Front yards will be cut or filled to the grade needed to accommodate the new walk and other improvements. Any existing approach sidewalks from the street to the house will be reconstructed in a similar fashion as the driveways.

The proposed improvements will include replacement and regrading of all intersection curb ramps to bring them into ADA compliance as well. The proposed bump-outs along the Main Street portion of the project will also help with the ability to bring the intersection curb ramps into ADA compliance. Sidewalk improvements are illustrated in **Figures 4.A – 4.C of Appendix A**.

C. Storm Sewer

As discussed previously, storm sewer exists throughout the entirety of the project area. The proposed project will include replacement of the existing storm sewer system in its entirety.

The new storm sewer collection system will discharge to the existing outlet points as depicted in the attached figures. The collection system will be designed to meet current State Aid Standards. There are no known drainage capacity issues with the current pipe sizing.

Perforated subsurface drain piping is proposed along the back of the curb lines on each street. These drains are proposed to be 6-inch diameter perforated PVC. The new subsurface drains will be connected to downstream catch basins. The purpose of these drains is to remove subsurface water from the pavement section and underlying soils. This will help keep the underlying soils stable and help to preserve the life of the street.

The proposed storm sewer construction is shown on **Figures 6.A. – 6.C of Appendix A**.

D. Sanitary Sewer

The existing sanitary sewer collection will be replaced with new PVC mains and reinforced concrete manhole structures. Manholes will be spaced at a maximum of 400-foot intervals to facilitate maintenance and cleaning.

Private service lines adjacent to this area will also be replaced with new 4- or 6-inch diameter PVC service pipe between the main and a point near the right-of-way line. In downtown areas where the building face is at the right-of-way line, connection to the existing service lines will be evaluated during the final design process and coordinated with property owners. Any shared service lines will be evaluated and replaced with individual service lines if feasible.

The proposed sanitary sewer replacement is illustrated on **Figures 6.A. – 6.C of Appendix A**.

E. Watermain

The proposed project includes the replacement of all watermain within the project limits with either new PVC or Ductile Iron watermain. The new watermain will be a minimum diameter of 8-inches.

Hydrants with dedicated valves will be installed at appropriate intervals and main line valves will be installed to properly isolate the system for flushing, repair, and maintenance.

New, 1-inch water service pipe will be constructed between the main and property line for each home, and new curb stops will be installed. In downtown areas where the building face is at the right-of-way line, connection to the existing service lines will be evaluated during the final design process and coordinated with property owners. Any known combined water services will be separated to have individual shut offs as a part of this project if feasible.

The proposed watermain replacement is illustrated on **Figures 6.A. – 6.C of Appendix A.**

F. Other Utilities

The design of the proposed improvements will be coordinated with the owners of other utilities such as natural gas, electric, and communications. A design coordination meeting will be held with all private utility companies to identify those utilities that are in conflict with the proposed improvements. Private utility companies will be requested to submit proposed designs and construction schedules for any relocation. The construction schedule for the proposed improvements will be coordinated with the utility relocation schedule to avoid unnecessary delays.

G. Lighting & Other Aesthetic Improvements

A Downtown Streetscape Plan is being developed concurrently with this project and will make recommendations for the lighting and aesthetic improvements. Within the downtown core, the study has identified elements to inform this study.

The proposed design will include the replacement of existing street lighting within the project corridor.

Lights currently exist at the intersections along Bridge Street as attachments to the utility poles. The existing lights will be removed and new overhead lights will be placed at the intersections.

Lighting within the downtown core (all of Main Street W and Pembroke from Main Street West to ½ block south of 2nd Street) currently includes only pedestrian level lights at a spacing of about 50 feet. The current concepts from the Downtown Streetscape Plan consider replacing these lights with a combination of overhead lighting at the intersections with pedestrian lighting at a less frequent spacing along the block.

In addition to the lighting in the downtown area of the project, aesthetic improvements are anticipated that may include but not limited to trees, street furniture, additional lighting, and pedestrian accommodations that could be part of the project scope. Recommendations of the Streetscape Plan can be considered as part of the final design process.

H. Right-of-Way and Easements

Although the project will be designed to limit construction of the proposed improvements to within the existing right-of-way, it is possible that minor disturbances on private property will occur during construction of sidewalks, driveways, and sewer and water services. Therefore, temporary construction easements may be necessary along the project frontage to accommodate these minor disturbances.

V. APPROVALS AND PERMITS

Approvals and Permits are required from various agencies for the construction of the project. They include the following:

- Minnesota Pollution Control Agency (MPCA) General Construction Storm Water Permit
- Minnesota Pollution Control Agency (MPCA) Plan Review for Sanitary Sewer Construction
- Minnesota Department of Health (MDH) Plan Review for Watermain Construction
- MnDOT State Aid Review

VI. PROJECT COST ESTIMATE AND FINANCING

A. Cost Estimates

The estimated project costs for the project area are summarized in the following table.

Table 3 – Preliminary Project Cost Estimate	
SURFACE IMPROVEMENTS	\$ 2,972,677
SANITARY SEWER IMPROVEMENTS	\$ 709,878
WATER SYSTEM IMPROVEMENTS	\$ 674,167
STORM SEWER IMPROVEMENTS	\$ 703,804
LIGHTING IMPROVEMENTS	\$ 882,860
STREETSCAPING IMPROVEMENTS	\$ 441,650
ADA PEDESTRIAN RAMP UPDATES	\$ 25,700
2ND STREET STORM IMPROVEMENTS	\$ 148,516
ALLEGHANY ALLEY IMPROVEMENTS	\$ 30,728
CONSTRUCTION COST	\$ 6,548,991
LEAF (Legal, Engineering, Admin and Finance)	\$ 1,637,248
Estimated Total Project Cost	\$ 8,186,239

Note: Contingency costs are included in the totals above

Detailed cost estimates are included in Appendix B. These cost estimates are based on public construction cost information from other recent projects which are similar in scope. Since the cost estimates are dependent on the cost of labor, materials, competitive bidding process, weather conditions, and other factors, all cost estimates are opinions for general information and no warranty or guarantee as to the accuracy of construction cost is made. Therefore, financing for this project should be based upon actual competitive bid prices with reasonable contingencies.

B. Funding

Funding for the project will come from a combination of state, county and local sources. The city was successful in securing a grant award through the Minnesota Department of Transportation's (MnDOT) Local Road Improvement Program (LRIP) in the amount of \$1,250,000. Wabasha County will contribute \$450,000 through the Cooperative Agreement. The remaining funds will be financed through a low interest loan from the Public Facilities Authority (PFA) to be repaid through utility enterprise funds and bond proceeds to be repaid through special assessments and the debt levy. Additional details on assessments are included in the following section.

C. Special Assessments

The process for determining special assessments for the project is described in the City's Local Improvement Policy. In the policy, the proposed improvements are considered a Class D improvement to a collector or arterial street.

Under Class D improvements for a collector or arterial street reconstruction, the policy states that the cost of street, curb and gutter, sidewalk and storm sewer improvements shall be assessed to the benefitting properties on a per unit basis, with a per unit cost equivalent to 20% of an amount sufficient to construct a non-collector or non-arterial street, but not greater than the benefit to the property. Benefitting properties are those properties that abut the streets being improved. With an assessable project cost for the street and storm sewer improvements of \$1,672,035, the 20% assessable amount is \$334,407.

Assessable units are calculated using an Equivalent Residential Unit (ERU). Any single-family residential building lot is considered one unit. Units within multi-family buildings are considered 0.5 ERU and the number of units for non-residential properties is calculated based on increments of frontage. The estimated total number of Equivalent Residential Units for the project is between 75 and 82 based on a preliminary review. The preliminary range of assessments for streets is shown in the table below.

For water and sanitary sewer improvements, the policy states that the cost of the improvements shall be assessed to the benefitting properties on a per unit basis as determined by the City Council. If the Council were to assess 20% of the replacement cost, the amount assessed for water and sewer would be \$168,542 and \$177,470 respectively. There are approximately 66 water and sewer services to be replaced as part of the project. The assessment rate per unit is shown in the table below.

Assessment Type	Project ERUs	Amount per ERU
Street and Storm	75-82	\$4,103 - \$4,459
Water	66-71	\$2,374 – \$2,554
Sewer	66-71	\$2,500 – \$2,689
Total		\$8,977 - \$9,701

Based on these estimates, the estimated total amount to be assessed for the project is **\$679,735**.

Special assessments must not exceed the special benefit to the property being assessed. The City's policy also states that the City Council may obtain appraisals to determine the market value increase in the benefitting properties if it is necessary to support the assessments.

Assessment proceedings (hearings, notices, etc.) for the project would follow the requirements of Chapter 429. In general, this will include the preparation of a feasibility report (this document), an improvement hearing, and an assessment hearing before final assessments can be certified. Additional details regarding the timing of these hearings are provided in the following section.

