



1-2 Marlborough Parade, Hillingdon, UB10 0LR
DESIGN & ACCESS STATEMENT

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1.1 SITE AND CONTEXT

The application site relates to a building occupying a corner position. The main building is three storeys, with a parapet wall and chamfered corner element. There is a high ceilinged single storey flat roof side and rear extension used by a former car service centre. To the front of the unit is a busy distributor road (Uxbridge Road), but the unit is set back from the main highway by a service road, which provides on-street parking for the parade.

The street scene is commercial in character and appearance as viewed from the front and side, with retail units at ground floor level and generally a mix of office and residential units at 1st & 2nd floor levels. The elevations along Marlborough Road are suburban and domestic in character with two storey pairs of semi-detached dwellings with hipped roofs.

Separating the suburban houses of Marlborough Road and the commercial parade to Uxbridge Road is a back alleyway, or rear service road, which was historically used for servicing the retail units and, more recently, was used to provide rear access to the car service centre. This rear passage is not in operation as it is currently blocked from general access



Aerial photo with site highlighted in red (Courtesy of Google)



Streetview of site

with a locked gate. It appears that the gate is a relatively recent addition, it is evidence that the service route is not used on a regular basis and is not used for servicing the retail units.



View of alleyway to rear of site forming access to car service centre



Streetview from Marlborough Road

1.2 THE PROPOSAL

The application seeks full planning permission for a 3-storey side extension and a 2-storey rear extension to create 4no. new 2-bed units and rearrange access to the existing 2-bed unit above what is now a Costa coffee shop.

The application also proposes to an additional the cafe/retail unit at the ground floor of 1-2 Marlborough Parade in addition to providing refuse and waste storage for the commercial elements.

The application description is as follows: Three storey side extension and two storey rear extension to create ground floor retail unit, 4 x 2-bed new flats with associated amenity, cycle, and refuse store.

Integral to the scheme has been the creation of a traditional front garden to provide an improved outlook and a good level of amenity space for the occupants.

The 3-storey side extension is similar to the 3-storey side extension approved at 12 Marlborough Parade in 2015 (app ref: 6674/APP/2015/3389).



Peter Barber Architects: Recent mews style development



Internal view of proposal



View of proposal from marlborough Road

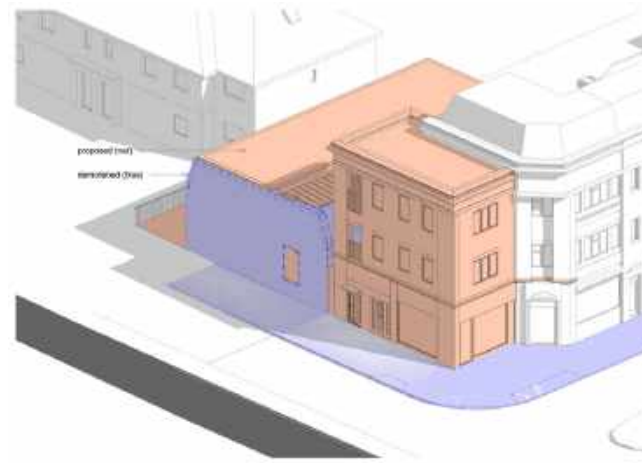
1.3 PLANNING HISTORY

Following the previous planning application and appeal, the proposal has been amended in order to address the issues from the planning officer's report.

The key issues identified by the planning refusal application ref: 19108/APP/2019/936 are:

- 1) Bulk and massing of the proposal
- 2) Outlook & light to the mews units
- 3) Overlooking of communal amenity space
- 4) Insufficient amenity space
- 5) Level access to each unit

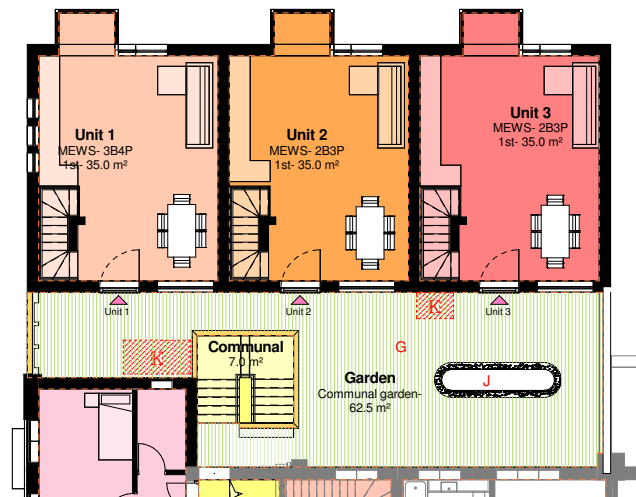
In the appeal (APP/R5510/W/19/3237924) the bulk and massing was not considered a valid reason for refusal. However the other issues have been addressed in the revised scheme as per the following paragraphs.



