

**NOTICE OF PUBLIC MEETING****Public Works Committee/**

Ryan Austin, Chairperson

Sheri Evanson, Secretary

Dennis Polach

Mayor Blaser

Notice is hereby given of a meeting of the Public Works Committee to be held in the **Council Chambers** at City Hall, 444 West Grand Avenue, Wisconsin Rapids, at **5:00 p.m. on Thursday, December 8, 2022**. The meeting will be streamed live on the City of Wisconsin Rapids Facebook page and will also be broadcast live on Charter Cable Channel 985 and Solarus HD Cable Channel 3. If a member of the public wishes to access this meeting live via Zoom audio conferencing, you must contact the City Clerk at least 24 hours prior to the start of the meeting to coordinate your access. This meeting is also available after its conclusion on the City's Facebook page and Community Media's YouTube page, which can be accessed at www.wr-cm.org. It is possible that members of the Committee may appear remotely via video or audioconferencing for this meeting.

Agenda

1. Call to order
2. Review Engineering & Street Department Monthly Activity Report.
3. Review the bid results for the West Riverview Expressway Traffic Signal Improvement project and consider awarding the contract to the low, qualified bidder.
4. Request from Alderperson Zacher to consider removing pavers in west boulevard of 2nd Ave S between roundabout and Lyons St and replacing with colored, stamped concrete.
5. Request to remove no parking ordinance on the south side of Clyde Ave from 250 ft to 350 ft west of Lincoln St.
6. Request by Gary Wilhorn, 4281 14th Pl S, to install street lighting at the intersection of 14th Pl and Whitrock Ave.
7. Review the traffic signal outage at 2nd Ave S and Riverview Expressway and consider spare equipment options in the event of future outages.
8. Request to solicit proposals for a Bridge Rehabilitation Report for the Grand Ave Bridge in preparation of applying for the 2024-2026 BIL Local Bridge program.
9. Request to apply for a Highway Safety Improvement Program grant for pedestrian safety improvements at Wood Ave and 8th St S.
10. Review the Pavement Replacement Plan

11. Review referral list
12. Set Next Meeting Date
13. Adjourn

Ryan Austin, Chairperson

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The City of Wisconsin Rapids provides access to meetings to all citizens. If access to this meeting through video or audio means is not possible due to a disability, notification to the City's IT Manager at 715-421-8288 at least 48 hours prior to the scheduled meeting is encouraged to request accommodations.



PUBLIC WORKS DEPARTMENT

1411 CHASE STREET
WISCONSIN RAPIDS, WI 54495
(715) 421-8218 FAX (715) 421-8281

November 2022

Refuse and Recycling

- Garbage Collection estimate 438.71 tons (2021 368.29 tons)
- Recycling Collection estimate 108.31 tons (2021 100.91 tons)

Construction

Cherry Street (Riverview Drive – 1st St North, Smith St (Railroad St – Riverview Drive)

- Project completed

Rosecrans Street (9th Ave – Dead End)

- Project completed

Lyons Park Flood Levee (1681 2nd Ave to Lyon Park)

- Installed 382' of bottom retaining wall block
- Installed 346' of top retaining wall block
- Poured 3,684 sq feet of Concrete pavement and thickened slab footing along retaining wall
- Built earth berm from retaining wall south to trail crossing at Woodbine, riverside is seeded and erosion matted to protect in spring
- Installed 24 block with cap at Woodbine and 2nd Ave

Items to complete in spring:

- Asphalt trail tie in at river wall (North and South)
- Finish rake and seed earth berm and disturbed areas
- Asphalt trail tie in at Woodbine and 2nd Ave
- Install metal railing along river wall
- Asphalt patch between wall and back of curb

18th Ave South (Russel Street – West Grand Ave)

- Project completed

West Jackson Street (West Riverview Expressway – Wisconsin River)

- City portion of project completed

Freemont Street (14th Street – 13th Street)

- Project completed

9th Ave North (West Grand Ave – Freemont Street)

- Backfilled curb and gutter

Items to complete in spring:

- Restoration of green spaces from West Grand Ave – High Street
- Entire construction of High Street – Freemont Street
- Some Concrete Carriage Walks

Freemont Street (7th Ave N – 10th Ave N)

- Finish Graded Freemont Street to get ready for Asphalt pavement
- Backfill curb for driveways
- Backfill curb and gutter in green spaces that don't have sidewalk section

Items to complete:

- Concrete sidewalks and curb ramps
- Asphalt patch driveways
- Backfill of curb and site restoration

17th Ave North (Rosecrans Ave – Jefferson Street)

- Project completed

Streets Maintenance

- Cut grass in ROW city maintains
- Assisted WWLC with Raw water main site restoration
- Site restoration for Curb and Gutter maintenance contractor
- Provided monthly Brush pickup and Fall yard waste collection
- Dig out and Install Asphalt Patches on 8th Street and various sanitary repairs
- Haul chip seal chips back from wash plant to be reused next season
- Shoulder restoration on new paved alleys and bike trails, 14th Ave North, and 2nd and Drake Street, West River bank by Fire Fighters memorial
- Remove river dock and garbage containers along West Grand Ave
- Street Sweeping
- Placed Salt sand bins at locations within the City
- Poured Curb and Gutter repair for WWLC raw water line construction
- Split Stumps at West compost site to prepare for grinding
- Worked six small snow events with salting mains and brushing sidewalks
- Loaded out Sludge for Waste Water Contractor
- Checked over plow routes for high manholes and low tree branches
- Hauled sweepings to Waste Management
- Participated in the Rekindle the Spirit Parade
- Fixed Culvert pipes that failed in ditch ends
- Final sweeping of chip seal streets

Paint and Signs

- Change out fall banners downtown to winter banners
- Install flags for Veterans day and remove
- Installed new signs on 9th Ave North Construction project
- Removed WIAA banners over State highways for State football
- Removed banners from Veterans memorial walk
- Installed Christmas decorations along Grand Ave and Expressway Bridge
- Delivered Happy Holidays sign for highway entrances

- Installed LED School Crossing signs on 32nd Street and Baker Street

Shop and Repairs

- Routine service work fleet trucks
- Annual Vehicle Inspections
- Service Police and Fire's fleet
- Finished preparation for snow fighting equipment
- Prepared Unit 26, Old office trailer and Drill Rig for pickup. Units were sold at auction



ENGINEERING DEPARTMENT
444 West Grand Avenue
Wisconsin Rapids, WI 54495-2780
 Engineering (715) 421-8205 FAX (715) 421-8291

ENGINEERING DEPARTMENT Monthly Activity Report

November 2022

Permits & Degradation

- 16 Permits/Applications (34 last month) for asphalt paving (1), driveway grades/concrete pour inspections (1), storm water (0), excavating (10), Street Privilege (1), storm connection (0), permit parking (2), banner (0), environmental testing well (0), contractor licenses (1)
 - This year – 313 permits & licenses
- 125 Diggers Locates for Storm Sewer & Sanitary Sewer (205 last month)
 - 4 Emergency locates
- Degradation fees - this year = \$93,403.57
 - This month = \$3,178.13 (\$8,136.00 last month)

Traffic

- Vision Triangle Complaints
 - 4th Ave N and W Grand Ave – Southbound left – review is complete. The westerly most parking stall on the north side of W Grand Ave closest to 4th Ave will be removed to allow better visibility and increase the safety of motorists attempting to see traffic coming from the east. Work order will be sent out for painting in spring.
- Stop Sign / Yield Sign Requests
 - 2nd St S and Davis Ave – 4/28/22 – counter placed 11/22/22.
 - 13th St N & Prospect St – 10/6/22 – counter placed 11/29/22.
 - 13th St N at Saratoga St, Avon and Wisconsin
 - 14th St N at Prospect St, Avon St and Wisconsin
 - 15th St N at Prospect St, Avon St and Wisconsin
- ITS Standalone Signal Grant
 - Bid opening is scheduled for Dec. 8th at 10am. Results will be presented at the Public Works meeting that evening.
- Signal complaints
 - 2nd Ave and Expressway accident. Cabinet arrived and installed on Thursday, 11/3/22. Intersection is back to normal operation.
 - Request to make 3rd St / Market St / Jackson St intersection an all-way stop.
 - Chase St & Expressway – red light running, pedestrian safety, queueing. – verified equipment and performed visual observations in October.
 - STH 54 & CTH W – too few cars can get through (9/20/2022)
 - Chestnut & 8th St – too few cars can get through (9/20/2022)



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- W Grand & Expressway – left turn coming on when it shouldn't (9/30/2022)

Project Designs/Construction underway:

Maintenance Projects

- Sidewalk and Curb & Gutter Maintenance

2022 Reconstruction Projects

- Construction for 2022 Projects
 - DOA/Lyon Park Levee – Lyon Park work began October 24th and is primarily complete on 11/23/22.
 - 2022 Concrete contract will remain open to complete spring of 2023 to complete 9th Ave. and Fremont St projects.

2023 Reconstruction Projects

- Preliminary Survey for 2023 Projects are complete.
- Design for 2023 Projects
 - Oak St (E Jackson St to 16th St) – 85%
 - Shorewood Terrace (1st St N to Termini) – 85%
 - Apricot St and Broadway St – 90%
- 2023 Contracts
 - Sewer Lining Contract – 0%
 - Crushing Contract – 0%
 - Asphalt Contract – 0%
 - Concrete Contract – 0%

2024 Reconstruction Projects

- Preliminary Survey for 2024 Projects
 - Lincoln St (Expressway to Peach St) – 100%
 - Wylie St (8th St N to 10th St N) – 100%
 - 14th Ave N (W Grand Ave to Fremont St) – 0%
 - 15th Ave N (W Grand Ave to High St) – 0%
- Design for 2024 Projects
 - 9th St S (Peach St to Chestnut St) – 40%
 - Lincoln St (Expressway to Peach St) – 5%
 - Wylie St (8th St N to 10th St N) – 15%
 - 14th Ave N (W Grand Ave to Fremont St) – 0%
 - 15th Ave N (W Grand Ave to High St) – 0%



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Storm Water Utility

- Storm Utility Billing Update/Audit – Proposed scope of work consists of reviewing and updating the utility database to make sure billing is accurate. Work is expected to be complete by Dec. 31st, 2022.
- Illicit Discharge and Detection Outfall Testing is complete.
- One Mile Cr. – We are waiting for DNR to provide comments on the permit application for the dams. A letter will be sent to property owners in December with general updates on the project.

Transportation Utility

- Began review of 28 new accounts added.

Capital Improvement Planning

- No new updates at this time.

Other Highlights

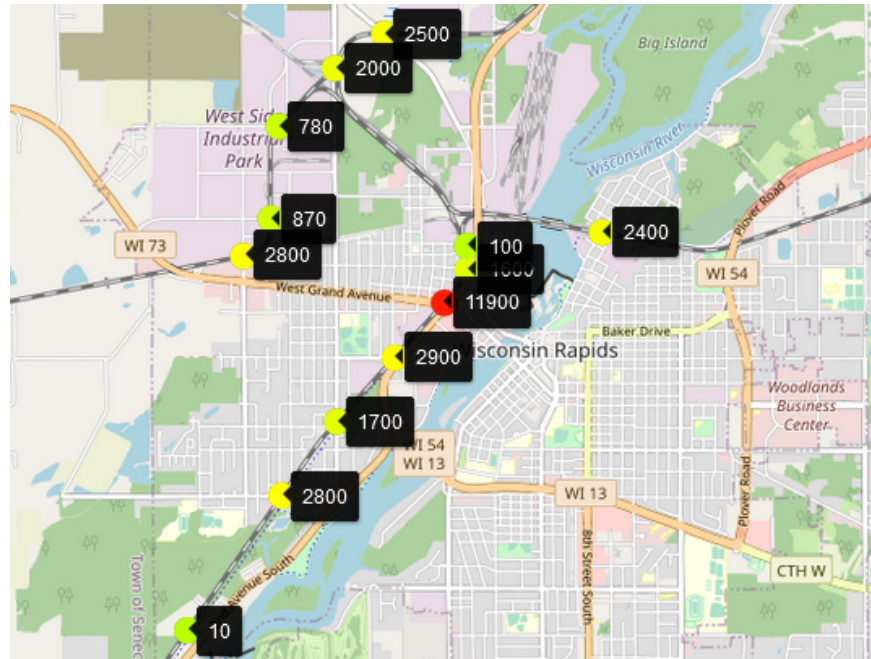
- Rail Study Kick-off meeting was held on 9/29/2022. Data collection began on October 12th.
 - Preliminary rail data is attached
 - Public Survey – 700+ responses as 11/28/22. Survey will run until Dec. 30th.
 - Completing data collection and starting work on the final report the week of Dec. 5th
 - LinqThingz moved data collection equipment to 17th Ave N and Bonow Ave on 11/28/22.
- Baker St ped crossing. Preparation and coordination is complete. Bases are installed. Waiting for the remaining equipment to ship 12/9/22.
- W Jackson St Update
 - Street lights are scheduled to arrive 12/9/22.
- Downtown Riverwall project scoping
 - Diver inspection was complete this summer
 - Working with contractors on repair options and repair costs
- Dog Park
 - Preliminary survey was complete 11/29/22. Survey data is being sent to MSTC for the Highway Tech students to design.
 - A WI DNR Construction Permit was applied for 11/30/22

Rail Crossing Data Collection

Wisconsin Rapids. 2022/11/07

PRELIMINARY

Increasing freight rail traffic has plagued communities for decades with increased congestion, delays, noise and safety consequences. Wisconsin Rapids experiences 1500' backups multiple times a day, frequent complains about noise and a plethora of rail congestion related issues. There is a history of searching for solutions including a rail relocation initiative back in 2000. The data collection will focus on the grade crossings at Gaynor Ave, W Grand Ave.



We have installed temporary sensors on municipal property along CN line to measure rail traffic. These sensors collect blocked crossings data at 0.1 second intervals along with measurement of speed, direction and length of train traffic. This is being performed using LinQThingz's TrainLinq product at W Grand Ave and Gaynor Ave. The data includes actual measurement of rail blockages and frequency of road vehicles. The analysis includes calculated count of blocked vehicles, estimated fuel usage, estimated carbon pollution, estimated excess fuel usage, estimated citizen productivity costs, estimated logistics impacts, and estimated emergency response impacts at all crossings along that stretch of CN line.

