

3. EVALUATION & DESIGN

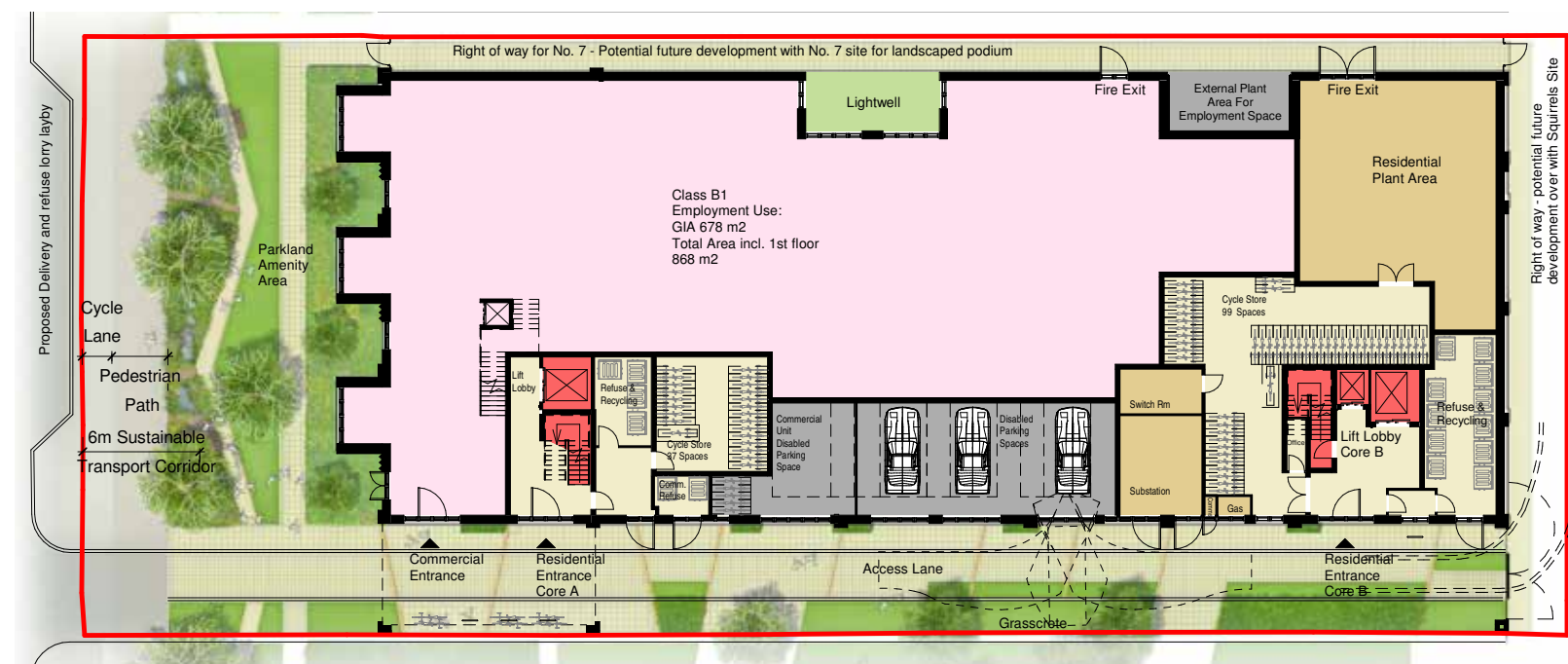
3.3 Use

Residential

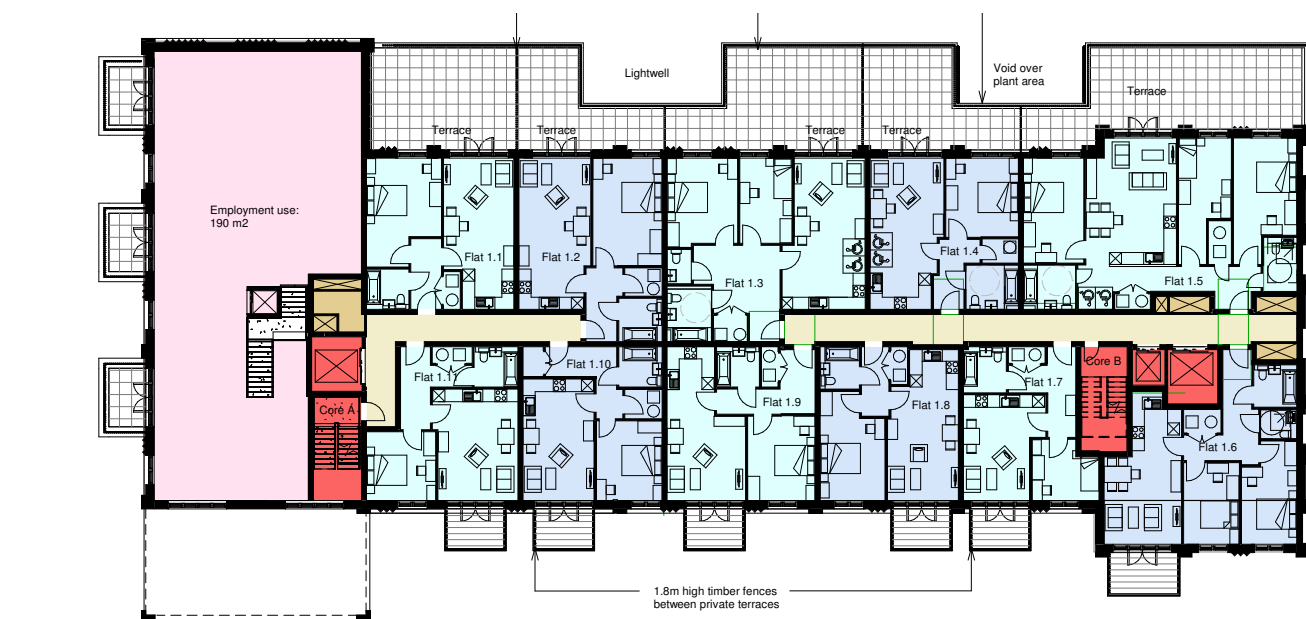
- 81 build-to-rent residential units including affordable rent units
- A mix of unit sizes to suit demand from the rental market
 - 54% one bedroom units
 - 35% two bedroom units
 - 11% three bedroom units
- All units in accordance with the Nationally Described Space Standards
- Communal roof gardens, children's play space and private balconies for every unit, sized in accordance with London Plan standards
- Car free scheme with disabled parking only; 136 internal cycle parking spaces plus visitor spaces, in accordance with London Plan standards
- All units designed in full accordance with the "Lifetime Homes" standards and 10% to be wheelchair user adaptable.

Employment Space:

- 868m² employment floor space (GIA), Use class B1 at ground and first floor level
- Disabled car parking space and 8 internal cycle parking spaces plus visitor spaces in accordance with London Plan standards.



Proposed Ground Floor Plan



Proposed First Floor Plan

3.4 Amount

- 81 residential units
- 621m² private amenity space
- 597m² communal amenity space including 110m² children's playspace
- 868m² employment floorspace
- 50.5% re-provision of existing employment floor space
- Ground floor building footprint occupies 53% of total site area

Areas measured to internal shell wall of flats, over internal partitions with no allowances for finishes - balconies are excluded from measured areas. Measured areas rounded down to nearest whole square metre.

All areas subject to design development and integration of structure and services.

WA = Wheelchair Adaptable (Building Regulations Category M3)

3. EVALUATION & DESIGN

3.5 Layout

Site Layout

The site layout is derived from the Masterplan developed from the emerging context and the GLA Masterplan. The proposed eastern facade is generally 25 metres from the main facade of the consented Nestle Factory site development, reducing to 22.5 metres at the north-eastern corner. There is 5 metres distance between two window-less facades to the wings fronting Nestles Avenue.