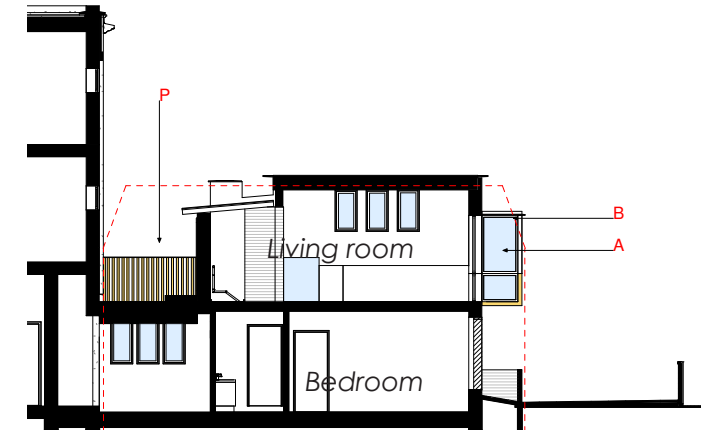
1. Previous mass



2. Previous front elevation/ fenestration and outlook previously considered insufficient



3+4. Previous application overlooking into the communal garden



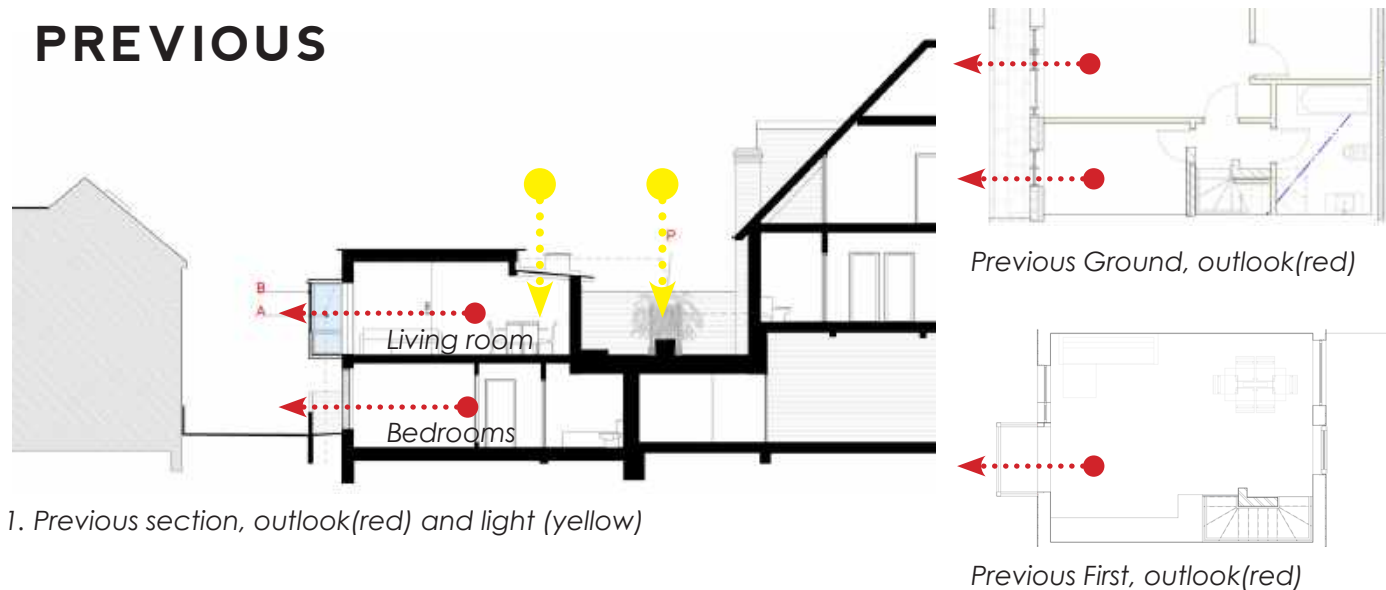
5. Previous level access to each unit via communal stairs through first floor

1.4 OUTLOOK & LIGHT

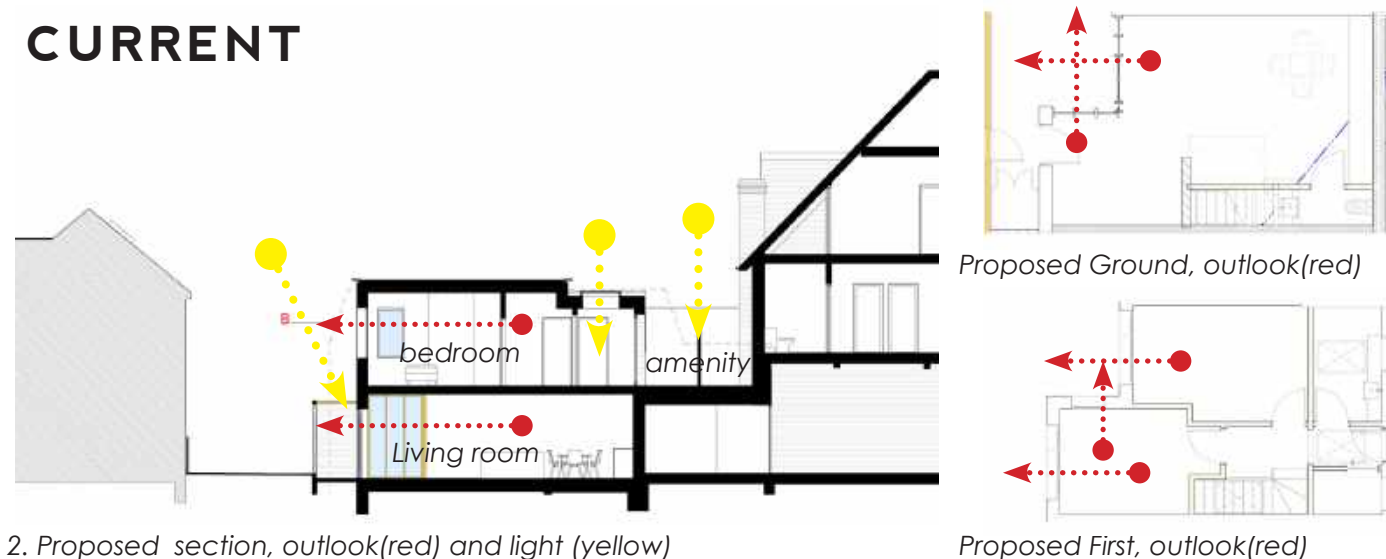
The proposal now steps back at ground floor level, providing each unit with private access from street level. Units 1-3 each have private amenity spaces which are entered from the rear alley and form entrance courtyards for the units. This allows the built form to be set back from the site boundary and the buildings opposite. Units 2 and 3 each have further private amenity space on first floor level. Unit 4 is a maisonette which is accessed from Marlborough Road, and sits above the ground floor retail space, with private amenity space both on first and second floor levels. Unit 5 is an existing unit above the retail space on ground floor level, and is now accessed from a private staircase with entrance onto Marlborough Road. Units 4 & 5 did not present with issues over outlook and light.

The revised proposal also increases the level of light and outlook to the future occupants of Mews flats 2 and 3. The entrance courtyards on ground floor create a buffer zone between the Mews flats and the dwellings across the alleyway, this allows the windows of the living space to be further from the privacy screens of the courtyard, thus allowing more light into the building itself. On first floor level this allows for more windows into the bedrooms at different angles with non-overlooking sideways views. Also, the greater distance between them and the dwellings across the alleyway results in no overlooking and thus greater privacy.

PREVIOUS



CURRENT



1.5 BULK & MASSING

The appeals inspector concluded that the bulk and massing was not a significant reason for refusal as 'it reflects the character and proportions of the existing building and faithfully replicates its detailing and choice of materials' and is 'similar to an extension recently granted permission at the other end of the parade. Nonetheless the amended massing with its stepped-back form addresses the 'excessive scale, size and bulk' which the officer was concerned about whilst remaining in keeping with the gap characteristic of the area, and reducing the 'cramped appearance' of the original proposal. Whilst the rear extension replaces the existing vehicle servicing centre and is in the same location and of roughly the same size, the revised proposal shows a more 'subordinate addition' to the existing building.

PREVIOUS APPLICATION



CURRENT APPLICATION

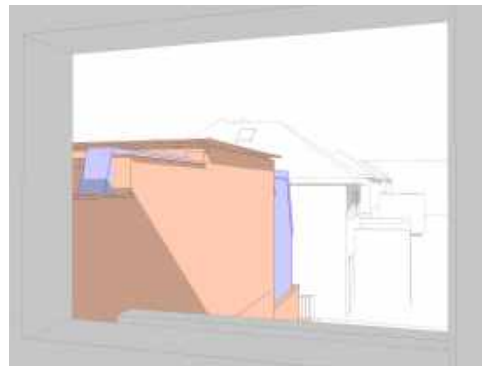


1.6 AMENITY SPACE - SIZE AND OVERLOOKING

The removal of the communal amenity space in favour of individual private amenity spaces, and the redesign of the internal layouts of the Mews flats addresses the 'unacceptable loss of privacy to future occupiers' caused by the 'overlooking from the rear facing window of number 3 Marlborough Parade'. These amendments have also addresses the concerns that 'the proposal fails to provide amenity space of sufficient size and quality commensurate to the size and layout of said units'.

