



CITY OF NOVI CITY COUNCIL
MARCH 18, 2024

SUBJECT: Adoption of a Resolution requesting the Michigan Department of Transportation (MDOT) include the existing bridge on Ashbury Drive over the Middle Branch of the Rouge River in the State Local Bridge Program List for Replacement. If MDOT selects the bridge, the City of Novi will accept 100% of the design engineering costs and 5% of the total construction cost.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division

BACKGROUND INFORMATION:

City engineering consultant, OHM Advisors, completed an annual inspection of the Ashbury Drive bridge over the Middle Branch of the Rouge River in September 2023. The bridge is recommended for replacement through the Michigan Department of Transportation (MDOT) Local Bridge Program due to the structure being in poor condition.

MDOT is currently accepting applications for the (FY 2027) Local Bridge Program and staff is submitting the Ashbury Drive bridge in the Local Bridge Program. If the bridge is selected, the City would only be responsible for 5% of the construction costs. The bridge is estimated to cost \$2,168,000. The City would be responsible for 100% of the associated design engineering fees in the amount of \$135,500 (6.25% of \$2,168,000). The estimated construction cost the City would be responsible for is \$108,400 (5% of \$2,168,000).

As part of the application process, the applicant is required to provide a current resolution, signed, and dated, from the governing board supporting the project. The adoption of the proposed resolution would demonstrate support from the City to MDOT for the replacement of the bridge and that the City will make the reasonable effort necessary to accomplish this effort. Any application not containing a signed resolution will be considered incomplete and will be rejected.

The City Attorney has reviewed the resolution and sees no legal impediment (Beth Saarela, March 11, 2024).

RECOMMENDED ACTION: Adoption of Resolutions requesting the Michigan Department of Transportation (MDOT) include the existing bridge on Ashbury Drive over the Middle

Branch of the Rouge River in the State Local Bridge Program List for Replacement. If MDOT selects the bridge, the City of Novi will accept 100% of the design engineering costs and 5% of the total construction cost.

CITY OF NOVI

COUNTY OF OAKLAND, MICHIGAN

RESOLUTION REQUESTING THAT THE MICHIGAN DEPARTMENT OF TRANSPORTATION INCLUDE THE BRIDGE ON ASHBURY DRIVE OVER THE MIDDLE ROUGE RIVER IN THE STATE LOCAL BRIDGE PROGRAM LIST FOR REPLACEMENT

Minutes of a Meeting of the City Council of the City of Novi, County of Oakland, Michigan, held in the City Hall of said City on March 18, 2024, at 7 o'clock P.M. Prevailing Eastern Time.

PRESENT: Councilmembers _____

ABSENT: Councilmembers _____

The following preamble and Resolution were offered by Councilmember _____ and supported by Councilmember _____.

WHEREAS; OHM Advisors, Consulting Engineers for the City of Novi, completed the 2023 annual inspection of twelve bridges in the City; and

WHEREAS; based on the 2023 inspection, OHM Advisors prepared a 2023 Bridge Inspection Report for the bridge on Ashbury Drive over the Middle Rouge River; and

WHEREAS; the 2023 Bridge Inspection Report concludes that the bridge on Ashbury Drive over the Middle Rouge River is in need of replacement; and

WHEREAS; based on the findings and recommendations of OHM Advisors, the DPW Director recommends that City Council authorize OHM Advisors to submit the LAP Bridge Applications to the Michigan Department of Transportation for the bridge on Ashbury Drive over the Middle Rouge River on the Local Bridge Program for Replacement funding; and

WHEREAS; the City of Novi's cost participation amount would be 5% of the total cost and 100% of the design and construction engineering cost; and

WHEREAS; the Mayor and City Clerk are authorized to execute said resolution.

NOW THEREFORE, IT IS THEREFORE RESOLVED that the City of Novi is actively seeking financial participation to replace the bridge on Ashbury Drive over the Middle Rouge River and authorizes OHM Advisors to submit the LAP Bridge application to the Michigan

Department of Transportation to include this bridge on the State Local Bridge Program List for Replacement, to make application for financial assistance from the State of Michigan and Federal Government and to do those things reasonably necessary or required in order to accomplish the replacement of this bridge.

AYES:

NAYS:

RESOLUTION DECLARED ADOPTED.


Cortney Hanson, City Clerk

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi, County of Oakland, and State of Michigan, at a regular meeting held this _____ day of _____, 2024, and that public notice of said meeting was given pursuant to and in full compliance with Act No. 267, Public Acts of Michigan, 1976, and that the minutes of said meeting have been kept and made available to the public as required by said Act.

Cortney Hanson, City Clerk
City of Novi

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828		BRIDGE SAFETY INSPECTION REPORT		
Facility ASHBURY DRIVE	Latitude / Longitude 42.4427 / -83.4728	MDOT Structure ID 635489000067B01	Structure Condition Poor Condition(4)	
Feature MIDDLE BR ROUGE RIVER	Length / Width / Spans 46.1 / 44.4 / 1	Owner City: NOVI(4890)		
Location CHASE FARMS SUBDIVISION	Built / Recon. / Paint / Ovly. 1991 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 09/27/2023 / K7KK	Scour Evaluation 8 Stable Above Footing	

NBI INSPECTION **K7KK**

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/27/2023


GENERAL NOTES

Assisted by Nick Aukerman.

