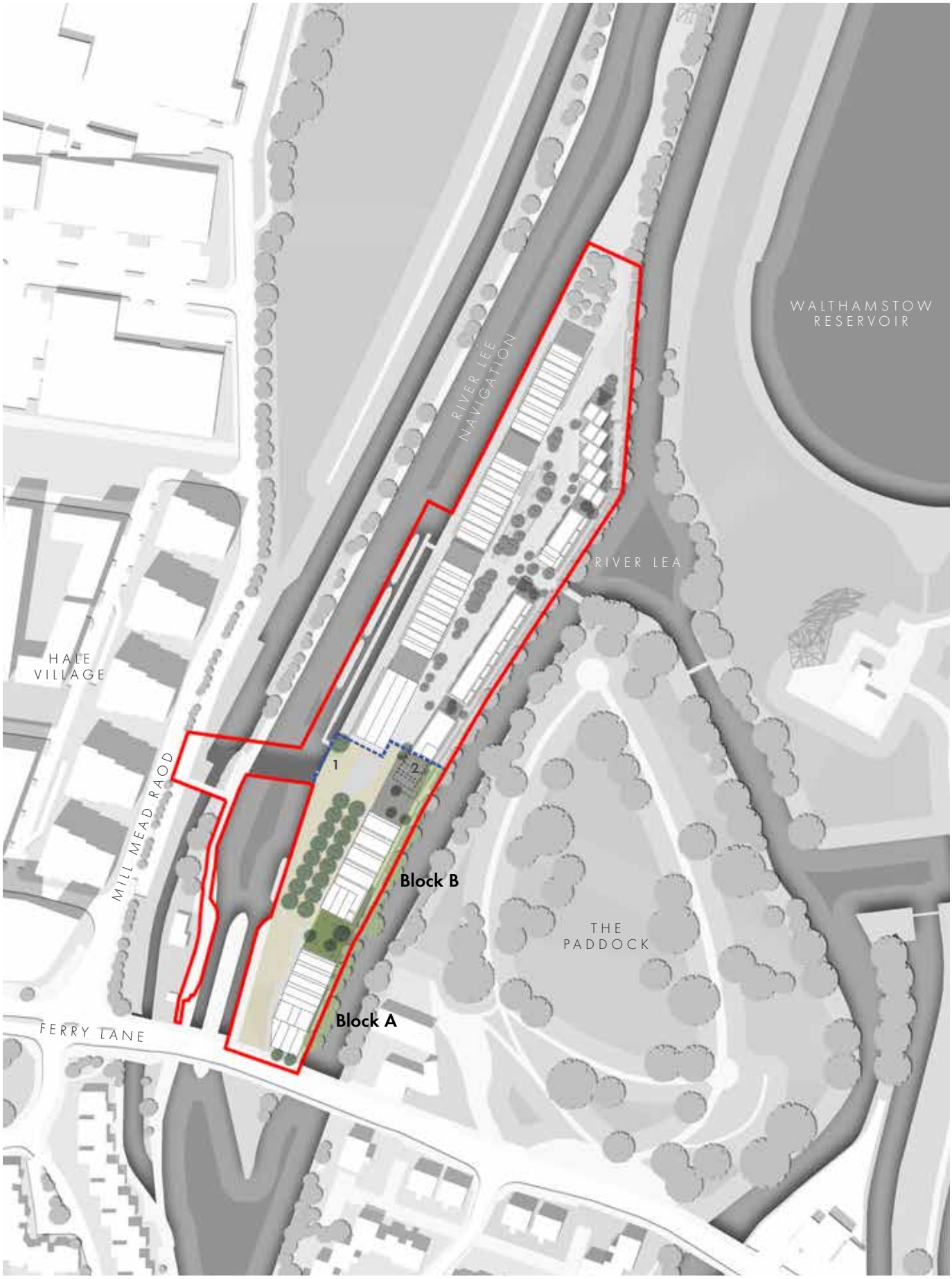


Extent of Detail Application: Blocks A and B shown in colour

5 DETAIL APPLICATION

5.1 LOCATION

This section describes the design of Blocks A and B for which detailed planning permission is being sought.

The higher density of the detail application is a more sustainable use of the limited land available for the delivery of new homes in Tottenham Hale and Greater London.

Detail application buildings (Blocks A, B) include 249 units split in to 141 market housing (57%) and 108 market rented (43%) units. Blocks A and B also provide 307m^2 commercial / community space, with associated parking for the units and landscaping to the southern end of the site.

Residential units will comply with all relevant housing policy and standards. See Access Chapter 7. and appendix for further information.

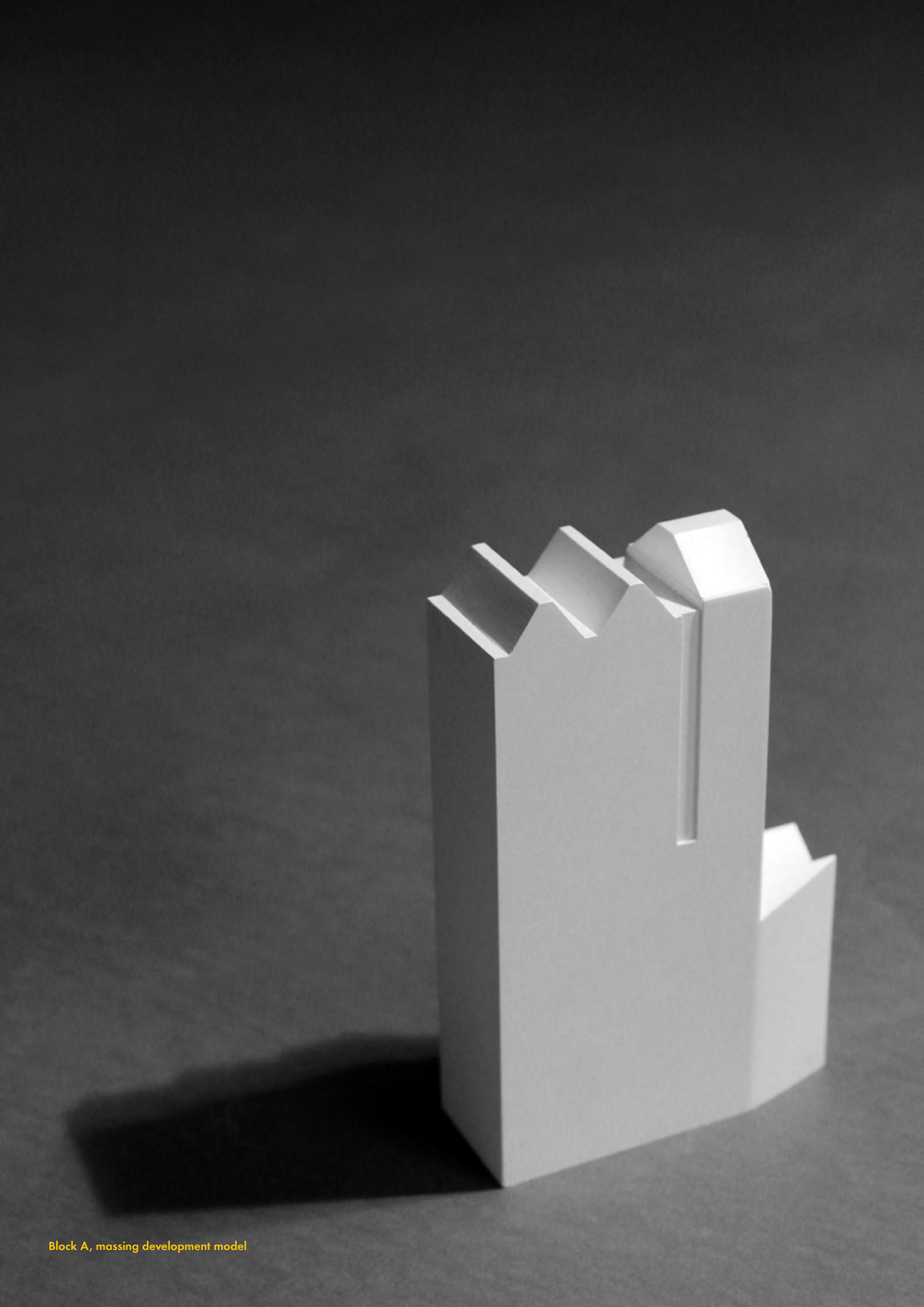
Site boundary in relation to existing

Planning application site boundary

Detailed application boundary

1 Outline approval is sought for a bridge and bridge landing in this area. Detail approval is sought for landscape works in the same area.