Whilst the amenity space is still less than required for units 1, 3 and 4 the shortfall has been significantly reduced. Further, the communal garden has given way to private amenity space giving a greater sense of ownership and usability of their space. However in this circumstance, given the urban location, and the significant improvements to the scheme from the previously refused scheme, the current proposal provides a much better satisfaction of the requirement than the previous scheme.

The case officer and appeals inspector expressed a concern over the potential for overlooking from no.3 Marlborough Parade to the rear of the proposed Unit 3. This has been addressed by amending the windows to the rear of the property. The attached image is a computer image generated from an accurate model of the site. Having modelled the window and we are able to take a view from there towards the rear of Unit 3. The image to the below shows what the view from this window would likely be like. It clearly shows that there is no potential for overlooking from No. 3 Marlborough Parade towards the rear of unit 3.



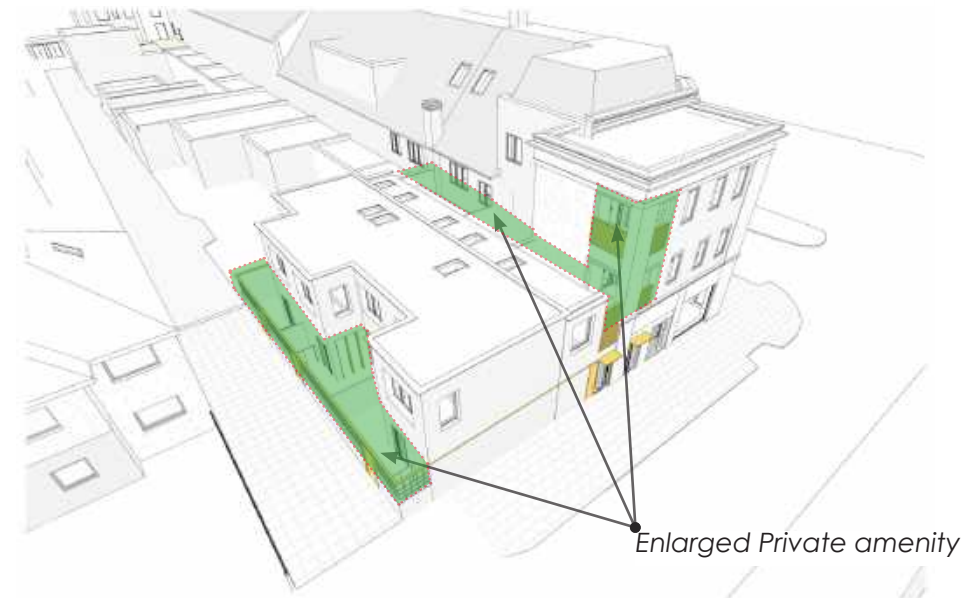
Proposed amenity space for Units 1-3 (red)

PREVIOUS APPLICATION



Previous amenity space (red)

CURRENT APPLICATION



Enlarged Private amenity

2.1 PLANNING CONTEXT

The proposal has been developed with regard to the policies and proposals in the Hillingdon Unitary Development Plan Saved Policies (September 2007) as incorporated into the Hillingdon Local Plan (2012) set out below, including Supplementary Planning Guidance (2017), and to relevant material considerations, including the London Plan (2015) and national guidance.

<u>Hillingdon Local Plan (2012) & Supplementary Guidance</u>	<u>Section of this report aspects are discussed in:</u>
BE13 New development must harmonise with the existing street scene.	3.1
BE15 Alterations and extensions to existing buildings	3.1
BE19 New development must improve or complement the character of the area	3.1
BE20 Daylight and sunlight considerations.	3.2
BE21 Siting, bulk and proximity of new buildings/extensions	3.2
BE22 Residential extensions/buildings of two or more storeys.	3.2
BE23 Requires the provision of adequate amenity space.	4.3
BE24 Requires new development to ensure adequate levels of privacy to neighbours.	3.2
BE38 Retention of topographical and landscape features and provision of new planting and landscaping in development proposals.	n/a
H3 Loss and replacement of residential accommodation	2.2
HDAS-LAY Residential Layouts, Hillingdon Design & Access Statement, Supplementary Planning Document, adopted July 2006	2.2
London plan (2015)	
LPP 3.3 (2015) Increasing housing supply	2.2
LPP 3.4 (2015) Optimising housing potential	2.2
LPP 3.5 (2015) Quality and design of housing developments	4.1, 4.2, 4.3 & 4.4
LPP 3.8 (2015) Housing Choice	2.2
LPP 7.2 (2015) An inclusive environment	5.1
LPP 7.4 (2015) Local character	3.1
LPP 7.15 (2015) Reducing noise and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes.	4.6
NPPF National Planning Policy Framework	

2.2 DENSITY & MIX

Unit Mix

The National Planning Policy Framework states there is a presumption in favour of sustainable development which is described for decision making purposes as “approving development proposals which accord with the development plan.”

Policy H4 of the Hillingdon local plan states that wherever practicable, a mix of housing units of different sizes should be provided including, in particular, units of one or two bedrooms.

The site is located in a sustainable location with commercial on the ground floor and residential above. The provision of additional units is therefore considered, in principle, acceptable subject to compliance with all of the above criteria and relevant Development Plan policies.

The proposal comprises of 4no. new 2-bed properties. This is in line with policy H4.

Density

Policy 3.4 of the London Plan (2015) seeks to ensure that new development ‘takes into account local context and character, the design principles in Chapter 7 and public transport capacity development should optimise housing output for different types of location within the relevant density range shown in Table 3.2. Development proposals which compromise this policy should be resisted.’

The site has a Public Transport Accessibility Level (PTAL) of 2. The London Plan range for sites with a PTAL of 2-3 in a urban area is 150-250 habitable rooms per hectare and 70-170 units per hectare. Based on a total site area of 0.037ha the proposal would result in a residential density of approximately 162 units per hectare and 405 habitable rooms per hectare. The proposed development would not exceed the residential densities stated above.

However, density is only one indicator of whether a development is appropriate and other considerations, such as impact on the character of the area, internal floor areas and external amenity space are more relevant considerations in this case. It should be noted that application 6674/APP/2015/3389 exceeded these targets, but was approved with exactly this rationale in mind.

