

**26 Rosslyn Hill
London – NW3**

Partial Visual Survey
Boundary Wall Foundations

Report Prepared For:

Simat Properties Limited
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Introduction

At the request of Simat Properties Limited a structural engineer from Kiosque Ltd visited the property 21 August 2023 and carried out a partial visual survey.

The purpose of the visit was to assess the adequacy of the foundations of the boundary wall between No 26 and No 24 Rosslyn Hill, London NW3.

A trial pit had been excavated in front of the wall prior Kiosque Ltd visit down to the foundations formation level enabling the depth and profile of the wall foundations to be surveyed and ascertained.

Findings

- The boundary wall is a solid brick wall 1 brick thick (9") at the top and 675 mm thick at its base (see sketch 1031-SK-230822-001).
- 440 x 557 mm brick piers at 3.30 m c/c provide lateral stability to the wall.
- A movement joint has been installed between each pier along the length of the wall.
- The ground on No 24 side is higher than on No 26 and the wall retain approximately 0.5 m of soil behind.
- The wall is a substantial brick construction given the required purposes.
- The wall appears to be in good condition with no sign of distress or structural damage.
- The wall foundations consist of a stepped concrete footing 150 mm thick only and typically 225 mm below ground level on No 26 sides.
- The substrata at foundations formation level consists of Clay soil.
- Steps in the wall concrete footing have been introduced to follow the sloping external ground level on the No 26 site, sloping down towards the rear of the site.
- At one location the step has been installed slightly above ground level (see Photo 3) and consequently the foundations formation level at this location is only 150 mm below ground level.
- No overlap has been installed at the step between the higher and lower level concrete footing (see Photo 2).
- Roots, including a large approximately 60 mm diameter root, below the foundations were noted in the trial pit. These roots appear to be from the plane tree on the other side of the wall on No 24 garden.

Discussions – Recommendations

- The foundations as surveyed in the trial pit are very shallow foundations and lie within the zone of influence of the trees on No 24 side.
- The foundations depths do not comply with the NHBC Standards “Part 4 Foundations Ch 4.2 Building Near Trees”. In shrinkable soils (eg Clay soils), the substrata changes in volume as moisture content fluctuates seasonally, including the action of tree roots which exacerbate the shrinkage of the substrata by drawing water and moisture from the ground. The resulting shrinkage or swelling can cause damage to the foundations and the structure above.
- Equally, as tree roots expand in diameter, they can cause damage to the foundations by exerting upwards pressure to the foundation and structure above.
- The stepped foundations have been installed with no overlap at the change in level of the footing (see Photo 2). Consequently, there is a weak point at the step location and should ground movement occur, cracks could develop from this point.
- Following the NHBC guidance the foundations of the wall should have been designed and installed deeper for the formation level of the concrete footing to lie outside the zone of influence of the tree roots.
- Although no sign of structural damage was noted to the wall the presence of roots under the foundations and the very shallow depth of the concrete footings would indicate that there is a high risk that structural damages and movements could occur in the future.
- A preventive measure to make the wall futureproof would be to increase the depth of the foundations and underpin the wall to such depths so that the bases of the underpins are outside the tree roots influence zone.
- We understand that it is proposed to develop the site and that as a result the existing ground adjacent to the wall will be reduced. The preventive measures recommended above apply regardless of the development proceeding or not.
- In the view of high risk of potential structural damages, which could occur in the near future, we recommend that the wall is underpinned as described above at the earliest opportunity.