2 Outline approval is sought for buildings in this location. Detail approval is sought for interim car parking in the same area.

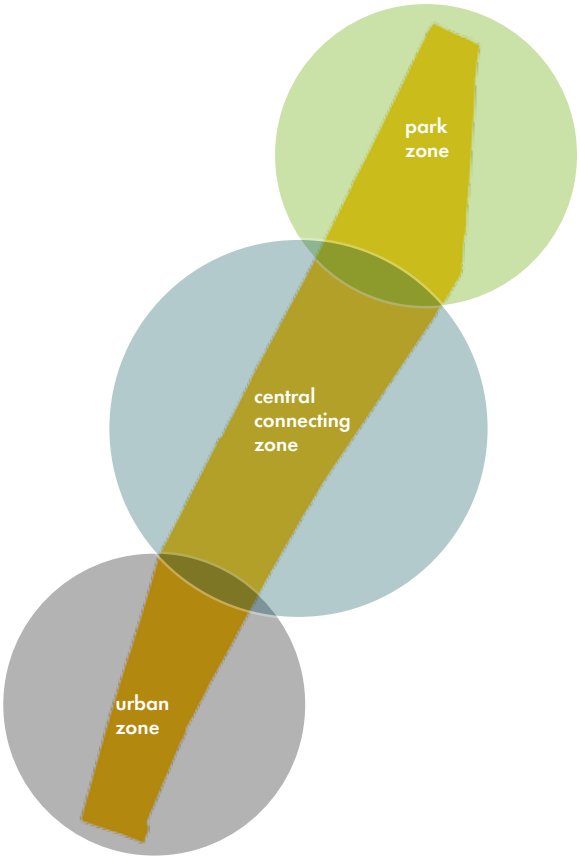


Block A, massing development model

5.2 EVOLUTION OF DETAIL BLOCKS

The scale, massing and appearance of detail blocks A and B have evolved around the following key principles:

- *Scale, height and density:* Establishing an appropriate scale, height and massing of the detail blocks.
- *Roofscape and frontage:* Creating a new dynamic roofscape across the detail blocks that addresses and enriches the public spaces of the masterplan and also informs the overall massing and appearance of the buildings.
- *Arrangment of detail blocks :* Placing the blocks on the site in a way which address and enhance the waterside spaces of the site and allows for privacy and natural surveillance.



Masterplan character zones diagram

The scale, massing and appearance of the detail blocks (as well as the blocks in the outline component) have been subject to a thorough urban design process including detailed Townscape Heritage and Visual Impact Assessment (THVIA) and microclimate assessment.

5.2.1 Scale, height and density

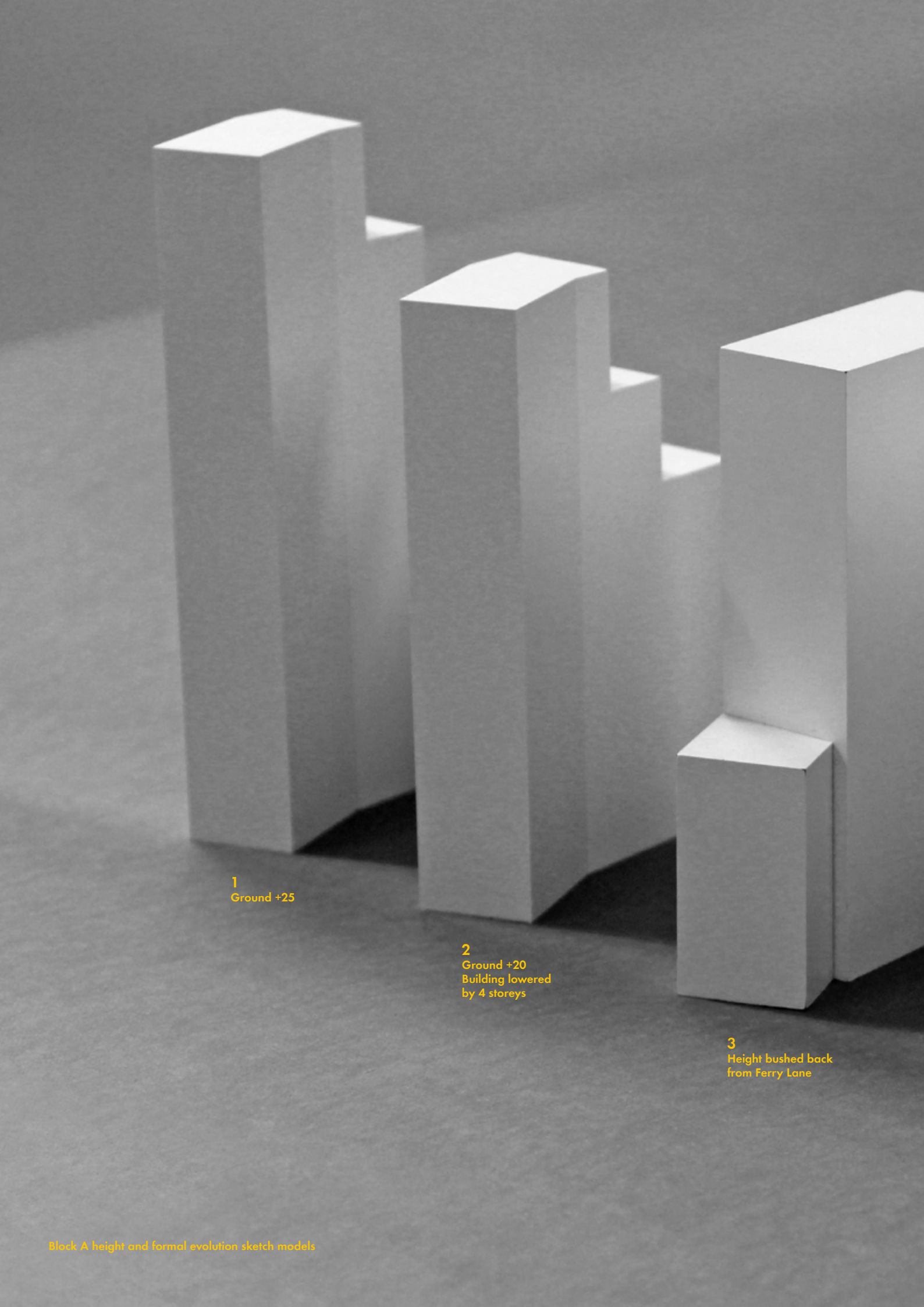
The illustrative masterplan is characterized by three distinct zones, which inform the scale, appearance and character of the buildings.

The detail application buildings, blocks A and B, are located in the urban zone of the site, within which taller, higher density buildings respond to the taller buildings and higher density developments along Ferry Lane and Monument Way- away from the ecologically sensitive 'park zone' edges to the north and east of the site.

