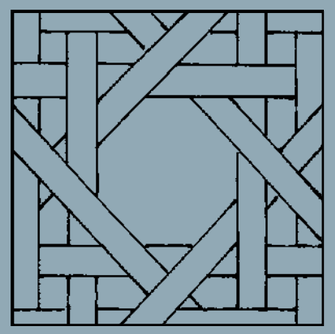

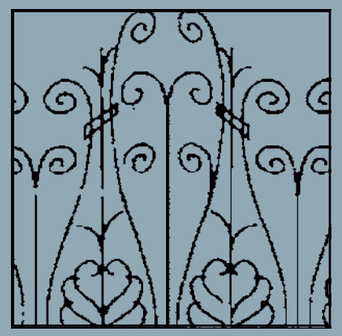

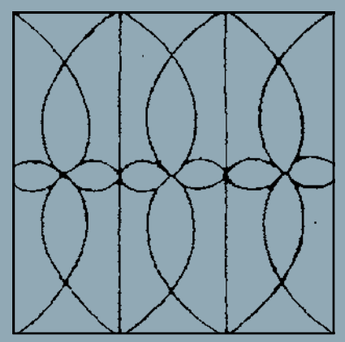

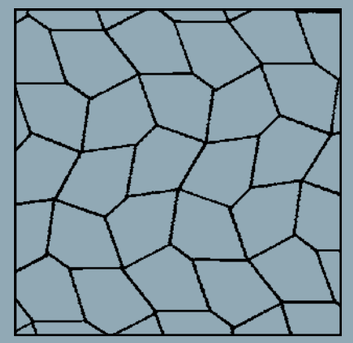

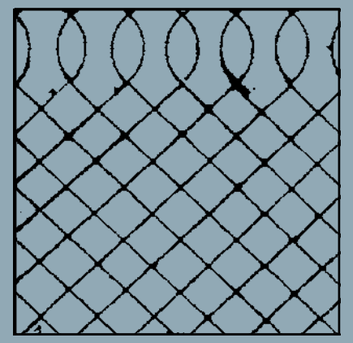

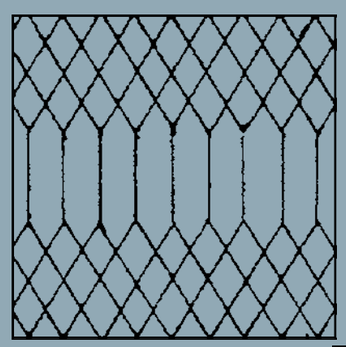

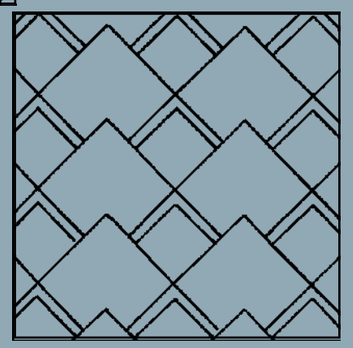

Project

26 Rosslyn Hill
NW3 1PA

Design and Access Statement

February 2023 - Rev 00

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26 Rosslyn Hill
NW3 1PA

Content

1.0

Introduction

1.1 Introduction

This Design and Access Statement has been prepared for the purpose of supporting a planning application for No. 26 Rosslyn Hill, NW3 1PA.

The commentary explains the design of the proposal, how it will positively contribute to the character and appearance of the conservation area and what improvement measures are being considered to better its energy performance and accessibility.

This document should be read in conjunction with the planning drawings and submission material.

1.0

Introduction

1.2 Project Brief

Our Clients, the owners of the existing house, have asked Charlton Brown Architects and MRPP Planning Consultants to assist with the development of a family home in Hampstead.

The brief is for a fully accessible and energy efficient five person family home which includes separate spaces for working from home.

The team developed a design that proposes the following actions:

1. Development of new five bedroom dwelling which is designed to be fully Accessible and Adaptable (compliant with Building Regulation Part M4(2)) as well as meeting the energy standard required by the CPG on Energy Efficiency and Adaptation.

2. Facade retention and demolition of remaining building fabric.

3. Relocation of Main Entrance to the side of the property at the Upper Ground Floor level.

4. New accessible approach route to new Main Entrance.

5. Increased floor to ceiling height at Lower Ground Floor

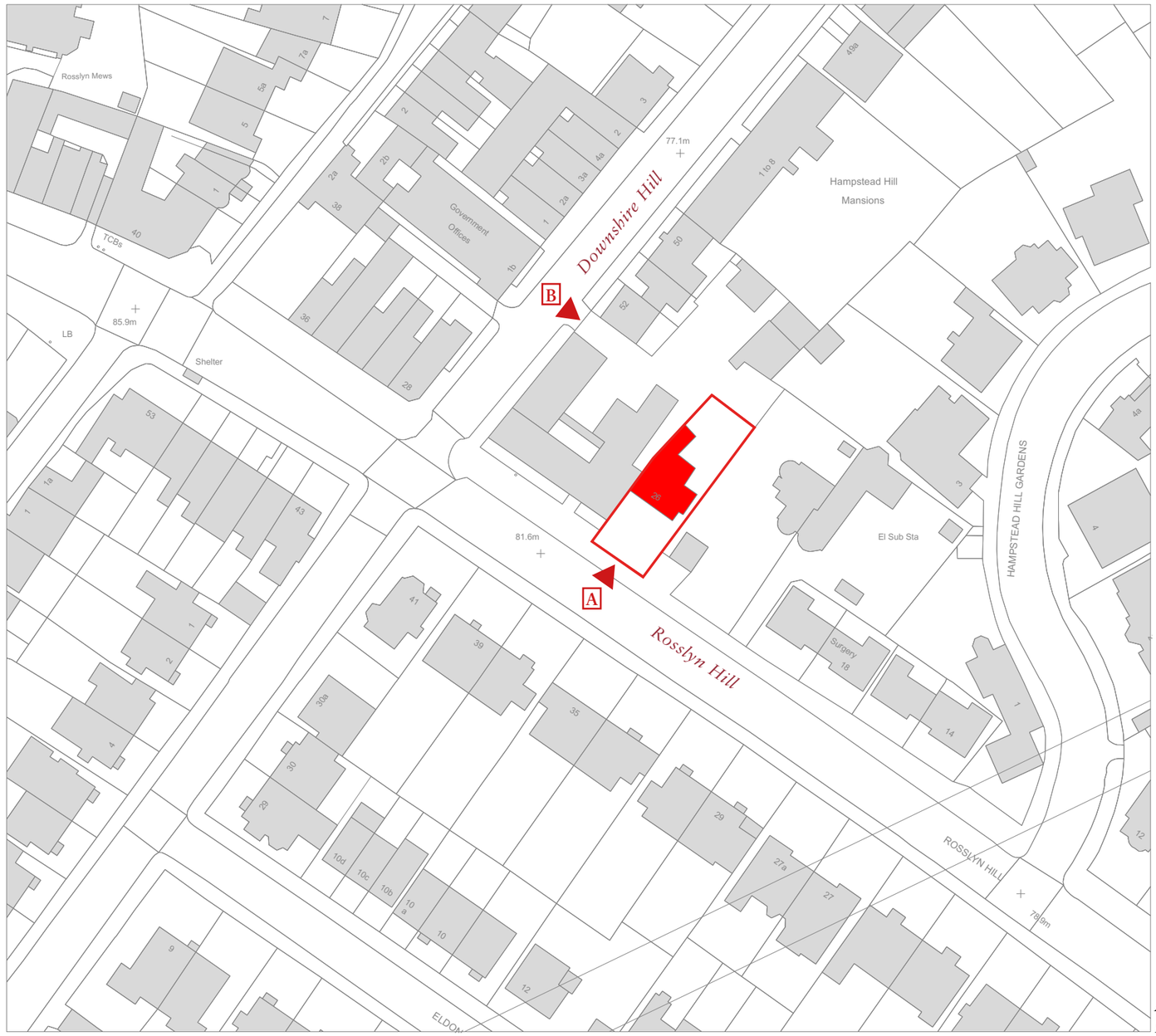
6. Increased floor to ceiling height at Loft Level to accommodate new habitable rooms.

