



REPORT N° STR 001

70-74 SCLATER STREET

STRUCTURAL EXTERNAL INSPECTION

CONFIDENTIAL

OCTOBER 2017



70-74 SCLATER STREET
STRUCTURAL EXTERNAL INSPECTION
Bishopsgate Good Yard Regeneration Ltd

Structural Report
Confidential

Project no: 24710919-140
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1 EXECUTIVE SUMMARY

1.1 INTRODUCTION

The purpose of this report is to provide a structural assessment of the existing buildings structural condition and any anticipated strengthening or rebuilding requirements which may influence the proposed options being considered for the buildings re-use.

1.2 INSPECTION SUMMARY

Following a confirmed appointment by Ballymore, a structural inspection of the external elevations of the properties was undertaken on 3rd October 2017 by WSP Structural Engineers, Chris Dyson Architects and CBRE Asset Services.

The inspection was limited to external evaluation only, due to the poor condition of the building internally, and consequently a series of assumptions are made on the internal condition and arrangements until further safe access is granted.

Temporary works was also inspected, but other than general recommendations would need to be properly assessed by an appropriately qualified temporary works contractor.

As would be expected of a building of this age with no maintenance for a significant period of time, the building is in poor condition with evidence of wall stability/integrity issues on parts of the rear elevation, rear addition to 72 & 74 and front elevation eaves to number 70, most likely caused by either collapse or reduction support from the internal timber floors within. In these areas the walls were showing obvious bowing out of plumb, some areas appearing to exceed or be close to the "middle third" rule for load transfer.

The temporary works that was inspected externally, showed a profusion of walings across windows with evidence of ties into the building, but in many cases these appeared loose or not suitably robust enough to provide much assurance of their function in supporting the building. With no internal access to assess how these ties are fixed at present, only external assessment of the buildings condition can be made, which is poor. The original roof to the rear addition and some internal floors had been lost some time ago, and the temporary works within appeared to only support the corrugated with internal back props, leaving the west wall elevation unrestrained for its full height. The main roof, appeared intact with relatively recent linings, but could not be qualified to any reasonable level as this could only be inspected from ground level.

The immediate measures to tighten the walings and then provide an external scaffold with positive fixings to the rear wall and existing ties/scaffold would be strongly recommended, until safe access is granted inside the building. It is recommended that the appointment a TWC (temporary works contractor) to assess the temporary structure, along with undertaking an asbestos survey as two of the immediate requirements. Therefore temporary visual access through the blocked up rear windows to all floors would seem the sensible next step. The Appendices show the current condition of the building and highlight anticipated areas requiring rebuild and temporary strengthening.

2

PROJECT BACKGROUND

2.1 EXISTING BUILDING

HISTORICAL INFORMATION

70-74 Sclater Street, Shoreditch are otherwise known as the Weaver Cottages and date back to 1719.

They were originally built to house the silk weavers of Spitalfields and are adjacent to a further set of buildings from 66-68 Sclater Street running parallel to the railway. Historically, there were also further cottages running from 76 to 78, but have now been demolished.

Comprising cellar, ground, first and second floors, these Georgian cottages provided quite extensive floor areas within, based on a one-room-plan. No. 70 has a clear joint line on the party wall to the front elevation which confirms Number 70 had its frontage rebuilt in 1777.

During the early 1800's Shoreditch and Spitalfields developed as a network of small streets and courtwards with high density housing and small scale industries linked to warehouses. Shoreditch Station was opened by the Eastern Counties Railway in 1840 and later renamed Bishopsgate in 1847. The railway lines were carried on impressive brick viaducts, the construction of which changed the local street layout considerably, but Sclater Street remained.

The cottages continued to be used through to the mid 20th century with trades ranging from dogs and birds, to stone masons and more recently restaurants, until in late 1980's they were became disused. It is believed that the two storey rear addition was a later addition. The only use they have seen recently is to house squatters. The building had been scaffolded during temporary works and minor repairs, encouraging quite extensive graffiti, but more recently with the scaffold removed, the building has generally been left to degrade, with no ongoing maintenance or visible scaffold or temporary works checks. .

