

6.0 Landscape

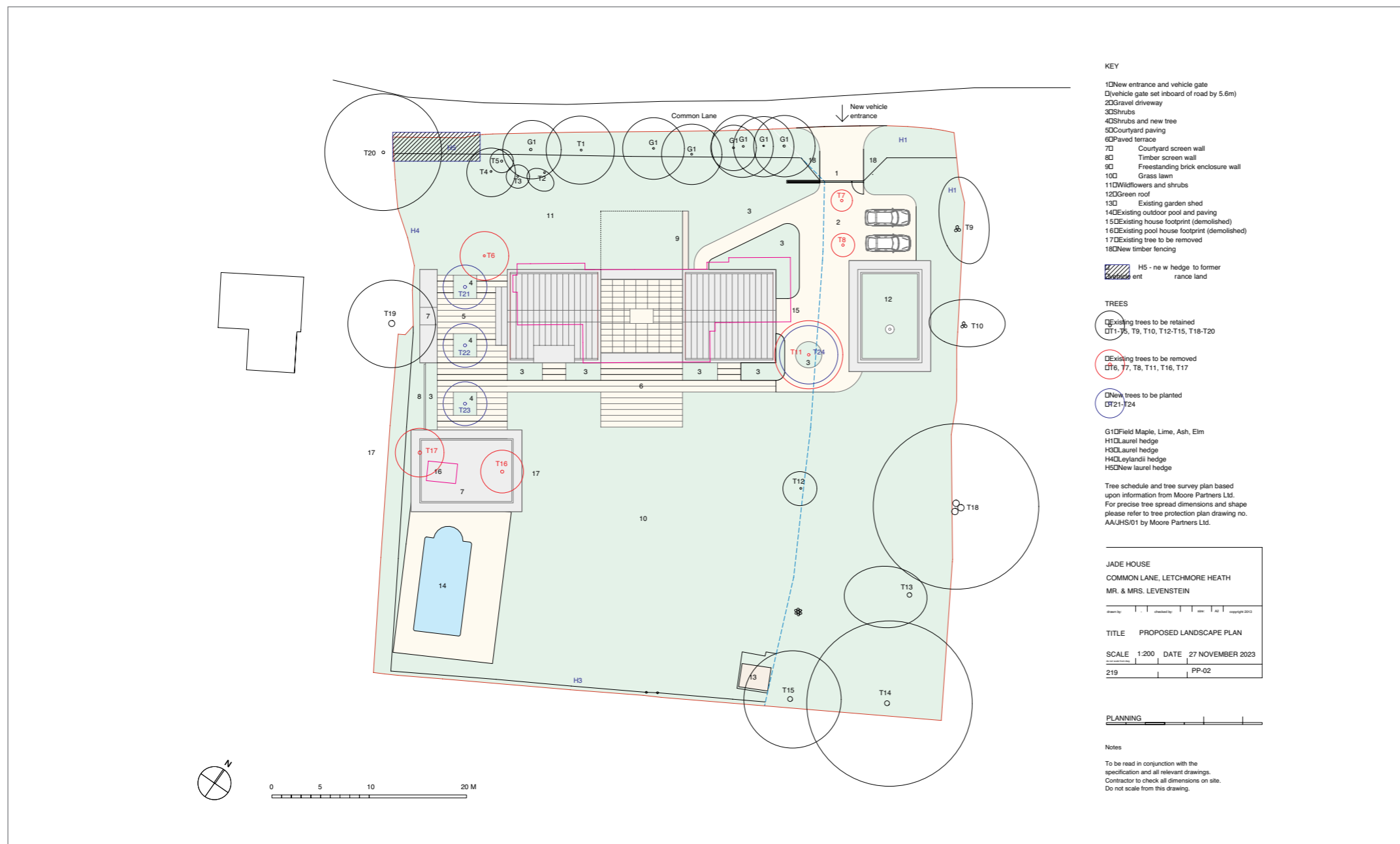
Existing garden landscape

The existing house sits within a large plot, originally measuring 2,429 m², and expanded in 2012 to 3,365 m² following the acquisition of a 936 m² plot of land along the north eastern boundary.

The existing house is linear in plan, aligned roughly parallel to Common Lane, and positioned nearer to Common Lane than the southern boundary which roughly aligns it with the other properties on Common Lane. A vehicle entrance and gate at the north west corner of the plot provides access off Common Lane, leading to a large linear paved courtyard and parking area lined with shrubs. Mature trees and shrubs line the edge of Common Lane, which combine with the house and garden walls to form a visual barrier between Common Lane and the land to the south of the house and beyond. There is no openness to the south or sense of space beyond the very front edge of the plot to Common Lane. To the south of the house is a large area of land laid to lawn, and incorporates shrubs and some trees. The boundary to the south is lined with a close boarded timber fence and hedge. Within the lawn area are a timber garden shed for storing gardening equipment, and a small brick structure housing plant serving the outdoor pool edged with paving slabs.

A tree survey and arboricultural report to BS5837 have been prepared to accompany this planning application, which describe the existing trees, and assessment of the impact of the proposed planning application.

Existing site landscape plan



Proposed site landscape plan

6.0 Landscape

Proposed garden landscape

It is proposed to relocate the vehicle entrance from the north west corner of the plot towards the north east of the plot. The objectives of this change are to create:

- A clear vista and more openness from Common Lane into the garden and further south, to create more openness to the Green Belt, which is currently lacking
- Create a clear view from Common Lane to a new tree between the main house and the pavilion
- Locate the entrance driveway closer to the main and secondary house entrances and entrance to the garage and studio pavilion
- Greatly reduce the existing area of paved hard surface, to improve surface water drainage and provide more surface area for soft landscape.
- Inclusion of a separate pedestrian gate for ease of access by foot
- A section of laurel hedge (H1) will be removed to facilitate the new vehicle entrance

The proposed new house sits largely within the footprint of the existing house resulting in minimal changes to the existing soft landscape. As many shrubs adjacent to the house, particularly on the north west side of the existing house, will be retained and replanted where possible. Six existing trees are removed, including a mature eucalyptus tree (T11) at the eastern end of the house, several low value fruit trees (T6, T7, T8, T16), and a dead cherry tree (T17). The separate studio and garage pavilion is aligned with the main house, framing the space within which a new tree is located to replace the eucalyptus tree. The west façade of the pavilion is aligned with the eastern edge of the vehicle entrance gate to frame the views from Common Lane towards the new tree and southwards across the garden to the Green Belt land beyond.

