

Heritage defect repair specification and methodology

123-125, Liverpool Road,
Manchester M3 4JN



Prepared for: Artal

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1. Introduction

1.1. Background

- 1.1.1. Instructions were confirmed by James Sands of Artal on 31 August 2022 to inspect and report on the condition of 123-125, Liverpool Road, Manchester.
- 1.1.2. The premises are located within Manchester city centre, on Liverpool Road, and are Grade II Listed. The building comprises three storeys (including basement) and appears to have been constructed in early to mid-1900s, originally forming two townhouses. The building comprises red clay bricks constructed in a Flemish bond arrangement, incorporating sandstone cills, voussoir brick lintels and a combination of both timber framed casement and sash windows, with a timber dentil course at eaves level and timber pilaster detailing surrounding entrance doors.
- 1.1.3. There are numerous later additions built off the existing footprint of the original building which are to be demolished, as per the listed building consent application.
- 1.1.4. The original building which is to be retained is 'L' shaped in plan, located on the corner of Woollam Place, in close proximity to Manchester Deansgate.
- 1.1.5. This report relates to the specification of materials and methodology, to support a discharge of conditions pursuant to the relevant, relatable planning applications in coincidence with a wider development, including sensitive repairs to the external façade.

1.2. Survey details

- 1.2.1. The site inspections were carried out by Liam Piercy BSc (Hons) on:
 - Wednesday 07 December 2022
- 1.2.2. The weather conditions at the time were:
 - Clear and sunny with frost.
- 1.2.3. The survey comprised a visual inspection from vantage points at ground level of all external areas to the front, left, right side and rear elevations.
- 1.2.4. Access was restricted at low-level to the front elevation and the inner section of the rear elevation due to the heras fencing. Any further items of disrepair can be noted following striking of the fencing and access provisions being available to the rear.
- 1.2.5. The roofs were not inspected during the inspection, and all survey data was afforded from ground level in absence of a mobile elevated working platform (MEWP).

1.3. Summary

External condition

1.3.1. The external fabric of the building is generally in fair condition. There are defects to the brickwork, pointing and stone cills, which require short term repairs to prevent further deterioration and to improve the aesthetics of the building.

1.3.2. The tables towards the end of this report identify the location, element, description of defect and proposed remedial works.

Internal condition

1.3.3. The internal fabric of the building is generally in very poor condition. There are various points of water ingress leading to damage of ceilings, floors, walls and internal joinery and stud partition walls are impact damaged throughout. There are numerous windows which require easing and adjusting, splice repairs and replacement glazing panes, however, we understand the windows are to be wholesale replaced throughout, with the exception of isolated windows, as set out within our repair methodology.

1.3.4. Repairs to the internal areas are not included within this report.

Brickwork

1.3.5. The brickwork externally appears to be in fair condition commensurate with age, which comprises red clay bricks. We noted minor spalling to isolated bricks throughout the elevations, which do not require any intervention, other than to improve the aesthetics of the premises. Furthermore, there are numerous isolated penetrated or missing bricks, which require replacement to prevent further deterioration, of which we have highlighted on our drawings. We noted a section of mismatched, modern/non-original brickwork to the front elevation at ground level.

1.3.6. Following demolition of the modern extension to the rear elevation, Hollis are to undertake a subsequent inspection to advise on repair methods required to the façade, including within this report. We assume this will be limited to the upper stories which will not be enclosed by the new extension and window voids. Hollis are to liaise with Domes to confirm a date for inspection

Stone cills

1.3.7. Throughout the elevations, there is minor stone decay to isolated cills caused by general weathering, which is normal based on the age and location of the elements. Largely, we do not deem any intervention or repairs to these areas necessary at this time due to the deterioration only being in the early stages, however we noted deterioration to isolated lintels as highlighted on our drawings, which would benefit like-for-like repairs.

External doors

1.3.8. Access was restricted due to the temporary heras fencing and as such we have not made any comments. Notwithstanding, we understand that the doors to the front elevation are being replaced, with isolated doors being removed and replaced with a glazing unit.

- 1.3.9. Following a cursory review of the architect plans provided by Tim Groom Architects, we assume all doors are being replaced with new as part of the scheme.

Roof

- 1.3.10. We understand that like-for-like repairs are to be undertaken to the main roof spanning 123-125 (Liverpool roadside), of which we make comment on further within our report.
- 1.3.11. We understand the flank roofs, serving the left and right 'out riggers' is in poor condition, with numerous penetrations, rotten joists, spar feet and dragon pins allowing birds to nest. We understand that these roof coverings are beyond repair and will be subject to wholesale replacement. We comment on this further within our report.

1.4. Further information/consultant comments

Structural engineer

- 1.4.1. We have had sight of a structural report from Renaissance Structural Engineers and have reviewed the stage 3 drawings and have included external repairs within our schedule.

Heritage consultant

- 1.4.2. We understand that a Heritage consultant has been appointed to deal with the listed building consent application and other heritage matters.

Architect

- 1.4.3. We understand an architect has drafted preliminary design information, including proposals to the elevations, of which Hollis have undertaken a review.
- 1.4.4. All remedial works are to be read in conjunction with drawing(s), as provided by Hollis and located within Appendix E:
- Front elevation – Liverpool Road
 - Left side elevation – Old Medlock Street
 - Right side elevation – Woollam Place
 - Rear elevation
- 1.4.5. Once all design information is finalised and available for review, Hollis is to undertake review and provide further comments, including updating the report if required.

Limitations

1.4.6. In addition to the published limitations, we were restricted during our inspection in the following ways:

- The inspection of the elevations was from vantage points at ground level.
- There were various windows throughout that were boarded over.
- The inspection of the ground floor building fabric to the front and left side elevation was obscured at the time of our inspection due to temporary security fencing.
- We have not carried out a full inspection of the fire escape staircase to the rear, and observations were made from ground level only, however, have not provided comments on this as we understand this is to be removed as part of the scheme.
- We have not carried out any intrusive surveys.
- We have not tested or commissioned any further reports on the rainwater goods or below ground drainage.
- We have not carried out an internal inspection of the premises.
- We have not undertaken a roof inspection and have provided no commentary on this.

1.5. External

1.5.1. Doors

Location	Element	Number (from left side to right)	Condition/proposed repair method
Liverpool Road Elevation	Doors – Ground floor	D1	Unknown – Door was boarded/obscured at the time of our inspection. The proposal is to install fixed glazing to the opening, in-line with Repair Methodology A22.
Liverpool Road Elevation	Doors – Ground floor	D2	Unknown – Door was boarded/obscured at the time of our inspection. Door to be replaced with new timber door or repaired. The heritage surveyor is to inspect following commencement of works to confirm remedial options and liaising with the CO. See Appendix A – A19.

Location	Element	Number (from left side to right)	Condition/proposed repair method
Liverpool Road Elevation	Doors – Ground floor (including timber detailing/shop front surround)	D3	Unknown – We understand there is no door to the opening and a timber panel in-lieu. The infill panel should be inspected and repairs specified. The door is to be repaired in line with A13.
Woollam Road Elevation	Doors – Ground floor	D4	Unknown – Door was boarded/obscured at the time of our inspection. The proposal is to install fixed glazing to the opening, in-line with Repair Methodology A22.
Old Medlock Street	Doors – Ground floor	D5	Unknown – Door was concealed at the time of our inspection. Door to be replaced with new fire escape door, in-line with Repair Methodology A24.

1.5.2. Windows

Location	Element	Condition/proposed repair method
Generally	Windows (Generally)	All windows to be replaced, with the exception of (from left to right – front elevation) W1, W2, W3, W4 & W5 & W6 (to the rear elevation) marked on the Hollis plans, to the architects specification. The architects drawing from Tim Groom Architects (TGA) should be used to determine works to windows and Window Ref: 00.19 should be used (original sash window) as a template for the design of new windows to ensure uniformity in appearance. Drawings: 1073-TGA-XX-ZZ-DR-A-31001 & 1073-TGA-XX-ZZ-DR-A-31002 should be referred to, as supplied by Tim Groom Architects. No access was afforded to obtain a view of the window and determine any repair methods required. Any minor repairs/filling should be undertaken with a Linseed oil putty, applied as per the manufacturers guidance. Should splice repairs be required, these should be directed on-site by the heritage surveyor.

1.6. Elevations

1.6.1. Front elevation – Liverpool Road

1.6.2. The elevation plan (ref: Front Elevation – Liverpool Road) submitted in conjunction with this report numbers and identifies the isolated defects throughout the elevation. Areas highlighted in red require repairs as itemised within Appendix A.

