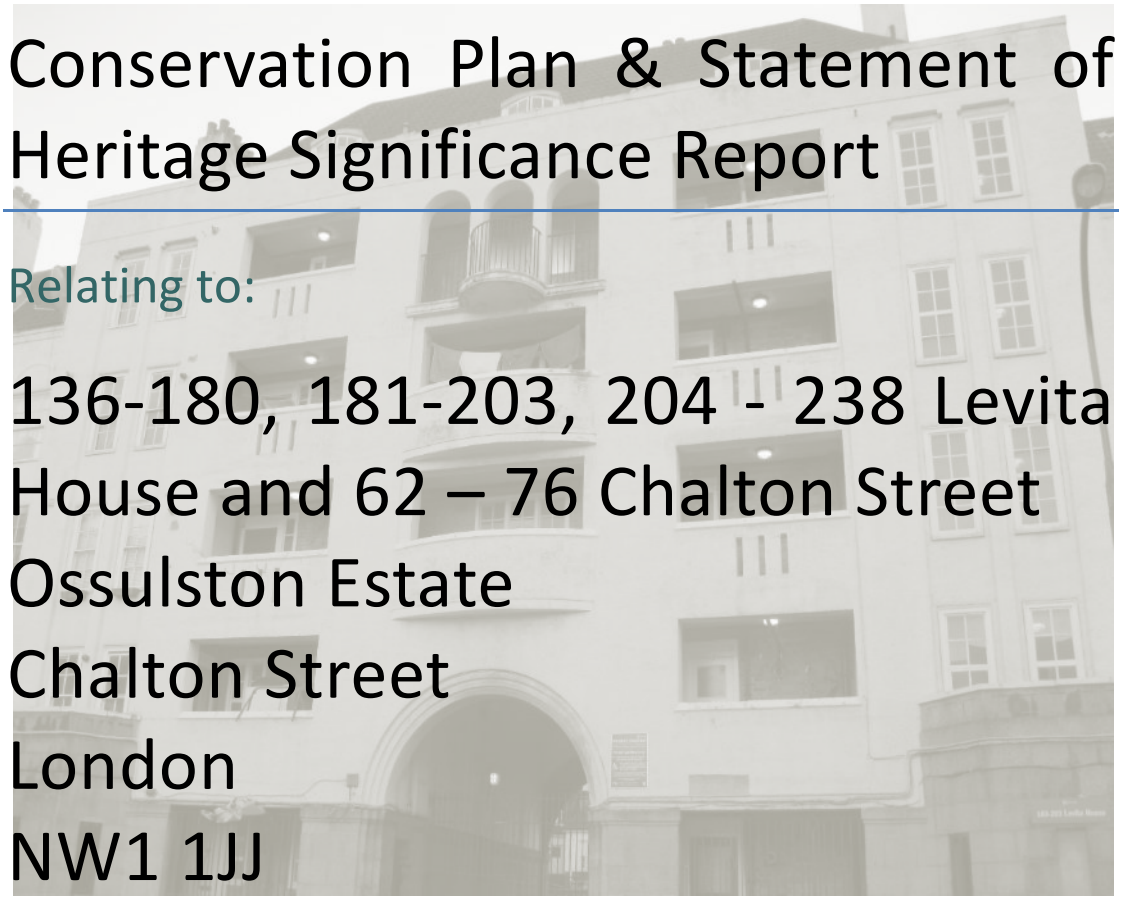
Heritage Surveys Limited

Conservation Plan & Statement of Heritage Significance Report



Relating to:

136-180, 181-203, 204 - 238 Levita House and 62 – 76 Chalton Street
Ossulston Estate
Chalton Street
London
NW1 1JJ

Ref: SEB/267

Version: Two

Report date: 18 July 2016

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Appendices

1 Introduction

1.1 Introduction

This statement forms part of the listed building consent application in relation to external fabric works on 136-180, 181-203, 204 - 238 Levita House and 62 – 76 Chalton Street, excluding the retail shop fronts and public house which will be retained as existing.

The purpose of this statement is to provide an overview of the setting and the building's history as well as assessing the impact of the proposed scheme on the building and its surroundings.

1.2 The Buildings

The buildings which are the subject of this report are Blocks 136-180, 181-203, 204 - 238 Levita House and 62 – 76 Chalton Street.