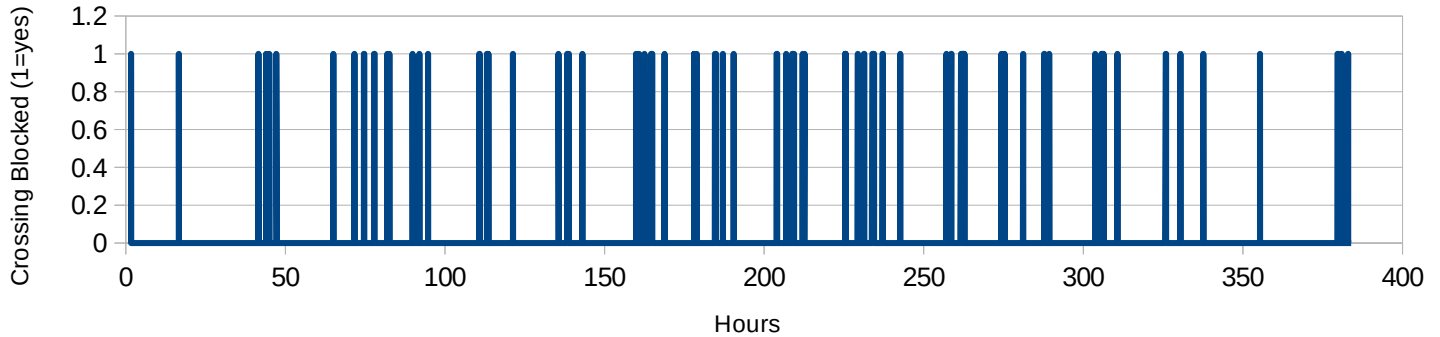


Rail Crossing Data Collection

Wisconsin Rapids, Grand Av. 2022/11/07

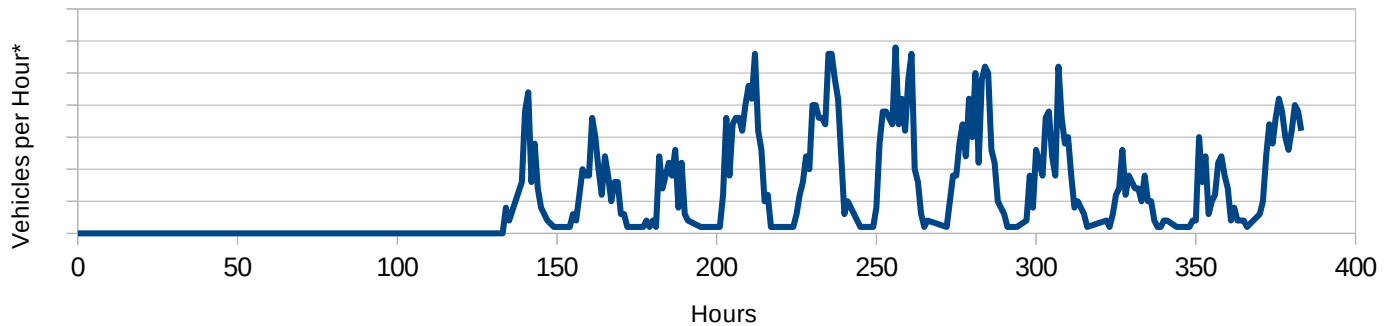
Rail Traffic

Grand Av., Wis Rapids, 20221023 to 20221107



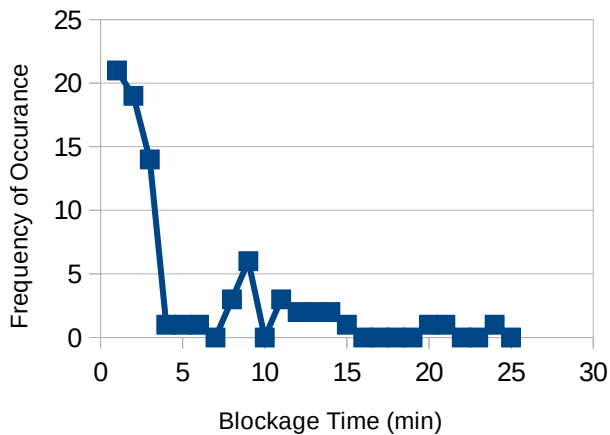
Vehicle Frequency

Grand Ave, Wisconsin Rapids, 20221023-20221107



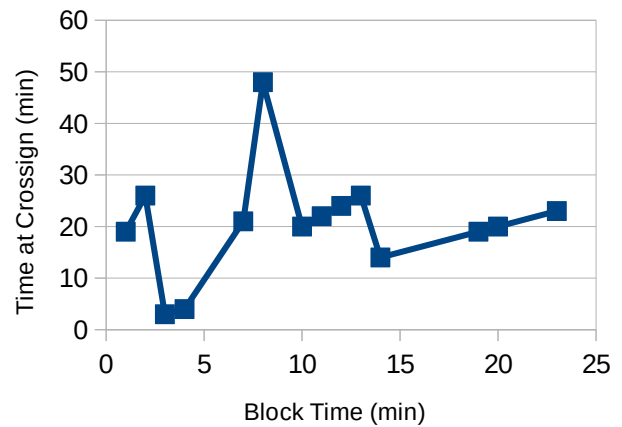
Rail Blockage Histogram

Wis Rapids, Grand Avenue, 2022-10-23 to 2022-11-06



Time At Crossing Histogram

Wis Rapids, Grand Av 20221023 to 20221107



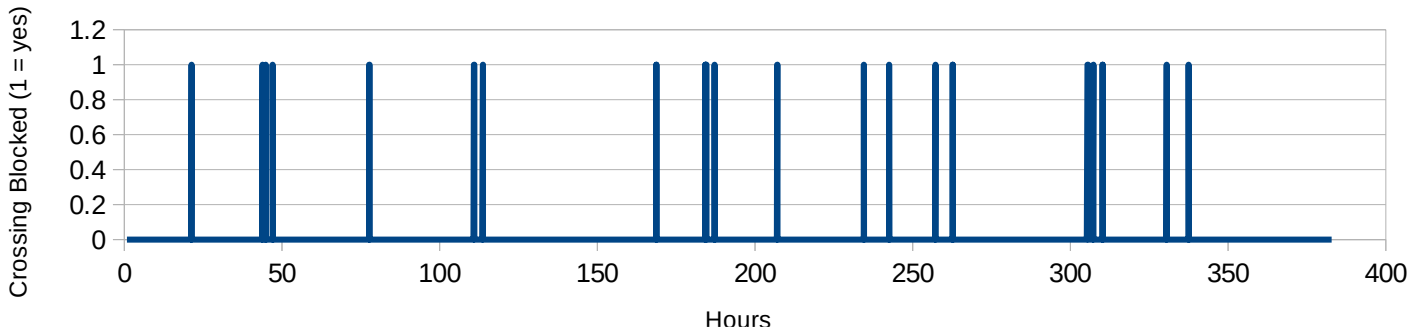
8 minutes are spent by most vehicles waiting at crossings
 21 minutes is the average time the crossing blocked each day
 8870 minutes is the average time the crossing blocked each year
 657 ton of pollution from waiting
 2444 Dollars of excess fuel usage
 31766 Dollars of citizens productivity
 153943 Dollars of logistics productivity

Rail Crossing Data Collection

Wisconsin Rapids, Gaynor Av.. 2022/11/07

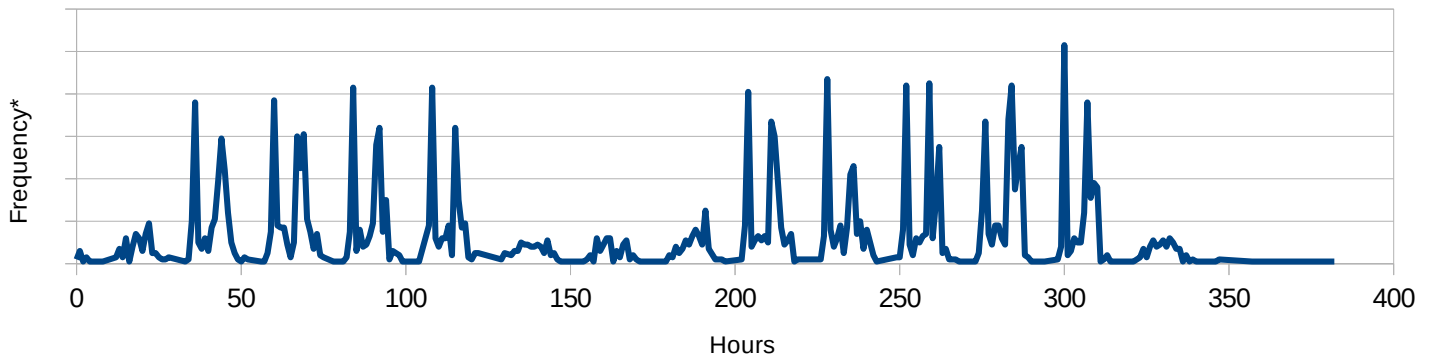
Rail Traffic

Gaynor St, Wis Rapids, 20221023 to 20221107



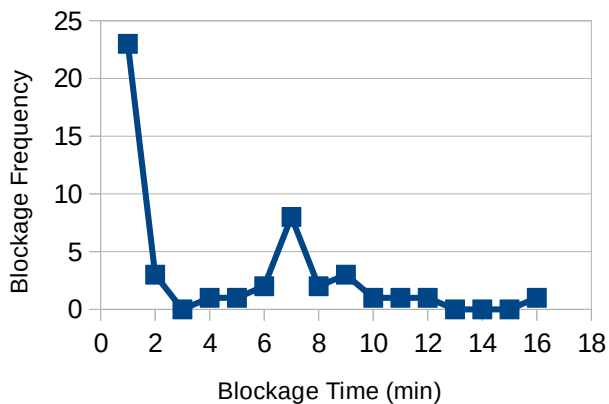
Vehicle Frequency

Gaynor Av, Wis Rapids, 20221023 to 20221107



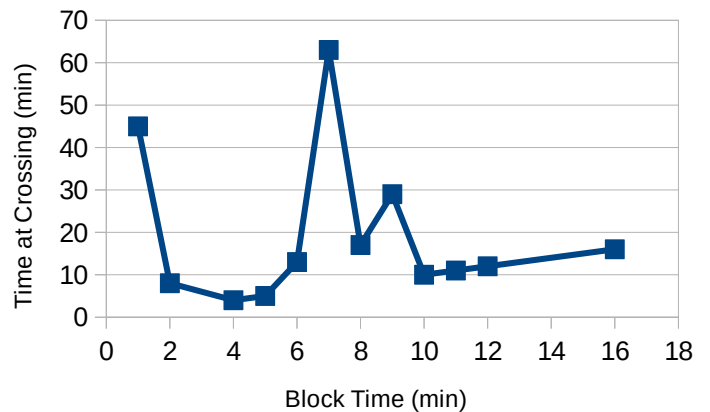
Rail Blockage Histogram

Wis Rapids, Gaynor St. 20221023 to 20221107



Time At Crossing Histogram

Gaynor Av. Wis Rapids, 20221023 to 20221107



- 7 minutes are spent by most vehicles waiting at crossings
- 17 minutes is the average time the crossing blocked each day
- 1700 minutes is the average time the crossing blocked each year
- 124 ton of pollution from waiting
- 108 Dollars of excess fuel usage
- 1414 Dollars of citizens productivity
- 6855 Dollars of logistics productivity



Public Works Committee

Date of Request: 11/30/2022

Requestor: Joe Eichsteadt, City Engineer

Request/Referral: Review the bid results for the West Riverview Expressway Traffic Signal Improvement project and consider awarding the contract to the low, qualified bidder.

Background information:

Bid opening is scheduled for December 8th. Results will be provided at Public Works Meeting that evening.

From September Public Works Meeting

The project was rebid mid-August with one bid from Pember Companies at \$793,617.05. The Engineering Estimate was \$465,285.65. Here is a summary of major cost discrepancies.

					Engineer Estimate		Pember Companies, Inc.		
Line Item No.	Item Code	Item Description	UofM	Quantity	Unit Price	Extension	Unit Price	Extension	
	Base Bid								
59	SPV.0060.09	NEMA TS-2 Type 2 Traffic Signal Control Cabinet and Controller	EA	3	\$23,000.00	\$69,000.00	\$44,000.00	\$132,000.00	(\$63,000.00)
48	661.02	Temporary Traffic Signals	LS	1	\$50,000.00	\$50,000.00	\$110,000.00	\$110,000.00	(\$60,000.00)
2	N/A	Traffic Control	LS	1	\$10,000.00	\$10,000.00	\$52,000.00	\$52,000.00	(\$42,000.00)
1	N/A	Mobilization, Bonds, and Insurance	LS	1	\$25,000.00	\$25,000.00	\$63,825.00	\$63,825.00	(\$38,825.00)
60	SPV.0060.10	Railroad Preemption System Interface	EA	3	\$3,000.00	\$9,000.00	\$13,200.00	\$39,600.00	(\$30,600.00)
52	SPV.0060.02	Remove, Salvage and Reinstall Traffic Signal Equipment (W Riverview Expy & W Grand Ave)	EA	1	\$4,000.00	\$4,000.00	\$20,550.00	\$20,550.00	(\$16,550.00)
51	SPV.0060.01	Remove, Salvage and Reinstall Traffic Signal Equipment (W Riverview Expy & High St)	EA	1	\$500.00	\$500.00	\$15,600.00	\$15,600.00	(\$15,100.00)
62	SPV.0060.12	Video Vehicle Tracking and Detection System (W Riverview Expy & High St)	EA	1	\$31,000.00	\$31,000.00	\$45,000.00	\$45,000.00	(\$14,000.00)
64	SPV.0060.14	Video Vehicle Tracking and Detection System (W Riverview Expy & Chase St)	EA	1	\$31,000.00	\$31,000.00	\$45,000.00	\$45,000.00	(\$14,000.00)

From the June Public Works Meeting

January 2022 – MSA & CBS Squared firms were selected to design the signal improvements along the Expressway at Chase St, Grand Ave and High St.

The DOT Grant is funding ~\$535,000 at a 90/10 split for the upgrade of the traffic signals along the Expressway at Chase St, W Grand Ave and High St.

The engineering fees are \$71,355.



The project design is complete and has been out for bid for several weeks. Bid results are due June 17th.

Results will be reviewed ahead of the meeting and a staff recommendation will be provided at the meeting along with a summary of the bid results.

Options available:

Award to the low, qualified bidder or consider denying bids.

Action you are requesting the committee take: Award the project to the low, qualified bidder.

How will the item be financed? The project is financed through the 2022/2023 Traffic Control Budget and 90% of the original grant amount will be reimbursed by the DOT.



**PUBLIC WORKS
DEPARTMENT**

1411 CHASE STREET
WISCONSIN RAPIDS, WI 54495
(715) 421-8218 FAX (715) 421-8281

A request was made by Alderperson Zacher to look at the boulevard on the west side of 2nd Ave South from the roundabout north to the north property line of 1320 2nd Ave. The boulevard was redone with brick pavers as part of a DOT Construction project in 2004. The pavers have settled in many spots more than 2" along the curb and 1" or more along the sidewalk. The area that is within question is approximately 3,380 sq ft. I have put together multiple solutions to fixing this problem.

In all cases the existing brick pavers will be removed and existing road base leveled. In some locations additional road base will be added to prepare for proper depth of proposed material.

Option 1	Asphalt Pavement	\$15,326.05
Option 2	Concrete Pavement	\$23,807.89
Option 3	Colored Concrete Pavement	\$27,774.56
Option 4	Colored and Stamped Concrete Pavement	\$29,663.45

In option 3 and option 4 cost estimate is calculated using the Berry wine (DOT Red) colorant for the concrete mix.

Sincerely

A handwritten signature in black ink, appearing to read "Paul Vollert", written in a cursive style.

Paul Vollert
Public Works Superintendent



Public Works Committee

Date of Request: 11/11/2022

Requestor: Joe Eichsteadt, City Engineer

Request/Referral: Remove no parking signs and ordinance on the south side of Clyde Street from 250 ft to 350 ft west of Lincoln St.

Background information:

The south side of Clyde St from 250 ft to 350 ft west of Lincoln driveway is signed “NO PARKING 7:30 AM TO 4:30 PM SCHOOL DAYS”. The signs correspond with ordinance 27.13 (1)(c)(13) “[No Parking] Clyde Avenue, the south side, from a point 250 feet west of Lincoln Street to a point 350 feet west of Lincoln Street”. The area is used as student pick up and drop for Grove Elementary. The area also includes the driveway entrance to the Grove Elementary parking lot.

There have been concerns that the no parking signs lead drivers to believe that no parking is allowed for the entire south side of Clyde Street from 16th to Sampson. This may be causing more drivers to park on Lincoln St during student pick up and drop off, causing congestion.