Item	Location	Element	Description of area	Repair method
1.	Façade	Elevation generally	The façade is subject to isolated soiling with biological growth.	See Appendix A – A2
2.	Façade	Brickwork	Removal of degraded decoration to brickwork.	See Appendix A – A3
3.	Façade	Brickwork	There are sections of loose, cracked and defective mortar joints throughout.	See Appendix A – A5
4.	Façade	Sandstone cills.	Stone cills serving isolated windows are evidencing early signs of stone decay. Whilst this generally is not a cause for concern at present, a repair may be made to improve the aesthetics. The stone should be cleaned to remove any paint to promote breathability, as per the detailed methodology A3.	General note for monitoring within the report. We <i>don't feel a repair</i> is suitable or required at this stage. See Appendix A – A3
5.	Façade	Brickwork	Isolated sections of missing expansion joints.	See Appendix A – A7
6.	Façade	Brickwork	Isolated sections of spalling brickwork (highlighted in yellow on the plans).	See Appendix A – A6
7.	Façade	Brickwork	Isolated sections of penetrated brickwork requiring replacement, including making good following removal of vents, etc.	See Appendix A – A6
8.	Roof	Gutters	Isolated sections of the historic gutters are leaking on isolated joints.	See Appendix A – A8
9.	Roof	Chimney & Flaunching	Buddleia growth is present to the central chimney, including isolated cracked and degraded mortar joints.	See Appendix A – A5 & A10
10.	Façade	Timber shop front	The lead flashing to the timber 'shop front' in approaching the end of its life.	No immediate repair required.

Item	Location	Element	Description of area	Repair method
11.	Façade	Pub entrance door to be fixed and glazed.	The timber entrance door is to be secured/fixed and re-glazed.	See Appendix A – A13
12.	Façade	New glazing to the arched window.	The replacement of existing glazing with new.	See Appendix A - - A14
13.	Façade	Helifix 'stitch' repairs to cracking.	Undertake isolated Helifix repairs to isolated cracking, as directed by the structural engineer.	See Appendix A – A21
14.	Roof	Rooflight	New rooflight to existing rooflight opening.	See Appendix A – A25
15.	Roof	Roof covering	New rooflight to slate roof covering.	See Appendix A – A26
16.	Roof	Roof covering	Isolated replacement slates throughout.	No repair methodology required for like-for-like repair. The contractor must ensure slates match in terms of size, type and quarry location – To be approved by the heritage surveyor.
17.	Roof	Lead	The lead flashings, soakers, abutments etc. would benefit wholesale replacement to futureproof the operational requirements of the roof covering.	See Appendix A – A27
18.	Roof	Timbers	The dragon ties and spar feet have been identified on the structural engineer's report to be rotten in places and defective.	See Appendix A – A28

1.7. Right side elevation – Woollam Place

1.7.1. The elevation plan (ref: Right Side Elevation – Woollam Place) submitted in conjunction with this report numbers and identifies the isolated defects throughout the elevation. Areas highlighted in red require repairs as itemised within Appendix A.

Item	Location	Element	Description of area	Repair method
19.	Façade	Elevation generally	The façade is subject to isolated soiling with biological growth.	See Appendix A – A2

Item	Location	Element	Description of area	Repair method
20.	Façade	Brickwork	Removal of degraded decoration to brickwork.	See Appendix A – A3
21.	Façade	Brickwork	There are sections of loose, cracked and defective mortar joints.	See Appendix A – A5
22.	Façade	Brickwork	Isolated sections of spalling brickwork (highlighted in yellow on the plans).	See Appendix A – A6
23.	Façade	Brickwork	Isolated sections of penetrated brickwork requiring replacement, including making good following removal of vents, etc.	See Appendix A – A6
24.	Façade	Brickwork	Isolated sections of missing expansion joints.	See Appendix A – A7
25.	Façade	Windows	Removal of brickwork to bricked up window and installation of new glazed window.	See Appendix A – A11
26.	Façade	Sandstone cills.	Stone cills serving isolated windows are evidencing early signs of stone decay. Whilst this generally is not a cause for concern at present, a repair may be made to improve the aesthetics. The stone should be cleaned to remove any paint to promote breathability, as per the detailed methodology A3.	General note for monitoring within the report. We <i>don't feel a repair</i> is suitable or required at this stage. See Appendix A – A3
27.	Façade	Helifix 'stitch' repairs to cracking.	Undertake isolated Helifix repairs to isolated cracking, as directed by the structural engineer.	See Appendix A – A21
28.	Roof	Roof covering	The roof covering is defective with loose and missing slates and penetrations causing rot and bird nesting.	See Appendix A – A29

1.8. Left elevation – Old Medlock Street

- 1.8.1. The elevation plan (ref: Left Elevation – Old Medlock Street) submitted in conjunction with this report numbers and identifies the isolated defects throughout the elevation. Areas highlighted in red require repairs as itemised within Appendix A.

Item	Location	Element	Description of area	Repair method
29.	Façade	Elevation generally	The façade is soiled with biological growth.	See Appendix A – A2
30.	Façade	Brickwork	Aerosol graffiti to the external brickwork.	See Appendix A – A2
31.	Façade	Brickwork	There are sections of loose, cracked and defective mortar joints.	See Appendix A – A5
32.	Façade	Brickwork	Isolated sections of spalling brickwork (highlighted in yellow on the plans).	See Appendix A – A6
33.	Façade	Brickwork	Isolated sections of penetrated brickwork requiring replacement, including making good following removal of vents and extension, etc.	See Appendix A – A6
34.	Façade	Sandstone cills.	There are isolated cills which would benefit from a small indent (dutchman's repair), to prevent further degradation.	See Appendix A – A9
35.	Façade	Sandstone cills.	Stone cills serving isolated windows are evidencing early signs of stone decay. Whilst this generally is not a cause for concern at present, a repair may be made to improve the aesthetics. The stone should be cleaned to remove any paint to promote breathability, as per the detailed methodology A3.	General note for monitoring within the report. We <i>don't feel</i> a repair is suitable or required at this stage. See Appendix A – A3
36.	Roof	Gutters	Isolated sections of the historic gutters are leaking on isolated joints.	See Appendix A – A8
37.	Façade	Door	New fire escape door.	See Appendix A – A24
38.	Roof	Roof covering	The roof covering is defective with loose and missing slates and penetrations causing rot and bird nesting.	See Appendix A – A29

1.9. Rear elevation

1.9.1. The elevation plan (ref: Rear elevation) submitted in conjunction with this report numbers and identifies the isolated defects throughout the elevation. Areas highlighted in red require repairs as itemised within Appendix A.

Item	Location	Element	Description of area	Repair method
39.	Façade	Elevation generally	Following removal of the ivy, the façade will likely be soiled with biological growth and would benefit cleaning.	See Appendix A – A2
40.	Façade	Brickwork	There are sections of loose, cracked and defective mortar joints.	See Appendix A – A5
41.	Façade	Brickwork	Isolated sections of penetrated brickwork requiring replacement, including making good following demolition of the extension and removal of cast iron staircase etc.	See Appendix A – A6
42.	Façade	Brickwork	There is substantial ivy growth to the rear elevation, which would benefit removal.	See Appendix A – A12
43.	Façade	Brickwork/window	Widened opening to accommodate new glazing.	See Appendix A – A15
44.	Façade	Brickwork/window	New glazing to existing opening.	See Appendix A – A16
45.	Façade	Window	Existing original sash window to be retained.	See Appendix A – A17
46.	Façade	Brickwork	Existing opening widened.	See Appendix A – A18
47.	Façade	Brickwork	New opening to existing wall.	See Appendix A – A20
48.	Façade	Door	Existing fire doors (following removal of the iron staircase) to be removed and infilled with full height glazing.	See Appendix A – A22
49.	Façade	Fire escape staircase.	The staircase is corroded and in poor repair, remove.	See Appendix A – A23

Appendix A

Repair methodology



Item	Repair description
GN1 - General mortar repair notes.	<u>Notes</u> 1. Work should not be undertaken in frosty conditions, or where the temperature is likely to fall below 8°C during the execution of the work or until the mortar has hardened. 2. Ensure the rate of drying is consistent to all mortar joints, ensuring areas of strong draughts are excluded from the working area. 3. Direct artificial/forced heating is not to be used to accelerate the drying time.
A1 – Replacement Windows	We understand that all windows throughout the elevations are to be replaced, with the exception of (from left to right – front elevation) W1, W2, W3, W4 & W5 & W6 (to the rear elevation) marked on the Hollis plans, to the architects specification. Window W6 shall be retained and shall be used to mirror the design for all replacement windows throughout, to remain sympathetic and in keeping with original windows. The architect should prepare and submit proposals including sectional plans for <u>all</u> windows, including fixing details for Conservation Officer/Local Authority approval at the early stages of the development.
A2 – Façade cleaning – Removal of biological soiling and aerosol graffiti.	<u>DOFF Masonry Cleaning</u> 1. Allow to appoint a competent DOFF certified contractor to undertake all works. 2. Using the DOFF cleaning method (a low pressure, high temperature steam clean), allow to undertake a small 300mm x 300mm trial area and seek approval from the Heritage Surveyor and Conservation Officer, prior to continuing. 3. Following the trial, and should the method be suitable, allow to undertake façade cleaning using the DOFF cleaning method to carefully and gently remove areas of biological soiling and graffiti to the brickwork elevations. 4. NB: Should the aerosol graffiti still be present; the heritage surveyor shall be consulted to review next steps and produce a detailed cleaning methodology.
A3 – Façade cleaning – Removal of degraded paint finish to ground floor brickwork and cills.	<u>DOFF Masonry Cleaning</u> 1. Allow to appoint a competent DOFF certified contractor to undertake all works. 2. Using the DOFF cleaning method (a low pressure, high temperature steam clean), allow to undertake a small 300mm x 300mm trial area and seek approval from the Heritage Surveyor and Conservation Officer, prior to continuing. 3. Following the trial, and should the method be suitable, allow to undertake façade cleaning using the DOFF cleaning method to carefully and gently remove areas of biological degraded paintwork to the brickwork elevations and cills.
A4 – Removal of vegetation.	<u>Preparatory works</u> 1. Using a safe access platform, cut back branches and remove roots by hand only, taking care to keep disruption to the surrounding surfaces to an absolute minimum. <u>Application of Herbicide</u> 1. Using an appropriate herbicide, treat remaining roots and areas if they cannot be suitably removed. <u>Finishing</u> 1. Following removal of vegetation, allow to repoint any mortar joints that have been removed in coincidence, using the mortar specification as detailed in A6.

