

▼ **WHAT:**

Use of Swamp Grid™ at Roquette Pea Processing Plant.

▼ **APPLICATION:**

Site development of a Pea Processing Plant.

▼ **CHALLENGE:**

As the world's largest pea processing plant this job site has heavy traffic footprint with heavy axle loads. It was critical that the sites base be able to withstand heavy and high volume traffic. There are also no quarries near by this site, so the aggregate source is limited to a gravel pit which only provides larger gradation size of aggregates.

▼ **CONVENTIONAL SOLUTION:**

The typical solution is 900mm of base compacted over a 250 gsm non-woven polypropylene geotextile.

▼ **TITAN SOLUTION:**

We proposed Swamp Grid™, the perfect solution for a quick compaction and quick design turn around.

The design included incorporating one layer of Swamp Grid™ at the interface of the granular sub-base course and the sub-grade. Reinforcing the granular sub-base with one layer of Swamp Grid™, saved 31% thickness of the granular. Further improving the strength and stiffness of the pavement, increasing the traffic benefit ratio, minimizing the differential settlement and improving the drainage characteristics of the granular layer. In addition an engineered long term solution on performance, settlement and no maintenance for a period of time.

**Titan Pre-Design Highlights:**

- 200mm base course reduction.
- AASHTO Imperial method/modified used. SN-LCR
- The reduction of trucking with end - result in the carbon footprint.



Swamp Grid™ being deployed with no wrinkles.



Swamp Grid™ Roll out

▼ **PRODUCT DESCRIPTION:**

**Swamp Grid™**

Swamp Grid™ consists of Titan Earth Grid™, bonded to a 6oz continuous fiber, 200 gsm continuous fiber polyester geotextile needle punched non-woven geotextile separator by a precision heat bonding process. The biaxial geogrid is made of virgin polypropylene through a unique punching and drawing process, resulting in a bi-directional oriented monolithic and an isotropic biaxial geogrid possessing integral nodes, high tensile and flexural stiffness, high torsional rigidity and junction efficiency. Swamp Grid™ range creates a composite combo product solution ideal for combined soil stabilization/reinforcement applications with enhanced separation and filtration properties of the non-woven geotextile along with high modulus reinforcement properties of the Titan biaxial PP geogrid. This geogrid composite further enhances the reinforcement function while maintaining the drainage capability of the sub-base to maintain a stable structure. The non-woven geotextile component very effectively keeps expensive imported material from being contaminated by migration of fines from the saturated base soils. Swamp Grid™ comes in three roll widths: 3.9m, 4.2m & 5.9 meter widths.

▼ **BENEFITS:**

- Reduced maintenance.
- Significant saving in fill thicknesses.
- Minimized differential settlement.
- Reduced rate of permanent settlement.
- Eliminated excavation and replacement with imported fill.



**Swamp Grid™ being deployed with proper overlap.**

▼ **PROJECT HIGHLIGHTS:**

**Project:**

Roquette Pea Processing Plant

**Location:**

Portage la Prairie, Manitoba

**Installation:**

2017-2020

**Owner:**

Roquette Canada Limited

**Consulting Engineer:**

Hatch Consulting Engineers

**General Contractor:**

EF Moon Construction

**Product Solution/System:**

Swamp Grid™

**Product Supplier:**

Titan Environmental Containment Ltd. Manitoba, Canada  
\*(Supplied the products, and offered design service and technical guidance)\*

Contact us for more information:

**TITAN ENVIRONMENTAL CONTAINMENT**

Toll free: 1-866-327-1957 | Email: info@titanenviro.com | Web: www.titanenviro.com

**TRUST.QUALITY.VALUE**