

Cliff Road (CSAH 32) Corridor Preliminary Engineering Study

Cliff Road/I-35W Northbound On- and Off- Ramps Alternative Evaluation Report

Report Version 1.0 (DRAFT)

City of Burnsville, Dakota County

Prepared by:



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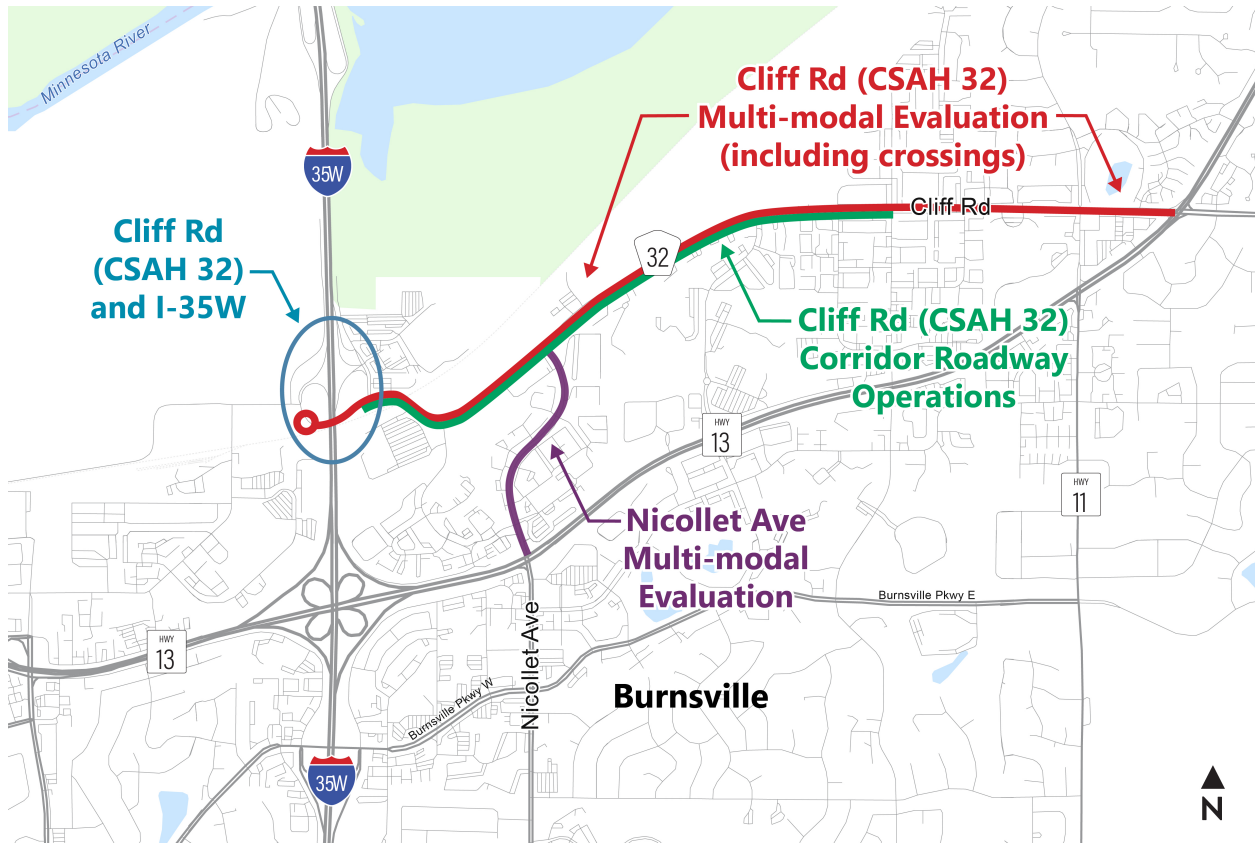
Introduction

The City of Burnsville, in partnership with Dakota County conducted a project to explore possible improvements for driving, walking and biking to Cliff Road (CSAH 32) from I-35W to Highway 13 and Nicollet Avenue from Highway 13 to Cliff Road. The project included four study components:

- An analysis and preliminary design for Cliff Road and I-35W. The Minnesota Department of Transportation (MnDOT) is developing plans to resurface I-35W from Cliff Road to I-35E, and replace bridges at Cliff Road, TH 13, and Burnsville Parkway (construction 2025-2026). As such, an analysis of Cliff Road under I-35W was conducted to determine a preferred section of roadway. An analysis and preliminary design on the I-35W northbound on- and off- ramps was also conducted.
- An analysis and preliminary design for Cliff Road from I-35W to 12th Avenue South. A traffic analysis was conducted to review capacity and safety issues and develop alternatives for roadway sections, intersection improvements, and access spacing.
- A multimodal evaluation of Cliff Road between I-35W and Highway 13. This evaluation determined infrastructure improvements to accommodate pedestrians and bikers along Cliff Road.
- A multimodal evaluation of Nicollet Avenue between Highway 13 and Cliff Road. This evaluation determined infrastructure improvements to address the incomplete multimodal facilities on Nicollet Avenue.

The purpose of this report is to document the identification of a recommended alternative in the Cliff Road/ I-35W northbound on- and off- ramps area. The northbound I-35W on- and off-ramps are unconventional in this area, and MnDOT is now designing spot-mobility updates which focus on improving freeway operations, to be constructed in 2025-2026. The City of Burnsville and Dakota County wished to complete an analysis of these ramps to determine if a better alternative should be proposed to MnDOT for potential inclusion into the current I-35W Burnsville Project, or if such improvements can be scoped now for development in a later separate interchange-area improvement project.

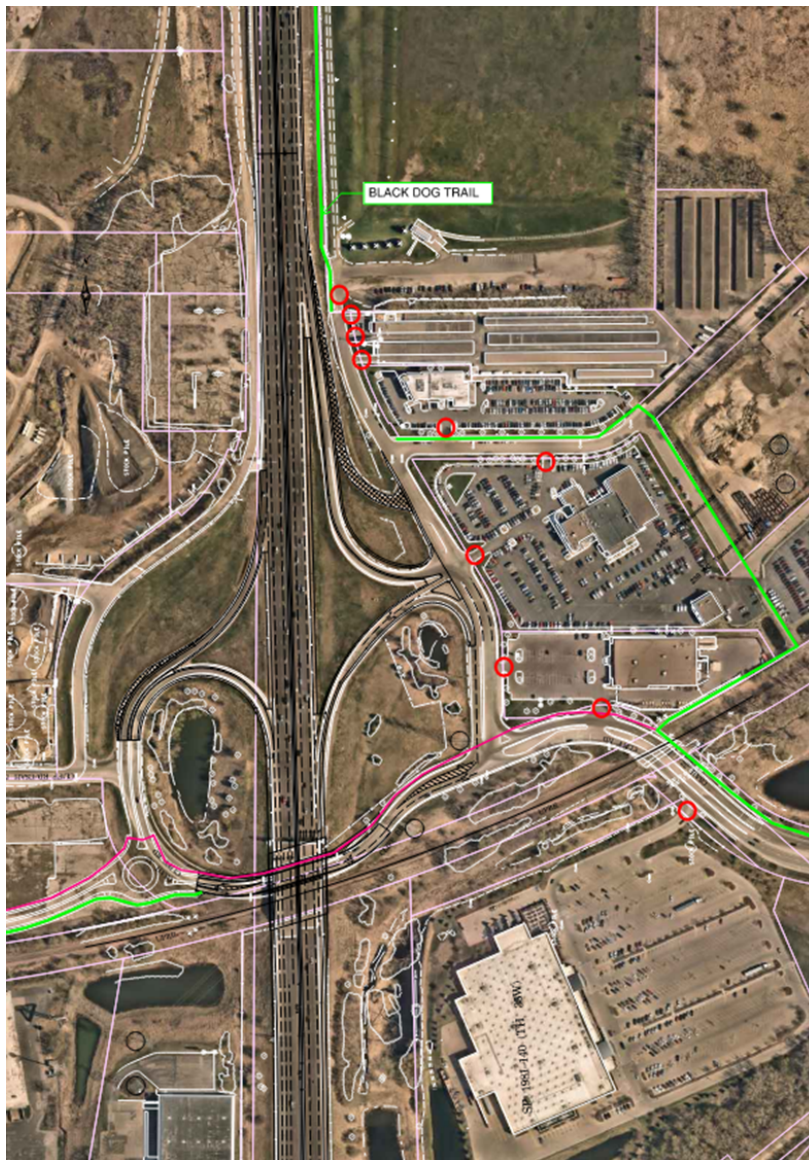
NOTE: This *Draft* report summarizes local intersection alternatives and recommendations for the east side of the interchange at Cliff Road (CSAH 32) and I-35W. The review of this area was important to finish before MnDOT's 2024 completion of final design for the 2025-2026 I-35W project. This document will remain a draft into 2024 pending additional coordination, reviews, and engineering design inputs for the complete Cliff Road corridor to the west and east.