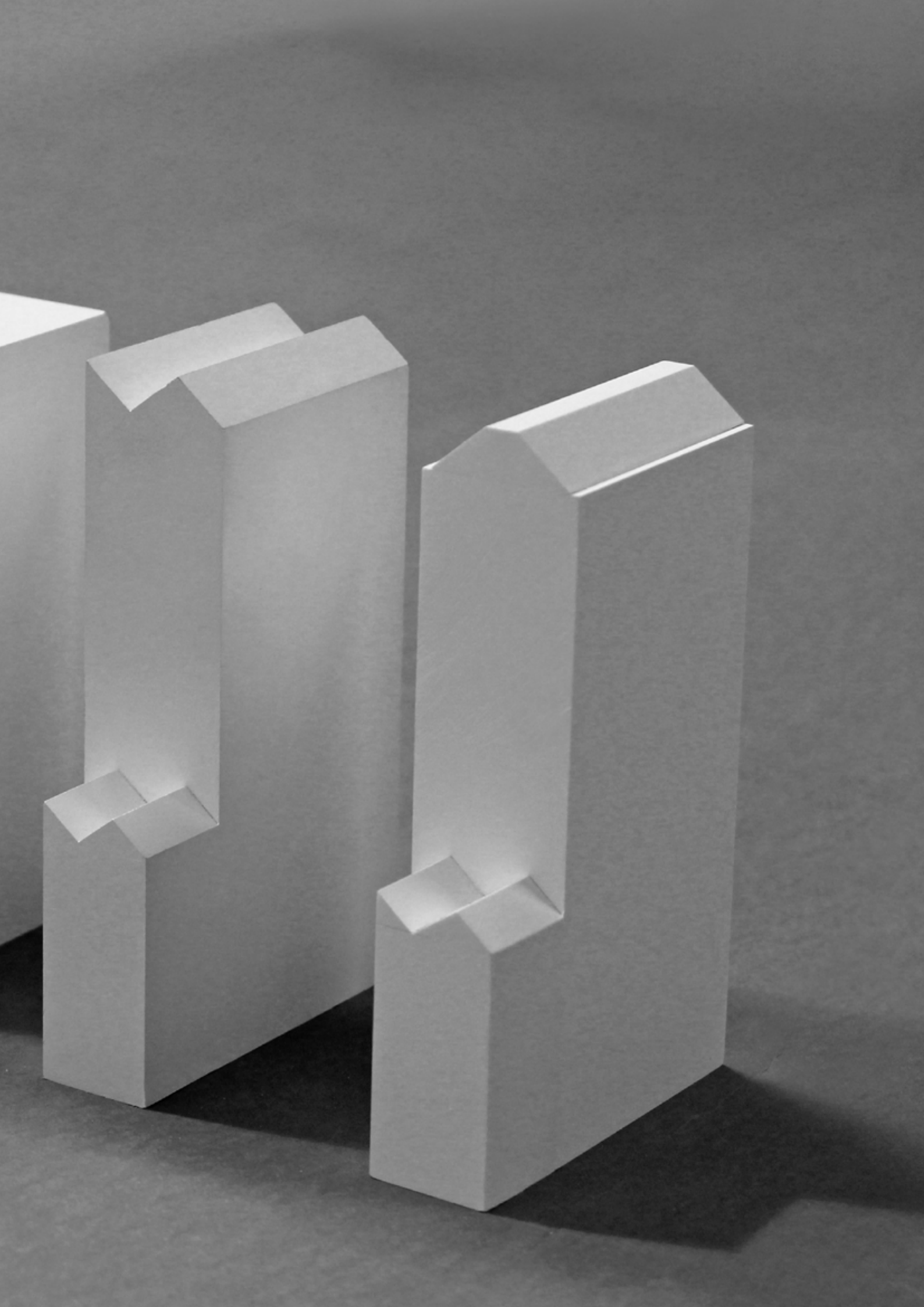
The taller height of the blocks also enables a higher density of apartments to benefit from the excellent public transport links, close to the southern Ferry Lane entrance of the site. With higher density of the blocks the detail application area provides a more sustainable use of land on the site and enables the provision of a large number of homes towards the Tottenham Housing Zone targets.

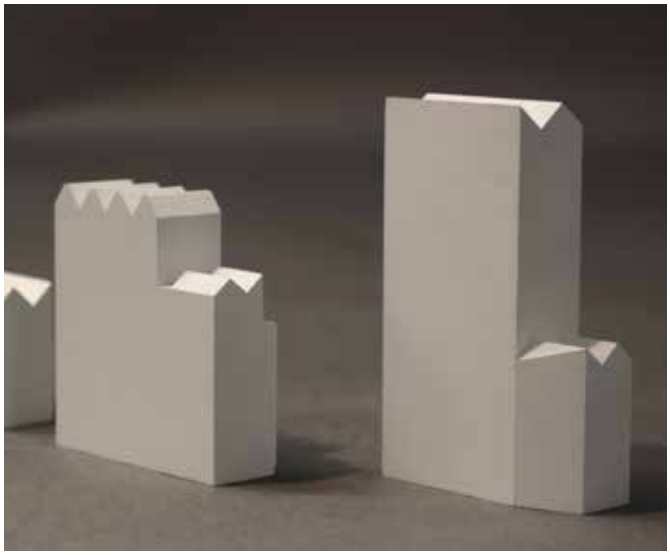
Numerous 3D massing studies were undertaken to ascertain the appropriate height and massing of the blocks as well as daylight, sunlight and wind modelling.

The model studies on the next page show the development of the height and mass of Block A.

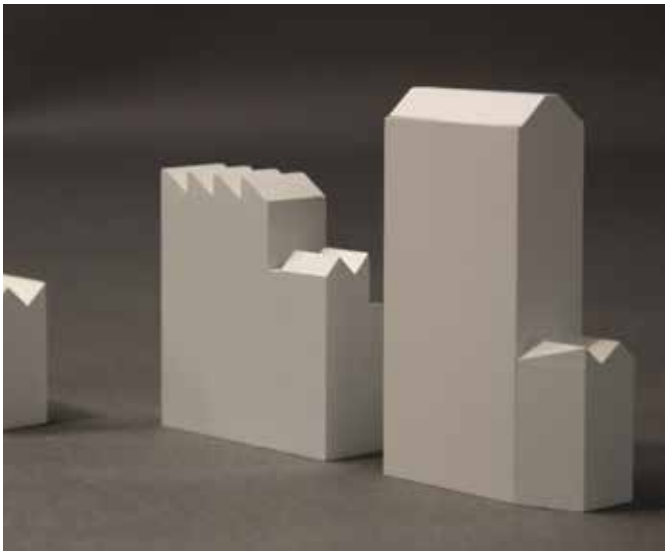


Block A height and formal evolution sketch models

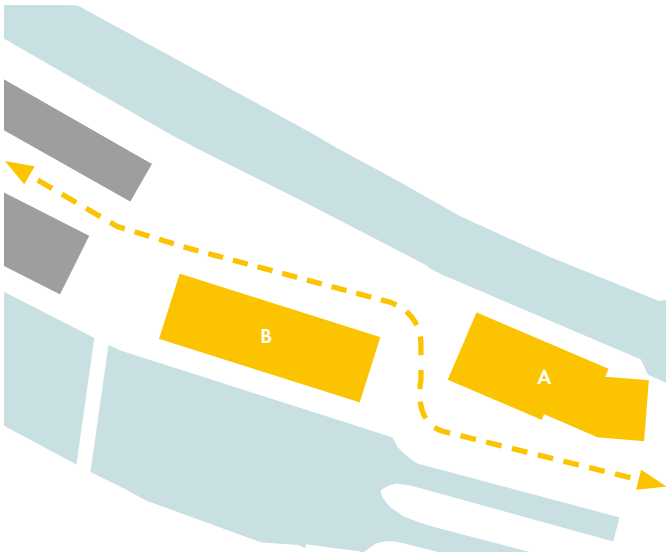




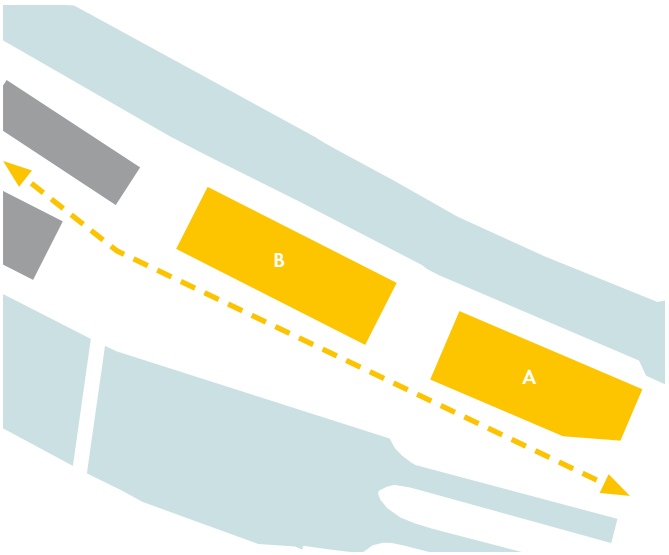
Blocks A and B staggered plan model study