Setting	Public Transport Accessibility Level (PTAL)		
	0 to 1	2 to 3	4 to 6
Suburban	150 – 200 hr/ha	150 – 250 hr/ha	200 – 350 hr/ha
3.8 – 4.6 hr/unit	35 – 55 u/ha	35 – 65 u/h	45 – 90 u/ha
3.1 – 3.7 hr/unit	40 – 65 u/ha	40 – 80 u/ha	55 – 115 u/ha
2.7 – 3.0 hr/unit	50 – 75 u/ha	50 – 95 u/ha	70 – 130 u/ha
Urban	150 – 250 hr/ha	200 – 450 hr/ha	200 – 700 hr/ha
3.8 – 4.6 hr/unit	35 – 65 u/ha	45 – 120 u/h	45 – 185 u/ha
3.1 – 3.7 hr/unit	40 – 80 u/ha	55 – 145 u/ha	55 – 225 u/ha
2.7 – 3.0 hr/unit	50 – 95 u/ha	70 – 170 u/ha	70 – 260 u/ha
Central	150 – 300 hr/ha	300 – 650 hr/ha	650 – 1100 hr/ha
3.8 – 4.6 hr/unit	35 – 80 u/ha	65 – 170 u/h	140 – 290 u/ha
3.1 – 3.7 hr/unit	40 – 100 u/ha	80 – 210 u/ha	175 – 355 u/ha
2.7 – 3.0 hr/unit	50 – 110 u/ha	100 – 240 u/ha	215 – 405 u/ha

Extract from the London Plan density matrix

3.1 IMPACT ON CHARACTER AND APPEARANCE OF THE AREA

The proposal is for a 3-storey side extension and a 2-storey rear extension.

The 3-storey side extension adjoins a 3-storey building with a mansard roof set behind a parapet wall. The proposed side extension has a parapet wall set below the existing parapet wall. The building line is set back so as to preserve the 45 degree entrance in to the cafe area. This is a mirror of the application approved at no. 12 in which the case officer noted:

"The proposed roof would be flat roofed and would appear subordinate and sympathetic to the host building on this prominent corner site."

The detailing of the 3-storey portion matches that of the host building in terms of material, window proportions and detailing.



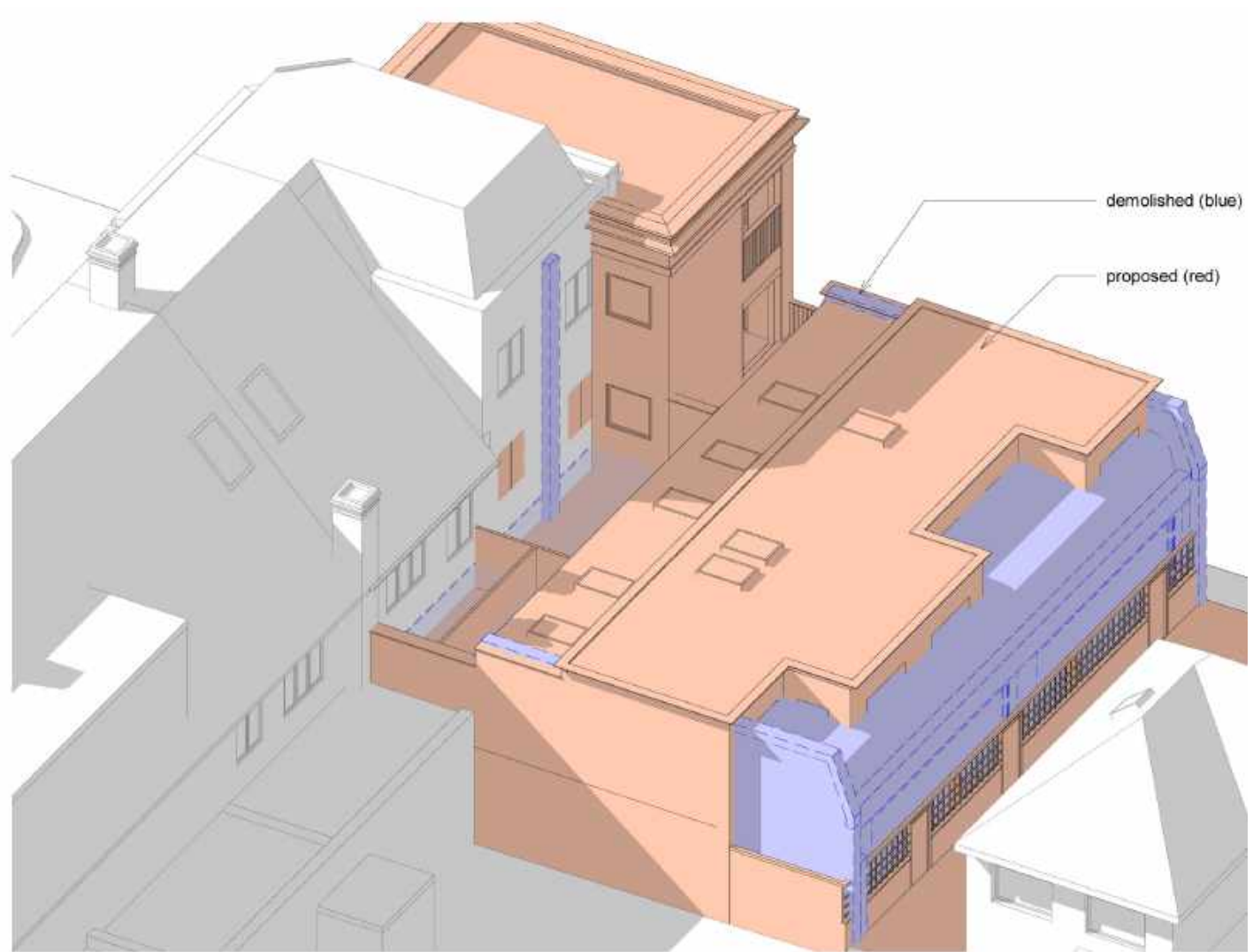
The rear building comprises a series of 2-storey mews houses. This replaces a high ceilinged single storey building which was the car service building.

The adjacent diagram shows that the proposed building height is only marginally higher than the existing building.

A mews style development is entirely appropriate in this setting given the tall commercial buildings to the front, and the physical separation from the suburban area to the rear, due to the service alley. Due to the set back of the houses along Marlborough Road and the absence of prominent windows at ground floor level, the proposed units would have good outlook and amenity.

Due to the consistent height and open access to light and amenity, the proposed development will be a positive addition within the streetscape.

The use of high quality materials ensures the building makes a positive contribution to the area.



3.2 IMPACT ON NEIGHBOURING AMENITY

Protection of neighbouring amenity has been paramount to the objectives of this design.

The key issues are the protection of light, outlook and privacy to units 2 & 3 Marlborough Parade and the protection of light and privacy to the gardens and windows facing the site to the semi-detached house at 2 Marlborough Road. The aspects of each property is dealt with below.

2 MARLBOROUGH ROAD

Whilst it has not been possible to survey the house at no. 2, it is clear that there is a window in the flank elevation to the premises as well as a potential for overlooking the garden.

The window in the flank elevation is likely to be to the kitchen. However, due to its ground floor location and its aspect onto a private road, there is no loss of privacy through the proposal.

The image opposite also shows that from the window closest to the garden of No. 2, the existing shed prevents direct views into the garden of no. 2, therefore privacy of the house is maintained.