VII. TENTATIVE PROJECT SCHEDULE

The following table provides a tentative project schedule. All dates are subject to change.

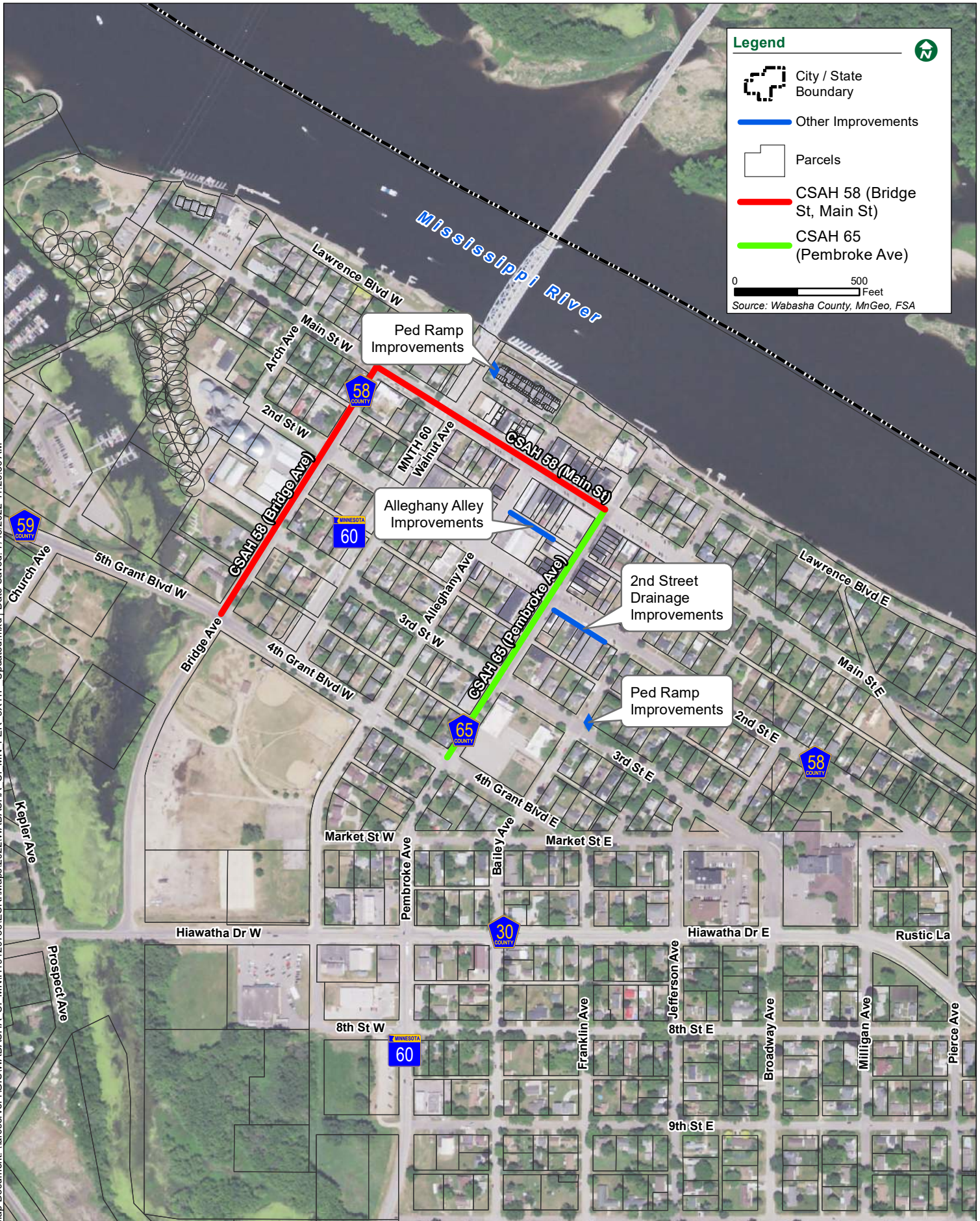
Table 4 – Tentative Project Schedule	
Council Authorize Preliminary Engineering Report	5/3/2022
Prepare Feasibility Report	Summer 2022
Public Informational Meetings	7/21/2022
Resolution Receiving Report and Calling for Hearing on Improvement	8/2/2022
Published Notice of Hearing on Improvement	8/23/2022
	8/31/2022
Mailed Notice of Hearing on Improvement	8/23/2022
Hold Improvement Hearing	9/6/2022
Resolution Ordering Improvement and Preparation of Plans and Specs	
Prepare Plans and Specifications	Sept '22 – Dec '22
Final Plan Submittal to MnDOT	Dec. 2022
Resolution Approving Plans and Specifications	12/6/2022
Open Bids	Jan. 2023
Declare Costs to be Assessed and Call for Assessment Hearing	2/7/2023
Published Notice for Assessment Hearing	2/14/2023
Mailed Notice for Assessment Hearing	2/14/2023
Public Informational Meeting(s)	Week of 2/20/2023
Hold Assessment Hearing	3/7/2023
Resolution Approving Final Assessment Roll	
Begin Construction	April/May 2023
Substantial Completion of Construction	November 2023
Final Completion of Construction	July 2024

VIII. CONCLUSION AND RECOMMENDATIONS

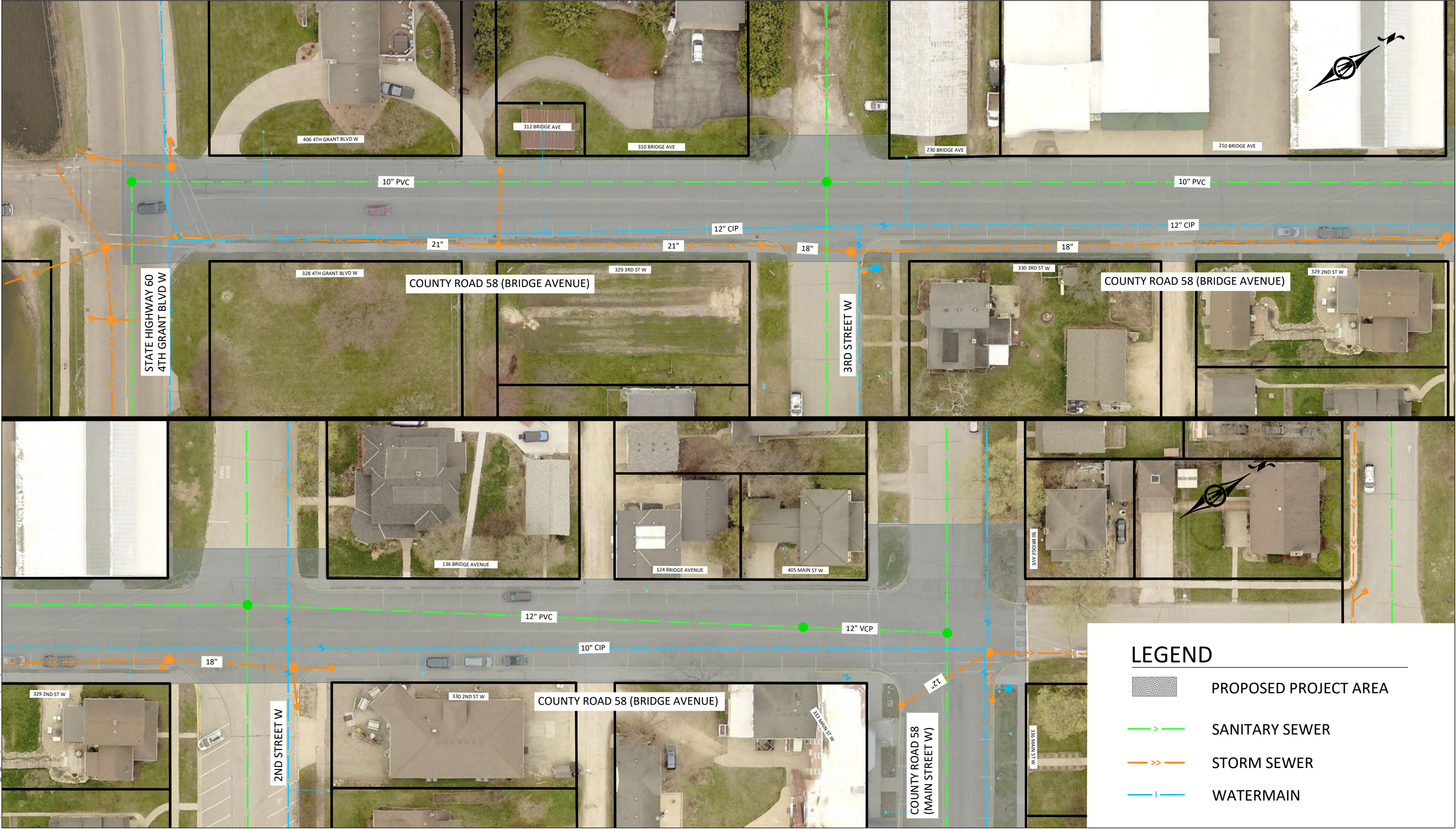
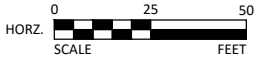
The existing streets and utilities within the project area are deteriorated and in need of repair. Without replacements, maintenance costs will continue to rise and the infrastructure will ultimately fail.