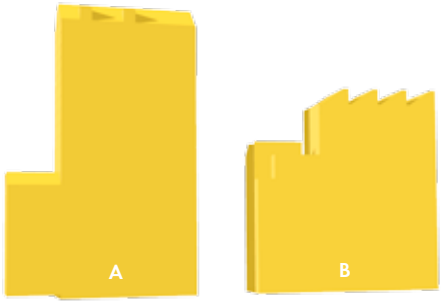
Blocks A and B in line model study



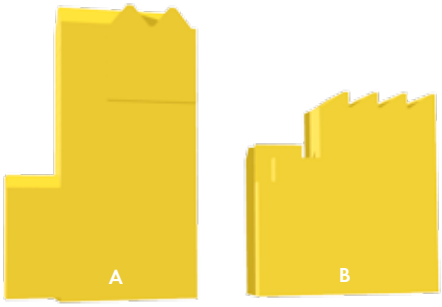
Blocks A and B staggered arrangement



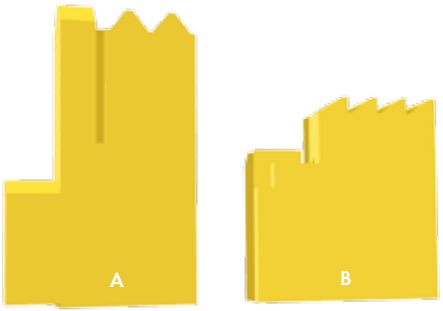
Blocks A and B in line



1. Dormers to Block A roofline



2. Pitched gables added to Block roofline



3. Slot added and a further variation in height to Block A roof line

Massing studies of roofline and elevation of Blocks A and B

5.2.2 Arrangement of detail blocks

Numerous studies were undertaken to ascertain the best arrangement of Blocks A and B. Aligning the two detail blocks to the Lea Diversion edge of the site opened up the southern end of the site, providing a new public waterside space and entrance to the site as a whole.

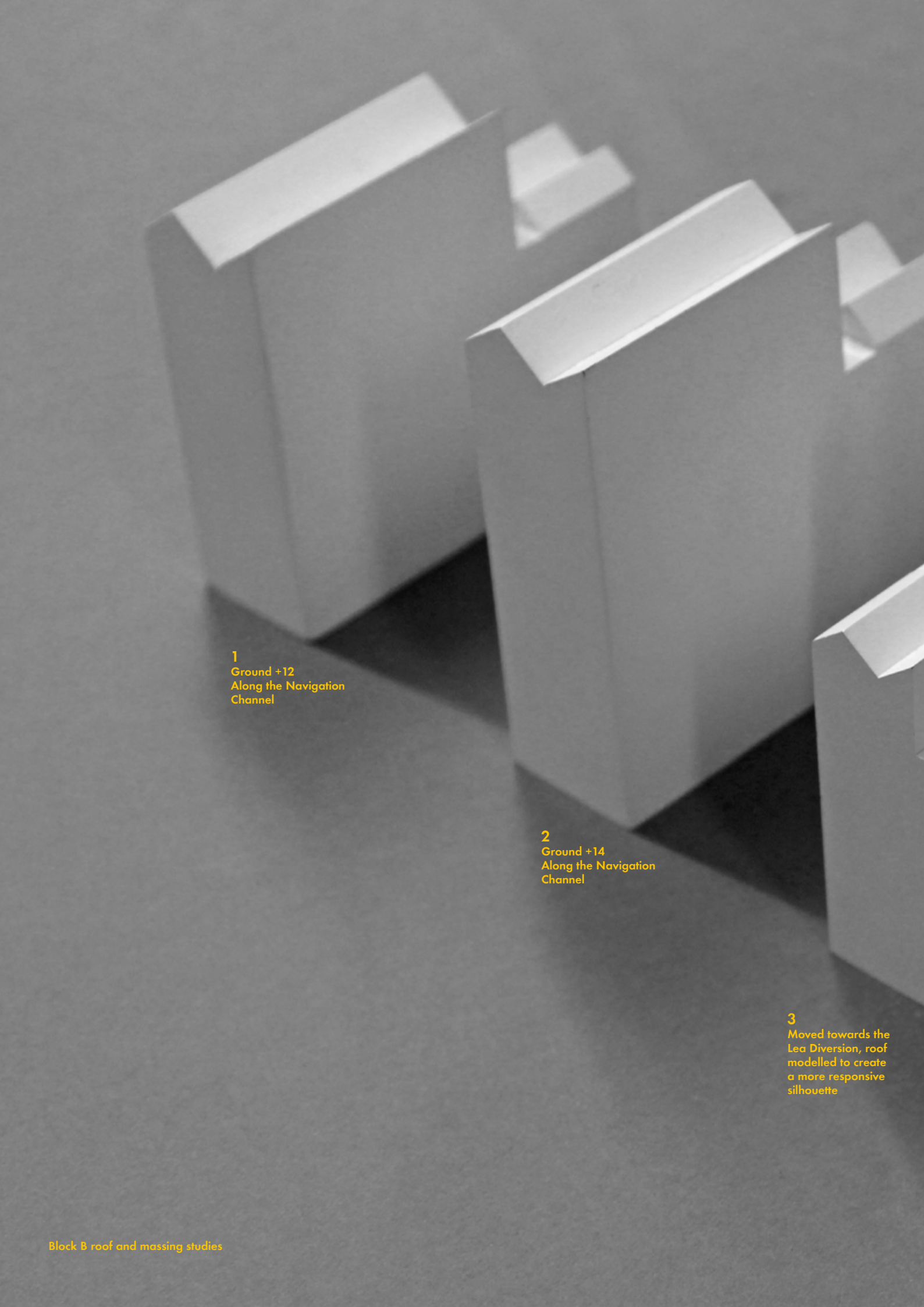
5.2.3 Roofscape and Frontage

The roofscape of the two buildings was a key design consideration. Various elevation and massing studies were undertaken to establish contextually appropriate and elegant and roofline across the two blocks. The massing and roofline of Block B was fixed earlier on, with repeated gable ends addressing the public wharfside spaces of the 1 scheme.

Further massing and elevation studies were carried out for Block A. The roofline employs gable ends to address both the public wharfside space and the main entrance to Ferry Lane. A slot in the facade breaks it down in to a series of complimentary visual elements.

The dynamic roofscape across the two buildings enriches the public spaces of the masterplan and informs the overall massing and appearance of the buildings.

The model photos on the next page show the evolution of Block B in terms of massing, roofscape and frontage.

