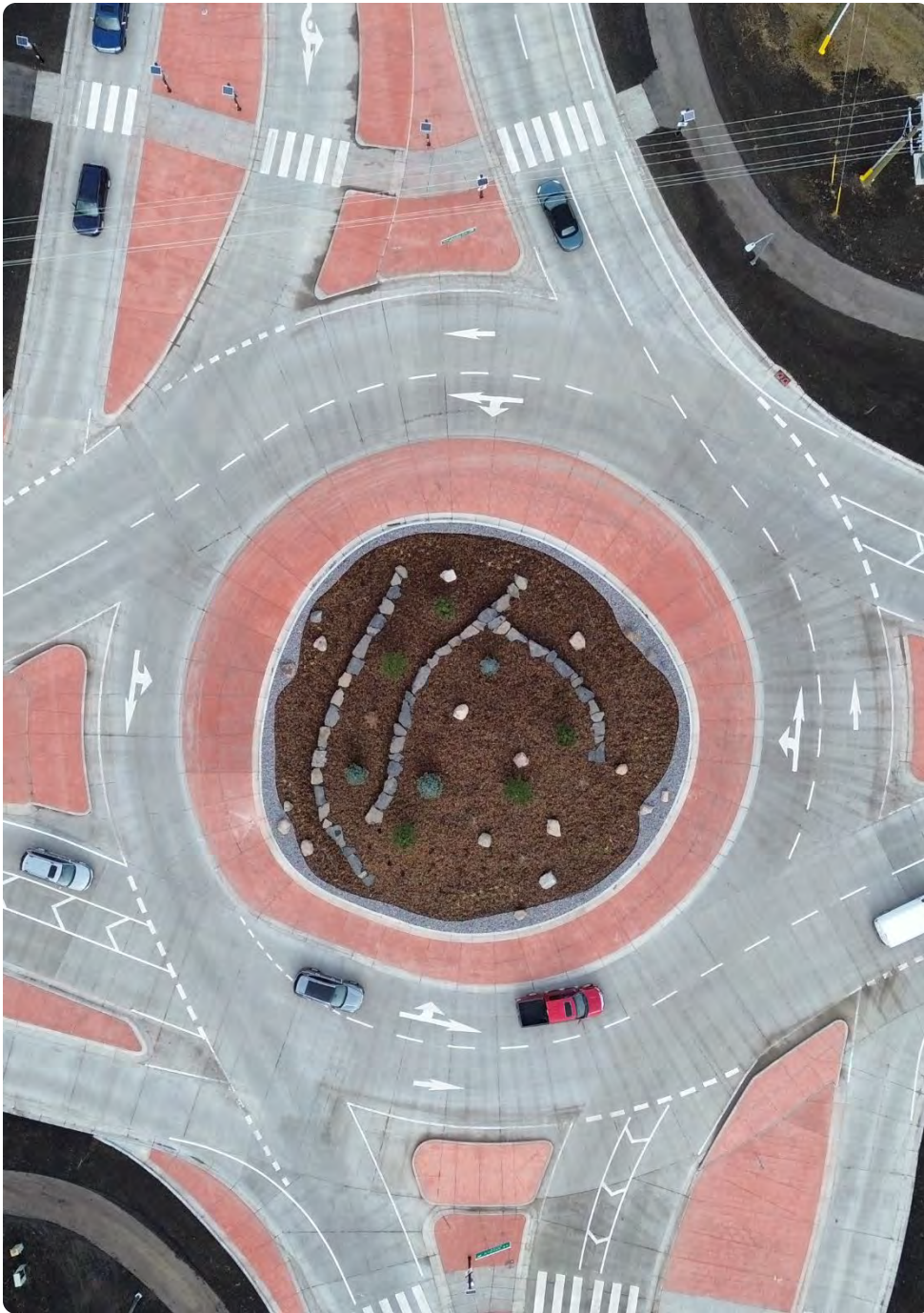


City of Red Deer South East Sector Transportation Improvements (19 Street and 40 Avenue Roundabout)



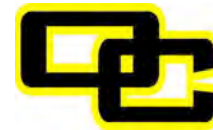


Agenda

1. Introduction and Acknowledgements
2. Project Overview
3. Traffic Accommodation
4. Design and Construction Considerations
5. Reuse of Concrete and Asphalt Aggregates
6. Open Discussion