From an engineering standpoint, the proposed improvements are feasible, cost effective, and necessary. We recommend that the Council accept this Preliminary Engineering Report and call for a public hearing on the proposed improvements. If approved, the design process would extend through the end of 2022 and construction would begin in the spring of 2023.

Appendix A: Figures

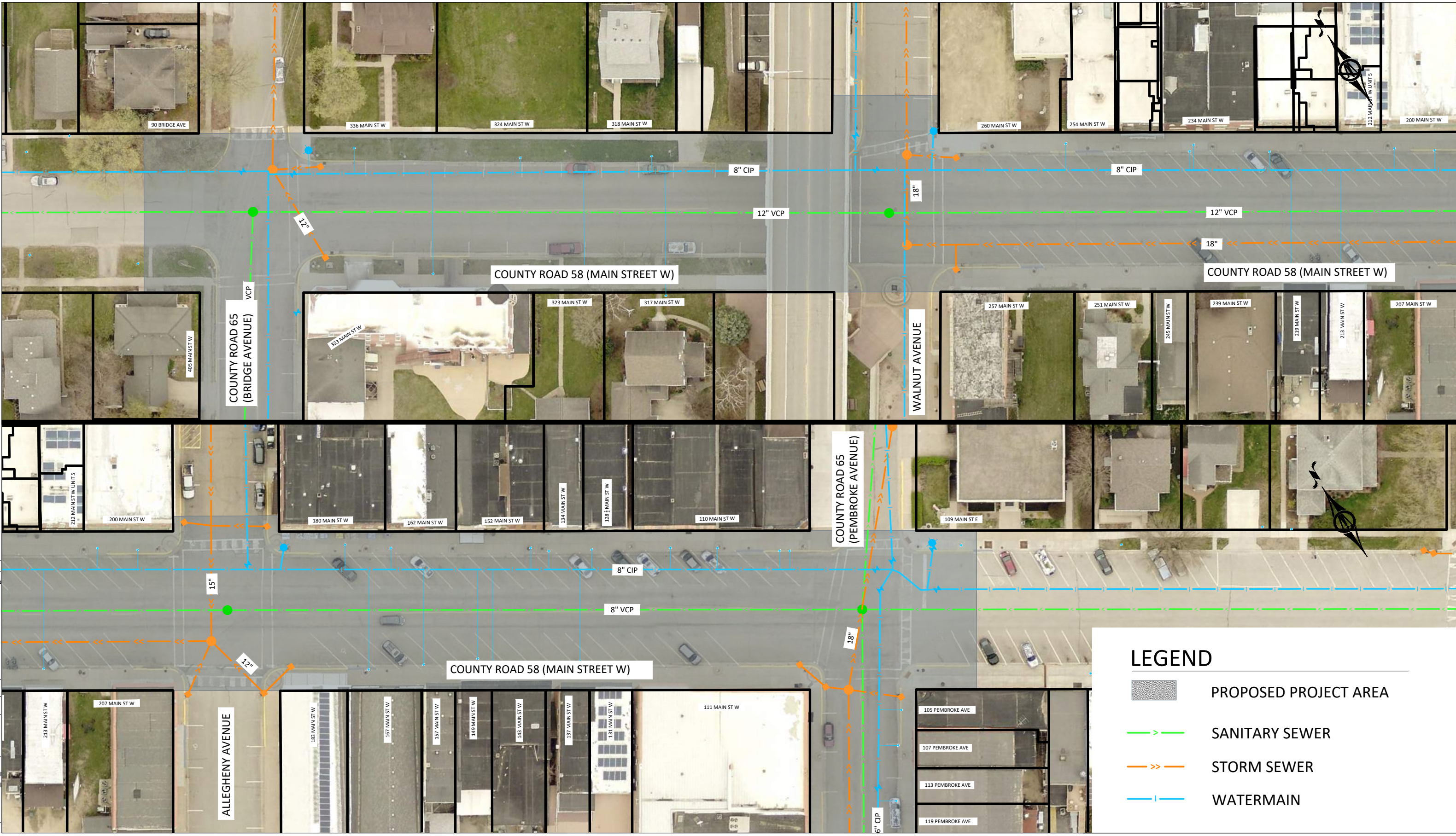




