

News from the Thames Tideway Tunnel

Details on the geology from the chief geologist on the project, Dr Tim Newman

The Thames Tideway Tunnel is a 25 km long stormwater storage tunnel, with an internal diameter of over 7 m; big enough to fit three London double decker buses side-by-side. Its route follows beneath the course of the River Thames, through central London, starting at 30 m below ground in Acton, west London, and reaching 65 m below ground at Thames Water's Abbey Mills pumping station site in the east. Here it links up with the existing Lee Tunnel which continues towards Beckton at over 80 m below ground level.

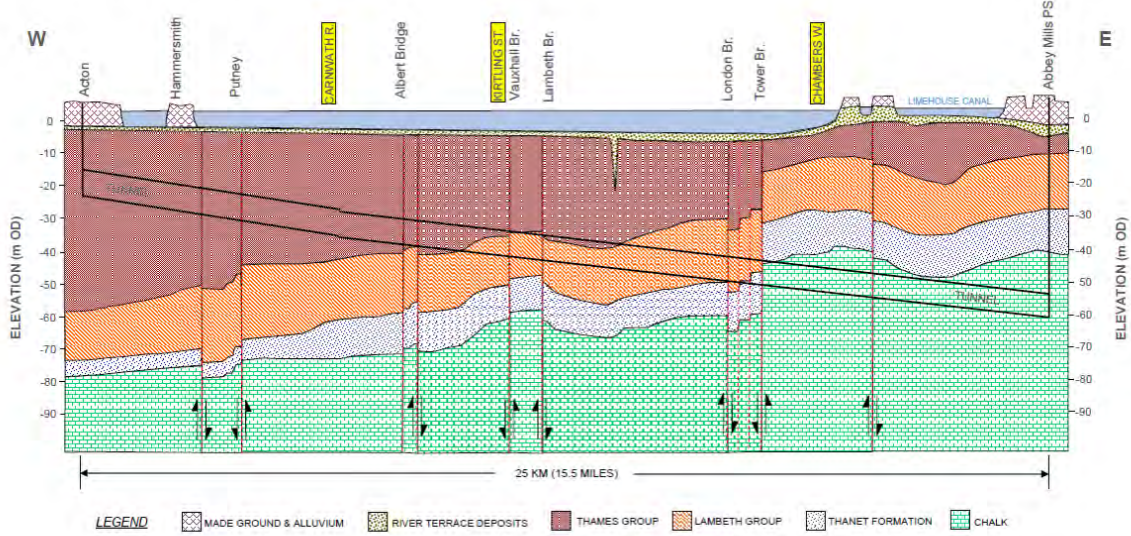
Nearly 500 boreholes have been constructed as part of the ground investigation which has revealed an array of strata within the London Basin geological sequence.



Tim Newman, Tideway, London 2020

In the west, the tunnel has been excavated through the Thames Group London Clay Formation which is favoured by tunnellers for its relative ease of excavation. Through central London, however, the tunnel has passed through the more challenging strata of the Lambeth Group deposits. These contain numerous adverse ground conditions from layers of hard rock and water-bearing sand to the release of oxygen-depleted gas in the basal gravelly bed. In the east the tunnelling is scheduled to start at the end of this year and will be entirely in Chalk, where excavation will be expected to overcome layers of abrasive flint and potential ingress of groundwater from fissures.

Thames Tideway Tunnel – pre construction geological model



Tim Newman, Tideway, London 2020

Tim has also made a video about the project for the October issue of Tunnel Vision, the newsletter of Tideway, London: <https://vimeo.com/475803198>