CASE STUDY

LOAD SUPPORT

Unpaved Access/Municipal shared road rehabilitation

MD of Smoky River No. 130 & Long Run Exploration

In 2014, Long Run Exploration needed to rebuild an access/haul road to Kenzie Oil Battery in northwestern Alberta near the communities of Falher and Guy.

The existing road experienced constant trucking delays due to ruts and washboard, and was often closed to traffic during spring breakup. Constant maintenance of this roadway incurred expenditures that strained resources needed elsewhere.

Long Run appraoached Paradox to design and rebuild this 3.2 km road. Stratum Logics provided the design of a compact-style roadway that utlitized local sand for infill, saving material and transportation costs.

The repaired road is now accessible all year round; reduced maintenance has freed up critical capital and the road itself has remained in excellent condition after nearly 5 years in service.

FROM THE CONSTRUCTION MANAGER:

"Not only were they able to complete this road in a timely manner, Paradox [provided] savings by reducing the excavation required [and] using local sand for infill. 4.5 years later we are very happy with the outcome. We have not seen any movement in the structure, and rutting and washboarding has been kept to minimum or nil."

- C. Stenhouse, Long Run Exploration, February 2018

PROJECT AT A GLANCE

APPLICATION:
Shared-use unpaved road

LOCATION
Alberta, Canada

DATE OF INSTALL:
August - September, 2013

CLIENT:
Long Run Exploration

A private Calgary-based intermediate oil and natural gas company focused on light oil development and exploration in Western Canada, focused on safely and prudently developing and producing properties in an environmentally responsible manner.

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

Unpaved access/haul road rehabilitation in soft soil conditions due to breakup

THE CHALLENGE

In the summer of 2013, a road rebuild was direly needed to access the Kenzie Oil Battery site and ensure safe transport of goods and services. Located north of the town of Guy in northern Alberta, spring and fall breakup periods were hazardous, as the road developed major ruts and washboard conditions that not only caused trucking delays but incurred frequent maintenance costs.

THE SOLUTION

After grading of the existing road surface, a separation layer of non-woven geotextile was applied, followed by a single layer of 150 mm height Type D ToughCell® Geocells. The cells were then infilled with local sand and finished with a top course of crushed gravel.

Total area: 3.2km x 8m wide; 25,600m^2

Product(s): 330-150 Type D Tough Cell Geocells; Non-woven geotextile.

Infill: Local sand.

Completion: 20mm minus crushed gravel cover; additional dust-suppression layer of crushed gravel/calcium chloride material supplied by others.

THE BENEFITS

To date, the structure has far surpassed the project owner's expectations and given them complete confidence in choosing and recommending a Tough Cell solution for future projects. The owner benefited from cost savings due to the road's more compact structure, resulting in a smaller Right-of-Way, less aggregate, less construction time and a reduced carbon footprint. It has also allowed them to decrease their maintence routines and boost production due to reliable access 365 days a year. The route is now considered road-ban free, with an added benefit of providing the local community smooth access to their properties.

Pre-grading to accommodate elevation change and guard web edges from snagging

Installation of geotextile and Tough Cell sections.

(top) Detail of crushed gravel top course
(bottom) Tough Cell crew deploys ahead of infill

Sand infill and compaction

Top course compaction and finishing

Completed roadway

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, and ComplyWorks qualified and employ the highest safety standards.

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Document ID: PAS-2018-Case Studies-020-04.19.2018