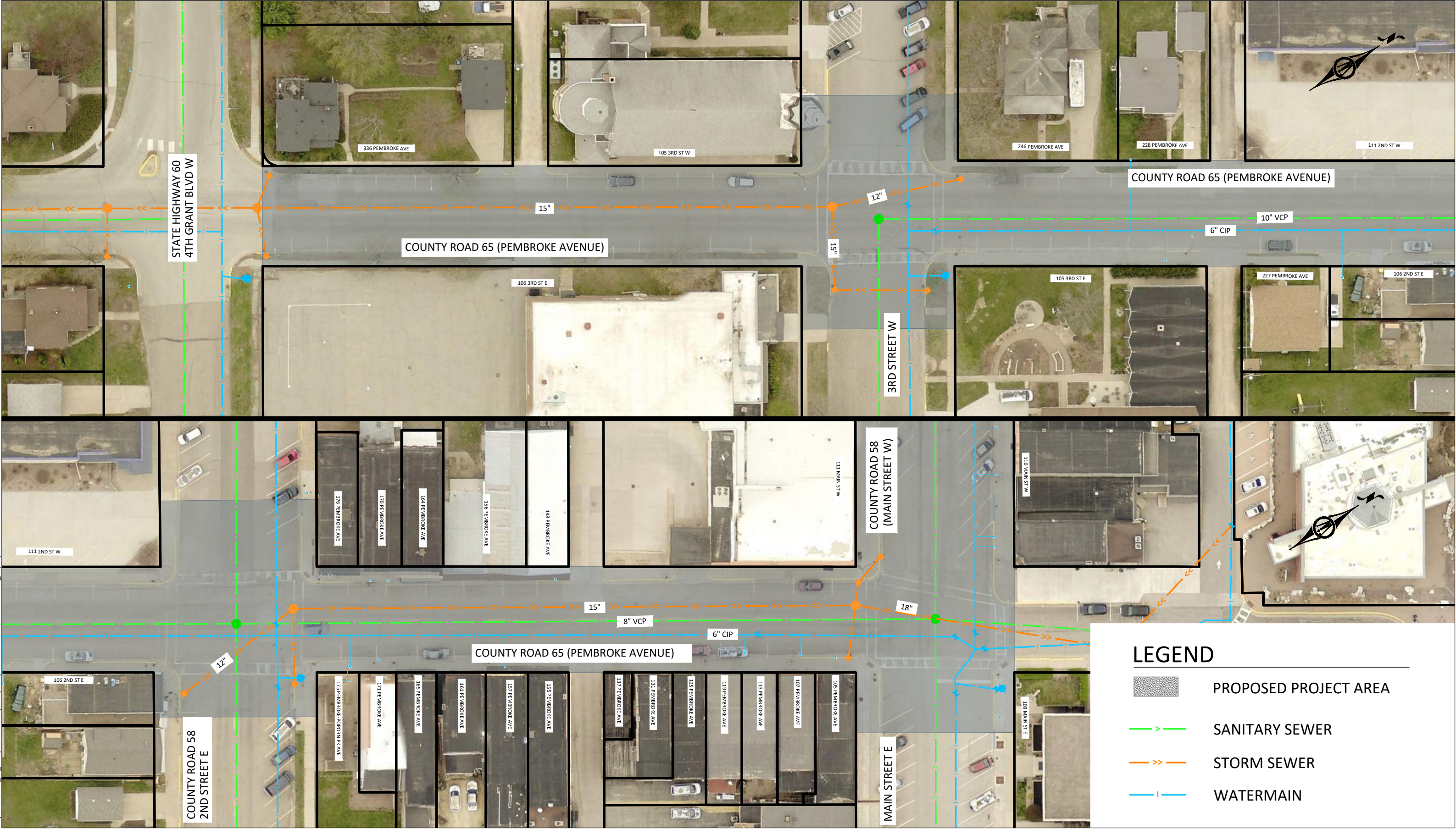


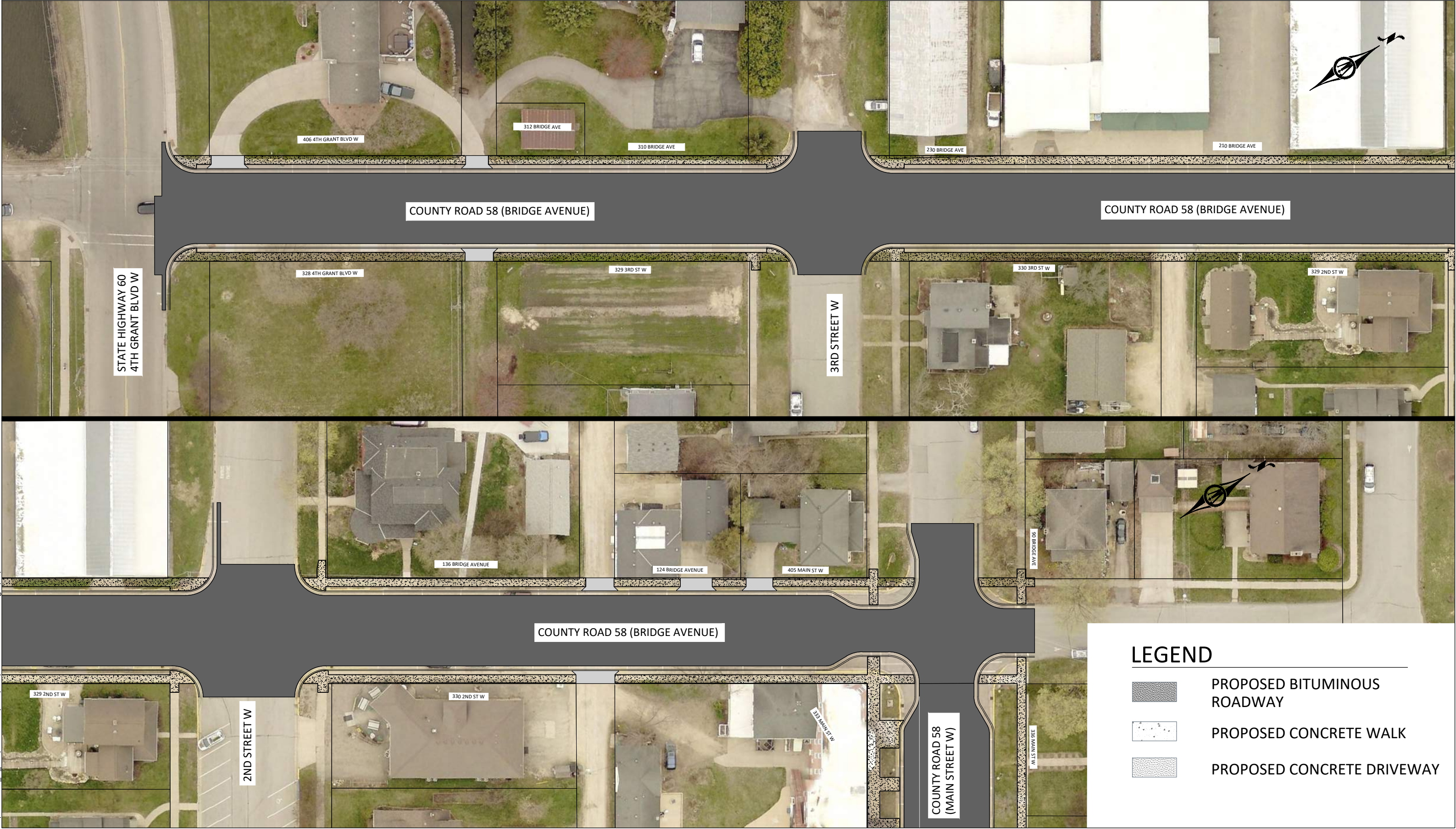
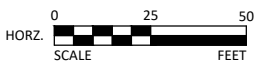
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- PROPOSED PROJECT AREA
- SANITARY SEWER
- STORM SEWER
- WATERMAIN

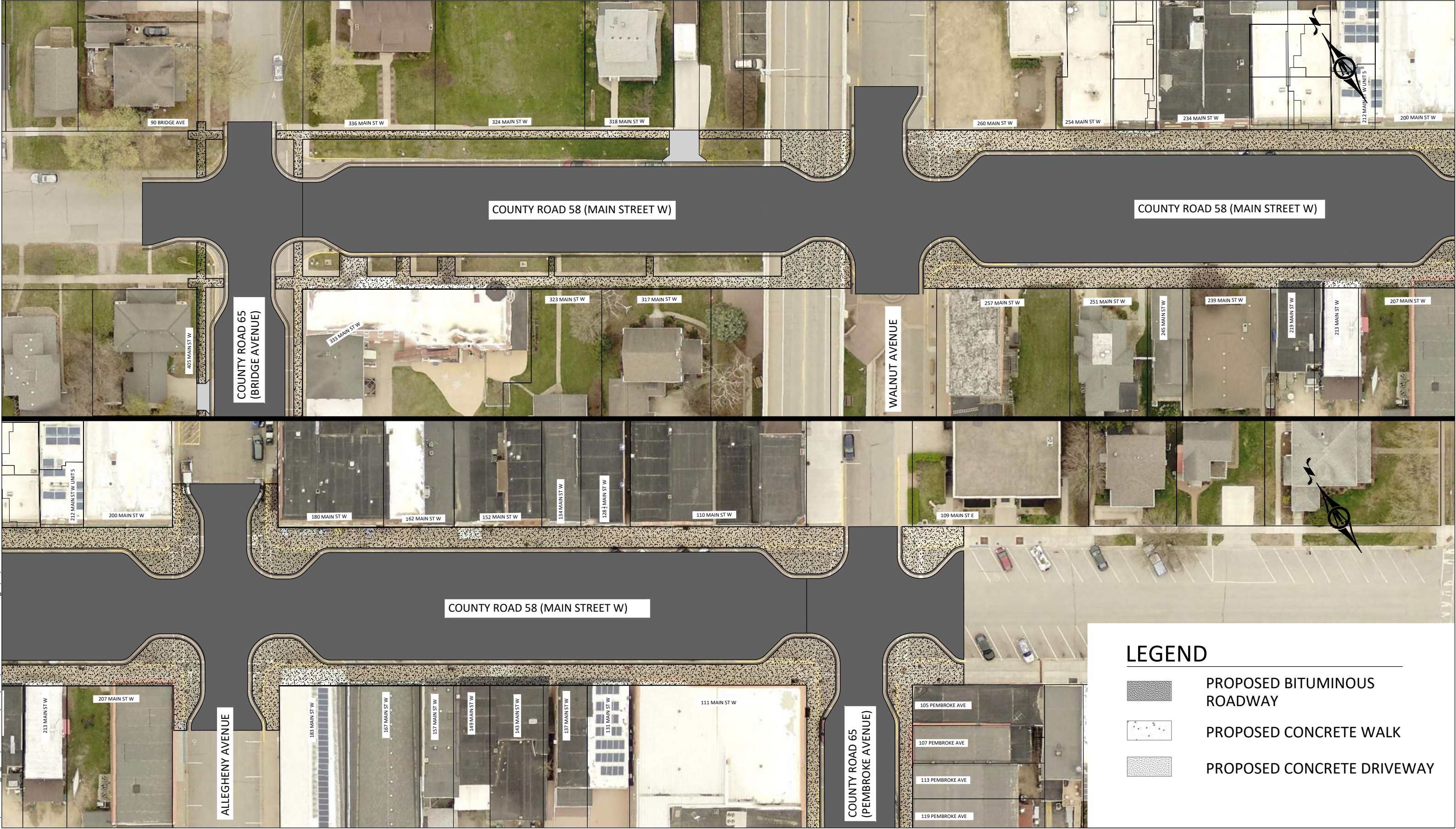
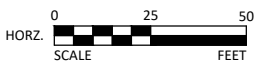


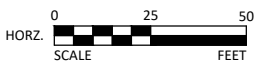
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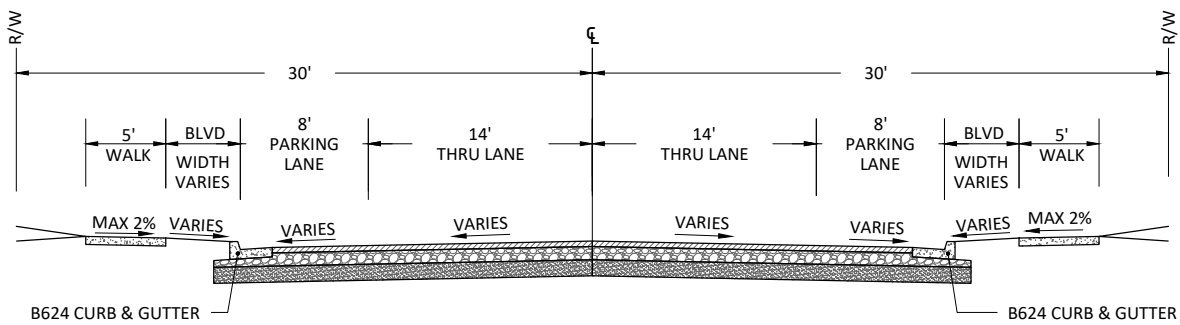