1. Front of the house.

1.0

Introduction

1.3 Location Plan



A. Access from Rosslyn Hill
B. Access from Downshire Hill

1.0

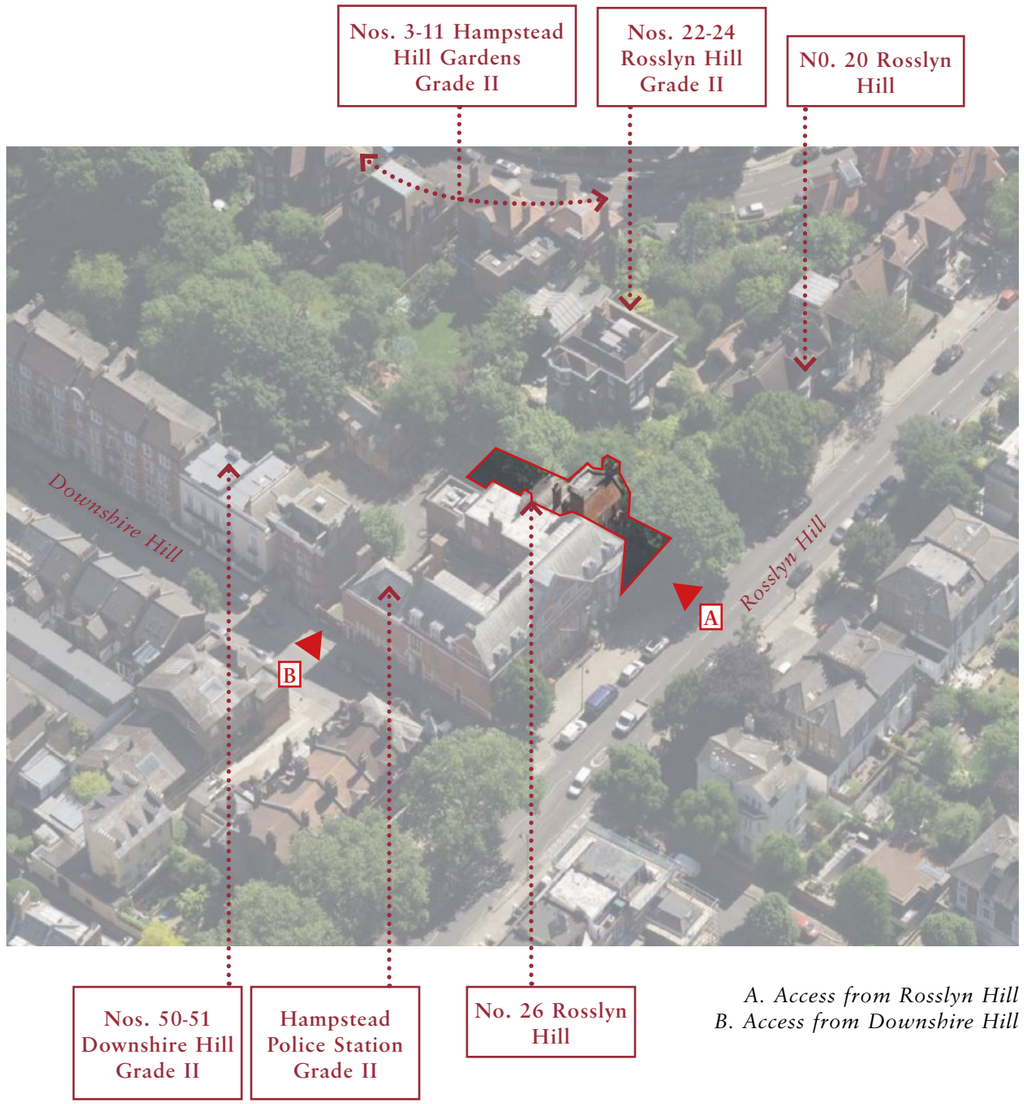
Introduction

1.4 Existing Site Plan

2.0

Site & Context

2.1 The Site & Access



A. Access from Rosslyn Hill
B. Access from Downshire Hill

1. Aerial View of 26 Rosslyn Hill (Image © 2022 Google)

Site

The property at no. 26 Rosslyn Hill is located on the north-east side of Rosslyn Hill. It abuts the Grade II listed Building of the Former Hampstead Police Station on its south-east side.
The site is located within the Hampstead Conservation Area. Unlike the Police Station, no. 26 Rosslyn Hill is set back from the street front and presents a small garden with a mature oak tree.
A side passage on the south-east side of the property connects the front garden to the rear courtyard.
On the south-east side of the building, a tall boundary wall separates the property from the garden of nos.22-24 Rosslyn Hill, which is also a Grade II listed building.
On the street front, the tall boundary wall interrupts and leaves space for a low trellis that hides part of a single storey garage building belonging to nos.22-24 Rosslyn Hill.

Access

The front garden, can be accessed via two openings from Rosslyn Hill, both of which are gated.
The rear of the propriety is accessible via a gate located on Downshire Hill, between the Hampstead Police Station and no.52 Downshire Hill, previously used to access the station's parking yard.

Neither the front access or the rear access currently provide wheelchair access due to the difference in ground levels.

2.0

Site & Context

2.2 Access Photos

1.

2.

3.

1. Gate Access from Rosslyn Hill
2. Existing Main Entrance at the front of the property at Lower ground Floor level
3. Side access to the property from the rear Courtyard

2.0

Site & Context

2.3 Conservation Area

Hampstead Conservation Area

Hampstead has an exceptional combination of characteristics that provide the distinct and special qualities of the Conservation Area: the variety of spaces, quality of the buildings, relationships between areas, all laid upon the dramatic setting of the steep slopes.

The contrast between the dense urban heart of Hampstead and the spaciousness of the outer areas is one of its major characteristics.

It also demonstrates its historic development with the 18th century village still evident, adjacent to the streets created in the Victorian era, as well as many 20th century contributions.

The property at no. 26 Rosslyn Hill is situated in the Heath Street and Hampstead High Street Sub Area of the Hampstead Conservation Area, at the south end of the sub area and has been identified as a positive contributor to the area.

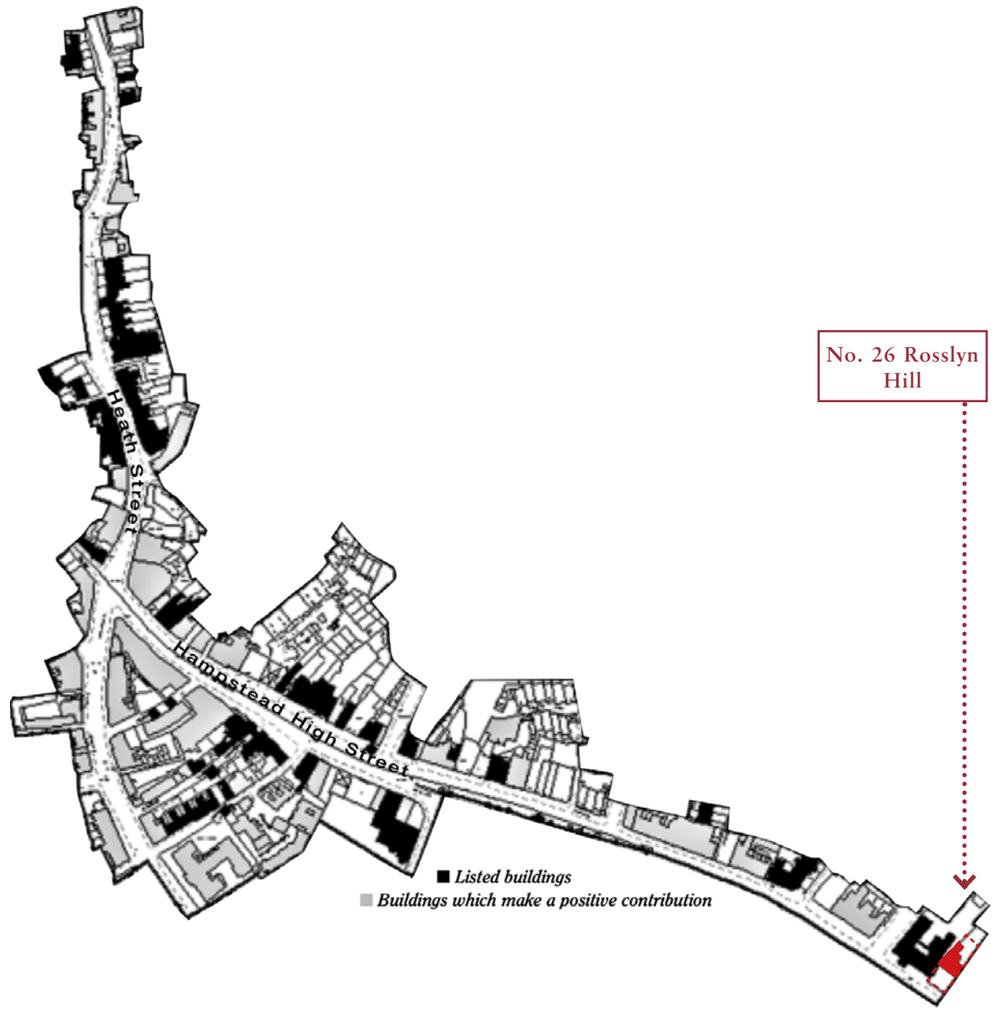
Heath Street and Hampstead High Street Sub Area

Heath Street and Hampstead High Street is the central spine of Hampstead, the route north from London over the Heath around which the settlement developed.