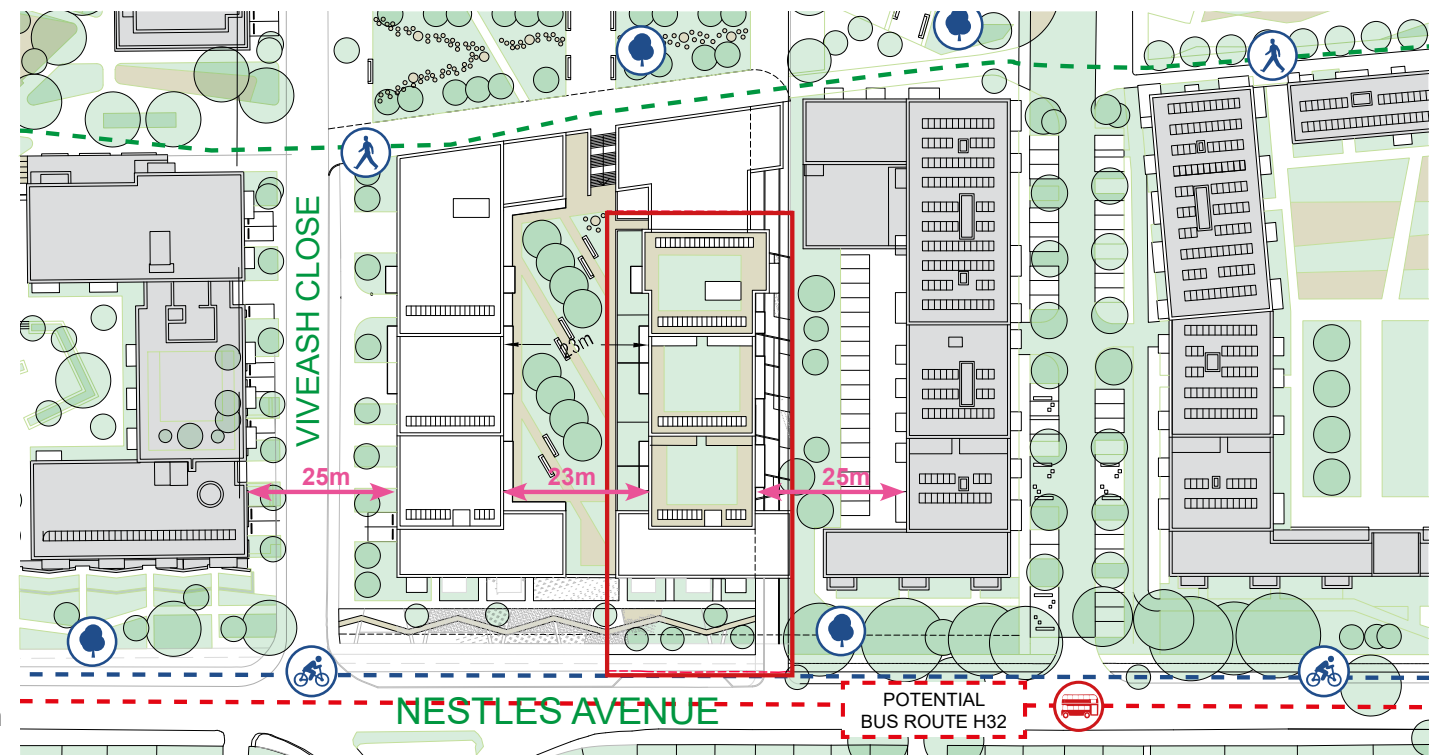
A 23 metre distance is allowed between the western facade and a future block of the same size on 7 Nestles Avenue.

The north and ground floor of the western elevations are window-less to allow future developments on the adjacent sites to extend up to the proposed building. The existing rights of way to these two boundaries would be extinguished with only a fire escape, some ventilation openings and the lightwell to the employment unit needing to be maintained in a future redevelopment of 7 Nestles Avenue.

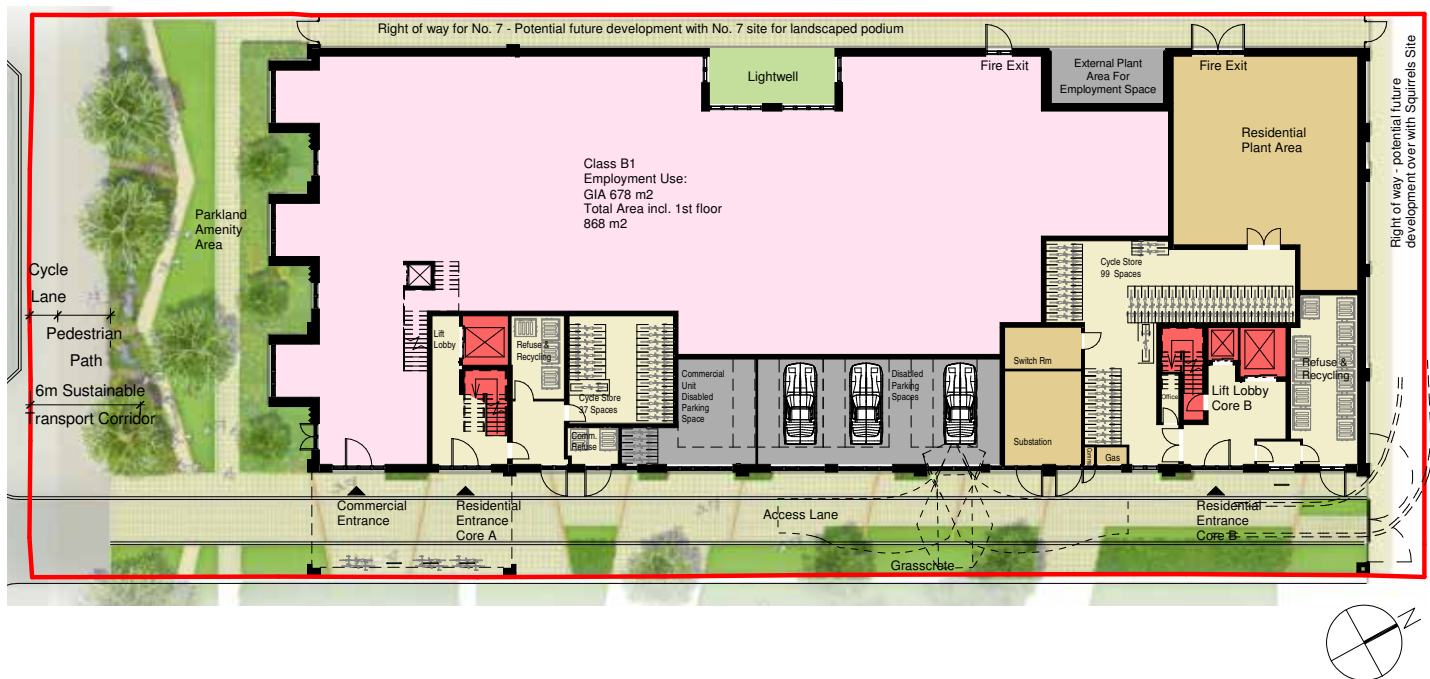
A shared space access lane is provided along the eastern site boundary, providing vehicular access to parking spaces, emergency fire appliance access and pedestrian access to the two residential entrances. The lane will open to a green landscaped area on the perimeter of the Nestle Factory site.