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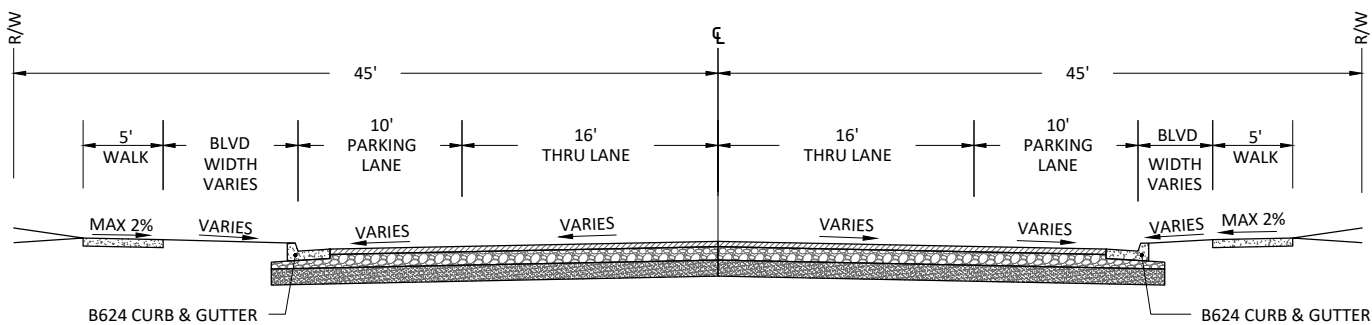


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PROPOSED TYPICAL SECTION - BRIDGE AVENUE

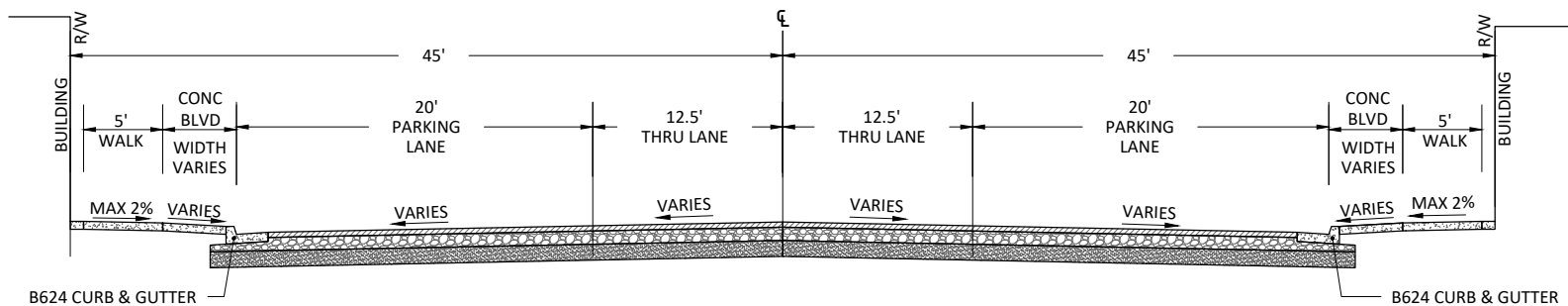
NOT TO SCALE



PROPOSED TYPICAL SECTION - MAIN STREET

NOT TO SCALE

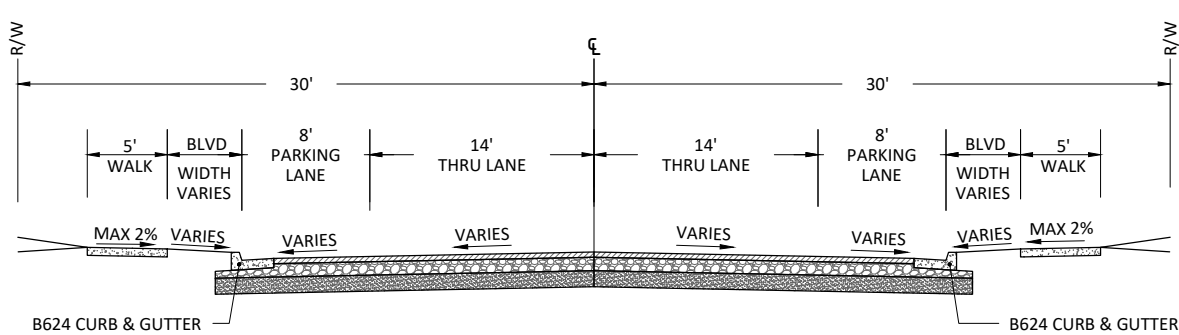
BRIDGE AVENUE TO WALNUT AVENUE



PROPOSED TYPICAL SECTION - MAIN STREET

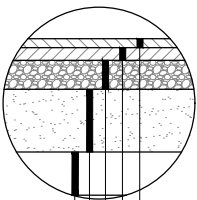
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WALNUT AVENUE TO PEMBROKE AVENUE



PROPOSED TYPICAL SECTION - PEMBROKE AVENUE

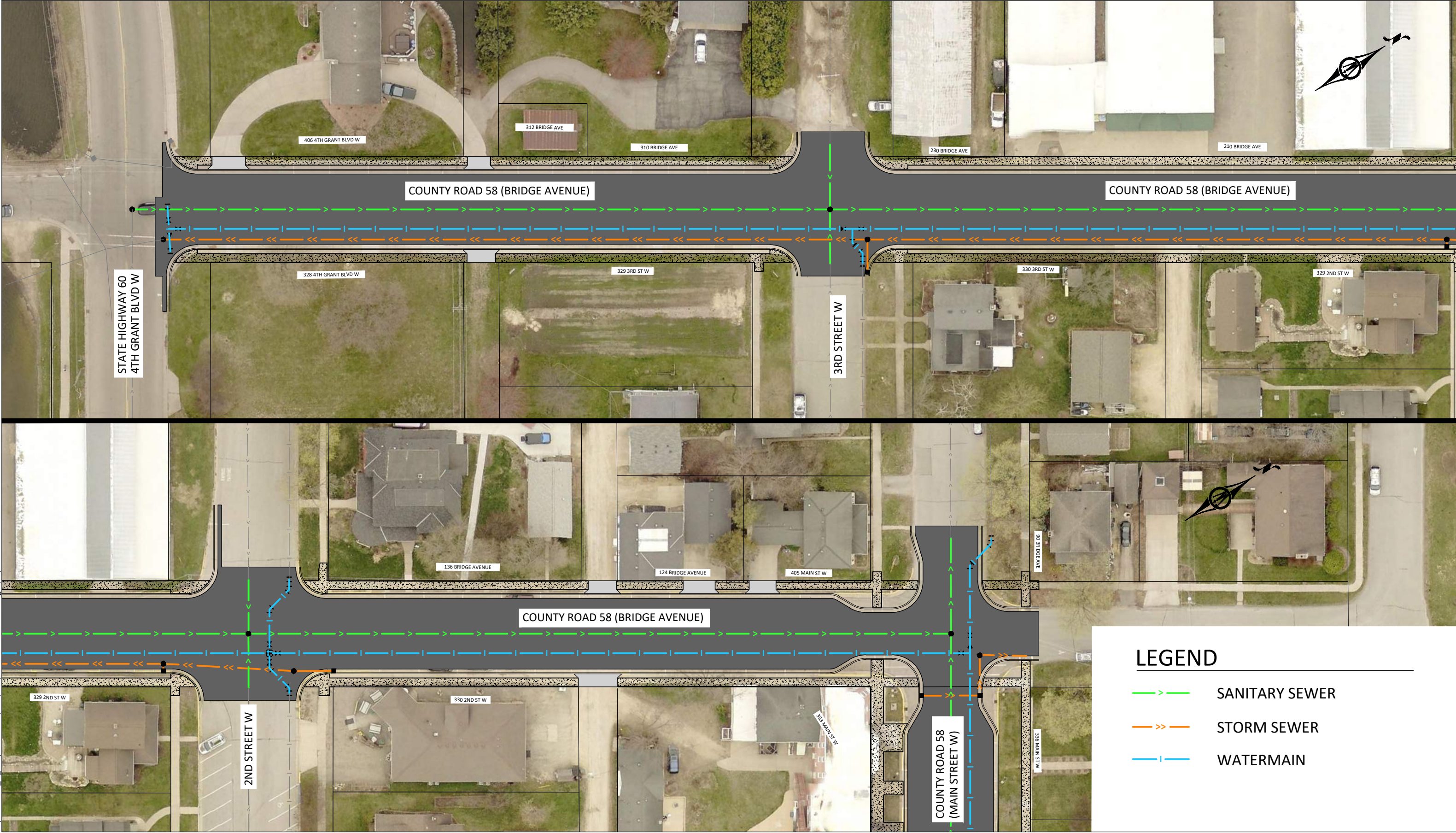
NOT TO SCALE



- 1.5" BITUMINOUS PAVEMENT (2531)
- 2.5" BITUMINOUS PAVEMENT (2531)
- 10" AGGREGATE BASE, CL 5 (2211)
- 12" SELECT GRANULAR BORROW (2105)
- SUBGRADE PREPARATION (2112) (INCIDENTAL)