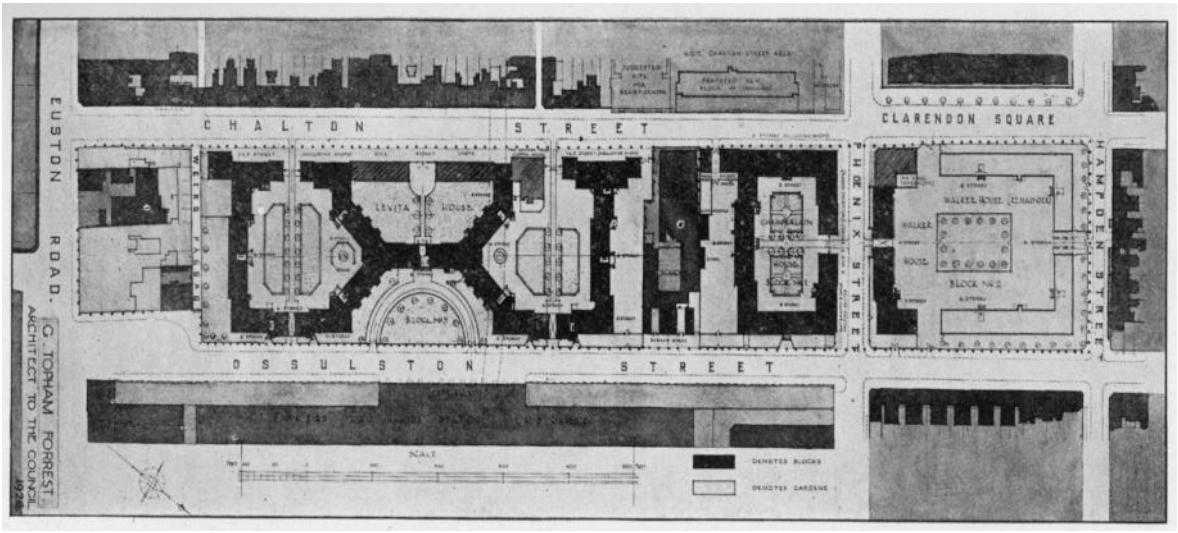
The buildings are part of a group known more widely as Levita House on part of the Ossulston Estate, Somers Town, which also includes Chamberlain House and Walker House.

It is believed to have been designed by the LCC Architects Department, under Architect George Topham Forrest, and began construction of the Ossulston Estate in 1927 finishing in 1931.

The Ossulston Estate represents an important inter-war development providing, at the time, new designs for inner city housing accommodation, apparently influenced by Modernist Viennese workers' housing models in terms of layouts and elevations. The high-density Ossulston estate blocks of flats are grouped around courtyards and greens accessed through archways.

In 2004–07, Levita House was extensively refurbished by Sprunt Architects, which included creating larger flats, external refurbishment of the fabric and transformation of the courtyard areas

The subject block has frontages on Ossulston Street and Chalton Street (Photos 1, 3, 4, 5, 6, 7 & 8).



George Topham Forrest Site plan

1.3 Listing Status

List Entry Number: 1113232

Grade: II

The listed description reads as follows:

Date first listed: 13-Dec-1996

Includes: Nos.16A-76A Levita House, attached shops, screen & Somers Town Coffee House CHALTON STREET. Blocks of council flats and attached shops and coffee house/tavern forming part of the Ossulston Estate; frontages to Ossulston Street, Chalton Street and Weir's Passage.

1930-1.3/4house/tavern forming part of the Ossulston Estate; frontages to Ossulston Street, Chalton Street and Weir's Passage.

1930-1. To the designs of the LCC Architect's Department under G Topham Forrest. Flats and shops: load-bearing brickwork rendered with coloured roughcast, channelled to ground floor to appear as stone; reinforced concrete balconies. Hipped pantiled roofs with dormers and tall chimney-stacks.

PLAN: central spine on north-south axis with 4 diagonal spines from angles joined to north and south blocks to form enclosed courtyards; enclosed courtyard to west, open to east.

EXTERIOR: 5 and 4 storeys plus attics. Windows mostly flush framed sashes with exposed boxing. Balconies designed to make the voids above them read as holes punched in the building.

Eastern range has central courtyard block of ground floor portico with outer bays of projecting balconies and inner bays of flush rectangular balconies grouped 2:3:2 to 3 upper floors; top floor has round-arched voids. Diagonal flanking wings have alternating canted bays. North and south-eastern facing blocks with central round-arched vehicle entrances above which long rectangular voids with bowed fronts; top floor of 3 round-arched voids and central projecting semi-circular balcony, all with cast-iron balustrade. Flanking bays of long rectangular voids with 3 vertical slits beneath each. Outer bays of paired sashes in shallow full height recesses.

Other facades are variations to this style using voids, axes and massing to effect; southern facade has Lombardic frieze to parapet. Western courtyard is enclosed by a range of single storey shops with central fluted Doric screen flanked by pillars having fielded finials to angles.

