

High Speed Rail 2 C1 Project

Location:	Chiltern, United Kingdom
Date:	2017 – Present
Structure:	The Chiltern Tunnel comprises twin bored tunnels five ventilation and intervention shafts and 47 SCL / SEM Cross Passages.
Length:	Twin bored tunnels of approximately 9.8 miles (15.8 km) length, with Cross Passages spaced every 1,150ft (350m).
Cross-Section:	TBM Tunnel I.D. 30ft (9.1m) Cross Passage I.D. 11.5ft (3.5m)
Geology:	Tunnel and Cross Passages excavation will primarily be through the Cretaceous White and Grey Chalk Subgroups that constitute the Chiltern Hills. The Calk shows varying degrees of weathering with numerous dissolution features and fracturing along fault lines.
Cost:	\$1.28 Billion
Client:	ALIGN D/Bouygues
Owner:	High Speed Two (HS2) Limited

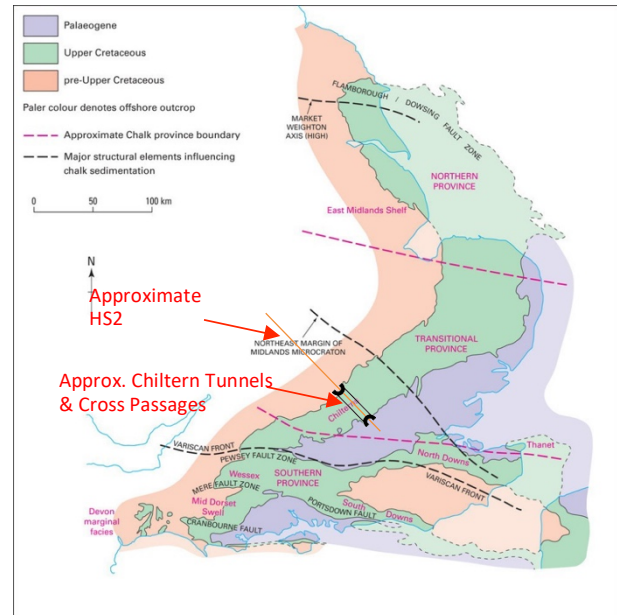


Figure 1. Chiltern Tunnel Alignment

Design Team Services:

HS2 is a new high-speed rail line that will be the backbone of the UK’s rail network. Phase One of this project will connect London to Birmingham by 2026. GZ is working on tunnel design and serving as a geotechnical specialist as a member of the Align JV in Area Central, specifically on the C1 work package (Chiltern Tunnels).

GZ’s main scope of works includes the 9.8-mile-long (15.8km) Chiltern twin bored tunnels, design of the 47 cross passages, the development of the geotechnical baseline report, together with the Durability Report and Tunnel Obstructions Assessment and Settlement and Potential Damage Assessment.



Figure 2. Rendering of HS2 High Speed Train