



## Tauranga Eastern Link

### Improving ground conditions

Information sheet 04

## Why is ground improvement needed for the Tauranga Eastern Link?

A significant portion of the Tauranga Eastern Link will be constructed on soft soil, otherwise known as 'peat soil'.

Soft soils generally occur in low lying areas where the water table is close to the surface. Some of the low lying areas affected by this include the Domain Road intersection through to the Papamoa sand dunes, and around the Kaituna River.

Peat is highly compressible and has the potential to settle. To ensure a stable platform for construction, as well as relatively flat and even road surface, ground improvements must be done in these areas.

### Building a road on soft soil

Building a road requires a firm base. Because the peat is so deep in some areas along the Tauranga Eastern Link it is not cost effective to dig it out. It must be stabilised slowly - layer by layer - via a process called preloading. Adding layers of fill on top of the peat soil over a long period of time will compress the soil underneath. This reduces the risk of sinking in the future. If the road is built too quickly it could collapse and sink. Compressed soil helps to keep the road smooth and flat for the surface to be laid on. Up to three years of preloading is anticipated before construction of the road surface can begin.

### Preloading

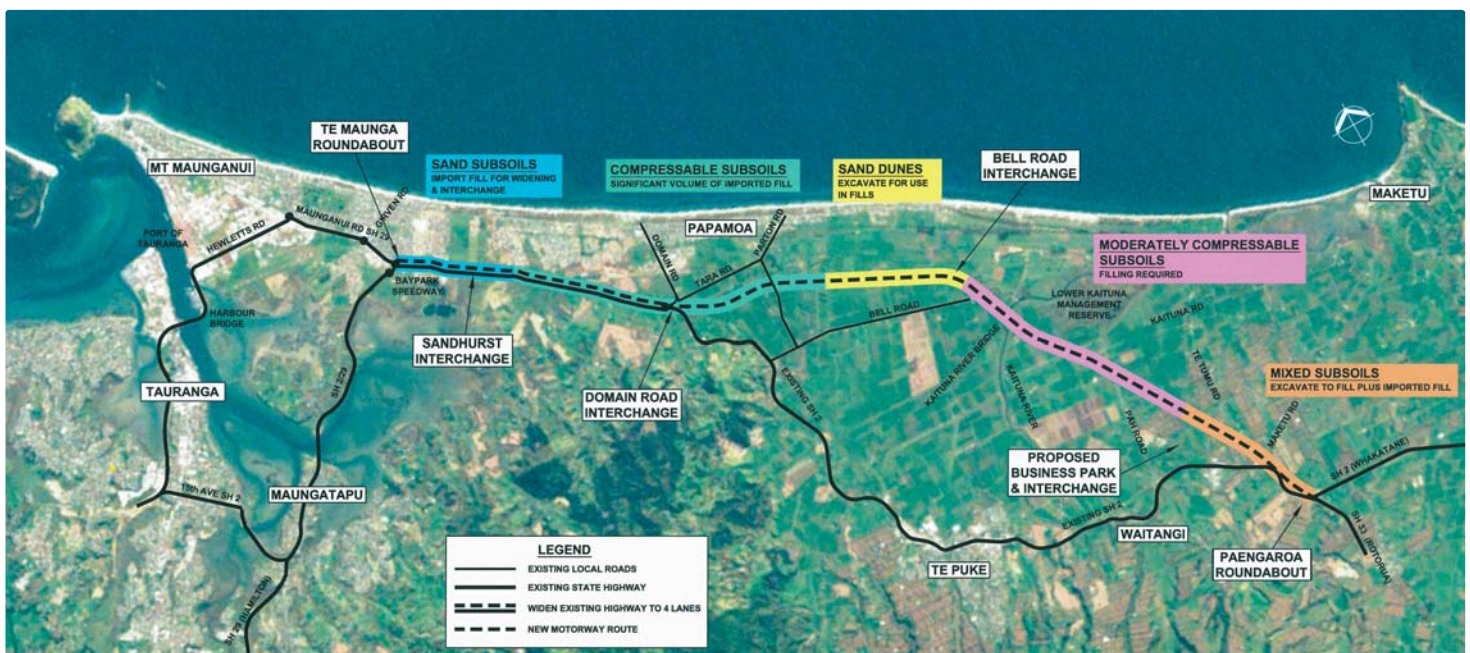
The Tauranga Eastern Link will need about two million cubic metres of fill. This is equivalent to the top half of Mount Maunganui, the volume of Baypark speedway, or 15 titanic ships!