Coffee house/tavern: the Somers Town Coffee House on Chalton Street forms the southern part of the entrance to the northern courtyard. 1927-8, believed to be by Halsey Ricardo. Rendered and painted brickwork. Pantiled hipped roof with tall chimney-stacks, dormers and coved cornice to projecting eaves. 2 storeys, attic and cellars. 5 windows and 4 window left hand return. Public house frontage of central transom and mullion window with small panes flanked by similar windows with central part-glazed doors. 1st floor slightly recessed sashes with exposed boxing.

INTERIOR: not inspected.

1.4 Conservation Area

The property is not located in a Conservation Area.

1.5 Setting

The estate is surrounded by mixed use properties. Chalton Street to the west is a combination of retail and residential units, leisure (e.g. The Rocket public house) and further along is the Somers Town Medical Centre. The New Horizon Youth Centre forms part of block 204 – 238 Levita House.

To the South of the estate there is Weirs Passage and the large Pullman hotel building with a modern cladded façade and windows. This incorporates the Shaw Theatre.

To the east there is the British Library site and the Francis Crick major development site behind/North currently nearing completion.

To the north Ossulston Estate extends up to include Walker House, comprising similar residential blocks, although interrupted by a modern low rise housing block, Hadstock House. The Ossulston Estate blocks again incorporate some retail and commercial units at ground storey level.

1.6 Construction

Construction is of load bearing brickwork, rendered with coloured rough cast finish with ground floor elevations to appear as stonework (photos 1, 3 - 8). Asphalt covered concrete communal access balconies are provided, most probably of filler joist construction.

The blocks are covered by steep pitched hipped clay double roman tiled roofs with lead or zinc clad dormers and weathering details. Surface water is collected predominantly in parapet gutters on the high rise sections of the blocks, with a conventional projecting eaves and gutters provided to the low rise sections.

All of the blocks include tall, brick built and rendered chimney stacks (e.g. photos 3 - 8).

1.7 General Condition and Outline Proposals

The Levita House complex has been the subject of major works to various parts at different times but the blocks which are the subject of this application are in a poor state of repair in terms of its external fabric. They require works to upgrade to modern standards, to prevent further external deterioration, to improve energy efficiency for residents and improve security.

The proposed works include replacement and refurbishment of external elements that could affect the building's visual appearance. The purpose of this document is to explain and clarify proposals to maintain the building's external fabric without harm to the building's interest, but carrying out work necessary for the health and safety and living standards of residents.

1.8 Adjacent Similar Schemes

The proposed works are similar to those carried out on adjacent blocks including Levita House, Chamberlain House and Walker House.

The adjacent blocks in Levita House have already had similar works carried out, notably replacement windows under Listed Building Consent application No. 2010/6392/L and planning application No 2010/6388/P, and more recently planning approval (2014/3492/P) and listed building consent (2014/3549/L).

Walker House (Nos. 1-39) is a similar block on the same estate further north, also grade II listed. Listed Building Consent and planning permission have been granted for window and door renewals, roofing, access balcony coatings under applications 2012/6085/L and 2012/6075/P and works here are virtually complete.

Replacement windows and other external works were carried out at Chamberlain House under applications 2010/3645/P and 2010/3653/L.

2 Condition and Proposals

2.1 Generally

The proposals for the building have been carefully developed following survey and consultation to maximise the retention of the original historic fabric or, where it is proposed to replace it, to replicate as far as reasonably practical the original design intent.

There is no intention to alter the plan form or internal accommodation within this project.

The proposals are:-

- Roofing works;
- Window replacement;
- External door renewal;
- External wall repairs including render;
- Concrete repairs;
- Coating to access balcony walkways;
- External decoration;
- Ventilation.

2.2 Roofs and Drainage

2.2.1 Main Roof

Based on a visual non-intrusive inspection, the roof structure appears to be in reasonable condition with no major deflection evident. Existing tiles are most probably original with some exceptions (see below) and are English Bridgewater pantiles (see photo). A large number of tiles are cracked, some of which will be mechanical damage, with some evidence of weathering. There is no sarking felt under the tiling. The property is prone to leaks, particularly in wind driven rain or in the event that tiles are damaged. (Photos 10 to 15). Evidence of water penetration is visible in the roof voids and former drying rooms, where lath and plaster ceilings have partially collapsed.

The proposal is to strip all of the pitched roof coverings and replace with new Sandtoft Bridgewater matching profile tiles (please refer to Appendix 2).

With the roof stripped, the opportunity will be taken to provide roof insulation between the rafters without the need to damage the internal sloping ceilings, thus also avoiding extensive inconvenience and disruption to the residents.

Some of the roof slopes appear to have been retiled with concrete interlocking tiles. These clearly do not match the original profile and the intention is to re tile these slopes as original (photo 2).