As a major route it has developed as a shopping centre and is defined in the Local Plan as Hampstead Town Centre.

Rosslyn Hill

Between Willoughby Road and Downshire Hill the shopping frontage continues [from Hampstead High Street] and the majority of the buildings are 1880s four storey terraces with a number of embellishments and designs including stone dressings,



Sub Area 2 of Hampstead Conservation Area from the Hampstead Conservation Area Appraisal

gable roofs, bay windows at first floor level. The magnificent red brick Queen Anne style block comprising Lloyd's Bank and the two adjacent houses (Nos.1 & 3 Pilgrim's Lane) were designed by Horace Field in 1896.

The Police Station and Magistrates Court (now closed) end this sub-area together with the property at 26 Rosslyn Hill. The Police Station and Magistrates Court is a red brick building with stone dressings by J Dixon Butler (1910-13).

2.0

Site & Context

2.4 Street View

1. Street View of 26 Rosslyn Hill (Image © 2022 Google)

2.5 Existing Front Elevation

1. No. 26 Rosslyn Hill Existing Front Elevation

2.6 Existing Street View Elevation

1. No. 26 Rosslyn Hill Existing Front Elevation

2.0

Site & Context

2.7 Neighbouring Buildings - Former Police Station and Courthouse

1. Aerial View of the Police Station and Courthouse (Image © 2022 Google)

2.0

Site & Context

2.7 Neighbouring Buildings - Former Police Station and Courthouse

On its north-west side, no.26 Rosslyn Hill abuts the Grade II Listed Building of the Former Police Station and Courthouse.

The Hampstead Police Station and Magistrates' Court was designed in **1912 by John Dixon Butler**, Architect and Surveyor to the Metropolitan Police, and opened in December the following year. It was an early example of a combined police station and petty sessions court, and was one of the first courts to include facilities for juvenile offenders. It remained in its original use for just short of a century, closing in 2013.

The building is roughly U-shaped and stands on a corner plot, with the principal elevation facing onto Rosslyn Hill, and the return wings facing onto Downshire Hill and projecting into the rear courtyard.

From the plans it is clear that the functions of the building were physically separated internally, and were accessed from **separate external entrances**. The Rosslyn Hill range was largely dedicated to use by the police, the Downshire Hill range held the courthouse and associated facilities on the ground and first floors.

There is a **detached block** within the rear courtyard which is understood to have originated as a stable and harness room, later converted to offices. The block is also included in the listing together with the railings and lamps at the front of the property.

The building is constructed from **red brick laid in Flemish bond**, with **glazed bricks** to the basement and plinth, with **limestone dressings**, **slate roofs** and **brick chimney stacks**.

The **principal elevation** faces onto Rosslyn Hill and is two storeys plus attic and basement.
It is symmetrical in its general form, though on the right-hand side a picturesquely grouped set of features offset the otherwise rhythmical elevation; a short flight of steps leads to the double panelled front doors, which stand within a richly moulded architrave with an open pediment supported on elongated console brackets, with a large keystone beneath the inscription 'POLICE'. Above, there is an oculus lined in moulded stone, and to the right, a canted bay window rises from the basement.

The **courtyard-facing elevations** are more utilitarian, and are **obscured by later 20th Century additions**, including the rebuilt covered stair between the charge room and court, a brick lean-to, caged walkways, and fire escape stairs.

The former stable block and harness room stand are partially obscured by a late 20th Century extension.

The building had been converted to offices by 1986, and is not believed to contain any features related to its original use.

Hampstead Police Station (Image © 2008 Alex Gunningam)

2.0

Site & Context

2.7 Neighbouring Buildings - Former Police Station and Courthouse

1.

2.

3.

1. View of the Former Police Station & Courthouse from the rear courtyard of 26 Rosslyn Hill.
2. View of the detached block, previously used as stable and harness room, from the rear courtyard.
3. View of the Former Police Station and Courthouse from Downshire Hill.

2.7 Neighbouring Buildings - Former Police Station and Courthouse

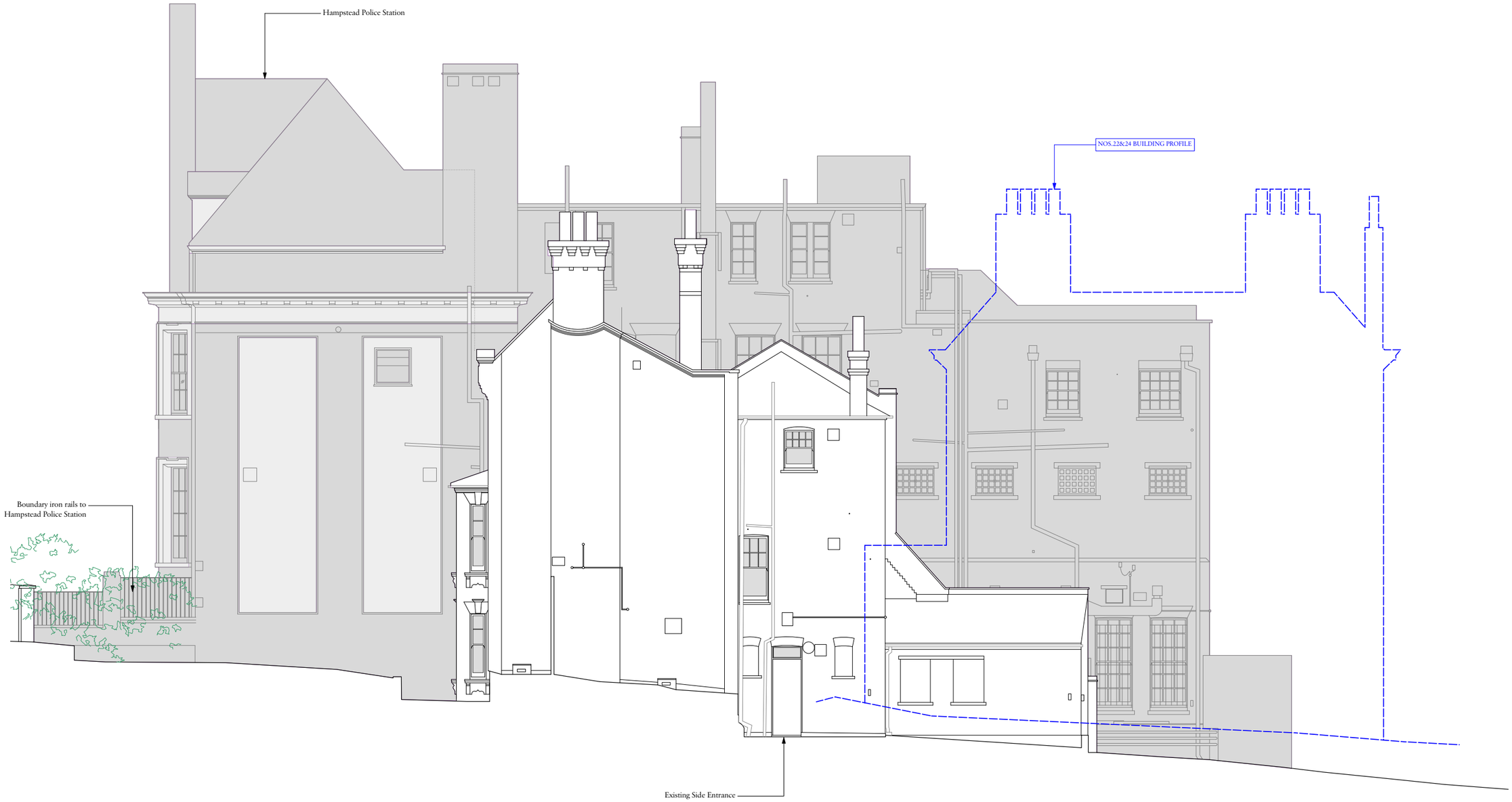
1.