6.0 Landscape

Proposed garden landscape (contd.)

The gravel driveway and footpath to the main and secondary entrances are porous to promote surface water drainage, and offer passive security benefits of announcing the footfall of approaching pedestrians. A small circle of low soft planting surrounds the new tree, and low to medium height shrubs are planted in the borders to the edges of the two entrances.

A brick wall extends from the house next to the main entrance to provide a visual guide towards the main entrance and form a private courtyard space to the west side of the wall, which is overlooked at ground floor by the main living space.

The soft landscape to the north of the house will comprise low to medium height shrubs, wildflowers, and existing retained trees and hedge, as an informal natural habitat contrasting with the lawn area to the south.

The southern elevation of the main house is softened by planting borders for low to medium high shrubs and flowers, which frame the double doors leading into the house. A paved footpath extends along the south side of the house, connecting the driveway to a terrace in front of the ground floor living space, and leading on to the patio courtyard space at the western end of the house which subsequently leads down to the gym and pool pavilion entrance.

The patio courtyard is accessible from the lounge and TV room, and comprises paving with three large square beds for low shrubs and flowers, each planted with a new tree. The western side of the courtyard is enclosed by an open brick wall structure and canopy roof, below which are a fireplace, log store and covered seating. The objective of the wall structure is to provide a visual and acoustic buffer between Jade House and the property next door. The brick wall will be constructed using mini piles rather than a continuous trench foundation, in order to avoid undermining the existing hybrid poplar tree (T19) in the neighbouring plot (please refer to the arboricultural report).

South of this brick wall is a vertical timber clad fence and planting bed for shrubs, which leads to the proposed new gym and pool pavilion, which replaces the existing pool plant house structure. The construction of this pavilion necessitates the removal of an existing pear tree (T16) and a dead cherry tree (T17).

The main area to the south and east of the house and pavilions is left intact as an existing area laid to lawn with some shrubs and a variety of existing trees.

7.0 Access

Site Access

It is proposed to relocate the current gated vehicle entrance from the western corner of the site to the northern end of the site. The new entrance includes both a vehicle gate and a separate pedestrian gate to separate the two user groups and to facilitate easy pedestrian access. The vehicle gate position allows for a vehicle to fully enter the site off Common Lane before passing the gate. There is a gentle slope up from Common Lane to the gated entrance and driveway.

The metal gates will comprise metal verticals which will allow clear views into the site and through to the rear of the garden and beyond to the trees in the playing field. The garage and studio pavilion is separated from the main house to create a clear gap which the gates are aligned with, to promote views and openness to the Green Belt. Currently, there are no views from Common Lane into or across the site.

Garage

A detached single storey garage and studio pavilion provides parking spaces for 1 no. car and 2 no. motorcycles or several bicycles. The gravel driveway provides additional open parking space, with 2 no. parking spaces in front of the garage, which are located so as to be partially hidden from view from Common Lane by the naturally sloping topography at the north east corner of the site boundary.

House

The main entrance on the north side of the house is accessed via a gravel footpath from the driveway to a recessed covered porch space. Full height glass panels either side of the front door allow daylight into the entrance hall, and enable clear views of visitors from the interior.

A second entrance is located to the west elevation, which is a less formal entrance for use by the occupants and visiting close family and friends. Door thresholds will comply with current building regulations for access.

There is level access throughout the entire ground floor of the main house and within the two single storey pavilions.

Three staircases provide vertical access within the main house. A stair within the two storey high living and dining room at the centre of the house connects ground and first floors, whilst a stair within the western end of the house provides access from ground level up to bedrooms on the first and second floors. A small spiral stair within the first floor master bedroom connects to an ancillary space on the second floor.

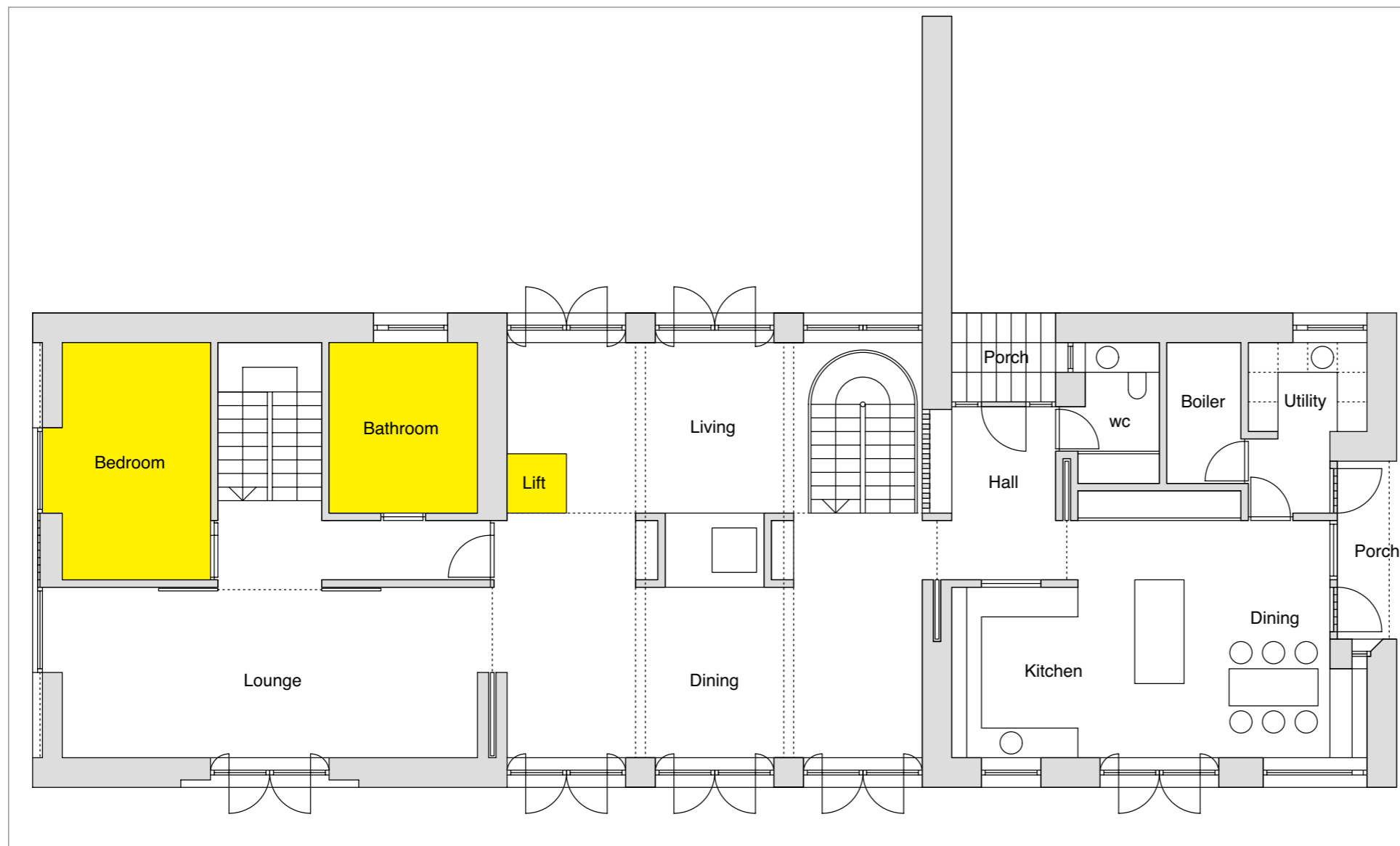
As part of the 'lifetime homes' strategy, a location for a potential future lift has been identified, which connects the ground floor living and dining space to the first floor lounge. Furthermore, the western stair can accommodate a stair lift. The ground floor study will be designed to allow ease of plumbing connections to convert it to a bathroom serving a new bedroom in the former TV room space, in the eventuality that mobility issues require sleeping accommodation at ground level.