2.2.2 Dormer Windows and Detailing

The recommendation is that the zinc cladding to the dormers and all other lead weatherings are replaced, with lead to match what was probably the original material used on these blocks when first built, as used elsewhere on the estate, and in accordance with current best practice. (Photos 15, 18 and 19). Again the opportunity will be taken to install modern thermal insulation without impacting significantly on the appearance of the dormers.

2.2.2 Parapet Gutters

These are lined with asphalt and are in a poor state of repair. (Photos 15, 16, 17 and 19). It is proposed to repair and insulate these and coat them with a liquid membrane solution, replacing lead flashings and taking the opportunity to increase the depth of the gutter to prevent potential overflowing damaging the fabric and internal finishes. This proposal will not have any external visual impact on the elevations as the works will be entirely concealed behind the high parapet walls.

Parapet walls have stone copings. These generally do not project far enough to shed rainwater correctly beyond the face of the brickwork and render, and in one area a bituminous felt covering has been laid over the copings presumably to try and prevent water penetration (photo 16). It is proposed to remove and replace all copings in a similar style to the existing but with suitable drip throatings and projections.

2.2.3 Flat Roofs

A number of small flat roofs are provided. These are in poor condition (e.g. Photo 20) and it is proposed to recover with a liquid membrane or similar high performance coating.

2.2.4 Gutters, Rainwater Pipes and Above Ground Foul Drainage

These appear to be in cast iron, with ornate hoppers to the main blocks. The intention is to carry out pre decoration repairs or renewals as appropriate which will be established once scaffolding is erected. Replacement sections will be cast iron to match. The project will retain the hoppers. It is noted that the majority of downpipes on the access balcony elevation have already been replaced using a proprietary “Timesaver” type cast iron system. These pipes will be repainted only.

2.3 Windows

2.3.1 Existing

The existing windows are not original and comprise mostly flush framed vertically sliding sash windows with exposed boxing to the shear elevations. Dormers are side hung casement windows and on the communal access balconies windows are predominantly bottom hung open/tilt inwards “hopper” windows. (Photos 19, 28, 29, 30, and 31).

All windows are single glazed timber and many are in a poor state of repair. They have reached the end of their serviceable life with evidence of timber decay, extremely poor decorations, glazing defects, draughts and poor levels of thermal insulation. There have also been a number of non-standard alterations to the windows which spoils the elevational detail.

2.3.2 Proposals

To strive towards modern standards, it is proposed to replace all of the windows. The principle of installing double glazing has been established elsewhere in the listed estate (please see 1.8 earlier).

Similar replacement window schemes have been carried out in Walker House and other parts of Levita House. The proposal is to use windows similar to those, i.e.; new timber double glazed windows, factory painted in white with general fenestration and glazing bars etc. to replicate the existing as far as reasonably practical although there will be some increase in frame dimensions the overall impression will be very similar to the current windows.

Vertically Sliding Sash windows

The replacememt vertical sliding sashes will not tilt to facilitate cleaning from inside but otherwise operation is a normal vertically sliding function. Window technology has advanced even since the previous schemes and it will now be possible to obtain a vertically sliding sash window that conceals the bottom spiral balances when the windows are shut, thus more authentically replicating a traditional box frame sash window. The overall appearance of the new windows will preserve the visual appearance of the building but at the same time offer residents much improved thermal and acoustic insulation. The double glazing will be provided with glazing bars very similar to the existing with white integral spacer bars to give the appearance of a through, continuous piece of timber. This window type has been successfully used on similar projects and will preserve the appearance of the building as illustrated by the two following photographs.

Existing sash window in 1 -21 Levita House

Principal of proposed replacement timber window type as fitted in adjacent part of Levita House but with semi concealed sash balances

Sash Horns – Existing windows are not provided with horns in the bottom rail of the top sashes. It is not proposed to provide these on the replacement windows, albeit some parts of the estate including Walker House have been.

It appears that when the windows were last replaced some of the vertically sliding sash windows were replaced with differing numbers of panes in the sashes. These windows, Type A on our drawings, are 8 panes per sash elsewhere on the estate but currently 6 over 6 on these blocks. There are examples of both 8 and 6 pane sashes on same elevation, as indicated here.

Following consultation with LB Camden it is not the intention of this project to rationalise the window types so the number of panes per sash will follow the current arrangements. This does of course give different pane sizes between 6 and pane sashes.

Our Drawing numbers 5675 A (31) Type A and B illustrate the frame and semi concealed balance proposals and the elevation drawings show window types and locations.

