Elastizell EF Serves as Base for Roadway Over Peat Deposit

Edge forming for the next lift of Elastizell EF

Self leveling and compaction free placement of Elastizell EF

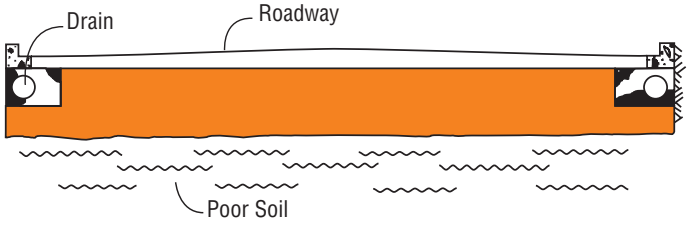
Problem

A highway frequently developed dips in the roadway. Additional asphalt was installed to level the surface. However, after years of this repair method the frequency of maintenance was increasing.

Discussion

By adding more asphalt to the roadway the load on the soil below was being increased. The increased load accelerated consolidation and caused additional displacement.

Due to the rising cost and increased scarcity of land, marginal land is often all that remains for highway construction. This land may be a sanitary landfill, highly compressible soil or have a very low bearing capacity.



SECTION THROUGH ROADWAY

Solution

Elastizell EF was cast over partially excavated peat to reduce the overburden, evenly distribute the highway loading, and provide a solid sub-base for the base and asphalt pavement.

Removing the excessively thick asphalt roadway section and installing Elastizell EF sub-base reduced the load on the peat by over 160 psf. Since the peat deposit was surcharged by the original asphalt roadway, the substrate switched from a normally consolidated to an over consolidated condition which halted the accelerated settlement.

Advantages

- *Placement of Elastizell EF was able to eliminate the displacement caused by consolidation and provide a safer roadway by eliminating the "roller coaster" effect.*
- *Halts a costly and continuing maintenance problem.*
- *Ability to over excavate to get desired reduction in overburden.*
- *Maintain traffic flow during construction, since it is pumped into place and does not require compaction, Elastizell EF may be placed efficiently in urban areas with minimal disturbance.*
- *Fast installation, ability to place lifts daily.*

= ELASTIZELL EF

BASIC PHYSICAL PROPERTIES

Elastizell EF

*Greater values may be obtained if required per Elastizell Corporation design.

CLASS	MAXIMUM CAST DENSITY pcf (kg/m³)	MINIMUM COMPRESSIVE STRENGTH* psi (Mpa)	ULTIMATE BEARING CAPACITY Tons/sf (kN/m²)
I	24 (384)	10 (0.07)	0.7 (69)
II	30 (480)	40 (0.28)	2.9 (276)
III	36 (576)	80 (0.55)	5.8 (552)
IV	42 (672)	120 (0.83)	8.6 (827)
V	50 (800)	160 (1.10)	11.5 (1103)
VI	80 (1280)	300 (2.07)	21.6 (2068)

Comparison of Maximum Fill Material Densities

ELASTIZELL EF

Class I	24 pcf (384 kg/m³)
Class II	30 pcf (480 kg/m³)
Class III	36 pcf (576 kg/m³)
Class IV	42 pcf (672 kg/m³)
Class V	50 pcf (800 kg/m³)
Class VI	80 pcf (1280 kg/m³)

Water	62.4 pcf (1000 kg/m³)
Lightweight Aggregates	60-90 pcf (961-1442 kg/m³)
Flowable Fills	90+ pcf (1442+ kg/m³)
Soils	120 pcf (1922 kg/m³)
Aggregates, Asphalts	125 pcf (2002 kg/m³)
Lean Concrete	145 pcf (2323 kg/m³)

For specific design values and more detailed specifications, as well as design assistance, please contact the ELASTIZELL CORPORATION OF AMERICA or our local applicator below.

Elastizell Cellular Concrete

ENGINEERED FILL

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