Cliff Rd and I-35W Analysis and Preliminary Design

Background

The current configuration provides access to and from NB I-35W via an intersection on the frontage road with a separate high occupancy vehicle on-ramp to the north of this intersection and the intersection of the Frontage Road and Cliff Road is to the south of this intersection. Businesses have access via the Frontage Road and Cliff Road. A trail and sidewalk network exists, with the trail going behind the businesses along the frontage road. Recently, a new roundabout was constructed at the intersection of Cliff Road and the I-35W South Ramps.



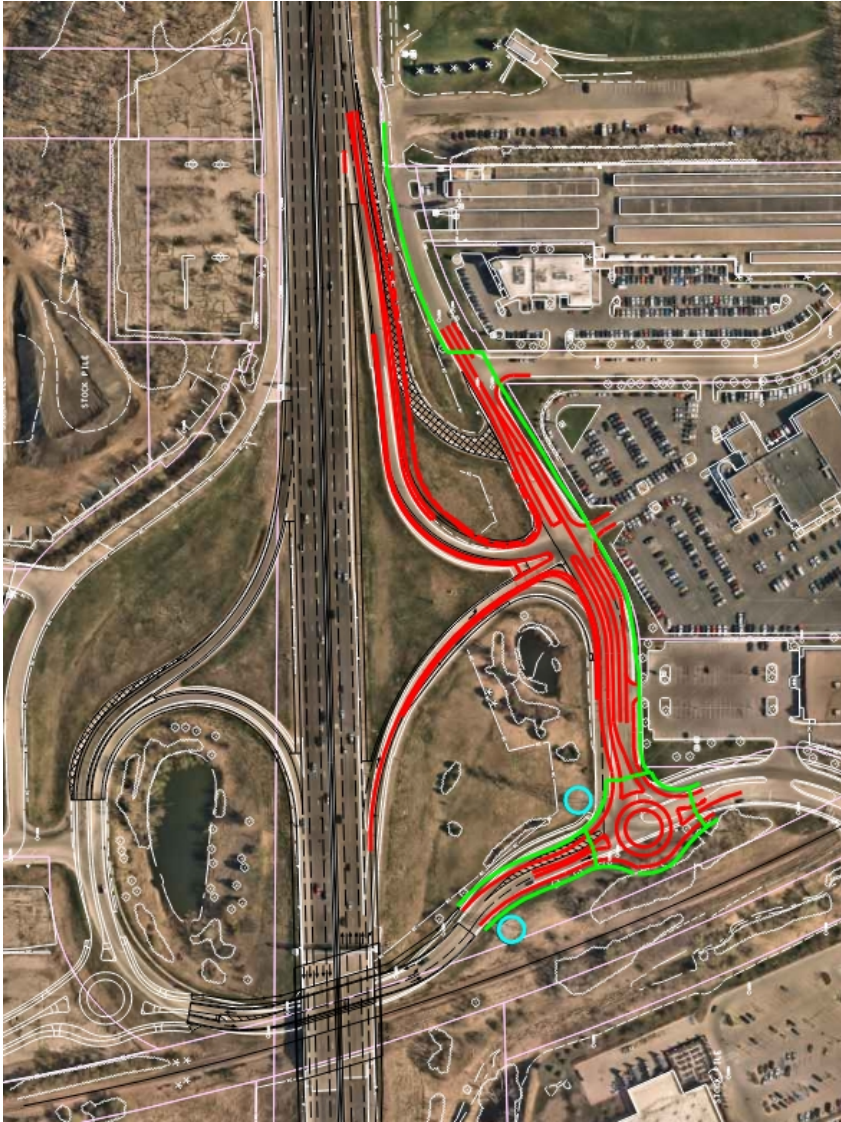
Alternative Development and Evaluation

Geometric alternatives were developed in the Cliff Road/ I-35W northbound on- and off-ramps area with the following considerations:

- Ramps and Frontage Road Location and Interaction Considerations
- Pedestrian access - trail locations
- Business access - local road connections
- Intersection traffic control