This was noticed to the Engineering Dpt by Officer Pelot (school liaison officer). The school has been contacted and is in favor of removing the signs.



Options available:

- Remove no parking signs and repeal ordinance
- Leave signs in place and modify parking ordinance to match the text on the signs AND to add text ‘Between Signs’.



Action you are requesting the committee take: Remove no parking signs and repeal ordinance

How will the item be financed? N/A



Public Works Committee

Date of Request: 11/11/22

Requestor: Alderperson Bemke

Request/Referral: Request by Gary Wilhorn, 4281 14th Pl S, to install street lighting at the intersection of 14th Pl S and Whitrock Ave.

Background information:

The intersection of Whitrock Ave and 14th Pl S is a 3-way intersection of a local street and minor collector, respectively. Traffic on 14th Pl S is controlled by stop signs and traffic on Whitrock Ave is uncontrolled. North of the intersection is a driveway entrance to Aborwood Lodge, a 48 unit assisted living facility.

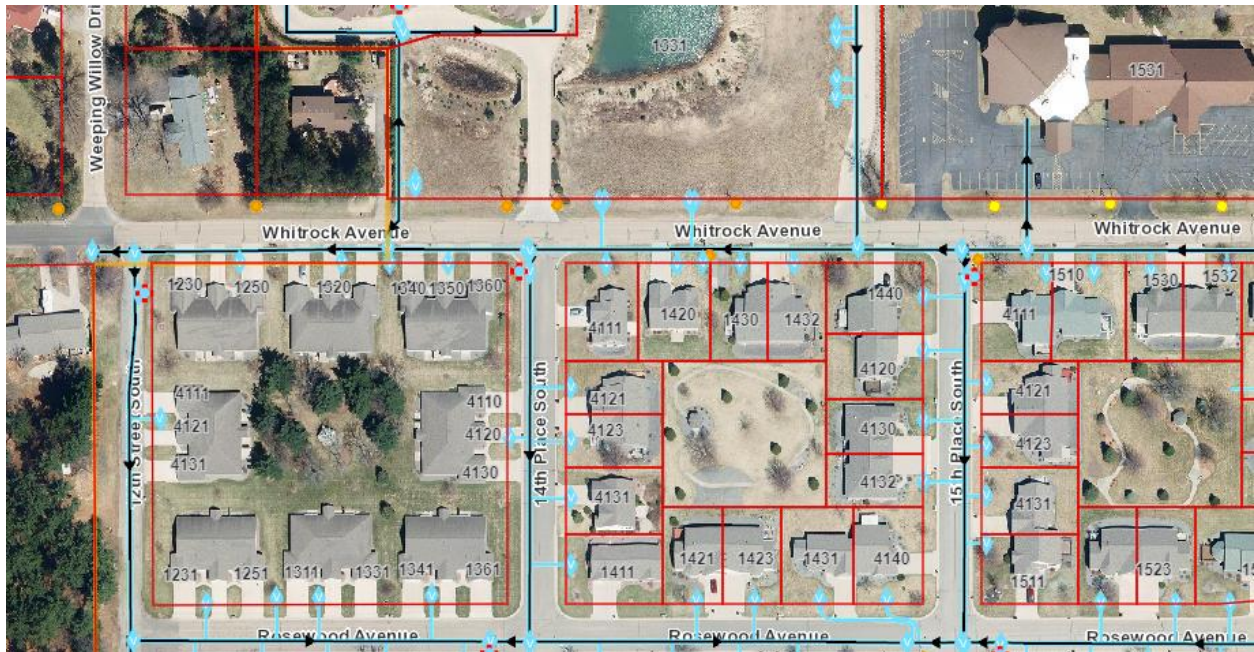
The WisDOT Facilities Development Manual recommends a conservative approach to the use of lighting, primarily because of the high cost of installation, coupled with the long-term maintenance and energy expenditures involved.

There has been one accident at this intersection in the last 10 years. The incident occurred in the daytime.

WWLC fee for street light installation is \$722 plus additional ongoing fees for the light unit operation.

There is a two-block gap without street lighting on Whitrock Ave. Placing a light at 14th Pl S would reduce that unlit area.

Street Light Policy is attached.



Options available: There is not a strong case for a light at 14th Pl S., but it certainly would not be detrimental. In fact, there is a more of a case for a light at 16th St S and Whitrock Ave.

1. Approve the installation
2. Forego the installation

Action you are requesting the committee take: Discretionary

How will the item be financed? 2022 Traffic Control Budget

WATER WORKS LIGHTING COMMISSION

Estimate Sheet

THIS IS AN ESTIMATE ONLY.

PSC 113.96: Upon completion of an installation which differs from the Utility's original cost estimate, a recalculation of the customer contribution shall be made using the same method as was used to determine the original contribution. If said recalculation differs by more than \$20 from original estimate, a refund or additional billing shall be rendered to the customer.

CITY OF WISCONSIN RAPIDS
1331 WHITROCK AVE

DATED:

11/10/22

INSTALL 190' OF #6AT STREET LIGHT WIRE AND INSTALL
80 WATT LED LIGHT W/ 8' ARM

ITEM (DESCRIPTION)	NUMBER	PRICE	COST
#6AT STREET LIGHT WIRE	190	\$3.80	722.00
#4/0 ATU 600 VOLT URD - TOTAL SERVICE			
1ST 75 FEET	0	12.00	FREE
OVER 75 FEET	0	21.00	0.00
		650.00	0.00
#4/0 ATU 600 VOLT URD - TOTAL SERVICE			
1ST 75 FEET	0	12.00	FREE
OVER 75 FEET	0	21.00	0.00
		650.00	0.00
#4/0 AQU 600 VOLT URD - TOTAL SERVICE			
1ST 75 FEET	0	13.00	FREE
OVER 75 FEET	0	21.00	0.00
		650.00	0.00
SUBTOTAL			722.00
LABOR \$400/HR		400.00	
FROST CHARGES PER FOOT		4.00	0.00
CREDIT			
TOTAL			\$722.00

ENGINEERING DEPARTMENT POLICIES AND PROCEDURES

SUBJECT:

Policy for Street Lights

PURPOSE:

To set policy for adding, modifying, replacing, or installing new lighting facilities.

The purpose of street lighting, and the governance of this policy, pertain strictly to lighting the street right-of-way and in no way is intended to provide security lighting for private property. A request for street lighting, which in the professional opinion of the City Engineer and/or WWLC's Electrical Engineer is for private security purposes, is not provided by the City of Wisconsin Rapids and will be denied.

This policy is effective 4/21/2015.

POLICY:

Light Fixture Standards

- All new lighting fixtures shall be LED

Pole Standards

- Downtown areas to be black decorative poles with banner arms, flower basket arms and festoon outlets.
- Areas with green fiberglass poles will indefinitely remain as such, but will transition to white fiberglass poles in the future.
- Areas with existing wood poles and aerial power lines shall be wood poles.
- Areas with underground electric shall be white fiberglass poles.

Street Lighting Design Standards

These manuals will be consulted when adding, modifying, replacing, or installing new lighting facilities. Design standards provide guidance on recommended practices to facilitate and safeguard vehicular and pedestrian traffic within the street right-of-way.

- RP-8-14 publication from the Illuminating Engineering Society (IES)
- AASHTO Roadway Lighting Design Guide
- City of Wisconsin Rapids Lighting Specifications & Standards (NEW CONSTRUCTION)

Requests for Street Lighting

- Requests that are in accordance with the purpose of this policy shall require Council Approval unless street lighting is budgeted through street reconstruction projects and subsequently approved with the street reconstruction budget.

Requests Above Standards

- Street Lighting requests that are in accordance with the purpose of this policy can be upgraded above the pole standards based upon the following:
 - A requestor for street lights must pay initial installed costs above the standard pole costs. If the standard poles for street lights are already installed, then the requestor(s) would pay the whole cost above standard poles and fixture, plus removal costs of standard poles.

PROCEDURES:

1. A request shall be made to the Engineering Department and/or WWLC.
2. An internal review of the location and existing facilities will be made by the Engineering Department and WWLC staff in accordance with this policy and professional judgement.
3. Review the current budget.
4. Review the Capital Improvement Plan to see if the request can be filled in the near future.
5. Review compliance of the request with the Design Standards.
6. Refer item to the Public Works Committee.

POLICY DATE: _____SIGNATURE: _____

REVIEW DATE: _____SIGNATURE: _____



Public Works Committee

Date of Request: 11/11/22

Requestor: Joe Eichsteadt, PE City Engineer

Request/Referral: Review the traffic signal outage at 2nd Ave S and Riverview Expressway and consider spare equipment options in the event of future outages.

Background information:

2nd Ave S at W Riverview Expressway

Events starting 10/27/22 a vehicle accident impacted the traffic signal cabinet at the NW corner of the intersection at 2nd Ave and the Expressway. That afternoon a call was in to the equipment supplier to see if they had spares and an order placed. That evening there were discussions with DOT electricians on possible spares or other equipment options that could be utilized in the meantime. A red flasher unit was installed on Monday, 10/31/22, to illuminate the signal heads. By Thursday, November 3rd, a new cabinet was installed and the signals operational.

Supply Chain

Given the current supply chain issues, the supplier had just enough components to get a cabinet assembled for us in this short of time. The current delivery time, if ordered today, would be April.

Risk

Besides the original accident on the 27th, there was only one other accident recorded at 2nd Ave during the signal outage, which occurred on the 29th. However, for anyone that drove through that intersection during the outage it was chaotic and dangerous for vehicles and certainly not safe for pedestrians.

Accident History

Since 2008 there have been two cabinet impacts (8th St & Griffith and 2nd Ave S and Expressway). In checking with the former City Engineer, who was employed by the City for ~34 years, there was at least 1 or maybe 2 similar instances. Thankfully, this issues doesn't occur that often.



Comparison

Some communities (usually larger communities) choose to have a spare, some do not.

Financing

With accident damage such as this, the City is reimbursed (made whole) through insurance.

Options available:

1. Purchase a spare cabinet at a cost of approximately \$22,000 along with a red flasher unit for \$700.
2. Purchase a red flasher unit
3. Do nothing

Action you are requesting the committee take: approve the purchase of a spare cabinet and red flasher unit.

How will the item be financed? Utilize any remaining Traffic Control Budget dollars from 2022. Final numbers won't be available for a couple months. Also, some of the proposed 2023 dollars can be utilized for this purchase (\$10k to \$14k).



Public Works Committee

Date of Request: 11/11/22

Requestor: Joe Eichsteadt, PE City Engineer

Request/Referral: Request to solicit proposals for a Bridge Rehabilitation Report for the Grand Ave Bridge in preparation of applying for the 2024-2026 BIL Local Bridge program.

Background information:

The 2024-2026 BIL Local Bridge Program application is due March 24th, 2023 and requires that a Bridge Rehabilitation Report be completed, approved by the Bureau of Structures and submitted with the application. A Bridge Rehab Report is expected to be around \$15,000 to \$20,000.

The local bridge program is 80% state funded and 20% locally funded including design costs.

The Grand Ave Bridge rehabilitation work is included in the Public Works CIP for 2025.

The latest bridge inspection report is attached as is an example Bridge Rehabilitation Report.

Options available:

1. Approve solicitation of proposals and consider those proposals at a future meeting with the intent to pursue an application.
2. Do nothing at this time, but reconsider next budget cycle.

Action you are requesting the committee take: 1. Approve solicitation of proposals and consider those proposals at a future meeting with the intent to pursue an application.

How will the item be financed? Public Works Construction Fund - reserves



Inspection Report for
B-71-057 (GRAND AVE.)
E GRAND AVE over WISCONSIN RIVER 21
Oct 25,2022



Type	Prior	Team Leader	Frequency (mos)	Performed
Routine	06-30-22	Green, Justin (4524)	24	
Interim				X
Uw-Dive	07-23-21	Bigelow, Michael J (9628)	60	
Reach All	06-30-22	Green, Justin (4524)	24	X
SIA Review	06-15-20	Ortman, Joel (4526)	48	
Uw-Profile	07-23-21	Bigelow, Michael J (9628)	60	

Start Coordinates		End Coordinates (optional)	
Latitude	44°23'31.94"N	Latitude	
Longitude	89°49'36.98"W	Longitude	
Owner	CITY	Maintainer	CITY

Team members			
Time Log	Hours 2	Minutes 0	
Weather	Temperature (f) 44	Condition Overcast	

Inspector	Name	Number	Signature	Signature Date
	Green, Justin	4524	<i>Justin Green</i> E-signed by Justin Green(greenju17)	10-25-22

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Identification & Location

Feature On: E GRAND AVE	Section Town Range: S17 T22N R06E	Structure Number: B-71-057
Feature Under: WISCONSIN RIVER 21	County: WOOD	
Location 0.5M N JCT STH 54 TO E	Municipality: WISCONSIN RAPIDS	Structure Name: GRAND AVE.

Geometry

measurements in feet, except where noted

Approach Roadway Width: 36	Bridge Roadway Width: 36.0	Total Length: 532.3
Approach Pavement Width: 36	Deck Width: 52.0	Deck Area (sq ft): 27680

Traffic

Lanes	ADT	ADT year	Traffic Pattern
On 3	4800	2017	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS17	Overburden depth (in): 0.0	Last rating date: 12-21-09	Controlling:
Operating rating: HS30	Deck surface material: CONCRETE		Control location:
Posting:	Emergency Vehicle Weight Limit (tons):		
Re-rate for capacity (Y/N):	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (8) STABLE-ABOVE TOP FOOTING	Q100 (ft3/sec): 78000	
High water elevation (ft): 992.8	Velocity (ft/sec): 9.1	Sufficiency #: 68.8

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	45	70.3	
2	CONT PREST CONC	DECK GIRDER	45	74.0	
3	CONT PREST CONC	DECK GIRDER	45	78.0	
4	CONT PREST CONC	DECK GIRDER	45	84.0	Y
5	CONT PREST CONC	DECK GIRDER	45	78.0	
6	CONT PREST CONC	DECK GIRDER	45	74.0	
7	CONT PREST CONC	DECK GIRDER	45	70.3	

Expansion joint(s)

Temperature:

File:70	New:44
Last measure (in)	New measure (in)

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Construction History

Year	Work Performed	FOS id
1986	NEW STRUCTURE	6999-05-16

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Structure No.: **B-71-057**

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Expansion Joints - Clean	HIGH	Green, Justin (4524)	IDENTIFIED	07/26/22
Comment: Remove debris from joints		Status Comment:		