Item	Repair description
A5 - Isolated pointing repairs to external elevations	<u>Preparation</u> - Where any re-pointing works are to be carried out, a sample should be taken of the area by an appointed reputable mortar analysis consultant, to ensure a like for like match of the aggregate and mortar contents. - Re-pointing where specified, loose and defective mortar joints shall be raked out/carefully chiselled using a plugging chisel, square to a depth of not less than 15mm, to give an effective key. Extra care shall be taken where mortar is strong and well adhered. On no account shall angle grinders or other power tools be used during the removal process. <u>Mortar mix and method of application</u> - Pre-wet the affected surface, ensuring the area is damp, but not saturated, prior to commencement. - Starting from top to bottom, the filling of the joints shall be pressed well in to ensure maximum penetration, compaction and bond to the original bed. At the same time, it shall be kept well within the confines of the joint and never allowed to spread over the face of the brickwork. - The mortar mix for re-bedding or repointing to comprise of Natural Hydraulic Lime (NHL) 3.5 with a well graded, washed sharp sand in a 3:1 mix, to comply with BS EN 13139. The sand used must be the sand as identified in the mortar analysis and mortar 'biscuits' should be prepared for the satisfaction of the Conservation Officer. - Should a colour match be required for aesthetic purposes, a crushed matching brick can be incorporated within the mix in small quantities. - The masonry wall should be covered in hessian sheets at the end of each day to protect from the elements and prevent shrinkage. At the start of each working day, fresh pointing from the previous day should be wetted with a light spray. <u>Finishing</u> - Using a stipple brush or a stiff bristled brush, tamp the mortar joint to ensure good compaction, cohesion and to bring through the aggregate, as the mortar begins to 'firm up' to prevent wet mortar smearing on adjacent brickwork.
A6 – Isolated brick repairs.	To areas of defective and missing brickwork, matching bricks should be sought and approved by the Conservation Officer or of the local authority, Heritage Surveyor. Each brick is to be assessed and marked to determine which ones are beyond repair, prior to works commencing with a heritage surveyor. No power tools are permitted to remove affected bricks. - Once the replacement bricks have been sourced and approved, the bricks should be bedded using an NHL 3.5, mixed with a well graded, washed sharp sand in a 3:1 mix, to comply with BS EN 13139, to include crushed matching brick dust to achieve a colour match with adjacent mortar joints, allowing to always follow the plumb of the wall. - Once the mortar has gone off, a stipple brush should be used to brush back the aggregate on the mortar joint. - The masonry wall should be covered in hessian sheets at the end of each day to protect from the elements and prevent shrinkage. At the start of each working day, fresh pointing from the previous day should be wetted with a light spray.

Item	Repair description
A7 – Replacement of expansion joint.	<u>Preparation</u> 1. The cut fillets to brickwork which lack expansion joints should be thoroughly cleaned, leaving free from dirt or any obstruction. 2. Carefully install a foam expansion joint filler ahead of application of mastic sealant. <u>Application</u> 1. Carefully fill the joint with a high-quality polyurethane sealant, such as 'Soudaflex PU sealant', or similar approved as per the manufacturer's instructions, creating a clean and tidy joint which can be cut out and reversed if required.
A8 – Gutter repairs to assumed cast iron gutters.	<u>Preparation</u> 1. Allow to carefully detach the existing gutters throughout and dispose of from site. <u>Installation</u> 1. Carefully install new cast iron gutters to match original to suit the capacity of the roof pitch, to be approved by the heritage surveyor <u>prior to ordering</u>. NB: The contractor should ensure the paintwork is tested to the gutters, prior to removing to ensure there is no historic lead-based paintwork remaining.
A9 – Dutchman indent repairs to stone	Note: All workmanship to be carried out in accordance with BS 8221-2:2000. Allow approximately 10m2 to undertake sufficient indent repairs. <u>Preparation</u> 1. Identify the type of stone that is to be repaired and provide an appropriate sample for approval of the Heritage Surveyor and Conservation Officer. 2. Identify the unit of stonework to be repaired, giving an identification mark and producing a template and working drawing, for approval of the heritage surveyor and Conservation Officer. 3. If repairing stone, identify the natural bed, ensuring it is vertical and at right angles to the wall face (joint bedded). <u>Preparation of Stone Unit</u> 1. Using hand tools only, work the exposed stone and joint faces of each replacement stone to a square and true surface, working the face to a true architectural profile compatible with adjacent existing work, forming out of solid stone and avoiding mitred joints. <u>Preparation to existing stone unit</u> 1. Using the approved template and identification marks, using hand tools, carefully cut out defective stone until structurally sound material is reached and an adequate bond can be achieved, leaving cavities cut square and taking great care to avoid damage to retained faces and arrises. 2. Wash down cavities and arrises using low pressure water to leave clean. <u>Laying stone indents</u> 1. Lay the new solid stone indent piece on a full even bed of mortar, joints are to be kept as fine as possible, commensurate with forming sound joints using stone adhesive for tacking purposes. 2. Mortar mix is to be the same as specified within 'A5 - Isolated pointing repairs to external elevations'. 3. Stone adhesive should not be used in a continuous film, as to not impair the water circuitry of the stone.

Item	Repair description
A10 – Removal of vegetation to the chimney and repairs to flaunching.	<u>Preparatory works</u> - Using a safe access platform, cut back branches and remove roots by hand only, taking care to keep disruption to the surrounding surfaces to an absolute minimum. <u>Application of Herbicide</u> - Using an appropriate herbicide, treat remaining roots and areas if they cannot be suitably removed. <u>Finishing</u> - Following removal of vegetation, allow to repoint any mortar joints that have been removed in coincidence, using the mortar specification as detailed in A5. - Following removal of the vegetation, should flaunching be defective, loose or cracked, the heritage surveyor is to inspect and provide a suitable, sensitive method for replacement.
A11 – Removal of brickwork to bricked up window.	<u>Preparation</u> - Using a safe access platform, allow to carefully remove bricks blocking the existing window up only using a plugging chisel or similar approved. The use of power tools is not permitted to remove bricks. <u>Replacement bricks</u> - Once the bricks have been removed, repair methodology A6 should be followed when replacing broken toothed bricks, to ensure the same specification and matching bricks are sourced. <u>Installation of new glazing</u> - Carefully install new bespoke glazing panel to opening, as per architects and manufacturers specification.
A12 – Removal of Ivy to the rear elevation.	<u>Preparatory works</u> - Using a safe access platform, cut back ivy including branches and remove roots by hand only, taking care to keep disruption to the surrounding surfaces to an absolute minimum. <u>Application of Herbicide</u> - Using an appropriate herbicide, treat remaining roots and areas if they cannot be suitably removed. <u>Finishing</u> - Following removal of ivy, allow to repoint any mortar joints that have been removed in coincidence, using the mortar specification as detailed in A5. - Following removal of the vegetation, should flaunching be defective, loose or cracked, the heritage surveyor is to inspect and provide a suitable, sensitive method for replacement.
A13 – Pub entrance in-fill panel to be fixed/secured and re-glazed.	<u>Preparatory works</u> - Allow survey the existing timber infill to determine extent of repair required, including to the external timber surround. - Allow to carefully secure the existing historic entrance door to the corner of the premises using an appropriate stainless steel wood screw. - A linseed oil based putty should be used to fill fixing holes prior to redecoration. - Allow to carefully remove existing damaged glazing to the door and associated glazed sections and remove from site. Carefully install new glazing, as per architects and manufacturers specification.