Inspiration for front garden courtesy of London Studio

Unit 3 internal view, looking towards front garden

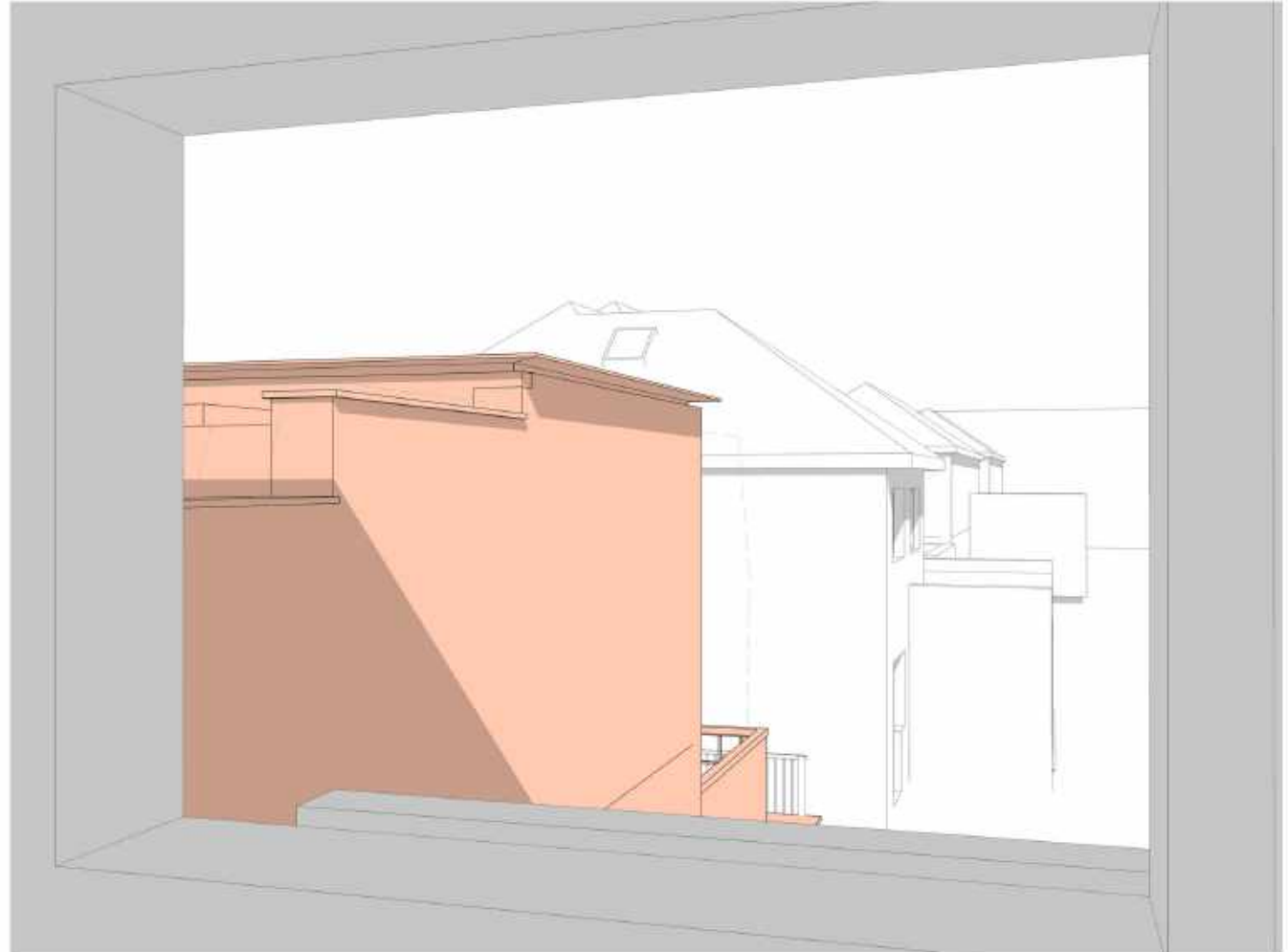


The proposal is set between the rear of a C19th shopping parade and a 2-storey suburban dwellinghouse

3 MARLBOROUGH PARADE

It has not been possible to survey the property at 3 Marlborough Parade therefore a worst case scenario assumption has been made that there are habitable rooms to the rear of the property that potential overlook the rear gardens to 2 Marlborough Road. In considering the impact of the development the flank elevation is the most relevant. The existing view from the rear gardens is strongly affected by the existing car service centre – in particular the flank wall which is 5.6m high. The view from the rear windows is dominated by a brick wall. The proposal seeks to improve the outlook from this dwelling.

Overall the proposed flank elevation is smaller and less bulky than the existing. Whilst the wall is marginally higher in places, it is also lower in places and, on balance, can be considered much the same in terms of bulk and massing. 3 Marlborough Parade would not perceive any material change as a result of the proposal.



View from No. 3 Marlborough Parade outline in blue denotes demolition

2 MARLBOROUGH PARADE

Since the proposed development replaces the Car service centre, it will be located directly to the rear of 2 Marlborough Parade. The bulk and massing of the proposed units will be roughly the same as the existing car service centre. The flank wall of the service centre is 5.5m above ground level whereas the highest point of the proposed roof is 5.7m above the ground level which represents a very slight increase in height. However, crucially, the eaves of the service centre located 3.6m from the rear windows of no. 2 but the proposal pushes this

back to over 5m. The perception of bulk and massing is reduced as a result of the proposal.

As discussed above, since the bulk and massing is an improvement on the existing situation, the light received by No. 2 will have only a negligible change as a result of the proposal. However should a more thorough light study be required, this can be supplied upon request by the planners.

With regards to privacy, the potential for overlooking directly from the rear of No. 2 Marlborough Parade into the proposed Unit 3 unit has been miti-

gated with a privacy fence at 1.7m located between the two.

Further, the perceived overlooking from No. 3 Marlborough Parade to the mews unit as mentioned in the appeal report has been addressed with screening to create privacy to the rear. This is shown in the earlier section overlooking



Section through no. 2 Marlborough Parade showing the relationship between the existing and the proposed developments

3.3 EXTERNAL APPEARANCE

The materials proposed for the 3-storey side extension will match the existing building as closely as possible to provide a harmonious extension to the building.

The materials and appearance of the proposed development are to be in brick with punched openings. A palette of aluminium windows and panels, good quality brick and a flat roof will ensure that the proposal adds a high quality addition to the area which fits seamlessly in the milieu.



The parade has a largely brick apperance with render highlights. The proposed is to be brick



Recent examples of high quality brickwork and projecting oriel windows

4.1 INTERNAL AREAS

The proposed internal environment meets the standards set in the London Plan as demonstrated in the below table.

