



THE GOODSYARD

Design and Access Statement

September 2019 - Part 20 of 21



ballymore.



APPENDICES

A1 RESIDENTIAL OPTIMISATIONSTUDY



THE GOODSYARD

Residential Optimisation Study

July 2019



ballymore.



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THE GOODSYARD

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1.0 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

1.1.1 Process

This residential optimisation study summary has been produced to capture the evolution of the residential proposal that has been presented to and discussed with the GLA and Boroughs in various meetings between September 2018 and April 2019.

This report presents the conclusion of the study and puts forward the options chosen at each stage. Further superseded options are not included in this report as previously issued documents illustrate these.

The table below summarises the starting point and final position with regards to unit numbers that the project team have identified as being achievable within the maximum parameters, whilst creating a vibrant mix of uses.

Starting Position (Nov 18)	180
April 2019 Maximum Provision	
Sclater Street (Enhancement)	214
Plot 8 (resi/hotel hybrid)	133
Plot 10 (Enhanced)	125
Plot 9 (Removal)	(-20)
Total	472
Additional Site-wide Efficiencies	+28
Maximum Total	500

During the process, 20 units have been omitted with the removal of Plot 9 from the platform level in lieu of providing more consolidated public open space. Initial ideas for this are introduced in section 5.

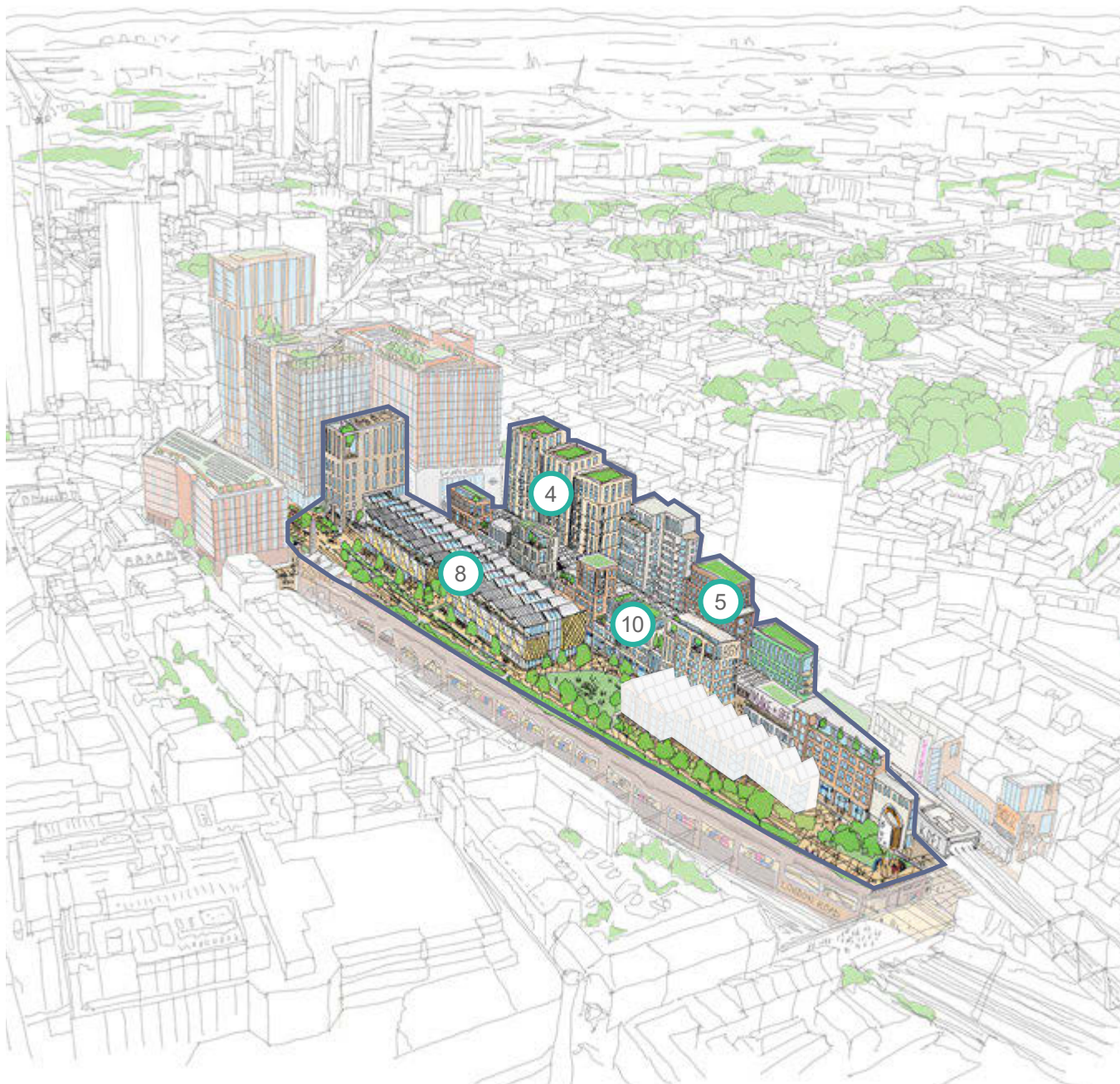


Fig 1.1.1: Axonometric view of masterplan November 2018- plots to be reviewed as part of study (4, 5, 8 and 10)

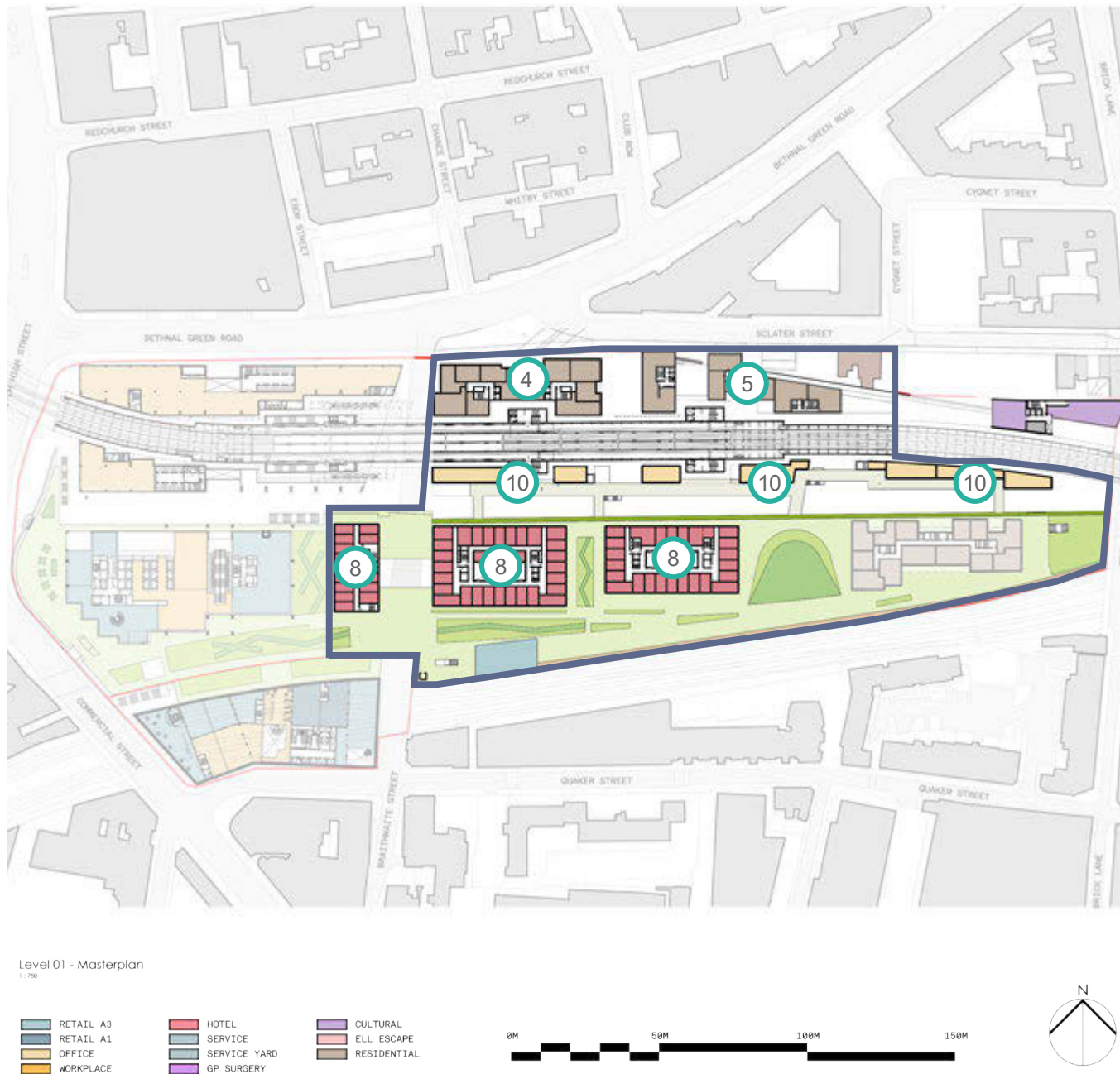


Fig 1.1.2: Revised masterplan, before undertaking the Optimisation Study, platform level, Plots to be reviewed as part of study (4, 5, 8 and 10)

This optimisation study aligns with the wider masterplan's aim and vision of delivering a rich mix of uses across the site. A number of technical constraints also preclude specific plots from being considered suitable for residential use.