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck-Coated Reinforcing	SF	27,680	26,713	937	30	0
			Delamination - Spall - Patched Area	SF		0	11	0	0
			Span 1 1-Transverse Crack near pier w/light efflorescence (1'X 52') CS2						
			Span 2 Scattered Transverse Cracks w/light efflorescence (Approx 10'X50') CS2						
			Span 3						
	1080		Bay 1 Crack (4'x8.5') near Pier 2 w/light efflorescence CS2						
			Crack (4'X8.5') near Pier 3 CS2						
			Bay 2 Crack (4'x8.5') near Pier 3 w/light efflorescence CS2						
			Bay 3 Transverse Crack near Pier 2 CS1						
			Transverse Crack near Pier 3 CS1						
			Repaired Delam 1' X 8' in bay 3 10' West of Pier 3 CS2 (Sound patched area)						
			Span 4 Crack (12'X8.5') near Pier 3 @ diaphragm CS1						
			Span 5 Several transverse cracks near Pier 4 w/light efflorescence (150 SF) CS2						
			Span 6 Minor cracking 36 SF CS1						
			Span 7 Good Condition no cracking - repairs made to spalls in Bay 3 & Bay 5.(Sound patched areas) (3SF)						
	1130		Cracking (RC)	SF		88	926	30	0
			See Notes in Delam - Spall - Patched Area Above						
			Cracking by each Pier w/Efflo. West side: Pier 1, Pier 2, Pier 3, Pier 4, Pier 5, Pier 6: 20 CS2/30 CS3						
			Span 1 52 SF CS2,						
			Span 2 500 SF CS2						
			Span 3 102 SF CS2 52SF CS1						
			Span 4 102 SF CS2						
			Span 5 150 SF CS2						
			Span 6 0 CS2 36SF CS1						
			Span 7 0 CS2						
	8000		Wearing Surface (Bare)	SF	27,680	23,123	4,557	0	0
			SEE ATTACHMENT						
	3210		Debonding/Spall/Patched Area/Pothole	SF		0	405	0	0
			Several areas were repaired that had previously had been spalled or debonded. Patch at mid. bridge. - 27'x5' CS2 - 405 SF CS3						
	3220		Crack (Wearing Surface)	SF		2,997	4,152	0	0
			Several areas were repaired that previously had been CS2 or CS3 cracking All cracks were filled and deck sealed since last inspection A few cracks need to be re-sealed						
X	109		Prestressed Concrete Open Girder	LF	3,166	3,162	0	4	0
			Span 1 All Good CS1 Span 2 Good Except by East Abut. See Comment Below Span 3 All Good CS1 Span 4 All Good CS1 Span 5 G1, G2, G5, G6 short cracks in West & East Ends - grouted & epoxy inj, All CS1						
	1080		Delamination - Spall - Patched Area	LF		0	0	4	0
			Span 2: Exposed Strands where girder meets bearing at East Abutment. CS3 4LF						

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Structure No.: **B-71-057**

X	210		Reinforced Concrete Pier Wall	LF	101	61	0	40	0
			All of the piers exhibited a band of scaling at the waterline from 6 in. above to 6 in. below the waterline with 1/4 in. typical to 1/2 in. maximum penetration. Voids in Pier 3, 4, and 6 footings up to 1 ft. deep with no exposed steel.						
		1080	Delamination - Spall - Patched Area	LF		0	0	40	0
			CS3 Spalls on piers 2, 3 and 5 footing. UWD 2016						
		6000	Scour	LF		0	101	0	0
			All the piers have CS2 scour.						
X	215		Reinforced Concrete Abutment	LF	104	99	3	2	0
			SEE ATTACHMENT						
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
			Delam, 2SF, 2LF bay 2						
		1130	Cracking (RC)	LF		0	3	2	0
			WEST ABUTMENT-2 VERT CRACKS. East Abutment Bay 2 - 1' TVC CS2, Bays 3 & 4 - each 1' TVC CS3 with lite rust stain in bay 4 2 LF bay 4 - CS2						
X	220		Reinforced Concrete Pile Cap/Footing	LF	6	3	3	0	0
			Voids in Pier 3, 4, and 6 footings up to 1 ft. deep with no exposed steel.						
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		0	0	0	0
		1190	Abrasion-Wear (PSC-RC)	LF		0	3	0	0
			Minor abrasion on pile cap						
X	234		Reinforced Concrete Cap	LF	276	221	55	0	0
		1080	Delamination - Spall - Patched Area	LF		0	0	0	0
		1130	Cracking (RC)	LF		18	55	0	0
			Pier Cap 1 - 4' CS1 & 10' CS2 (8 Trvs Crk east side, 13 Trvs Crk west side - mostly center of pier) Pier Cap 2 - 2' CS1 & 10' CS2 (14 Trvs Crk east side, 15 Trvs Crk west side - mostly center of pier) Pier Cap 3 - 2' CS1 5' CS2 (3 crks east side, 5 on west, 2' spall south end east side, exposed rebar) Pier Cap 4 - 4' CS1 & 2' CS2 (4 tvc east side, 5 tvc west side) Spall on both ends Pier Cap 5 - 6' CS1 & 8' CS2 - mainly center 1/3 of cap Pier Cap 6 20' CS2 (10 vert crks east side 8 west side. (4 cracks at N pier end east side)						
X	300		Strip Seal Expansion Joint	LF	98	26	66	6	0
		2310	Leakage, Seal Adhesion, Damage, Cracking	LF		0	0	0	0
		2350	Debris Impaction	LF		26	66	6	0
			West Abutment 36' CS2 debris Impaction. Steel plate covers outside 8' on all four corners of structure East Abutment - South 6' CS3; 30' - CS2 - leaking and debris Impaction.						

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X	311		Moveable Bearing	EA	60	17	40	3	0
			Corrosion	EA		17	40	3	0
		1000	West Abutment (6 Expansion Bronze Plates) bearing 4 in CS3 - Remaining 5 CS2 Pier 1 - 12 Bearing Plates, lite to mod corrosion on all, exterior bearing show more corr. 12 in CS2 Pier 2 - 12 Bearing Plates, bearings on exterior girders (4 each) in CS2, remaining (8) in CS1 Pier 3, 4 - Fixed CIP Pier 5 - 12 Bearing Plates, all freckled rust CS2, Pier 6 - 12 Bronze Plates, all freckled rust CS2, East Abutment 6 Bronze Plates, B5 & B6 in CS3 moderate pack rust, B1-B4 in CS1(4)						
		2210	Movement	EA		0	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	1,091	1,041	50	0	0
			TYPE H W/ GALV. RAIL; SCAT TVCS THRUOUT. GALV. RUBBING OFF THRUOUT TOP RAIL.						
		1080	Delamination - Spall - Patched Area North Rail - Popout/Delam under light pole west end 4' CS2 South Rail - Popout/Spall 5' CS2 North Rail 1' Bay 5, 1' Bay 4 North Rail under center light pole 2' CS2	LF		0	13	0	0
		1130	Cracking (RC) Scattered Traverse Cracks Throughout North rail 35' CS1 22' CS2 South rail 29' CS1 22' CS2	LF		64	37	0	0
X	8400		Integral Wingwall	EA	4	4	0	0	0
			SEE ATTACHMENT						
		8902	Wall Movement	EA		0	0	0	0
		8903	Wall Deterioration NORTHWEST CORNER- 2'X2' SPALL WITH CRACKING ON OUTSIDE UPPER CORNER. SOUTHWEST CORNER- SMALL VERT AND HORIZ. CRACKING BY INSIDE EDGE AND CENTER.	EA		0	0	0	0

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Structure No.: **B-71-057**

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		Drainage - Ends of Structure	EA	4	4	0	0	0
			Sidewalk	EA	2	0	2	0	0
			Scattered Transverse Cracks Throughout, lite spalling along edge (curb), scattered cracks on bottom side of SW Pier 1, north side, minor efflorescence under SW on south side span 2 & 3, crack under SW north side @ Pier 3 & Pier 4,						
X	9009		Minor spall on North side, East edge, and West edge N. side approx. 130' cracking Has been crack filled - North: 10' new CS2, South: 15' new CS2 SEE ATTACHMENT. AREAS OF SPALLING WITH EXPOSED REBAR ON BOTH NORHT AND SOUTH CURB FACES. OTHER SPALLING AND CRACKING AS WELL.						
X	9011		Utilities	EA	4	4	0	0	0
			4 - electric (lights), telephone 8 conduits, gas, water						
X	9045		Slope Protection- Riprap	EA	2	2	0	0	0
			Concrete Diaphragm	EA	75	50	10	15	0
			CIP; PIERS AND MIDSPAN; SCAT CRKS, DELAMS AND MINOR SPALLS. Pier Cap 1- North: 3-1'x1' Spalls CS2; South: 2-1'x1' Spalls CS2 Pier Cap 2- North: 3-1'x1' Spalls CS2, 1-2'x1' Spall CS2, 1-3'x2' Spall w/ exposed rebar CS3; South: None Pier Cap 3- North: 1-2'x2' Spall CS2, 1-1'x1' Spall w/Delam CS2, 3' Delam CS2; South: 1-1'x1' Spall w/exposed rebar CS3, 1-1'x1' Spall CS2 Pier Cap 4- North: 1-2'x1' Spall CS2, 1-2'x1' Spall w/exposed rebar CS3; South: 1-2'x2' Spall CS2 Pier Cap 5- North: 1-1'x1' Spall CS2, 1-2'x1' Spall w/exposed rebar CS3; South: 1-2'x1' Spall w/exposed rebar CS3, 1-2'x1' Spall w/Delam CS2, 1-1'x1' Spall CS2 Pier Cap 6- North: 1-1'x1' Spall CS2; South: 2-2'x1' Spall CS2, 3-1'x1' Spall CS2, 1-2'x1' Spall CS2, 1-3'x1' Spall CS2						
X	9322		Approach Roadway - Concrete (non-structural)	EA	2	1	1	0	0
			CRACKS AND LITE SPALL EAST., Trans cracks on west side @ bridge West Approach spall repaired. MASTIC						
X	9335		Decorative Rail	EA	2	0	2	0	0
			Galvanized starting to wear						

NBI Ratings

	File	New
Deck	7	7
Superstructure	7	7
Substructure	6	6
Culvert	N	N
Channel	8	8
Waterway	8	8

Structure Specific Notes

Nameplate in SW wingwall
Inspection was initiated on 6-9-16 with WDOT Snooper truck. J. Green & R Hawk inspected the underside of the deck, piers, girders, and abutments, also partially inspected the deck.
On 7-11-16 B Dammann & R Hawk completed the inspection of the deck, SW, railing and approaches.

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Structure No.: **B-71-057**

Inspection Specific Notes

Swallow nests throughout
Maintain brush and vegetation near west abut
Clean expansion joints
Seal cracks & repair spalls on sidewalk and concrete railing
Monitor delam and spalls on deck
Monitor corrosion on bearings
The 2016 UWD was done on 7/11/16, HSI would not allow, so it went in as 7/12/16.

Inspector Site-Specific Safety Considerations

Traffic Control provided by City of Wisconsin Rapids
Steps to abutment in SW corner

Structure Inspection Procedures

Schedule inspection same day as Jackson St Bridge B-71-11

Inspect with minimum 2 WCH inspectors and DOT Reachall Truck to reduce amount of time City of WR has to maintain traffic control. Utilize closure or detour for reachall truck to inspect surface at the same time.

UW Profile performed by DOT staff - side imaging and sonar devices

UW Dive inspection completed by KBIS

Routine Specific Procedures (prior)

The City of WR has a project on Jackson St Bridge and so the traffic was moved to W Grand Bridge and therefore the Reachall was not able to do the bottom side of the bridge inspection. The Reachall will be back in September to redo the inspection and the full bottom side. See attachments from previous inspection for June completion.

Interim Specific Procedures

Special Requirements

	Chk	Hours	Cost	Comments
Traffic Control	X			Traffic Control provided by City of Wisconsin Rapids
A52 Reach-All Unit	X			
Other Access Equipment	X			Bottomside of deck and substructure units inspected by DOT's Reachall Truck. Topside inspected by foot.

Underwater Probe Form B-71-057

General Site Conditions - Scour

Minor local at each pier.

General Site Conditions - Embankment Erosion/Conditions

Both embankments are stable and protected with heavy rip rap.

Substructure Notes

Chk	Unit	Max Water Depth(ft)	Mode	Notes
X	Cardinal		Dry	
X	Pier 1	5.5	Scuba	Scaling at the waterline up to 1/4 in deep from 6 in above to 6 in below the waterline typical. Top footing completely exposed (2 ft vertically). Bottom footing exposed on the north and east faces up to 1 ft vertically. Probe did not penetrate the streambed. Void NW corner.
X	Pier 2	6.7	Scuba	Scaling at the waterline up to 1/4 in deep from 6 in above to 6 in below the waterline typical. Top footing completely exposed with several small voids in the top face. Bottom footing exposed around entire perimeter, vertical exposure up to 4 ft maximum. Probe did not penetrate the streambed. Has gap in concrete at bottom, East face.
X	Pier 3	6.5	Scuba	Scaling at the waterline up to 1/2 in deep from 6 in above to 6 in below the waterline typical. Top footing completely exposed. Bottom footing exposed around entire perimeter with vertical exposure of 4 ft. Void in top of bottom footing and into top footing 2 ft L x 2 ft W x 3 in D with no exposed steel. Void in NE corner of bottom footing 2 ft L x 1 ft H x 4 in D. Probe did not penetrate the streambed. Has gap in concrete at bottom, East face.
X	Pier 4	6.8	Scuba	Scaling at the waterline up to 1/2 in deep from 6 in above to 6 in below the waterline typical. Top footing completely exposed. Void in east side of top footing 8 ft L x 4 in H x 1 ft D. Bottom footing exposed around entire perimeter, vertical exposure up to 4 ft maximum at the upstream nose. Probe did not penetrate the streambed.
X	Pier 5	6.7	Scuba	Scaling at the waterline up to 1/2 in deep from 6 in above to 6 in below the waterline typical. Top footing completely exposed. Bottom footing exposed around entire perimeter, vertical exposure up to 3 ft maximum at the north face. Probe did not penetrate the streambed. CS3 Spall, 10 ft long, 3 inch high, 1 inch deep, at pier wall and footing. No cracks.
X	Pier 6	5.2	Scuba	Scaling at the waterline up to 1/4 in deep from 6 in above to 6 in below the waterline typical. Minor spall in NW and NE corners of the footing. Void in NE corner of shaft and top of footing 2 ft L x 3 in H x 4 in D. Top footing completely exposed. Bottom footing exposed around entire perimeter up to 2 ft vertically. Probe did not penetrate the streambed.
X	Non Cardinal		Dry	


Interim Item 1

PIER CAP DRAWING	b71-057_22_xtd1.pdf (included)
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Interim Item 2

PIER 2, BAY 3- NORTH	 b71-057_22_xtd2.jpg
Linked Element(s): Concrete Diaphragm	

Interim Item 3

PIER 3 WEST EDGE	 b71-057_22_xtd3.jpg
Linked Element(s): Concrete Diaphragm	

Interim Item 4

PIER 4 BAY 5-NORTH	 b71-057_22_xtd4.jpg
Linked Element(s): Concrete Diaphragm	

Interim Item 5

PIER 5, BAY 5-NORTH	 <p data-bbox="1066 600 1246 622">b71-057_22_xtd5.jpg</p>
Linked Element(s): Concrete Diaphragm	

Interim Item 6

PIER 5 BAY 1-SOUTH	 <p data-bbox="1066 1122 1246 1144">b71-057_22_xtd6.jpg</p>
Linked Element(s): Concrete Diaphragm	


Interim Item 7

PIER 5 BAY 1 - SOUTH	 <p data-bbox="1066 1644 1246 1666">b71-057_22_xtd7.jpg</p>
Linked Element(s): Concrete Diaphragm	

Interim Item 8

EAST ABUT EXPOSED STRANDS	 <p>b71-057_22_xtd8.jpg</p>
Linked Element(s): Prestressed Concrete Open Girder Reinforced Concrete Abutment Strip Seal Expansion Joint	

Interim Item 9

HEAVY SPALL PIER 1 DIAPHRAGM WEST EDGE	 <p>b71-057_22_xtd9.jpg</p>
Linked Element(s): Concrete Diaphragm	

Interim Item 10

PIER 4 WEST EDGE DIAPHRAGM	 <p>b71-057__xtd10.jpg</p>
Linked Element(s): Concrete Diaphragm	