The main front elevation of the building is set 15 metres back from the existing highway boundary of Nestles Avenue. A 6 metre wide strip is reserved for Hillingdon Council's proposed "sustainable transport corridor", which may contain a footpath, cycleway and widened road to accommodate the proposed bus route. Beyond this will be an attractively landscaped parkland amenity area, similar to that proposed for the Nestle Factory and 233-236 Nestles Avenue sites. Bay windows will project into this space, again to continue the form proposed for the Nestle Factory and 233-236 Nestles Avenue sites.

Excerpt from Masterplan indicating building separation distances



Proposed Ground Floor Plan



3. EVALUATION & DESIGN

3.5 Layout

Building Layout

The two residential stair and lift cores are accessed from the access lane along the eastern site boundary. Each core has internal access to dedicated cycle stores and waste recycling stores. Disabled parking is provided between the two cores. Plant rooms are located to the rear of the site.

Access to the employment space is provided closest to Nestles Avenue, providing the space with a public frontage. A fire escape and external plant area are located on the western site boundary. A lightwell and increased height are provided to the central part of the unit in order to provide daylight to this deep-plan unit. Employment space is also provided to the front wing of the first floor.

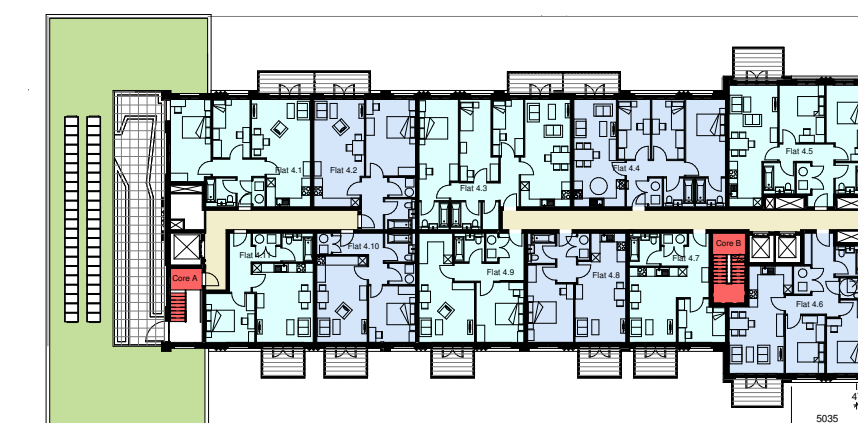
Residential floors are double loaded around central corridors, with residential units having south, east and west facing aspects, which take into account the Masterplan future proposals. There are a maximum of seven units per floor served by each stair and lift core. Three bedroom and wheelchair user units are generally located on lower floors with larger terraces or balconies. All wheelchair user units are served by two lifts, from Core B.

The higher ceiling height in the central part of the employment space and the desire to keep the building height on the Nestles Avenue elevation to the same height as the consented adjacent building on the Nestle Factory site, necessitates a split-level arrangement to the front wing of the residential floors. Angled windows to the rear of the front wing on the second and third floors are provided, to improve the outlook of these units without creating overlooking issues.

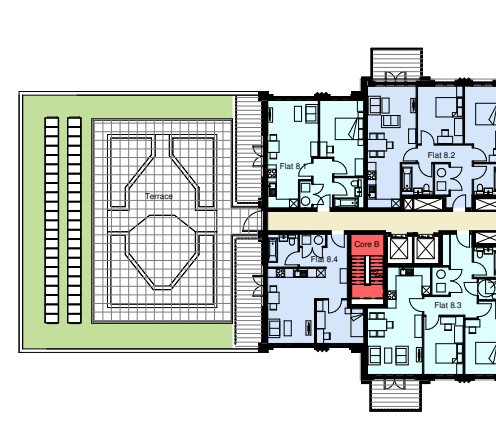
The building steps back as it increases in height, with generously sized roof gardens. These are set back from the perimeter of the building to offer privacy and a sense of enclosure to terrace users and to prevent overlooking of the existing residents on the other side of Nestles Avenue. The fifth floor will be landscaped to facilitate young children's play.