1.1.2 The Commercial Campus

The office campus to the west maximises development footprint and value. This allows the team to reduce the scale of the tallest and most contentious elements of massing from the 2015 scheme. If any of the office campus returned to residential then a significantly greater height would be needed to the east to compensate for the reduced area. As a specific point the technical constraints of spanning the railway make plots 1 and 3 particularly unsuited to residential development. Therefore the commercial campus is not included in this residential optimisation study.

1.1.3 The Cultural Hub (Plot 6)

Plot 6 is located at the east end of the site, fronting Brick Lane. This plot has a small and restricted footprint with only one main aspect to the east, and is therefore unsuitable for residential use. As a key principle of the masterplan, a cultural facility was considered a suitable use for the plot, addressing a new public square and offering community facilities on Brick Lane. Plot 6 therefore is not included in this study.

1.1.4 Unit Mix and Policy

The revised scheme to be submitted for planning will apply the LBTH housing mix on a plot by plot basis. However this may not be possible on all plots due to the site specific constraints.

2.0 MASTERPLAN

2.1 SEPTEMBER 2018 PROPOSED SCHEME

2.1.1 Masterplan Principles

The revised masterplan has evolved from a very clear set of design principles which have shaped the strategic approach to design. The key design principles are:

- Retain heritage to bring character and identity to the development;
- Create new routes to bring appropriate scale to development plots;
- Consideration of the specific and varied boundary conditions;
- Generosity of public realm over two levels;
- Create characterful, purposeful and usable spaces throughout;
- Consideration of the existing surrounding context with a series of independent urban blocks;
- To position massing and height where appropriate;
- To promote a rich mix of uses to create a vibrant new destination within the city.

These design principles were captured in the revised scheme proposals presented in September 2018 which proposed residential use within plots 4 and 5 only, with small flexible workspace in plot 10.

Plot 9 was proposed for residential use also, however access, servicing and property management of the units was viewed as a considerable challenge.

The masterplan as presented in September 2018 provided:

TOTAL = 180 UNITS

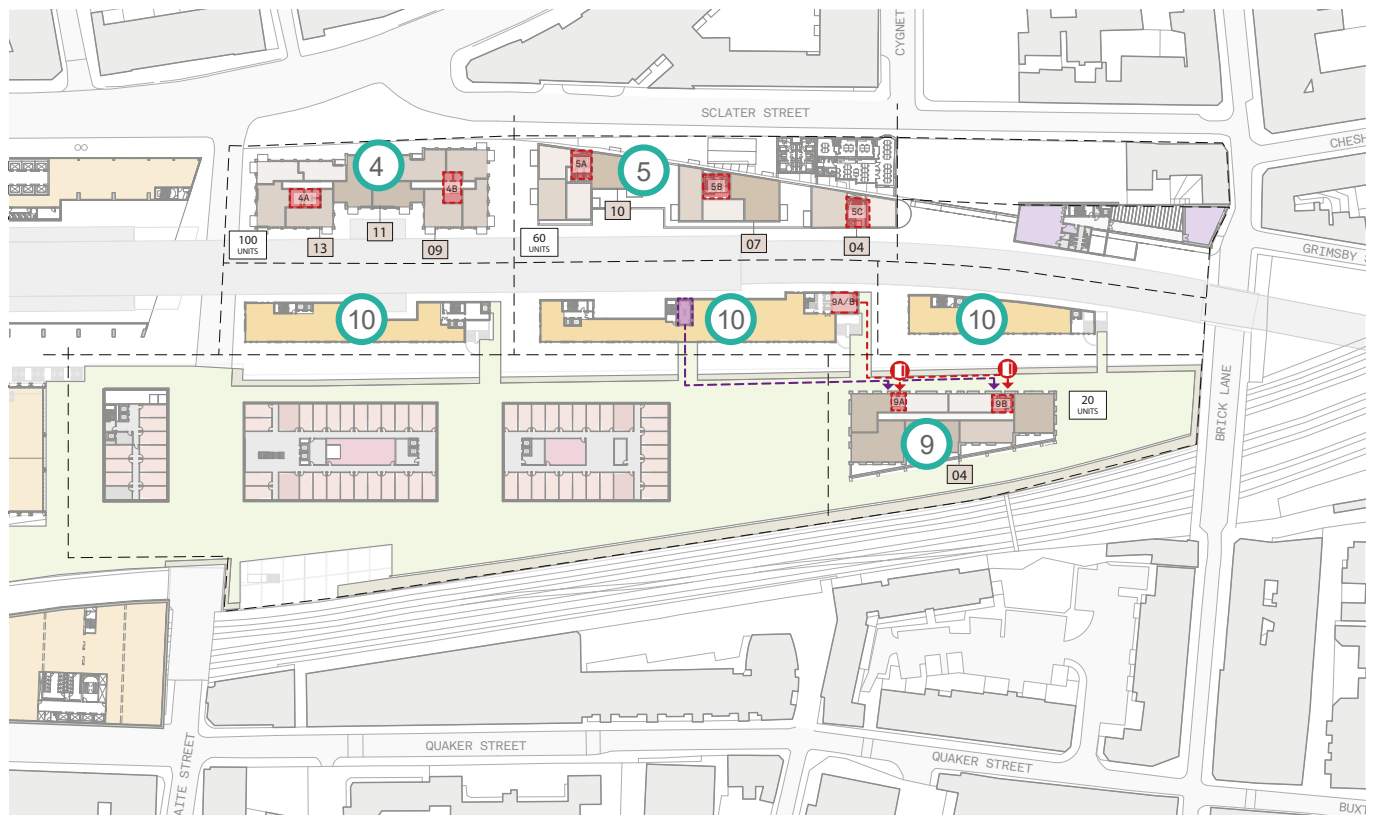


Fig 2.1.1: September 2018 Masterplan: typical upper floor (unit numbers and storey heights)



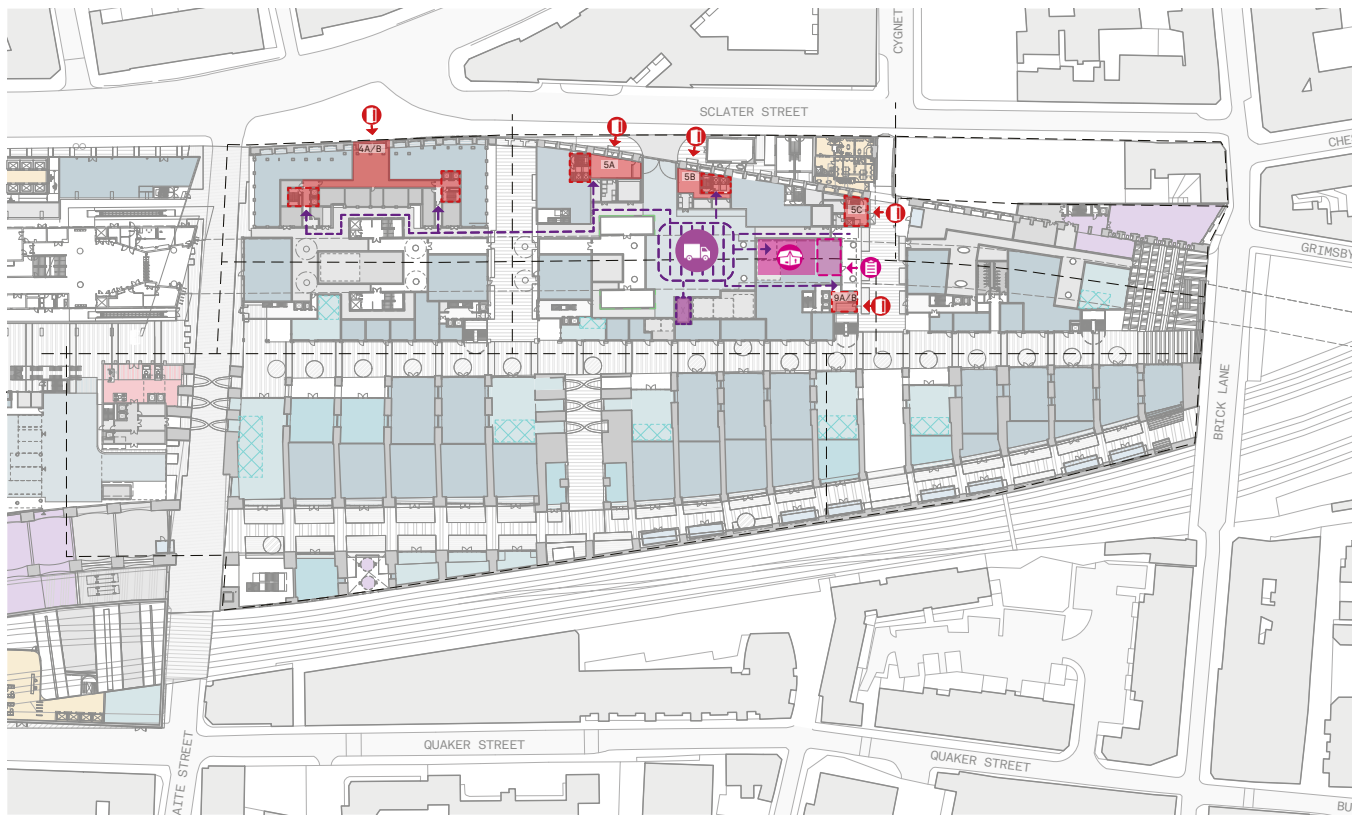


Fig 2.1.2: September 2018 Masterplan - Ground Floor (servicing and access)

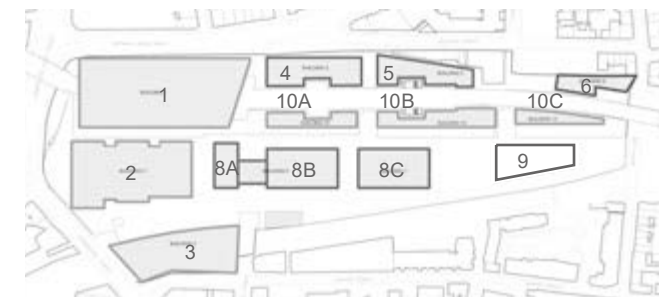


Fig 2.1.3: Key Plan



3.0 STEP 1: SCLATER STREET

3.1 SCLATER STREET OPTIMISATION

3.1.1 Plot Description

Sclater Street incorporates plots 4 and 5 which are proposed to be residential buildings located on the northern edge of The Goodyard masterplan.