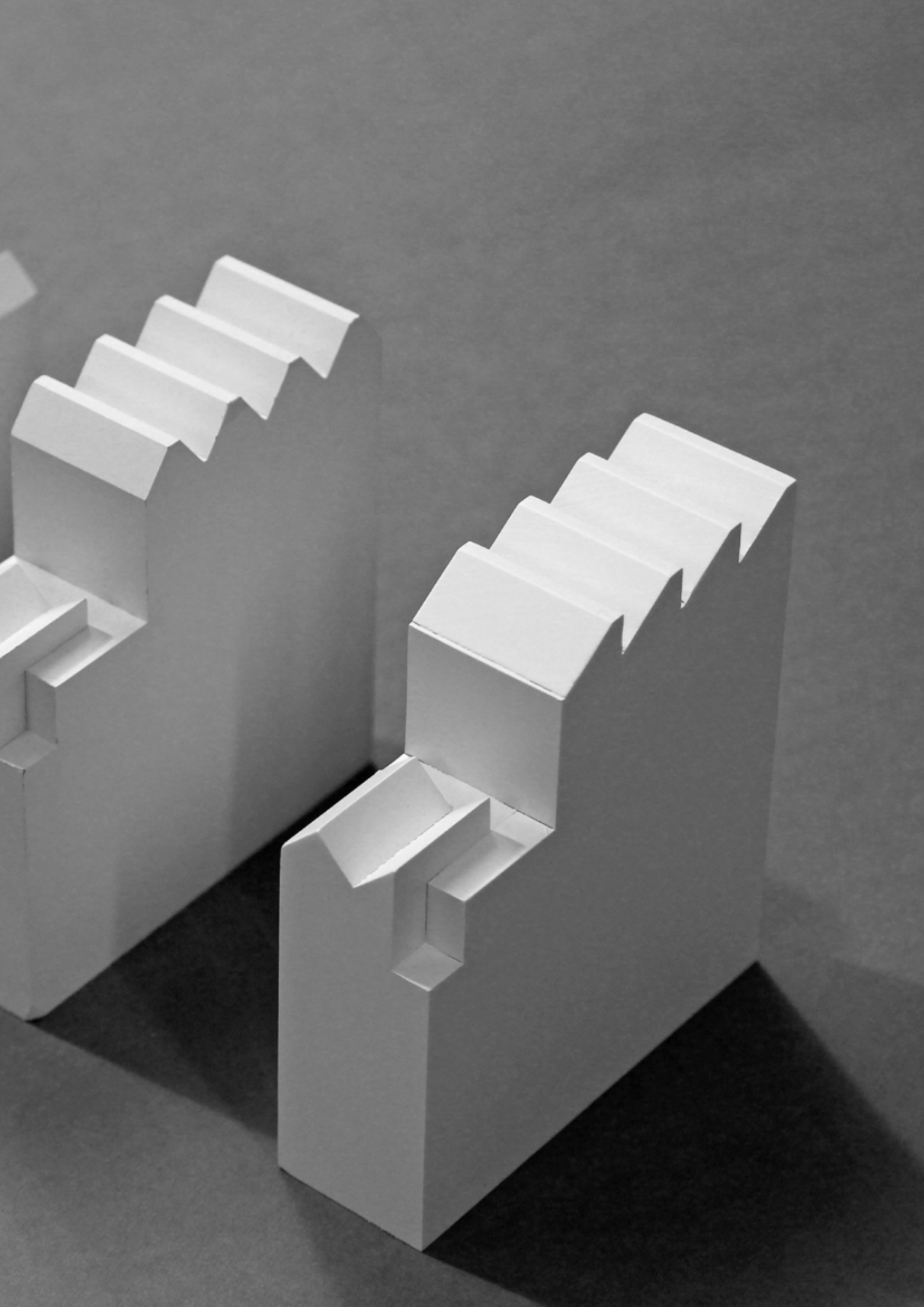


1
Ground +12
Along the Navigation
Channel

2
Ground +14
Along the Navigation
Channel

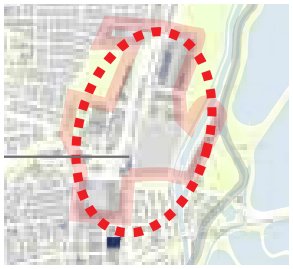
3
Moved towards the
Lea Diversion, roof
modelled to create
a more responsive
silhouette

Block B roof and massing studies



5.3 TALL BUILDINGS GUIDANCE

The Site is identified as a suitable location for tall buildings within the Opportunity Area Planning Framework (OAPF), and the emerging Development Management DPD (2016), as demonstrated by the figures below:



Extract from Tall Building Locations in the OAPF

Extract from the potential locations appropriate for tall buildings in the DM DPD

The London Plan (policy 7.7) requires applications for tall buildings to include an urban design analysis demonstrating the proposal meets the following criteria (inter alia), which is of particular importance if the Site is not identified as a location for tall buildings, which as demonstrated the site is:

- Be limited to sites in opportunity areas;
- Only be considered in areas whose character wold not be affected adversely by the scale, mass or bulk of a tall building;
- Relate well to the form, proportion, composition, scale and character of surrounding buildings, urban grain and public realm, particularly at street level;
- Individually or as a group improve the legibility of an area;
- Incorporate the highest standards of architecture and materials, including sustainable design and construction practices;
- Have ground floor activities that provide a positive relationship to the surroundings streets;
- Contribute to improving the permeability of the site and wider area where possible;
- Incorporate publicly accessible areas on upper floors where appropriate; and
- Make a significant contribution to local regeneration.

In addition to the above, this policy also requires that tall buildings do not affect their surroundings adversely in terms of microclimate, wind turbulence, overshadowing, noise, reflected flare, aviation, navigation and telecommunication interference, nor should impact on local or strategy views adversely. Further consideration is required for proposed tall buildings where these are in sensitive locations, such as the edge of green belt land.

Part 4.2 of the OAPF notes that future tall buildings will generally be in well-defined clusters in the identified urban growth centres at Tottenham Hale, being close to existing rail and tube stations thus making the most of the highly accessible location to support higher development capacity. It goes on to note that they can take advantage of park-side and river-side settings to improve views and accessibility.

The adopted LPSP Policy SP11 notes applications for tall buildings will be assessed against an adopted AAP or masterplan framework; the assessment supporting tall buildings in a Characterisation Study; compliance with the DM DPD policies; and compliance with relevant recommendations in CABE. The supporting text (para. 6.1.16) defines tall buildings as those which are substantially taller than their neighbours, have a significant impact on the skyline, or are of 10 storeys and over. Paragraph 6.1.18 notes Tottenham Hale may be suitable for some tall or large buildings due to its proximity to a major transport interchange and its Opportunity Area designation.

The Tottenham Hale Urban Characterisation Study (February 2015) (prepared as an evidence based document for the preparation of the Local Plan) recommends building heights for the area. The majority of the Site is recommended for approximately 12-21 metres / 3-6 storeys mid-rise buildings, whilst the towards the south of the Site fronting Ferry Lane, building heights are recommended to approximately range between 21-39 metres / 6-11 storeys high to mid-high rise buildings, as demonstrated by Figure 3 below.

Extract from the Tottenham Hale Urban Characterisation Study Building Heights

0–12 metres - approx. 1 to 3 storeys - low rise buildings
12–21 metres - approx. 3 to 6 storeys - mid rise buildings
21–39 metres - approx. 6 to 11 storeys - mid-high rise buildings
39 metres - approx. 11 plus storeys - high rise buildings

The emerging DM DPD Policy DM6 notes the Council expects building heights to be of an appropriate scale, and will only be acceptable in areas identified on the potential locations appropriate for tall buildings map. As demonstrated in the extract above, this includes Tottenham Hale. Proposals for taller buildings that project above the prevailing height of the surrounding area are required to be justified in community benefit as well as urban design terms, and should also:

- Represent a landmark building;
- Consider the impact on ecology and microclimate; and
- Be consistent with the Council's Tall Buildings and Views SPG (not yet issued)