Area Schedule (Proposed)

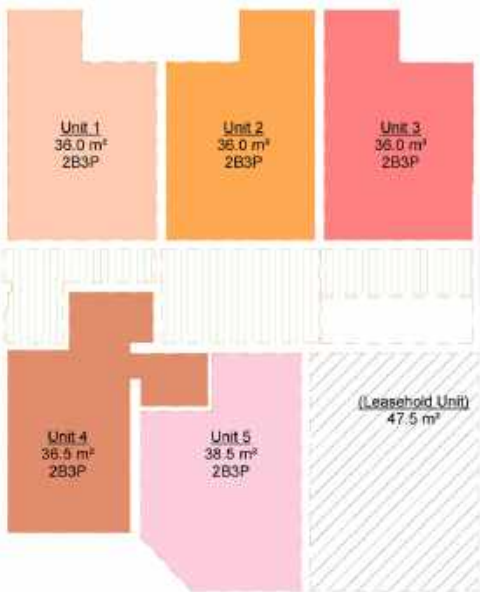
	Description	Occupancy (xBxP)	London Plan	Actual Area
			Min Area	
Unit 1	MEWS	2B3P	70 m²	73 m²
Unit 2	MEWS	2B3P	70 m²	73 m²
Unit 3	MEWS	2B3P	70 m²	73 m²
Unit 4	MAISONETTE	2B3P	70 m²	77 m²
Unit 5	Existing unit above shop	2B3P	70 m²	90 m²

Proposed Amenity

Unit 1	Amenity	25 m²	10 m²
Unit 2	Amenity	25 m²	27 m²
Unit 3	Amenity	25 m²	18 m²
Unit 4	Amenity	25 m²	14 m²



GROUND



1ST



2ND

4.2 OUTLOOK, PRIVACY & LIGHT

The proposed flats have a good level of outlook and light with front on on the on the first and glass wall on hte ground floor. They face out onto the road and have windows that face towards Uxbridge Road as well as onto the quieter Marlborough Road.

The units have outlook towards the North via large areas of glazing. Since the windows do not face the windows of other habitable rooms among the neighbouring buildings, they are private and will provide a good level of amenity to the occupiers. At ground floor level the living room has two glazed facades which offers a greater level of outlook.

The bedrooms have large areas of glazing providing plenty of light from the northwest. The living areas also has skylights which will direct a large amount of sunlight into the dwelling.



Block plan showing the outlook from the mews units

4.3 EXTERNAL AMENITY SPACE

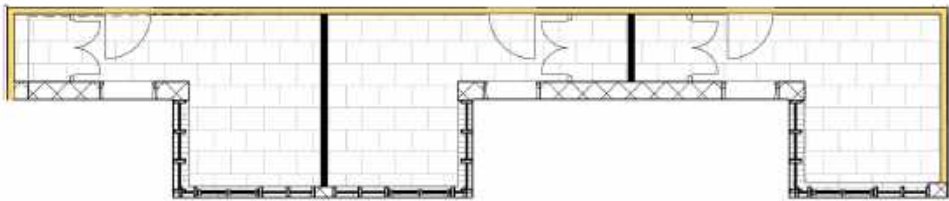
Private external amenity space is provided to each unit. Care and attention have been placed on preventing overlooking to the neighbouring units. Due to the tight constrained nature of the site, it is not possible to provide the full requirement of amenity space to each unit. However, due to the constrained, urban character of the site, we feel the space that has been made for each unit is of a good quality with decent outlook and preventing overlooking of adjoining units.

The mews units to the rear have a private courtyard to the front of the building. Privacy is maintained with vegetation on a trellis to the front. Units 2 & 3 have additional amenity space at 1st floor level.

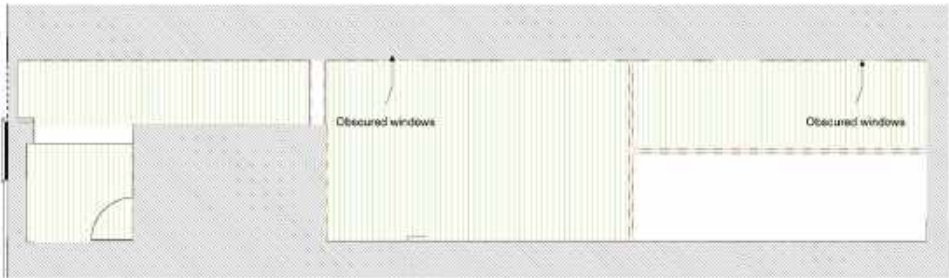
The maisonette has amenity space in the form of two balconies carved out of the rear of the building. This provides a total of 18 m2 of amenity space.

Proposed Amenity

Unit 1	Amenity	25 m ²	10 m ²
Unit 2	Amenity	25 m ²	27 m ²
Unit 3	Amenity	25 m ²	18 m ²
Unit 4	Amenity	25 m ²	14 m ²



Mews front amenity space



Mews rear amenity/Balcony space



Flat recessed balcony space

Proposed amenities spaces



Examples of small but high quality well-designed recessed balcony, courtesy of Alison Brooks Architects, Ely Court



Proposed amenities spaces balconies Elevation

4.4 PARKING

Hillingdon is an outer London Borough and car parking provision is important for the viability and functioning of residential and retail units within the Borough. Policy DM14 of the Local Plan Part 2 (adopted 2012 & proposed October 2015 are the same) requires provision of car parking in accordance with Appendix C Table 1 of the same document.

In considering the required parking provision a number of factors should be taken into account:

- The proposed conversion of the vehicle servicing centre to an A1/A3 café (application reference 19108/APP/2018/4028).
- The existing residential units on site that have no parking spaces allocated to them.
- The on-street parking provision by way of the lay-by on the parade to the front of the parade of shops.

The existing situation is as follows:

Unit	Local Plan App C Table 1 requirement		Actual provision on site
	Lower	Max	
280 m ² B2 class vehicle servicing centre requiring: "2 spaces plus 1 space per 50 – 100 sqm of gross floorspace"	4	7	1
2-bed flat requiring: "1 – 2 bedrooms - 1.5 - 1 spaces per unit"	1	1.5	0
2-bed flat requiring: "1 – 2 bedrooms - 1.5 - 1 spaces per unit"	1	1.5	0
TOTAL	6 lower	10 max	1

From this it can clearly be seen that there are fewer spaces provided than are required and this comes largely from the under-provision of parking spaces for the vehicle servicing centre. The proposal replaces the vehicle service centre with a café. In considering the parking requirement for the café it should be considered that the small nature of the premises and low number of covers makes it very unlikely that a person would drive to the café to use it.

Furthermore the proposed café usage will endeavour to employ local staff to increase reliability of the staffing provisions and reduce overall reliance upon car usage. As such it is reasonable to suggest that the café would have a significantly lower parking demand on the site than those required in Appendix C Table 1.