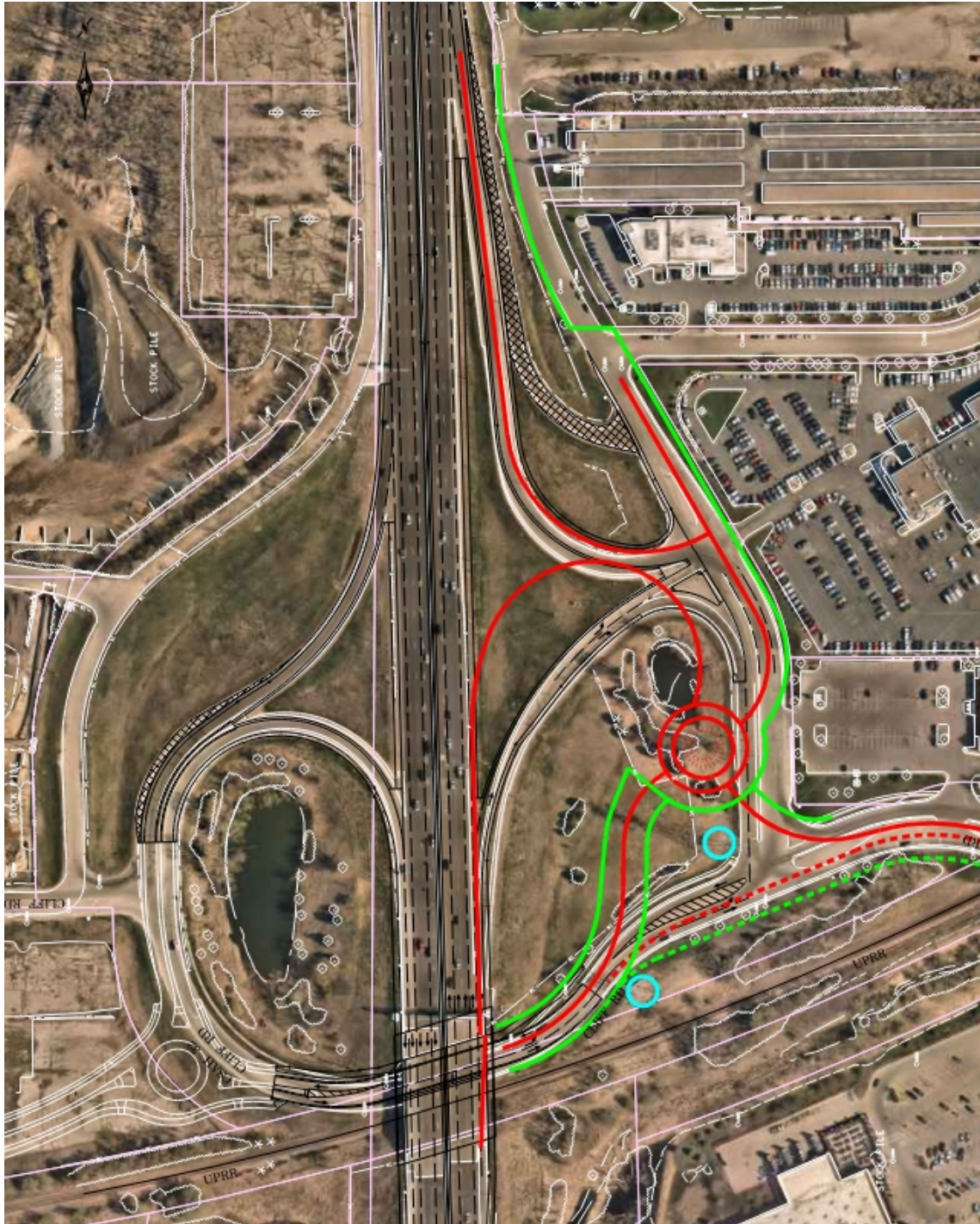
Cliff Road and I-35W Alternative 1

The NB I-35W off-ramp remains on its current alignment, but with the free right movement to frontage road removed. The NB I-35W on-ramp remains on its current alignment and is combined with the NB high occupancy vehicles (HOV) ramp. The Cliff Road/Frontage Road intersection would be a roundabout. A trail would be added along the east side of the Frontage Road.