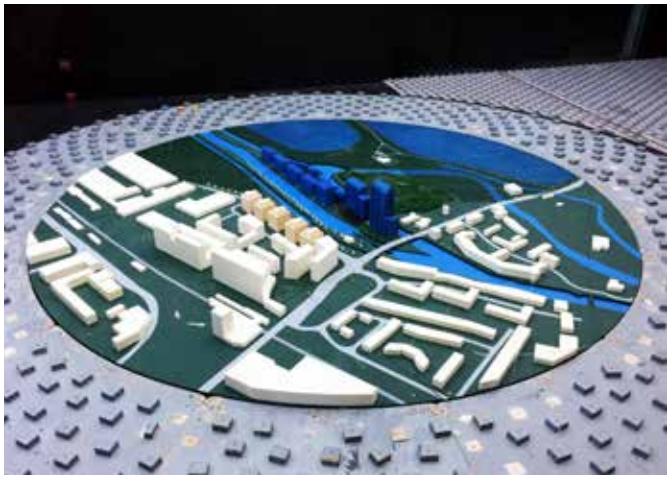
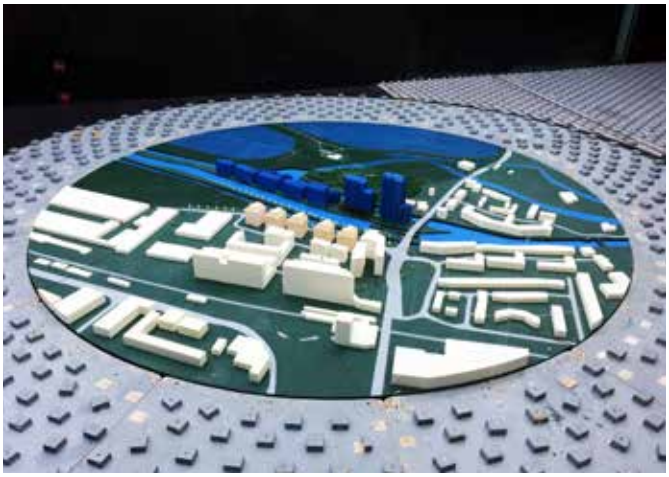
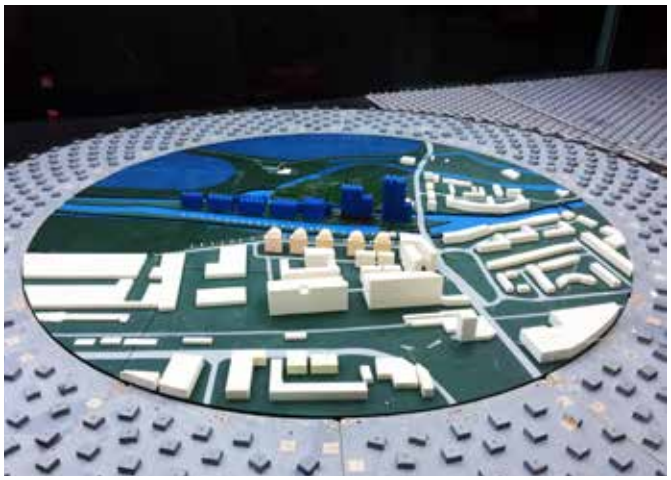
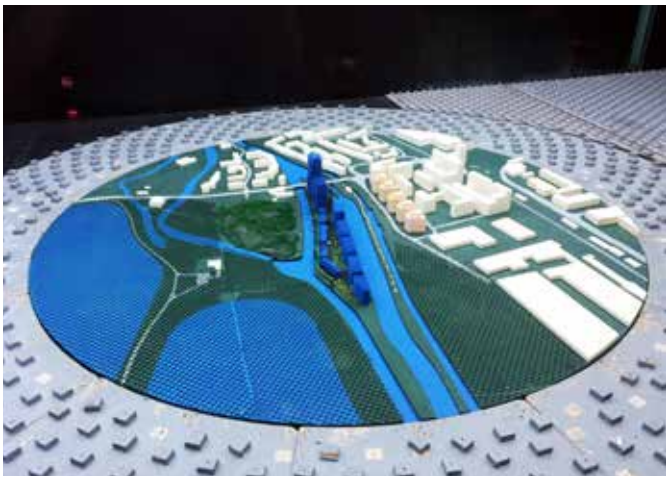
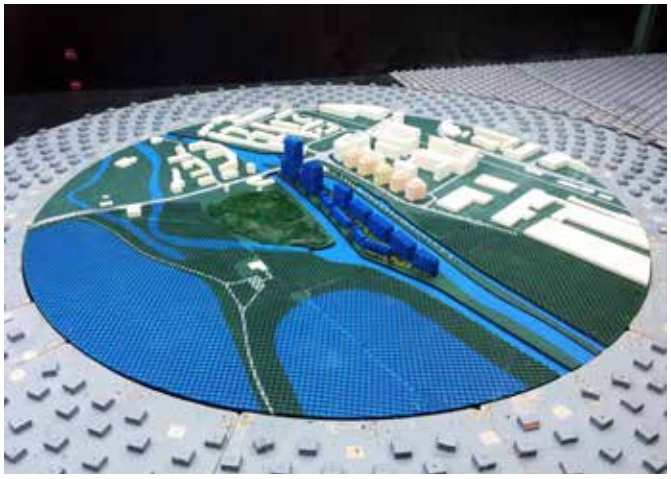
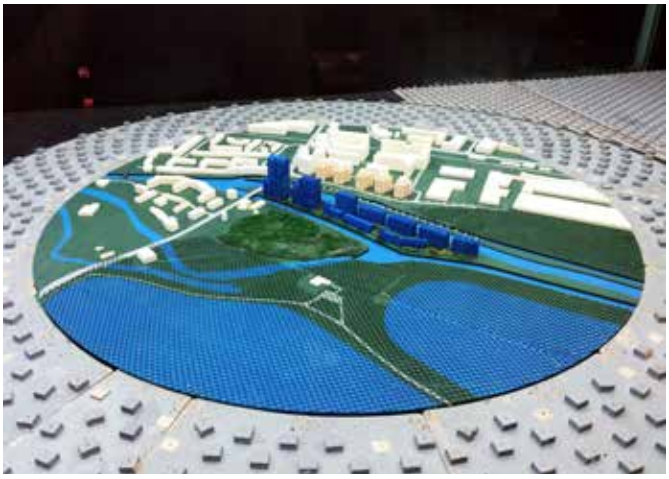
Finally, the emerging TAAP notes the appropriate height of development sites will be guided by the DM DPD, the reorientation of Tottenham Hale from an urban to a central area, and the site allocations within the TAAP (policy AAP6). This policy goes on to state:

"D The Council expects the highest density development to be located adjacent to public transport nodes, and in Growth Areas and Areas of Change. At their boundary, development is expected to transition between these areas and the suburban areas of the AAP through appropriate transition/scaling of heights.

E The recommendations of the Urban Characterisation Study will ensure the height of new buildings respond and help to define the surrounding character, whilst optimising opportunities for intensification and regeneration in order to help create legible neighbourhoods

F Taller buildings will be appropriate along (parts of) … Ferry Lane…

I Where proposals fall within 500m of a Special Protection Area/RAMSAR areas, specific measures should be set out to ensure there is no adverse effect on ecological integrity. Applicants are encouraged to engage with Natural England during pre-application discussions."

photos from wind tunnel testing of scheme

5.4 MICROCLIMATE

5.4.1 Wind analysis

Initial Computational Fluid Dynamics (CFD) modelling was undertaken to establish the existing wind environment of the application site and for the proposed development. The results highlighted areas of concern in relation to meeting the Lawson Criteria for comfort and safety of pedestrians as existing and future sensitive receptors.

Mitigation measures were proposed for consideration following the CFD modelling which subsequently informed a wind tunnel testing workshop completed by the design team. A series of wind tunnel testing scenarios were undertaken to established any necessary design interventions to reduce the effects of the new wind environment with the proposed development implemented; these were:

- The existing wind environment of the application site;
- The implemented proposed development; and
- The proposed development with agreed design interventions.

The agreed design interventions incorporated into the proposed development include:

- A mixture of solid/porous balcony parapets; and inclusion of solid balustrade elements
- Soft landscaping including hedges at 1.5m and trees between 5-12m.

An assessment of potential significant effects, based on meeting the safety and comfort thresholds of the Lawson Criteria for the intended pedestrian uses within and around the proposed development concluded no residual significant adverse effects. The resulting wind speeds are appropriate for the intended pedestrian uses across the proposed development and its surroundings.

5.4.2 Daylight, Sunlight and Overshadowing

External Impact Assessment

An external impact analysis was conducted to determine the impact of the Proposed Development on the levels of daylight, sunlight and overshadowing in adjacent developments. The methodology adopted for the study followed that set out in the BRE Guide ('Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice', BRE, 2011) which gives criteria and methods for calculating daylight and sunlight.

