



Geo-Environmental

Flitwick Railway Station | Case Study

Services Supplied on these Projects:

- Provision of a Construction Phase Plan, RAMS pack and Task Briefing.
- Attendance of a PTS qualified Geo-Environmental Engineer to set out and supervise the intrusive investigation, undertake sampling, in-situ testing and logging of recovered soils from exploratory holes.
- Hand dug inspection pits down to 1.2m bgl depending on encountered conditions.
- Construction of up to 3No. hand-held dynamic sampler boreholes to depths of up to 5m bgl.
- Construction of up to one dynamic sampler borehole to depths of up to 7m bgl.
- Geotechnical laboratory testing to support the geotechnical assessment.
- Provision of a preliminary report.
- Provision of a Ground Investigation Report detailing the findings of the ground and groundwater conditions encountered and the results of in-situ and laboratory based testing. The report would be delivered in electronic format only.

Geo-Environmental Services Limited was instructed by Invvu Construction Consultants Ltd, to undertake a ground investigation of the geotechnical factors pertaining to the site at Flitwick Railway Station, to support the detailed design of the proposed lift shafts.

It was understood that the development proposals were to comprise the construction of a new footbridge with new concrete wing wall, along with associated development infrastructure. The construction of the new proposed footbridge fell in to Geotechnical Category 2, which relates to projects which include conventional geotechnical structures, earthworks and associated activities, and there are no exceptional geotechnical risks, unusual or difficult ground conditions or loading scenarios.



The Woburn Sands Formation was found to be very dense, providing a relatively high bearing pressure. However, in the event that conventional foundations may not be suitable, e.g. due to high structural loads (e.g. beneath the proposed foot bridge deck's support columns), an alternative such as piled foundations would be considered suitable.

The report recommended additional investigation in the event of a requirement for piled foundations with a rotary borehole proposed, utilising a small rotary rig (e.g. a Comacchio 205 or 305), due to access restrictions, to allow pile design parameters and further testing.

It was noted that deeper longer excavations within any deeper pockets of encountered Made Ground and Woburn Sands Formation are unlikely to remain stable and some form of temporary support or battering back to a safe angle is likely to be required.

Unit 7, Danworth Farm,
Cuckfield Rd, Hurstpierpoint,
West Sussex, BN6 9GL
Tel: +44 (0) 1273 832972
www.gesl.net and www.gesl.eu