DECK

	09/20	09/22	09/23	
1. Surface (SIA-58A)	6	6	6	HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. Previously unsealed crack have been sealed. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. Random cracking throughout HMA with some unsealed. (09/23) HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. Previously unsealed crack have been sealed. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. (09/22) HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. A few unsealed cracks. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. (09/20)
2. Expansion Joints	7	7	7	Sealed cracks at reference lines. Sealant sinking in areas but still intact. Some drying of HPJS. (09/23) Sealed cracks at reference lines. Sealant sinking in areas but still intact. Some drying of HPJS. (09/22) Sealed cracks at reference lines. Sealant sinking in areas but still intact. Some drying of HPJS. (09/20)
3. Other Joints	N	N	N	(09/23) (09/22) (09/20)
4. Railings	7	7	7	Concrete rail with painted timber insets and wood rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber has been recently replaced. (09/23) Concrete rail with painted timber insets and wood rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber has been recently replaced. (09/22) Concrete rail with painted timber insets and wood rail on top. Concrete has some vertical cracks at 5-6' spacing. Timber has been recently replaced. (09/20)
5. Sidewalks or Curbs	7	7	7	A few longitudinal and transverse cracks on sidewalk. (09/23) A few longitudinal and transverse cracks on sidewalk. (09/22) A few longitudinal and transverse cracks on sidewalk. (09/20)
6. Deck Bottom Surface (SIA-58B)	N	N	N	Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/23) Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/22) Side-by-side box beams. Leaking between all beams. Stalactites present at most beam lines and leachate at all of them. (09/20)
7. Deck (SIA-58)	6	6	6	HMA surface with sealed longitudinal crack at centerline. Two other sealed longitudinal cracks near mid span. Previously unsealed crack have been sealed. SE quad has break up of HMA at east curb line. General scaling of HMA surface along west curb line. Random cracking throughout HMA with some unsealed. Top of beams exposed at sidewalk face near midspan on both sides of bridge. Evidence of leaking between all beams (09/23) Surface has some cracking and there is leaking between all beams. Top of beams exposed at sidewalk face near midspan on both sides of bridge. (09/22) Surface has some cracking and there is leaking between all beams. (09/20)

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828		BRIDGE SAFETY INSPECTION REPORT						
Facility	ASHBURY DRIVE	Latitude / Longitude	42.4427 / -83.4728	MDOT Structure ID	635489000067B01	Structure Condition	Poor Condition(4)	
Feature	MIDDLE BR ROUGE RIVER	Length / Width / Spans	46.1 / 44.4 / 1	Owner	City: NOVI(4890)			
Location	CHASE FARMS SUBDIVISION	Built / Recon. / Paint / Ovly.	1991 / / /	TSC	Oakland(23)	Operational Status	A Open, no restriction(A)	
Region / County	Metro(7) / Oakland(63)	Material / Design	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection	09/27/2023 / K7KK	Scour Evaluation	8 Stable Above Footing	

8. Drainage (09/23)
(09/22)
(09/20)

SUPERSTRUCTURE

09/20 09/22 09/23


9. Stringer (SIA-59)	7	7	7	Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/23) Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/22) Leaching between beams but no distress to beams. Few cracks on fascias at 4' spacing with leaching. (09/20)
10. Paint (SIA-59A)	N	N	N	(09/23) (09/22) (09/20)
11. Section Loss	N	N	N	(09/23) (09/22) (09/20)
12. Bearings	7	7	7	Not visible but not no signs of issues. Appear to be functioning as intended. Some drying of expansion paper along abutment face. (09/23) Not visible but not no signs of issues. Appear to be functioning as intended. (09/22) Not visible but not no signs of issues. Appear to be functioning as intended. (09/20)

SUBSTRUCTURE

09/20 09/22 09/23

13. Abutments (SIA-60)	5	4	4	Pack rust and scaling at base and top near beams is evident on both abutments and has progressed since the previous inspection. Some vertical cracks in concrete pile cap. Evidence of leaking from ends. Holes in sheet piling of north abutment near the middle of the base. Pack rust and scaling on north abutment is allowing water through but no material. Section loss is minor and there is leaching between the sheets of the southern abutment sheet piling. Hole near top of sheet pile reveals that the bridge is on pipe piles and the sheet piles are used as earth retention only. (09/23) Pack rust and scaling at base and top near beams is evident on both abutments and has progressed since the previous inspection. Some vertical cracks in concrete pile cap. Evidence of leaking from ends. Holes in sheet piling of north abutment near the middle of the base. Pack rust and scaling on north abutment is allowing water through but no material. Section loss is minor and there is leaching between the sheets of the southern abutment sheet piling. (09/22) Steel sheet piling has pack rust at base and at top near beams. Section loss is minor and there is leaching between the sheets. Some vertical cracks in concrete pile cap. Evidence of leaking from ends. (09/20)
14. Piers (SIA-60)	N	N	N	(09/23) (09/22) (09/20)
15. Slope Protection	N	N	N	(09/23) (09/22) (09/20)
16. Channel (SIA-61)	6	6	6	Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat. Natural banks established within the bridge footprint. (09/23) Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat (09/22) Banks eroded ~2' high along the waterline. vegetation sloughing into channel. Main channel is relatively flat (09/20)

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828		BRIDGE SAFETY INSPECTION REPORT		
Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/27/2023 / K7KK	8 Stable Above Footing	

17. Scour Inspection 7 7 7 No scour evident. Flat rocky bottom. (09/23)
 No scour evident. Flat rocky bottom. (09/22)
 No scour evident. Flat rocky bottom. (09/20)

APPROACH

09/20 09/22 09/23

18. Approach Pavement 7 7 6 Isolated cracks throughout with some sealed and some unsealed. General wear of HMA surface. (09/23)
 Sealed longitudinal rack in north approach. No cracks in south approach. General wear in HMA. (09/22)
 Sealed longitudinal rack in north approach. No cracks in south approach. General wear in HMA. (09/20)

19. Approach Shoulders Sidewalks 7 7 7 Sidewalk and curb have recently been replaced in all quadrants. (09/23)
 Sidewalk and curb have recently been replaced in all quadrants. (09/22)
 Sidewalk and curb have recently been replaced in all quadrants. (09/20)