The plots are bound by Bethnal Green Road and Sclater Street to the north, and the London Overground line to the south. The plots are located entirely within the London Borough of Tower Hamlets.

The London Overground viaduct passes in east-west direction to the immediate south of the plots and provides elevated platforms for Shoreditch High Street Station. Emergency exit stairs and lifts from the station platforms are located immediately adjacent to the plot boundary to the south. A pair of reserved escape stairs for future London Overground expansion are located immediately to the south of the plot 5 boundary.

The Goodyard boundary brick wall (c.1850), three Weavers' cottages (c. 1719), the Mission Room (1876) and Victorian Building (1877) are all of historical significance and form part of the plots along Sclater Street.

3.1.2 Opportunities for Optimisation

Due to the narrow development plot defined by the physical constraints of both plots, the opportunity to expand the building footprint was limited. However, the design team felt there was an opportunity to explore additional height across both plots, with a carefully considered approach to townscape and the relationship with the immediate surroundings.

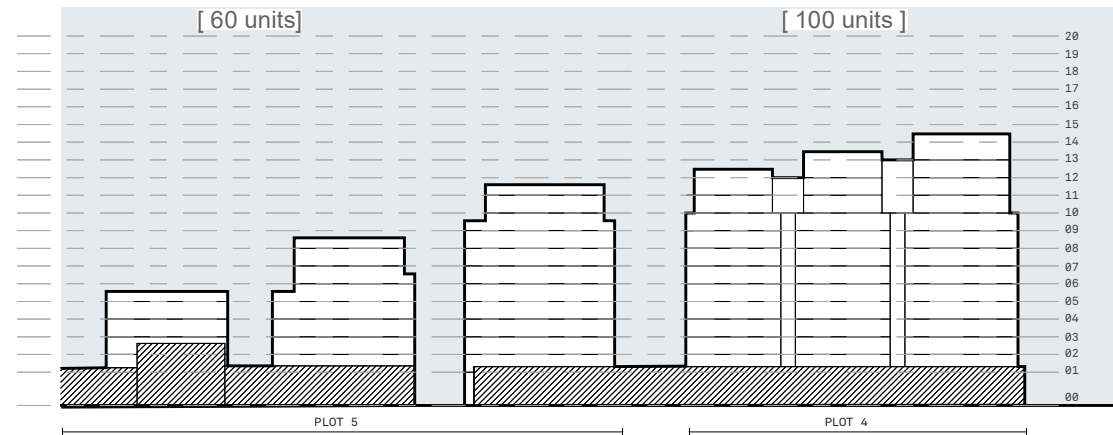


Fig 3.1.1: Option 1 Section through Sclater Street - September 2018 proposal

M'Plan Total

180 Units

* Note masterplan total
Includes, plot 9 units [20]

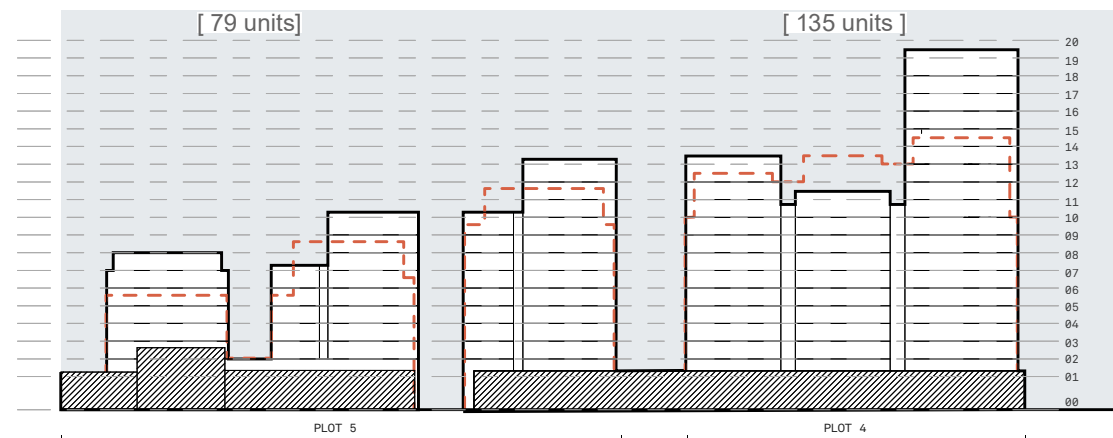


Fig 3.1.2: Option 2 Section through Sclater Street showing the **optimised scheme**

M'Plan Total

214 Units

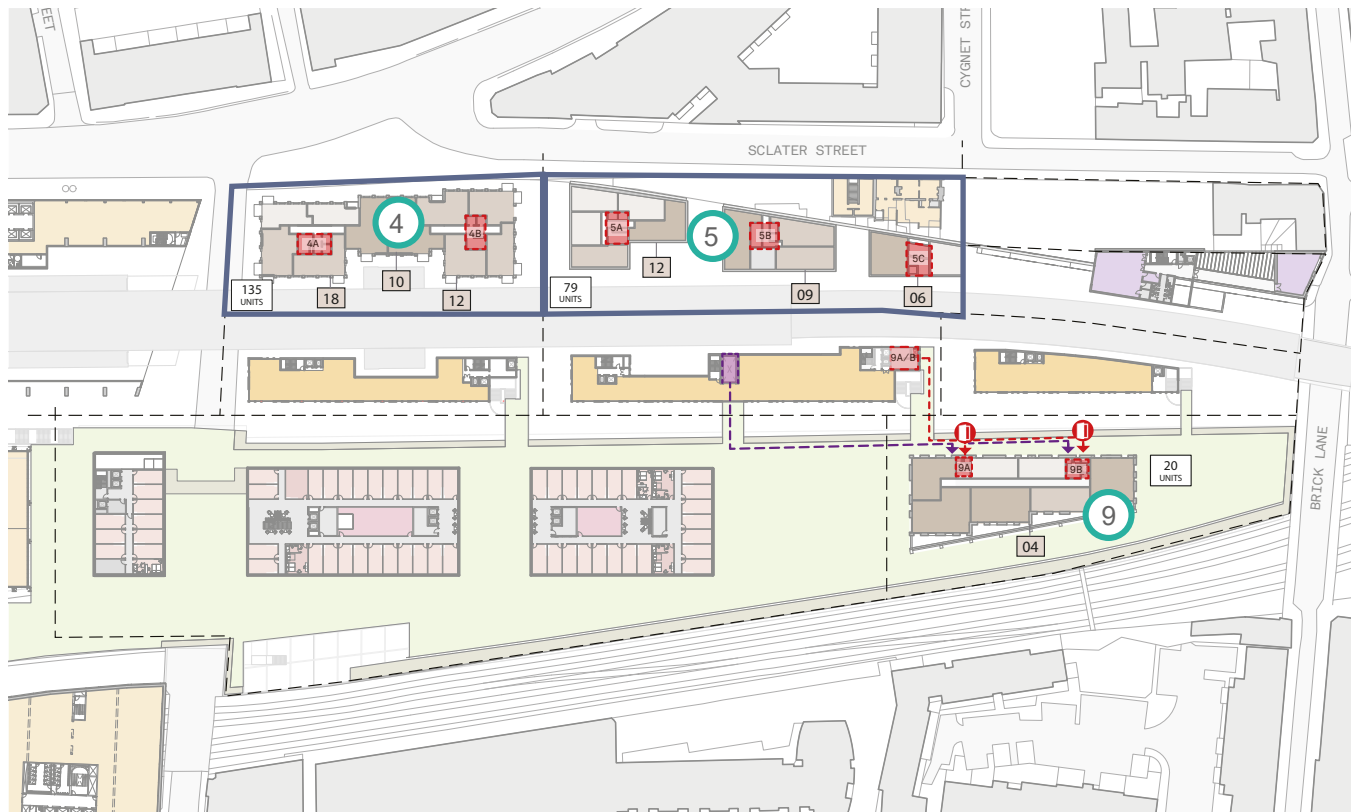


Fig 3.1.3: Sclater Street optimisation masterplan typical upper floor (unit numbers and storey heights)



Fig 3.1.4: Diagram Key

The design team was able to create additional height in review of the skyline impact, choosing to increase height in carefully selected areas and not wholesale adding floor levels across the entire length of the plots.

3.1.3 Design Response

In September 2018 the proposed massing along Sclater Street ranged from 6 to 14 stories with an even increase in height moving from east to west (fig 3.1.1).

The optimised residential scheme (fig 3.1.2) increased the overall heights to range between 6 and 19 storeys over both plots, re-ordering the massing to create a more visually subdivided and vertically emphasised building along the street.

The team also responded to Historic England's advice to retain the Victorian Building, resulting in further massing adjustments to plot 5.

On balance, having carefully reviewed townscape and streetscape, the team are of the view the additional height and subsequent increase in unit numbers justify any further impact on streetscape and amenity.