STRUCTURAL DESCRIPTION

The buildings comprise a single and semi-detached arrangement of structure, which most likely originally formed part of series of terraced properties.

They are of traditional construction, with basement, ground, first and second floors. There are stairs which access the basements to 72-74 and the upper floors. It is believed that there may have been a basement to number 70, but this has since been infilled.

The external walls are masonry, varying in thickness from a brick and a half at ground floor level, slimming to a brick's width on the upper floors. Integral chimneys are located on the party wall lines, running up to serve all floors and likely basement too.

The floors are suspended timber spanning front to back. The roof is also expected to be timber cut roof with purlins spanning between party walls and raking props to binders mid span, but this is only based on architectural sections, which indicate a flat ceiling at 2nd floor.

2.2 PROPOSED ALTERATIONS

In order to retain most of the main building, there have been a variety of proposals put forward ranging from minimal change to extending the rear for two storeys for the full length of the three properties. All options propose retaining the main building, with variances on the rear addition.

Due to the condition of the building, some areas of the existing building will likely have to be taken down in the first instance and rebuilt, which lends some gravitas to a more developed solution for extending the rear. See Appendices for anticipated areas of demolition and rebuild.

The basements are currently intended to be retained for possible reuse. All internal alterations are subject to review following internal access and assessment.

3 SITE OBSERVATIONS

3.1 GENERAL OBSERVATIONS

The external structure inspected was in poor condition, with clear evidence of out of plane wall bowing particularly to sections of the main rear elevation and western elevation to the rear addition. Evidence of established organic growth in walls and gutters has further accelerated the poor condition of the masonry. Bed joints are in some cases heavily eroded, examples of this were found on the rear elevation near the east end. Brick facings had also deteriorated due to weathering. Whilst the roof to the main building appeared to have been relined relatively recently, the existing roof to the rear addition was non-existent with a corrugated steel roof being pitched over and back propped by scaffolding beneath.

Whilst there was no safe access to undertake a representative survey to the inside, from inspection through external door or window openings there was evidence of retained first floor joists to number 70 and evidence of at least partial first floor retention in the east section if the rear addition to number 74.

3.2 REAR ELEVATION & SIDE ELEVATION

Access to inspect the rear elevation and east side elevation from ground level was made by entering the side access gate to number 74, which lead to a recently cleared rear yard that allowed access to all three properties rear elevations.

The rear elevation to number 70 contained a series of blocked up windows and some boarded over windows and doors at ground floor level.

There were a series of steel channels acting as walings to support the rear walls, being tied into the internal structure and/or temporary structure within. There are areas where the walings are not properly packed or tightened to the rear wall, with visible gaps between the packers and the back face of the steel channels. This is partially due to the uneven vertical surface of the wall due to the presence of noticeable out of plane bowing and bucking of the wall, but more likely due to lack of temporary works inspections and maintenance for a period of time, where “creep” can occur. In one instance a ladder beam is used as a waling tied to a protruding raking scaffold leg, which is not an effective tie restraint.

The condition of the rear wall to the main building is poor, with cracking immediately in front of party wall junctions and very obvious bulging and bowing of masonry at 1st floor and eaves level particularly between numbers 70 and 72. Where the main building rear wall met the west wall of the rear addition, there was also evidence of the wall and window bowing inwards. The rear addition obstructed the view of the junction between numbers 72 and 74, but cracking was noticed at the party wall above the rear additions ridge line. The most easterly section of wall immediately below the eaves also appeared to be bowing inwards slightly. In general the

brickwork facing was weathered with some areas of bed joint erosion, cracking, and brick facing damage due to saturation and freeze/thaw degradation.

The rear addition showed signs of severe dilapidation, with the first floor completely missing on the west side, along with the existing roof being completely replaced with a temporary corrugated sheeting. With the missing first floor, the integrity and restraint of the west wall has been compromised with noticeable bowing around first floor level. The top of the wall at eaves level did not appear to be restrained in any robust way. The east elevation of the addition appeared more robust, but contained cracking around first floor level, in and around door and window lintels from ground floor. The soldier courses in these areas over the openings were split or were in the process of failing. A small bush, similar to a buddleia was noticed to be well established and there was considerable plant growth around the junction of the addition and the main building, making inspection restricted. Minor cracking to the rendered south face of the addition was noticed, but without removal of the render, verification of blown render or structural cracking could not be readily distinguished.