20. Approach Slopes Gentle grassed slopes with no erosion. (09/23)
 Gentle grassed slopes with no erosion. (09/22)
 Gentle grassed slopes with no erosion. (09/20)

21. Utilities (09/23)
 (09/22)
 (09/20)

22. Drainage Culverts (09/23)
 (09/22)
 (09/20)

MISCELLANEOUS

Guard Rail		Other Items	
Item	Rating	Item	Rating
36A. Bridge Railings	1	71. Water Adequacy	8
36B. Transitions	0	72. Approach Alignment	8
36C. Approach Guardrail	0	Temporary Support	0 No Temporary Supports
36D. Approach Guardrail Ends	0	High Load Hit (M)	No
		Special Insp. Equipment	2
		Underwater Insp. Method	1

False Decking (Timber) Removed to Complete Inspection N/A - No False Decking


Critical Feature Inspections (SIA-92)

	<u>Freq</u>	<u>Date</u>
92A. Fracture Critical		
92B. Underwater		
92C. Other Special		
92D. Fatigue Sensitive		

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

STRUCTURE INVENTORY AND APPRAISAL

Facility	Latitude / Longitude	MDOT Structure ID	Structure Condition	
ASHBURY DRIVE	42.4427 / -83.4728	635489000067B01	Poor Condition(4)	
Feature	Length / Width / Spans	Owner		
MIDDLE BR ROUGE RIVER	46.1 / 44.4 / 1	City: NOVI(4890)		
Location	Built / Recon. / Paint / Ovly.	TSC	Operational Status	
CHASE FARMS SUBDIVISION	1991 / / /	Oakland(23)	A Open, no restriction(A)	
Region / County	Material / Design	Last NBI Inspection	Scour Evaluation	
Metro(7) / Oakland(63)	5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	09/27/2023 / K7KK	8 Stable Above Footing	

Bridge History, Type, Materials	
27 - Year Built	1991
106 - Year Reconstructed	
202 - Year Painted	
203 - Year Overlay	
43 - Main Span Bridge Type	5 05
44 - Appr Span Bridge Type	
77 - Steel Type	
78 - Paint Type	
79 - Rail Type	9
80 - Post Type	
107 - Deck Type	2
108A - Wearing Surface	6
108B - Membrane	0
108C - Deck Protection	0

Structure Dimensions	
34 - Skew	4
35 - Struct Flared	0
45 - Num Main Spans	1
46 - Num Apprs Spans	0
48 - Max Span Length	39.5
49 - Structure Length	46.1
50A - Width Left Curb/SW	6.8
50B - Width Right Curb/SW	6.8
33 - Median	0
51 - Width Curb to Curb	28
52 - Width Out to Out	44.4
112 - NBIS Length	Y

Inspection Data	
90 - Inspection Date	09/27/2023
91 - Inspection Freq	12
92A - Frac Crit Req/Freq	N
93A - Frac Crit Insp Date	
92B - Und Water Req/Freq	N
93B - Und Water Insp Date	
92C - Oth Spec Insp Req/Freq	N
93C - Oth Spec Insp Date	
92D - Fatigue Req/Freq	N
93D - Fatigue Insp Date	
176A - Und Water Insp Method	1
58 - Deck Rating	6
58A/B - Deck Surface/Bottom	6 N
59 - Superstructure Rating	7
59A - Paint Rating	N
60 - Substructure Rating	4
61 - Channel Rating	6
62 - Culvert Rating	N

Navigation Data	
38 - Navigation Control	0
39 - Vertical Clearance	0
40 - Horizontal Clearance	0
111 - Pier Protection	
116 - Lift Brdg Vert Clear	0

Route Carried By Structure(ON Record)	
5A - Record Type	1
5B - Route Signing	5
5C - Level of Service	0
5D - Route Number	00000
5E - Direction Suffix	0
10L - Best 3m Unclr-Lt	0 0
10R - Best 3m Unclr-Rt	99 99
PR Number	
Control Section	
11 - Mile Point	0
12 - Base Highway Network	0
13 - LRS Route-Subroute	0000044017 42
19 - Detour Length	2
20 - Toll Facility	3
26 - Functional Class	19
28A - Lanes On	2
29 - ADT	100
30 - Year of ADT	1991
32 - Appr Roadway Width	24
32A/B - Ap Pvt Type/Width	24.02
42A - Service Type On	5
47L - Left Horizontal Clear	0.0
47R - Right Horizontal Clear	28.0
53 - Min Vert Clr Ov Deck	99 99
100 - STRAHNET	0
102 - Traffic Direct	2
109 - Truck %	0
110 - Truck Network	0
114 - Future ADT	115
115 - Year Future ADT	2011
Freeway	0

Structure Appraisal	
36A - Bridge Railing	1
36B - Rail Transition	0
36C - Approach Rail	0
36D - Rail Termination	0
67 - Structure Evaluation	4
68 - Deck Geometry	7
69 - Underclearance	N
71 - Waterway Adequacy	8
72 - Approach Alignment	8
103 - Temporary Structure	
113 - Scour Criticality	8

Miscellaneous	
37 - Historical Significance	5
98A - Border Bridge State	
98B - Border Bridge %	
101 - Parallel Structure	N
EPA ID	
Stay in Place Forms	0
143 - Pin & Hanger Code	
148 - No. of Pin & Hangers	