Access Balcony Tilt Inwards windows

On the public access balconies, as noted the existing windows are tilt/"hopper", open-in style. The proposal is to improve security of residents which cannot be achieved with timber open-in hopper windows to Secured by Design standards. However we understand multi point locking tilt and turn sashes are not acceptable as the frame dimensions are too bulky. We are proposing to therefore install replacement tilt windows to match existing fenestration to dimensions indicated on drawing number 5675-A(31) Type P. These are a closer match to the existing than those installed on block 61-111. The windows will be double glazed with imitation glazing bars "through" the glass, as installed elsewhere on the estate rather than small individual sealed units. It should be noted that Secured by Design standards will not be achieved on these windows.

Dormers and other side hung casements

The proposals will comprise double glazed casement windows with glazing bars to follow existing arrangements, to frame dimensions and profiles very similar to existing, as installed elsewhere on the estate.

2.4 External Doors

Flat entrance doors are not original and are currently timber with "half glazed" upper panels. (Photo 27). The archive photos below from similar archetype blocks indicate the high waisted panelled and

6 pane glazed style provided before these modern replacements, it is unclear if these archive photos are original as built.

The proposal is to replace the doors to achieve a Secured by Design standard in terms of locking mechanisms and also to the current recommendations in relation to fire precautions.

A number of the flats are in “dead end” situations where, in the event of a fire, residents may have to pass a flat which is the source of the fire. The intention is to provide fire rated flat entrance doors where required to offer additional protection in the event of this occurrence. New doors will also offer improved thermal insulation.

The style of the replacement doors will be similar to those installed on Walker House and 1-21 Levita but with visual appearance of 6 glazed panes and 3 vertical panels more in keeping with the doors seen in the archive photographs. The vertical panels are to be shallow rebated style to match similar to the panel style of those on 38 – 60 Levita rather than deeper moulded sections. The proposals are indicated on drawing 575 A (31) Type I which shows existing and proposed.

Currently there are transoms with fan lights over the doors. Whilst originally these may have been openable, the vast majority are now fixed shut with the previous replacement doors, some do not incorporate glass at all and do not have intermediate glazing bars. The proposal is to return a glazed fanlight above the doors, fixed shut with glazing bar configuration similar to the original design.

Glass – We believe originally windows might have been clear glazed but this is not acceptable these days from a privacy point of view and indeed net curtains can be seen on the archive photographs. Arctic pattern glass has been used on other parts of the estate. It is also clear that different glass patterns have been used from Georgian wired cast, to white obscure on the Origin Housing block 38-60 Levita. Our proposal is to continue the Arctic theme being a contemporary patterned glass from time of construction when use of patterned glass was prevalent. Glass information is included in the Appendices.

2.5 External Walls & Render

The external walls are of load bearing brickwork with a stone effect façade to the ground storey, and thereafter finished with a painted roughcast render (Photos 1, 3, 4, 5, 6, 7 and 8). The access balcony elevations are finished in yellow stock brickwork with red bricks to the stairs.

The render is showing signs of significant defects, particularly to the chimneys where areas are spalling and the brickwork is exposed and vegetation growth is apparent (photo 21). Elevations are generally in need of repair.

The proposal is to sample the render to analyse the mix, test from scaffolding and remove existing and re-render as required in a rough cast finish to match the original, with the application of masonry paint in an agreed colour.

All elevations will be re-painted on completion using a Classic Cream coloured masonry paint.

With regard to the stone elevations, these will be re-pointed as existing pointing is defective in places and non-matching sand cement struck joints in others.

On the access balconies, it is proposed that the facing brickwork, which is dirty, will be steam cleaned. Areas will be trial cleaned to determine the extent of pressure and to assess the effects of the final appearance.

2.6 Concrete

Concrete balconies and other services appear to be in fair condition but the proposal is to carry out all the necessary pre-decoration repairs e.g. to the access balcony soffits etc. The communal staircases show evidence of corrosion of steel, which is causing spalling of the concrete, and other mechanical damage. Evidence on similar blocks on the estate is that the steelwork can be quite badly corroded necessitating large repairs to the balcony beams. Photos 22 and 24 illustrates typical symptoms of this problem

The proposal will be to remove defective concrete, suitably prepare exposed steel and repair with a specialist concrete repair compound such as the Fosroc Renderoc system of repair mortars with appropriate priming of exposed steel work. Repair profiles will match the original profiles of the repaired element.

2.7 Communal Access Balcony & Walkways

The communal access balconies are covered with asphalt. The undersides are painted concrete with textured coating, e.g. photo 23.

The asphalt surfaces are discoloured and deteriorating. To replace the asphalt on a like for like basis will involve considerable disruption to residents as the existing material would need to be removed entirely. It is therefore proposed to apply a proprietary resin liquid slip resistant finish (e.g. TORDEK) over the existing surfaces. This is rapid drying and will involve minimal disruption to the residents, and retain the original building fabric without harming it's special interest. Resin coatings will give a greatly improved appearance to these walkways and protect the structure from water penetration and concrete degradation.

