

Ipoh Padang Besar Double Track Railway

Ipoh, Malaysia

Keller provided designed and built foundation using vibro stone columns for high speed railway line in Malaysia.



The project

The Ipoh Padang Besar Double Track (IPBDT) project will form part of the Trans Asia Railway Line and this phase covers a distance of about 329km. The line when completed will enable commuting speed to be increased up to 160kmph. The high-speed railway line is divided into 8 packages i.e., N1 to N8. Keller (M) Sdn Bhd was awarded to carry out the Design & Build ground treatment using vibro stone column works of 20km railway line at various packages to support the High Speed Railway Line.

The challenge

The proposed railway tracks cover a distance of 329km from Ipoh to Padang Besar and go through different geological formations, the subsoils vary from very soft to soft alluvial deposits to dense residual soils. The allowable settlement for the tracks (during service stage) is less than 25mm over 6 months after Certificate of Practical Completion (CPC).

The solution

After a careful study of subsoil conditions and performance criteria, proposed Design & Build ground treatment consists of 1.0m diameter Vibro Stone Columns with various spacing depends on thickness of compressible soils and height of railway embankments. Vibro Stone Columns were installed using Dry Bottom-Feed method to inhibit the environment pollution as the alignment is close proximity to paddy fields, existing railway track and inner cities.

Project facts

Owner(s)

Keretapi Tanah Melayu Berhad

Keller business unit(s)

Keller ASEAN

Main contractor(s)

MMC-Gamuda Joint Venture Sdn Bhd

Solutions

Bearing capacity / settlement control

Markets

Infrastructure

Techniques

Vibro stone columns

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