Route Under Structure (UNDER Record)	
5A - Record Type	
5B - Route Signing	
5C - Level of Service	
5D - Route Number	
5E - Direction Suffix	
10L - Best 3m Unclr-Lt	
10R - Best 3m Unclr-Rt	
PR Number	
Control Section	
11 - Mile Point	
12 - Base Highway Network	
13 - LRS Route-Subroute	
19 - Detour Length	
20 - Toll Facility	
26 - Functional Class	
28B - Lanes Under	
29 - ADT	
30 - Year of ADT	
42B - Service Type Under	5
47L - Left Horizontal Clear	
47R - Right Horizontal Clear	
54A - Left Feature	
54B - Left Underclearance	99 99
54C - Right Feature	
54D - Right Clearance	99 99
Under Clearance Year	
55A - Reference Feature	N
55B - Right Horiz Clearance	
56 - Left Horiz Clearance	
100 - STRAHNET	
102 - Traffic Direct	
109 - Truck %	
110 - Truck Network	
114 - Future ADT	
115 - Year Future ADT	
Freeway	


Proposed Improvements	
75 - Type of Work	
76 - Length of Improvement	
94 - Bridge Cost	
95 - Roadway Cost	
96 - Total Cost	
97 - Year of Cost Estimate	

Load Rating and Posting	
31 - Design Load	4
41 - Open, Posted, Closed	A
63 - Fed Oper Rtg Method	0
64F - Fed Oper Rtg Load	1.67
64MA - Mich Oper Rtg Method	0
64MB - Mich Oper Rtg	1
64MC - Mich Oper Truck	18
65 - Inv Rtg Method	0
66 - Inventory Load	1
70 - Posting	5
141 - Posted Loading	
193 - Overload Class	

MICHIGAN DEPARTMENT OF TRANSPORTATION

STR 13828

WORK RECOMMENDATIONS

Facility ASHBURY DRIVE	Latitude / Longitude 42.4427 / -83.4728	MDOT Structure ID 635489000067B01	Structure Condition Poor Condition(4)	
Feature MIDDLE BR ROUGE RIVER	Length / Width / Spans 46.1 / 44.4 / 1	Owner City: NOVI(4890)		
Location CHASE FARMS SUBDIVISION	Built / Recon. / Paint / Ovly. 1991 / / /	TSC Oakland(23)	Operational Status A Open, no restriction(A)	
Region / County Metro(7) / Oakland(63)	Material / Design 5 Prestressed Concrete / 05 Box Bm/Gird- Multiple	Last NBI Inspection 09/27/2023 / K7KK	Scour Evaluation 8 Stable Above Footing	

WORK RECOMMENDATIONS

K7KK

Inspector Name	Agency / Company Name	Insp. Freq.	Insp. Date
Adam Rychwalski	Orchard, Hiltz & McCliment Inc	12	09/27/2023

RECOMMENDATIONS & ACTION ITEMS

Recommendation Type	Priority	Description
Deck Patching	L	Seal cracks in surface.
HMA Overlay	L	Apply waterproofing underneath HMA overlay.
Substr Repair	M	Replace abutment sheet pile facing with more permanent solution.