2.

1&2. View of the rear facade of the Former Police Station & Courthouse from rear courtyard of 26 Rosslyn Hill.

Site & Context

2.8 Existing South Elevation



1. No.26 Rosslyn Hill Existing South Elevation

2.0

Site & Context

2.9 Neighbouring Buildings - Nos.22&24 Rosslyn Hill

1. Aerial View of the Nos.22&24 Rosslyn Hill (Image © 2022 Google)

2.0

Site & Context

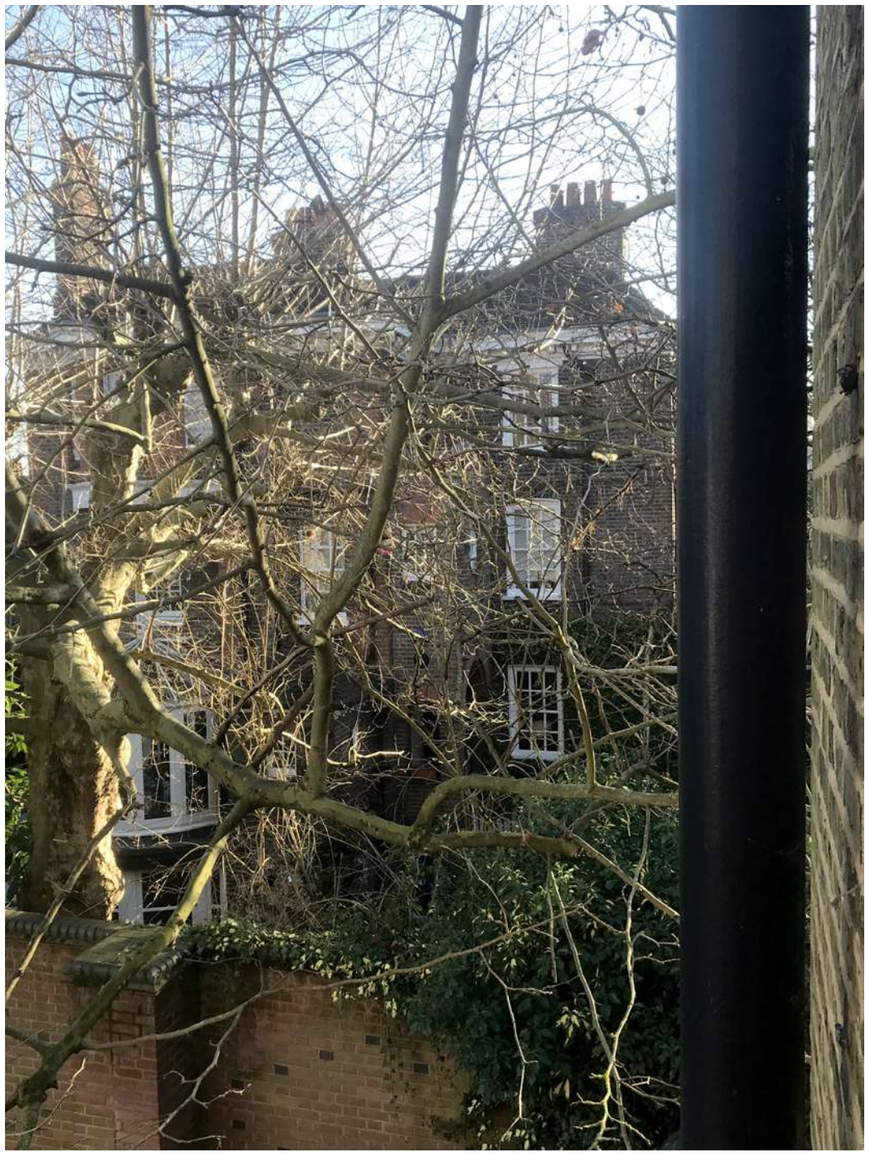
2.9 Nos. 22-24 Rosslyn Hill - Grade II Listed Building

On the south-east side of no. 26 Rosslyn Hill we can find the Grade II Listed Building of nos. 22-24 Rosslyn Hill.

Nos. 22&24 are a mid **19th Century** rebuilt of an 18th Century detached house and it is currently internally split to accommodate **two different households**.

The property is a **three storey building and basement**.
The material utilised in the facade are multi-coloured stock brick with bands at floor levels. Tiled hipped roof with central slab chimney-stack and modillion eaves cornice.

1.



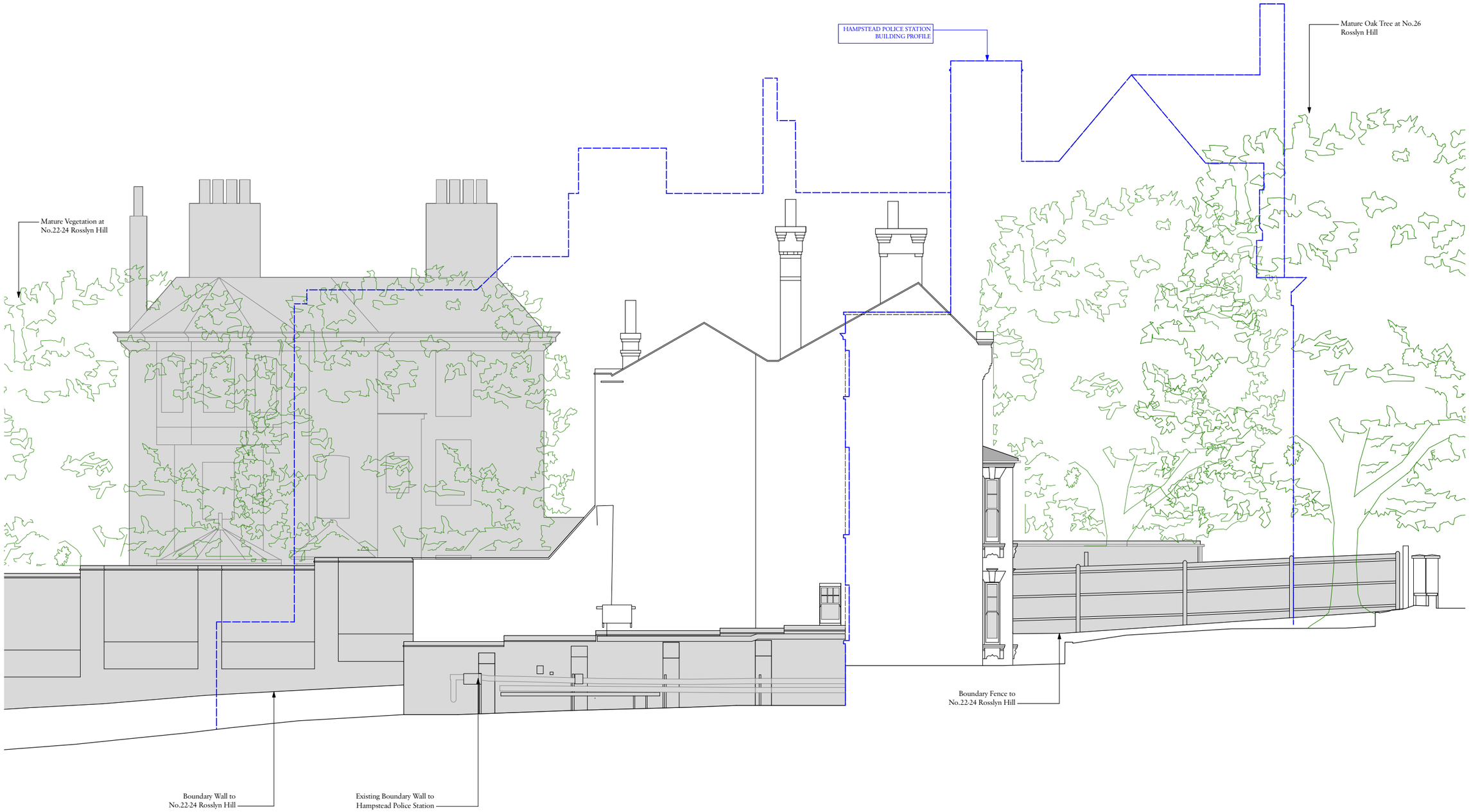
2.