Interim Item 11

DECK CRACKING



b71-057__xtd11.jpg

Linked Element(s):
Reinforced Concrete Deck-Coated Reinforcing

Interim Item 12

DECK CRACKING WITH EFFLO.



b71-057__xtd12.jpg

Linked Element(s):
Reinforced Concrete Deck-Coated Reinforcing

Interim Item 13

DECK CRACKING WITH EFFLO



b71-057__xtd13.jpg

Linked Element(s):
Reinforced Concrete Deck-Coated Reinforcing

Interim Item 14

WEST ABUT BEARING



b71-057__xt14.jpg

Linked Element(s):

Reinforced Concrete Abutment
Strip Seal Expansion Joint
Moveable Bearing

Interim Item 15

UWD

b71-057__xt15.pdf (included)

Interim Item 16

CS3 scaling, Pier 3



b71-057__xt16.jpg

Linked Element(s):

Reinforced Concrete Pier Wall

Interim Item 17

Diagram of deck deficiencies

b71-057__xt17.pdf (included)

Linked Element(s):

Reinforced Concrete Deck-Coated Reinforcing

Interim Item 18

SPALLING WITH EXPOSED REBAR ON SIDEWALK CURB
FACE, SOUTH SIDE, NORTH EDGE.



b71-057__xt18.jpg

Linked Element(s):

Sidewalk
Reinforced Concrete Deck-Coated Reinforcing -> Wearing Surface (Bare)

Interim Item 19

	 <p>b71-057__xtd19.jpg</p>
Linked Element(s): Reinforced Concrete Bridge Rail Sidewalk Reinforced Concrete Deck-Coated Reinforcing -> Wearing Surface (Bare)	

Interim Item 20

ABUTMENT DRAWING	b71-057__xtd20.pdf (included)
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Interim Item 21

SIDEWALK DRAWING	b71-057__xtd21.pdf (included)
Linked Element(s): Sidewalk	

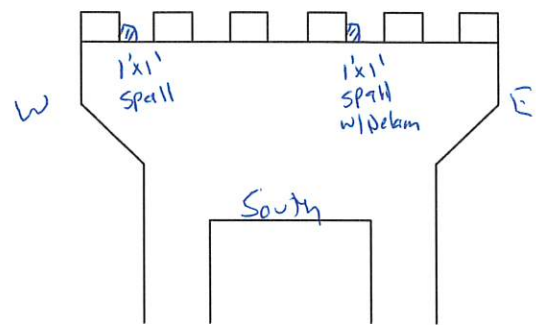
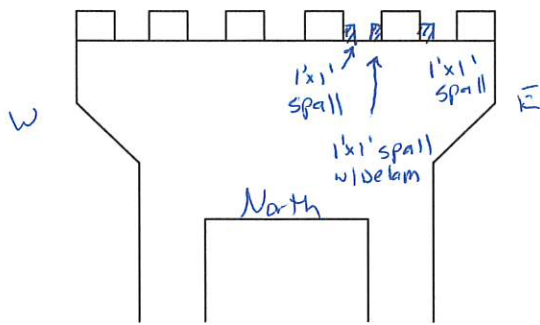
Interim Item 22

	 <p>b71-057__xtd22.jpg</p>
Linked Element(s): Concrete Diaphragm	

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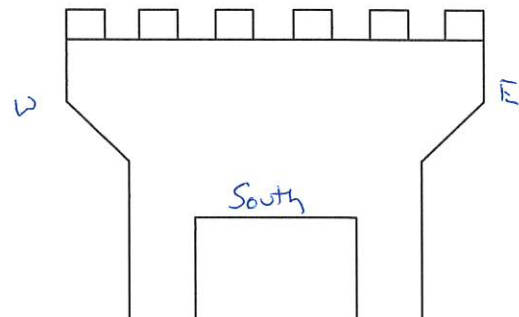
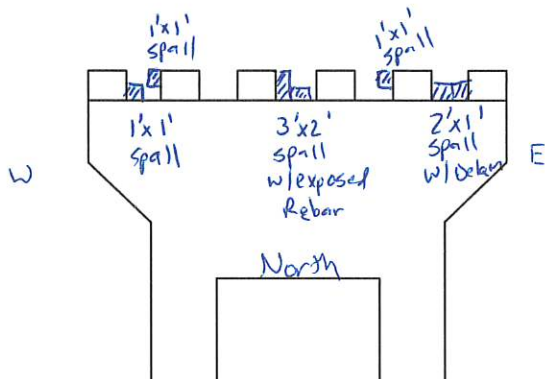
Pier Cap

#1



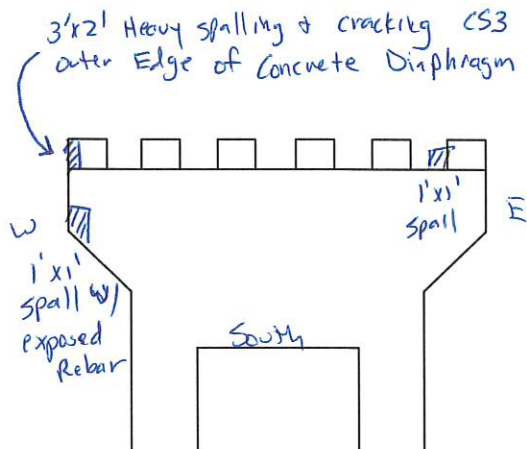
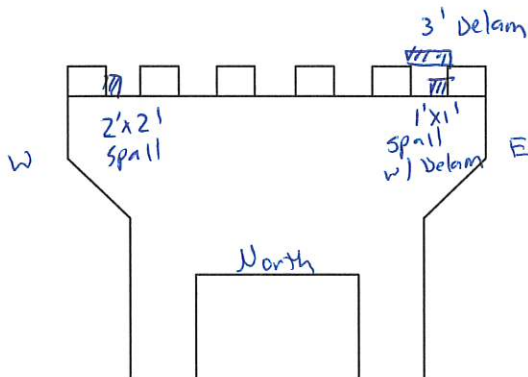
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#2



span #3

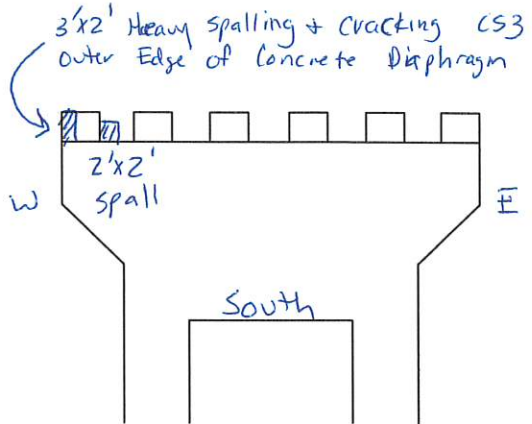
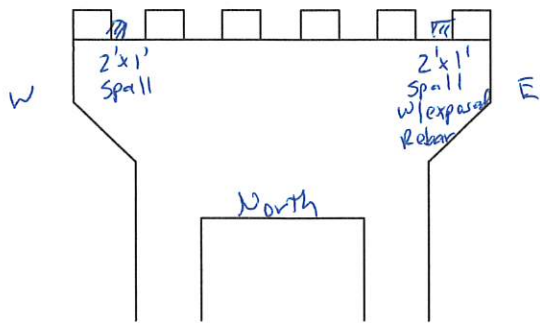
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span #4

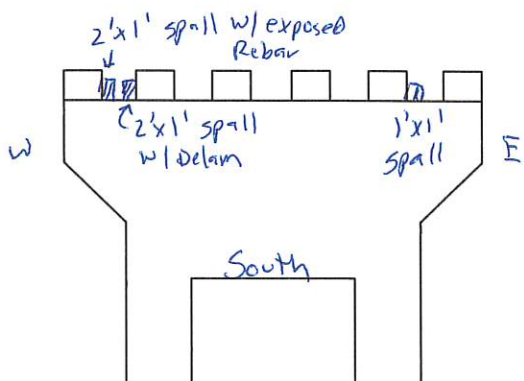
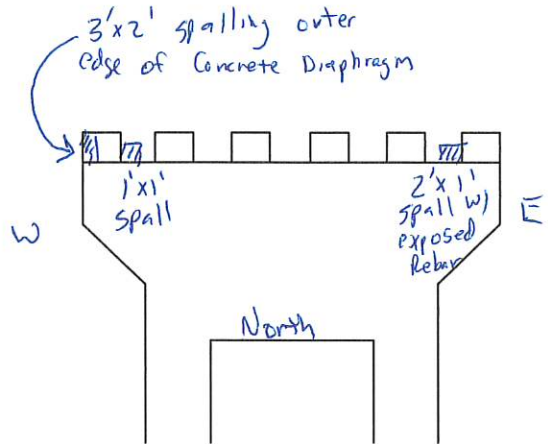
Span # 4

(#4)



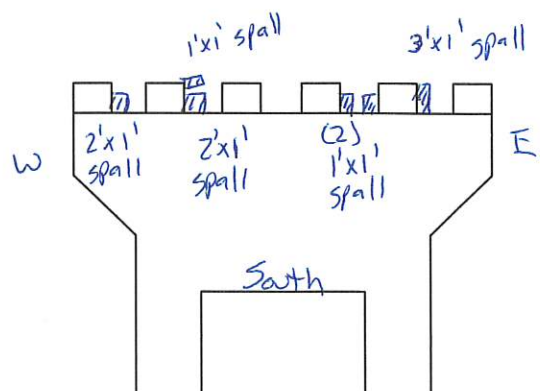
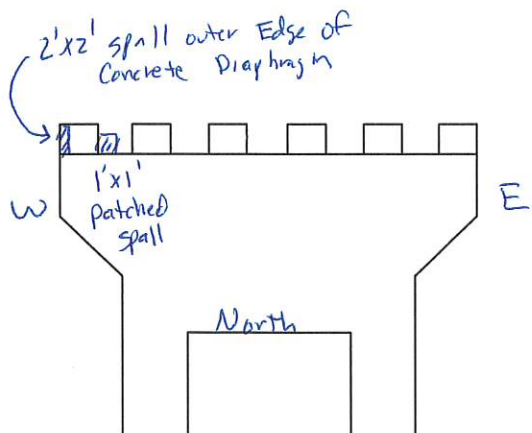
Span # 5

(#5)



Span # 6

(#6)



Span # 7

Dive Inspection Procedure for: B-71-057

Procedure:

Enter water from the shore. The two divers will swim to the first pier. The divers will descend down the wall. The divers will look for scour around the bottom. If footing/seal is exposed the divers will determine if it exposed. The divers will then progress up the wall in a spiral pattern to ensure 100% coverage of the pier. If any major deficiencies the divers will either document the notes or will communicate them to the surface. The divers will exit the water at the same entry point.

Metric Items for diving of the abutments.

No Scour Countermeasures present/needed.

No Special Access needed, shore is adequate, boat landing also adjacent for use.

The units to be dove are all 6 piers. It will need to have a UW Dive and UW profile Inspection every 60 months.

Inspection equipment for 2021 dive was dive gear, light, probe, hammer.

The high risk factor are not present on this structure. Boat traffic needs to be considered.

No debris piles, hard bottom, etc. High water events would present a risk factor that may terminate dive plans until the water returns to normal. Moderate level of risk would be current, boat traffic, minor debris, and visibility. All factors that can be mitigated.

All divers will need to be certified divers, and the team leader will need the FHWA Underwater Inspection course. Each diver will need to be a WisDOT qualified bridge inspector at a minimum. The Underwater Course is highly suggested of each member.

The waterway has no special contacts or requirements.

Scheduling concerns would only be high water.

SPAN 1 = 70.3'

SPAN 2 = 74.0

SPAN 3 = 78.0'

SPAN 4 = 84.6

SPAN 5 = 78.0'

SPAN 6 = 74.0

SPAN 7 = 70.3'

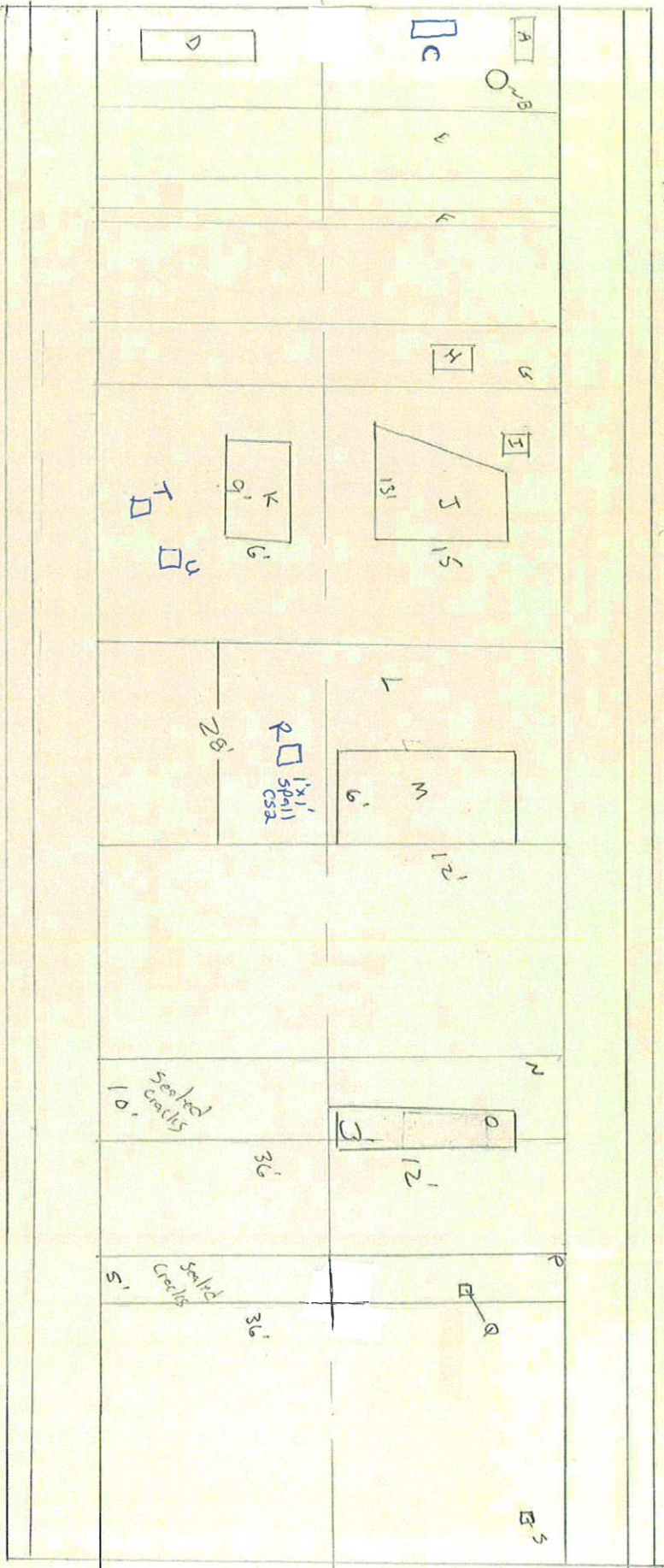
PIER 1 →

PIER 6

Girder 6

WEST

Girder 1



A - 4'x1' CS2 Cracking "Sealed" (4 SF)

B - Utility MH 3'x3' CS1 Cracking "Sealed" (15 SF)

C - 1'x1' Spall CS2 (1 SF)

D - 2'x10' CS1 Cracking "Sealed" (20 SF)

E - 22'x36' CS1 Cracking "Sealed" (792 SF)

F - 1'x36' CS1 Cracking "Sealed" (36 SF)