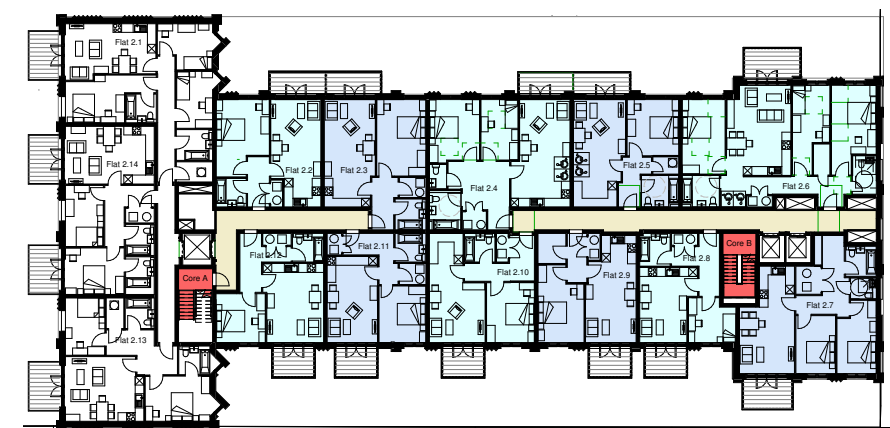
First Floor Plan



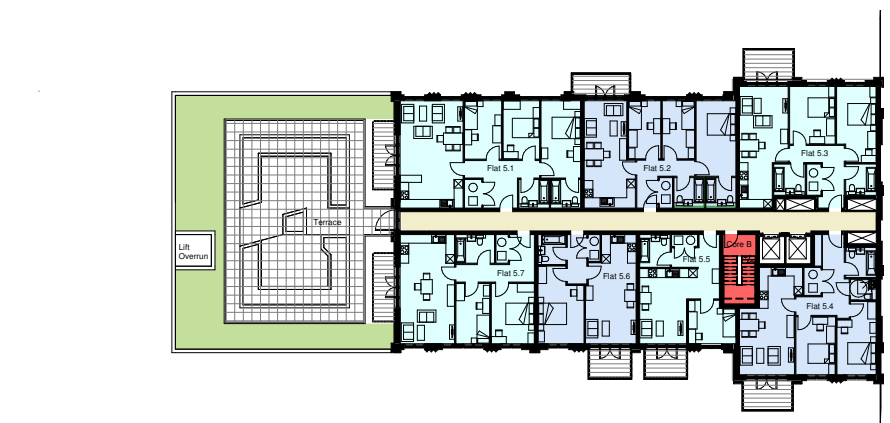
Fourth Floor Plan



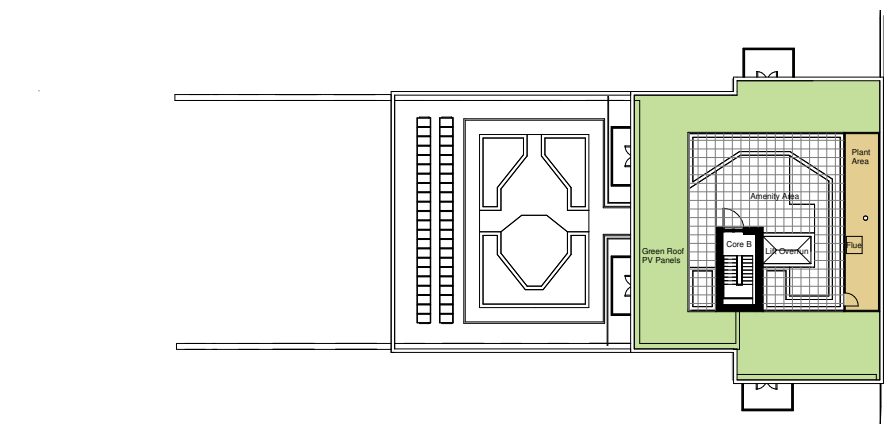
Eighth Floor Plan



Second Floor Plan



Fifth Floor Plan



Tenth Floor Plan

3. EVALUATION & DESIGN

3.5 Layout

Waste and Recycling Strategy

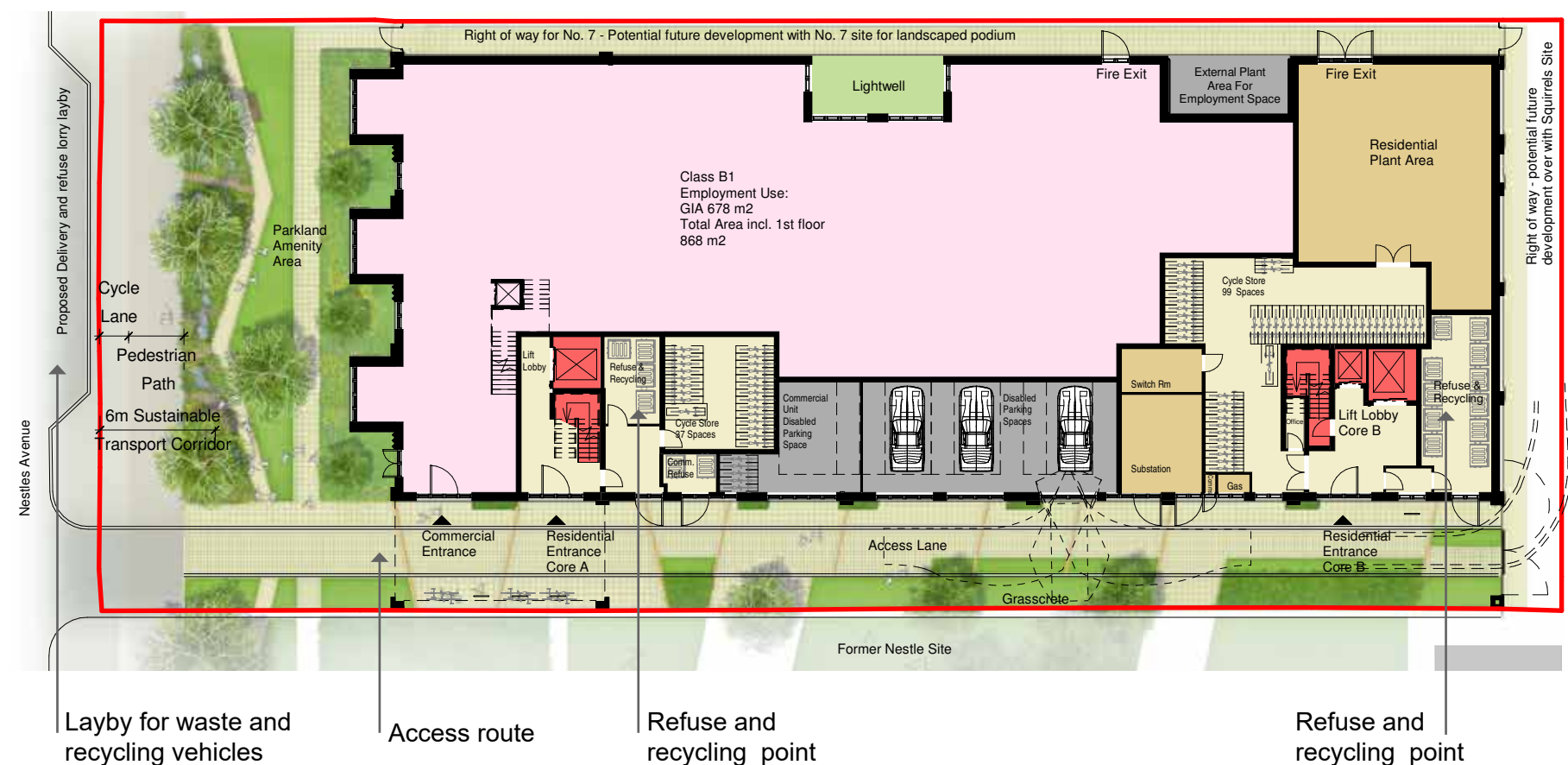
Residential

Both cores are served by a dedicated refuse & recycling store, located close to each building at ground floor level. This ensures the travel distance for residents between their property and the refuse store is within the recommended maximum of 30m (excluding vertical travel), as set out in BS 5906 'Waste management in buildings'. A dedicated waste store is also provided for the commercial use at ground floor level. The number of receptacles provided has been informed by advice sought from the Hillingdon Waste Services department, noting the guidance is under review. This includes the intention for half of provision to be made for general waste and the remaining half to be reserved for recyclable materials. The proposal allows for 120 litres per bedroom, which equates to 15 no. 1100 litre eurobins, split 50:50 for waste and recycling.

Waste receptacles will be moved from the bin stores to a location adjacent to the highway on collection days by an on-site cleaning contractor / caretaker. Waste collection vehicles shall make use of the on-street loading bay to collect the receptacles, with the cleaning contractor / caretaker assisting the waste operatives to move bins to, and then immediately remove bins from, the public highway as soon as the collection is complete.

Commercial

There will be provision for 1 no. 1100 litre bin for recycling and 1 no. 1100 litre bin for general waste.



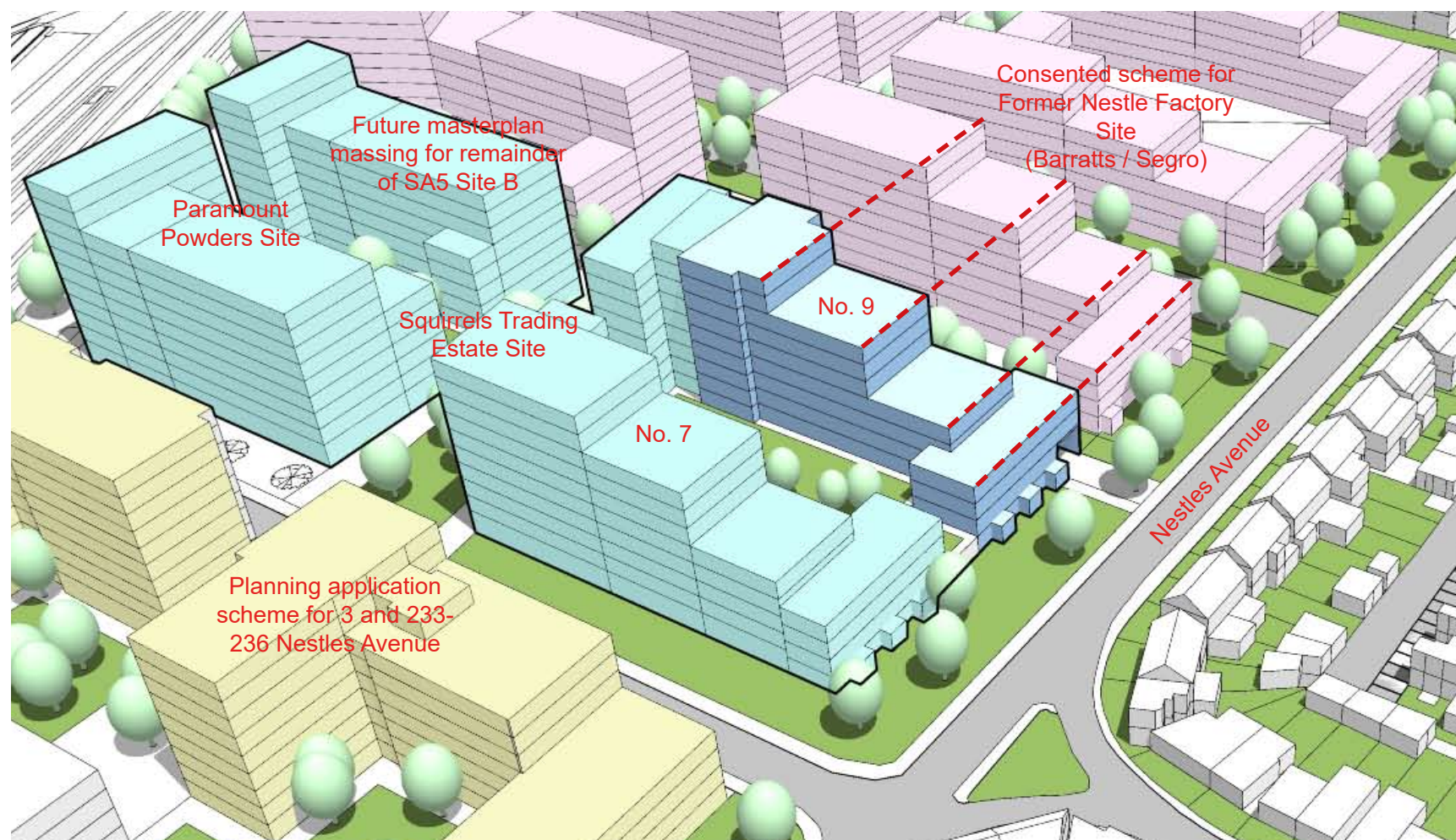
Ground floor plan illustrating waste and recycling strategy