Item	Repair description
A14 – New glazing to the arched window.	<u>Preparatory works</u> 1. Allow to carefully remove the existing security window bars to the front elevation and make good isolated screw fixing holes, using repair methodology A5. 2. Carefully cut out the existing putty surrounding glazing and remove from site. Allow to carefully remove the existing bottom section of the frame, low-level brickwork, stone cill, low-level plinth by hand using hand tools only. NB: No power tool permitted at any point. <u>Installation</u> 1. Carefully install new bespoke glazing panel to the arch and upper fan light, as per architects and manufacturers specification. NB: No access was afforded to obtain a view of the window and determine any repair methods required. Any minor repairs/filling should be undertaken with a Linseed oil putty, applied as per the manufacturer's guidance. Hollis to inspect post demolition and advise on repair methodologies.
A15 – Widened opening to accommodate new glazing.	<u>Preparatory works</u> 1. Allow to carefully remove any existing adjacent brickwork by hand only, using a hammer and plugging chisel to accommodate the new glazing panel. NB: No power tool permitted at any point. <u>Installation</u> 1. Carefully install new bespoke glazing panel to the opening, as per architects and manufacturers specification.
A16 – New glazing to existing opening.	<u>Preparatory works</u> 1. Carefully cut out the existing putty surrounding the frames and remove the existing window frame. Allow to carefully remove the existing low-level brickwork, stone cill and low-level plinth by hand only, using a hammer and plugging chisel. NB: No power tool permitted at any point. <u>Installation</u> 1. Carefully install new bespoke glazing panel to the opening, as per architects and manufacturers specification.
A17 – Existing original sash window to be retained.	<u>Preparatory works</u> 1. Allow to carefully clean the existing window by hand using as soft bristled brush/cloth, warm water mixed with mild detergent. 2. Once clean and dry, allow to redecorate using a linseed oil paint, pigment/colour to be specified by the architect. NB: No access was afforded to obtain a view of the window and determine any repair methods required. Any minor repairs/filling should be undertaken with a Linseed oil putty, applied as per the manufacturer's guidance. Hollis to inspect post demolition and advise on repair methodologies.
A18 – Existing opening widened.	<u>Works</u> 1. Allow to carefully remove any existing adjacent brickwork by hand only, using a hammer and plugging chisel to accommodate the new glazing panel. NB: No power tool permitted at any point.

Item	Repair description
A19 – New door to replace existing timber door.	<u>Preparatory works</u> - Allow to carefully remove the existing timber door, including associated architrave, frame and glazed fanlight and dispose of from site leaving a clear opening. <u>Installation</u> - Carefully install new bespoke door to the elevation, including associated frame, architrave and ironmongery, as per architects and manufacturers specification.
A20 – New opening to existing wall.	<u>Works</u> - Allow to carefully remove any existing adjacent brickwork by hand only, using a hammer and plugging chisel to accommodate the new glazing panel. NB: No power tool permitted at any point. - Works to finish the opening, such as plastering of the reveals, should be discussed and approved by the heritage surveyor prior to proceeding.
A21 – Helifix repairs to the isolated cracking.	<u>Preparatory works</u> - Allow to carefully cut out the existing cracked mortar joints as marked on the elevation drawings provided by Hollis, by hand using hand tools only. No power tools are permitted. - Use a stiff bristle brush to brush out dust to the and install a suitable 'Helifix' stitch bar, as recommended by the structural engineer within the Stage 3 drawings and accompanying report. <u>Finishing</u> - Allow to re-point with a suitable mortar mix as outlined within repair methodology A5.
A22 – Existing fire escape doors to be removed and replaced with full height glazing.	<u>Preparatory works</u> - Allow to carefully cut out the existing putty surrounding the timber door and remove door, including architrave, frame etc from site. <u>Installation</u> - Carefully install new bespoke glazing panel to the opening, as per architects and manufacturers specification.
A23 – Removal of existing fire escape staircase	<u>Removal</u> Using a safe access platform, carefully dismantle sections of the staircase, and dispose of from site, removing all fixings from the wall. Following removal, the heritage surveyor should confirm extent of repairs required to the brickwork to make good fixing and screw holes accordingly.
A24 – Replacement of existing fire escape door with new	<u>Removal</u> - Allow to carefully remove the existing timber door, including associated architrave, frame and dispose of from site leaving a clear opening. <u>Installation</u> - Carefully install new bespoke door to the elevation, including associated frame, architrave and ironmongery, as per architects and manufacturers specification.
A25 – New rooflight to existing rooflight/opening.	<u>Preparation</u> - Using safe access, allow to carefully remove the existing glazing panel and dispose of from site. <u>Installation</u> - Carefully install new bespoke glazing panel to the opening, as per architect's and manufacturer's specifications, leaving in a wind and watertight condition, obtaining the appropriate warranties/guarantees.

Item	Repair description
A26 – New rooflight to slate roof covering.	<u>Preparation</u> - Using safe high-level access, allow to set out the location as per the drawings to accommodate the new roof light. Carefully remove isolated slates and set aside for re-use elsewhere where like-for-like roof repairs are required. Carefully cut existing batons, felts, etc. to form an opening. <u>Installation</u> - Carefully install new bespoke glazing panel to the opening, as per architects and manufacturers specification, leaving in a wind and watertight condition, obtaining the appropriate warranties/guarantees.
A27 – New lead to flashings, soakers etc.	<u>Preparation</u> - Using high level access, using the suitable required PPE, carefully remove lead soakers, flashings, aprons etc, including any associated mortar joints and remove from site. On no account shall angle grinders or other power tools be used during the removal process. <u>Installation</u> - Allow to install suitably coded lead, based on element and area of use, in line with BS 12588 and the recommendations provided by the Lead sheet association. i.e. Code 4 lead to soakers/aprons. <u>Finishing</u> - Allow to repoint the joints accommodating lead work using the mortar mix, as specified within repair method A5.
A28 – Defective and rotten dragon ties and spar feet to roof.	<u>Preparation</u> - Using safe high-level access, allow carefully remove isolated slates to allow inspection of the dragon ties and spar feet, and set aside for re-use. - Locations should be directed by the structural engineer and read in conjunction with Renaissance Structural Engineers Stage 3, Fourth Floor Plan (LRH-REN-XX-04-DR-S-01140-P01). - Following inspection, the structural engineer is to liaise with the heritage surveyor to discuss the repair required (if any) and options available, such as splicing like-for-like timber, or wholesale replacement. NB: All remedial works are to be specified by the structural engineer (Renaissance) and all structural drawings should be read in conjunction with the structural condition survey (LRH-REN-XX-XX-RP-S-00002-P01 – Structural Condition Survey) and the referenced/accompanying drawings.

Item	Repair description
A29 – Defective roof coverings	<u>Preparation</u> 1. Allow to undertake/review a refurbishment and demolition survey to ensure no asbestos containing materials (ACMs) are present. 2. Allow to carefully remove all slates and set aside intact slates for re-use. 3. Allow to appoint a timber specialist to undertake a review of the exposed timber roof members to ascertain the level of rot and advise on repairs/replacement. <u>Works</u> 1. Contractors Design Portion: The contractor shall submit detailed proposals of the new roof covering, ensuring the respective pitches meet the appropriate approved documents, pitches mirror the original profile/gradient and ensuring like-for-like materials are used. 2. Where new slates are required, the slates must match the original slates, ensuring the same colour and quarry. 3. Where new lead is required, allow to install suitably coded lead, based on element and area of use, in line with BS 12588 and the recommendations provided by the Lead sheet association. i.e. Code 4 lead to soakers/aprons.
A30 – Replacement of modern brickwork to match existing.	To areas of modern brickwork where replacement is sought, bricks that match the existing should be obtained and approved by the Conservation Officer of the local authority or Heritage Surveyor. Each brick is to be assessed and marked to for the avoidance of any doubt by the Heritage surveyor. No power tools are permitted to remove affected bricks. 1. Allow to carefully remove the existing modern bricks using a plugging chisel only and allow to suitably 'prop' the external leaf in-line with the structural engineers recommendations. 2. Once the replacement bricks have been sourced and approved, the bricks should be bedded and pointed from bottom up using NHL 3.5 lime, mixed with a well graded, washed sharp sand in a 3:1 mix, to comply with BS EN 13139, to include crushed matching brick dust to achieve a colour match with adjacent mortar joints, allowing to always follow the plumb of the wall. 3. Once the mortar has gone off, a stipple brush should be used to brush back the aggregate on the mortar joint. 4. The masonry wall should be covered in hessian sheets at the end of each day to protect from the elements and prevent shrinkage. At the start of each working day, fresh pointing from the previous day should be wetted with a light spray.