G - 18'x36' CS1 Cracking "Sealed" (648 SF)

H - 1'x2' Delam "Sealed" (2 SF)

I - 2'x1' Patch CS2 (2 SF)

J - 13'x15' Patch w/Seal (195 SF)

K - 9'x6' Patch w/Seal (54 SF)

L - 28'x36' Patched Cracks CS1 (936 SF)

M - 6'x12' Cracking CS2 (72 SF)

N - 10'x36' Patched Cracks CS1 (360 SF)

O - 3'x12' Cracking CS2 (36 SF)

P - 5'x36' Patched Cracks CS1 (180 SF)

Q - 1'x1' Spall Center of U.B. Low CS2 (1 SF)

R - 1'x1' Spall CS2 (1 SF)

S - 1'x2' Spall CS2 (2 SF)

T - 1'x1' Spall CS2 (1 SF)

U - 1'x1' Spall CS2 (1 SF)

V - 3'x12' Cracking CS2 (36 SF)

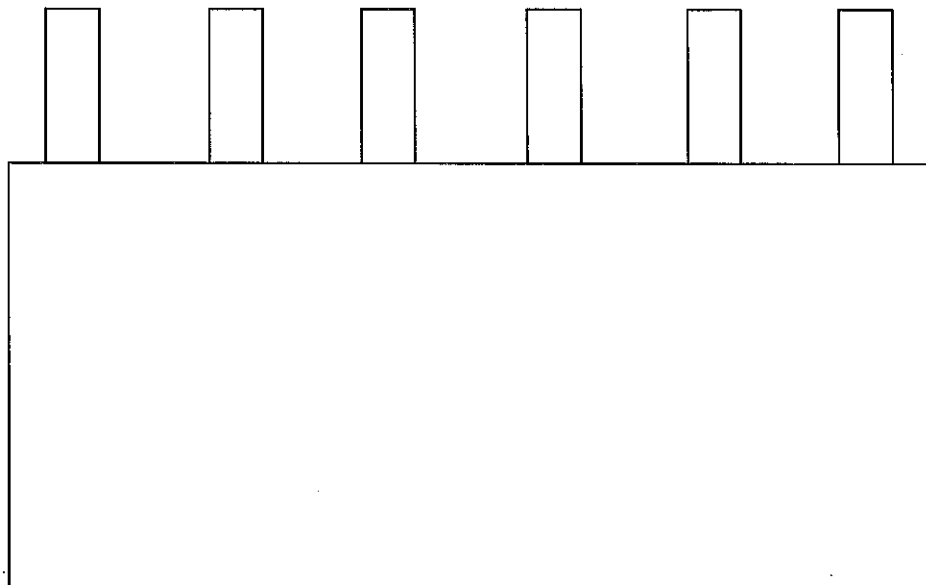
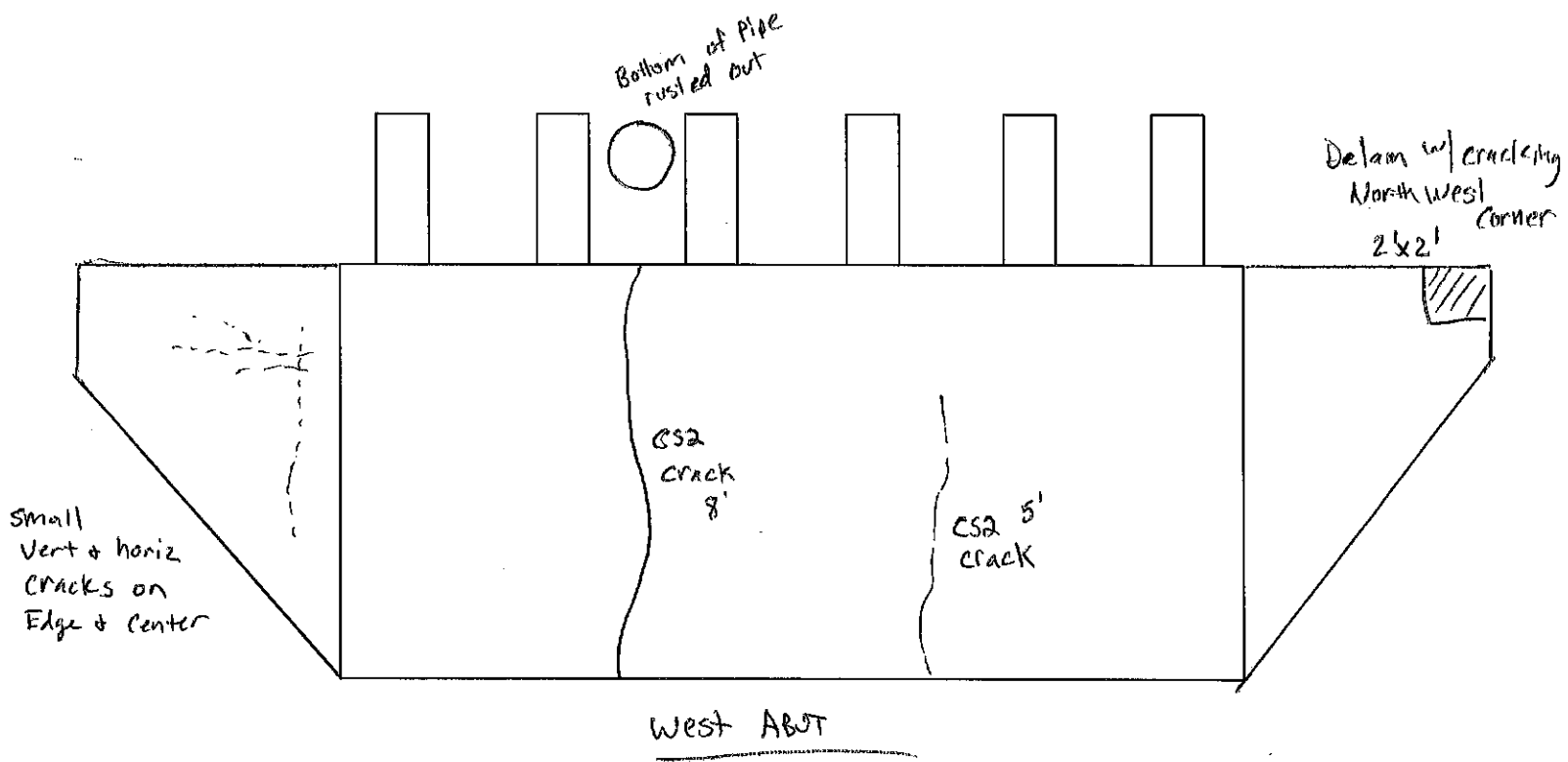
W - 3'x12' Cracking CS2 (36 SF)

X - 3'x12' Cracking CS2 (36 SF)

Y - 3'x12' Cracking CS2 (36 SF)

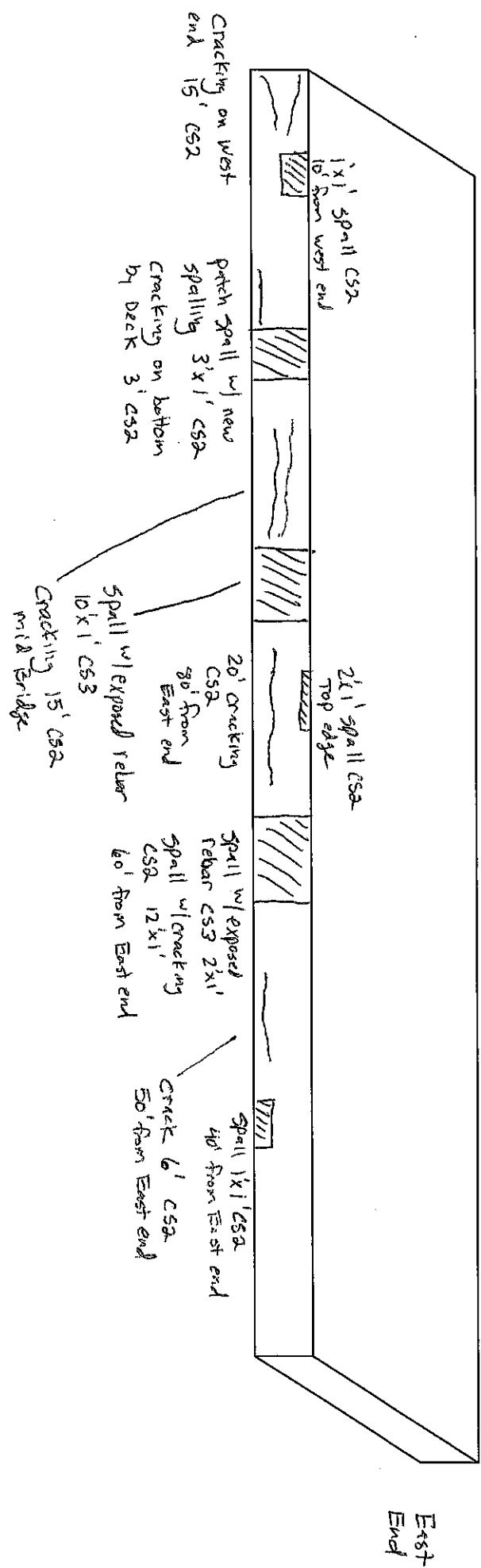
Z - 3'x12' Cracking CS2 (36 SF)

* UPDATED - 6/30/22 *



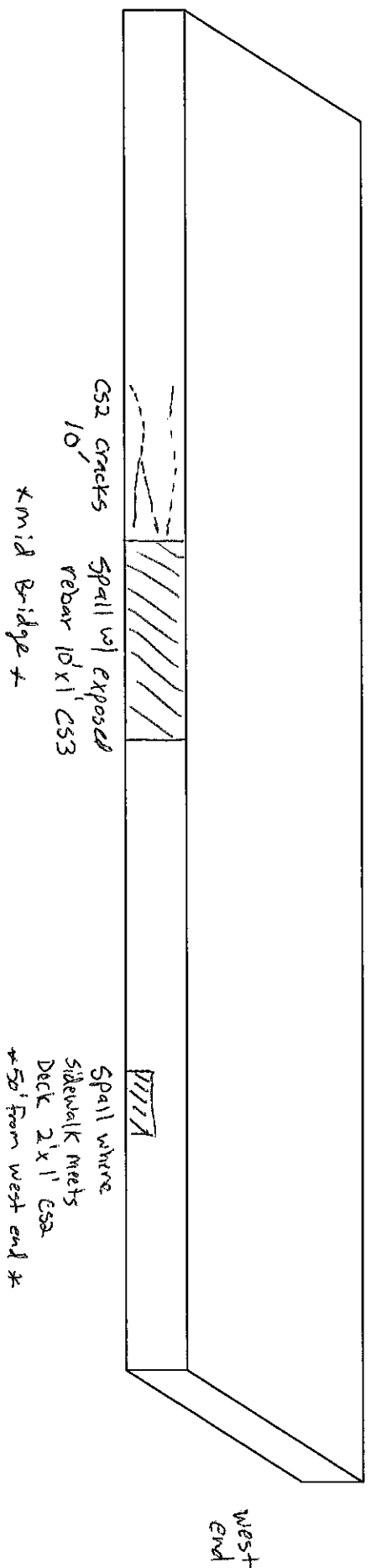
1
2

West
End



East
End

East
end



West
end

1
2

6/30/22

**B-43-0046
TOWN ROAD X
ONEIDA COUNTY
BRIDGE REHABILITATION REPORT**



PREPARED BY



JEWELL
associates engineers, inc.

Engineers - Architects - Surveyors
www.jewellassoc.com

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
608-588-7484

Concur with recommendations
subject to comments on page
2/62
RAC
WisDOT Bureau of Structures
3-22-2022

Comments 3-22-2022

B-43-46

By RAC

We concur with recommended **Alternative 2: Rehabilitation of the Existing Structure** subject to the following comments:

BOS recommends that a 3D acoustic image of each pier be obtained to provide the most accurate estimates of removals and placement quantities.

INTRODUCTION

Structure B-43-0046 is located on Town Road X over the Eagle River, 4 miles North of the Town Road X and STH 32 junction, near the Town of Three Lakes, Oneida County, Wisconsin (See Exhibit A, Project Location Map). The Town of Three Lakes initiated this report to determine the feasibility and cost effectiveness of the rehabilitation of this structure versus replacement.

The existing structure B-43-0046 was built in 1996. It is a 202.5 feet long four span reinforced concrete haunched slab structure (See Exhibit B, Existing Plans B-43-0046). The superstructure has a 20 inch slab thickness and 34 inch haunch thickness. The abutments are reinforced concrete Type A1 abutments with fixed seats, supported on 10.75-inch cast-in-place concrete piling. The wings are 45 degrees with respect to the abutment centerline. The existing structure has three piers. Each pier is a reinforced concrete pile encased pier supported on 10.75-inch cast-in-place concrete piling. The existing structure has a clear roadway width of 26 feet and Type F tubular steel railings.

The Highway Structures Inventory, produced by the Wisconsin Department of Transportation, indicates that average daily traffic on this section of Town Road X is approximately 365 vehicles per day (See Exhibit C, Average Annual Daily Traffic). Assuming an annual traffic increase of 2%, the Average Daily Traffic in the design year 2043 is estimated to be 670 vehicles per day. Town Road X is functionally classified as a minor collector.

INSPECTION

The existing structure was visually inspected with an underwater dive inspection in July of 2021. All units of the structure were accessible to the inspector with the aid of a boat. (See Exhibit D, Inspection Report and Photos). The following is a summary of the inspections.

Piers – Reinforced concrete pier walls show segregation of the concrete near the waterline and streambed. Concrete spalling is noted on each pier wall, with exposed reinforcing steel. Exposed piling is noted on Piers 1 and 2, where moderate mature MIC (Microbiologically Influenced Corrosion) is present on both the rebar and the piling. Piers 2 and 3 have voids through the width of the piers. See Exhibit D for detailed description and pictures of deficiencies.

Abutments – Each abutment has one vertical medium width crack.

Deck/Slab – cracking is noted on the top and bottom of slab. Some of the cracks exhibit the presence of efflorescence. No delamination was noted.

Metal Bridge Rail – minor rusting and scraping throughout.

Bituminous Approach – Slight settlement at both asphaltic approaches.

SUFFICIENCY RATING

The method of reporting the structure's sufficiency to remain in service is by evaluating a number of factors and calculating a sufficiency rating. The method used for this calculation follows the Federal Highway criteria. A totally sufficient bridge has a rating a 100 while a totally insufficient bridge would have a rating of 0. Existing bridge B-43-0046 currently has a sufficiency rating of 65.1 (see Exhibit E, Existing Bridge Sufficiency Rating). The bridge is classified as structurally deficient because the condition of the substructure is rated 4.

ALTERNATIVES

Three alternatives were evaluated as a part of this study:

Alternative 1. Do Nothing

This alternative would allow the bridge to remain in service but it will continue to deteriorate to a point where the piers would need to be replaced. The bridge piers are showing areas of corrosion and concrete deterioration. Exposed reinforcing bars near the water surface will continue to corrode. MIC (Microbiologically Influenced Corrosion) will continue to corrode the piling at an advanced rate, decreasing the life expectancy of the bridge.

This alternative would not result in correction of the deficiencies. The eventual result is a bridge substructure with compromised structural integrity. This would lead to eventual road closure.

Alternative 2. Rehabilitation of the Existing Structure

This alternative consists of repairing the bridge piers to correct the deficiencies. Spalled concrete surfaces will be cleaned with all loose concrete removed. Corroded reinforcing steel will be replaced with new reinforcing steel. All exposed steel would be cleaned to remove MIC. The whole pier would be encased with structural grout. (See Exhibit I – Rehabilitation Plan).