The massing illustrated in Option 2 (adjacent) is tested further within the TVIA views, in particular view 34, 36, 36n, 37 and 40.

The masterplan presented in October 2018 proposed residential units in plots 4 and 5 and with maximised height provided the following:

Plot Number	Units
Plot 4	135
Plot 5	79
Total	214

3.1.4 Optimisation Analysis

Daylight and Sunlight consultant GIA, at the time, undertook an initial review of the increase in height as indicated on Option 2; this study highlighted that the properties on Sclater Street and Bethnal Green Road will possibly experience larger daylight amenity impacts than the 'current base line' in option 1. However, the uplift will be marginal and will still offer significant improvements over the 2015 submitted scheme in relation to the height and scale of previous plots D and E and their comparative impact on surrounding properties.

Further testing of daylight/sunlight impact is included as part of the Environmental Statement.

Further testing of townscape views and a comparison to the 2015 submitted scheme is submitted as part of the updated TVIA accompanying the planning application.

3.1.5 Access and Servicing

The optimisation of residential use within the plots would have no further implications on the established access and servicing strategy from the September 2018 proposal.

The higher number of residential units would increase cycle storage provision to 236 internal long stay spaces. All of these will be located within secure areas in the buildings.

3.1.6 Child Play Space

An external children's play space is accommodated within the top two levels of the central block, at level 10. The location of the play space area allows access from both cores and also passive surveillance from the adjacent

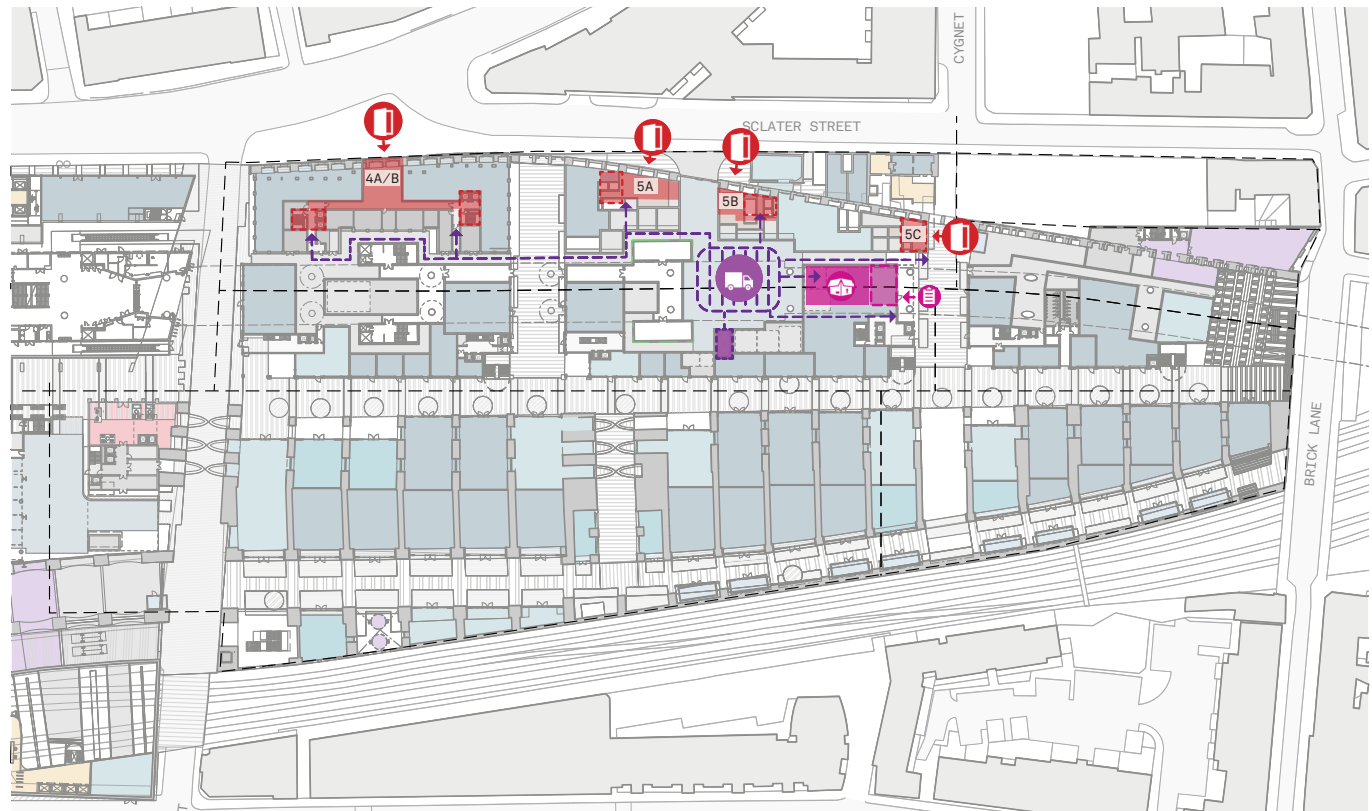


Fig 3.1.5: Masterplan ground floor (servicing and access)



Fig 3.1.6: Diagram Key



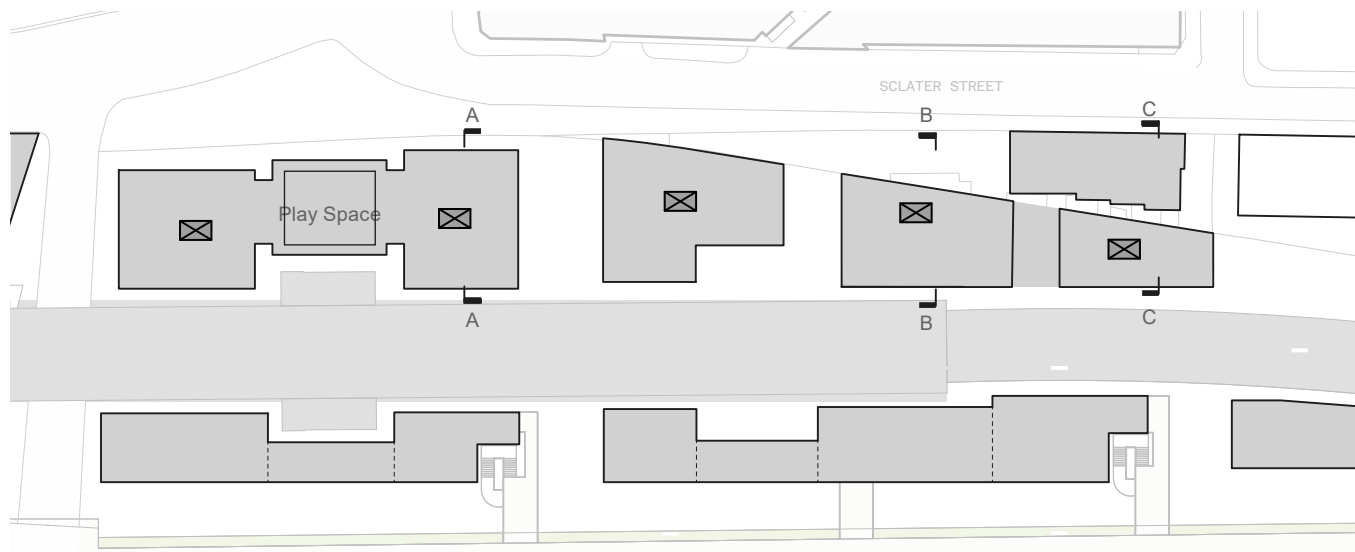


Fig 3.1.7: Plots 4 & 5 Block Plan

overlooking blocks to promote safety.

3.1.7 Unit Numbers

Plots 4 and 5 are submitted in outline, seeking approval for the general development principles defined by the maximum and minimum parameters. Future reserved matters applications will provide detailed information regarding use, amount, layout, scale, landscaping, appearance and access.

As part of the outline application, parameter plans set out the maximum and minimum height, width and length of development plots. The associated residential maximum unit numbers are shown below:

Plot Number	Units
Plot 4	135
Plot 5	79
Total	214

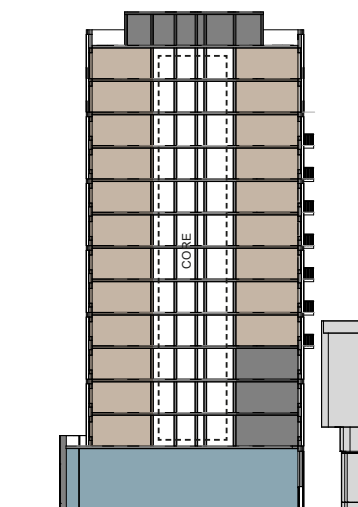


Fig 3.1.8: Illustrative Section A-A

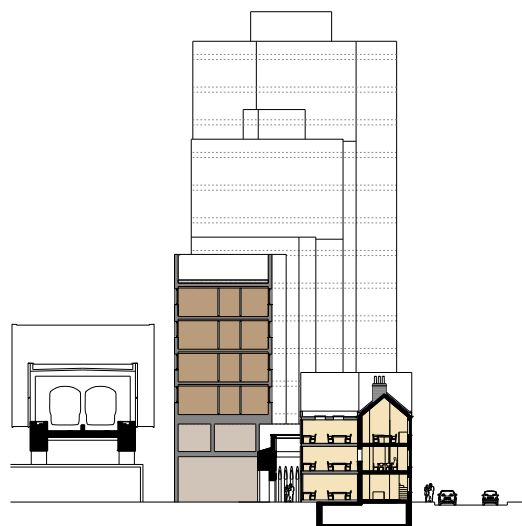


Fig 3.1.9: Illustrative Section B-B



Fig 3.1.10: Illustrative Section C-C

4.0 STEP 2: PLOT 10

4.1 STEP 2: PLOT 10 OPTIMISATION

4.1.1 Plot Description

Plot 10 is located centrally within the revised scheme, to the northern edge of Middle Road, the main east-west route through the site. It runs the length of the new east west route through the masterplan from Braithwaite Street to Brick Lane. The plot sits entirely within the London Borough of Tower Hamlets.