3.3 FRONT ELEVATION

Viewing the buildings from Sclater street, the extent of graffiti and decoration compromised the visual inspection, and any obvious cracking was hard to discern. Similar to the rear elevation, the masonry was weathered, with signs of bed joint erosion, but in general the walls appeared to be quite plumb with no obvious signs of distortion due to bowing or bucking. However, at the eaves level of number 70, where there was a clear vertical joint adjacent number 72, the wall showed evidence of leaning inwards by up to 50mm at the top. At the western end of the façade, on the corner of number 74, the lower brickwork facing had started to move away from the main structural line, with a noticeable vertical crack running from first floor upwards to second floor. The crack also followed around the return (the old party wall to number 76) down to ground level. A mesh had been wrapped around the corner and fixed via unistrut to the side wall, presumably to prevent debris from falling onto the street.

The roof could only be inspected from ground floor, but appeared to have had a relatively recent felt covering (or similar) applied, but its condition could not be verified.

3.4 INTERNAL STRUCTURE (LIMITED)

As described previously, there was no safe access to the inside of the buildings, but where ground floor openings were accessible, limited inspections internally were made from outside.

Number 70 had a visually accessible front doorway which enabled a limited inspection to the structure within. Numerous scaffold standards and sole plates were noted to back prop the first floor. The joists generally appeared to span front to back, and there was an existing timber winding staircase just to the left of the door leading upwards. The underside of ground floor appeared to be either back filled in completion, or had an earth fill between floor joists. A photograph from the rear access door suggested an 18mm floor boarding on joists, with an earth infill beneath.

The rear addition to numbers 72 and 74 also had open doorways at ground floor allowing an limited inspection inside. The east elevation had internal scaffold standards and bracing back propping the first floor. There was evidence of the scaffolding continuing into the main building within. The west elevation revealed similar extent of back propping but with no first floor the propping extended to support the corrugated temporary roof only. There was no signs of any restraints or ties to the west wall here, which spanned two stores

4 ASSUMPTIONS MADE

4.1 TEMPORARY WORKS

With no internal access the temporary structural works including any tying or bracing could not be confirmed. Evidence of ties from the external walings into the building were noted, but it could not be verified if these were appropriately fixed to the internal scaffold structure or acting as through ties. For the purpose of this report and from the limited areas seen it would be reasonable to confirm that the scaffolding internally has been placed for back propping of floors only, with some ties from the external walings being fixed to these, however this would need to be validated as early as possible via the careful removal of some of the window block infills both from the rear elevation.

4.2 INTERNAL STRUCTURE & CONDITION

As stated, with not internal access, the inspection and validation of the existing internal structure could not be verified. However, based on the limited inspections externally, and the general state of disrepair, it would be fair to assume that the joists internally have begun to fail structurally and hence the integrity of the external facades at the front and rear have been compromised, causing the misalignment of the walls vertically.

It would be expected that the floors are timber spanning front to back based on the ground floor arrangement, possibly with an internal spine beam breaking the spans on the upper floors, and a sleeper wall located in the basement. The roof would be traditional cut roof with ceiling joists, binders, raking props , purlins and rafters

5 CONCLUSIONS

5.1 IMMEDIATE ACTIONS

The immediate priority is to ensure the structure is safe and that the temporary works are validated. A TWC (temporary works contractor) should be appointed to inspect the site, with anticipated provision of a safe external access being provided to all floors from the rear, in the form of either a mobile temporary scaffold tower or more permanent scaffold framing with the provision for both access and additional restraint for the building (from the site inspection, this would be our recommendations, but the detail of this would need to be confirmed by the TWC). The west wall to the rear addition needs immediately tying back, both at first floor and eaves level.