1&2. Nos. 22&24 as seen from no. 26 Rosslyn Hill rear windows.

2.0

Site & Context

2.10 Existing North Elevation



1. No.26 Rosslyn Hill Existing North Elevation

2.0

Site & Context

2.11 Neighbouring Buildings - Nos. 50&51 Downshire Hill

1. Aerial View of Nos.50&51 Downshire Hill (Image © 2022 Google)

2.0

Site & Context

2.11 Neighbouring Buildings - Nos. 50&51 Downshire Hill

At the rear of 26 Rosslyn Hill, sharing the same courtyard, is a pair of mid Century terraced houses at nos.50&51.

The buildings rise on **three storeys with attics and basements**.

The property at no.50 includes a central prostyle portico, doorway with pilaster-jambs, cornice-head, patterned fanlight and panelled door approached by steps with attached cast-iron railings and balcony.

The property at no.51 presents a doorway with pilasters, bracketed hood, fanlight and panelled door, casements windows similar to No.50.

1. Street View of Nos.50&51 Downshire Hill

2. View of Nos.50&51 Downshire Hill from rear courtyard

2.0

Site & Context

2.12 Existing Rear Elevation

1. No.26 Rosslyn Hill Existing Rear Elevation

3.0

Proposal

3.1 Case for Demolition

Accessibility

The existing building presents significant challenges to accessibility.

The house was originally designed to follow the characteristic hilly ground of Hampstead.
The main entrance, at the front of the property, is set well below the street level. The front garden path presents two sets of steps to reach the main entrance.

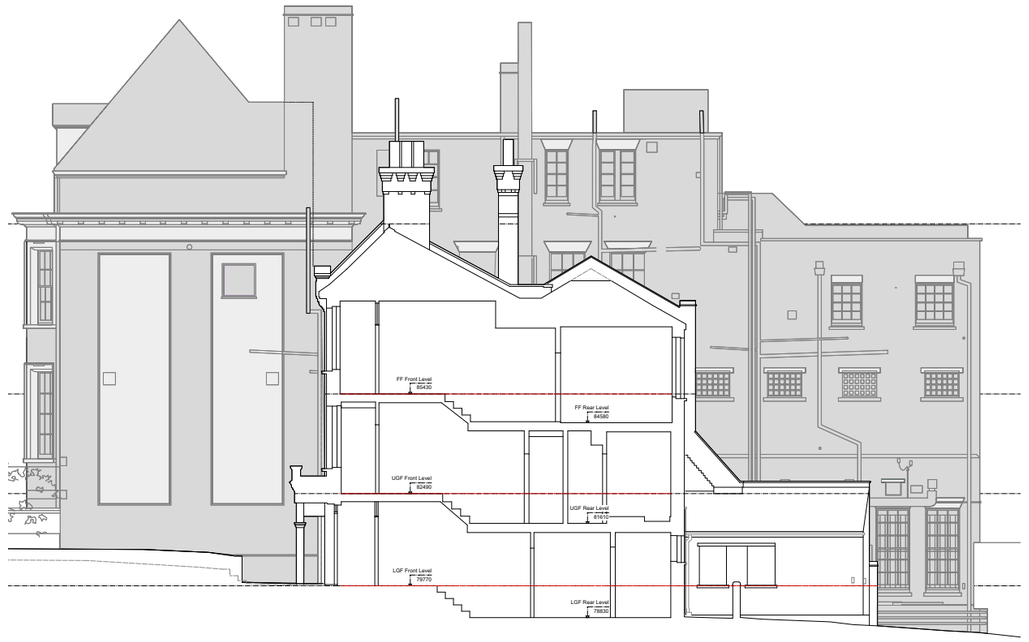
A narrow side passage, that connects the front garden to the rear garden, also presents a steep set of steps that leads to the back yard which is set almost **3.5m below street level**.

The building's internal circulation also reflect the site topography. The building was designed on **split levels**: the front lower ground floor level sits almost **1m** above the rear lower ground floor level.

The split level arrangement also continues on upper ground floor and first floor.

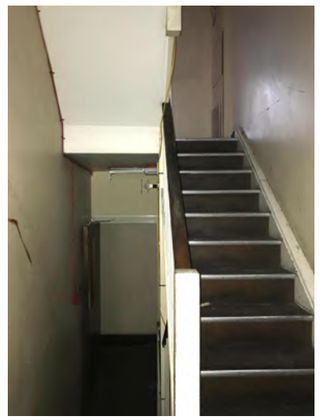
This arrangement, not only prevents the building from being accessible for wheelchair users, but clearly gives rise to a very **disorganised layout** that lacks hierarchy and prevents the organisations of spaces into main rooms and ancillary rooms of a suitable size to serve the purpose of modern living.

As shown on the section drawing (fig.4), in order to remove the split levels, the internals of the building would need to be taken out completely and the rear façade redesigned to make the window sills compliant.

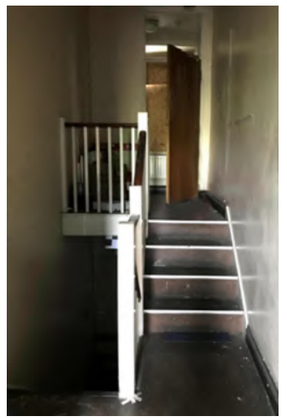


4. Drawings showing (in red) the consequences of eliminating the split level circulation whilst retaining the same building.

1. Image showing the split levels at Lower Ground Floor Level



2. Image showing the split levels at Upper Ground Floor Level



3. Image showing the split levels at 1st Floor Level

3.0

Proposal

3.1 Case for Demolition

Building Performance

The building fabric at 26 Rosslyn Hill is of traditional construction and does not meet the current minimum building standards.

The main structure is composed of uninsulated solid walls, the ground floor is uninsulated and lacks a floor void for ventilation, the windows are all single glazed.

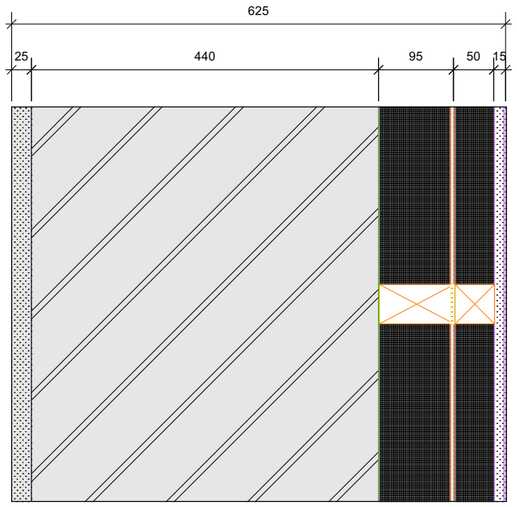
A retrofit of the existing building will face the challenges of integrating improvement measures within the context of the conservation area, which will result in less than optimal fabric insulation and airtightness.

As shown in fig.1 and fig.2 the internal wall insulation proposed for the front façade reaches a U-Value nearly double the one of the full filled cavity wall proposed for the new walls.

As part of this planning application, Charlton Brown Architects engaged with the Sustainability Consultants SRE who provided a Whole Life Carbon Analysis (WLCA) of the proposed development as well as a comparative WLCA of an alternative refurbishment scheme.

The result show a that the proposed development will have a cradle to grave emission of **13.30 tonnes CO_2e less** than the projected emission produced from the retained and extended refurbished scenario over a lifespan of 60 years.

The conclusion is that our proposal (to demolish and rebuild behind the retained facade) is a significantly greener, more energy-efficient, and more sustainable long-term solution than refurbishing and extending the existing building.