Introduction and Acknowledgements



Olds Concrete





Project Overview

2023

2024

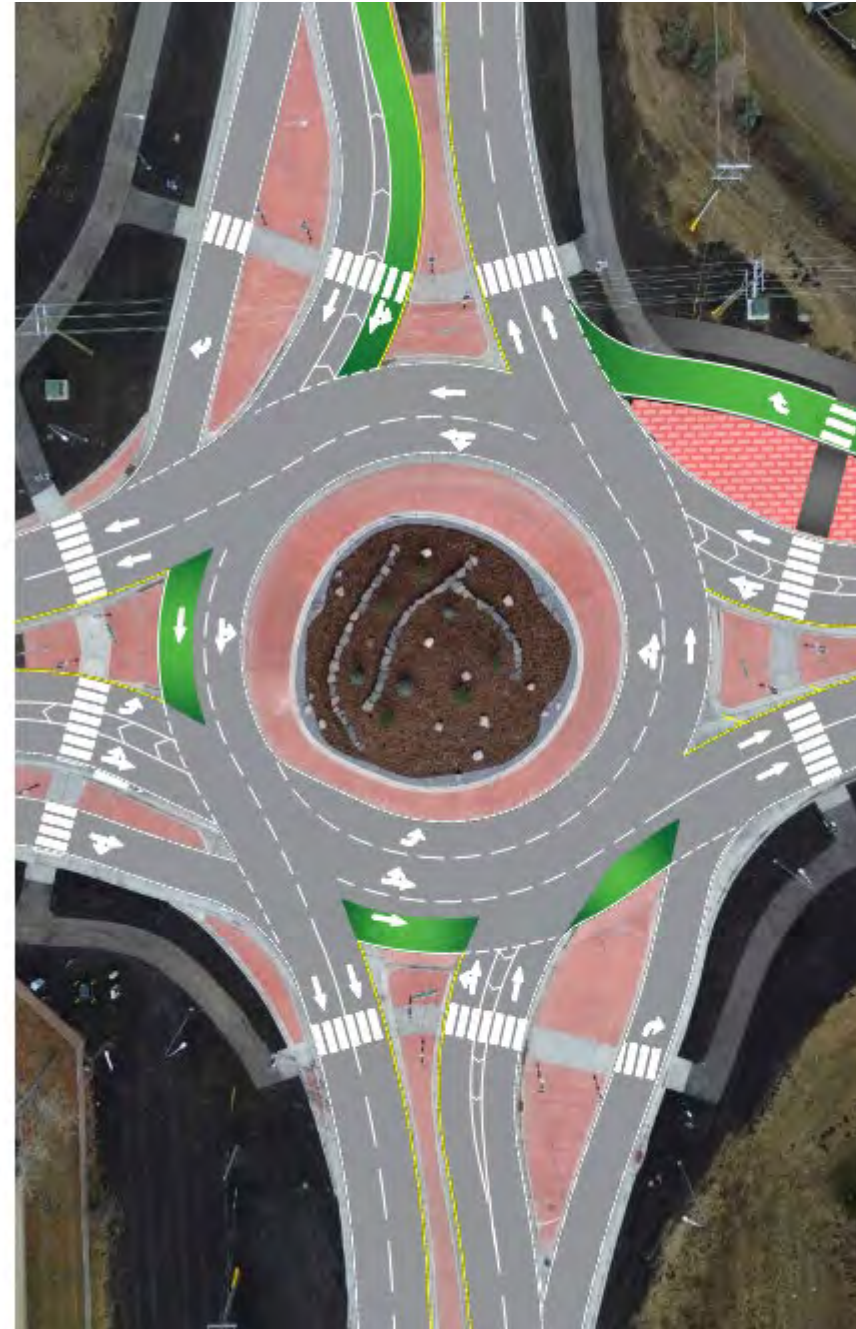




Initial Buildout (2030) 46,000 VPD

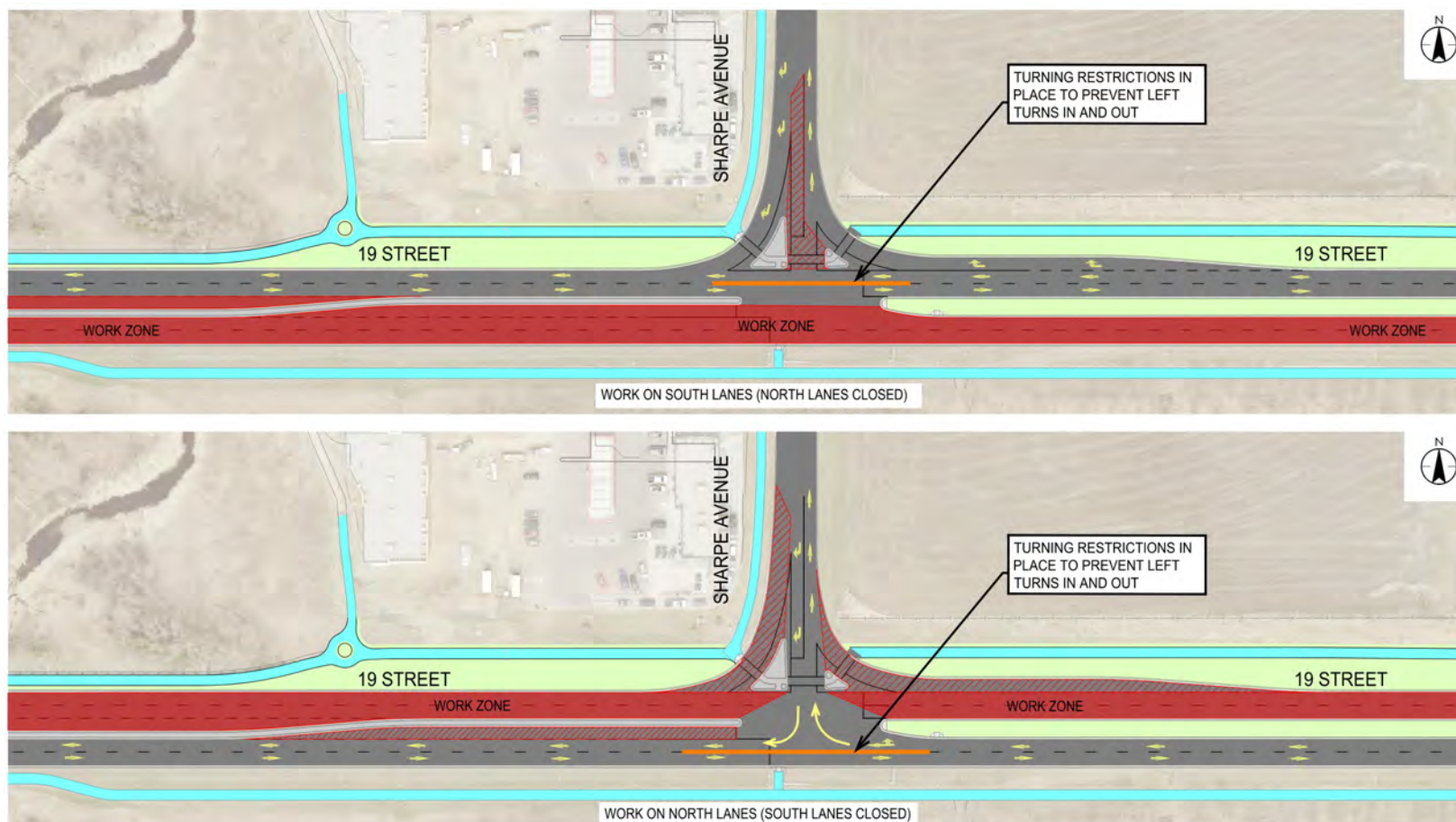


+2050 (188k Population) 70,000 VPD



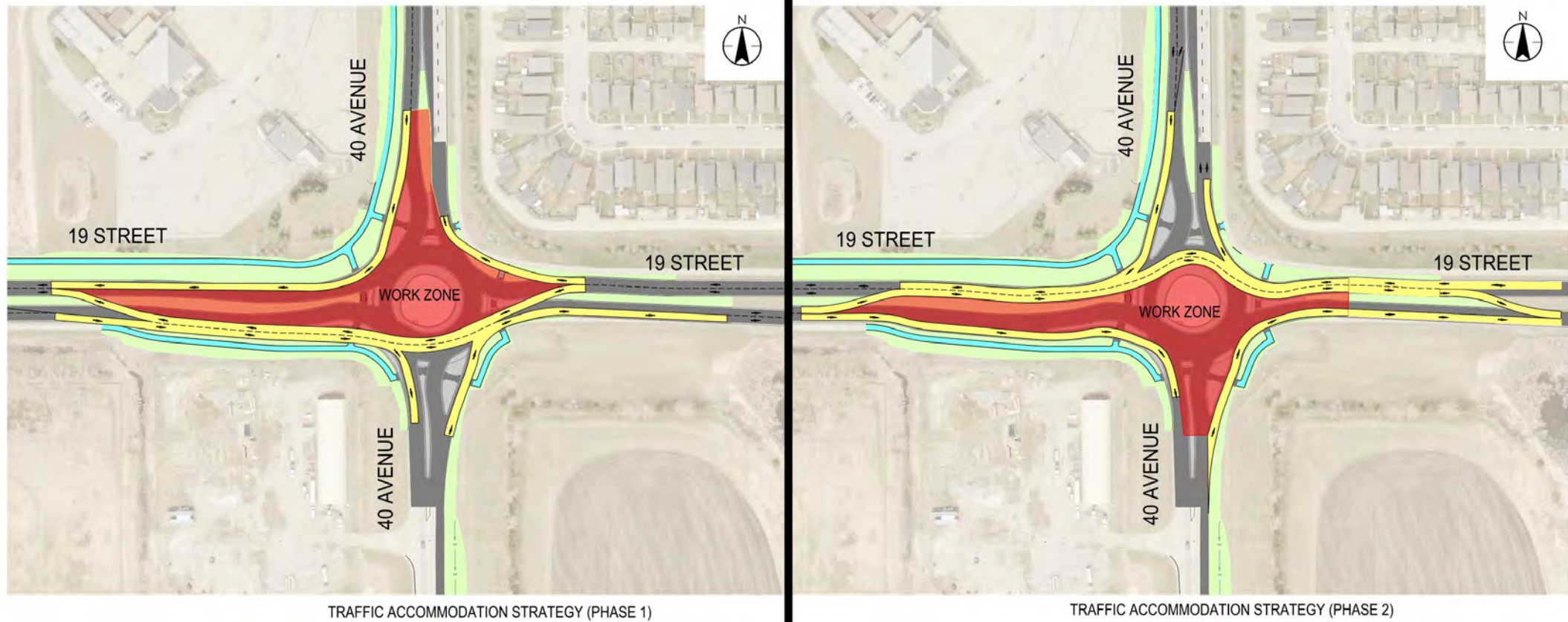


Traffic Accommodation





Traffic Accommodation – Original Plan at Roundabout



Traffic Accommodation – Implementation at Roundabout



Photo Courtesy of Pidherney's

Asphalt trails were overbuilt for traffic accommodation.

After roadway was opened to traffic, the detour roads were cut to 3m width as per the final design.