Plot 10 is a narrow development plot which is located to the south of the ELL box. The plot is approximately 220m in length and has a narrow depth ranging from only 6m to 13m. The main constraint is the proximity to the London Overground viaduct and associated escape stair enclosures to the north.

From the outset of the design process Plot 10 was proposed as low rise flexible workspace provision focused on the creative and digital industries.

The block was to reflect the unique conditions of the site in the form of several long, low rise, narrow blocks.

4.1.2 Opportunities for Optimisation

Following guidance from the GLA and LPAs, it was agreed the provision of flexible workspace (use class B1) allocated in Plot 10 should be removed and residential use tested.

Due to the narrow and restricted footprints defined by the physical constraints of the London Overground, the opportunity to expand the plan footprint was limited. The team also considered that the ground floor use should remain as retail frontage along the length of the east west street with the objective of creating an active environment at street level.

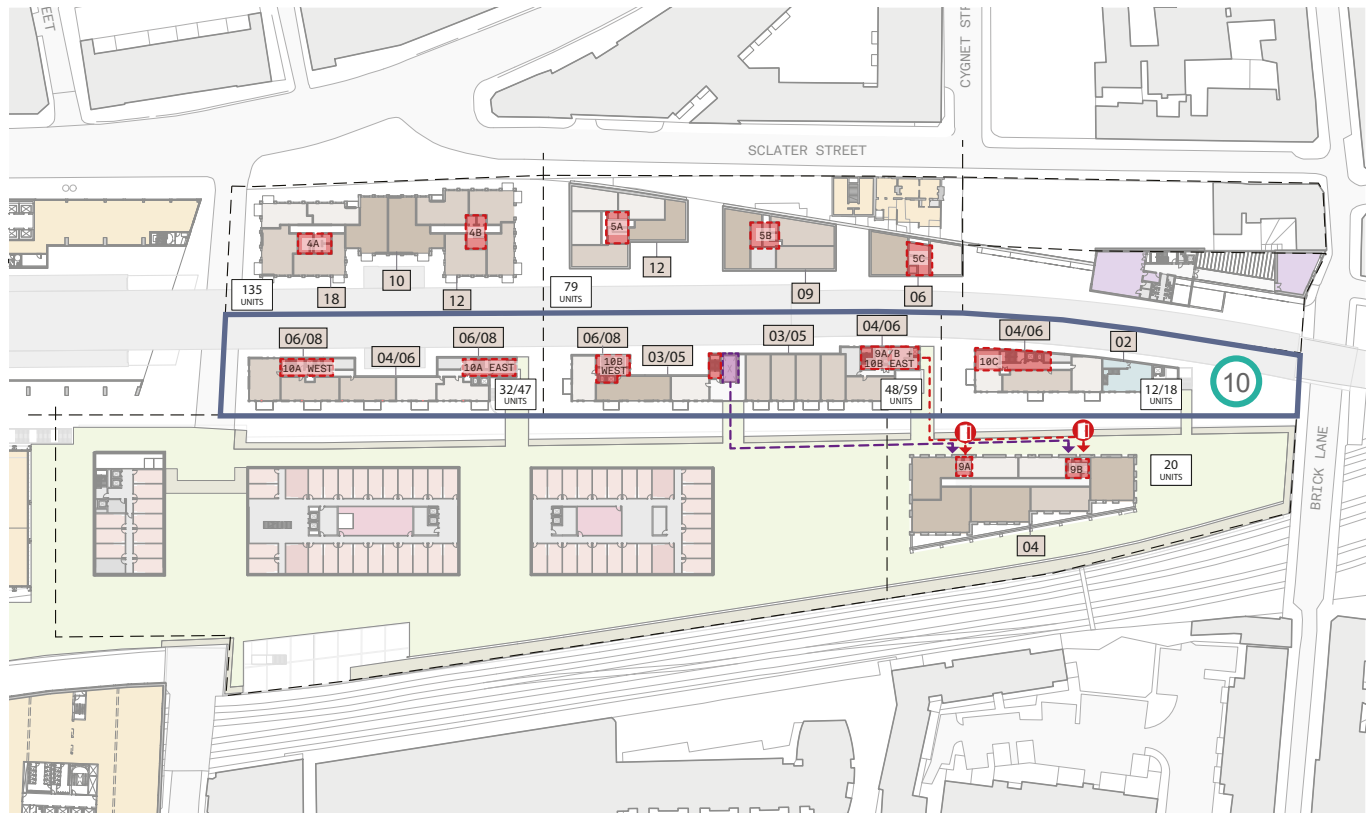


Fig 4.1.1: Masterplan typical upper floor (unit numbers and storey heights)



However, there is an opportunity for additional height along the length of the street, as the entire plot is broken into three parts by the proposed north south streets within the masterplan.

The approach to additional height has considered the following issues:

- The physical depth of the plot and the optimum location for cores and entrances;
- The relationship to the proposed plots on Sclater Street in terms of their daylight and amenity;
- The relationship to the street and the environment created at street level;
- The relationship with the grade II listed viaduct immediately south of the plot.

4.1.3 Design Response

Suitable floorplans have been developed to offer south facing and dual aspect units which are shown later in this study. Due to the narrow plot depth, the amount of residential units around each core is small, making the buildings relatively inefficient. This is further exaggerated as the blocks get taller.

The unusual plan layout is generated by the need to form a street edge coupled with the constraints of the London Overground viaduct and its associated escape stairs driving the restricted location of cores.

The location of cores and the objective to articulate the mass generated the rules for where the mass could be 'pushed up' to create the variation in the terraces. The cores are designed such that residential lobbies at ground floor can be segregated from servicing and maintenance access and are accessed from the key north south pedestrian routes through the masterplan.

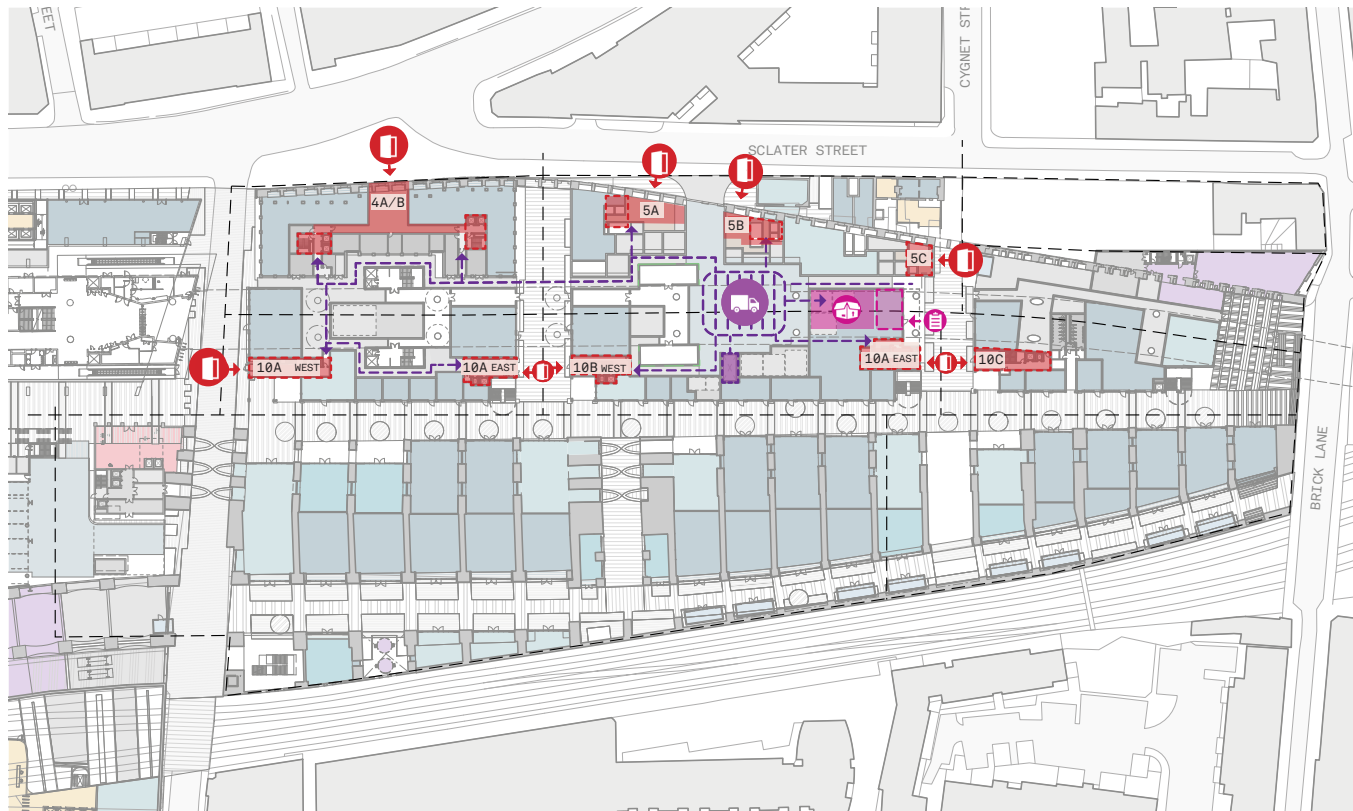


Fig 4.1.2: Masterplan ground floor (servicing and access strategy)



4.1.4 Optimisation Analysis: Building Height

The team have explored maximum and minimum heights of plot 10a/10b/10c in relation to daylight/sunlight amenity to the proposed residential plots on Sclater Street. Further consideration has been given to the proposed scale of the east west retail street. Plot 10 sits directly opposite the grade II listed Braithwaite Viaduct and therefore the street width is a fixed parameter. The height to width ratio of this street and the environment created is an important consideration. The height has been pushed to the maximum without having a detrimental effect on either the listed structures or the quality of the street environment.