The additional retail unit, also being a small unit of less than 35m², will have a negligible parking demand. In light of this the proposed parking is as follows:

Unit	Local Plan App C Table 1 require- ment		Proposed provision
	Lower	Max	
120 m ² A1/A3 cafe: "1 spaces per 35 – 50 sqm of gross floorspace"	2.5	3.5	1
30m ² A1 retail unit: "1 spaces per 35 – 50 sqm of gross floorspace"	0	0	0
2-bed flat requiring: "1 – 2 bedrooms - 1.5 - 1 spaces per unit"	1	1.5	0 (on the basis that no parking spaces are currently pro- vided for this unit)
2-bed flat requiring: "1 – 2 bedrooms - 1.5 - 1 spaces per unit"	1	1.5	0 (on the basis that no parking spaces are currently pro- vided for this unit)
2-bed maisonette	1	1.5	1
2-bed mews	1	1.5	1
2-bed mews	1	1.5	1
2-bed mews	1	1.5	1
TOTAL	8.5 lower	12.5 max	5 proposed

On the basis of the above 5no. parking spaces are required to service the site. However the site is also located on a parade off the side of the main Ux-bridge Road and a number of parking spaces are provided here for retail usage. The loss of the vehicle servicing centre results in a lower parking demand than the existing situation therefore it is reasonable to assume that the retail parking demand would be met by the on-street provision here.

This brings the total number of parking spaces sought to 5.

The attached parking survey shows that there is a capacity of 12 spaces on the street therefore the 5 could easily be accommodated on street.

4.5 CYCLE STORAGE

In accordance with London design guide 2015 plus latest revision, Policy 3.4, recommends the provision of 2 cycle storage space per 2-bedroom. For the proposed development, all new dwelling is provided with a cycle storage.

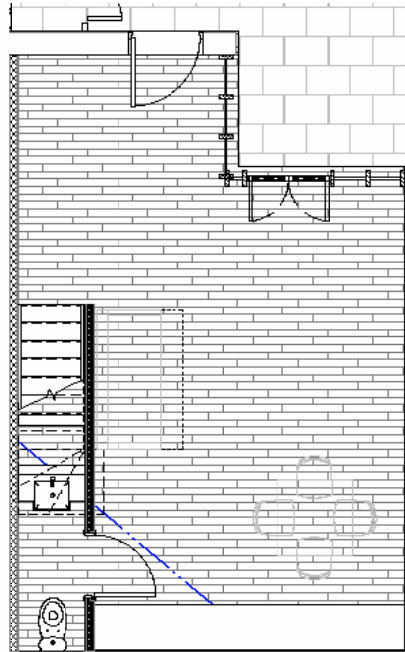
Table:

Cycle Storage	
Proposed Units	No. Cycle Storage
Unit 1	2
Unit 2	2
Unit 3	2
Unit 4	2

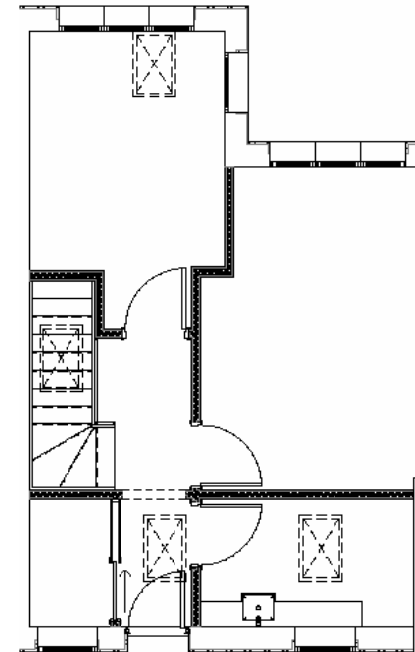
4.6 LAYOUT

The proposed units are laid out with the kitchen/living/dining rooms and W/C on the ground levels with better direct access to the external amenity space, day and sunlight and outlook. The bedrooms are located upstairs with light received from the large areas of glazing at the front and above.

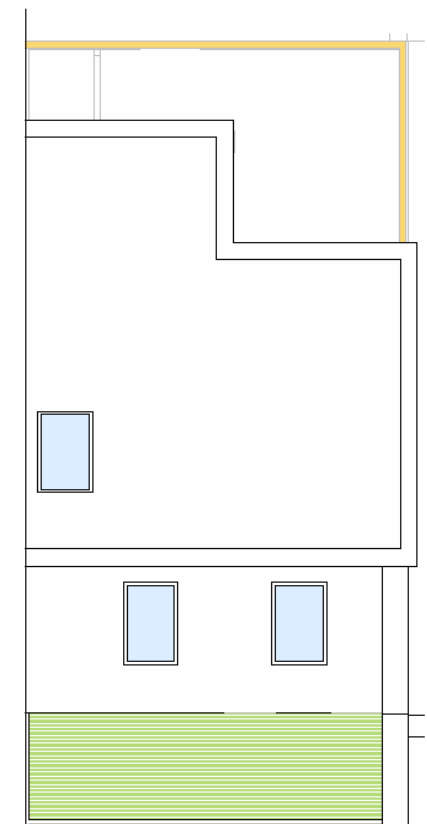
All units will be soundproofed in accordance with Part E of the building regulations and sound-tested prior to building control sign-off.



Unit 3 Ground Floor



Unit 3 First Floor



Unit 3 Roof Floor



sectional view, relation to the existing



Section through Unit 3

5.0 ACCESS

The previous scheme had 5no. units accessed from a communal area. One of the reasons for refusal was that a lift was not provided. In the revised scheme however all units are accessible directly from the ground floor. Each unit can be retrofitted with stair lifts if required. As such the provision for disabled access has been met without the need for a lift.

In the revised scheme each unit is now accessed directly from street level, rather than the communal entrance in the previous proposal. Because each dwelling now provides level access, the units are adaptable to the needs of future occupants



Ground floor access

6.0 SUSTAINABLE DESIGN & CONSTRUCTION STATEMENT

6.1 INTRODUCTION

This statement has been prepared by Shahid Hussain Architects in conjunction with the Flood Risk Assessment from What's the Flood Risk.

The aim of this SDCS is to demonstrate how the proposed dwellings will meet and exceed the standards set out in both the Consolidated London Plan, and Hillingdon's planning policies. Through consideration of sustainability at the early stages of the project (Riba Stages 2 and 3), this affords the opportunity for sustainable design features to be feasibly infused within the development.

6.2 ENERGY EFFICIENCY

The energy consumption and carbon emissions for the proposed dwelling have been considered as part of the design process. This report evaluates a number of renewable technologies used for improving and enhancing the carbon emission rating.

The proposal will include or consider the following low energy features to reduce carbon dioxide emissions resulting from operation of the new dwellings:

- Low energy light fittings in the existing part of the dwelling and in the extension;
- Insulated hot water tank, to

comply with Domestic Building Services Compliance Guide;

- Heating regulated by adequate heating controls, i.e. programmer, room thermostats and TRVs;
- All the fittings (windows and doors) will be draught proofed and triple glazing will be considered if possible;
- All the new glazing elements in the extension will have low U-value and low g-value (solar heat transmittance) conserving the heat within the dwelling and preventing the dwelling from overheating in the summer;
- All the new opaque elements (walls, floor, roof) will meet, or improve on, the maximum U-value targets for these elements

To further ensure that the dwelling reduces its impact on the environment, all the white goods, if specified, will be low energy (rated A+ and above). While the orientation of the development is fixed, the facade of the proposal has been optimised in order to provide a balance of thermal control, both from within and outside the building.