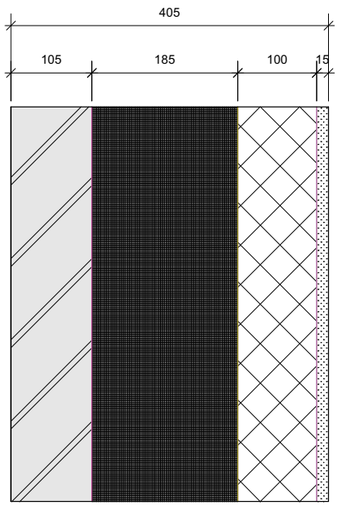


WT-1

Existing Facade
U-Value 0.27 W/m2K

25mm Render
440 mm Existing Brickwork
95mm Ecostuds @600 c/c (0.30 W/m2K) with:
90mm ISOVER Timber Frame Batt 32 (0.032W/mK) in between
- VCL ProClima Intello Plus
50mm Timber Studs FSC @600 c/c to form service gap with:
50mm Mineral wool in between
12mm Plasterboard
3mm Skim

1. Proposed IWI to existing wall



WT-3

New Cavity Wall
U-Value 0.15 W/m2K

102.5 mm Brickwork
185 mm DriTherm Cavity Slab 32
140 mm Hanson Fenlite Background Solid Concrete Block
15 mm Wet Plaster

2. Proposed new wall

3.0

Proposal

3.2 The Proposal

The proposal seeks to redevelop the house to make it suitable as a five bedroom residential property.

The access is relocated on the south side of the property at Upper Ground Floor Level and can be reached via an accessible approach route from the front garden. The upper Ground Floor Level accommodates the reception rooms as well as a home office to facilitate remote working.

The staircase that connects all floors, has been designed so that is can accommodate a passenger lift that would make the whole building accessible for wheelchair users.

The Lower Ground Floor Level is dedicated to the family daily activities and presents large glazed opening toward a small garden. At this level the proposal retains service access to the property both at the front and at the rear. This facilitate the logistics of all those activities connected to the kitchen, such as grocery delivery and waste management.
The back of the house area offers ample space for bike storage as well.

The proposal incorporates the lowering of the original ground level at the front of the property to improve the floor to ceiling height, as well as raising the ground level at the rear of the property to match the front.

The proposal also seeks to raise the original ridge level in order increase the floor to ceiling height of the attic space and make it habitable.
In this way the two top floor can be dedicated to the bedroom areas.

The building elevations are very sympathetic to the neighbouring buildings.

In particular the proposal seeks to retain the front facade which positively contributes to Conservation Area.
The new development also maintains the original style of the building, recalling features and details found within the conservation area.

The south and north façades have been designed in a simple manner and avoid overlooking into the neighbouring properties.

The rear facade presents more openings, allowing plenty of natural light into the property and a newly found connection with the rear garden.

3.0

Proposal

3.3 Front Elevation

The house has been identified as a positive contributor to the Conservation Area, thus the proposal retains the existing front facade.

However in order to achieve a suitable internal floor to ceiling height, the proposal seeks to modestly raise the ridge level as well as lowering the ground level.

Those interventions will allow for new habitable rooms at attic level, and more liveable rooms at lower ground floor level.

The ramp that provides the accessible approach route to the Upper Ground Floor Level, terminates with a portico which has been designed in keeping with the traditional facade and complies with part M4(2).

3.0

Proposal

3.4 Street View Front Elevation

3.0

Proposal

3.5 Street View Front Elevations - Comparison

1. Existing Street View

1. Proposed Street View

3.0

Proposal

3.6 Rosslyn Hill Street View CGI - Comparison

1. Existing Street View

2. Proposed Street View

3.0

Proposal

3.7 Rosslyn Hill Street View CGI - Comparison

1. Existing Street View

2. Proposed Street View

3.0

Proposal

3.8 Rear Elevation

The existing real elevation and yard of the building present no particular architectural value and are adjacent to the rear elevation of the Police Station that have been obscured by unsympathetic addition from the 20th Century.

The proposal seeks to rebuild the rear of the building in a style which is coherent with the Conservation area.
The new scheme positively contributes to the amenity of the rear exterior space by proposing a new garden at lower Ground Floor level.

3.9 Rear Boundary View Elevation

3.10 Rear Boundary View Elevations - Comparison

1. Existing Boundary View

1. Proposed Boundary View

3.0

Proposal

3.11 South Elevation

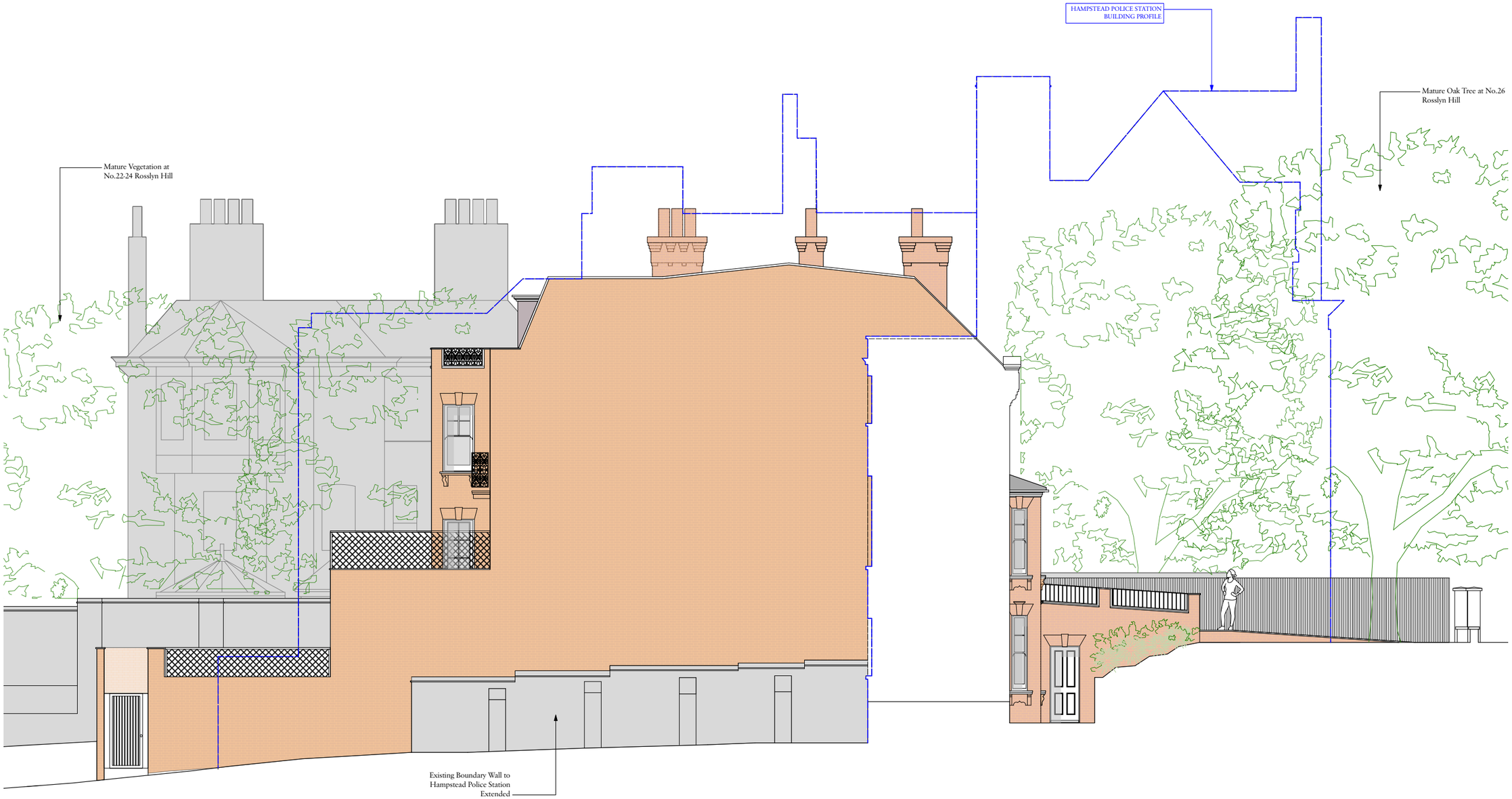
Careful attention has been paid to the South elevation which faces the listed building at Nos.22-24 Rosslyn Hill and is partially visible from the street scape.

A traditional approach has been followed, retaining key elements such as the chimney stack and the pitch roof. The new obscured window matches those on the front elevation.

3.0

Proposal

3.12 North Elevation



The North elevation partially abuts to the Police Station and Courthouse. The proposal carefully avoids any opening on this side of the development and provides privacy screens to protect all terraces from overlooking.