If a long term scaffold solution is proposed the site should be made secure, including the boundary wall adjacent the currently used yard area to the east (where number 78 was located), where the wall is currently unstable and should be replaced with a suitable secure fencing.

The TWC should be able to validate the appropriateness of the temporary works, along side the structural engineer, so immediate high level inspections through the existing windows should be provided as a matter of urgency, along with the general packing and tightening of existing walings where there effectiveness is questionable.

In addition to the above, a non-intrusive asbestos survey will need to be undertaken prior to any internal access is arranged.

5.2 RECOMMENDATIONS

Following the assessment of the temporary works for stability of the building and the initial asbestos survey, safe accessible routes will need to be provided within the building at each floor level to survey and validate the existing structural form, condition and measurements. Again, the TWC should be consulted with this access provision in mind, along with the asbestos contractor prior to any inspections and structural/measurement surveys are undertaken.

Pigeons and other vermin will need to be cleared from the site also and the building made secure from further infestation.

Following this, the inside of the structure can be assessed.

Appendix A

PHOTOGRAPHS

APPENDIX A-1

SITE PHOTOS



Numbers 70-74 Sclater Street – “Weavers” Cottages



Rear elevation of Number 70 Sclater Street



Rear Elevation of Number 74 Sclater Street



Rear elevation of numbers 72/74 Rear Addition



East wall of rear addition to number 74



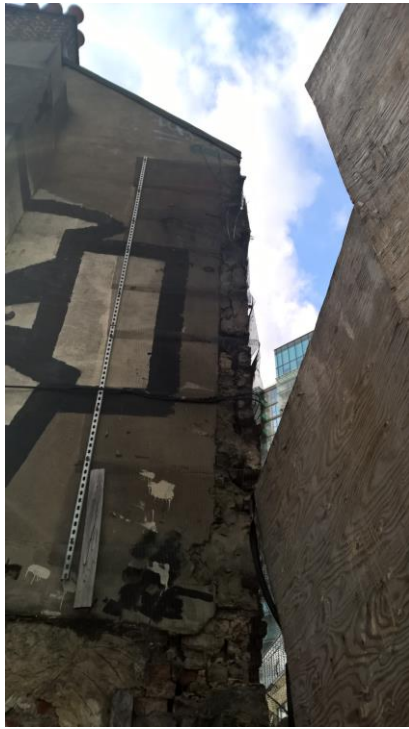
Rear wall junction between numbers 70 and 72 Sclater Street



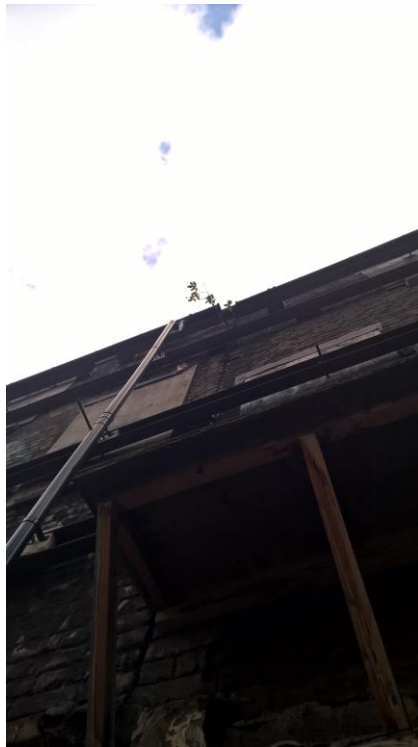
Junction of rear wall to west wall of rear addition to Number 72 Sclater Street