Effect on daylight levels in the surrounding area

The assessment indicated that the Proposed Development has a negligible effect on the daylight receptors of the following developments:

- Reedham Close
- Thistle Court
- Angelica Court
- Car wash/garage
- Pallet Company

Slight adverse effects were identified on the daylight receptors of the following developments:

- Coppermill Heights
- Cranes Heights
- Merlin Heights
- Egret Heights
- Kingfisher Heights
- Three Business barges

A moderate adverse effect was identified on the daylight receptors of the Lock Keepers Cottage.

Effect on sunlight levels in the surrounding area

The assessment indicated that the Proposed Development has a negligible effect on the sunlight receptors of Egret Heights.

Slight adverse effects were identified on the sunlight receptors of the following developments:

- Coppermill Heights
- Cranes Heights
- Merlin Heights
- Kingfisher Heights

Effect on overshadowing levels in the surrounding area

The assessment identified that there is a negligible effect on the amenity spaces of the Lock Keepers Cottage, Reedham Close, Thistle Court and the leisure moorings.

Mitigation and Enhancement Measures

The assessment of daylight and sunlight effects identified a slight adverse effect for the receptors of the Hale Village development A review of the receptor locations indicated that the presence of projecting wings and balconies play a role in the localised impacts identified. The BRE Guide provides guidance in this context and states that:
"……Existing windows with balconies above them typically receive less light. Because the balcony cuts out light from the top part of the sky, even a modest obstruction opposite may result in a large relative impact on the VSC, and on the area receiving direct skylight. A larger relative reduction in VSC may also be unavoidable if the existing window has projecting wings on one or both sides of it, or is recessed into the building so that it is obstructed on both sides as well as above."

On this basis and considering that only a relatively slight adverse effect was observed; no mitigation measures have been proposed.

The assessment also identified a moderate adverse effect on the daylight receptors of the Lock Keepers Cottage. However, it is understood that Lock Keepers Cottage forms part a wider site allocated for redevelopment as part of the regeneration of the area under the Tottenham Area Action Plan (AAP) being developed by Haringey Council. Haringey Council are in the process of finalising the Tottenham Area Action Plan (APP) which will form part of the Local Plan once adopted. It is currently at the "preferred option" stage and identifies a number of allocated sites for development as part of the regeneration of the area. The Hale Wharf site has been allocated for 'comprehensive redevelopment to provide a mix of uses, with replacement employment, residential (including family housing) and leisure related uses', labelled TH9: Hale Wharf. On the basis that the site is designated for redevelopment, no mitigation measures have been proposed.

The qualitative assessment of the three business barges moored to the north-west of the Application Site identified a slight adverse effect on the receptors facing the site. However, on the basis that the business barges comprise of moorings as opposed to permanent structures and benefit from multiple sources of natural daylight; no mitigation measures have been proposed.

Internal Daylight Assessment

An internal daylight analysis was also conducted to quantify the level of natural daylight within the habitable spaces (living rooms, kitchens and bedroom) of the proposed residential apartments. The level of natural daylight reaching an interior space is affected by the internal layout (depth and shape of rooms), the size and position of the windows, the colour of internal surfaces, level of external obstruction and light transmittance of the glazing. The daylight provision within the new rooms proposed as part of the development has been checked using the Average Daylight Factor (ADF) in line with the guidance provided by the BRE.

The assessment has indicated that less than 20% of all tested rooms from both buildings fall below the minimum recommended ADF criterion. A brief summary of the results of the analysis have been presented below:

The low levels of natural daylight within the rooms that fall below the criteria can primarily be attributed to obstruction from overhanging balconies. Balconies are a pleasant amenity but have the effect of cutting out light from the top part of the sky. This effect implies that the open plan living/kitchen spaces do not meet the recommended criterion in some cases. It is worth noting that non-daylit internal kitchens have been avoided within the development in line with the BRE criteria and the calculations are based on the combined area represented by the open plan kitchen/ living space.

Compliance Criteria (ADF)	Compliance	Building A	Building B
Bedrooms ≥ 1% Combined Living/Kitchen ≥ 1.5%	Above	81.54%	80.29%
	Below	18.46%	19.71%
Bedrooms ≥ 1% Combined Living/Kitchen ≥ 2%	Above	81.54%	77.78%
	Below	18.46%	22.22%

Private Housing						
Market						
Flat / House Type	**Target Minimum Typical NIA (sqm)**	**Target Minimum Typical NIA (sqft)**	**Current Unit Count**		**Current Habitable Rooms**	
Studio Flat (1B1P)	39	420	7	5%	7	2%
1 Bed Flat (1B2P)	50	538	54	38%	108	30%
2 Bed Flat (2B4P)	73	786	80	57%	240	68%
TOTAL			**141**	**57%**	**355**	**56%**
Market Rent						
1 Bed Flat (1B2P)	50	538	50	46%	100	36%
2 Bed Flat (2B3P)	64	689	17	16%	51	18%
2 Bed Flat (2B4P)	73	786	34	31%	102	36%
3 Bed Flat (3B4P)	77	829	3	3%	12	4%
3 Bed Maisonette (3B5P)	99	1066	2	2%	8	3%
3 Bed Flat (3B6P)	95	1023	2	2%	8	3%
TOTAL			**108**	**43%**	**281**	**44%**
TOTAL Private Housing			**249**	**100%**	**636**	**100%**

GRAND TOTAL			**249**		**636**	

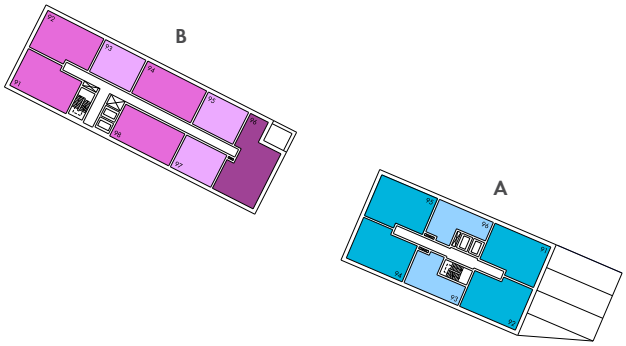
Accommodation				
NIA (residential only)			16,235	sqm
GIA (residential only)			21,861	sqm
GIA (commercial/ community)			307	sqm

Summary detail application schedule of accommodation

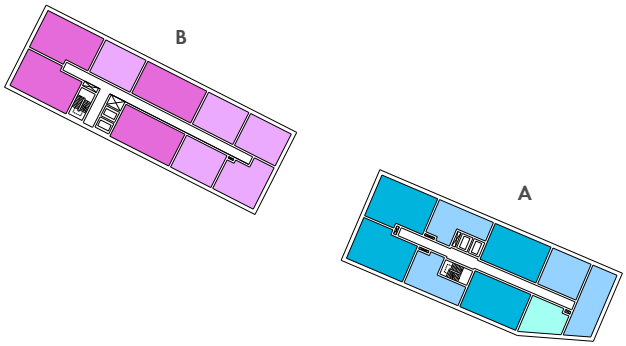
5.5 AMOUNT OF DEVELOPMENT

Detail application buildings (Blocks A, B) include 249 units split in to 141 market sales (57%) units in Block A and 108 market rent (43%) units in Block B. Blocks A and B also provide 307m^2 commercial space.

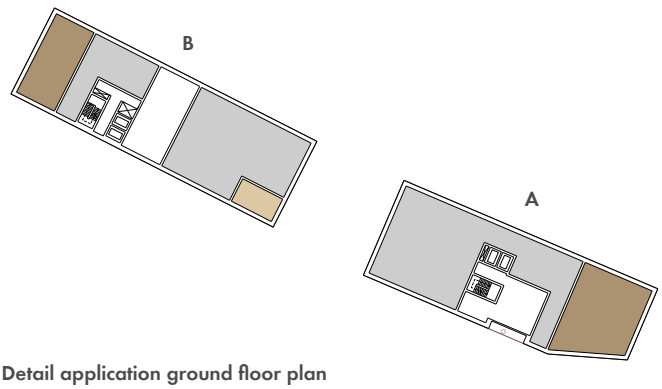
The unit mix is summarised in the schedule on the facing page.