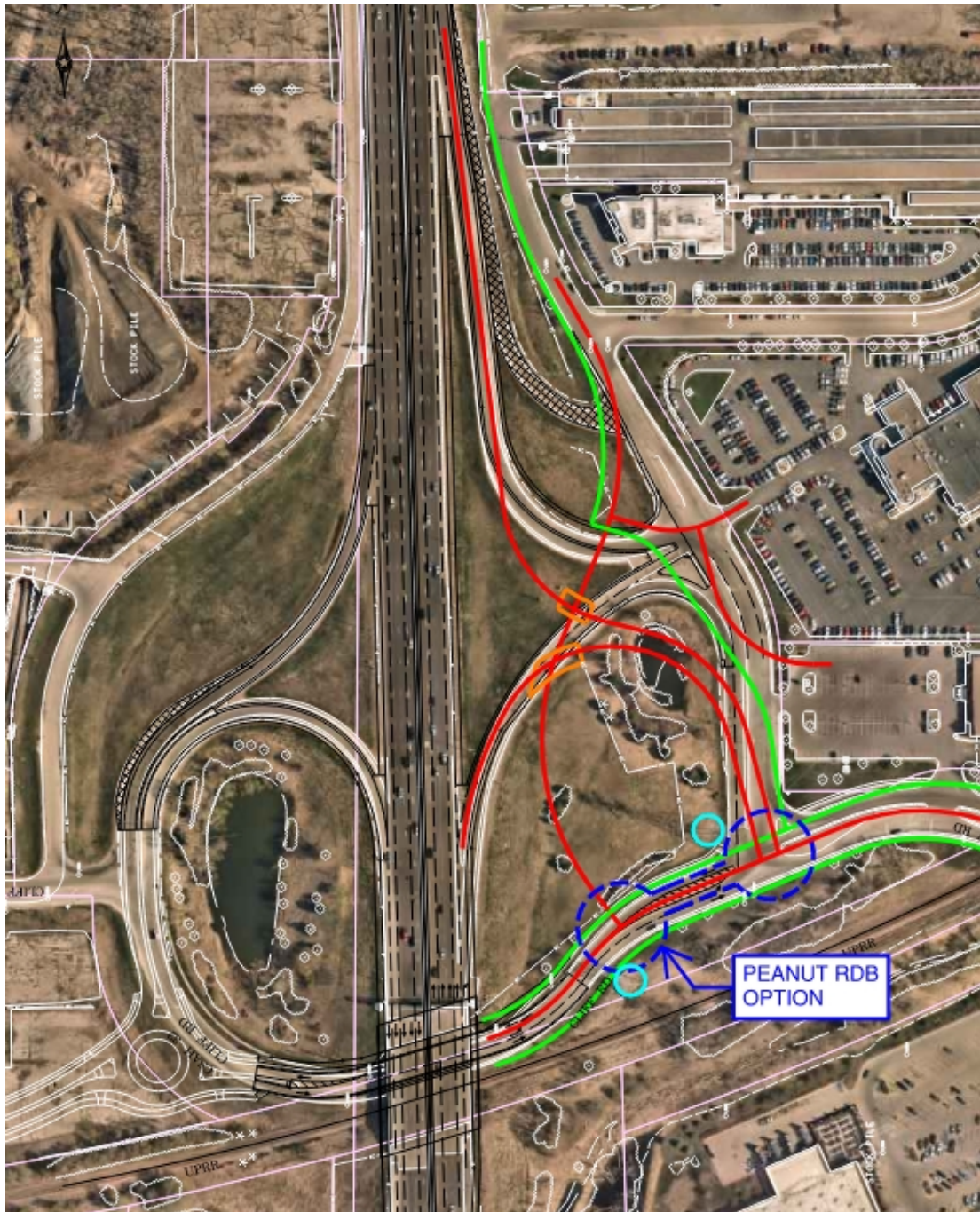
Cliff Road and I-35W Alternative 2

The NB I-35W off-ramp connects directly into a relocated Cliff Road/ Frontage Road roundabout intersection. The NB I-35W on-ramp intersects with the Frontage Road and is combined with the NB HOV ramp. A trail would be added along the east side of the Frontage Road. A possible eastbound Cliff Rd thru and trail bypass could be along the existing roadbed.