Generous door widths and bathroom layouts will promote ease of access by ambulant disabled users. The thresholds to the various french doors opening onto the terrace and courtyard will comply with current building regulations for access.

The master bedroom and one guest ensuite bathroom on the first floor include walk in showers, which would be suitable for disabled accessibility. The main staircase at the west end of the house provides access to first and second floors, and could include a future stair lift.

Garden

The entire site is relatively flat with modest level changes within the garden that are largely imperceptible. A loose gravel driveway facilitates good surface water drainage within the site boundary to avoid water running off into Common Lane. The gravel also contributes to the passive site security strategy, by virtue of the noise when pedestrians walk across gravel. Hard surface paving extends between the eastern end of the house across to the western courtyard and southwards, creating a continuous paved link to the ground floor doors of the house and gym pavilion. Elsewhere the garden is mostly laid to lawn, with shrubs and trees, without steps or ramps. A small area to the northern corner of the garden has a sloping bank, graded as part of the existing natural site topography.



Ground floor plan showing potential future new bedroom and bathroom, and lift locations

8.0 Lifetime Home

Flexibility to allow for future changes in health and wellbeing have been accommodated in the planning of the proposed house. The plan of the ground floor has been designed to accommodate future changes in later life, to ensure future flexibility.

The study will be constructed to allow for adaptation to a bathroom with disabled access and fittings.

The TV room could be converted to a bathroom, which enjoys flush access to an external courtyard space.

A zone is indicated in the living area to show a potential location for a platform lift up to the first floor only. A stair lift could also be added to the stair at the west end of the house, which would offer access to both first and second floors.

The ground floor is a continuous flat surface, without level changes and is suitable for use by disabled occupants.

The configuration of ensuite bedrooms on the first and second floors, served by a separate stair could provide accommodation to a live-in carer.

9.0 Sustainability

The very poor environmental performance and fabric of the existing house has motivated the owners to build a new energy efficient home. Whilst this objective has underpinned the design thinking, the house's sustainable credentials are achieved in a discreet and integrated manner, prioritising passive energy efficient features over active systems which tend to date easily or become technically redundant or expensive to maintain. The proposed house embraces sustainable design in all aspects, with a vision to create an energy efficient home that will provide a sustainable long term low energy living environment. As climate change evolves, with higher peak summer temperatures likely, and more extreme rainfall patterns, the proposed house seeks to reduce ongoing energy use, and mitigate the effects of increasingly warmer summer temperatures.

Site Planning

The site constraints and Planning context meant that the proposed house largely follows the alignment and location of the existing house, which is conveniently orientated to exploit the benefits of a long frontage to a southerly orientation. Higher value principal rooms enjoy views across the lawn where their south-facing windows can 'harvest' the beneficial solar gains over winter months, whilst internal curtains and blinds will reduce unwanted solar gains during summer months. Conversely, many of the supporting rooms, such as bathrooms, utility and study, are located to the north elevation where views are less important and where the fewer and smaller windows therefore reduce heat losses.

Insulation

The existing home is of poor construction, with 280mm deep external walls, and with poor insulation to the ground floor and external walls and roof. Whilst a PV panel array has been added recently, the fabric of the house struggles to achieve basic levels of energy efficiency, and requires significant heating demands through winter months.

The desire for an energy efficient home begins with a highly insulated high-performance building envelope. As a result, the design includes 600mm deep highly insulated external walls and Scandinavian double glazed windows. A consequence of building 600mm deep walls is that the area comparisons with the existing house with its 280mm deep walls is somewhat misleading. The comparison of proposed and existing Gross External Area includes proposed external walls of more than twice the thickness of the existing walls, whereas a comparison of the Gross Internal Area better describes the increase in the space within the exterior walls of the existing and proposed houses.

The ground floor slab and roof will also be heavily insulated.

Natural ventilation and cooling

Windows are designed to incorporate either trickle vents, fixed narrow side vents, or narrow opening lights, to facilitate cross ventilation across spaces where possible, and to offer as many opportunities to naturally ventilate the house, especially during night time cooling whilst maintaining security. As the UK experiences higher summer temperatures, the practical need to ventilate buildings whilst rejecting solar gains become ever more important. The space planning attempts wherever possible to permit cross ventilation across spaces to encourage good airflow characteristics to promote cooling.

These passive measures, which do not require complex building services systems or low energy additive equipment are the cornerstones of good sustainable design.