2a. Situation Map

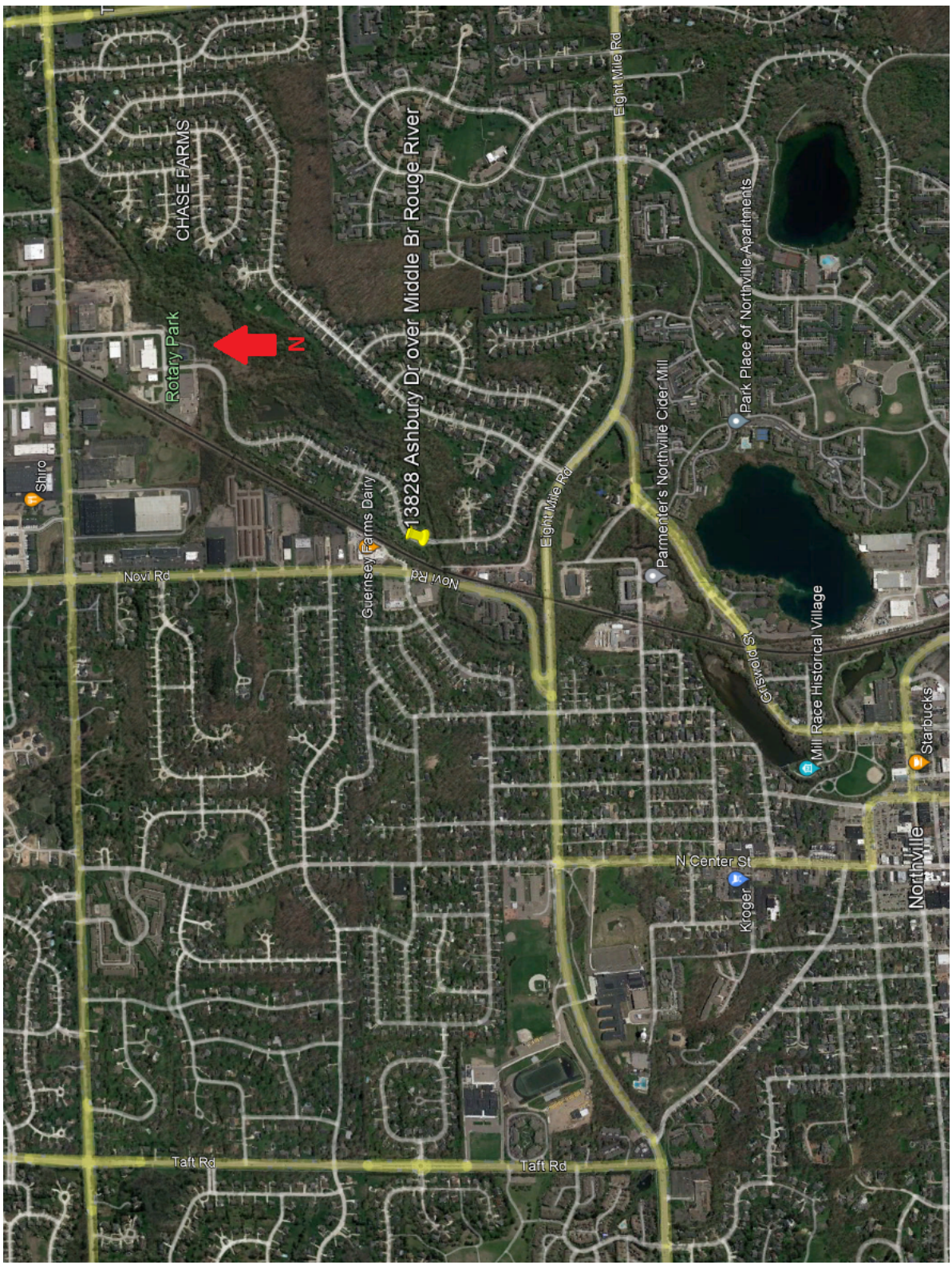
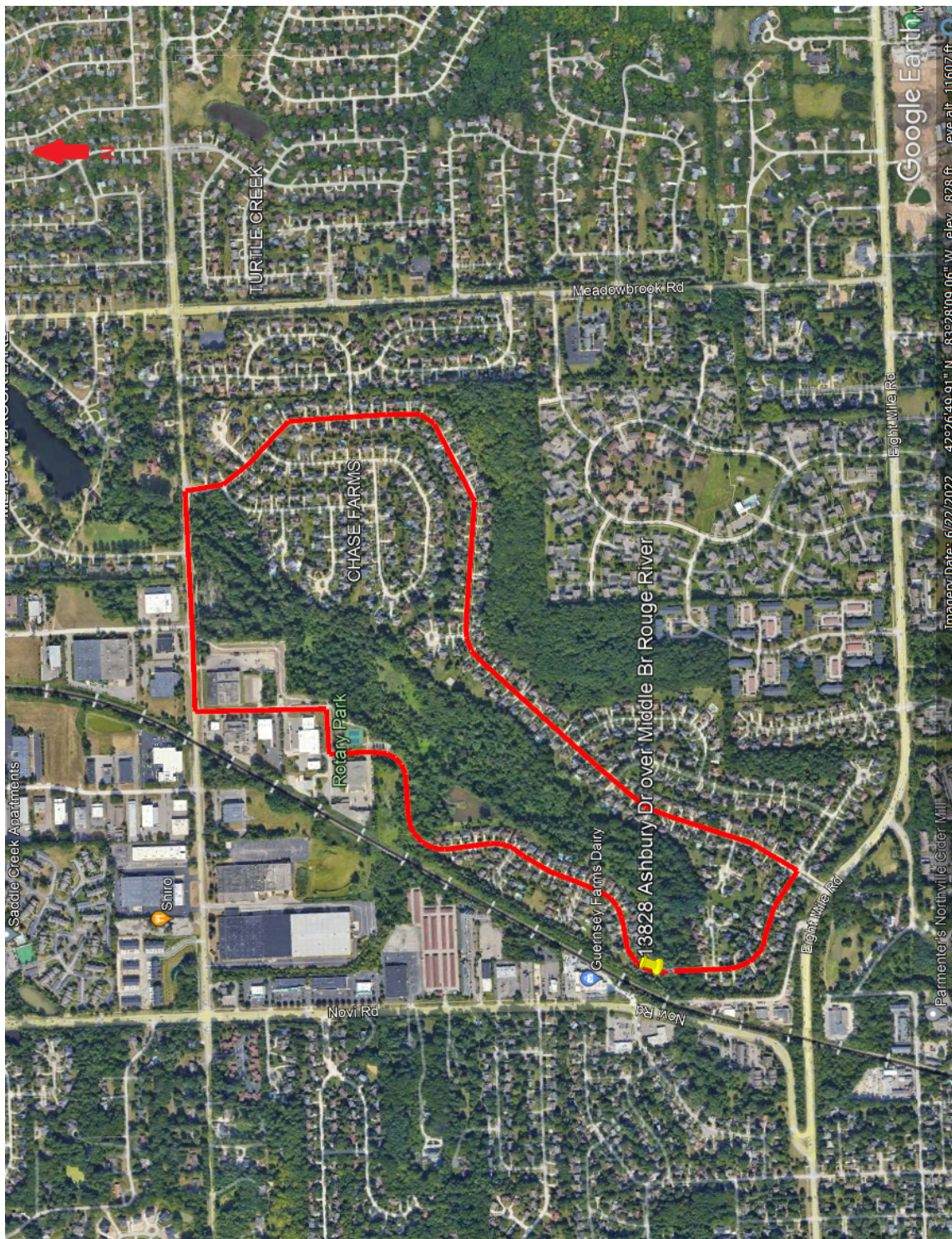


Image from Google Earth

2b. Detour Map



Ashbury Dr to Roethel Dr
To 9 Mile Rd
To Novi Rd
To Chase Dr
Ashbury Dr

Detour Length: 2.77 Miles

3. Photographs



North Approach Looking South



Typical Deck Surface



South Elevation



Typical Deck Underside



North Abutment



South Abutment



North Abutment Sheeting Section Loss and Rusting



South Abutment Sheeting Section Loss and Rusting

4. Application Requirements for Ashbury Drive over Middle Br Rouge River

A. Local Agency Contact Person

Ben Croy, PE
City Engineer
City of Novi
26300 Lee BeGole Drive
Novi, MI 48375

B. The purpose of this application is for the rehabilitation of the bridge for Ashbury Drive over Middle Br Rouge River. Proposed work includes partial replacement of the substructure, approach replacement, and HMA overlay of the deck. The City of Novi will commit to providing 5% of the construction cost for local match on this project.