The adjacent section (1-1) explores the relationship of plot 10 to plot 4 and it's impact on daylight from the lowest amenity window in the south elevation of plot 4.

Using BRE Guidance, 'Site layout planning for daylight and sunlight', we have considered that any height on plot 10 over the 45° line would be detrimental to daylight and sunlight amenity of primarily south facing flats and south facing living rooms. This analysis was used to establish the initial massing approach. The 2m restriction zone from the London Overground line must also be respected, providing a constraint to the north of plot 10.

In summary, blocks 10a, 10b and 10c are varied in height and align to the core positions at either end and create a visual interest along the length of street, breaking up the linear nature within the masterplan.

The centre of each block becomes too narrow in available footprint to efficiently position a core and connecting corridors. Cores are therefore located at either end of a block which allow the 'returns' to rise taller than the inefficient centre of the plan. This sets a rule that the centre of the plan cannot be taller than the ends, and helps produce a 'citadel' block with well defined, pronounced corners.

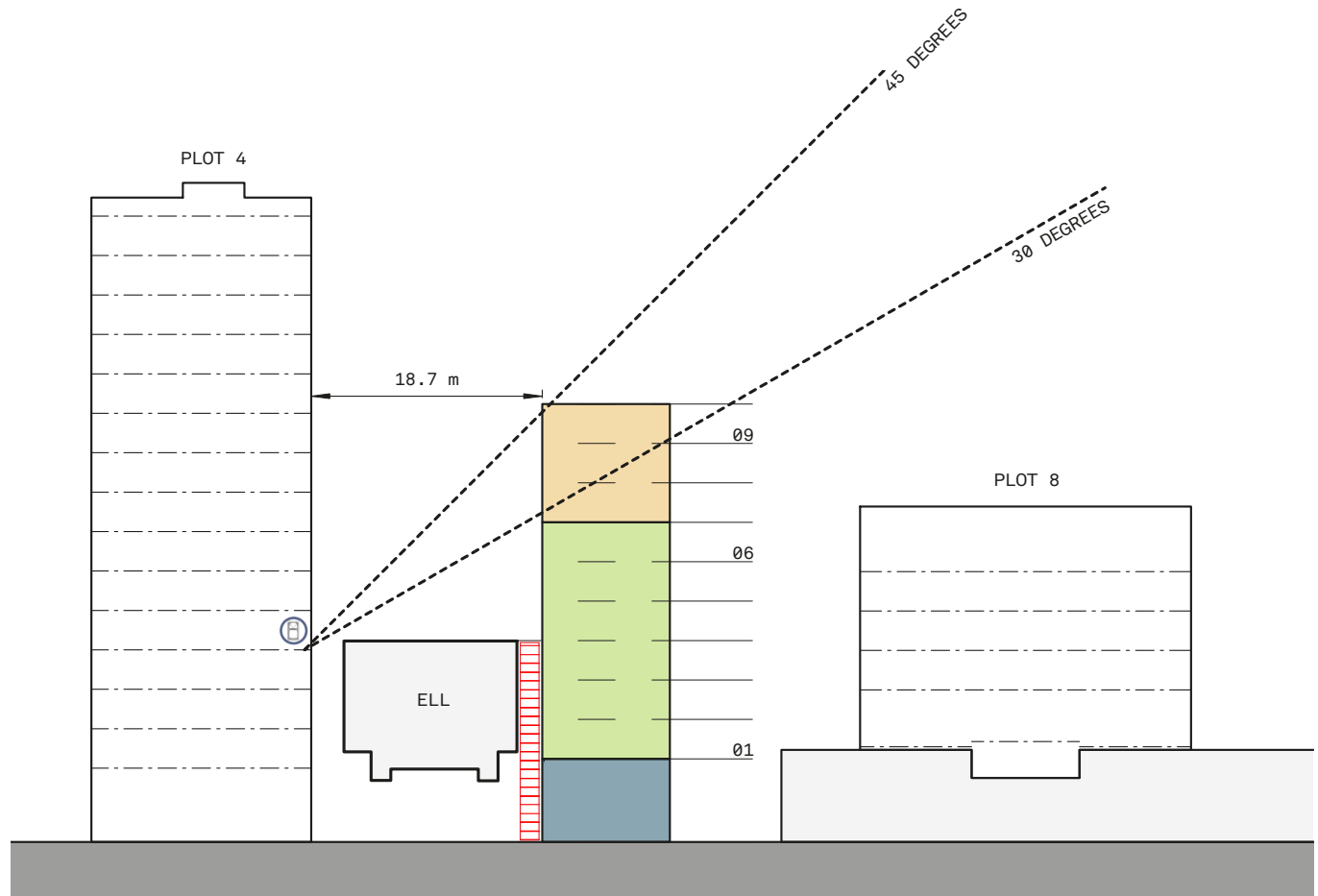


Fig 4.1.3: Section 1-1, demonstrating maximum building envelope (section) without affecting daylight amenity of plot 4