Building materials

External walls include brick and timber boarding. Brick is a natural choice given the context of brick houses in Letchmore Heath, and the durable low maintenance properties of brick contribute to its and long life characteristics. The timber boarding will be allowed to weather naturally, thereby avoiding

the need for regular application and treatment with paints or chemicals. These self-finished materials contribute to reducing ongoing demand for oil-based products. The choice of interior materials will explore how the thermal mass of the house can be optimised to smooth the peaks and troughs of heat gains and heat losses during a twenty four hour cycle.

CLT construction will be considered for use where technically feasible, to benefit from the low embodied energy offered by CLT. Self finished materials will be used generally, to reduce the need for decorations and ongoing maintenance, which often require petrochemicals, applied periodically.

Internally, FSC-certified timber will be used wherever possible, for instance for timber flooring, doors, windows and internal fittings. Decorative paints will generally be avoided in favour of waxes where necessary, or left untreated.

Building services and renewables

The current house is heated by a gas boiler, with a very poor fabric and energy performance. The proposed house will be highly insulated and heated by one or two air source heat pumps, powered by electricity that will progressively become 100% sourced from renewable suppliers on the national grid. The air source heat pumps are located to the east side of the garage and studio pavilion.

It is proposed that a PV array will be located on the flat roof of the gym pavilion, using an integrated Bauder PV support system that significantly reduces the weight of the support frame system, thereby reducing the structural loading and consequent ability to design a leaner structure. If possible the existing PV array panels on the roof of the existing house will be reused on this new support system.

An EV charging point will be built into the new garage, to recharge electric vehicles. Modern water-efficient bathroom fittings, LED light sources, and energy monitoring systems will

be incorporated to ensure that water and electricity are utilised efficiently.

Recycling and demolition waste

Whilst the fabric of the existing house is of poor quality, there are internal fittings and other items which would ideally be salvaged for reuse off-site or re-purposed within the new house, or recycled by an architectural salvager, to reduce the quantity of demolition waste. The new house could utilise brick and masonry demolition waste as hardcore for the new house foundations, subject to approvals from Building Control and the structural engineer. Bathroom and kitchen fittings can be stripped for reuse or for recycling.

Ecology

Whilst the house sits within a very large plot which is significantly larger than all the nearby properties, the proposal includes a flat green roof on the garage pavilion, to provide a habitat for fauna and flora. Elsewhere, any existing shrubs adjacent to the existing house will be relocated and reused during demolition and construction of the new house.

The existing garden and soft landscape is largely unaffected by the proposed demolition and replacement of the house. New additional small tree and shrub species will be selected on the basis of their suitability to orientation and exposure, and to survive the more extreme predicted summer temperatures.

The new entrance driveway will be a permeable gravel surface, to allow for rainwater to drain directly into the soil as part of the sustainable drainage strategy. The terrace paving to the south side of the house and the courtyard to the west will be laid to fall to drain water into the integrated shrub and planting zones adjacent to the house, or the tree and ground cover pits within the courtyard, to benefit from surface water run off, and provide plenty of opportunities for localised rainwater drainage.

10.0 Areas

Existing Jade House areas and ratios

Existing Floor Areas	Gross Internal	Gross External
Ground Floor Area	203.08 m2	222.5 m2
First Floor Area	154.72 m2	173.3 m2
Second Floor Area	50.44 m2	55.97 m2
Total House Area	408.24 m2	451.77 m2
Pool Plant Enclosure	5.0 m2	6.14 m2
Total Development Area	413.24 m2	457.91 m2
Current (post-2012) Site Area		3,365.5 m2
Existing plot ratio		0.136
Current (post-2012) Site Area		3,365.5 m2
Existing house footprint		228.64 m2
Ratio of house footprint to site area		0.068

The figures below describe the plot ratio and ratio of building footprint to site area prior to the land adjoining the original site being acquired in 2012:

Pre-2012 Site Area	2,429.1 m2
Pre-2012 plot ratio	0.188
Pre-2012 Site Area	2,429.1 m2
Existing house footprint	228.64 m2
Ratio of house footprint to site area	0.094

Proposed Jade House areas and ratios

Proposed Floor Areas	Gross Internal	Gross External
Ground Floor Area (House Gym + pool pavilion Garage + studio pavilion)	311.37 m2 220.05 m2 46.20 m2 45.12 m2	364.35 m2 250.87 m2 55.28 m2 58.20 m2
First Floor Area	189.48 m2	225.51 m2
Second Floor Area (East wing West wing)	72.26 m2 12.0 m2 60.26 m2	89.62 m2 22.15 m2 67.47 m2
Total Development Area	573.11 m2	679.48 m2
Current Site Area		3,365.5 m2
Proposed plot ratio		0.202
Current Site Area		3,365.5 m2
Proposed house footprint		364.35 m2
Ratio of house footprint to site area		0.108

The new plot ratio is only slightly more than the original pre-2012 plot ration, before the adjoining land was acquired and added to the site plot.

The ratio of building footprint to site area has also only increased slightly, and is still significantly lower than all the adjoining properties on Common Lane.

Change between proposed and existing areas and ratios

Total change	Gross Internal	Gross External
Proposed increase over existing house	+159.87 m2	+ 221.57 m2
Percentage increase	+ 38.68 %	+ 48.38 %

Given energy conservation regulations, the external wall depth has more than doubled from 280mm deep existing walls to 600mm deep proposed walls. Therefore the Gross Internal Areas best describe the actual internal floorspace increase.

Change between proposed and existing house footprint

There is a 135.71 m2 increase in the house footprint (364.35 m2 minus 228.64 m2). This equates to a percentage footprint increase of **59.35%**

Change between proposed and existing plot ratios

Pre-2012	0.188
Current (post-2012)	0.136
Proposed	0.202

Change between proposed and existing ratios of building footprint to site area

Pre-2012	0.094
Current (post-2012)	0.068
Proposed	0.108

Change between proposed and existing house widths

The width of the proposed main house to Common Lane (north elevation) is shorter than the width of the existing house by 1.0m, at 27.6m long.

The existing house has tall brick garden walls extending either side of the elevation to Common Lane, creating a total length of 42.4m.

The proposed house has a detached pavilion in line to the east side and a detached patio courtyard wall enclosure to the west, creating a total frontage to Common Lane of 36.0m, some 6.4m less than the existing house.