Balcony surface water drainage will be cleaned out and overhauled.

2.8 External Decoration

It is proposed to redecorate the block entirely externally including the communal access stairs and balconies. Traditional masonry and gloss paint will be used with appropriate preparation and priming following pre-decoration repairs.

2.9 Ventilation

Many of the properties already incorporate mechanical extract fans to kitchens and bathrooms. The proposed works will replace these where they are defective in tenanted properties and provide fans where none are provided at present, also to tenanted properties.

Fan installations vary depending on flat layout. Where possible, the fan duct will be core drilled through existing brickwork maximum 150mm diameter holes terminating with coloured plastic vent louvers either approximately 100 x 100mm or 150 x 150mm depending on fan size and location.

In some instances there may be no choice but to mount fans within the windows. Fans will discharge, with a few exceptions, to the courtyard elevations or within access balconies with minimal impact on overall appearance.

3 Impact Assessment

3.1 Assessment of impact of proposals on the Historic Asset

The assessments of the proposed works are;

- **Window Replacement** – The existing windows are not original and arguably have no historic value. However the proposals retain the appearance of the building replacing a life expired building element improving thermal and acoustic insulation for residents.
- **Door Renewal** – The proposals replace a poor quality previously replaced building element improving appearance, security, fire precautions and thermal insulation for residents.
- **Re-roofing** – This will address condition issues with new matching tiles, retaining the appearance of the building.
- **Parapet Gutters** – Relining, insulating and improving detailing will add to the long term protection of the building fabric, and will not have any visual impact on the building being behind high parapet walls.
- **Rainwater Goods** – These will be repaired and redecorated retaining existing wherever possible to preserve the fabric of the building, notably the hoppers.
- **External Walls** - will be repaired, cleaned and repointed which will not adversely affect the appearance of the building and will restore fabric to good condition and hopefully improve residents' pride in their block.
- **Concrete Repairs** – Repairs are essential to prevent current deterioration from escalating to more serious failure. These repairs will be to original profiles and will not have an adverse effect on the appearance of the block.
- **Access balcony coatings** will retain the original building fabric and preserve it in the long term, preventing water penetration through the asphalt coverings and consequent damage to the fabric.
- **External redecorations** will not adversely affect the appearance of the block, on the contrary it will return it to good decorative order and help preserve the fabric.
- **Extract Fans** – Replacement of existing and provision of new will improve the internal conditions for residents and help reduce condensation which has contributed in part to the failure of some of the windows.

In summary the proposed works seeks to improve the well-being of residents, whilst preserving the appearance and fabric of the building. This will address the lifecycle refurbishment or replacement of certain building elements which we assess to have minimal impact on the fabric and which will be preserved in the longer term. The proposals will also address inappropriate random alterations to windows that have been undertaken in the past and rationalise types in terms of glazing bars.

4 Summary and Conclusions

4.1 Summary

The condition of the external fabric of these parts of Levita House are deteriorating and impacting on residents and the future well-being of the fabric of the block.

An external refurbishment project is being proposed which takes into consideration the existing fabric and design form of the buildings, and also has regard to works that have been undertaken on adjacent parts of Levita House and the Ossulston Estate generally. A set of detailed drawings of existing and proposed works, particularly the windows and doors, accompanies this application for both planning permission and Listed Building Consent.

In our opinion the works are a good compromise between complete replacement and retaining some of the fabric, as well as meeting the needs of the residents in terms of improved thermal and acoustic properties for the windows in particular.

Appendix 1

Photograph Schedule

Schedule of Photographs

136 – 180, 181 – 203 and 204 – 238 Levita House – Existing condition

Photograph 1 204 – 238 north elevation

Photograph 2 Recovered roof to 3 storey section of 204 – 238, concrete interlocking tiles

Photograph 3 136 – 180 Levita

Photograph 4 Rear 204 – 238, courtyard side.