Inside the west elevation of the rear addition to Number 72 Sclater Street



East elevation of Number 74 Sclater Street



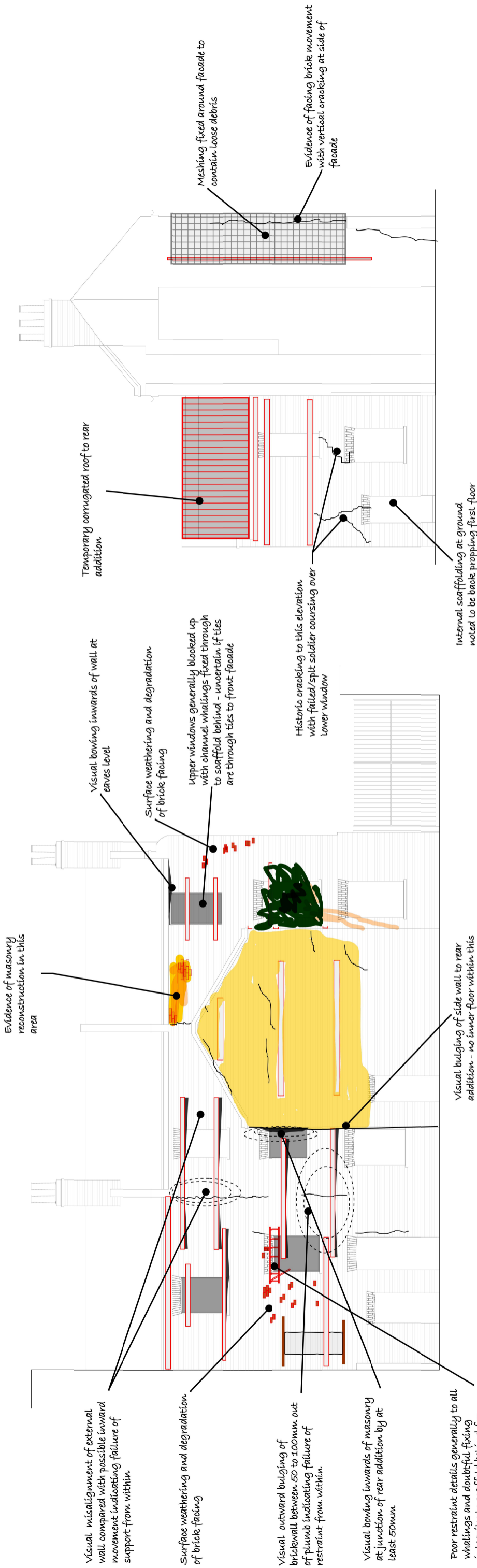
Front elevation between 70 and 72 showing wall misalignment at 2nd floor

