

SQUIRES MOUNT Repair / Replacement Of Retaining Wall

STRUCTURAL REQUIREMENTS

Introduction

The perimeter masonry retaining wall which runs along East Heath Road on the boundary of Squires Mount has been surveyed. A 16m length of this wall has been found to be structurally unsafe as it leans outwards into the road. There is no pavement alongside it.

A design has been produced as shown on drawing STR-SA-20-001 rev A01 'Proposed Retaining Wall' for the replacement of this section of the wall. The design requires 125kg/m³ of reinforcement in the concrete.

Since the design was produced, discussions with the local authority have advised that a permanent partial road closure of East Heath Road will not be permitted except between the hours of 10.00am and 3.00pm. The design of the wall will need to be developed further to reflect what can be achieved within the daily construction window.

Design Criteria

The design of the retaining wall needs to meet the following criteria:

Actions

The permanent actions, densities and load factors will be in accordance with BS EN 1990, BS EN 1990-1-1 and corresponding National Annexes.

Permanent actions considered are:

Self-weight of the concrete retaining wall having a density of 25kN/m³

Self-weight of masonry having a density of 20kN/m²

Backfilled material of density 18kN/m³, angle of friction 30° and at rest earth pressure co-efficient of 0.50

Actions relating to imposed loading behind the wall

Imposed load actions at top of backfill to wall 5kN/m²

Actions relating to normal traffic under Highway regulations BD37/01 Loads for Highway Bridges

The design is to be in accordance with Eurocodes

A gravel / pea shingle drain is to be provided behind the base of the wall with weep holes to allow drainage through the masonry lining wall.

Appearance

As the site is in a conservation area, the wall external face of the wall is to be constructed using identical bricks to those in the existing wall and laid to the same pattern and bond. A movement joint will need to be provided at each end of the wall.

Approvals

The contractor will be responsible for obtaining Approval in Principle for these works from Camden Council.