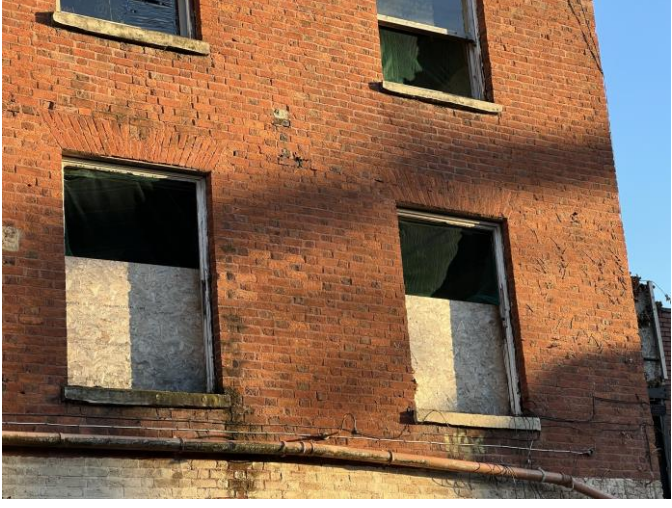
Appendix B

Photographs

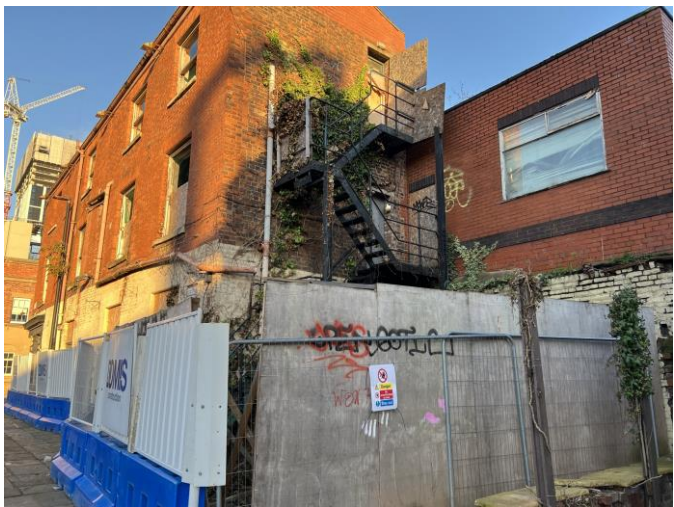


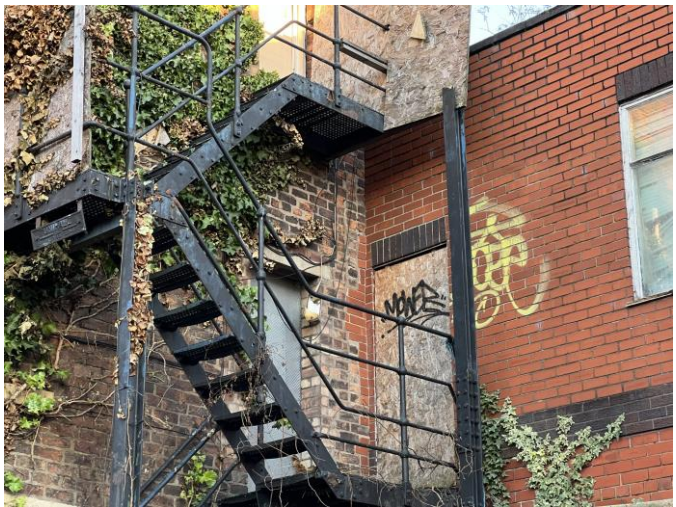
1.	General view of the front elevation (Liverpool Road)	
2.	View of the existing windows and gutters.	
3.	View of buddleia to the central chimney and typical view of missing expansion joint.	

4.	General view of the right side elevation. (Woollam Place).	
5.	View of the bricked-up window.	
6.	View of the guttering to the right side elevation.	

7.	View of the guttering to the right side elevation.	 A photograph showing the upper part of a red brick building. A dark gutter runs along the roofline. A window is visible on the right side of the frame. The sky is clear blue.
8.	View of degraded mortar and spalling bricks to the right side elevation.	 A close-up photograph of a red brick wall. The mortar joints are crumbling and the bricks are spalling. Two windows are visible, one of which is boarded up with a piece of plywood.
9.	View of penetration to the brickwork and existing windows/mortar joints.	 A photograph of a red brick wall with a window. There is a visible penetration in the brickwork above the window. A vertical pipe runs down the left side of the wall. The mortar joints are crumbling.

10.	View of dislodged bricks adjacent to a window.	
11.	View of dislodged bricks adjacent to a window.	
12.	General view of the left side elevation (Old Medlock Street).	