C. Economic Importance of the Structure

This structure is located approximately 2.1 miles west and 0.3 miles north of the interchange of I-275 and 8 Mile Road. Ashbury Drive is a north south road in Novi, serving the Chase Farms neighborhood.

Ashbury Drive is used by the Novi School District for busing to its elementary, middle, and high schools. Fire and police stations also use it to reach homes in the area for emergencies.

The current structure is a single span adjacent concrete box beam bridge. The overall condition of the bridge is poor and rated a 4. The superstructure is in good condition. The surface is HMA with sealed cracks in fair condition. The concrete box beams have leaching between beams and a few cracks on the fascia beams with leaching. The abutments are in poor condition and rated a 4. The abutments are pipe pile supported concrete caps, with steel sheet piling below the concrete cap to retain the approach backfill. The sheet piling has extensive pack rust at the base and top near the beams. The north abutment sheet piling has holes near the middle of the base and the pack rust and scaling on the north abutment is allowing water through. Pack rust and section loss on the south abutment is moderate and there is leaching between pile sheets. The rate of deterioration has accelerated since the last inspection.

Due to the poor condition of the abutment sheet piling, a partial substructure replacement is recommended. As the sheet piling continues to deteriorate, backfill material will spill through the abutment, causing sinkholes in the approaches. Repairing the existing holes is not recommended as the existing sheet piling will continue to deteriorate outside of the repairs. The bridge is supported on piles and a pile cap. The pile cap is in good condition and does not need to be replaced. A new concrete earth retaining system will be poured to protect and provide bracing to the existing piles and replace the existing sheet pile. To replace the substructure, the approaches and approach fill must be removed. New HMA and waterproofing membrane will be placed on the

bridge to provide a smooth transition from the approaches. This approach to rehabilitation is estimated at approximately one-third the cost of a complete replacement and is anticipated to extend the life of the structure for decades.

D. If there is a current detour, what does it affect?

Currently the bridge is open to traffic and there is no detour.

E. If the structure were to be closed, what would the detour affect?

If the structure were to be closed, the residents of the area would be impacted. Emergency services would also take longer to reach the neighborhood as they would have to detour around the bridge. As every second matters in an emergency, this could lead to public safety concerns. School buses would have to change their routes to be less efficient, costing the school district money. As schools are already struggling with funding, this would further stress the school's budgets.

F. The structure is not currently closed.

G. Maintenance of the Structure

The City has previously repaired portions of the barrier, performed crack sealing of the surface, and is currently monitoring the abutment sheet piling on a regular basis for evidence of holes opening up that would allow approach fill to bleed through.

5. Estimated Rehabilitation Costs

<u>Partial Substructure Replacement</u>	
A. Road Construction	\$ 160,000.00
B. Structure Construction	\$ 623,000.00
Total (A & B)	\$ 783,000.00

For a breakdown of Construction costs, see Appendix A.

6. Priority List

- 1. Ashbury Drive over Middle Br Rouge River**

7. Resolution

The resolution is attached in Appendix B.

8. Previous Applications

It is understood that all previous applications have been discarded and that this application will be used to select funding.

APPENDIX A

Exhibit 4 - Cost Estimating Worksheet

2024

BRIDGE COST ESTIMATE WORKSHEET

REV. 02/6/2024

- CPM, REHAB, REPLACE -

DATE: 3/5/2024

OWNER: NOVI	FISCAL YEAR: 2027	Out to Out	Curb to Curb	ENGINEER: AJR
REGION: Metro		LENGTH 46.1	WIDTH 44.4	STRUCTURE ID: 13828
TSC: Oakland	PR: #N/A MP: #N/A		WIDTH 28.0	BRIDGE ID: N/A
LOCATION: ASHBURY DRIVE over MIDDLE BR ROUGE RIVER		DECK AREA: 2,047	SFT	STR. TYPE: Prestressed Concrete
PRIMARY WORK ACTIVITY: Partial Substructure Replacement		CLEAR ROADWAY: 1,291	SFT	Box Beam or Girders - Mul
OTHER WORK: HMA Overlay and Approach Work				