Photos



Photo 1: Brick Garden Wall



No footing overlap
At step

60 mm diameter root
under footing

roots
under footing

Photo 2: Trial Pit - Wall Foundations



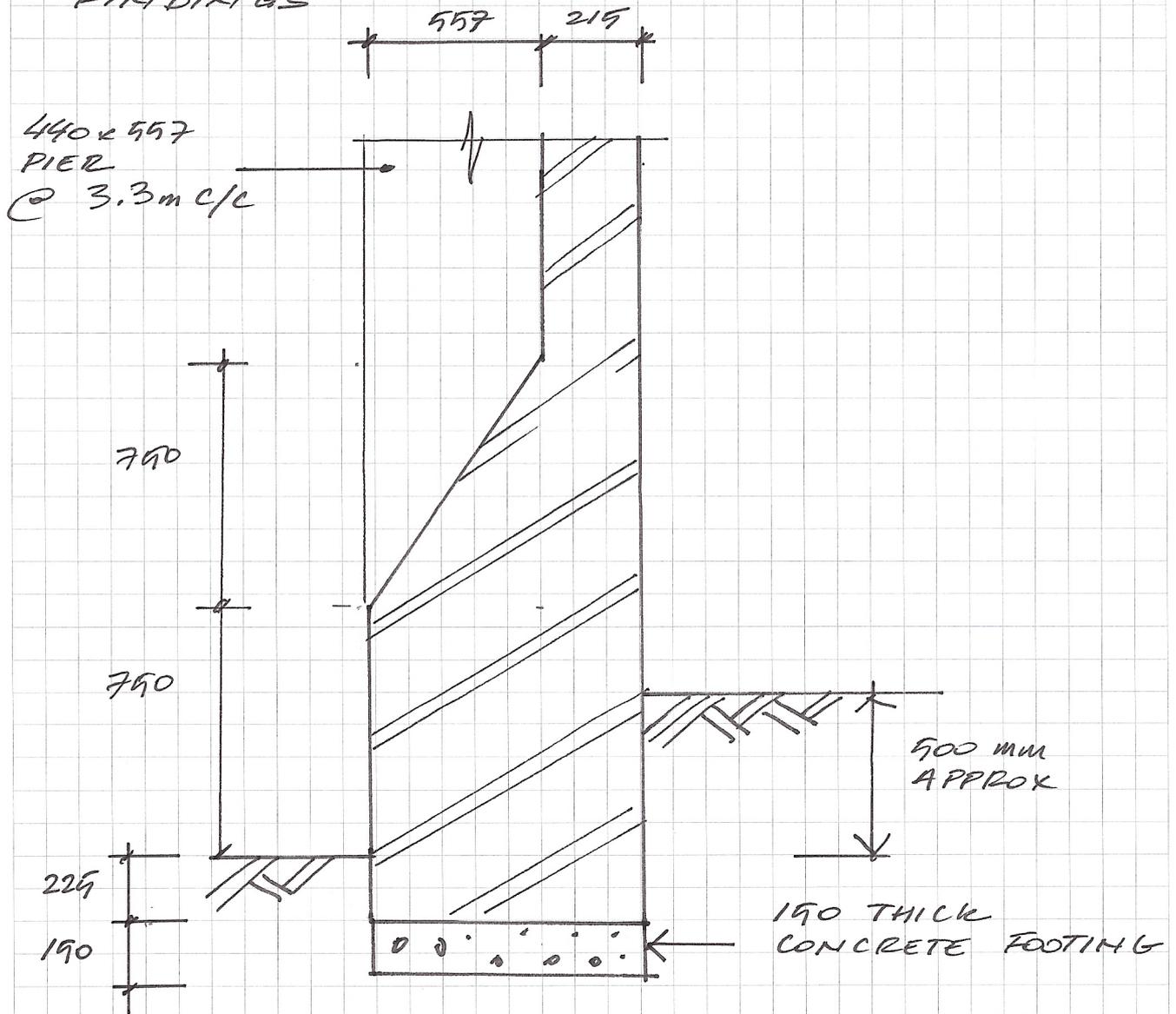
Concrete footing
above ground

Photo 3: Wall Foundations at or Above Ground Level

Sketch

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|--------------|------------------------------------|-------------|-------|
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FOUNDATION PROFILE
FROM TRIAL PIT
FINDINGS



TYPICAL SECTION 1