Photograph 5 **Rear 204 – 238 showing New Horizon Youth Centre new block**

Photograph 6 **Rear 183 – 203, courtyard side.**

Photograph 7 136 – 180 Diagonal spine Ossulston Street side

Photograph 8 183 – 203 Ossulston Street Elevation

Photograph 9 Pitched tiled roof 204 - 238

Photograph 10 Tile removed, no sarking felt

Photograph 11 Existing tile condition

Photograph 12 Existing tile condition

Photograph 13 Existing tile condition

Photograph 14 Hip tiles

Photograph 15 Parapet gutter and dormers 204 - 238

Photograph 16 Parapet gutter and coping

Photograph 17 Parapet Gutter

Photograph 18 Zinc clad dormer

Photograph 19 Dormer window, covered in clear polythene type sheet

Photograph 20 Small flat roof area 204 - 238

Photograph 21 Typical chimney condition

Photograph 22 Cracking to access balcony ring beam and render

Photograph 23 Access balcony soffit

Photograph 24 Cracking to access balcony ring beam soffit

Photograph 25 Access balcony walkway surface

Photograph 26 Access balcony drainage

Photograph 27 Typical flat entrance doors

Photograph 28 Window condition

Photograph 29 Window condition, note low level decay

Photograph 30 Improper alteration to window

Photograph 31 Window decay

Photograph 32 Private balcony

Photograph 33 Blocked rainwater hopper

Photograph 34 Defective pointing

Photograph 35 Communal stair repairs and redecorations required

Photograph 36 Poor condition of access balcony parapet

Photograph 37 Structural movement in 135 – 180

Photograph 38 Damaged flat roof, cable condition, and poorly insulated water supply

Photograph 39 Entrance steps and handrail 135 - 180

Photograph 40 Courtyard typical paving condition

Appendix 2

Proposed Roof Tiles and Access Balcony Coating

Bridgwater Double Roman

Bridgwater Somerset

Fittings and accessories

Ridges:	- Clay half round - Hogsback
Mono ridges:	- Clay half round
Hips:	- Clay third round
Valleys:	- Lead - Fibreglass
Clips:	- Tile, Eaves, Verge

See pages 64-69.

Roofing systems

Ventilation systems:	- Ridge - Eaves - Top abutment - Tile vent - Gas terminals

See pages 110-127.

Tile fixing: Download zonal fixing table from www.sandtoft.com. Alternatively, use our Fixing SPEC service by completing your details online or calling 0844 9395 999.

The Sandtoft Bridgwater has been designed to satisfy the need for a traditional tapered clay double roman tile, found in the South West of England.

Colour

85 Somerset

Bridgwater is also available in Natural Red.

Due to the traditional design of this product and the manufacturing process used, there may be some slight dimensional variations.

See also Modula Double Roman, page 72.

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Therefore, before deciding on the batten gauge and cover width, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved.

Technical data

Minimum roof pitch	30°
Headlap (minimum)	75 mm
Batten spacing at max. gauge	345 mm
Size of tile	420 x 340 mm
Covering capacity at max. gauge	9.5 tiles per m^2
Cover width	305 mm
Profile depth	42 mm
Hanging length	403 mm
Weight as laid	33.3 kg per m^2
Weight per 1000	3.5 tonnes
Weight per tile	3.5 kg
Weight per pallet (inc. pallet)	0.7 tonnes
Quantity per pallet	186
Battens per m^2	2.9 m
Batten size Up to 450 mm rafter centres Up to 600 mm rafter centres	 38 x 25 mm 50 x 25 mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head
Nail size/type for tile clips	55 x 3.35 mm aluminium ring shank clout head

Note: Unless otherwise stated, data is based on tiles laid at minimum headlap.

Technical Data – Bridgwater Double Roman	
Minimum roof pitch	30^0
Headlap (minimum)	75 mm
Headlap (maximum)	n/a
Batten spacing at maximum gauge	345 mm
Batten spacing at minimum gauge	n/a
Size of tile	420 x 340 mm
Covering capacity at maximum gauge	9.5 tiles per m^2
Cover width	305 mm
Profile depth	42 mm
Hanging length	403 mm
Weight as laid	43.7 kg per m^2
Weight per 1000	4.6 tonnes
Weight per tile	4.6 kg
Weight per pallet (including pallet & packaging)	0.890 tonnes
Quantity per pallet	186
Quantity per row/band	31
Quantity per mini pack	n/a
Quantity per layer	93
Mini packs per row	n/a
Battens per m^2	2.9 m
Batten size - up to 450 mm rafter centres	38 x 25mm
Batten size - up to 600 mm rafter centres	50 x 25mm
Nail size/type for tiles	38 x 3.35 mm aluminium ring shank clout head
Nail size/type for metal tile clips	55 x 3.35 mm aluminium ring shank clout head

Product specification is subject to change and will be updated accordingly

For projects where the rafters are below the minimum recommended roof pitch please contact Sandtoft Technical Department for advice

Clay tiles are subject to small variations in size because of drying and firing shrinkage in the manufacturing process. Before deciding on the batten gauge and linear coverage, the roof tiler should inspect each batch of tiles to ensure that the correct minimum headlap and sidelap are achieved. For further guidance, download the **Bridgwater Double Roman Installation Guide**.

Note: unless otherwise stated, data is based on the tiles laid at minimum headlap.

Tile Fixing
Sandtoft roof tiles must be laid and fixed to comply with BS 5534: the British Standard Code of practice for slating and tiling, and BS 8000: Part 6: the British Standard Code of practice for workmanship on building sites.