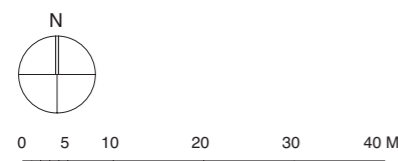
The second pavilion to the west side of the house is set well back into the plot from Common Lane so as not to present an enclosure and feeling of openness to the Green Belt by comparison. If however this pavilion was included in the overall length to Common Lane, the dimension of 43.2m length is only 800mm more than the current built frontage.

**Ratio of building footprint to site area
Comparison of neighbouring properties**

Jade House (proposed)	0.108
Cookesmead	0.135
Edgefield	0.142
Orchard View	0.126
Lamp Cottages	0.164
Taverners	0.206

Jade House Site Area

Original Site	2,429.1 m ² 26,147 ft ²
New Site (acquired March 2012)	936.4 m ² 10,079 ft ²
Combined Current Site	3,365.5 m ² 36,226 ft ²



10.0 Proposed Jade House and Site Plot

The footprint of the existing house is 222.5 m² GEA, and a pool plant house of 6.14 m² GEA.

The proposed house has a footprint of 250.87 m² GEA, only 9.9% more than the existing house.

A single storey detached garage + studio pavilion and gym pavilion increase the total proposed buildings footprint from 228.64 m² GEA to 364.35 m² GEA.

Whilst the detached pavilions contribute to an increase in the total buildings footprint, the two single storey flat-roofed pavilions are deliberately low in height, similar to the existing long brick garden walls joining the house, and are carefully positioned on the site. The garage and studio pavilion is located to frame clear views from Common Lane across the entire site through to the playing fields beyond. The gym pavilion is set well back from Common Lane, and positioned to align with the similar pool-house structure directly opposite at the neighbouring property Cookmeade.

Building Footprint Areas (GEA)

Existing house	222.5 m ²
Existing pool plant house	6.14 m ²
Total existing buildings	228.64 m ²

Proposed main house	250.87 m ²
Proposed garage+studio pavilion	58.2 m ²
Proposed gym+pool pavilion	55.28 m ²
Total proposed buildings	364.35 m ²

Increase in total buildings footprint 59.35%

Increase in main house footprint 9.9%

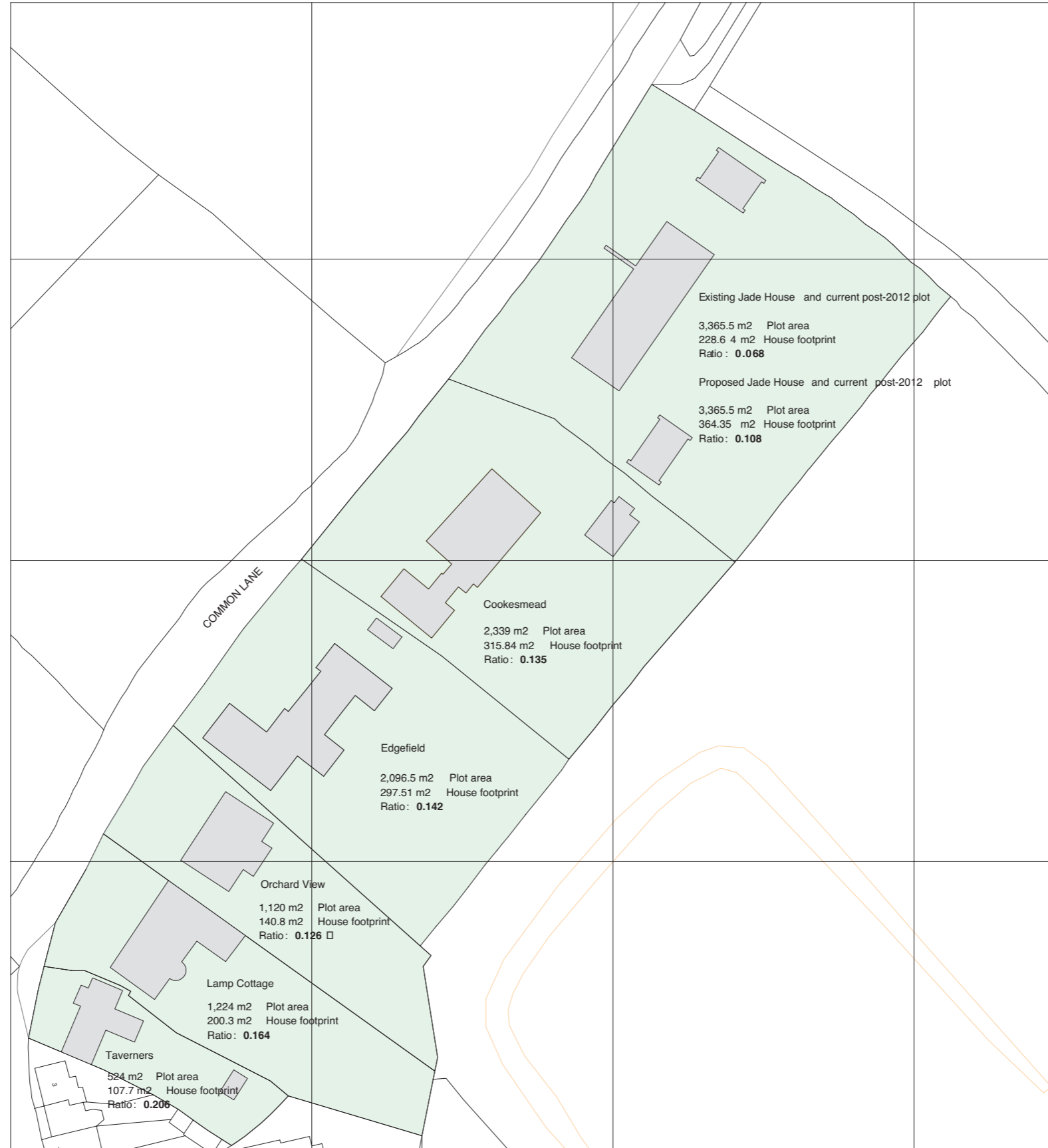
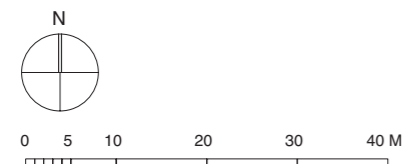
Site plan showing proposed house and neighbouring properties comparative plot ratios