3. EVALUATION & DESIGN

3.6 Scale

The scale of the building is derived from the emerging context and informed by the Masterplan. Following pre-application advice received from Hillingdon Council, the massing was amended to follow that consented for the adjacent building on the Nestle Factory site. The proposed building rises from four storeys, set 15 metres back from Nestles Avenue, to provide a comfortable transition in scale from the existing two storey houses on the opposite side of Nestles Avenue. It gradually steps up in a series of three steps to ten storeys at the rear of the site, adjacent to the Squirrels Trading Estate. The proposed massing is also similar to that proposed for the nearest building, 3 & 233-236 Nestles Avenue.

The apparent scale of the building is reduced by breaking down the elevations into two storey high bays and three storeys at low level, articulated by a projecting grid of piers and horizontal string courses of brickwork, arranged and grouped fenestration panels and projecting metalwork balconies. Further vertical articulation is provided by panels of feature angled brickwork “fluting”.



Proposed massing model showing alignment with consented Nestle site development

3. EVALUATION & DESIGN

3.7 Building Heights

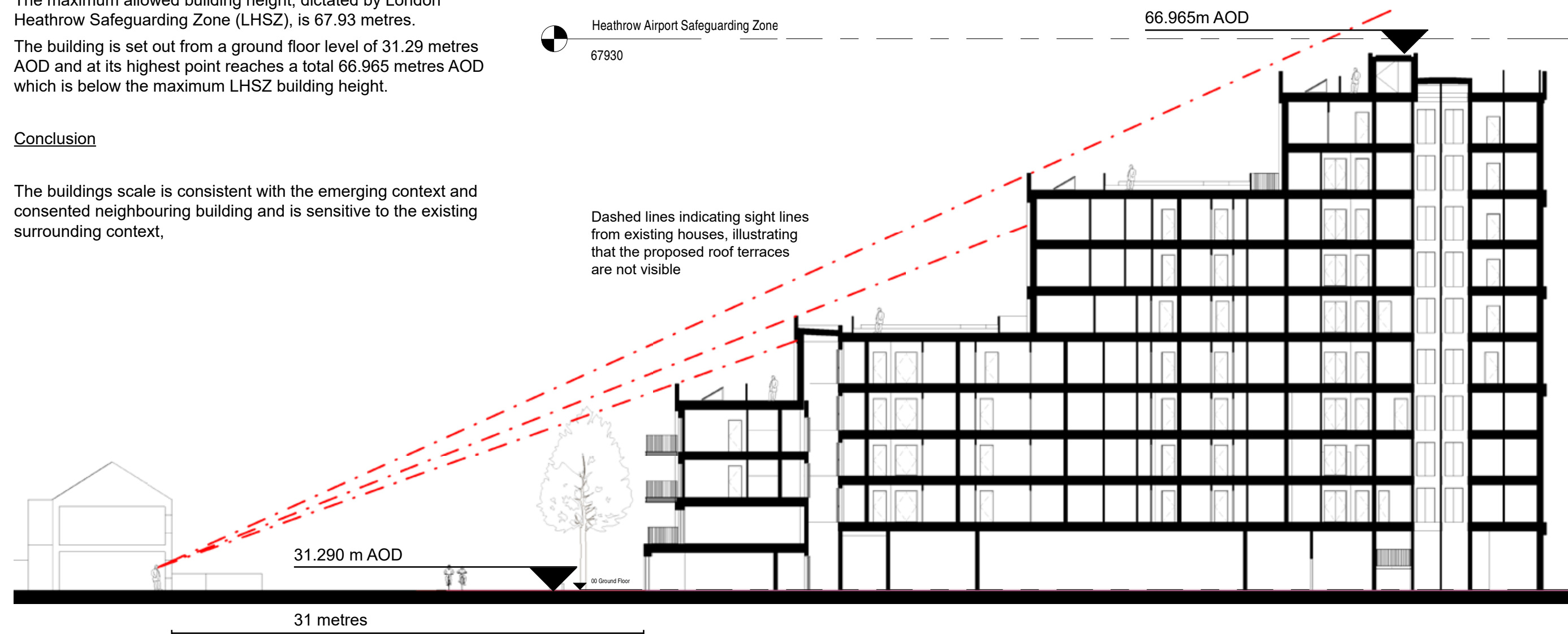
Roof gardens are set back from roof perimeters with strips of green roof with photovoltaic panels, in order to avoid the terraces being visible from the street or existing residential properties.

The maximum allowed building height, dictated by London Heathrow Safeguarding Zone (LHSZ), is 67.93 metres.

The building is set out from a ground floor level of 31.29 metres AOD and at its highest point reaches a total 66.965 metres AOD which is below the maximum LHSZ building height.

Conclusion

The buildings scale is consistent with the emerging context and consented neighbouring building and is sensitive to the existing surrounding context,



Long section showing relationship with existing housing south of Nestles Avenue

3. EVALUATION & DESIGN

3.8 Appearance

Our design is inspired by the proud industrial heritage of the local area. It references the emerging context and character of the area, fully facilitating future delivery of the Masterplan and is sufficiently robust and characterful to take its place as a standalone development, enhancing the existing context and adjacent Nestles Conservation Area.

The original Sandow Factory and the later Art Deco inspired Nestle Factory facades are key influences on the design. The Sandow Factory was a solid rectangular brick building with pronounced brick piers between large Crittal-type metal framed windows.

The Nestle Factory façade from 1921 features a reinforced concrete frame with pronounced piers with large Crittal-type glazed infill between. The later Art Deco style addition employs close spaced expressed window mullions to give a vertically striped or fluted appearance.

The proposed design uses a robust rectangular form, brick, expressed grid articulating elevations into bays with large metal-framed fenestration panels, angled brick feature panels to give a fluted appearance, and industrially styled metal balconies with minimal steel plate railings. Thus the heritage buildings are strongly referenced but without resorting to pastiche, resulting in a confident, contextual and contemporary appearance.



Sandow Factory



Nestle Factory



View looking east on Nestles Avenue showing existing context in foreground and consented Nestle Factory Scheme beyond



View looking west on Nestles Avenue showing the former Nestle Factory scheme in foreground, with the 233-236 Nestles Avenue scheme beyond

3. EVALUATION & DESIGN

3.8 Appearance

The building derives a robust, coherent and contextual character from the use of a buff multi coloured stock brickwork to all elevations. This is aided by the use of a projecting gridwork and recessed brickwork panels.