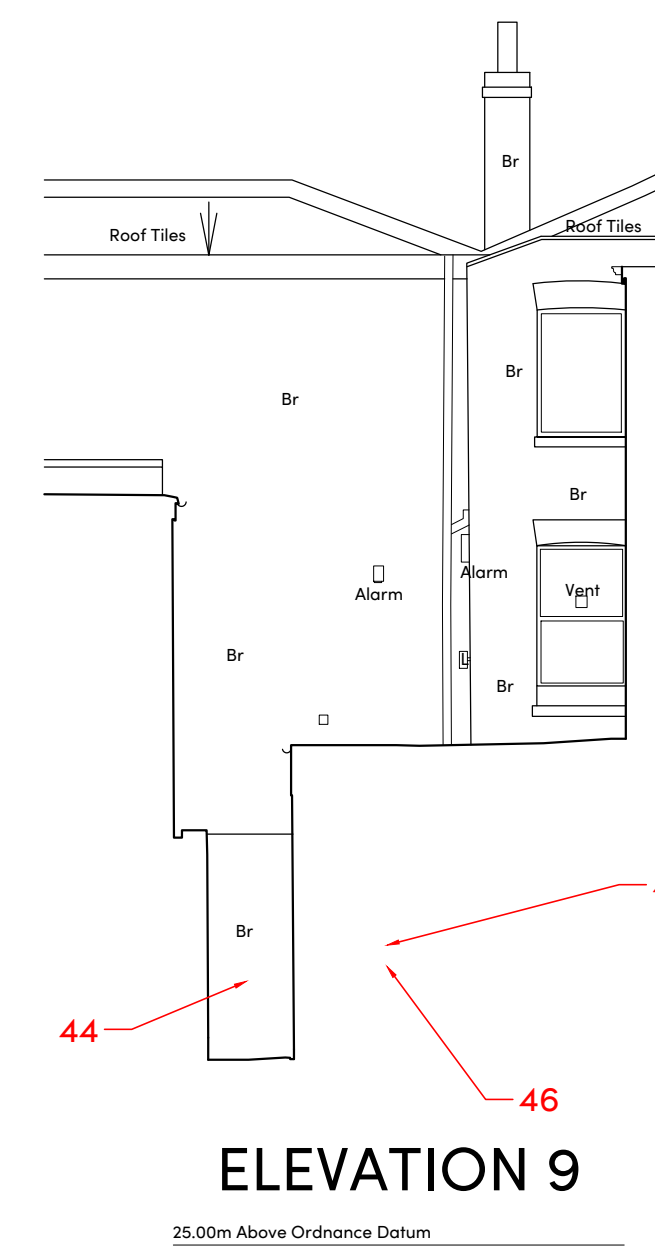
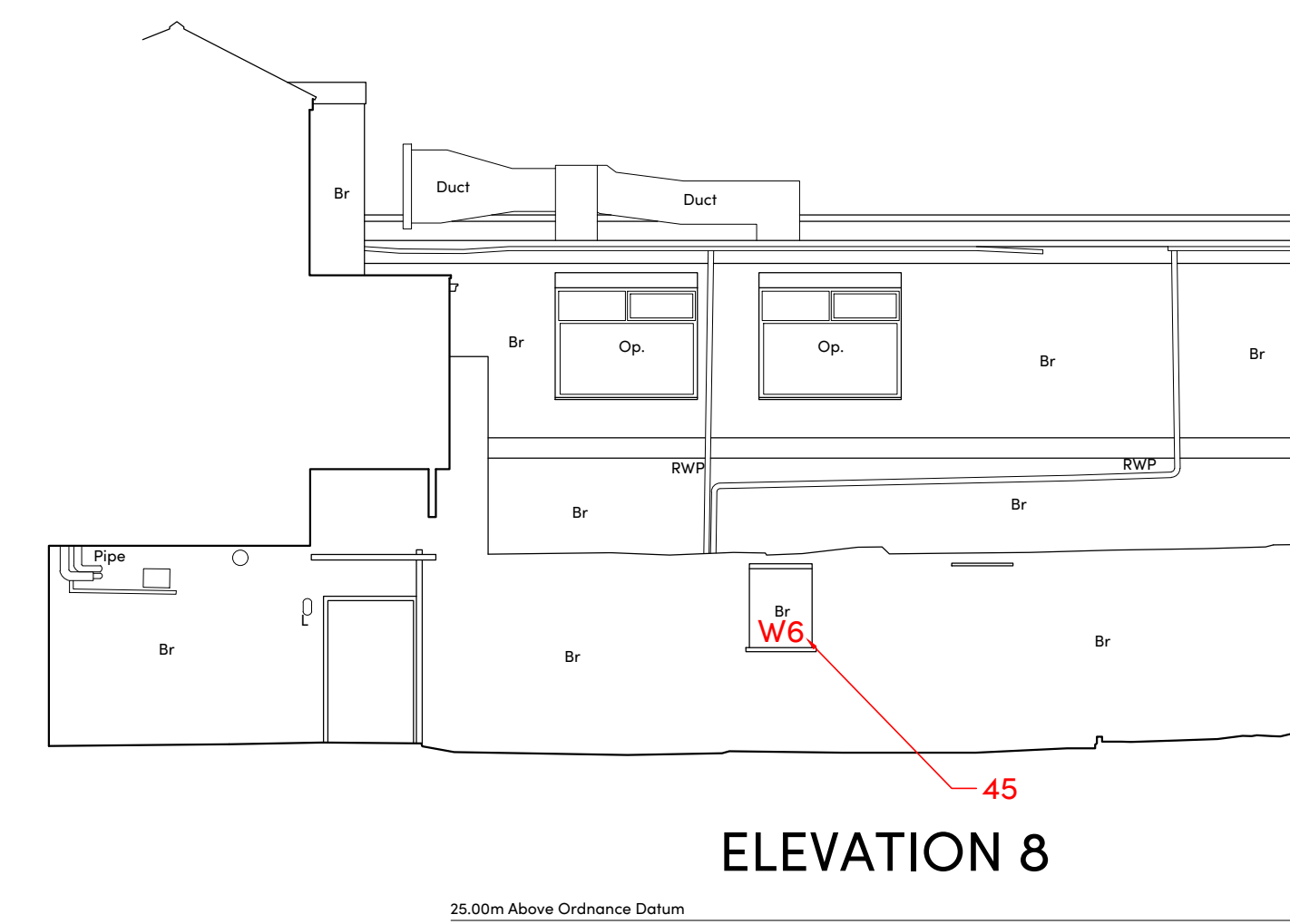
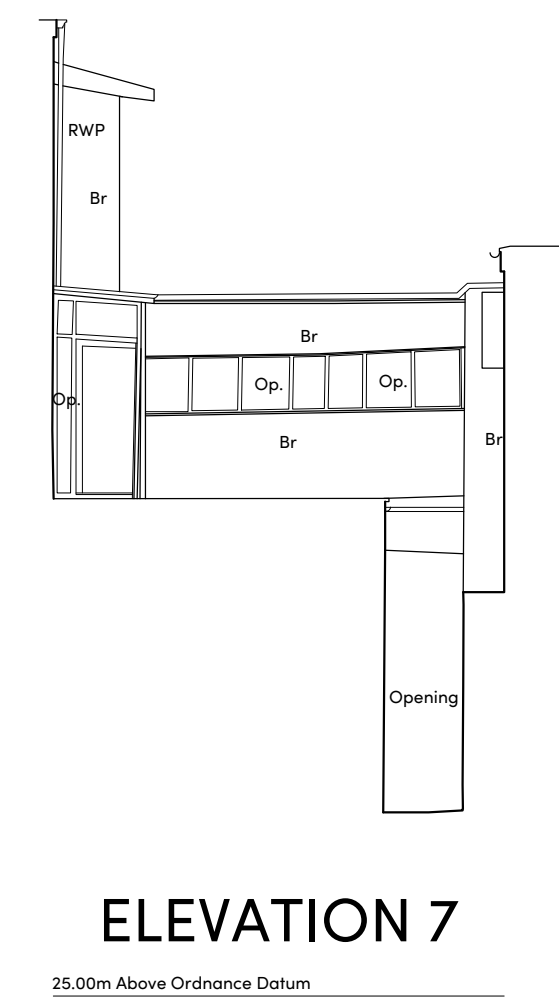
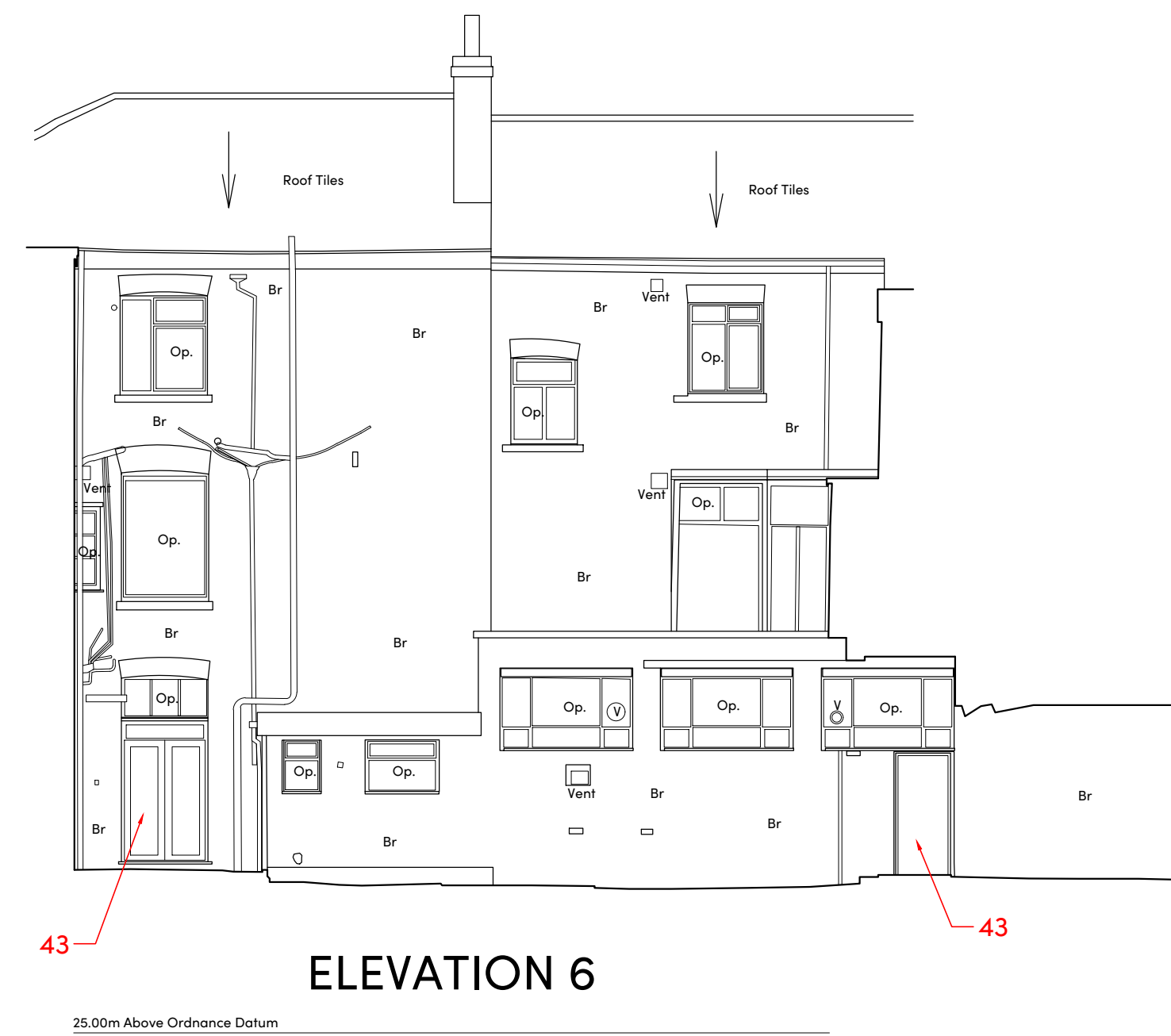
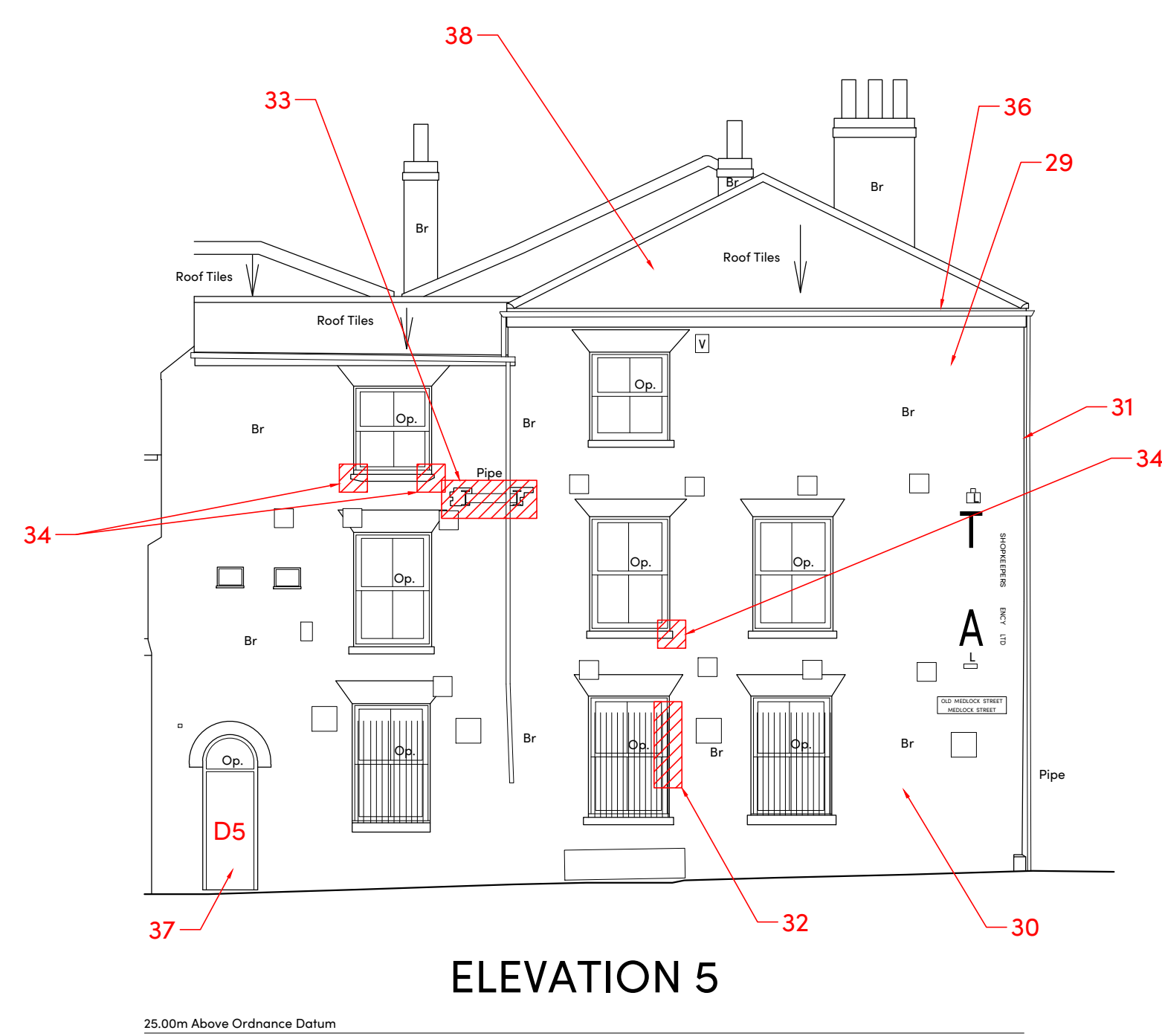
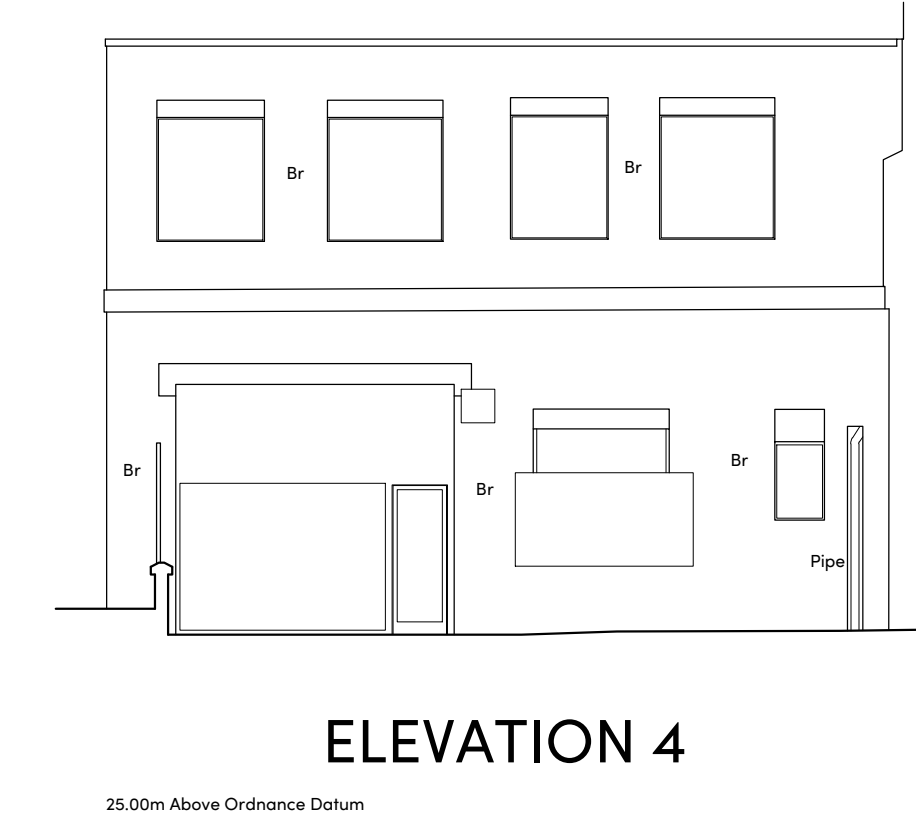
