

Anchor Drain

Project Report



P114 – South Kenton Station Subway – Retrofit Drainage

Client/Eng.: Network Rail
Contractor: APB Group Ltd
Supply: 18No. Mechanical Drainage Anchors
Location: South Kenton, Wembley
Date: March 2014



Requirement

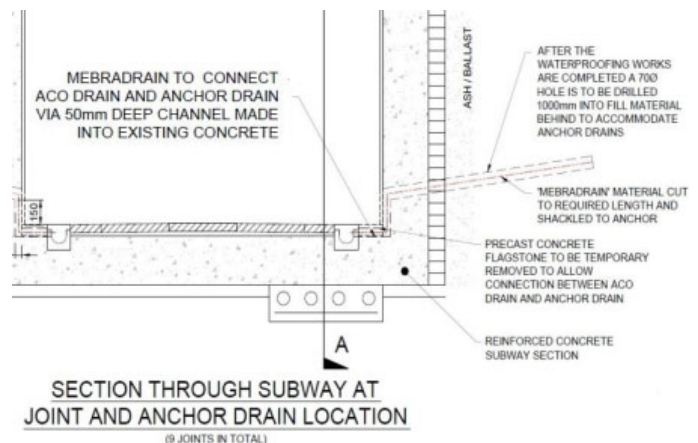
South Kenton station is a Network Rail station served by London Underground Bakerloo line and London Overground trains. From opening in 1933 the station had a footbridge access to the island platform from both sides of the railway. Since 1964 an underpass was constructed using culverts and the footbridge removed. Over the years there has been a well-documented history of flooding to the subway. Much of the time flooding is due to the inadequate/poor seals to the box reinforced concrete joints. The subway walls have been subjected to excessive hydrostatic pressure from the undrained soil behind the walls and this has led to tiles falling off the walls and water leakage. Anchor Systems (International) Ltd ASIL were asked to help with the solution to this significant problem which required periodic maintenance and repairs that did not solve the root cause of the problem.



Solution

ASIL proposed the Anchor Drain solution which has been tried and tested on a number of structures over the years. The Anchor Drain is used to permanently dewater structures that do not have adequate drainage normally as a result of blocked drainage systems. ASIL provided the innovative retrofit technology expressly for aged and poorly drained structures. The Anchor Drain was tied into the existing ACO drain system that is used to carry water away from the structure as per the detail shown below.

The MEBRADRAIN drainage material (flexible incompressible drainage channel) can be located within the soil block behind a retaining wall or slope by driving the ground anchor which is attached to the drainage channel into the main body of the structure at low level. Water will naturally drain through the soil block; and as the installation angle is generally 5 degrees up from horizontal, water will freely egress the structure and run off as required.



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