**Ratio of building footprint to site area
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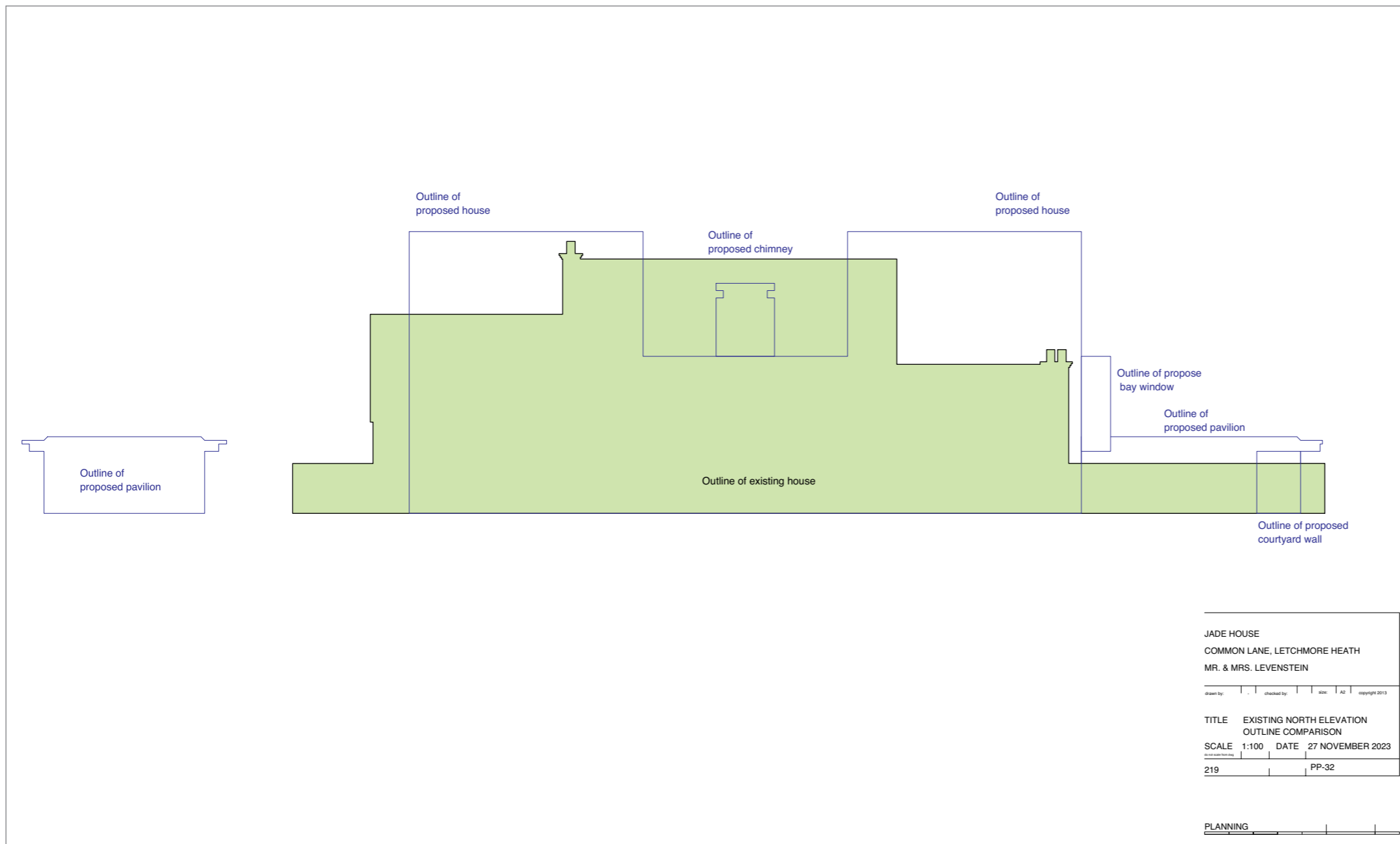
The footprint of the proposed house, expressed as a ratio to the site plot area, is 0.108, which is well below the ratios of all adjoining houses on Common Lane. The ratio demonstrates that the proportion of the site area occupied by a built structure is well below the existing context.

Post-2012 site plot area	3,365.5 m ²
Total existing building footprint	228.64 m ²
Ratio of footprint to plot area	0.068
Total proposed building footprint	364.35 m ²
Ratio of footprint to plot area	0.108

Ratios of neighbouring house footprint to site area:

Cookmead	0.135
Edgefield	0.142
Orchard View	0.126
Lamp Cottages	0.164
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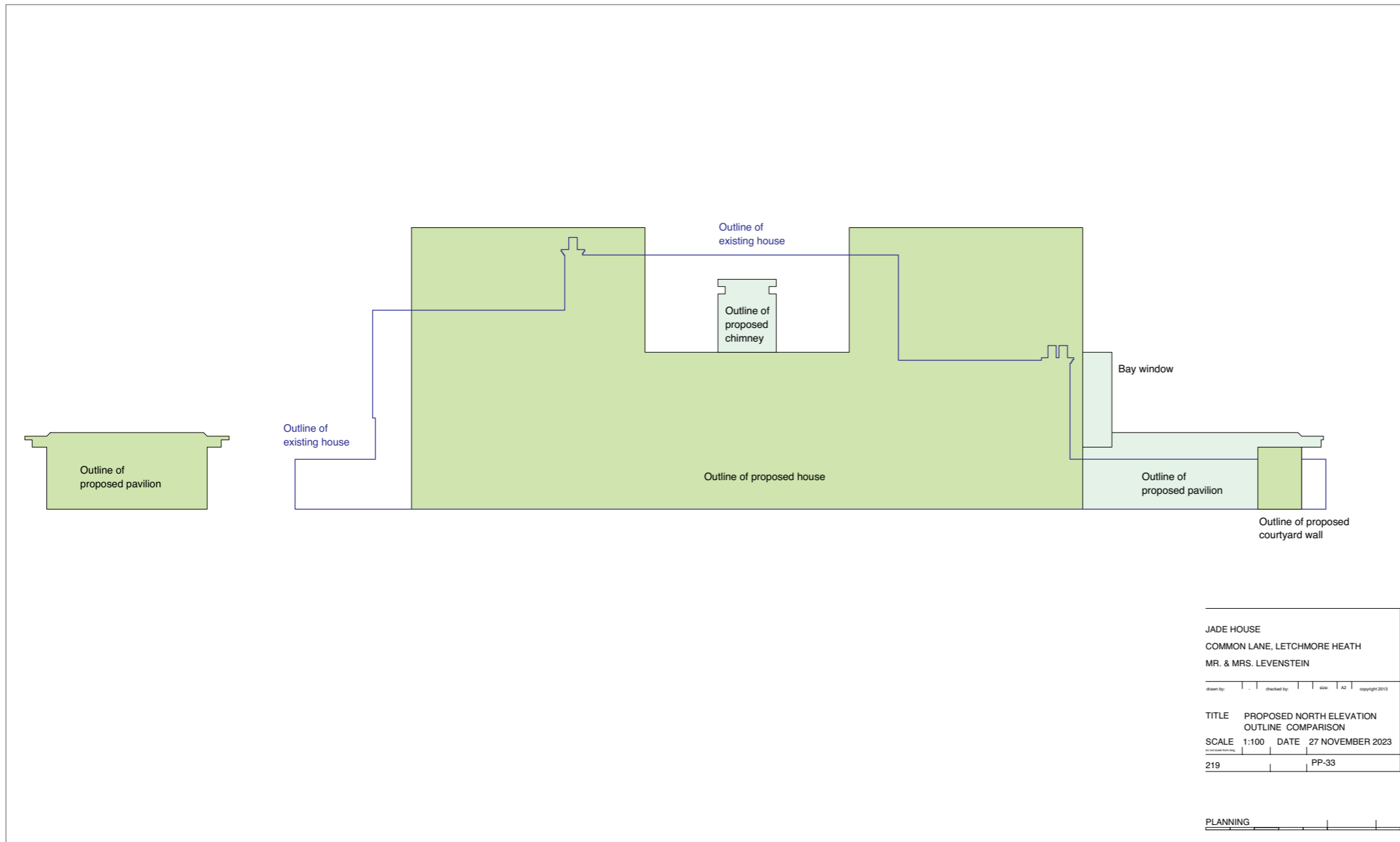
Site plan showing proposed house and neighbouring properties comparative plot ratios



Comparative north elevation outlines of existing and proposed house

10.0 Elevational Massing Comparisons

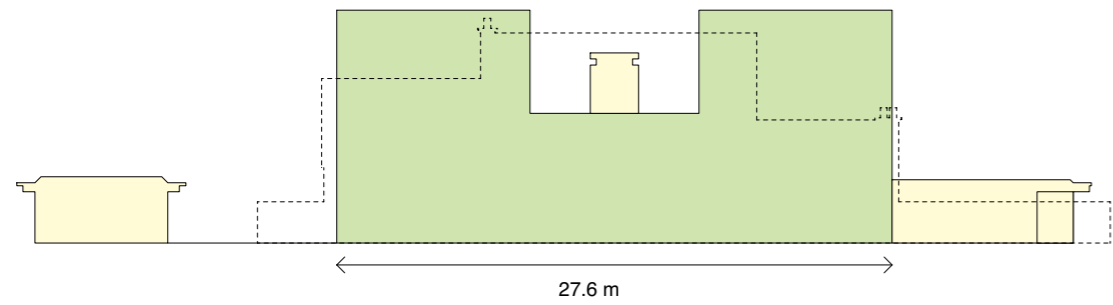
The drawing to the left shows the green coloured outline of the north elevation of the existing house, superimposed with the outline of the proposed house in blue line.



10.0 Elevation Massing Comparisons

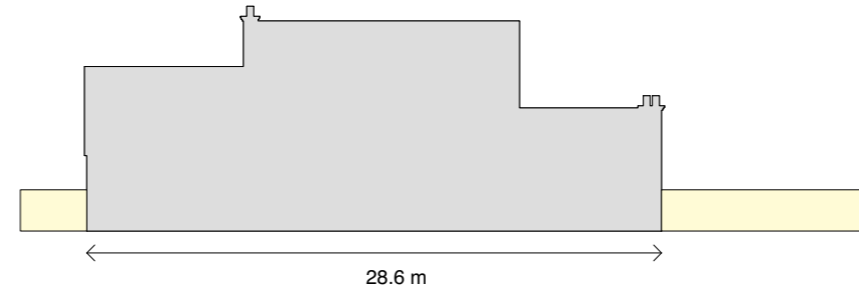
The drawing to the left shows the green coloured outline of the north elevation of the proposed house, superimposed with the outline of the existing house in blue line.

Comparative north elevation outlines of proposed and existing house

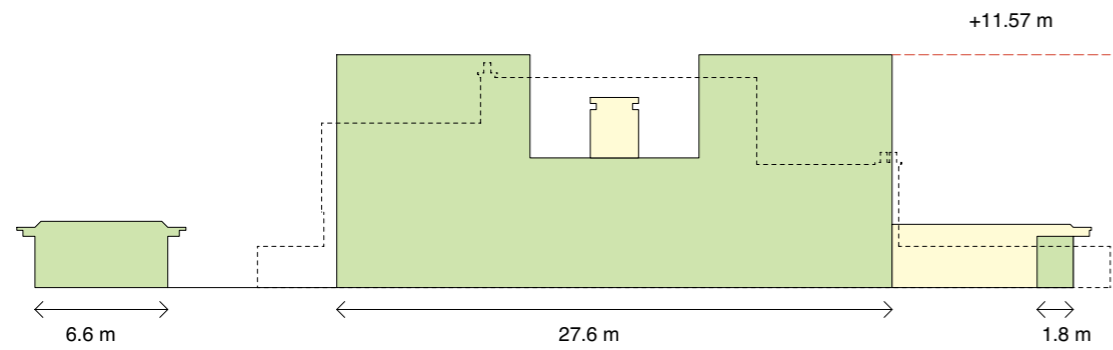


(27.6 m main house frontage excluding pavilions and brick garden wall)