## What is ground improvement?

Ground improvement is used to turn soft soil into a suitable base to build on. It involves a range of treatments to make soft ground sufficiently compact and stable for the construction of roads and structures.



Soil needed for preloading is equivalent to the top half of Mount Maunganui.



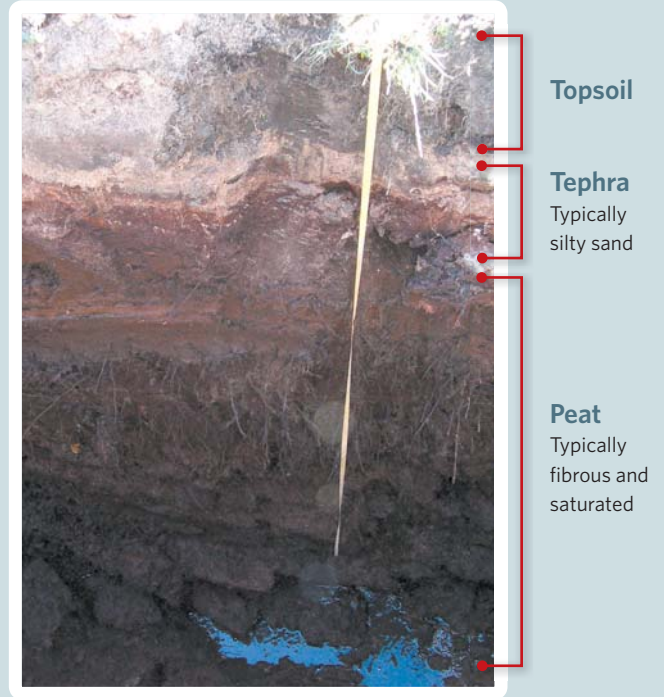
Soil types along the Tauranga Eastern Link.

## The Papamoa peat

The Tauranga basin area is underlain by alluvial soils (loose sands and silts) and peat. The peat varies in thickness across the area and can be up to five metres thick in some locations.

Peat soils occur where the natural processes of decay fail to keep up with the amount of vegetation being produced. This usually occurs in waterlogged land where the lack of available oxygen prevents natural micro-organisms from decomposing dead plant material.

Where these conditions occur the dying vegetation does not decay at the end of the growing season and accumulates year-on-year as a peat layer. Peat forms slowly over 4500 years.



Topsoil

Tephra  
Typically silty sand

Peat  
Typically fibrous and saturated

## Overview of the settlement process

### Stage 1 settlement period

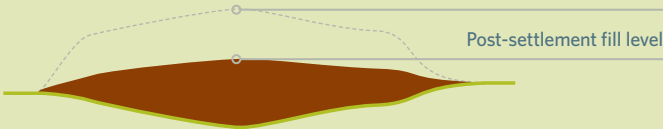
Natural ground level



First layer of bulk fill

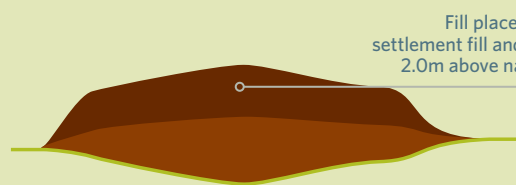


After approx 6 months



### Stage 2 settlement period

Second layer of bulk fill



After approx 12 months



## Our contact details

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