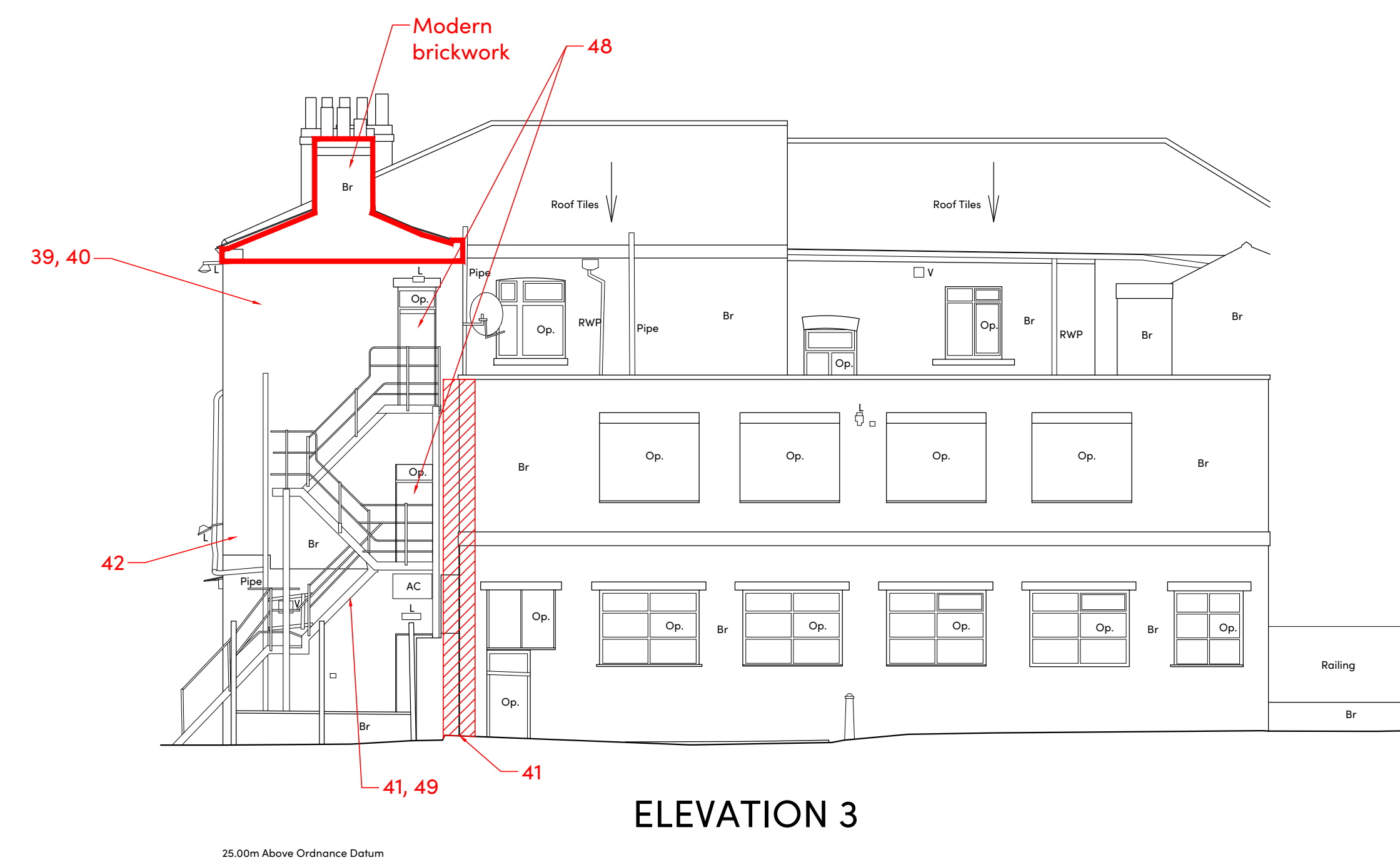
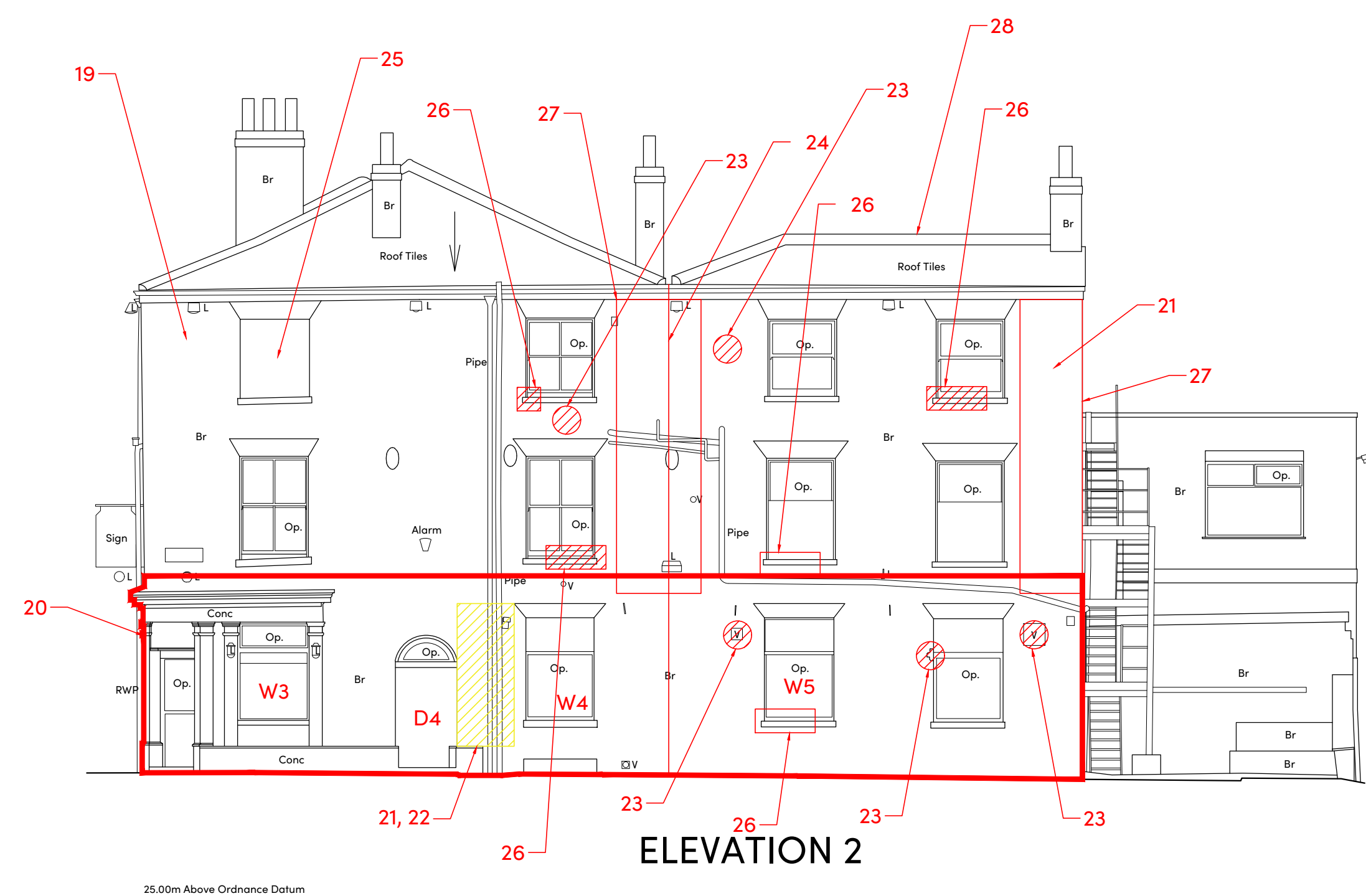
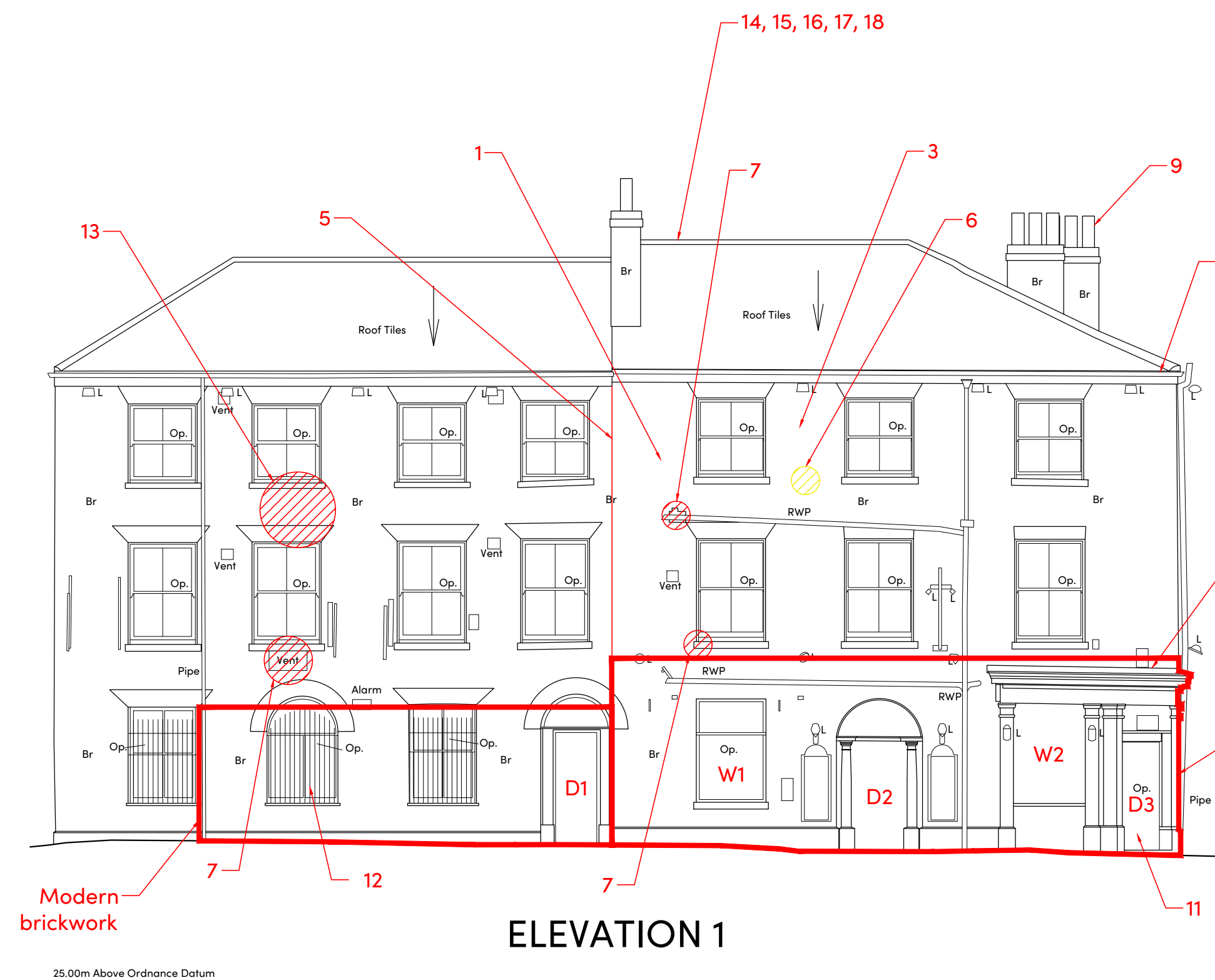
13.	View of penetration accommodating structural steel and deteriorated cill.	
14.	View of deteriorated cill.	
15.	General view of the rear elevation.	