PROPOSEDCOMMON LANE ELEVATION EXCLUDING BRICK GARDEN WALLS AND PAVILIONS

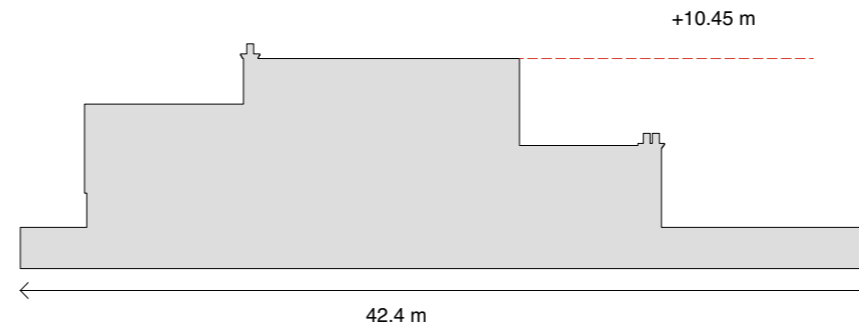


EXISTINGCOMMON LANE ELEVATION EXCLUDING BRICK GARDEN WALLS

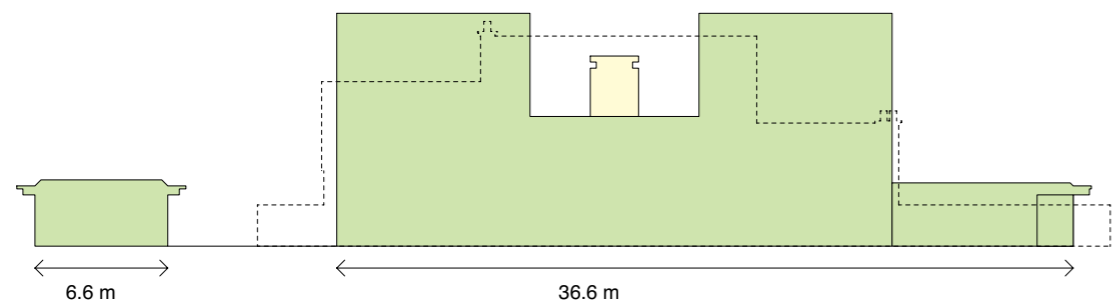


(36.0 m total combined frontage excluding gym and pool pavilion)

PROPOSEDCOMMON LANE ELEVATION

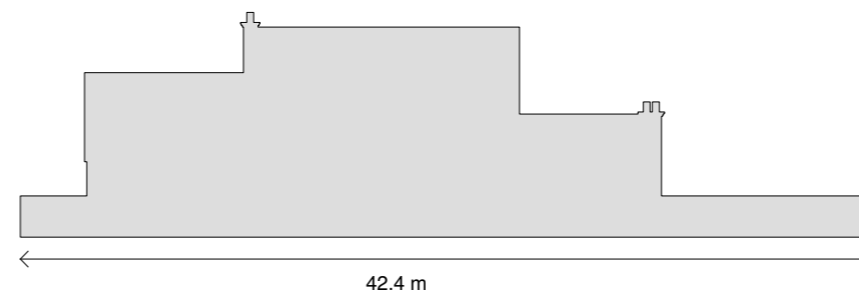


EXISTINGCOMMON LANE ELEVATION INCLUDING BRICK GARDEN WALLS



(43.2 m total combined frontage including gym and pool pavilion)

PROPOSEDCOMMON LANE ELEVATION



EXISTINGCOMMON LANE ELEVATION INCLUDING BRICK GARDEN WALLS

10.0 Dimensional Comparisons

The diagram (left) provides a comparison between the proposed house and the existing house width and height.

Building width

The width of the proposed main house to Common Lane (north elevation) is shorter than the width of the existing house by 1.0m, at 27.6m long.

The existing house includes tall brick garden walls which extend into the garden, creating a 42.4m long continuous frontage to Common Lane.

The proposed house has a total frontage to Common Lane of main house, detached pavilion, and courtyard enclosure wall of 36.0m. This represents a 6.4m reduction in building widths directly fronting Common Lane.

The second pavilion to the west side of the house is set well back into the plot from Common Lane so as not to present an enclosure and feeling of openness to the Green Belt by comparison. If however this pavilion was included in the overall length to Common Lane, the dimension of 43.2m length is only 800mm more than the current built frontage.

The real perception of the house frontage is however 36.0m, given the gym and pool pavilion is set well back from Common Lane.

Building height

The top of the roof of the proposed house is approximately 1.12m taller than the ridge of the existing house. However the massing of the new house creates a lower middle section flanked by the two pitched roofs, in order to avoid the massing of a large singular form, in an attempt to create a more sympathetic and granular massing form.

11.0 Planning application drawing schedule

Ref	Name	Scale
PE-01	Location Plan	1:1250
PE-02	Existing Site Plan	1:200
PE-03	Existing Ground Floor	1:100
PE-04	Existing First Floor	1:100
PE-05	Existing Second Floor	1:100
PE-06	Existing North Elevation	1:100
PE-07	Existing East Elevation	1:100
PE-08	Existing South Elevation	1:100
PE-09	Existing West Elevation	1:10
PE-10	Existing Tree Survey Plan	1:200
PE-11	Existing Comparative Site Plan Data	1:500
PP-01	Proposed Site Plan	1:200
PP-02	Proposed Landscape Plan	1:200
PP-03	Comparative Site Plan Data	1:500
PP-04	Proposed Demolition Plan	1:200
PP-05	Proposed Tree Removal Plan	1:200
PP-10	Proposed Ground Floor	1:100
PP-11	Proposed First Floor	1:100
PP-12	Proposed Second Floor	1:100
PP-13	Proposed Roof Plan	1:100
PP-20	Proposed North Elevation	1:100
PP-21	Proposed Detailed North Elevation of Main House	1:50
PP-22	Proposed East Elevation	1:100
PP-23	Proposed Detailed East Elevation	1:50
PP-24	Proposed South Elevation	1:100
PP-25	Proposed Detailed South Elevation of Main House	1:50
PP-26	Proposed West Elevation	1:100
PP-27	Proposed Detailed West Elevation with Garden Wall	1:50
PP-28	Proposed Detailed West Elevation without Garden Wall	1:50
PP-29	Proposed Pavilion Elevations	1:100
PP-30	Proposed Detailed Sections	1:50
PP-31	Proposed aerial sketch	NTS
PP-32	Existing north elevation outline comparison	1:100
PP-33	Proposed north elevation outline comparison	1:100
PP-34	Comparison of existing and proposed elevation outlines	1:200