The volume of the facades is given proportion and a sense of scale by articulating the elevations as two and three storey bays recessed between the projecting grid.

Regularly sized fenestration panels provide consistency and rhythm and are grouped two or three wide in the recessed bays. Glazing patterns reference the Art deco industrial heritage of the area.

Further definition and sub-division of the bays is achieved with the use of dark brown stock brick spandrel panels, which unite fenestration panels above and below to give a pleasing proportion to the bays.

Dark grey metal window frames and balcony metalwork provide colour and textural contrast and visual interest, in line with the industrial theme.

The angled brickwork fluting adds texture and shadow and Art Deco-inspired character between fenestration panels and to flank walls.



Main field brick



Feature spandrel panel brick



Proposed West Elevation



Proposed balconies



Proposed balconies with privacy screens

3. EVALUATION & DESIGN

3.9 Landscape and Amenity

Landscape

High quality landscaping with a strong amenity function is an important part of the emerging context and Masterplan, drawing on the strong legacy of the “Factory in the Garden” concept from the former Nestle Factory site.

The legacy will be celebrated by the extension of a parkland frontage along Nestles Avenue from the Wallis Gardens at the centre of the Nestle Factory site. The parkland theme will extend off Nestles Avenue into the proposed side streets and residential accessways, towards the east-west pedestrian link that will take the form of a linear park.

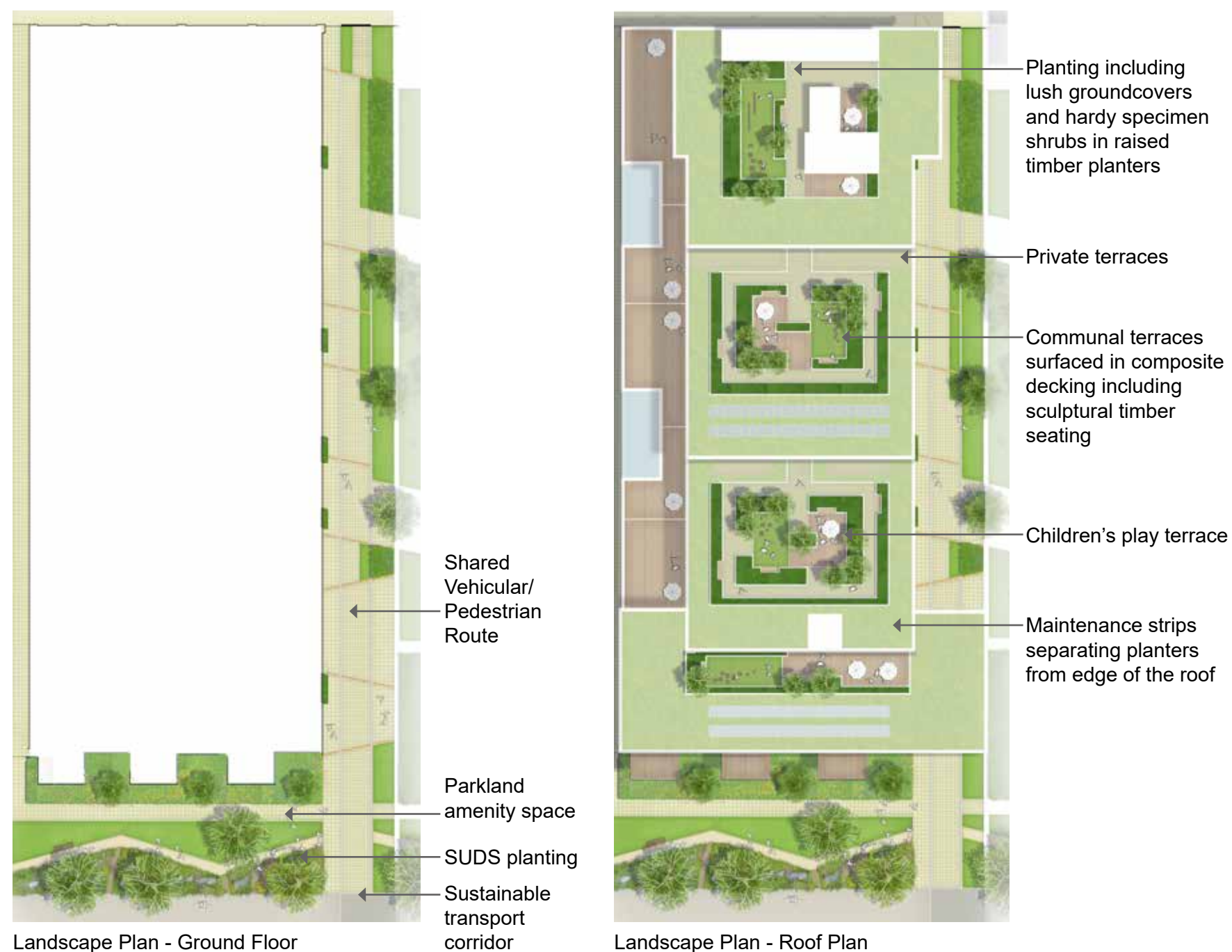
The access lane will be a shared space, providing vehicle access to the car and cycle parking as well as pedestrian access to the two residential entrances. The lane will include soft landscaping features to the edges and grasscrete where there is a requirement for vehicle overrun, including the need to provide for access by a fire engine in the event of an emergency. The lane will be complemented by an eight metre wide green landscaped swathe on the adjacent Nestle Factory site.

Please refer to the separate Landscape Design Report by Outerspace Landscape Architects for more details of the landscaping.

Amenity

Amenity area is provided in excess of the London Plan requirements. All residential units will have a 5-8 square metre private balcony at least 1.5 metres wide, in accordance with the London Plan standards. Some units will benefit from private roof terraces.

All units will additionally have access to attractively landscaped communal roof gardens which have been designed to provide a sense of enclosure. They will feature raised planters around the perimeters with defined areas of artificial lawn and timber decking to the centres, providing a welcoming environment for a range of outdoor activity, be it exercise, quiet reading or relaxing on the bench seating.



3. EVALUATION & DESIGN

3.9 Landscape and Amenity

Children's Play

A dedicated children's play area will be provided on the fifth floor terrace with informal play features. Based on the GLA play space calculator the following provision is required:

4 x under 5s;

2 x 5-11 year olds;

1 x 12+

This equates to 70m² of playspace to be provided on the terrace, which has a total area of 110m².

All residents will also have access to the parkland amenity area along the site frontage to Nestles Avenue, in addition to the proposed public areas of the Nestle Factory site. The Masterplan illustrates how a communal landscaped podium could be developed on the adjacent site at 7 Nestles Avenue, extending on to the 9 Nestles Avenue site to enable its use by residents of both developments.