Passive solar design involves adapting the internal layout and glazing to best respond to the local climate and annual sun path with the aim of reducing energy demands and improving

occupant comfort through the use of heat and light from the sun. The main facade of the mews development is orientated northeast and accommodates large floor height windows permitting maximum daylight penetration into the new dwellings.

Good levels of natural daylight will be achieved for the scheme. This will reduce reliance on artificial lighting and thus limit energy consumption.

Shading control systems in the form of occupier controlled interior blinds/curtains will offer efficient solar control as they provide both solar shading and glare control, which in turn improves occupier comfort and reduces the risk of overheating within the dwellings. Ventilation system proposed for the development is via natural means (purge ventilation, trickle vents) and low energy mechanical extract ventilation provided to the kitchen and wet rooms (bathroom and en-suite).

6.3 WATER EFFICIENCY

Consideration has been given to the conservation of water through water efficiency measures.

The scheme will incorporate water efficient fittings to restrict water usage to 110 litres per person per day.

The water consumption of the dwellings has been calculated using the

Government's national calculation methodology for assessing water efficiency in new dwellings published by Communities and Local Government, September 2009. The document outlines the calculation methodology for assessing the whole house potable water consumption used and to assess compliance against the water performance targets of the Building Regulations.

The proposed dwelling will achieve a potable water use target of less than 110 litres per person per day through the use of water efficient fittings alone. This will exceed the requirements of Part G of the Building Regulations. To achieve a reduced indoor water use of ≤ 110 litres/person/day, a combination of the following water efficient fittings are proposed for the dwellings:

- Dual flush WCs - cisterns with both a half flush and full flush. The half flush delivers 3 litres for the removal of liquids, whilst the full flush delivers 6 litres for a long flush. These cisterns save over 33% of water when compared to a 6 litre cistern.
- Flow restrictors & aerators - restrictors fit within the existing plumbing structure of the shower head or connection pipe to taps to restrict water

flow and reduce the outlet flow and pressure. Aerators restrict the flow of water but maintain the pressure by adding air to the water giving a perception of a power shower/taps without the water and energy use.

- Low volume baths - are typically the same size as a standard bath, but shaped to match the contours of the body creating a more efficient area to be filled, thus conserving water.
- Appliances - where dishwashers and washing machines are specified, consideration will be given to low water consuming appliances with water usage figures as specified in the table below, or similar.

The above systems provide high levels of efficiency and will significantly reduce the average household water consumption and associated costs from 150 litres/person/day to 75 litres/person/day.

In addition to the water conservation measures detailed above occupants of the dwelling will be encouraged to adopt a more responsible attitude to water use. A non-technical guide will be provided to the occupants of the dwelling which will provide information on the operation and performance of the building, including details on the water efficient fittings, recommendations for their most efficient usage and

details on external water use.

6.4 ADAPTATION TO CLIMATE CHANGE

The design proposals will incorporate climate change mitigation and adaptation features as far as technically and economically feasible bearing in mind the compact size of the development. The site is expected to be in a Flood Zone 2 area, which is characterised by low probability of flooding, as confirmed by the Environment Agency Flood Maps.

The impact of flooding and flooding risk due to climate change is discussed in WTR Flood Risk Assessment.

The proposed drainage measures will ensure the new development does not increase flood risk for the site or elsewhere.

The proposed building's design will take into consideration the existing soil characteristics to make sure the foundations are designed to withstand heavier rainfalls as well as long periods of dry weather. This is particularly important for clay soils so common in the London area.

The energy strategy of the scheme has considered measures to adapt to the effects of climate change, in particular through an optimised design minimising risk of overheating.

The proposed development will signifi-

cantly reduce its demand on mains water supply through the use of water efficient fittings. The proposed unit will exceed the requirements of the Building Regulations regarding the maximum water use per person per day as detailed in the relevant section of this report.

The proposed green areas will positively impact the residents' wellbeing by providing rising air humidity in hot summer days. The new proposed planting will be carefully selected to withstand long periods of drought.

6.5 MATERIALS

Construction Materials

The proposed development will give preference to the selection of sustainable materials and the minimisation of waste. The following measures will be considered to demonstrate that the materials specified are sourced, managed and used in a sustainable manner.

- The use of locally sourced materials will be prioritised, where feasible, to reduce transport related emissions and to support local supply chains.
- Responsible sourcing of materials from suppliers that operate an Environmental Management System will be prioritised. 100% of all timber will be

from sustainable FSC sources.

- The use of recyclable and recycled materials, such as aggregate will be implemented, where feasible.
- The use of the low-impact responsibly-sourced concrete and reinforcement will be implemented where feasible to do so.
- The use of high VOC content paints, sealants and all ozone depleting materials including insulation will be avoided where possible. Where feasible consideration will be given to the use of low emission finishes, furnishings, carpets and construction materials to enhance the indoor air quality and reduce the building user's exposure to chemicals and other pollutants.
- Specific consideration will be given to durability and strength of materials selected for the scheme.

Construction Processes

Preference will be given to the selection of sustainable materials with a low environmental impact over their life cycle, as well as sustainable procurement and waste disposal.

The environmental impact of construction activities will be minimised through the implementation of best practice measures detailed in the sections below.

Sustainable construction practices in-

clude good site management to encourage resource efficiency, increase material recovery and avoid the disposal of waste to landfill.

The following sustainable construction practices will be considered for the proposed development:

- Reducing construction and excavation waste to landfill.
- Ensuring the products used in construction are responsibly sourced.
- Best practice policies should be adopted in respect of air and/or water pollution arising from site activities.
- Where feasible timber used on site will be reclaimed, re-used or responsibly sourced.

6.6 BIODIVERSITY

The scheme is located on a site which is currently occupied by an existing building which is to be demolished. There are also significant hard standing areas.

The proposed development will utilise the current plot to create a more inviting space suitable for recreational use for the future occupants.

The proposal includes planters and a landscaped communal garden to enhance biodiversity.

There are no existing ecological features that have to be protected during

the construction site. The site does not form part of any statutory or non-statutory designated nature conservation site.

6.7 SUSTAINABLE TRANSPORT/ACCESSIBILITY

The accessibility of the site to local amenities will encourage future occupants of the development to support local shops and services within Hillingdon. The proximity of the site to existing transport infrastructure should prove attractive to future residents of the proposed development as an alternative to travel by car.

The design proposal includes a secure cycle storage area which encourages cycling and reducing the emissions of carbon dioxide and nitrous oxides.

6.8 CONCLUSION

This report has been developed to detail the sustainability features of the development and demonstrates.

This Sustainable Design and Construction Statement for the development demonstrates that the design will incorporate sustainable principles holistically for the new residential unit in line with the local planning policy.