BITUMINOUS PAVEMENT SECTION

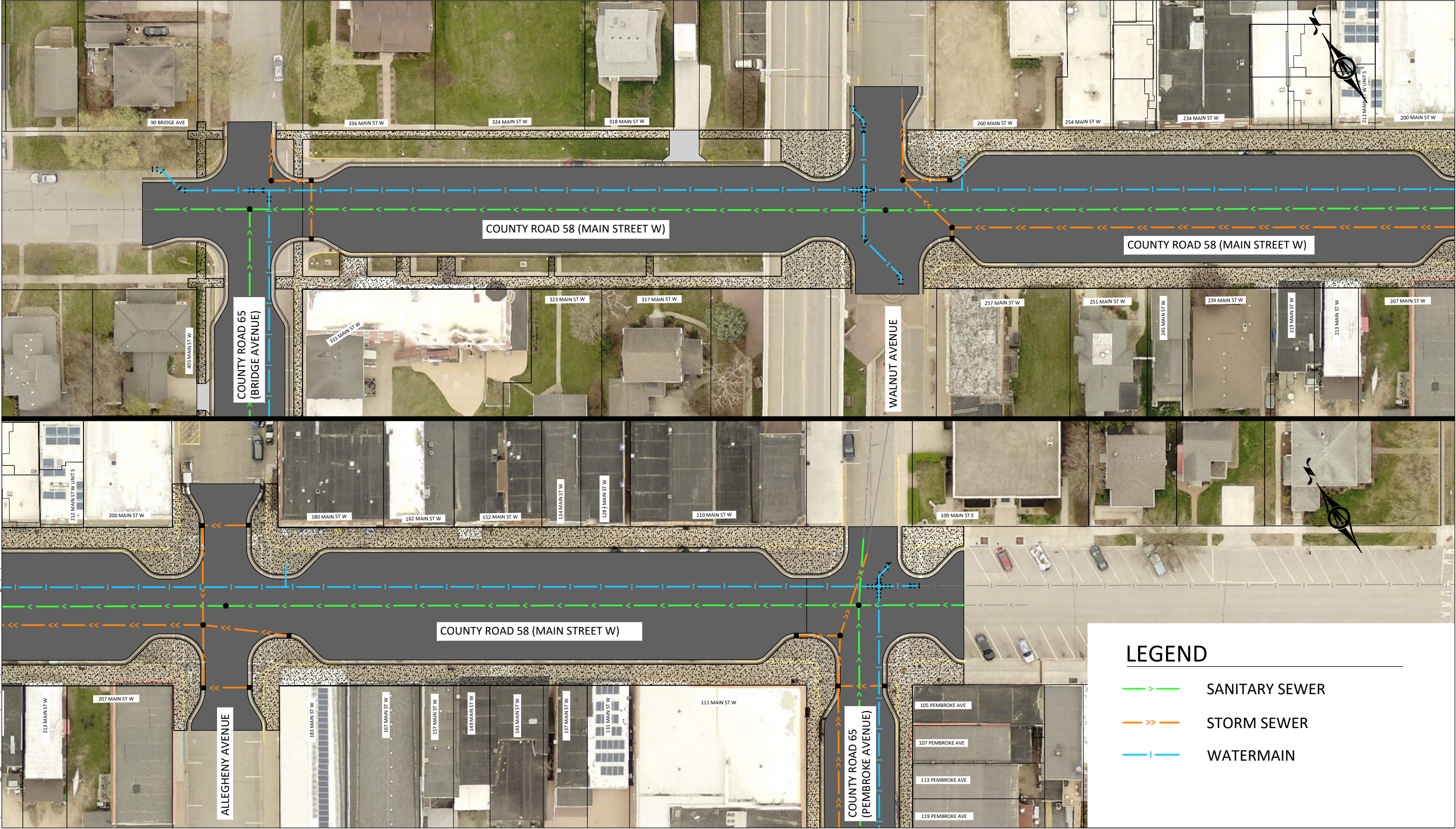
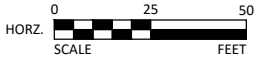
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LEGEND

	SANITARY SEWER
	STORM SEWER
	WATERMAIN

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Appendix B: Preliminary Cost Estimate

PRELIMINARY ENGINEER'S ESTIMATE

WABASHA DOWNTOWN RECONSTRUCTION

CITY OF WABASHA, MN

BMI PROJECT NO.: H19.120756



Updated: 07/13/2022

ITEM NO.	ITEM	QTY	UNIT	UNIT PRICE	TOTAL
SECTION A - SURFACE IMPROVEMENTS					
1	MOBILIZATION	1	L S	\$ 226,496.00	\$ 226,496.00
2	CLEARING	10	TREE	\$ 750.00	\$ 7,500.00
3	GRUBBING	10	TREE	\$ 450.00	\$ 4,500.00
4	REMOVE SIGN	41	E A	\$ 65.00	\$ 2,665.00
5	SALVAGE SIGN	15	E A	\$ 70.00	\$ 1,050.00
6	SALVAGE MAIL BOX SUPPORT	1	E A	\$ 125.00	\$ 125.00
7	SAWING CONCRETE PAVEMENT (FULL DEPTH)	2,750	L F	\$ 5.25	\$ 14,437.50
8	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	1,050	L F	\$ 3.25	\$ 3,412.50
9	REMOVE CURB AND GUTTER	7,010	L F	\$ 5.00	\$ 35,050.00
10	SALVAGE FENCE	160	L F	\$ 15.00	\$ 2,400.00
11	REMOVE CONCRETE DRIVEWAY PAVEMENT	380	S Y	\$ 10.00	\$ 3,800.00
12	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	175	S Y	\$ 10.00	\$ 1,750.00
13	REMOVE BITUMINOUS PAVEMENT	20,125	S Y	\$ 5.00	\$ 100,625.00
14	REMOVE CONCRETE WALK	42,370	S F	\$ 2.00	\$ 84,740.00
15	GEOTEXTILE FABRIC TYPE 5	21,450	S Y	\$ 3.00	\$ 64,350.00
16	COMMON EXCAVATION (P)	11,870	C Y	\$ 15.00	\$ 178,050.00
17	SUBGRADE EXCAVATION	1,780	C Y	\$ 16.00	\$ 28,480.00
18	SELECT GRANULAR BORROW (CV)	7,850	C Y	\$ 28.00	\$ 219,800.00
19	STABILIZING AGGREGATE (CV)	1,780	C Y	\$ 31.00	\$ 55,180.00
20	SUBGRADE PREPARATION	37	RDST	\$ 600.00	\$ 22,260.00
21	AGGREGATE SURFACING CLASS 2	35	TON	\$ 25.00	\$ 875.00
22	STREET SWEEPER (WITH PICKUP BROOM)	120	H R	\$ 200.00	\$ 24,000.00
23	EXPLORATORY EXCAVATION	36	H R	\$ 300.00	\$ 10,800.00
24	AGGREGATE BASE (CV) CLASS 5 (10") (P)	6,000	C Y	\$ 34.00	\$ 204,000.00
25	BITUMINOUS PATCH SPECIAL	145	S Y	\$ 50.00	\$ 7,250.00
26	BITUMINOUS MATERIAL FOR TACK COAT	920	GAL	\$ 3.25	\$ 2,990.00
27	TYPE SP 9.5 WEARING COURSE MIXTURE (3;C) 1.5" THICK (P)	18,351	S Y	\$ 10.00	\$ 183,510.00
28	TYPE SP 12.5 WEARING COURSE MIXTURE (3;C) 2.5" THICK (P)	18,351	S Y	\$ 15.00	\$ 275,265.00
29	4" CONCRETE WALK	35,010	S F	\$ 8.00	\$ 280,080.00
30	6" CONCRETE WALK	21,960	S F	\$ 11.00	\$ 241,560.00
31	CONCRETE CURB AND GUTTER DESIGN B624	7,540	L F	\$ 22.00	\$ 165,880.00
32	6" CONCRETE DRIVEWAY PAVEMENT	238	S Y	\$ 75.00	\$ 17,850.00
33	7" CONCRETE DRIVEWAY PAVEMENT	210	S Y	\$ 80.00	\$ 16,800.00
34	TRUNCATED DOMES	546	S F	\$ 55.00	\$ 30,030.00
35	INSTALL MAIL BOX SUPPORT	1	E A	\$ 250.00	\$ 250.00
36	INSTALL FENCE	1	L S	\$ 15,000.00	\$ 15,000.00
37	TRAFFIC CONTROL	1	L S	\$ 120,000.00	\$ 120,000.00
38	INSTALL SIGN	32	E A	\$ 250.00	\$ 8,000.00
39	STABILIZED CONSTRUCTION EXIT	1	L S	\$ 4,500.00	\$ 4,500.00
40	EROSION CONTROL SUPERVISOR	1	L S	\$ 10,000.00	\$ 10,000.00
41	AMENDED TOPSOIL BORROW (LV)	384	C Y	\$ 35.00	\$ 13,440.00
42	SEED, FERTILIZE, & HYDROMULCH	2,330	SY	\$ 4.00	\$ 9,320.00
43	4" SOLID LINE PAINT	4,485	L F	\$ 1.00	\$ 4,485.00
44	4" BROKEN LINE PAINT	3,105	L F	\$ 1.30	\$ 4,036.50
45	PAVEMENT MESSAGE PAINT	100	S F	\$ 7.00	\$ 700.00
46	CROSSWALK PAINT	2,594	S F	\$ 1.00	\$ 2,594.00
				SUBTOTAL:	\$ 2,709,886.00