Children's Play Terrace

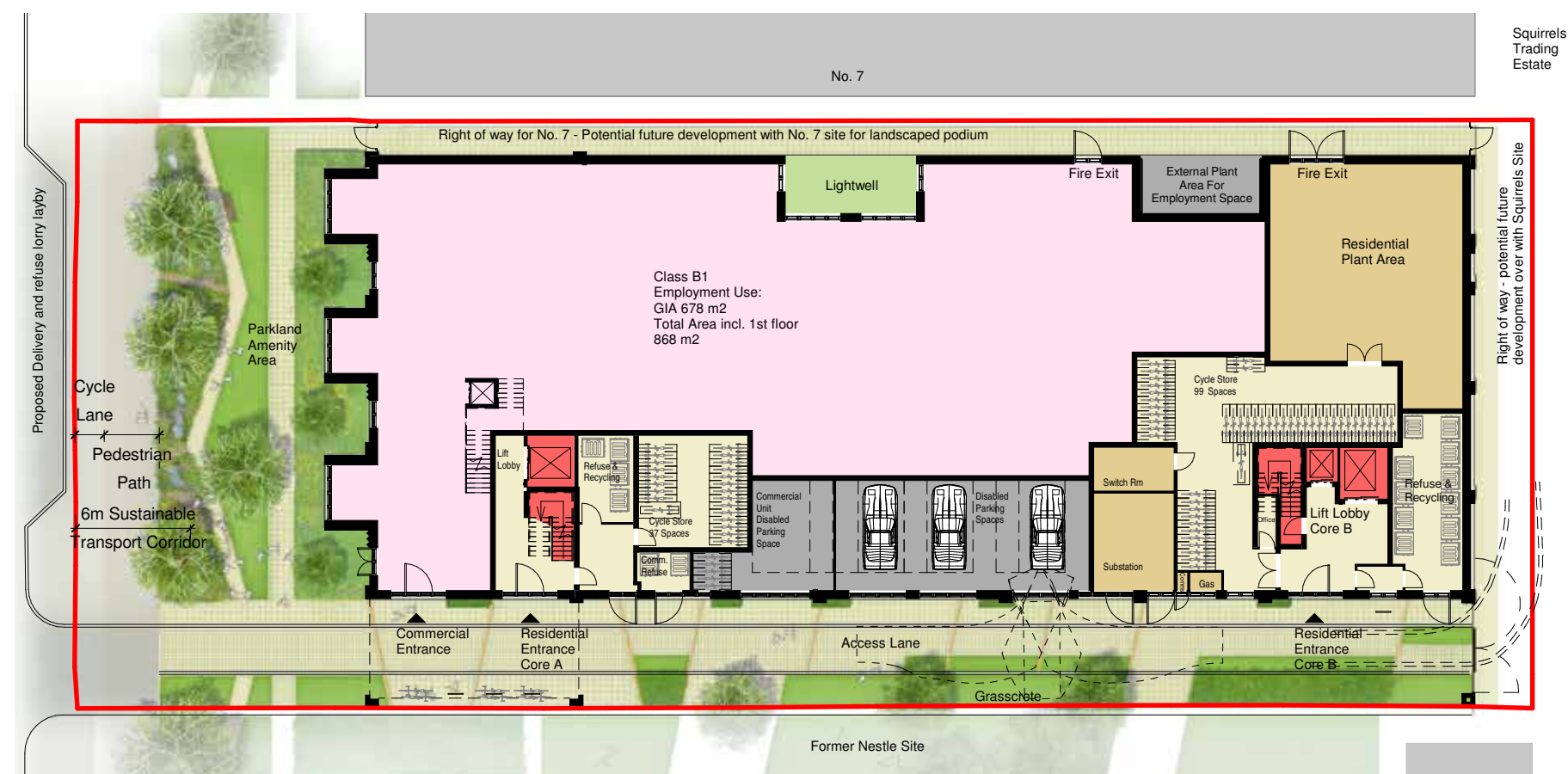
3. EVALUATION & DESIGN

3.10 Secured by Design

The proposals have been discussed with the Secured by Design Officer with a view to the scheme being accredited.

The following design features will be included to deter crime and anti-social activity:

- Blank frontages will be minimised in order to maximise natural surveillance and deter graffiti. Where they are unavoidable high quality materials and defensive planting will be used to deter loitering and damage
- The right of way to the western site boundary will be gated and fenced off subject to a legal agreement with the adjoining owner, and until redevelopment of the adjacent site.
- Similarly, the right of way to the northern end of the proposed access lane will be gated with fire brigade emergency access only through the gates
- The access lane and parkland frontage will be monitored by CCTV as well as natural surveillance from the building.
- External lighting will be to the approved standard
- Door and window security will be to the approved standard
- Video intercom systems will control access, including controlled lift and stair access so only residents and their authorised visitors can access their corridor.



Site Plan showing secured boundaries

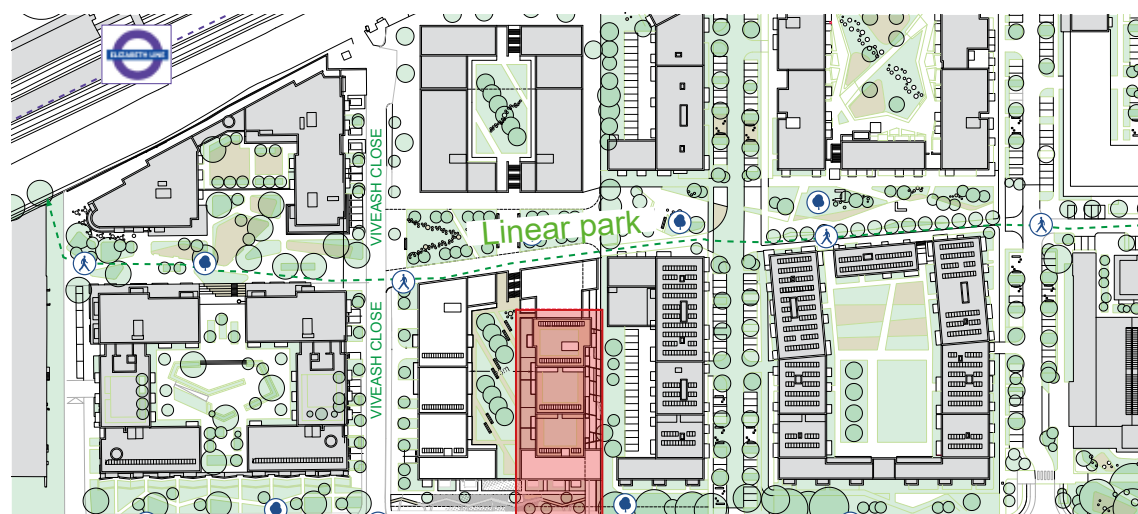
4. ACCESS

4.1 Links to surroundings

The site has a high level of accessibility by public transport and road, being 5 minutes walk from Hayes and Harlington Station and close to the A312 road, which connects to the M4 and Heathrow Airport. Public transport access will be improved further by the new Crossrail service and the associated three new bus routes, one of which is proposed to serve Nestles Avenue directly. These new routes will improve the PTAL rating from 4 to 5.

Access into the site will be at the same location as the existing gate from Nestles Avenue. The Masterplan also proposes the access lane will in future be accessible from the proposed east-west pedestrian link/linear park, which will shorten the walk to the Crossrail station.

The access lane will provide vehicular access to the three disabled car parking spaces for the residential and one space for the commercial, as well as cycle access to the two secure and covered cycle stores, which have direct internal access to the residential cores that they serve. Eight cycle spaces are provided for the commercial unit located with the enclosed car space. External cycle racks will also be provided for visitor/short stay parking near the building entrances, two for the commercial unit and five for the residential.



Improved access to the site

4.2 Internal Circulation and Disabled Access

The development has been designed to be fully accessible with level approaches and thresholds. Two lifts are provided to Core B, which contains 56 flats over ten storeys (including ground floor entrance) and one lift to Core A, which has 25 flats over four storeys.

Flats are accessed off central corridors. Core A serves split levels necessitated by the need to keep the front wing building height the same as the adjacent consented building for good urban design and the need for greater height over the deep plan commercial unit and plant room. Lift access is provided to all flats and communal areas, except for the fourth floor and tenth floor roof terraces due to building height restrictions. Disabled residents will have access to alternative roof terraces.