At the front of the property,under the access ramp, the service entrance is located.

3.13 Downshire Hill Street View CGI - Comparison

1. Existing Street View from Downshire Hill

2. Proposed Street View from Downshire Hill

3.0

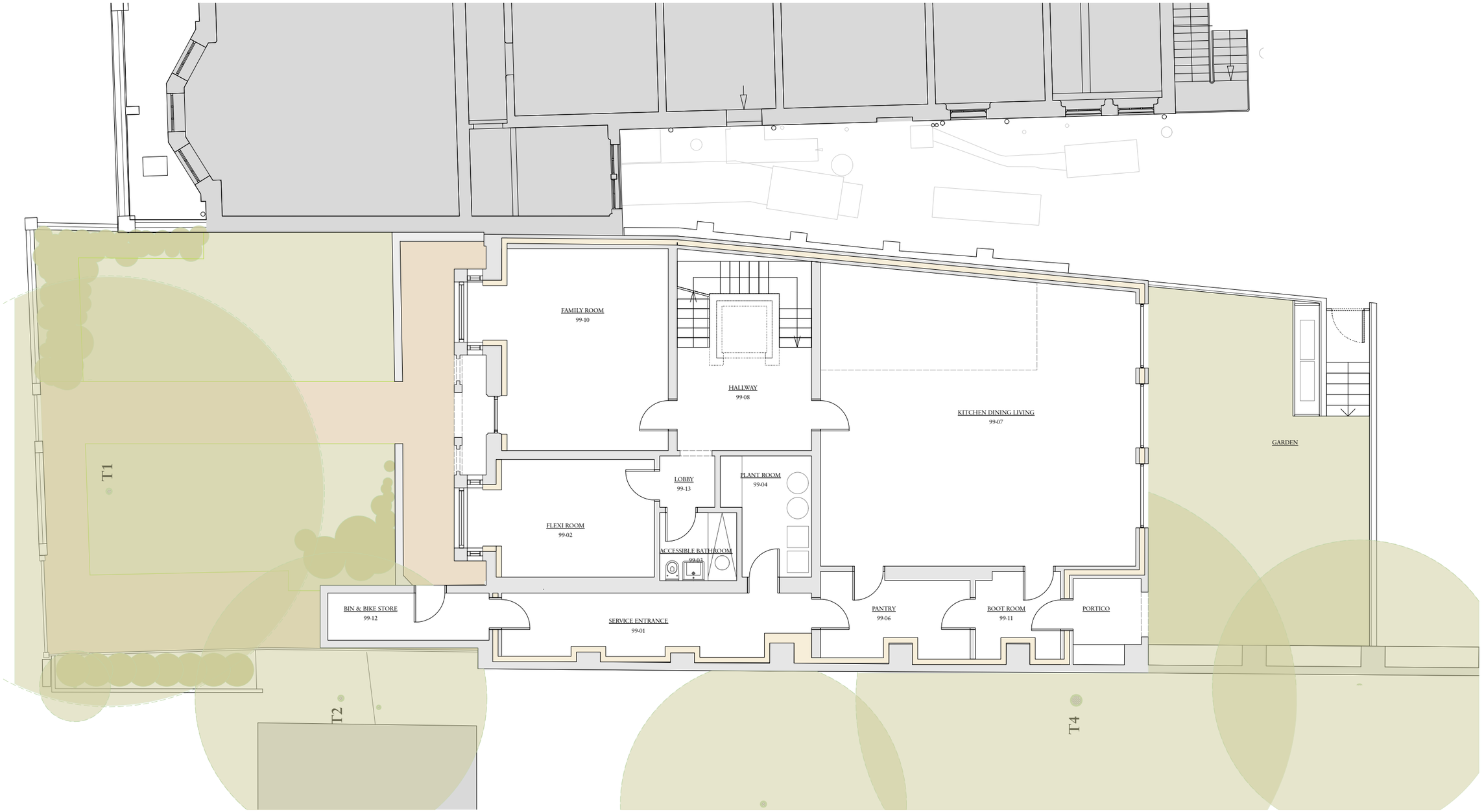
Proposal

3.14 Proposed Site Plan

3.0

Proposal

3.15 Lower Ground Floor - Proposed



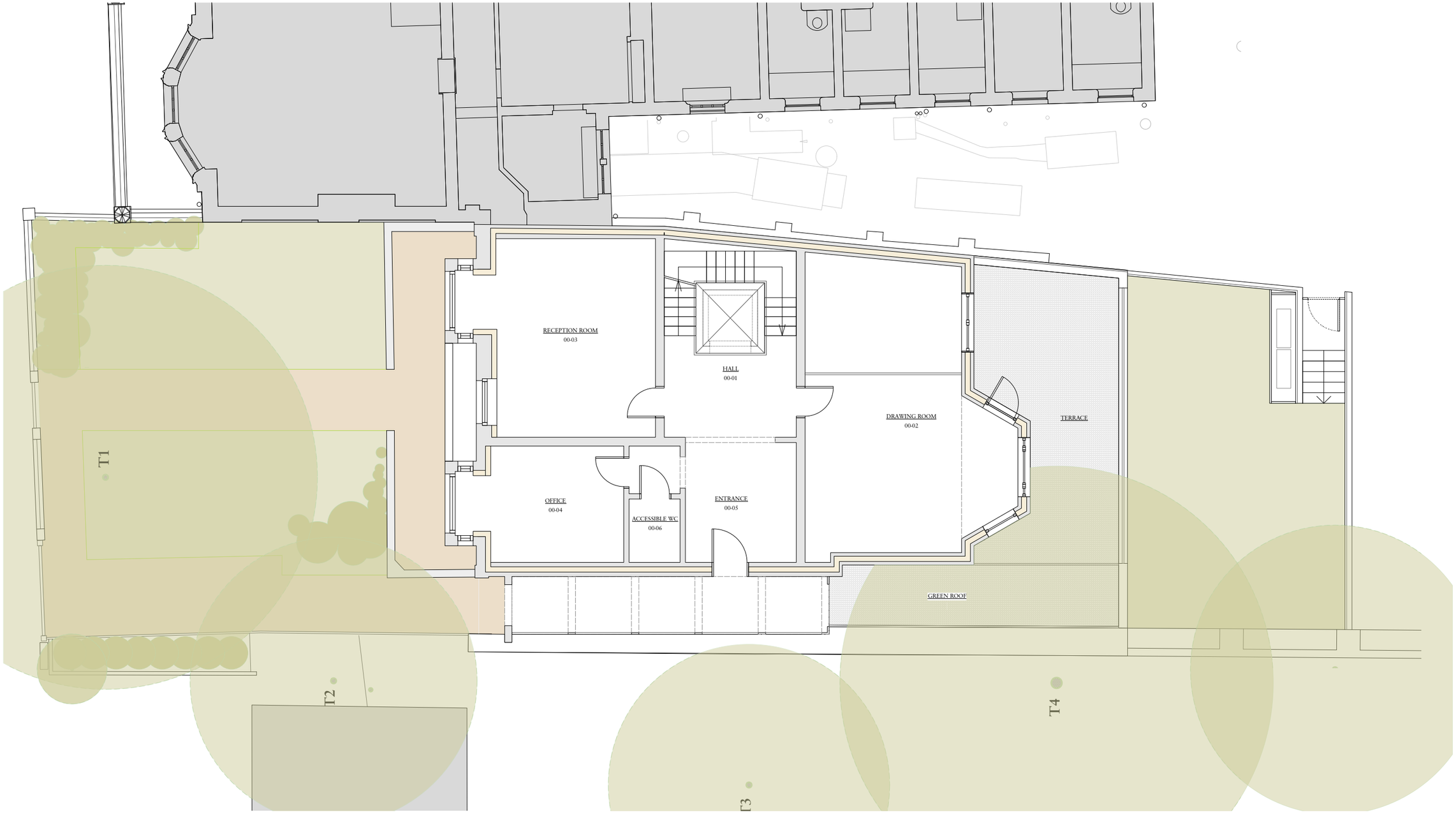
The Lower Ground Floor accommodates a modern open plan Kitchen and Dining, that benefits from the large openings toward the new garden.

The proposal seeks to infill the side passage that connects the front and rear of the property, thus creating new space for all the back of the house activities. This level retains access both from the front and rear of the property.

