

# Road Talk

## Ontario's Transportation Technology Transfer Digest

Ministry of Transportation

**Fall 2026**

# Ontario's New Highway Maintenance Patrol Yard

## Setting the Standard



As Ontario's population increases, our government is taking steps to ensure its highway infrastructure can support the province's long-term transportation plans.

### Preparing for Growth

To accommodate a Highway 401 expansion project in Waterloo, the Ministry of Transportation (MTO) built a new, state-of-the-art maintenance patrol yard (MPY) to support highway services while maintaining the Kitchener patrol yard to help service Highway 8 to the north.

The site, located northwest of Highway 401 and Cedar Creek Road (Waterloo Regional Road 97) in the Township of North Dumfries, Ont., will serve as direct access to Highway 401, supporting the efficient movement of goods and services.

**Figure 1:** An illustration of the new Ayr MPY.

**Illustration source:** Dillon Consulting Ltd., with MTO modifications.



**Figure 2:** Aerial Image from 1964 showing the former maintenance patrol yard.

**Image source:** National Air Photo Library (NAPL), appearing in the January 2019 Morrison Hershfield report "Contamination Overview Study, Ayr Patrol Yard...".

## Project Highlights



**Figure 3:** Proposed site for a new MPY (former salt dome and pavement structure still visible).  
**Image source:** June 2019 Morrison Hershfield report titled "Earth Management Plan, Ayr Patrol Yard..."



**Figure 4:** The location of North Dumfries, Ontario, south of Cambridge.  
**Image source:** Google Maps.

MTO used a Design-Build contract model for the Ayr MPY.



**Figure 5:** Preliminary design concept for the Ayr MPY.  
**Illustration source:** Morrison Hershfield.

## MPY Design Guidelines

The MPY Design Guidelines ensure every new or upgraded facility meets specific standards for efficiency, safety, and sustainability.

The guidelines are divided into four parts:

- **Part A: Site Design** – Layout, access, and environmental considerations.
- **Part A: Appendices** – Determining building type, material, capacity, life cycle costs, loader working area calculations and generic site layouts.
- **Part B: Building Design** – Focusing on operational spaces, safety features, and future-ready elements.
- **Part B: Appendices** – Schematic building layouts and room data sheets on the flexibility of functional performance requirements.

Highlights of the Ayr MPY design include:

- **Classification:** A Class 1A yard with full administrative space.
- **Components:** A vehicle maintenance garage, wash bay, covered vehicle and equipment storage, office space, winter materials and liquid storage, and staff parking.
- **Safety and Compliance:** Four-hour fire-rated walls, barrier-free access and emergency exits meeting Ontario Building Code standards.
- **Environmental Clearance:** Approval from the Ministry of the Environment, Conservation and Parks and Endangered Species Act registration.
- **Capacity Upgrades:** Fire water storage and an expanded sewage system for a larger building footprint.



*Figure 6: Ontario's MPY Design Guideline. ([links to Ontario's Technical Publications site](#))*

## Setting New Standards

By applying consistent design principles, Ontario is creating patrol yards that set new benchmarks for performance, efficiency, sustainability, and staff experience:

- **Efficiency and Scalability:** A repeatable design approach reduces construction costs, streamlines project delivery, and creates patrol yards that are easier and more efficient to operate.
- **Safety and Resilience:** Advanced compliance and emergency systems protect people and assets.

- **Environmental Responsibility:** Eco-friendly features align with Ontario's climate goals.
- **Accessible Workspaces:** Modern amenities improve accessibility and staff experience.
- **Knowledge Sharing:** Lessons learned are informing projects across the province, embedding best practices for future builds.

## For more information, contact:

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**Figure 7:** Aerial image of the Ayr MPY during the final stages of construction.

Image source: Agar Architect Inc.



**Figure 8:** Design and construction changes modernizing the Ayr MPY. Image source: Dillon Consulting Ltd., with MTO modifications.