CASE STUDY

LOAD SUPPORT

Paved heavy-load industrial road

Town of Onoway
Industrial Avenue rehabilitation

The Town of Onoway has a surprisingly large industrial base for a community of just over 1,000 residents, including agricultural and oilfield services, manufacturing and fabricating, construction and environmental management. As these industries grew, an 'industrial district' became established on the north side of the town along Industrial Avenue.

This heavily used road quickly submitted to the stresses of increasing usage and required repeated repairs and rehabilitation over a number of years. Like many aging, unpaved rural roads in Alberta, Industrial Avenue was built using construction methods and materials of the time, and never imagined to support the weight and speed of today's commercial vehicles. Industrial Avenue's existing subgrade, consisting of organic and other non-standard materials, was rotting away beneath the strain.

The Town's Public Works department learned of Paradox Access Solutions' successful road rehabilitative work and sought a design that would strengthen this important artery to meet the growing traffic demands and alleviate future repair and maintenance costs.

PERFORMANCE RESULTS:

Industrial Avenue continues to perform well for the Town of Onoway after five years of service and remains in immaculate condition today. The Town now enjoys a low-maintenance, smooth-riding asphalt roadway in place of a problematic gravel road that strained the town's resources in ongoing repairs and maintenance.

PROJECT AT A GLANCE

APPLICATION:
Paved industrial road rehabilitation

LOCATION
Alberta, Canada

DATE OF INSTALL:
2012

CLIENT:
Town of Onoway

Situated in the scenic Sturgeon River valley, the Town of Onoway provides a small-town country lifestyle with easy access to major urban centers.

CONSTRUCTION:
Paradox Access Solutions

The authorized Tough Cell® Master Distributor in North America, specializing in the supply and installation of high quality access solutions and services to customers in the pipeline, utility, municipal, general construction and oil & gas industries.

ENGINEERING DESIGN
Stratum Logics Inc.

Global geotechnical engineering design specialists exceptionally proficient in the deployment of cutting-edge geosynthetics for civil engineering across North America in all types of challenging soils and climates.

Project Highlights

Rehabilitation of paved industrial road within a town municipality

THE CHALLENGE

An aging unpaved roadway was failing under the stress of growing industrial traffic. The existing subgrade was in a state of decay and the road surface had reached a point where repairs were frequent, and proved ineffective for long-term reparations.

A public works official for the Town approached Paradox to determine what could be done to improve the road within the Town's available resources.

THE SOLUTION

A single layer of 150 mm high Type D ToughCell® Geocells was installed over the graded road surface. A separation layer of geotextile was placed between the prepared subgrade and the geocell layer. The cells were infilled with 40mm crushed gravel to 175mm depth and compacted to 98%.

Total area: 250m x 8m

Product(s): 330-150 Type D ToughCell® Geocell; woven geotextile

Infill: 175mm crushed gravel

Completion: The road surface was capped with a 75mm asphalt layer.

THE BENEFITS

The rehabilitated Industrial Avenue continues to perform well for the Town of Onoway after five years of service and remains in immaculate condition. The Town now enjoys a low-maintenance, comfortable asphalt roadway in place of a damaged and non-serviceable unpaved road that strained the town's resources with multiple and repeated repairs.

The Town has benefited from an affordable construction solution that has greatly reduced ongoing maintenance costs. Residents and customers now have reliable, safe access to Industrial Avenue businesses which will encourage continued economic growth of the Town.

Wet conditions alongside roadway

Placement of geotextile and Tough Cell®

(top) Infill arriving on site
(bottom) Tough Cells being infilled

Surface preparation for paving

Completed pavement structure 2012

Industrial Avenue 2017

PARADOX
ACCESS SOLUTIONS

An industry leader in innovative access solutions, Paradox Access Solutions has provided industrial access and ground reinforcement for the oil and gas, pipeline, utility, municipal and construction industries since 2004. We are COR, CQN, PICS, ISN, ACSA, ARHCA, AVETTA and ComplyWorks qualified, and employ the highest safety standards.

11246- 261 St., Acheson, AB T7X 6C7 | 587-461-1500 | toll free 877.MUD.UGLY (683.8459)

paradoxaccess.com | info@paradoxaccess.com

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