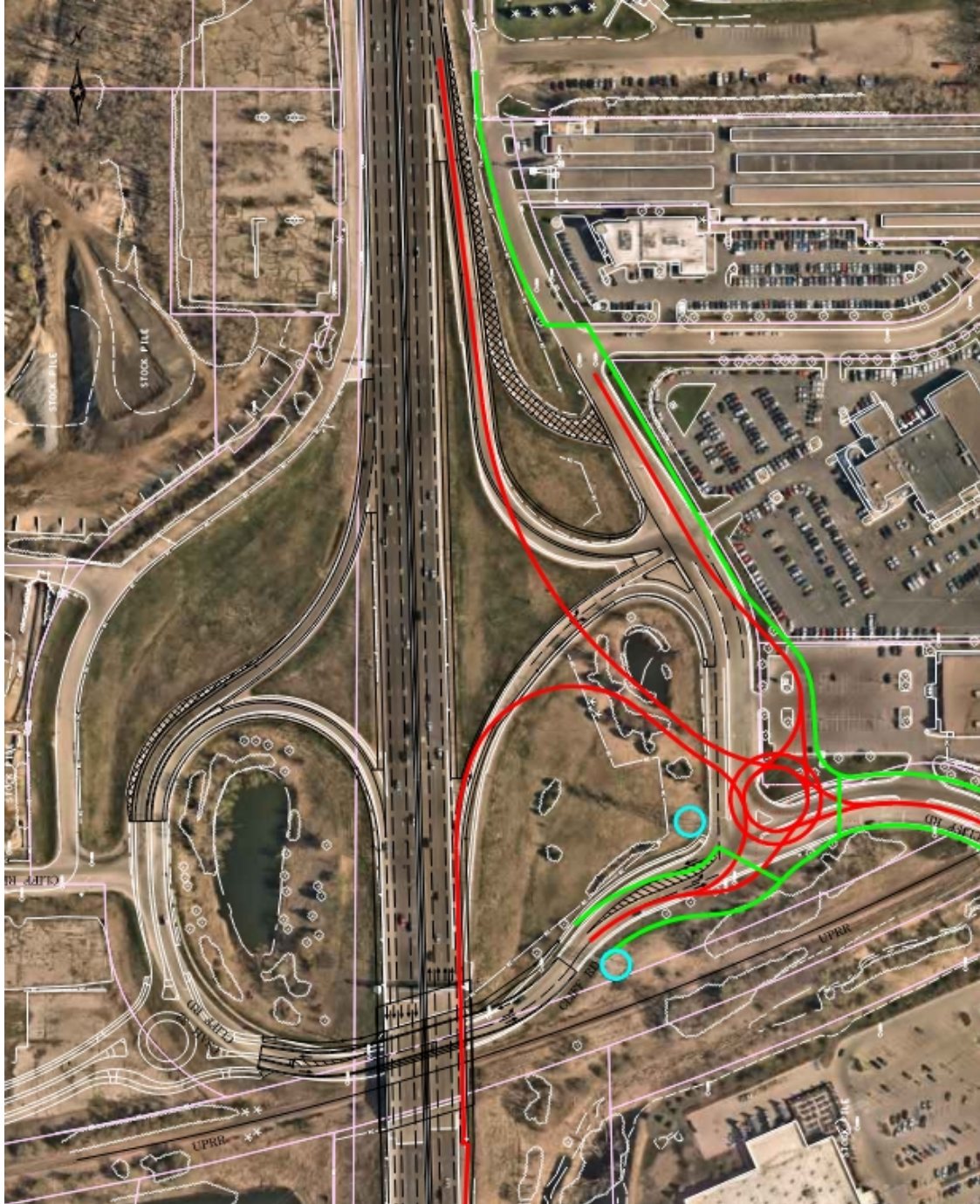
Cliff Road and I-35W Alternative 3

Both NB I-35W on and off ramps connect directly to Cliff Road. The Frontage Rd traverses under NB off and on ramp via bridges. A peanut roundabout between the new Cliff Road intersections could be an option to help traffic operations. Business access is maintained on the Frontage Road, with a trail along the west side of the Frontage Road.



Cliff Road and I-35W Alternative 4

