

CONCRETE HIGHWAYS

HIGHWAY 40 INTERCHANGES - GRANDE PRAIRIE, AB



PROJECT TEAM

OWNER

Alberta Transportation

GENERAL CONTRACTOR

Carmacks Enterprises Ltd.

MAJOR SUB-CONTRACTOR

Proform Concrete Services

CONCRETE SUPPLIER

Knelsen Sand & Gravel Ltd.

ENGINEERS

McIntosh Perry

THE OPPORTUNITY

In 2006, concrete pavement was placed at two locations along the Grande Prairie Bypass to address extensive rutting. In 2021 other intersections in the same corridor were identified to have suffered severe distress and rutting, attributed to high traffic volume and heavy trucks. Concrete pavement offered an advantage to utilize durable, safe and sustainable solutions capable of withstanding the increasing traffic and community growth at these four interchanges.

THE SOLUTION

As a result of the success from the placement and proven durability of concrete pavement on the past experience at the Grande Prairie Bypass, it was decided that full depth concrete pavement would be utilized at four intersections south on Highway 40 which included 60 Avenue, Highway 668, Twp Rd 704A and Sprucewood Boulevard.

PROJECT DETAILS

- PCCP pavement was 225mm in depth.
- Paving was completed using two Gomaco Commander III 4-Track Slipform Pavers supplied from a central-mix concrete production facility and delivered using both by both agitating and non-agitating delivery vehicles.
- Curing and texturing was completed utilizing a Gomaco TC 600 Texture Cure machine.
- Concrete was specified as a Class C GU, to achieve 32 MPa at 28 days and a flexural strength of 4.2 MPa at 28 days.
- Epoxy coated 15M x 450mm Tie Bars were placed along the longitudinal joints at a 900mm O.C. (on center) spacing.
- 25mm x 450mm dowels were installed along transverse joints with 30mm spacing O.C.
- Curb and gutter was placed after the concrete pavement was in place.
- This project took place over 3 years.

ABOUT THE CEMENT ASSOCIATION OF CANADA (CAC)

The CAC is the voice of Canada's cement industry. A vital contributor to the country's economy and infrastructure, the industry provides a reliable, domestic supply of cement required to build our country's sustainable communities and is committed to the environmentally responsible manufacturing of cement and concrete products. Visit www.cement.ca for more information.

ABOUT CONCRETE ALBERTA

Concrete Alberta represents over 90% of the concrete producers in Alberta, and is fully funded by the membership of Producers, Associates and Affiliates. Concrete Alberta has been servicing the industry since 1962. Visit www.concretealberta.ca for more information.



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