PRELIMINARY ENGINEER'S ESTIMATE

WABASHA DOWNTOWN RECONSTRUCTION

CITY OF WABASHA, MN

BMI PROJECT NO.: H19.120756



Updated: 07/13/2022

ITEM NO.	ITEM	QTY	UNIT	UNIT PRICE	TOTAL
SECTION B - SANITARY SEWER IMPROVEMENTS					
47	REMOVE MANHOLE (SANITARY)	10	E A	\$ 600.00	\$ 6,000.00
48	REMOVE SEWER PIPE (SANITARY)	3,069	L F	\$ 6.00	\$ 18,414.00
49	DEWATERING	1	L S	\$ 90,000.00	\$ 90,000.00
50	CONNECT TO EXISTING SANITARY SEWER	12	E A	\$ 1,000.00	\$ 12,000.00
51	8"X4" PVC WYE	17	E A	\$ 400.00	\$ 6,800.00
52	8"X6" PVC WYE	18	E A	\$ 650.00	\$ 11,700.00
53	10"X6" PVC WYE	5	E A	\$ 450.00	\$ 2,250.00
54	12"X4" PVC WYE	26	E A	\$ 500.00	\$ 13,000.00
55	12"X6" PVC WYE	3	E A	\$ 650.00	\$ 1,950.00
56	6" PVC PIPE SEWER	10	L F	\$ 70.00	\$ 700.00
57	8" PVC PIPE SEWER	849	L F	\$ 70.00	\$ 59,430.00
58	10" PVC PIPE SEWER	1,285	L F	\$ 75.00	\$ 96,375.00
59	12" PVC PIPE SEWER	1,170	L F	\$ 85.00	\$ 99,450.00
60	4" PVC SANITARY SERVICE PIPE	1,665	L F	\$ 50.00	\$ 83,250.00
61	6" PVC SANITARY SERVICE PIPE	735	L F	\$ 55.00	\$ 40,425.00
62	CASTING ASSEMBLY (SANITARY)	10	E A	\$ 1,000.00	\$ 10,000.00
63	ADJUST FRAME AND RING CASTING (SANITARY)	10	E A	\$ 550.00	\$ 5,500.00
64	CONSTRUCT MANHOLE DESIGN 4007	124	L F	\$ 650.00	\$ 80,600.00
65	SANITARY SEWER TRACER WIRE	1	L S	\$ 7,500.00	\$ 7,500.00
				SUBTOTAL:	\$ 645,344.00
SECTION C - WATER SYSTEM IMPROVEMENTS					
66	REMOVE GATE VALVE AND BOX	21	E A	\$ 300.00	\$ 6,300.00
67	REMOVE CURB STOP AND BOX	69	E A	\$ 110.00	\$ 7,590.00
68	REMOVE HYDRANT	4	E A	\$ 500.00	\$ 2,000.00
69	REMOVE WATER MAIN	3,268	L F	\$ 6.00	\$ 19,608.00
70	TEMPORARY WATER SERVICE	1	L S	\$ 15,000.00	\$ 15,000.00
71	CONNECT TO EXISTING WATER MAIN	15	E A	\$ 1,500.00	\$ 22,500.00
72	HYDRANT	4	E A	\$ 5,800.00	\$ 23,200.00
73	VALVE BOX TOP SECTION & CAP	24	E A	\$ 300.00	\$ 7,200.00
74	ADJUST VALVE BOX	24	E A	\$ 300.00	\$ 7,200.00
75	1" CORPORATION STOP	59	E A	\$ 400.00	\$ 23,600.00
76	2" CORPORATION STOP	10	E A	\$ 725.00	\$ 7,250.00
77	6" GATE VALVE AND BOX	4	E A	\$ 2,500.00	\$ 10,000.00
78	8" GATE VALVE AND BOX	18	E A	\$ 2,900.00	\$ 52,200.00
79	10" GATE VALVE AND BOX	1	E A	\$ 3,850.00	\$ 3,850.00
80	12" GATE VALVE AND BOX	2	E A	\$ 4,500.00	\$ 9,000.00
81	1" CURB STOP AND BOX	59	E A	\$ 430.00	\$ 25,370.00
82	2" CURB STOP AND BOX	10	E A	\$ 1,000.00	\$ 10,000.00
83	1" TYPE K COPPER PIPE	2,245	L F	\$ 40.00	\$ 89,800.00
84	6" PVC WATERMAIN	105	L F	\$ 55.00	\$ 5,775.00
85	8" PVC WATERMAIN	2,068	L F	\$ 60.00	\$ 124,080.00
86	10" PVC WATERMAIN	380	L F	\$ 65.00	\$ 24,700.00
87	12" PVC WATERMAIN	890	L F	\$ 75.00	\$ 66,750.00
88	4" INSULATION	60	S Y	\$ 50.00	\$ 3,000.00
89	WATERMAIN FITTINGS	2,107	L B	\$ 13.00	\$ 27,391.00
90	2" WATER SERVICE	267	L F	\$ 45.00	\$ 12,015.00
91	WATERMAIN TRACER WIRE	1	L S	\$ 7,500.00	\$ 7,500.00
				SUBTOTAL:	\$ 612,879.00