The inventory rating of the existing structure is HS25 and operating rating is HS42. These values were calculated by the Department of Transportation.

Hydraulic impacts of the added pier width will need to be determined during design, as well as coordinating with dam owners/licensee for the potential impact from the rehabilitation project. An underwater inspection is due July, 2022 and the owner will request that a more detailed report of both quantity and location of needed repair areas is completed.

It is estimated that the cost of this structure rehabilitation project to be \$1,128,035 (see Exhibit G, Structure Rehabilitation and Structure Replacement Costs). It is anticipated that this work will provide up to 57 years of additional use before replacement would be required.

The sufficiency rating of this structure, once rehabilitation has taken place, would be approximately 92.4 (see Exhibit F, Proposed Bridge Sufficiency Rating After Rehabilitation).

Alternative 3. Replace the Existing Structure

This alternative involves removing the entire existing structure and replacing it with a four span reinforced concrete haunched slab bridge. The proposed bridge would have a clear roadway width of 30 feet and new tubular railing Type M will be installed on both sides.

The abutments will consist of Type A1 with fixed seats supported on steel pilings, with wings parallel to the roadway. The piers will be pile encased piers supported on steel pilings.

At this time the existing bridge is not eligible for Federal Bridge Replacement Funding because the current sufficiency rating is 65.1. To be eligible for replacement the sufficiency rating would need to be 50 or under. The Town of Three Lakes would have to fund the entire replacement project at this time.

It is estimated that the cost of replacing this structure to be \$2,028,313 (see Exhibit G, Structure Rehabilitation and Structure Replacement Costs). It is anticipated that this work will provide up to 87 years of additional use before replacement would be required. The sufficiency rating of this structure, once replaced, would be approximately 100 as it would be totally sufficient.

RECOMMENDATION

A Life-Cycle Cost Analysis, per FHWA publication Life-Cycle Cost Analysis Primer, was performed to compare the Structure Rehabilitation Alternative with the Structure Replacement Alternative (see Exhibit H, Life Cycle Cost Analysis). The analysis assumed a 5% discount rate and an analysis period of 87 years. A summary of the Life-Cycle Cost Analysis follows:

Alternative 1. Do Nothing

Not recommended because this alternative does not remove the structural deficiency of the existing bridge.

Alternative 2. Rehabilitation of the Existing Structure

Assume 57 year service life with structure replacement at year 57.

Federal Cost (in present dollars) = \$1,334,574

Municipality Cost (in present dollars) = \$337,765

Alternative 3. Replace the Existing Structure

Assume 87 year service life.

Federal Cost (in present dollars) = \$98,451

Municipality Cost (in present dollars) = \$2,119,430

Jewell Associates Engineers Inc. recommends **Alternative 2 – Rehabilitation of the Existing Structure** due to the lower Total Life Cycle Cost of \$1,672,339 and Municipality Life Cycle Cost of \$337,765 compared to the other alternative. This alternative provides the best value for the Town of Three Lakes. Advantages of this alternative include increasing the sufficiency rating to 92.4 and maintaining a load rating higher than HS20.

The purpose of the recommended alternative is to correct existing structural deficiencies, which will remove all structural defects in a cost effective manner.

This proposed alternative will extend the life of Structure B-43-0046 beyond the 10 year minimum requirement of Trans 213.03, is the most cost effective alternative, and will remove all structural deficiencies. It is the Town of Three Lake's desire to extend the life of this bridge with the proposed rehabilitation.



Public Works Committee

Date of Request: 11/28/22

Requestor: Joe Eichsteadt, City Engineer

Request/Referral: Request to apply for a Highway Safety Improvement Program grant for pedestrian safety improvements at Wood Ave and 8th St S.

Background information:

Highway Safety Improvement Program (HSIP) is a 90% State/Federal and 10% local cost.

8th St & E Grand and 8th St and Chestnut St intersection projects were HSIP projects.

Tony Kemnitz, Traffic Safety Engineer at the DOT contacted us regarding WIS 13 and Wood Avenue. This intersection was identified as a potential crash location of concern. As part of the DOT's annual safety screening, they evaluate all intersections on the State highway network, including those intersections on Connecting highways. The intersection at WIS 13 and Wood Avenue ranked 14th in the NC region so they pulled crash reports and developed the attached crash plot. It appears that there is a need to better enhance motorist's awareness of the pedestrian cross walk at this location similar to the ped crossing at 8th St and Grove Ave.

We have developed an exhibit and are completing a cost estimate in preparation of the DOT's initial ranking. If it meets the DOT's ranking we would need to have applications in by February 1st, 2023.

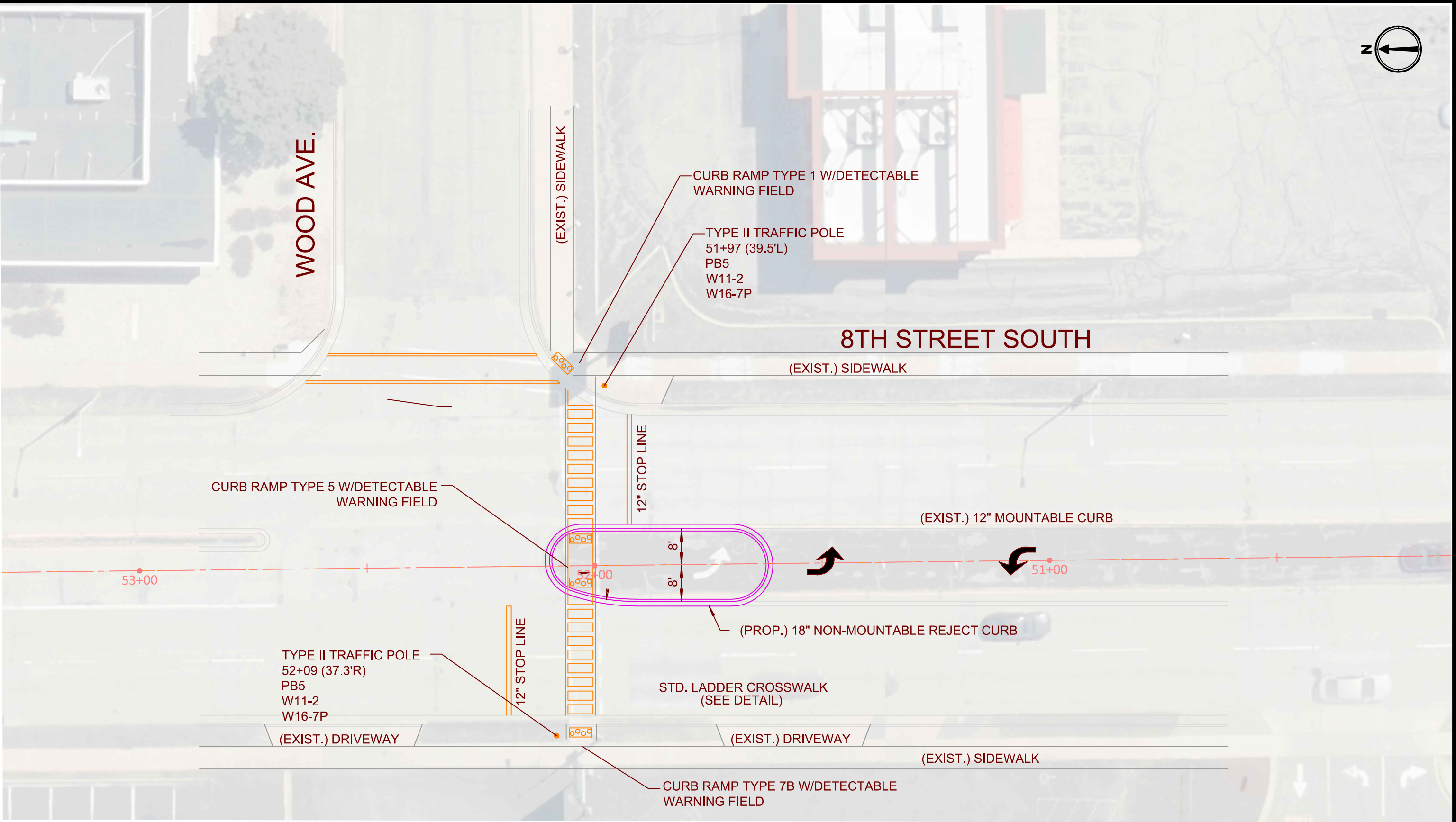
PW Committee & Council approval is in preparation if the project meets ranking as well if it is something the City would like to pursue.

Options available:

1. Approve applying for the HSIP funding for pedestrian improvements at 8th St S and Wood Ave, if eligible.
2. Do nothing

Action you are requesting the committee take: 1. Approve applying for the HSIP funding for pedestrian improvements at 8th St S and Wood Ave, if eligible.

How will the item be financed? 2024 or 2025 Public Works Construction Fund at 10% of the project cost.



PROJECT:HSIP Pedestrian Crossing Application 2022

LOCATION: 8th St S (CTH 13) and Wood Ave

ENGINEERING DEPARTMENT
444 WEST GRAND AVENUE
WISCONSIN RAPIDS, WI 54495
PHONE 715-421-8205 / FAX 715-421-8291

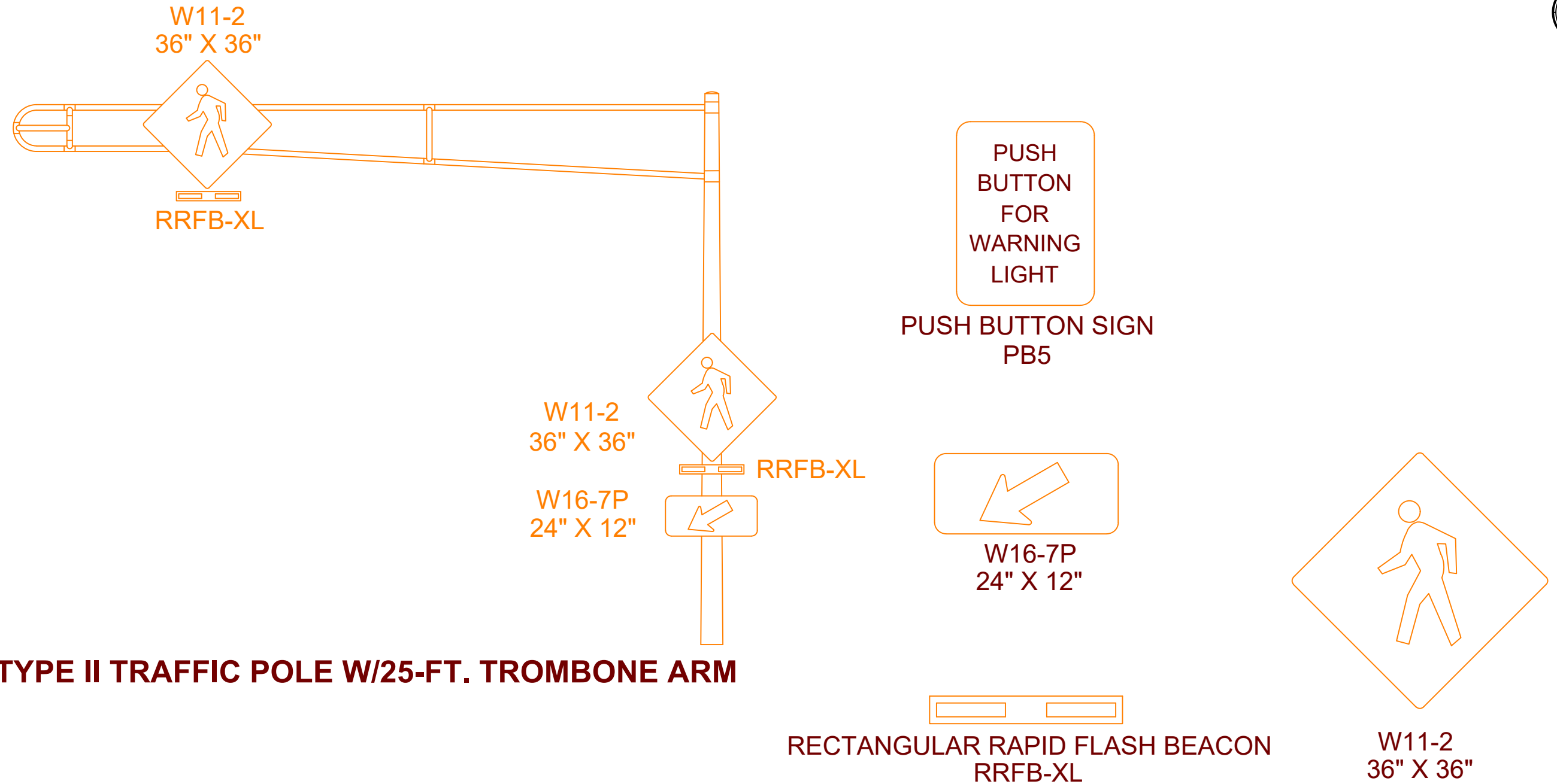


DRAWN BY: APK

PLOT DATE: 11/28/22

SCALE: 1" = 20FT.