Appendix B

CONDITIONAL ELEVATIONS

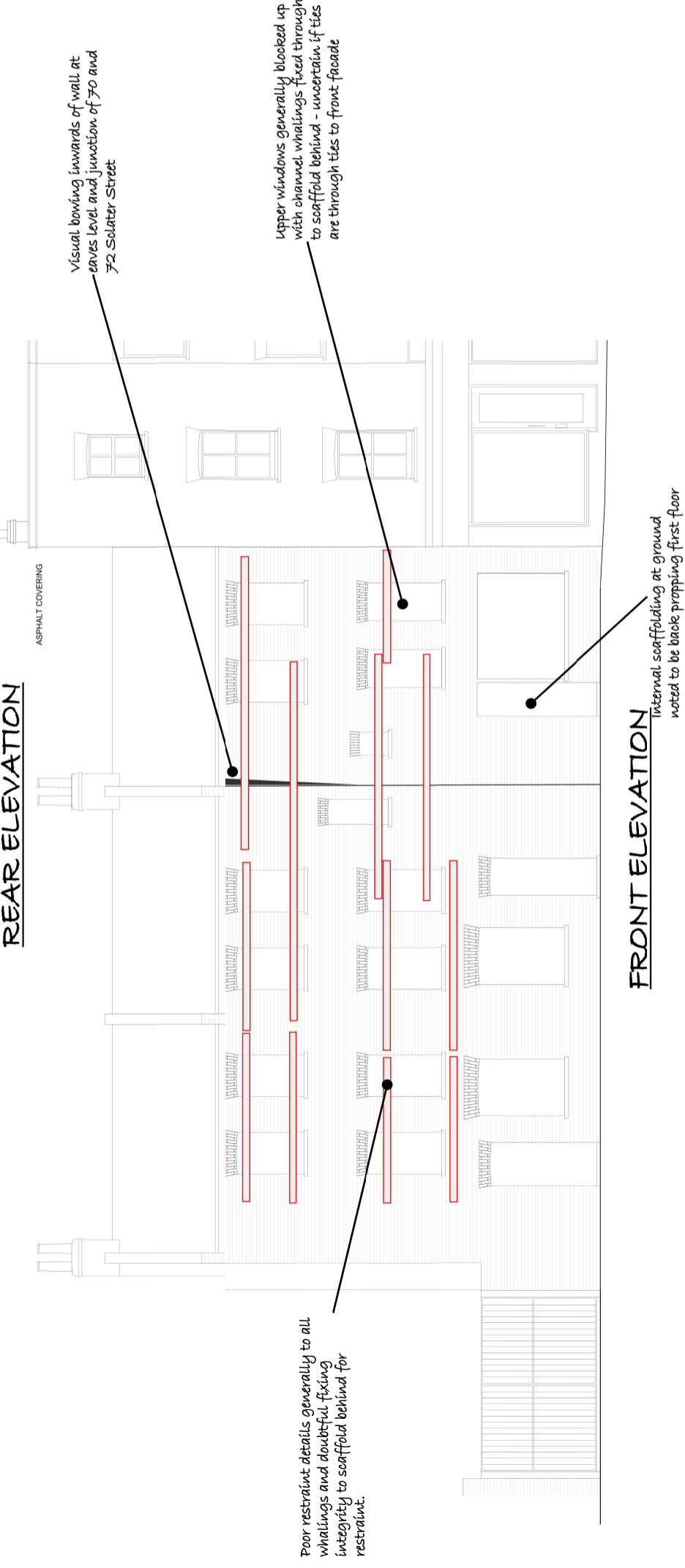
APPENDIX B-1

EXISTING EXTERNAL ELEVATIONS & EXTENT OF REBUILD



EAST ELEVATION

REAR ELEVATION



FRONT ELEVATION

B 26.10.17 IFR FURTHER NOTES

A	17.10.17	IFR	INITIAL ISSUE		
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TITLE: EXTERNAL CONDITION SURVEY