Ten percent of units (9No) and their approaches are designed to be wheelchair adaptable in line with Building Regulations Part M Category M4(3). These are distributed across all unit sizes and are all located on lower floor levels accessed from Core B, which benefits from two lifts. All other flats are designed in accordance with the Lifetime Homes Standards and Building Regulations Part M Category M4(2) Accessible and adaptable dwellings.

Refuse and cycle stores have internal access from the residential cores and space for an over-sized adapted cycle is provided in each store - please refer to Section 3.5 for refuse strategy. The commercial unit will be provided with a platform lift to give wheelchair access to the first floor accommodation.



Proposed Hayes Station



Typical wheelchair adaptable apartment

4. ACCESS

4.3 Emergency Provision

Emergency vehicle access will be via the access lane, which will be designed to allow a fire engine sufficient access to Core B in the event of an emergency. The gates at the north end of the access lane will be openable by the fire service and a fire appliance route will be marked out on the strip of the Squirrels Trading Estate that falls within the site boundary, allowing the fire engine to exit without having to reverse.

An approved inspector and Fire Engineer have been consulted and have agreed to the proposals.

A fire fighting stair and lift will be provided to Core B due it being over 18 metres in height. Mechanical smoke ventilation will be provided to all communal corridors to aid escape and fire fighting access. All residential units will be sprinklered to reduce the risk of fire.

4.4 Maintenance Access Strategy

The strategy is to enable the building to be maintained safely inherently in the building design without the need for specialist safety measures.

Windows are designed to be safely cleaned from inside the building without excessive leaning out or from balconies. The lower panel of the full height fenestration panels will have opaque glass to avoid the need for cleaning. The top half of the window will open into the building, so leaning out will only be required over an 1100mm guarding to clean the panel immediately beneath.

All roofs will have an 1100mm high parapet to the perimeter, allowing safe access for roof and photovoltaic panel maintenance.

5. SUSTAINABILITY

5.1 Sustainability Strategy

Please refer to the Mecserve Energy & Sustainability Statement for details of the sustainability strategy. Key points are as follows:

The scheme complies with all relevant policies with regards to Energy and Sustainability set by The London Plan and The London Borough of Hillingdon Local Plan.

The strategy for reducing energy use and associated carbon emissions through the design of the scheme follows the London Plan energy hierarchy, namely:

- Be Lean – Reduce energy demand through passive design strategies and best practice design of building services, lighting and controls;
- Be Clean – Reduce energy consumption further by connecting to an existing district heating system and exploit provision of Combined Heat and Power (CHP) systems;
- Be Green – Generate power on site through Renewable Energy Technologies.

The following passive and active energy efficiency features have been considered in the strategy for the proposed scheme:

- High performance building fabric in terms of U-values and thermal bridging to reduce heating demand;
- Excellent air tightness to reduce heat losses through infiltration;
- Highly efficient building services systems for heating, cooling and ventilation that exceed minimum Part L standards in terms of performance;
- Low energy light fittings with occupancy and daylight sensors.

The following Low/Zero Carbon Technologies proposed will provide heat or generate energy on site:

- A Combined Heat and Power (CHP) unit will be the lead heating system to provide useful heat while producing electrical power;
- The applicant is in discussion with the Nestle site developer with regards to linking the development to the proposed district heating system on the Nestle site.
- Photovoltaic panels installed on the roof will generate renewable energy thus providing electricity to be consumed on site.

Following the proposed energy strategy, the building achieves significant carbon savings that exceed both the Building Regulations' Target Emission Rate and the London Plan Target Reduction in terms of CO2 emissions.

The strategy demonstrates the total regulated CO2 savings from each stage of the Energy Hierarchy for the domestic and non-domestic elements of the development separately. A reduction of 35% and 48% over the London Plan Baseline Emission Rate can be achieved for the domestic and non-domestic elements respectively after applying the proposed strategy.

6. BUILDING SERVICES

6.1 Building Services Strategy

6.1.1 INCOMING SERVICES

A new substation will be provided at ground floor level. Supplies will be distributed to serve all floors via Ryefield cabinets, within dedicated electrical risers. A separate metered supply shall be provided for the commercial unit and the landlords areas.

Infrastructure and ducts from the external telecommunications providers and internal service providers will be installed. These ducts shall serve the risers to allow for future cabling to be installed by the telecommunications providers.

6.1.2 HEATING

Heating will be provided by central boiler plant (supported by CHP equipment to meet energy efficiency targets) and will distribute via a system of pipework to each apartment. In each apartment there will be a heat interface unit that the occupant will use to control their own heating and generate hot water. The heat interface units will contain MID approved heat meters that monitor and record the heat energy used by each apartment.

The central plant will include: modular low NOx condensing boiler, CHP, buffer vessel, circulating pumps, Individual pipework branches serving each riser. Occupied spaces within the apartments will be heated via underfloor heating. Bathrooms and WCs will contain a dual fuel towel rail (low temperature hot water and electrically heated when outside of the heating season).

6.1.3 VENTILATION

Continuous mechanical supply and extract with heat recovery units (MVHR), will provide outside air and remove stale air via a ducted extract connection from each wet room (Bathroom, Kitchen, Sanitary Accommodation and Utility Room) and a ducted supply connection to each habitable room. The MVHR units will run continuously to draw outside air through the property. The fan will also have a boost mode in order to counteract the build-up of cooking smells or shower moisture generation. Purge ventilation will be via openable windows.

6.1.4 PUBLIC HEALTH

All apartments will be fed via a centralised boosted water supply which will be fed via a potable cold-water storage tank located at ground floor level. A cold-water riser will rise up each core to serve the apartments, there will be an individual metered branch at each floor level that distributes to the apartments heat interface unit and the cold taps. Hot water will be generated by the HIU in each apartment.

A gravity drainage system will collect foul drainage which will combine at ground floor level before connecting to the sewer connection. Rain water will be collected from roofs and landscaped areas via a dedicated drainage system.

6.1.5 SMOKE EXTRACT VENTILATION

A smoke extract ventilation system for the residential circulation areas will be used to suit the Fire Consultant's recommendations. Both cores will contain a Colt type smoke extract system. A louvred smoke extract riser will extract smoke from the firefighting lobby on the fire floor and make up air will be introduced via an AOV installed at the head of the stair. The smoke extract will be provided with a supply from the standby generator.

6.1.6 SPRINKLERS

The apartments will be sprinklered in accordance with BS9251:2014. A common storage tank and pump set will be located within the ground floor and pipework will distribute through each core to serve sprinkler heads within the flats.

6.1.7 ELECTRICAL

A generator with 8-hour integral fuel tank shall be installed in its own dedicated room, this will be used to support the life safety equipment via the main Essential switch-panel.

A dedicated LV switch-room has been included to house a suitably sized LV switchboard to supply all the landlord's services and the normal supplies to the firefighting equipment.

All lamps will have an LED light source in compliance with Part L of the Building Regulations. All external lighting will be design in accordance with BS5489 2012/2013 (BS EN 13201-2 2003).

A maintained emergency and escape lighting scheme to BS5266 Part 1 will be provided. The emergency lighting provision shall generally take the form of integral or remote battery / inverter units fitted to normal luminaires to provide 3-hour duration, maintained operation.

The fire detection and alarm system shall be certified by a BAFE or LPS 1014 accredited specialist organisation. Each apartment to be provided with an independent mains operated fire alarm system in accordance with the requirements of BS 5839 part 6 Grade D type LD1 standard. The common parts will have an analogue addressable fire alarm system in accordance with the requirements of BS5839 part 1 2002 & A2 2008 to type L1 coverage will be provided to the common parts.

The security systems will include a door entry system with CCTV (Common parts monitored by 24-hour security). The Audio visual door entry systems shall be installed to all the residential apartments with the main entry panels to be located at the building entrances.