Derby Lodge | Flats 1-36, Britannia Street + Flats 69-102, Wicklow Street

Design + Access Statement | Proposed remedial structural works

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Introduction

Derby Lodge, originally Derby Buildings, comprises two separate buildings: the first is located in Britannia Street in the London Borough of Camden. It was listed Grade II on 11 March 1994; its list entry no. 1272350 and the National Grid Reference is TQ 30680 82911. It consists of two contiguous blocks, containing Flats 1-18 and 19-36 Derby Lodge respectively. The second is the adjacent building fronting onto Wicklow Street, also listed Grade II on 11 March 1994; its list entry is no. 1379194 and the National Grid Reference is TQ 30700 82884. It consists of four contiguous blocks, containing Flats 37-53, 54-69, 69-84, and 85-102 Derby Lodge respectively.

The proposals to which this application relates are remedial structural works to the front access balcony areas of Flats 1-18, 19-36, 69-84 and 85-102 Derby Lodge. Note that only two of the Wicklow Street blocks form part of this application, the other two being in separate ownership.

The access balconies are of clinker concrete with a high percentage of aggregate with little binding matrix. Lintols over opening to the rear wall appear to be made of similar concrete. The front edges of the balconies were originally supported by decorative curved iron beams spanning between a central brick pier with decorative padstones and the brickwork of the main elevation to flats. These beams are supplemented by steel channels tucked immediately behind them. This appears to be a twentieth-century remedial structural measure.

Structural issues

The access balconies are of concrete with an integral wearing layer rather than asphalt or other waterproofing finish. Their front edges were originally supported by decorative curved and perforated iron beams spanning between the central brick pier and the brickwork of the main elevation to flats, supported at each end by decorative padstones. These decorative beams are supplemented by steel channels tucked immediately behind them, which appears to be a twentieth-century remedial structural measure.

Significant visible deterioration has been observed in the open balcony areas of all blocks. This includes:-

- cracking and spalling to balcony soffits, generally running back orthogonally from the building face
- cracking to lintols above all opening at the rear of the balconies, ie above front entrance doors, windows, and entrances to staircase
- cracking to central brick piers, combined with significant loss of material to decorative padstones which support the steel channels, in places significantly reducing their structural support
- rusting and corrosion especially at support points to the original decorative curved iron beams
- rusting and corrosion at their support points to the steel channels, themselves a remedial insertion

Concrete + steel/ironwork

Opening-up works instructed by the Structural Engineer, RCA Structures, have revealed that the access balconies are of clinker concrete with a high percentage of aggregate and little binding matrix. Lintols over opening to the rear wall appear to be made of similar concrete. Reinforcement consists of iron flats or fabricated angles, originally about one inch wide, at infrequent centres, perhaps 900mm to the balconies. The iron is very heavily corroded. This results in part from the extensive water penetration occurring around the rainwater shoe and gully which drain the balconies at each level. There is no waterproofing layer, nor is there a fall towards the gullies. In many cases there a backfall which generates ponding.

Brickwork

The central brick pier is of light yellow brick, probably of low compressive strength, and opening-up has revealed them to be of half-brick construction with a small central void. Rainwater pipes are attached to the

pier. The top inner corners, which take the load of the beams, are particularly prone to water penetration, and there is extensive cracking and degradation of the brick in many of these locations.

Padstones

The central and flanking padstones have decorative brackets which appear to support the curved beams, but in some cases these brackets have eroded almost completely. It is unclear if the padstone was originally a single concrete unit or whether decorative features were of applied render. Further investigation is to be undertaken.

Pattresses

A rectangular steel plate or pattress is fixed to the front and rear of the piers at high level, attaching a threaded tie bar which passes across the landing and is fixed into the main brick structure behind a similar plate. They are very unlikely to be original - the plates look inappropriate for the building date – although are probably pre-War, and were presumably installed because the piers were moving outwards from the main building structure.

The plates are corroded and cracked in a number of locations, and the tie bars are generally heavily rusted

Structural proposals

As a result of the visible structural issues a report was commissioned and prepared by Christopher Seaman of RCA Structures, Structural Engineers. The final version was issued on 12 June 2024. Following the opening up works it was agreed in conjunction with LB Camden Building Control that temporary propping of balconies and lintols was necessary to the Wicklow Street block. This work has now been carried out, but there remains considerable concern on the part of the residents regarding the safety of the block.

The Structural Engineer has prepared scheme drawings which require careful demolition and rebuilding of the central piers. The existing bricks cannot be reused as their compressive strength cannot be proved and is unlikely to reach the required 15kN and many are damaged. New bricks with the appropriate structural performance which are a good match in colour and overall appearance have been selected and sample panels pointed in lime mortar have been reviewed on site.

As part of the reconstruction of the central piers, the central padstones will be replaced. Reinforced concrete to the Structural Engineer's detail [refer RCA Structure's' dwg. no. 25536_03A] will be cast on site. Decorative profiles and details will be made up to exactly match the original using moulds made from existing padstones, using proprietary specialist render: Sika MonoTop-615 R3 Classification, One-Component Cementitious High Build Concrete Repair and Reprofiling Low Density Mortar. This will be bonded to the concrete using SikaTop Armatec-110 EpoCem Bonding Primer. The remade padstones will then be fitted onto the reconstructed brick piers. A sample padstone will be constructed and offered for inspection in due course.

The attached padstones at either end of the balconies will be repaired in situ using the same Sika products.

Lintols to the inner wall over windows and doors will where necessary be replaced in concrete with appropriate reinforcement [refer RCA Structure's' dwg. no. 25536_03A] and cast to match the existing mouldings. Should this be unfeasible they too will be made up to matching profiles in specialist render.

Concrete repairs will be carried out to balcony soffits, and balcony floors overlaid with a waterproof finish coat in order to prevent saturation of the slabs and pier bases.

Pattresses will be replaced with steel elements cast to match the existing. Tie bars and internal fixing plates will be retained wherever possible.

Decorative iron beams, along with balcony balustrade panels, will be removed where the level of deterioration/corrosion demands, cleaned and repaired by specialists, painted to exactly match the current colour, and reinstated. Steel channels will be treated similarly unless their condition dictates replacement.

Rainwater pipes and brackets will be replaced in cast iron, profiles to match the existing.

Objectives

The primary aim of the proposed works is to make the blocks structurally safe and prevent further corrosion, movement and loss of material. Besides providing much-needed reassurance for the residents it will allow

the obtrusive propping system to be removed.

Waterproofing will prevent reoccurrence of the saturation of vulnerable poor-quality historic clinkerd concrete construction.

The proposals will require additional detail as investigation work proceeds, to establish and record the extent of removals and renewals and to accurately record the original detail of items such as the padstones. Further more detailed drawings can be provided as this stage proceeds.

Validation

At the request of LB Camden's Conservation Officer, Conisbee, a structural engineering practice with a conservation specialism, was instructed to carry out a review of RCA Structures' proposals. Dave Richards attended site on 25 February 2025 and inspected piers at each level of each block. Meanwhile RCA Structures prepared and issued a consolidated report drawing together the conclusions of all their previous reports. This was issued on 11 March 2025 together with their drawings 25536/05 showing structural defects to the balcony elevations of the Wicklow Street blocks, and 25536/06 showing those to the Britannia Street blocks.

Conisbee have now reassessed RCA Structures' proposal in the light of the consolidated report and their own detailed site inspection, and have validated its recommendations. In particular they note that piecemeal retention/replacement of central pier elements is not feasible given the required design life of the building and the ongoing unpredictable deterioration.