WORK ACTIVITY	MDOT Bridge Design Guides	QUANTITY	UNIT	UNIT COST	TOTAL
NEW BRIDGE (increase deck area based on design standards and hydraulic requirements)					
Single or Multiple Spans, Grade Separation	(add demo, approach, MOT)		SFT	\$435.00 /SFT	
Single Span, Over Water	Length < 100ft (add demo, approach, MOT)		SFT	\$525.00 /SFT	
Multiple Spans, Over Water	Length > 100ft (add demo, approach, MOT)		SFT	\$470.00 /SFT	
Precast Culvert	Length < 40ft (add demo, approach, MOT)		SFT	\$565.00 /SFT	
NEW SUPERSTRUCTURE					
New Superstructure, Grade Separation	(incl. remove exist deck/super; add MOT & approach)		SFT	\$310.00 /SFT	
New Superstructure, Over Water	(incl. remove exist deck/super; add MOT & approach)		SFT	\$315.00 /SFT	
WIDENING					
Structure Widening, _____ ft	(incl. deck/super/sub widening, add approach transition)		SFT	\$630.00 /SFT	
NEW DECK					
New Bridge Deck & Barrier	(incl. remove exist deck/railing, add approach, MOT)		SFT	\$150.00 /SFT	
DEMOLITION					
Entire Structure, Grade Separation			SFT	\$75.00 /SFT	
Entire Structure, Over Water			SFT	\$95.00 /SFT	
DECK REPAIR / TREATMENTS					
Bridge Railing Replacement	(incl. removal and replacement)		FT	\$750.00 /FT	
Concrete Brush Block / Curb Patch	(incl. hand chipping and formwork)		FT	\$29.00 /FT	
Concrete Barrier Patch	(incl. hand chipping and formwork)		SFT	\$85.00 /SFT	
Concrete Deck Patch	(incl. hand chipping)		SFT	\$68.00 /SFT	
Deep Overlay	(incl. joint repl & hydro)		SFT	\$46.00 /SFT	
Epoxy Overlay	(incl. warranty)		SYD	\$48.00 /SYD	
Expansion Joint Gland Replacement	(remove and replace elastomeric gland)		FT	\$125.00 /FT	
Expansion Joint Replacement	(incl. removal)		FT	\$860.00 /FT	
Full Depth Patch			SFT	\$140.00 /SFT	
Healer / Sealer	(penetrates cracks in bridge deck)		SYD	\$30.00 /SYD	
HMA Overlay with WP membrane		143.4	SYD	\$60.00 /SYD	\$8,605.33
Overlay Removal	(Epoxy: \$22/syd Latex: \$26/syd HMA: \$7/syd)	143.4	SYD	\$7.00 /SYD	\$1,003.96
Reseal Bridge Joints			FT	\$28.00 /FT	
Shallow Overlay	(incl. joint repl & hydro)		SFT	\$46.00 /SFT	
SUPERSTRUCTURE REPAIR					
Bearing Realignment / Replacement	(incl. temporary supports)		EA	\$6,450.00 EA	
Heat Straightening	(incl. clean and coat)		EA	\$57,000.00 EA	
Pack Rust Repair	(greater than 3/8" separation)		FT	\$1,150.00 /FT	
Paint - Complete	(incl. clean & coat)		SFT	\$30.00 /SFT	
Paint - Partial / Spot / Zone	(incl. clean & coat - \$20k minimum)		SFT	\$60.00 /SFT	
PCI Beam End Blockout	(incl. temporary supports)		EA	\$7,200.00 EA	
Pin & Hanger Replacement	(incl. temporary supports)		EA	\$17,000.00 EA	
Structural Steel Repair	(based on 6ft repair length)		EA	\$4,000.00 EA	
Structural Steel Repair - Stiffener	(includes each side of beam)		EA	\$1,500.00 EA	
SUBSTRUCTURE REPAIR					
Substructure Patching	(measured x 2) replace if repair area > 30%		CFT	\$360.00 /CFT	
Substructure Replacement	(incl. temporary supports, excavation)		CFT	\$375.00 /CFT	
Substructure Horizontal Surface Sealer			SYD	\$75.00 /SYD	
Temporary Supports	(add Structural Steel Repair - Stiffener for ea steel beam)		EA	\$4,000.00 EA	
Partial Substructure Replacement	(includes concrete, rebar, forming)	200.0	CYD	\$1,650.00 /CYD	\$330,000.00
Partial Substructure Replacement Earthwork		1,166.7	CYD	\$70.00 /CYD	\$81,666.67
MISCELLANEOUS					
Articulating Concrete Block System (ACB)			SYD	\$320.00 /SYD	
Concrete Surface Coating			SYD	\$47.00 /SYD	
Culvert Cleanout			FT	\$125.00 /FT	
Epoxy Crack Injection	(structural crack repair)		FT	\$70.00 /FT	
Metal Mesh Panels	(48" width, max 6'-6" length)		SFT	\$28.00 /SFT	
Pressure Relief Joint	(use when approach concrete roadway exceeds 1,000ft)		FT	\$110.00 /FT	
Riprap	(assume 10ft distance around perimeter of substructure)		SYD	\$275.00 /SYD	
Silane Treatment	(penetrating sealer for concrete surfaces)		SFT	\$7.00 /SFT	
Slope Protection Repairs			SYD	\$150.00 /SYD	
Other					

STRUCTURE CONSTRUCTION BUDGET \$421,276

ROAD WORK					
Approach Pavement, 12" RC	(incl. removal; add curb, gutter, guardrail) 40' ea. end		SYD	\$230.00 /SYD	
Approach Curb & Gutter	(incl. removal) 40' ea. quadrant	160.0	FT	\$57.00 /FT	\$9,120.00
Guardrail Anchorage to Bridge	(each quadrant)	4.0	EA	\$2,540.00 /EA	\$10,160.00
Guardrail	(incl. removal) < 200ft beyond reference line		FT	\$41.00 /FT	
Guardrail Terminal	(each quadrant)	4.0	EA	\$3,900.00 /EA	\$15,600.00
Roadway Sidewalk Work	(beyond approach pavement)	1.0	LSUM	\$10,000.00 /LSUM	\$10,000.00
Utilities		1.0	LSUM	\$20,000.00 /LSUM	\$20,000.00
HMA Approach	(includes removal)	1,400.0	SFT	\$13.00 /SFT	\$18,200.00

TRAFFIC CONTROL <i>Unit Cost to be determined by Region or TSC Traffic & Safety</i>					
Part Width Construction			LSUM		LSUM
Crossovers			EA		/EA
Temporary Traffic Signals			set		/set
RR Flagging			LSUM		LSUM
Detour		1.0	LSUM	\$25,000.00 /LSUM	\$25,000.00

RELATED ROAD/TRAFFIC CONSTRUCTION BUDGET \$108,080

CONTINGENCY	(10% - 20%) (use higher contingency for small projects)	20	%	\$529,000.00	\$106,000
MOBILIZATION	(estimate at 10%)	10	%	\$635,000.00	\$64,000
INFLATION	(assume 4% per year, beginning in 2025)	12	%	\$699,000.00	\$84,000