The NB I-35W off and on-ramps connect directly into a relocated Cliff Road/ Frontage Road roundabout intersection, combining all the movements into one intersection. A trail would be added along the east side of the Frontage Road.



The alternatives were generally evaluated against each other the alternatives using the following criteria:

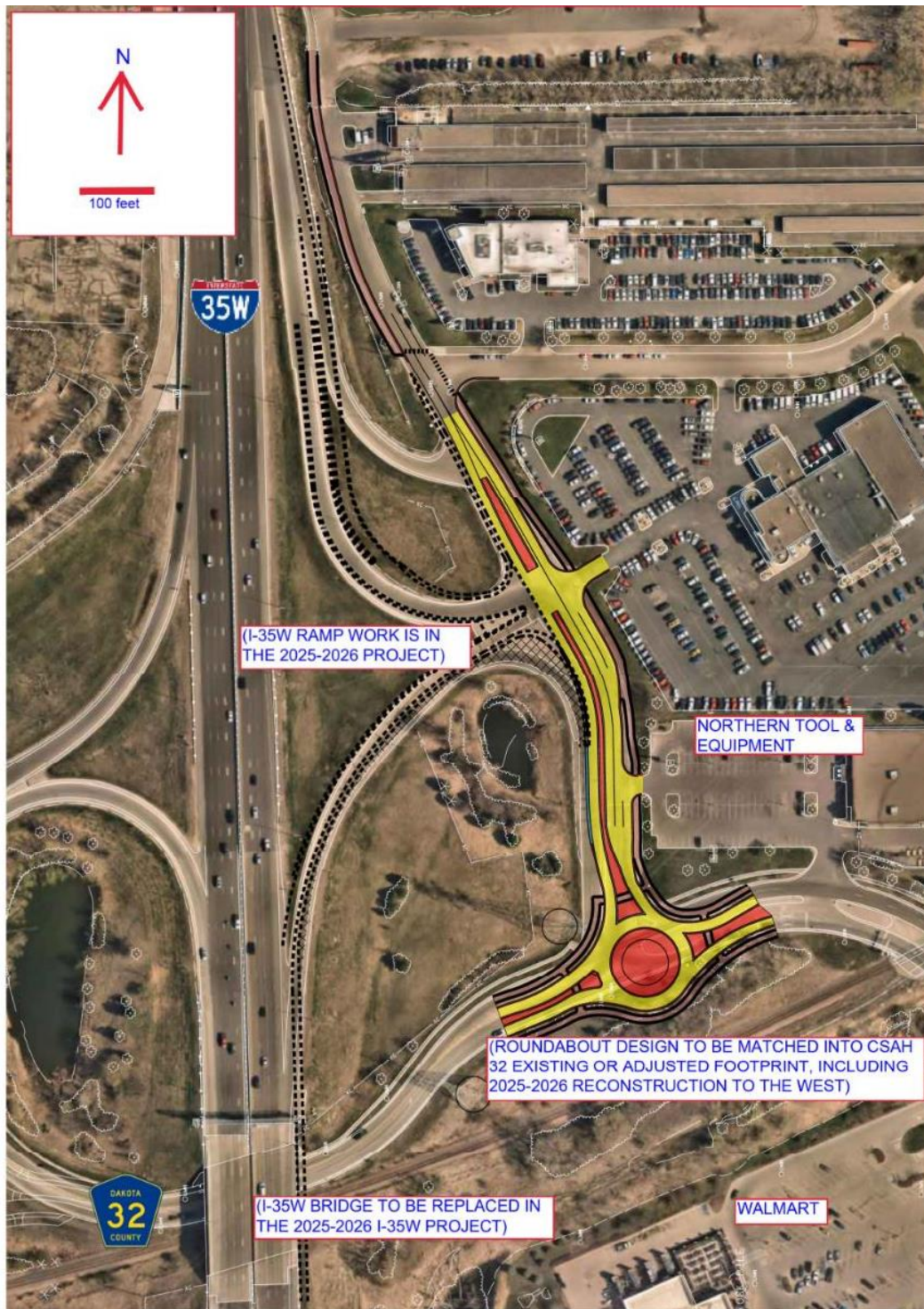
- Travel Time/Roadway Continuity
- Trail/Ped Improvements