SCALE @ A1: NTS

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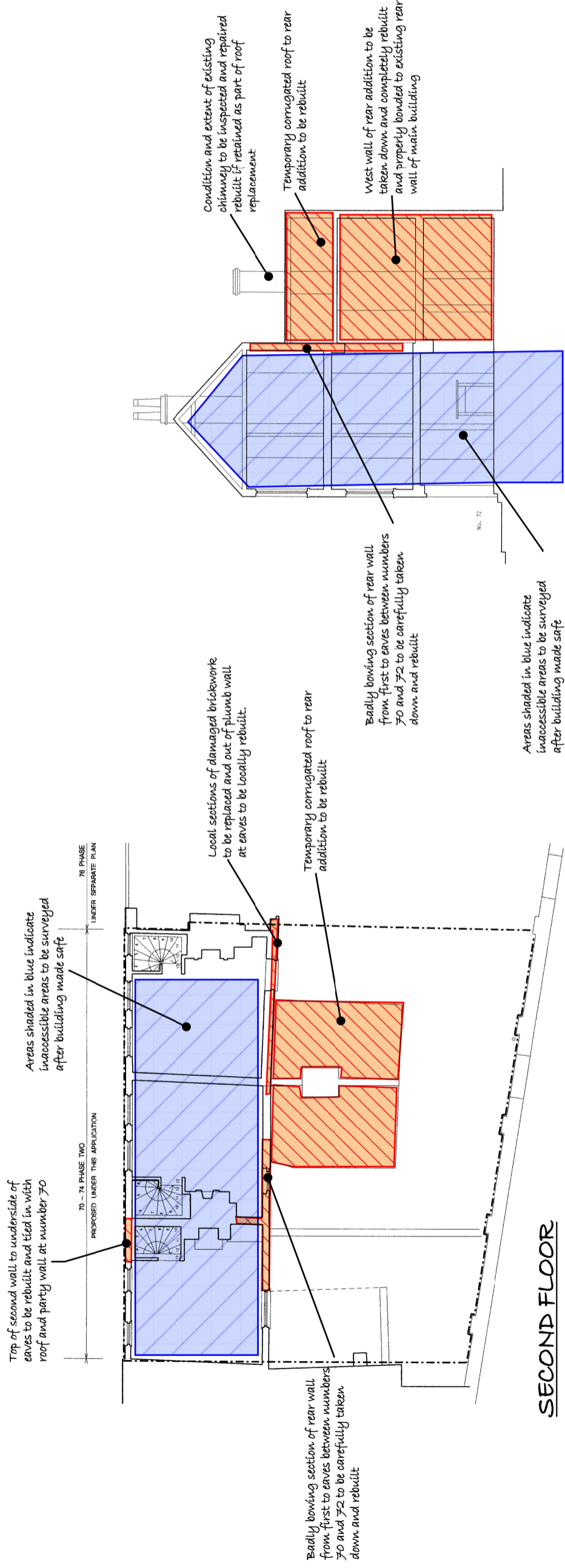
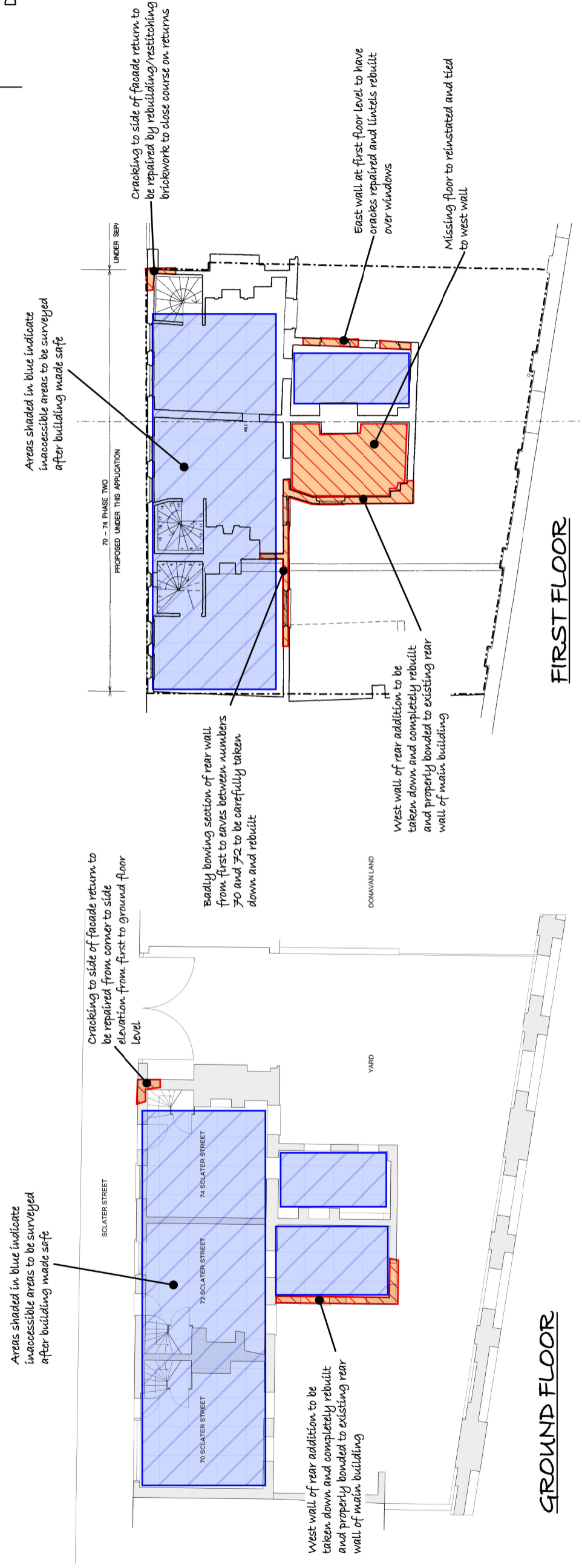
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PROJECT NO.		DRAWN	DATE	
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