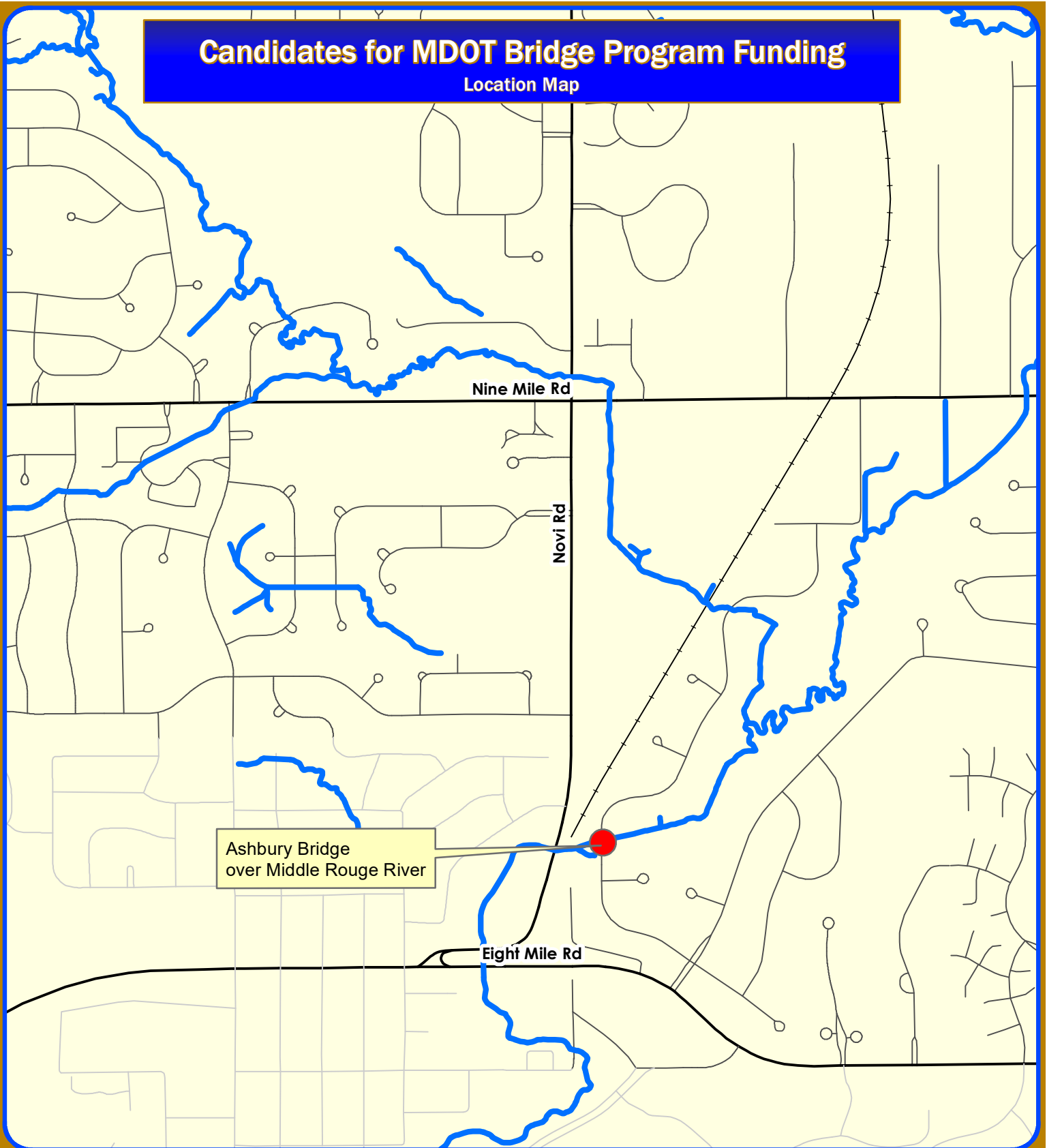
TOTAL CONSTRUCTION BUDGET \$783,000

(Does not include PE or CE)

APPENDIX B

Candidates for MDOT Bridge Program Funding

Location Map



Map Author: Ben Croy
Date: 3-6-24
Project: Bridge Candidates
Version: v2.0

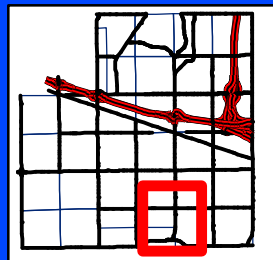
Amended By:
Date:
Department:

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



Proposed
Bridge Candidate



City of Novi

Engineering Division
Department of Public Works
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

0 212.5 425 850 1,275
Feet

1 inch = 1,042 feet



ELIZABETH KUDLA SAARELA
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rsjalaw.com



ROSATI | SCHULTZ
JOPPICH | AMTSBUECHLER

March 11, 2024

Ben Croy, City Engineer
City of Novi
Department of Public Works
Field Services Complex
26300 Lee BeGole Drive
Novi, MI 48375

Re: MDOT Local Bridge Program – Asbury Bridge over Middle Rouge River

Dear Mr. Croy:

You have indicated that the City will be resubmitting its application for participation in MDOT's 2024 Local Bridge Program using the same Resolution as approved for the 2020 submittal. We previously reviewed and approve use of the proposed Resolution Requesting that the Michigan Department of Transportation Include the Asbury Bridge over the Middle Rouge River in the State Local Bridge Program List. The Resolution is provided for the limited purpose of acknowledging that the City agrees pay 5% of the bridge replacement cost and 100% of the design and construction engineering cost in the event that a grant is awarded by MDOT.

Based on the limited purpose of the Resolution, we see no legal impediment to City Council approving the enclosed version of the Resolution.

If you have any questions regarding the above, please do not hesitate to contact me.

Very truly yours,

ROSATI SCHULTZ JOPPICH
& AMTSBUECHLER PC

Elizabeth Kudla Saarela

Enclosure

C: Cortney Hanson, Clerk (w/Enclosure)
Jeffrey Herczeg, Director of Public Works (w/Enclosure)
Rebecca Runkel, Project Engineer (w/Enclosure)
Thomas R. Schultz, Esquire (w/Enclosure)