MACCAFERRI

CASE HISTORY

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KARSTIC VOID SPANNING IN HOUSING DEVELOPMENT

SHERFORD, DEVON, UNITED KINGDOM

Construction over Voids

Problem

This multi-phase housing development was split between multiple developers with a construction period of several years. Site investigation revealed a number of karstic and epikarst weathering features positioned under residential land parcels as well as adoptable highways. Any voids encountered during construction were to be grouted, however the nature of the area meant further safety measures were deemed necessary to manage future failures under the road network.

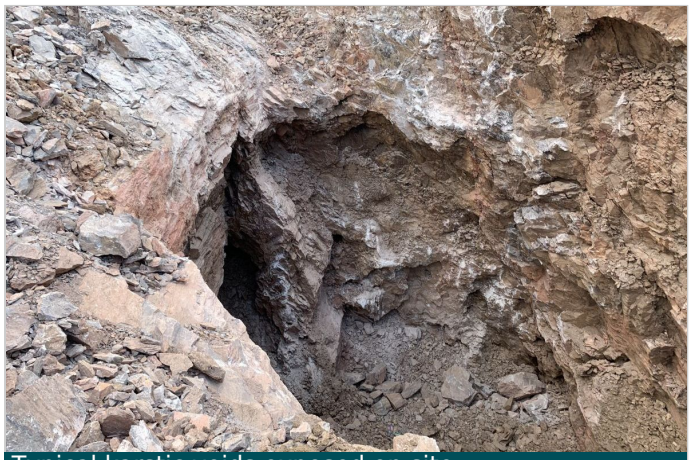
Solution

Maccaferri were approached to develop a geogrid based solution to mitigate the risk of future collapses under the adoptable highways as part of a series of remedial measures to be used across the development. Working with a specialist geotechnical consultancy, the network of ParaLink® geogrid reinforcement was designed to provide a void spanning safety measure in the event of future collapses. The design was in accordance with BS8006-1:2010+A1:2016.

The unique protective coating and structure of ParaLink® enables lower material partial factors to be used within the design process. This results in lighter grades of ParaLink® being used compared to other geogrids in the market.

Maccaferri have a long-standing experience of designing to enable the use of site-won fills with geogrid solutions in a range of applications. Our expertise enable the designer and contactor to develop a working method which avoided import of costly structural fill, as well as the costs associated with removal of materials from site and polluting transport movements.

Client: Taylor Wimpey/Vistry/Cannon Kirk
Designer / Consultant: Geo-Consulting
Contractor: Groundfix
Products used (Qty.)
Date of construction: 07/2021 - 04/2022
Google Maps Google Earth



Typical karstic voids exposed on site

Void spanning mitigation on estate roads

ParaLink® unrolled in position

Using site-won fill provides environmental and cost benefits

Backfill dumped and distributed onto ParaLink®

Estate roads construction on top of ParaLink® void spanning

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