- Business Access Impacts
- Property Impacts
- Drainage Impacts
- Cost

	Alternative 1 Recommended alternative	Alternative 2	Alternative 3	Alternative 4
Travel Time and Operations/ Roadway Continuity	Ramps maintain access to Frontage Road, separate intersection with Cliff Road, Wayfinding the same.	NB off-ramp has direct access to Cliff Road, NB on-ramp has separate access to Frontage Road.	Ramps have direct access to Cliff Road. Wayfinding may be difficult.	Ramps have direct access to Cliff Road.
Trail/Pedestrian Improvements	Trails and crossings provided	Trails and crossings provided	Trails and crossings provided	Trails and crossings provided
Business Access Impacts	Business access maintained	Business access impacts	Business access maintained	Business and access impacts
Property Impacts	Low Property Impacts	Low Property Impacts	Low Property Impacts	High Property impacts
Drainage Impacts	Drainage area maintained	Drainage area impacts	Drainage area impacts, excavation impacts	Drainage area impacts
Construction Cost	Low Construction Costs	Medium Construction Costs	High Construction Costs	Medium Construction Costs

Recommended Alternative

Cliff Road and I-35W Alternative 1 is the recommended alternative because it maintains travel time and operations, provides trails and crossings, maintains business access, has low property and drainage impacts, and has low comparative construction cost.



The Frontage Road & I-35W NB Ramps/Dealership intersection will maintain current traffic control (Stop control on all legs except NB Frontage Road), and will provide acceptable traffic operation with current and future traffic volumes.

The Cliff Road and Frontage Road roundabout will improve operations and safety with current and future traffic volumes. The roundabout's proximity to the railroad tracks will be evaluated further, the roundabout can be designed to accommodate an additional lane or turn bypasses to allow for storage space and movement during a train event. Additionally, Cliff Road can retain the existing four through lanes of capacity for queueing at the railroad.

Next Steps/Implementation

MnDOT will incorporate the NB I-35W ramp recommendations into the I-35W Burnsville Project. The NB I-35W off-ramp will have free right movement to frontage road removed. The NB I-35W on-ramp will be combined with the NB HOV ramp.

The City of Burnsville and Dakota County have completed this report to identify a recommended alternative for the Cliff Road (CSAH 32) intersection with the I-35W east frontage road. Additional coordination, reviews, and engineering design inputs will be incorporated based on the longer Cliff Road corridor to the west and east. Based on the intersection recommendation, Dakota County and the City of Burnsville will pursue funding to construct the proposed roundabout as a capital project. When funding and scheduling are confirmed, the County and City will begin development of the project, including further MnDOT coordination.