SHEET 01 OF 02



PROJECT: HSIP Pedestrian Crossing Application 2022

LOCATION: 8th St S (CTH 13) and Wood Ave

ENGINEERING DEPARTMENT
444 WEST GRAND AVENUE
WISCONSIN RAPIDS, WI 54495
PHONE 715-421-8205 / FAX 715-421-8291



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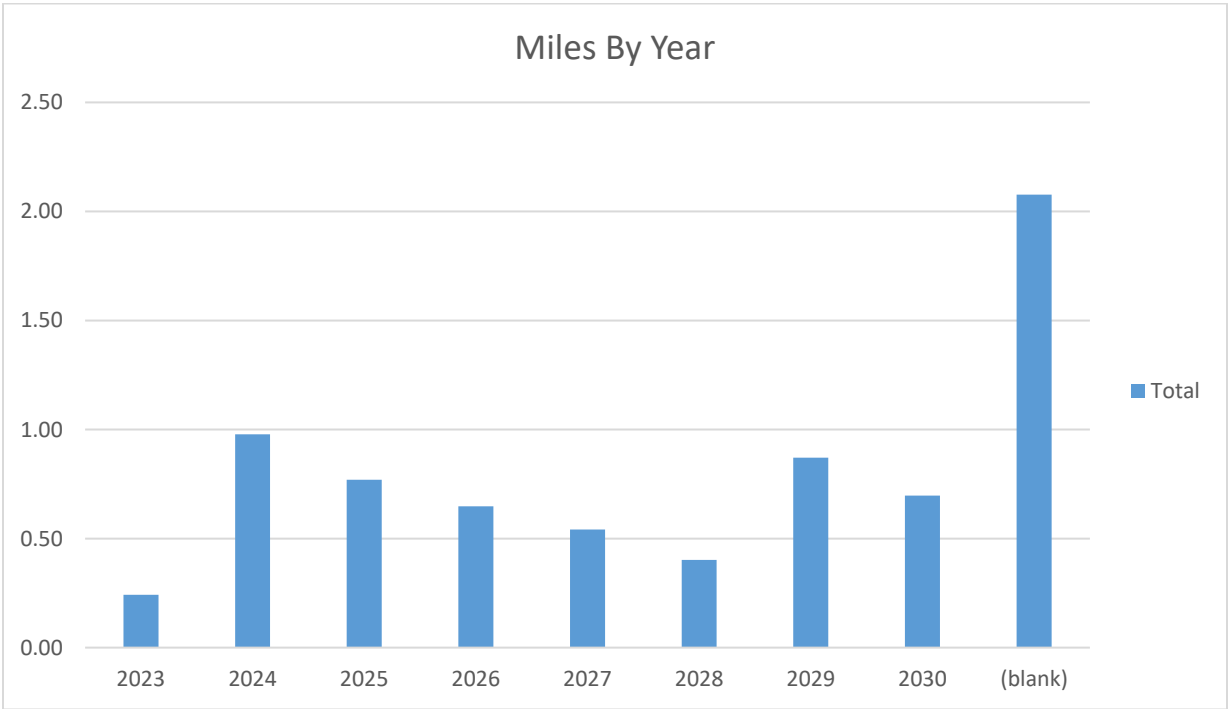
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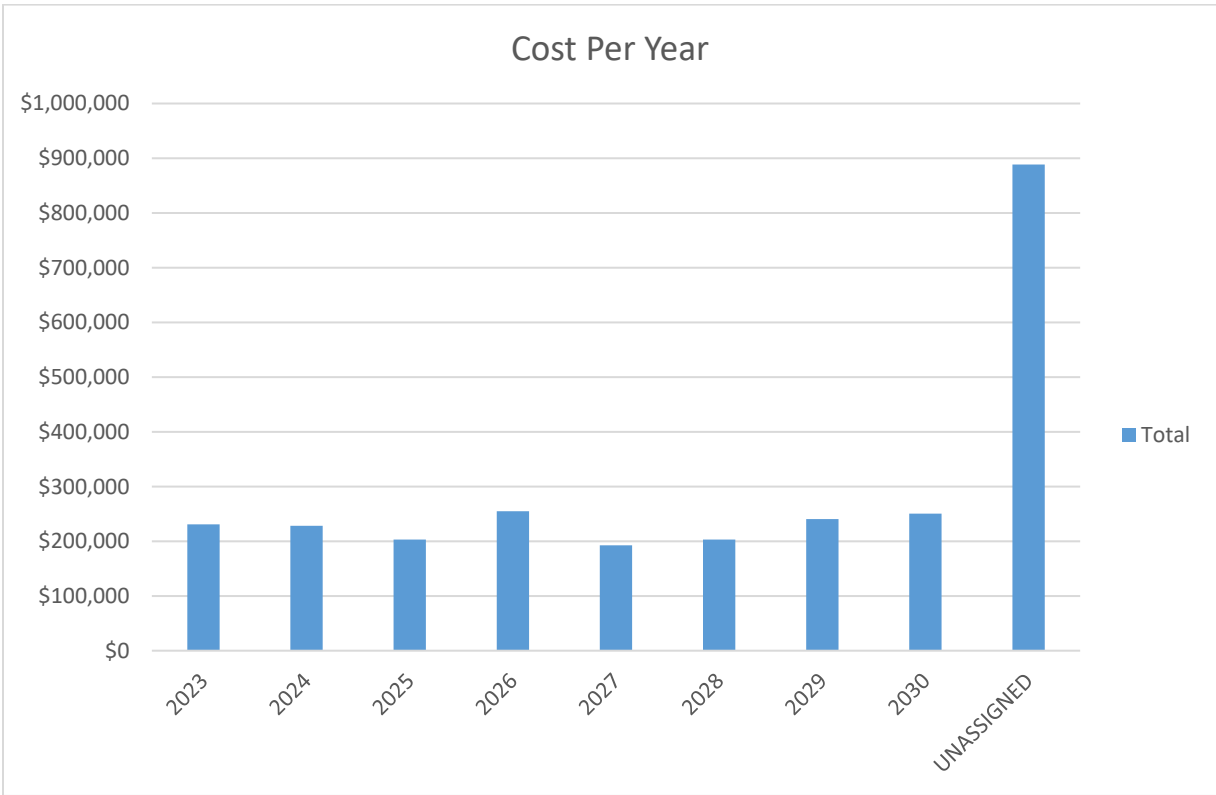
SHEET 02 OF 02

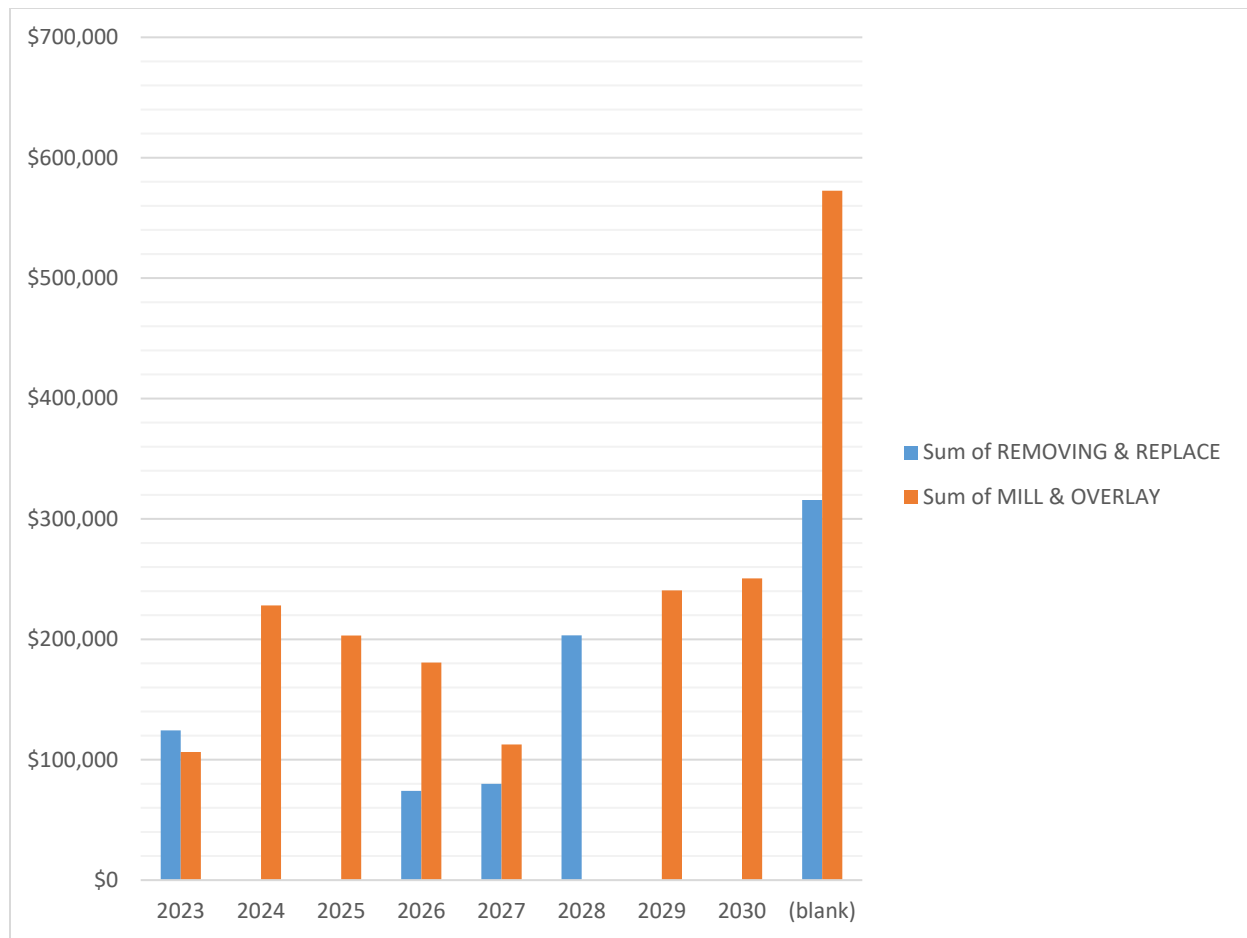
PAVEMENT REPLACEMENT PLAN

12/2/2022



- 7.23 Miles Identified
- 5.15 Miles Assigned by year
- Average Miles Per Year = 0.64





Comparison of Costs between options

- All Roads Remove & Replace = \$3.04 M
- All Roads Mill & Overlay = \$2.2M

PAVEMENT REPLACEMENT PLAN

Unit Cost

ROAD BASE W/ CM EXC

\$25.00

CY

REMOVING AC SURFACE

\$4.00

SY

MILL COST

\$6.00

SY

AC PAVEMENT

\$95.00

->

\$11.04

2" mat per SY

\$13.80

2.5" mat per SY

STREET NAME	FROM	TO	SY	REMOVING & REPLACE	YR	MILL & OVERLAY	CLASS	YEAR BUILT	AGE	FT	MILES	CUM. MILES	TOTAL COST
32ND STREET NORTH	WASHINGTON STREET	NORTON STREET	6246	\$124,378.35	2023	\$106,455.26	C	1996	26	1280	0.24	0.24	\$ 230,833.62
20TH STREET SOUTH	GRIFFITH AVENUE	TWO MILE AVENUE	10009		2024	\$170,590.89	L			3879	0.73	0.98	\$ 170,590.89
TWO MILE AVENUE	16TH STREET SOUTH	CITY LIMITS	3379		2024	\$57,590.83	C			1287	0.24	1.22	\$ 57,590.83
PLOVER STREET	1ST STREET NORTH	APRICOT STREET	4991	\$0.00	2025	\$85,065.36	C	1973	49	1460	0.28	1.50	\$ 85,065.36
16TH STREET NORTH	TWO MILE AVENUE	KUHN AVENUE	6929		2025	\$118,096.14	A			2604	0.49	1.99	\$ 118,096.14
BIRCH STREET	3RD STREET SOUTH	LINCOLN STREET	4106	\$74,190.65	2026	\$69,981.64	L	1982	40	1350	0.26	2.25	\$ 144,172.28
DRAKE STREET	1ST STREET NORTH	WASHINGTON STREET	3118	\$0.00	2026	\$53,142.41	L	1974	48	1100	0.21	2.45	\$ 53,142.41
EAST G STREET	13TH STREET SOUTH	16TH STREET SOUTH	3381	\$0.00	2026	\$57,624.92	L	19??		970	0.18	2.64	\$ 57,624.92
21ST AVE SOUTH	BOLES STREET	GAYNOR AVE	4877	\$0.00	2027	\$83,122.37	C	1972	50	1375	0.26	2.90	\$ 83,122.37
22ND AVE SOUTH	WICKHAM AVE	BOLES STREET	3529	\$79,987.60	2027	\$0.00	L	1970	52	994	0.19	3.09	\$ 79,987.60
WICKHAM AVE	23RD AVE SOUTH	21ST AVE SOUTH	1734	\$0.00	2027	\$29,553.86	L	1970	52	490	0.09	3.18	\$ 29,553.86
PARK AVE	2ND AVE SOUTH	13TH AVE SOUTH	2511	\$56,913.82	2028	\$0.00	L	1981	41	300	0.06	3.24	\$ 56,913.82
13TH AVE SOUTH	PARK AVE	SOUTH DEAD END	2641	\$59,860.37	2028	\$0.00	L	1981	41	780	0.15	3.38	\$ 59,860.37
BOLES STREET	13TH AVE SOUTH	17TH AVE SOUTH	3815	\$86,470.02	2028	\$0.00	L	1981	41	1045	0.20	3.58	\$ 86,470.02
3RD STREET SOUTH	EAST GRAND AVE	EXPRESS WAY	11493	\$0.00	2029	\$195,883.82	C	1980	42	3990	0.76	4.34	\$ 195,883.82
3RD STREET S/N	EAST GRAND AVE	EAST JACKSON STREET	2630	\$0.00	2029	\$44,825.06	C	1980	42	609	0.12	4.45	\$ 44,825.06
WASHINGTON STREET	STH 54	32ND STREET	14704	\$0.00	2030	\$250,611.30	C	1973	49	3680	0.70	5.15	\$ 250,611.30
RIVERWOOD LANE	1ST STREET SOUTH	SOUTH DEAD END	11125	\$153,118.44	UNAS	\$189,611.72	L	1972	50	2534	0.48	5.63	\$ 342,730.15
16TH STREET SOUTH	BAKER STREET	MONROE STREET	5499	\$162,641.52	UNAS	\$0.00	C	1990	32	1600	0.30	5.93	\$ 162,641.52
13TH STREET SOUTH	CHESTNUT STREET	DALY AVE	4502	\$0.00	UNAS	\$76,730.96	L	1996	26	1345	0.25	6.19	\$ 76,730.96
MARKET STREET	BAKER STREET	EAST JACKSON STREET	2348	\$0.00	UNAS	\$40,018.73	C	1980	42	420	0.08	6.27	\$ 40,018.73
12TH AVE SOUTH	WEST GRAND AVE	CHASE STREET	5950	\$0.00	UNAS	\$101,410.31	C	1976	46	1682	0.32	6.59	\$ 101,410.31
17TH STREET NORTH	BAKER STREET	APRICOT STREET	3441	\$0.00	UNAS	\$58,647.54	L	1981	41	1016	0.19	6.78	\$ 58,647.54
18TH STREET NORTH	BAKER STREET	APRICOT STREET	3218.5	\$0.00	UNAS	\$54,855.31	L	1968	54	900	0.17	6.95	\$ 54,855.31
APRICOT STREET	17TH STREET NORTH	BAKER DRIVE	3013	\$0.00	UNAS	\$51,352.82	C	1973	49	1470	0.28	7.23	\$ 51,352.82
TOTAL			129,190	\$797,561		\$1,895,171					38,160	7.23	

PUBLIC WORKS COMMITTEE REFERRAL LIST:

2022

1. Request from Alderperson Tom Rayome to discuss the future of 8th St S. (2016)
2. ~~Request by Alderperson Cattanaach to reconsider the City's overnight parking ordinance (2021)~~
3. ~~Request by Alderperson Austin to consider developing a Responsible Bidder Ordinance~~
4. ~~Request by Alderperson Kellogg to study traffic speed along Chestnut from 8th Street to Hill Street and make recommendations (2020)—study was done when there were no school-related activities. Will continue study when school is in session and will report back to committee.~~
5. ~~Request by Alderperson Evanson to review parking ordinance for any inconsistencies between ordinance language and signage throughout the City (2021)~~
6. ~~Request by Alderperson Bemke to perform an intersection analysis and determine sign warrants, if any, for 12th St S and Chestnut St.~~
7. Request by Alderperson Austin to consider a feasibility study for reducing noise and vehicle delays due to railroad tracks along the west side of the City at and between crossing from Gaynor Ave to High St.
8. ~~Request by residents along Smith St and Cherry St to not reinstall sidewalk along these road projects.~~
9. ~~Review and approve the conditions for a street privilege permit for Mead Witter Foundation, Inc.~~
10. Review the bid results for the West Riverview Expressway Traffic Signal Improvement project and consider awarding the contract to the low, qualified bidder.
11. Request from Zacher to consider removing pavers in west boulevard of 2nd Ave S between roundabout and Lyons St and replacing with colored, stamped concrete.
12. Request from Austin to discuss the Biron wastewater agreement at a special PW meeting.
13. Request from Rayome for Quiet Zones for trains on the east side of city. (Referral Attached)
14. ~~Request from Polach to change traffic control at the intersection of Peach St and 13th St S from uncontrolled to either yield or stop control.~~
15. Request by Gary Wilhorn, 4281 14th Pl S, to install street lighting at the intersection of 14th Pl and Whitrock Ave.
16. Update Degradation Fees for 2023.
17. Consider Highway Safety Improvement Grant for pedestrian crossing at 8th St S at Wood Ave.
18. Consider possible solutions to possible lack of sufficient overnight and extended parking for semi-trucks within the City.