To ensure compliance with these Standards we strongly recommend that either the recommendations given in the Sandtoft Zonal Method User's Guide and Zonal tables must be followed where available or a calculated fixing specification must be obtained using Sandtoft's Fixing SPEC service.

For further information go to Fixing SPEC or contact Sandtoft Technical Services on 0844 9395 999.

Tordeck™ Ultra 90

System data sheet

TOR COATINGS
Providing Practical Solutions

System features

- Very fast curing (walkable after 90 minutes)
- 2 coat seamless waterproofing membrane
- Easy to apply and detail
- Low odour Top Coat
- Low textured, slip resistant finish
- Long term durability
- Colour choice available*

* *Dark colours are most suitable for heavily trafficked areas. Other colours made to order.*

What does the system include?

1st Coat Tordeck™ Ultra 90 Primer is a two-pack primer tolerant of entrapped air/moisture in concrete or asphalt decks etc.

Top Coat Tordeck™ Ultra 90 for level balconies. A two-pack, low odour resin with anti-slip grits added to the wet resin.

Edge & termination details are coated with Elastaseal Fibretex and then a coat of Tordeck PB topcoat

Product Appearance

Low texture slip resistant floor finish.

What does it do?

Tordeck™ Ultra 90 is a fast-curing (90 minutes per coat) hardwearing resin flooring system, designed to waterproof and provide slip resistance to balconies and walkways. Ideal for minimising the disruption usually associated with this kind of application.

Where can it be used?

Substrates

The system is specifically intended for use on medium to high wear areas on communal balconies and walkways. Typically, such areas will consist of bare concrete or asphalt.

Buildings

Tordeck™ Ultra 90 is suitable for external walkways and balconies, usually found in:

- Communal areas, landings, access areas and escape routes in social housing blocks
- Balconies and walkways in hotels and hospitals
- Access areas in car parks
- Walkways and escape areas in shopping centres

The Tor service available to you

- Unrivalled expertise and knowledge
- Nationwide team of area managers and technical personnel
- Free site survey of your building
- Free comprehensive specification writing service (NBS format also available)
- On site technical back-up for live projects

Technical information

	Tordeck™ Ultra 90 Primer	Tordeck™ Ultra 90
Theoretical coverage	5m² per litre	1.3Kg per m²
Colour	Pigmented trace	Red, Mid-Grey, Green, Dark Grey
Application	Brush / roller	Squeegee / trowel
Pack size	2 Litres	3.5Kg
Walkable	90 minutes	90 minutes
Hard dry	2 hours	2 hours
Minimum overcoating time	1.5 hours	1.5 hours
Maximum overcoating interval	48 hours	48 hours

Note: Drying/curing times will vary according to climatic conditions. Low ambient temperatures will lengthen drying times and minimum overcoating intervals. Practical coverage can vary depending on method of application, surface roughness and weather conditions. Dark grey is available in stock for topcoat, other colours can be made to order.

How to specify

The following specifications are included for demonstrative purposes only. **Always consult a representative of Tor Coatings prior to specifying or applying**.

All areas should be suitably prepared according to the detailed Tor specification, prior to application.

Tordeck™ Ultra 90 Primer

Ensure surfaces are clean and dry before priming. Apply 1 coat of Tordeck™ Ultra 90 Primer (RC530) and allow to cure for at least 90 minutes before applying the topcoat.

Tordeck™ Ultra 90

Ensure surfaces are dry. Apply 1 coat Tordeck Ultra 90 Topcoat (RC540). Air entrapment may occur especially at high coating thicknesses. Release of air within 5 minutes of application using a spiked roller is recommended.

Cast white aluminium oxide grits (30mesh) onto the wet coating at not less than 300g/m² to provide slip resistance. Allow to cure.

Tor Coatings offer a free site survey service, and all of our Area Business Managers are fully trained and able to carry out full site assessments. A detailed and bespoke specification will then be issued.

Call Tor Coatings on **0191 410 6611** to arrange your site survey.

Quick and easy to detail.

Tordeck™ on-site in London, UK.

Technical support

Tor Coatings national team of Area Business Managers is supported by a dedicated customer service team, a large team of paint chemists and a dedicated technical help desk.

Call **0191 411 3148** for assistance from our helpdesk, or visit **www.tor-coatings.com** to find out more.

TOR COATINGS

Providing Practical Solutions

Tor Coatings Limited, Portobello Industrial Estate,
Birtley, County Durham, DH3 2RE.

Tel: +44 (0)191 410 6611 **Fax:** +44 (0)191 492 0125
E-mail: enquiries@tor-coatings.com
Web: www.tor-coatings.com

Appendix 3

Arctic Glass Information


Pilkington Aretic - Clock.jpg