PRELIMINARY ENGINEER'S ESTIMATE

WABASHA DOWNTOWN RECONSTRUCTION

CITY OF WABASHA, MN

BMI PROJECT NO.: H19.120756



Updated: 07/13/2022

ITEM NO.	ITEM	QTY	UNIT	UNIT PRICE	TOTAL
SECTION D - STORM SEWER IMPROVEMENTS					
92	REMOVE MANHOLE (STORM)	11	E A	\$ 600.00	\$ 6,600.00
93	REMOVE CATCH BASIN	26	E A	\$ 450.00	\$ 11,700.00
94	REMOVE SEWER PIPE (STORM)	2,755	L F	\$ 12.00	\$ 33,060.00
95	6" PERF PVC PIPE DRAIN	6,774	L F	\$ 18.00	\$ 121,932.00
96	ROOF DRAIN DESIGN SPECIAL	4	E A	\$ 800.00	\$ 3,200.00
97	6" PVC PIPE DRAIN CLEANOUT	28	E A	\$ 450.00	\$ 12,600.00
98	SUMP PUMP SERVICE	113	E A	\$ 750.00	\$ 84,750.00
99	12" RC PIPE SEWER DESIGN 3006 CLASS V	740	L F	\$ 50.00	\$ 37,000.00
100	15" RC PIPE SEWER DESIGN 3006 CLASS V	437	L F	\$ 58.00	\$ 25,346.00
101	18" RC PIPE SEWER DESIGN 3006 CLASS III	1,178	L F	\$ 63.00	\$ 74,214.00
102	21" RC PIPE SEWER DESIGN 3006 CLASS III	150	L F	\$ 80.00	\$ 12,000.00
103	24" RC PIPE SEWER DESIGN 3006 CLASS III	270	L F	\$ 92.00	\$ 24,840.00
104	CASTING ASSEMBLY (STORM)	37	E A	\$ 850.00	\$ 31,450.00
105	ADJUST FRAME AND RING CASTING (STORM)	37	E A	\$ 550.00	\$ 20,350.00
106	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	46	L F	\$ 585.00	\$ 26,910.00
107	CONSTRUCT DRAINAGE STRUCTURE DESIGN 54-4020	27	L F	\$ 800.00	\$ 21,600.00
108	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	9	L F	\$ 1,000.00	\$ 9,000.00
109	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (R-1)	106	L F	\$ 550.00	\$ 58,300.00
110	CONNECT INTO EXISTING STORM SEWER	6	E A	\$ 850.00	\$ 5,100.00
111	STORM DRAIN INLET PROTECTION	72	E A	\$ 225.00	\$ 16,200.00
112	SEDIMENT CONTROL LOG TYPE WOOD FIBER	345	L F	\$ 6.00	\$ 2,070.00
113	ROCK DITCH CHECK	8	E A	\$ 200.00	\$ 1,600.00
SUBTOTAL:				\$	639,822.00
SECTION E - LIGHTING IMPROVEMENTS					
114	REMOVE LIGHT POLE	62	E A	\$ 800.00	\$ 49,600.00
115	INSTALL LIGHTING UNIT TYPE 1-INTERSECTION OVERHEAD LIGHT	16	E A	\$ 11,000.00	\$ 176,000.00
116	INSTALL LIGHTING UNIT TYPE 2-ORNAMENTAL ACORN LIGHT	45	E A	\$ 8,000.00	\$ 360,000.00
117	INSTALL GFCI RECEPTACLE PEDESTAL	12	E A	\$ 1,000.00	\$ 12,000.00
118	INSTALL CONDUIT + WIRING	5,800	L F	\$ 25.00	\$ 145,000.00
119	NEW GROUND FEED	3	E A	\$ 20,000.00	\$ 60,000.00
SUBTOTAL:				\$	802,600.00
SECTION F - STREETSCAPING					
120	4" COLORED CONCRETE WALK	3,500	S F	\$ 12.00	\$ 42,000.00
121	PLANTER (POT-30" SQUARE)	30	E A	\$ 2,000.00	\$ 60,000.00
122	BENCH	8	E A	\$ 3,000.00	\$ 24,000.00
123	WASTE RECEPTACLE	8	E A	\$ 1,800.00	\$ 14,400.00
124	DECIDUOUS TREE - 2.5" CAL. B&B	18	TREE	\$ 800.00	\$ 14,400.00
125	TREE GRATE & FRAMES	12	E A	\$ 5,000.00	\$ 60,000.00
126	STRUCTURAL SOIL BORROW (CV)	100	C Y	\$ 180.00	\$ 18,000.00
127	PERENNIAL NO. 1 CONT.	500	PLT	\$ 25.00	\$ 12,500.00
128	CONCRETE PLANTER WALL	800	L F	\$ 75.00	\$ 60,000.00
129	LOAM TOPSOIL BORROW	80	C Y	\$ 50.00	\$ 4,000.00
130	KIOSK (WAYFINDING)	2	E A	\$ 30,000.00	\$ 60,000.00
131	INFORMATION SIGN TYPE SPECIAL (POLE MOUNTED WAYFINDING)	6	E A	\$ 1,200.00	\$ 7,200.00
132	ADA COMPLIANCE IMPROVEMENTS	1	LS	\$ 25,000.00	\$ 25,000.00
SUBTOTAL:				\$	401,500.00

PRELIMINARY ENGINEER'S ESTIMATE

WABASHA DOWNTOWN RECONSTRUCTION

CITY OF WABASHA, MN

BMI PROJECT NO.: H19.120756



Updated: 07/13/2022

ITEM NO.	ITEM	QTY	UNIT	UNIT PRICE	TOTAL
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ADA PEDESTRIAN RAMP UPDATES

1	SAWING CONCRETE PAVEMENT (FULL DEPTH)	20	L F	\$ 5.25	\$ 105.00
2	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	140	L F	\$ 3.25	\$ 455.00
3	REMOVE CURB AND GUTTER	120	L F	\$ 5.00	\$ 600.00
4	REMOVE CONCRETE DRIVEWAY PAVEMENT	17	S Y	\$ 10.00	\$ 170.00
5	REMOVE BITUMINOUS PAVEMENT	90	S Y	\$ 5.00	\$ 450.00
6	REMOVE CONCRETE WALK	330	S F	\$ 2.00	\$ 660.00
7	BITUMINOUS PATCH SPECIAL	100	S Y	\$ 50.00	\$ 5,000.00
8	BITUMINOUS MATERIAL FOR TACK COAT	20	GAL	\$ 3.25	\$ 65.00
9	4" CONCRETE WALK	150	S F	\$ 8.00	\$ 1,200.00
10	6" CONCRETE WALK	200	S F	\$ 11.00	\$ 2,200.00
11	CONCRETE CURB AND GUTTER DESIGN B624	120	L F	\$ 22.00	\$ 2,640.00
12	7" CONCRETE DRIVEWAY PAVEMENT	35	S Y	\$ 80.00	\$ 2,835.56
13	TRUNCATED DOMES	42	S F	\$ 55.00	\$ 2,310.00
SUBTOTAL:				\$	18,690.56

2ND STREET STORM IMPROVEMENTS

1	SAWING CONCRETE PAVEMENT (FULL DEPTH)	20	L F	\$ 5.25	\$ 105.00
2	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	300	L F	\$ 3.25	\$ 975.00
3	REMOVE CURB AND GUTTER	285	L F	\$ 5.00	\$ 1,425.00
4	REMOVE CONCRETE DRIVEWAY PAVEMENT	14	S Y	\$ 10.00	\$ 140.00
5	REMOVE BITUMINOUS PAVEMENT	470	S Y	\$ 10.00	\$ 4,700.00
6	REMOVE CONCRETE WALK	2,665	S F	\$ 2.00	\$ 5,330.00
7	BITUMINOUS PATCH SPECIAL	500	S Y	\$ 50.00	\$ 25,000.00
8	BITUMINOUS MATERIAL FOR TACK COAT	50	GAL	\$ 3.25	\$ 162.50
9	4" CONCRETE WALK	2,700	S F	\$ 8.00	\$ 21,600.00
10	6" CONCRETE WALK	140	S F	\$ 11.00	\$ 1,540.00
11	CONCRETE CURB AND GUTTER DESIGN B624	285	L F	\$ 22.00	\$ 6,270.00
12	7" CONCRETE DRIVEWAY PAVEMENT	14	S Y	\$ 80.00	\$ 1,120.00
13	TRUNCATED DOMES	14	S F	\$ 55.00	\$ 770.00
14	TRAFFIC CONTROL	1	L S	\$ -	\$ -
15	REMOVE SEWER PIPE (STORM)	2	L F	\$ 12.00	\$ 24.00
16	ROOF DRAIN DESIGN SPECIAL	8	E A	\$ 800.00	\$ 6,400.00
17	6" PVC PIPE DRAIN CLEANOUT	4	E A	\$ 450.00	\$ 1,800.00
18	12" RC PIPE SEWER DESIGN 3006 CLASS V	300	L F	\$ 50.00	\$ 15,000.00
19	CASTING ASSEMBLY (STORM)	3	E A	\$ 850.00	\$ 2,550.00
20	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	10	L F	\$ 585.00	\$ 5,850.00
21	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL (R-1)	10	L F	\$ 550.00	\$ 5,500.00
22	CONNECT INTO EXISTING STORM SEWER	1	E A	\$ 850.00	\$ 850.00
23	STORM DRAIN INLET PROTECTION	4	E A	\$ 225.00	\$ 900.00
SUBTOTAL:				\$	108,011.50

ALLEGHANY ALLEY IMPROVEMENTS

1	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	100	L F	\$ 3.25	\$ 325.00
2	REMOVE BITUMINOUS PAVEMENT	420	S Y	\$ 5.00	\$ 2,100.00
3	GEOTEXTILE FABRIC TYPE 5	420	S Y	\$ 3.00	\$ 1,260.00
4	SELECT GRANULAR BORROW (CV)	140	C Y	\$ 28.00	\$ 3,920.00
5	AGGREGATE BASE (CV) CLASS 5 (10") (P)	120	C Y	\$ 34.00	\$ 4,080.00
6	TYPE SP 9.5 WEARING COURSE MIXTURE (3;C) 1.5" THICK (P)	420	S Y	\$ 10.00	\$ 4,200.00
7	TYPE SP 12.5 WEARING COURSE MIXTURE (3;C) 2.5" THICK (P)	420	S Y	\$ 15.00	\$ 6,300.00
8	BITUMINOUS MATERIAL FOR TACK COAT	50	GAL	\$ 3.25	\$ 162.50
SUBTOTAL:				\$	22,347.50

TOTAL PROJECT COST SUMMARY

CONSTRUCTION SUBTOTAL:	\$5,961,801.00
CONSTRUCTION CONTINGENCIES (10%):	\$596,180.10
TOTAL CONSTRUCTION COST	\$6,557,181.00
ESTIMATED ENGINEERING, ADMIN & LEGAL (25%):	\$1,639,300.00
ESTIMATED PROJECT TOTAL:	\$8,196,481.00