

HARLAW BANK HOUSING DEVELOPMENT BALERNO, EDINBURGH, SCOTLAND

RETAINING STRUCTURES

Product: MacWall

Problem

The property developer, Applecross, specialises in creating exclusive residential developments within conservation areas. A new development in Balerno, Edinburgh required innovative retaining wall solutions to meet two distinct needs;

- River training retaining walls including flood prevention measures to the adjacent Bavelaw Burn
- Aesthetically pleasing retaining walls in the rear gardens of the properties

Applecross worked closely with SEPA to ensure the solutions were in harmony with the wooded environment.

Solution

Maccaferri gabions were selected for the river retaining walls (see separate Case History), and MacWall segmental blockwork reinforced soil walls were chosen for the highly visible retaining walls in the property gardens.

Applecross engaged Maccaferri Ltd and Maccaferri Construction Ltd to design and supply the structures.

The high quality MacWall offered a retaining structure in keeping with the quality construction of the homes and combined engineering strength with aesthetic appeal.

The system consists of “split-face” concrete fascia blocks with Paragrid geogrids to reinforce the structural backfill to the wall. The geogrids are sandwiched between courses of the facing blocks.

Client name:

APPLECROSS DEVELOPMENTS

Main contractor name:

CRUMMOCK (SCOTLAND) LTD

Designer:

HARLEY HADDON PARTNERSHIP

Wall Subcontractor

MACCAFERRI CONSTRUCTION LTD

Product used:

MACWALL “VERTICA”, PARAGRID

Construction date:

July 2001—July 2003 Phased construction



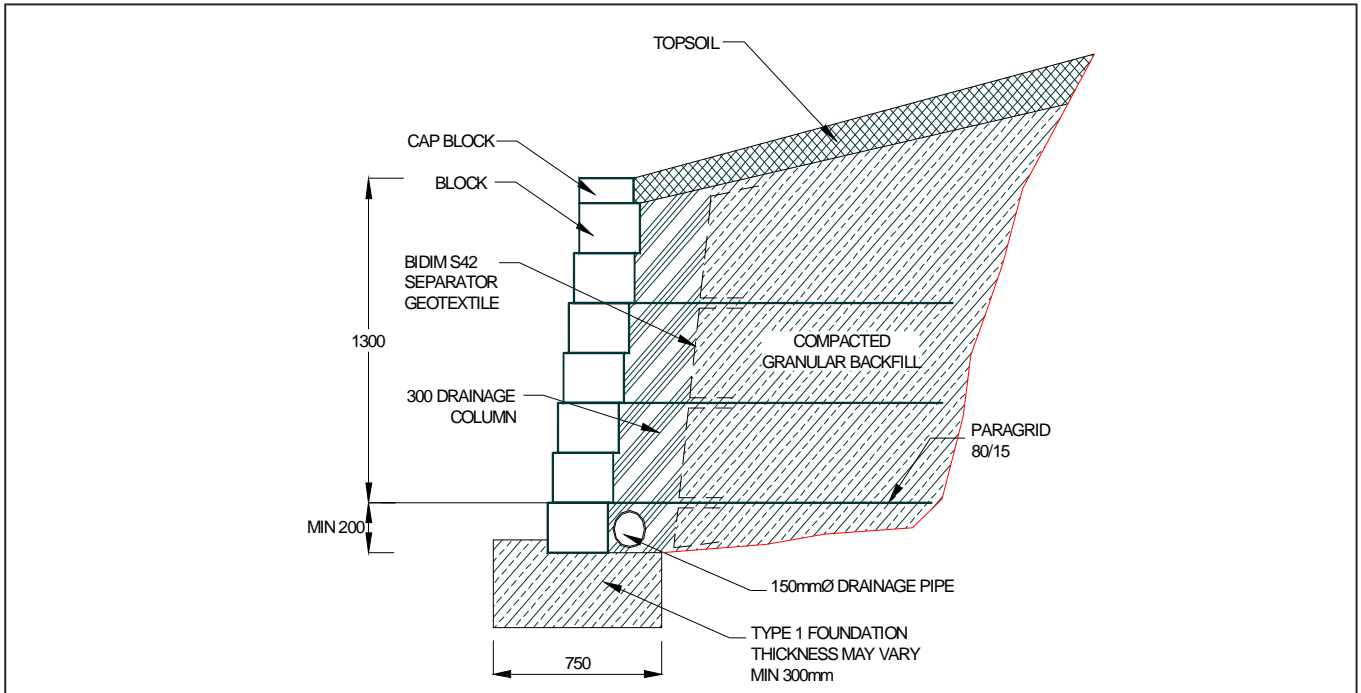
Post construction



Post construction



Post construction



Typical section

Positioning lugs on each block ensure accurate alignment and a rapid construction. The setback of 25mm per 200mm high block creates a 7° face angle, minimising land-take at the foot of the wall.

The walls at Balerno, required multiple layers of Paragrid™ 80/15S polyester geogrids to provide adequate soil reinforcement.

The flexibility of the MacWall system enabled curved walls to be constructed easily, enhancing the visual appeal. For consistency, low height walls, and stair details within the property gardens were also constructed from the MacWall blocks. Low-height walls (typically <900mm in height) do not require the geogrids soil reinforcement, although this is dependent upon the prevailing ground conditions.

The high quality “split face” concrete block finish can be supplied in a range of colours. As a final detail, a capping block is secured to the top course of blocks with an epoxy adhesive.



Post construction

Maccaferri Ltd - Head Office
 7600 The Quorum,
 Oxford Business Park, North,
 Garsington Road, Oxford, OX4 2JZ
 Tel: 01865 770555
 Fax: 01865 774550
 Email: oxford@maccaferri.co.uk
 Web: www.maccaferri.co.uk

Area offices
Perth:
 T: 01738 621317 F: 01738 442283 E: perth@maccaferri.co.uk
Belfast:
 T: 028 9026 2830 F: 028 9026 2849 E: belfast@maccaferri.co.uk
Dublin:
 T: 01 885 1662 F: 01 885 1601 E: dublin@maccaferri.ie
 Web: www.maccaferri.ie



Oxford, Perth, Belfast