

Project Report

Land and water approached Anchor Systems with a riverbank stabilisation and flood alleviation scheme situated in Salmons Brook, Enfield, London. A mechanical ground anchor solution was initially proposed by Halcrow and was the preferred solution over other traditional stabilisation methods such as soil nailing etc. due to the low risk of contamination of the waterway being a 'dry' system.

A section of the bank was to be reprofiled and bank levels raised to provide the flood protection. Ground anchors were required to ensure the stability of the slopes against shallow and deep-seated failures.

The finish of the slope profile was to look as natural as possible with vegetation able to grow and cover the slope face.

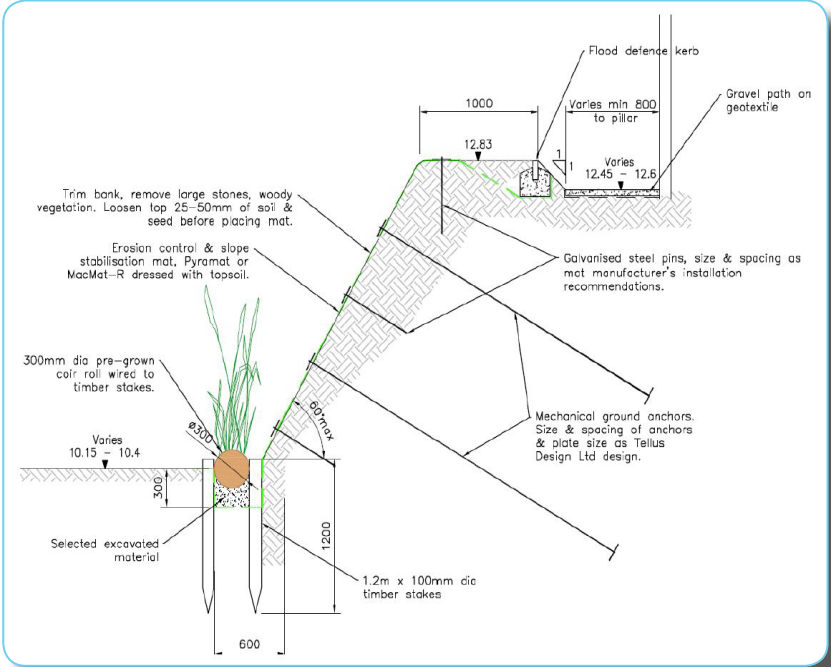
SOLUTION

Tellus design was contracted in to provide a global stability report detailing a suitable solution for the slope stability requirements whilst providing a system design life of 100 years. Anchor Systems attended site and carried out a validation creep test on the proposed AS-30 Vulcan Anchor to ensure the engineering design could be achieved based on the loading criteria that has been identified within the available soil conditions.

Based on load results achieved on site, a total quantity of 535no. AS-30 Vulcan Earth Anchors were specified across the slope sections, each with a 21kN proof load and 17kN lock of load. A recessed pattress plate and geo-mesh facing was specified in order to allow vegetation to grow over and completely conceal the system allowing for a natural looking embankment.

The specified Vulcan system was instantly ready to use without the need to wait for any grout to set before testing or applying loads. This allowed the contractor to complete the installation works well within the clients required timeframe. The stainless steel (grade 316) material, meant the system could be specified for the required 100-year design life even in a marine environment.

Plant required to carry out the installation works consisted of a 5T excavator with breaker attachment, 3m drive rod set, hand-held hydraulic pump and 12T hydraulic ram.



Embankment Stabilisation

SALMONS BROOK

CLIENT

The Environment Agency

ENGINEER & CONSULTANT

Halcrow

CONTRACTOR

Land and Water Services Ltd

DESIGNER

Tellus Design

INSTALLER

Tellus Design

ANCHOR SYSTEM USED

Number of anchors: 535
AS-30 Vulcan Earth Anchors