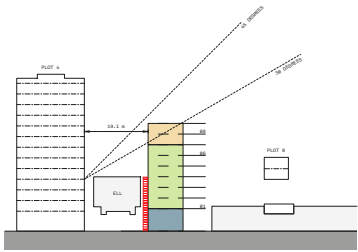


Fig 4.1.6: Section 2-2

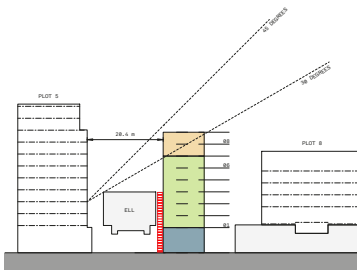


Fig 4.1.7: Section 3-3

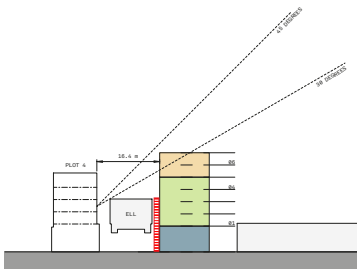


Fig 4.1.8: Section 4-4

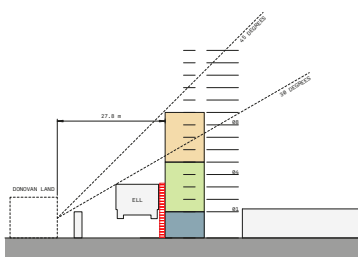


Fig 4.1.9: Section 5-5

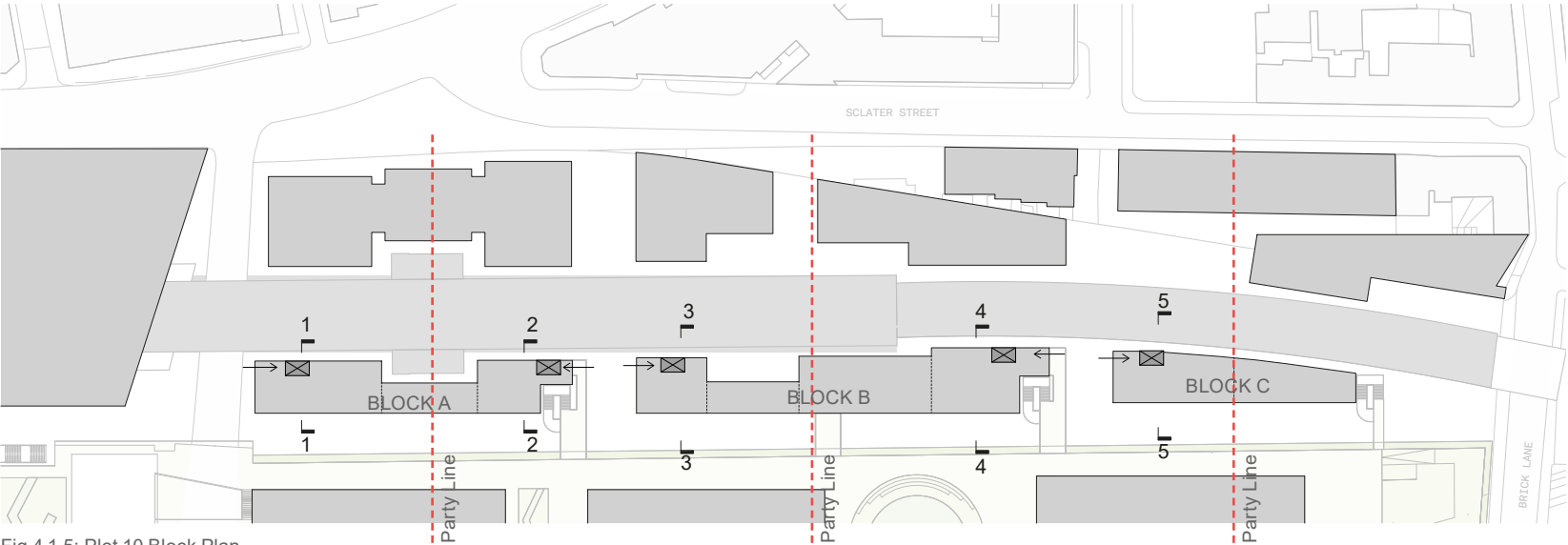


Fig 4.1.5: Plot 10 Block Plan

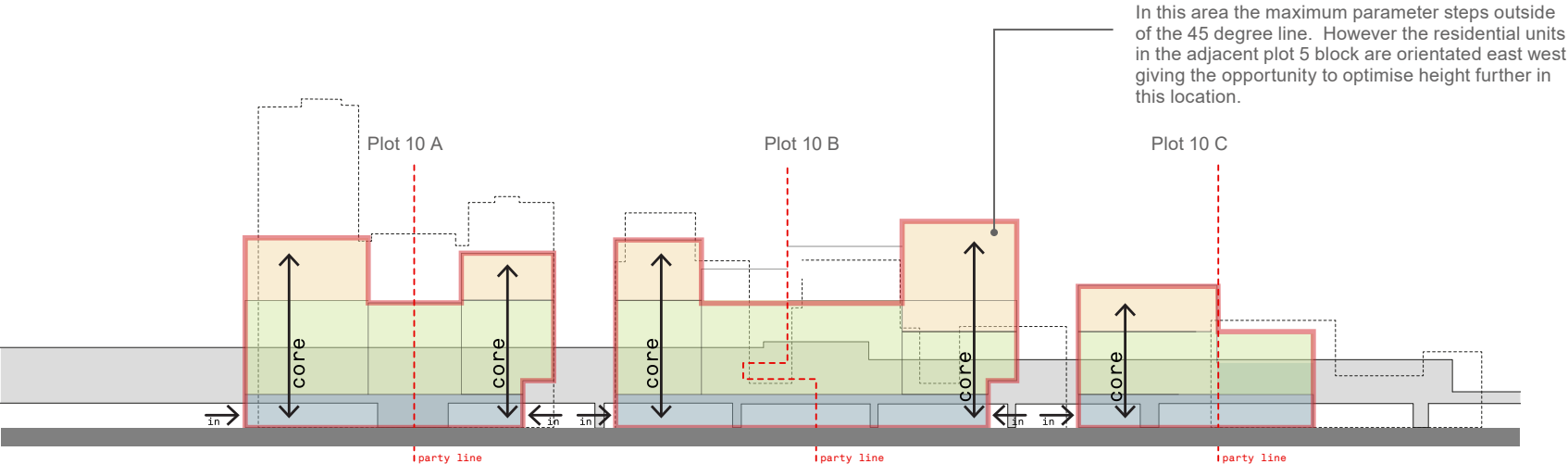


Fig 4.1.4: Maximum possible parameters based upon daylight amenity to plots 4 and 5 south facing windows only.



4.1.5 Typology Analysis

This plot is in outline only, however, the residential typology and layout of Plot 10 has been carefully developed in response to the narrow plot footprint and the relationship to the London Overground (ELL) track and station box to the north.

There are two conditions of the ELL box found adjacent to plot 10; a taller, wider section containing the platform and a shorter, thinner section containing the tracks.

Due to the adjacency of the ELL to the north, all vertical circulation is pushed to the north edge of the blocks where aspect is limited. This frees up valuable floor space facing south.

Ancillary spaces such as cycle stores and plant area are also pushed against the northern plot perimeter where aspect is limited.

All units have south facing living spaces with gable end units benefitting from an additional east or west aspect. North facing bedrooms have been avoided where possible.

Plot 10 has frontages onto five key routes within the masterplan and has views over the raised public realm area to the south.

Only one apartment per level for the lower three levels will have a north facing bedroom in plot 10A.

Plot 10B is a longer block and proposes an interlocking duplex arrangement explained further on the sectional diagrams on the following pages.

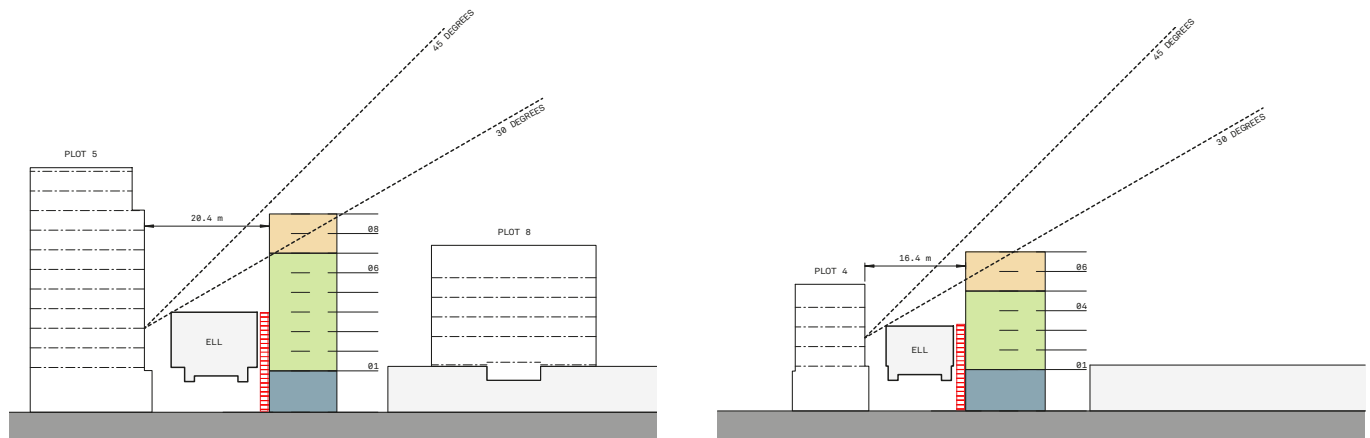


Fig 4.1.10: Section through platform (higher and wider cross-section)

Section through tracks (lower and narrower cross-section)

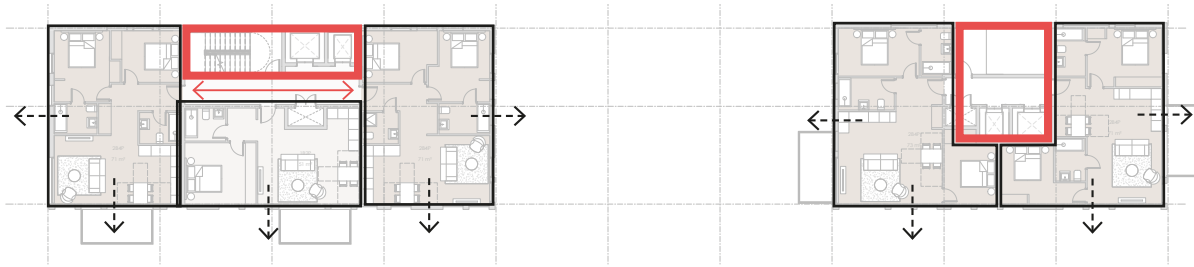


Fig 4.1.11: Plot 10 A - Level 07 (Typical Upper Floor Plan)

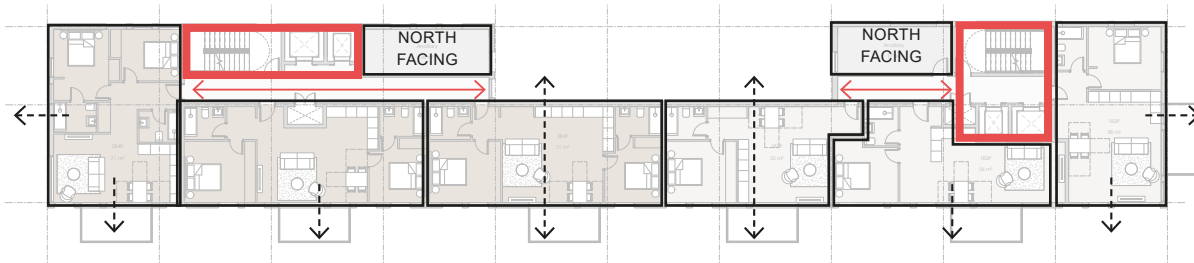


Fig 4.1.12: Plot 10 A - Level 02 (Typical Full Floor Plan)

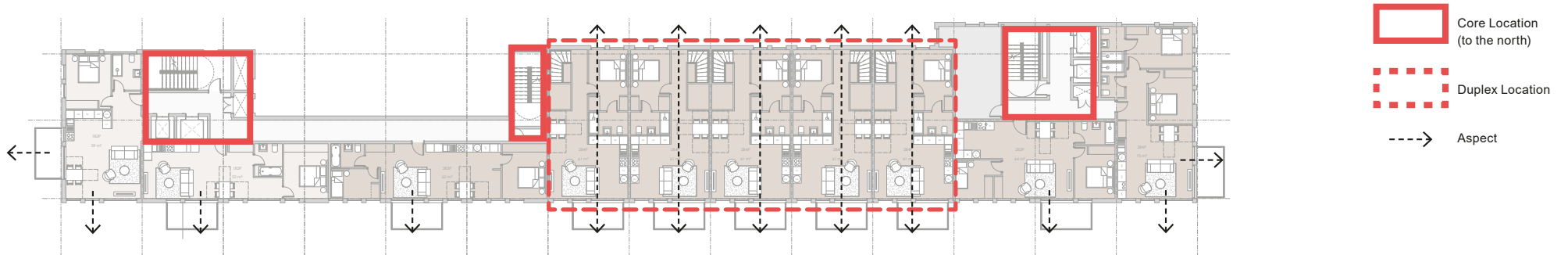
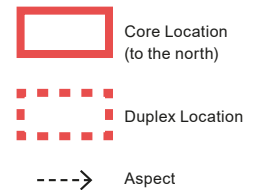


Fig 4.1.13: Plot 10 B - Level 05 (Typical Duplex Level Plan)



4.1.6 Typology Analysis: Plot 10B Duplex Arrangement

By creating duplex apartments accessed from a central corridor, each apartment can have southerly aspect from its living space.