19 Street Road Structure Upgrade (ACP)

Combigrig on Subgrade



Almost 30,000 tons of 63mm crushed concrete aggregate from other past City of Red Deer projects was used for the granular subbase.



Standard 20mm diameter crushed granular base and 200mm of asphaltic concrete pavement (three lifts).

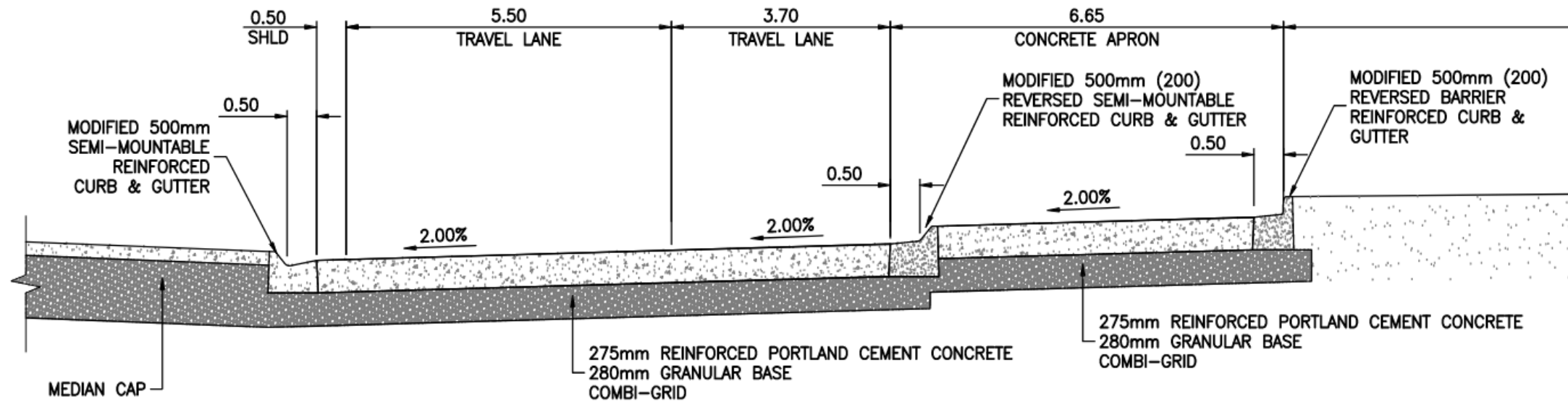


Groundwater and Subdrains





Use of Concrete in Roundabout – Design Structure



Important Consideration: The subgrade was relatively soft on this project, but during construction the granular base depth was doubled to ~600mm primarily for constructability (heavy equipment).

Synthetic macro fibre reinforcement was also included in concrete for additional strength.



Use of Concrete in Roundabout – Travel Lanes



Use of Concrete in Roundabout – Travel Lanes

Approximately 7,600 m² of concrete was poured for the roundabout.

Two moderate-sized cracks were encountered.

Sikadur 35 High Modulus Grouting/Sealing/Binding Adhesive was used to fill the cracks.





Use of Concrete in Roundabout - Apron





Landscaping and Trails

Roundabout Center (More Plantings Scheduled in 2025)



Trail Roundabout



**Thank you
and open
Discussion**