16.	View of ivy and toothed in brickwork.	
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Appendix C

Hollis drawings – Defect analysis

Please refer to 'Heritage defect repair specification and methodology' report for further details of repair works.



NOTES

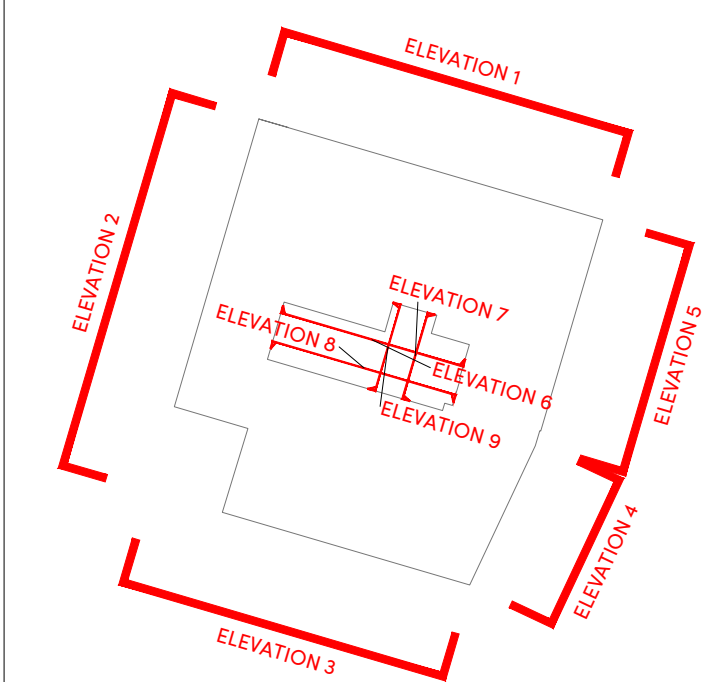
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- 2) HOLLIS SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES.
- 3) ALL DIMENSIONS ARE IN METRES ONLY.
- 4) ALL LEVELS ARE BASED ON AN ARBITRARY DATUM.

KEY

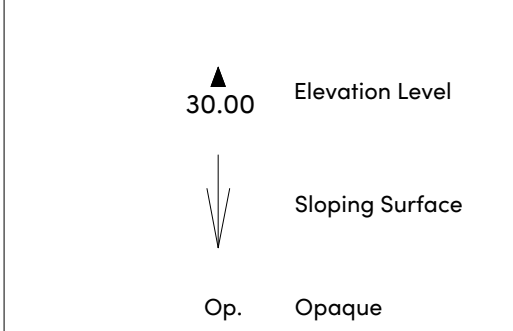
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D1 Def

KEY PLAN



ELEVATION/SECTION SYMBOLS



REVISIONS

C03	02/03/2023	DRAWING UPDATED	NH
C02	01/02/2023	DRAWING UPDATED	NH
C01	06/01/2023	PLACING NUMBERS FOR REPAIRS	RR
REV.	DATE	AMENDMENTS	INITIA

THIS DRAWING IS FOR THE FOLLOWING PURPOSE ONLY:

PRELIMINARY ☐	TENDER ☐	CONSTRUCTION ☐
SKETCH ☐	MEASURED SURVEY ☒	CONTRACT ☐

TITLE	ELEVATIONS HERITAGE DEFECT REPAIRS
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DATE 07.11.2022		DRAWN BY CLO		
SCALE 1:100 @A0		CHECKED BC		
PROJECT	LINE	ORIGINATOR	VOLUME/ ZONE/BLDG	LEVEL
117345	101	HLS	00	ZZ
FILE TYPE	DISCIPLINE/ SOLE	NUMBER	STATUS	REVISION
M2	B	10400	A1	C03