Detail application ninth floor plan

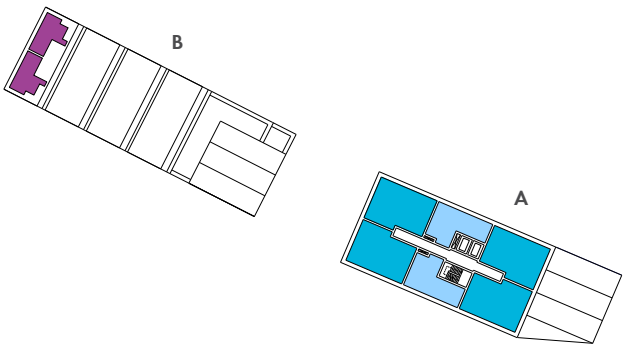


Detail application first floor plan

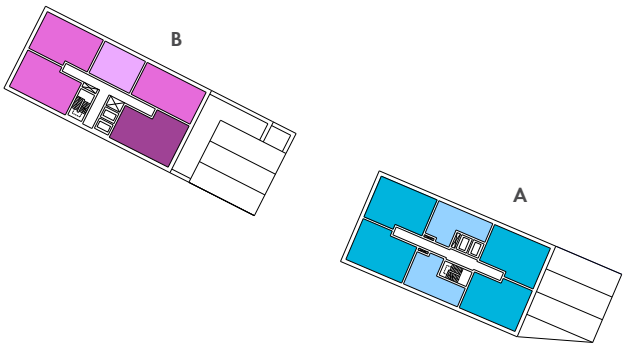


Detail application ground floor plan

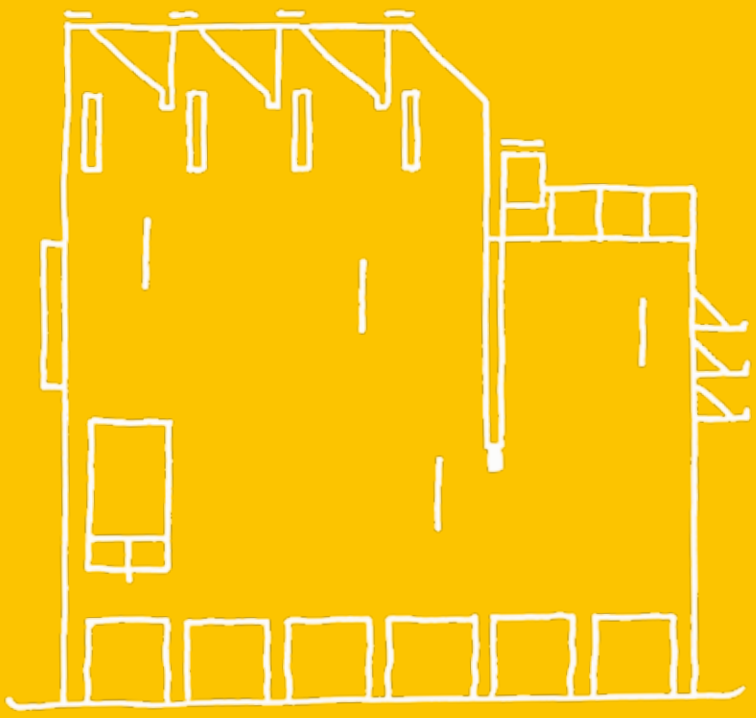
	Market Rent	Sales
Commercial/community	1B	Studio
Estate office	2B	1B
Bikes, bins, services	3B	2B



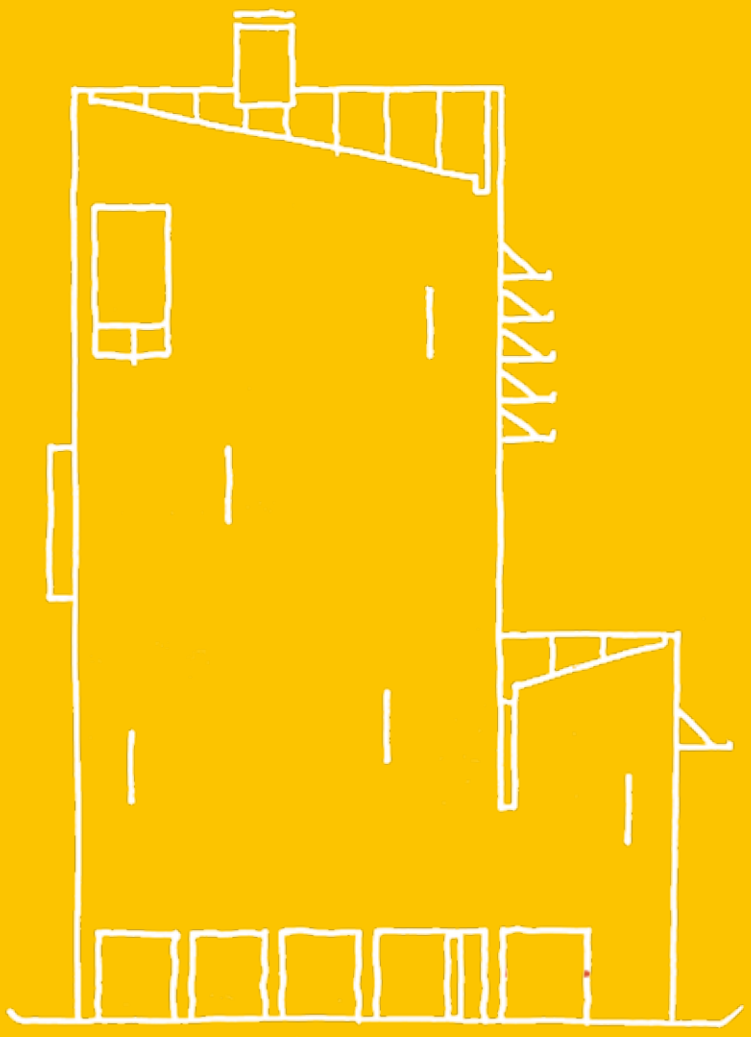
Detail application fifteenth floor plan



Detail application twelfth floor plan



Block B elevation oncept sketch



Block A elevation concept sketch

5.6 AMENITY SPACE

5.6.1 Public waterside space

A new public waterside space is located at the south western edge of the site along the River Lee Navigation and next to Tottenham Lock. This new tree lined space provides a focal point for the new scheme, and provides access to the site and to blocks A and B as well as through to the later outline application buildings.

The Hale Wharf bridge over the River Lee Navigation lands near the end of this new public square, creating the proposed Green Grid link between the surrounding neighbourhoods of Tottenham Hale to the west enabling further connection to the parklands to the east.

For further information on this public waterside please see the Landscape Chapter 6 of this report.

5.6.2 Private balconies

Most balconies on Blocks A and B are projecting bolt-on metal balconies providing private amenity space to all units. The balconies are suspended by metal hangers which are influenced by the robust detail of historical waterside buildings. Balconies are designed with level access from the units and guarded with painted steel balustrades. Balcony proportions have been carefully considered and are more square than rectangular in shape. Where balcony areas are slightly under the required space standards, this shape creates a more useable and efficient exterior amenity space.

All of the balconies on Blocks A and B will afford excellent views - across the parkland and wetlands to the east, north and south of the site and to the lock and surrounding neighbourhoods to the west. Balconies also provide natural surveillance over the public wharfside space. Balconies are treated with a solid metal screen in order to mitigate any negative effects from wind. This screening also enlivens the facade and aids in giving privacy to balcony users.

5.6.3 Privacy

Privacy of units has been considered as part of the design.

Most primary windows face onto the lock-side or waterside spaces with secondary windows facing into the closer gaps between buildings.

Where a primary window must face other nearby buildings, this has been done sensitively. For example in Block B it is sometimes necessary for a primary bedroom window to face south towards Block A. In this case, the adjacent windows in Block A are secondary bedroom windows. Where a bedroom with only one window is less than 18m from an adjacent window, it never faces either a primary bedroom window or any living room window.