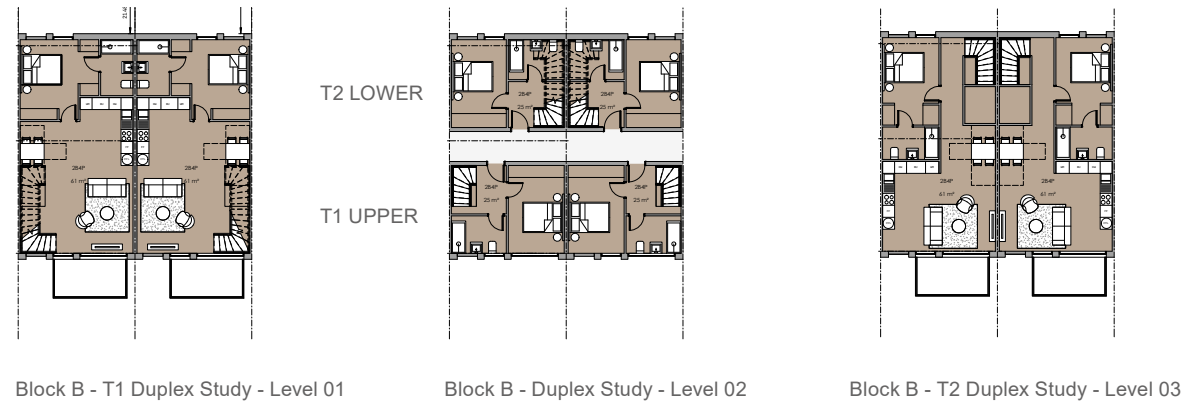
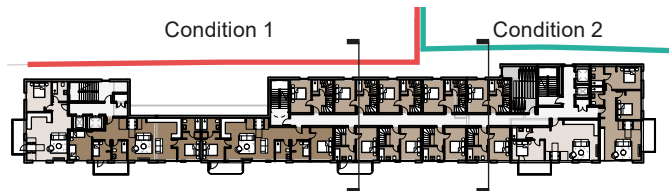
The first set of duplexes are arranged over 3 floors with a central corridor on the middle floor. The upper units are arranged over 2 floors where the southern side of the access corridor is a single level, southern aspect apartment (fig 4.1.18).

Units with south facing bedrooms drop down a level internally whilst units with north facing bedrooms rise up a level.

This allows for optimised floor layouts over the most narrow floor plan depth of plot 10.

As shown on the sections adjacent a limited number of bedrooms have north facing aspect overlooking the London Overground viaduct.

Where the viaduct does not contain the platform, the box is reduced in width and height allowing an offset of circa 4m from the ELL to Plot 10 (figure 4.1.18).



Block B - T1 Duplex Study - Level 01

Block B - Duplex Study - Level 02

Block B - T2 Duplex Study - Level 03

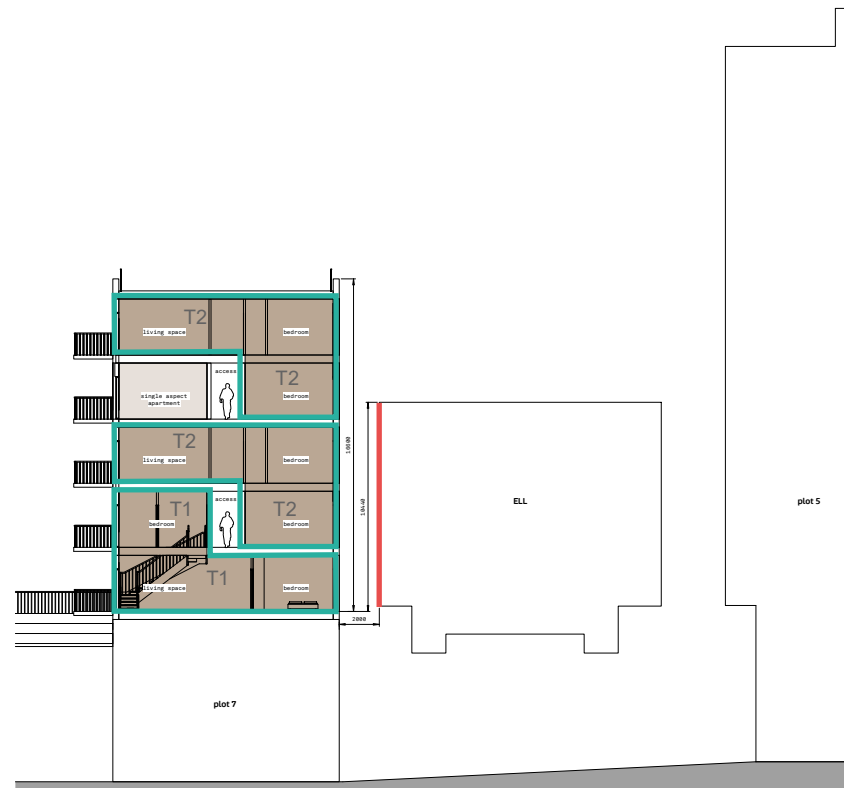
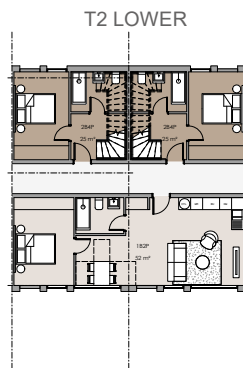
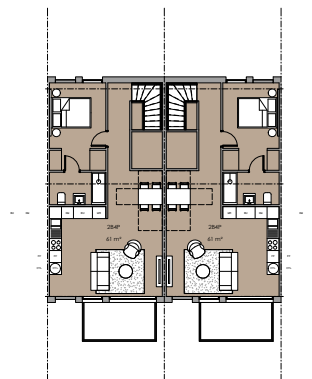


Fig 4.1.14: Sectional Study - Condition 1 closest proximity to ELL box



Block B - Duplex Study - Level 04



Block B - T2 Duplex Study - Level 05

4.1.7 Access and Servicing

Plot 10 will retain the same access and servicing strategy envisaged for the previously proposed flexible workspace, with servicing via the 'area 4' service yard accessed from Sclater Street.

The uplift in residential unit numbers has been assessed by WSP and is described in the Transport Assessment.

Cycle storage provision has been increased to 216 internal spaces which will be distributed across the three blocks and located in internal secure storage areas at each level.

4.1.8 Amenity

Further testing of daylight/sunlight impact is included as part of the Environmental Statement.

Further testing of townscape views and a comparison to the 2015 submitted scheme is submitted as part of the updated TVIA accompanying the planning application.

4.1.9 Child Play Space

External play space is accommodated on the lower areas of roof, between and overlooked by the taller corner elements of the blocks.

The play spaces can be accessed from vertical circulation cores and are therefore accessible to all residents.

4.1.10 Unit Numbers

As part of the outline scheme, parameter plans set out the maximum and minimum height, width and length of development plots. The associated residential maximum unit numbers are shown below.

Maximum Height Scheme	
Plot 10 A	45
Plot 10 B	63
Plot 10 C	17
Total	125

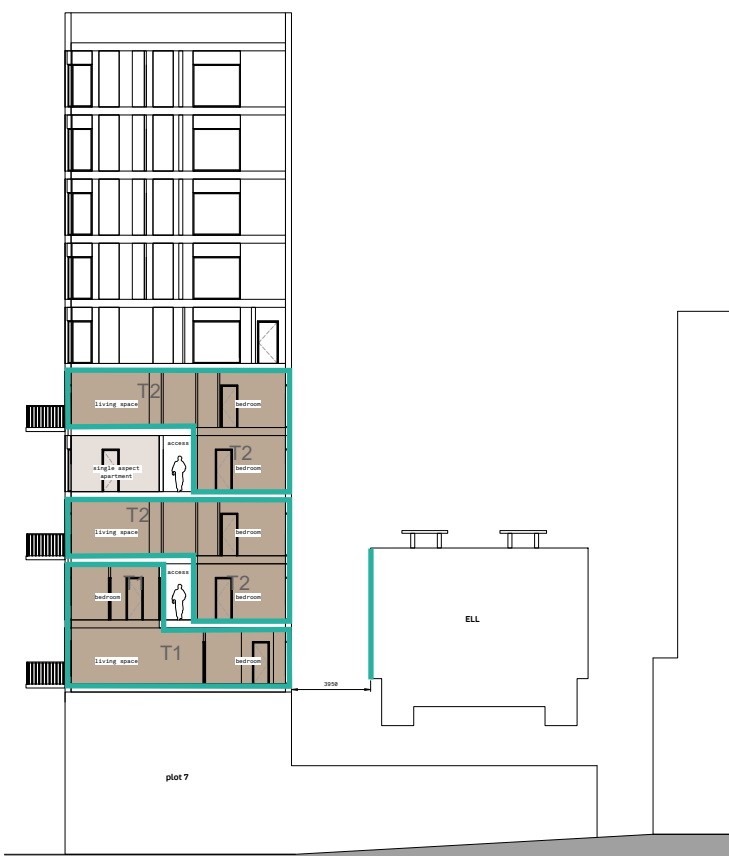


Fig 4.1.15: Sectional Study - Condition 2 reduced width of ELL box