3.0

Proposal

3.16 Upper Ground Floor - Proposed

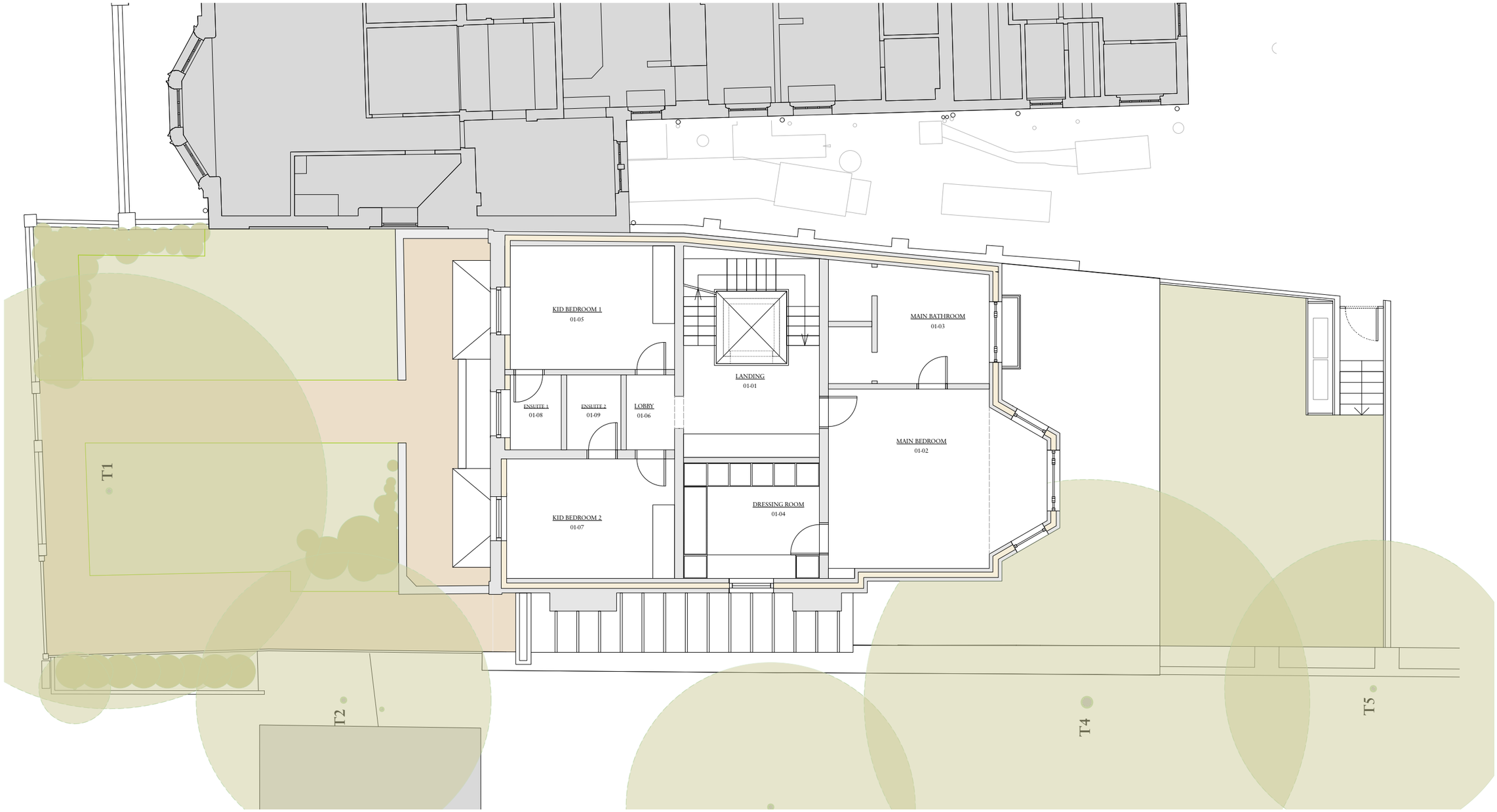


The proposal seeks to relocate the access to the property to the south side of the Upper Ground Floor Level.
This will allow for an accessible approach route from the Rosslyn Hill access to the property.
This level accommodates the living rooms as well as a home office and an accessible WC.

3.0

Proposal

3.17 First Floor - Proposed

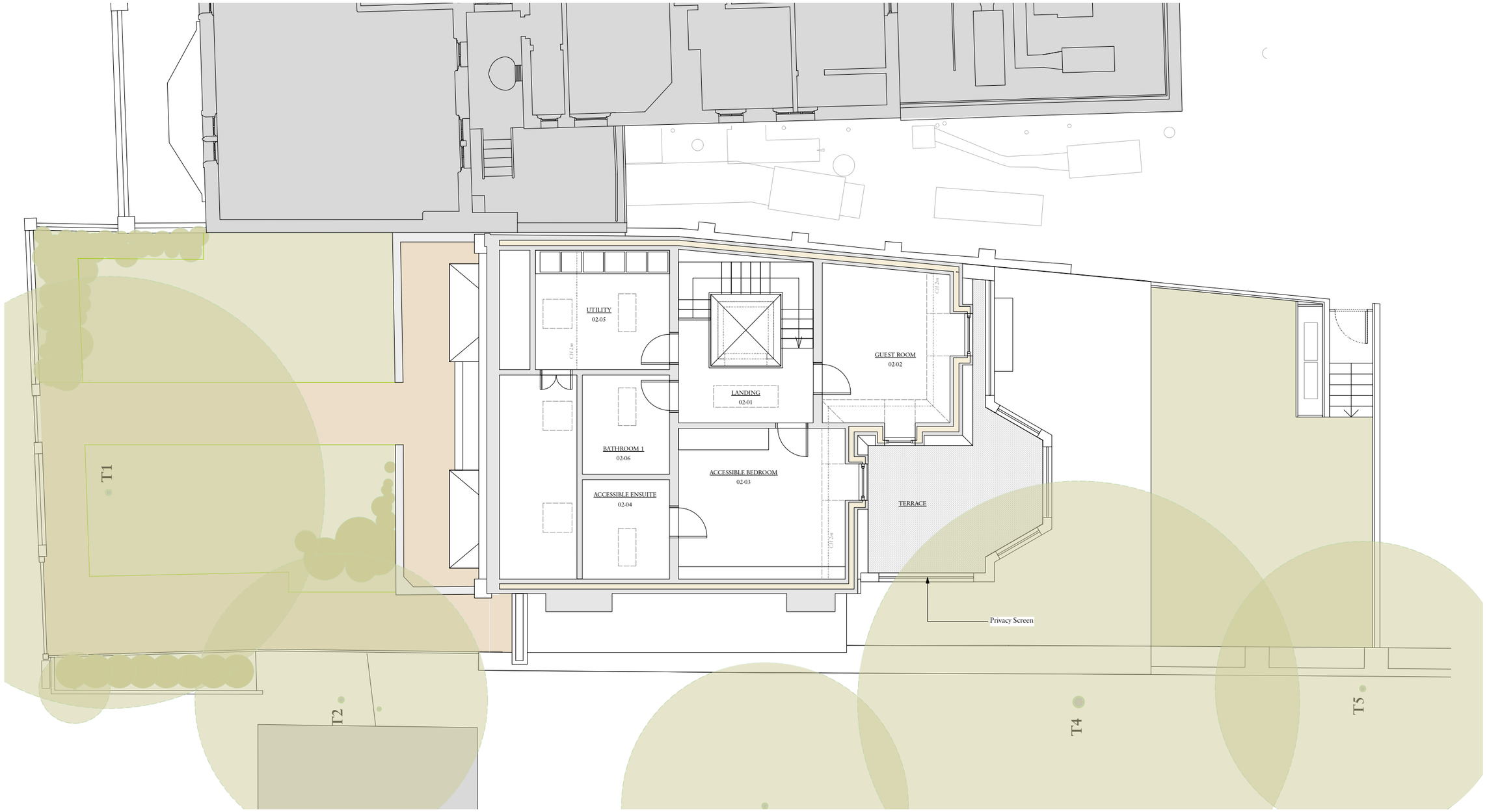


The First Floor plan works as the night time area for the family providing one Main Bedroom facing the garden and two secondary bedrooms facing the street.

3.0

Proposal

3.18 Attic Floor Plan - Proposed



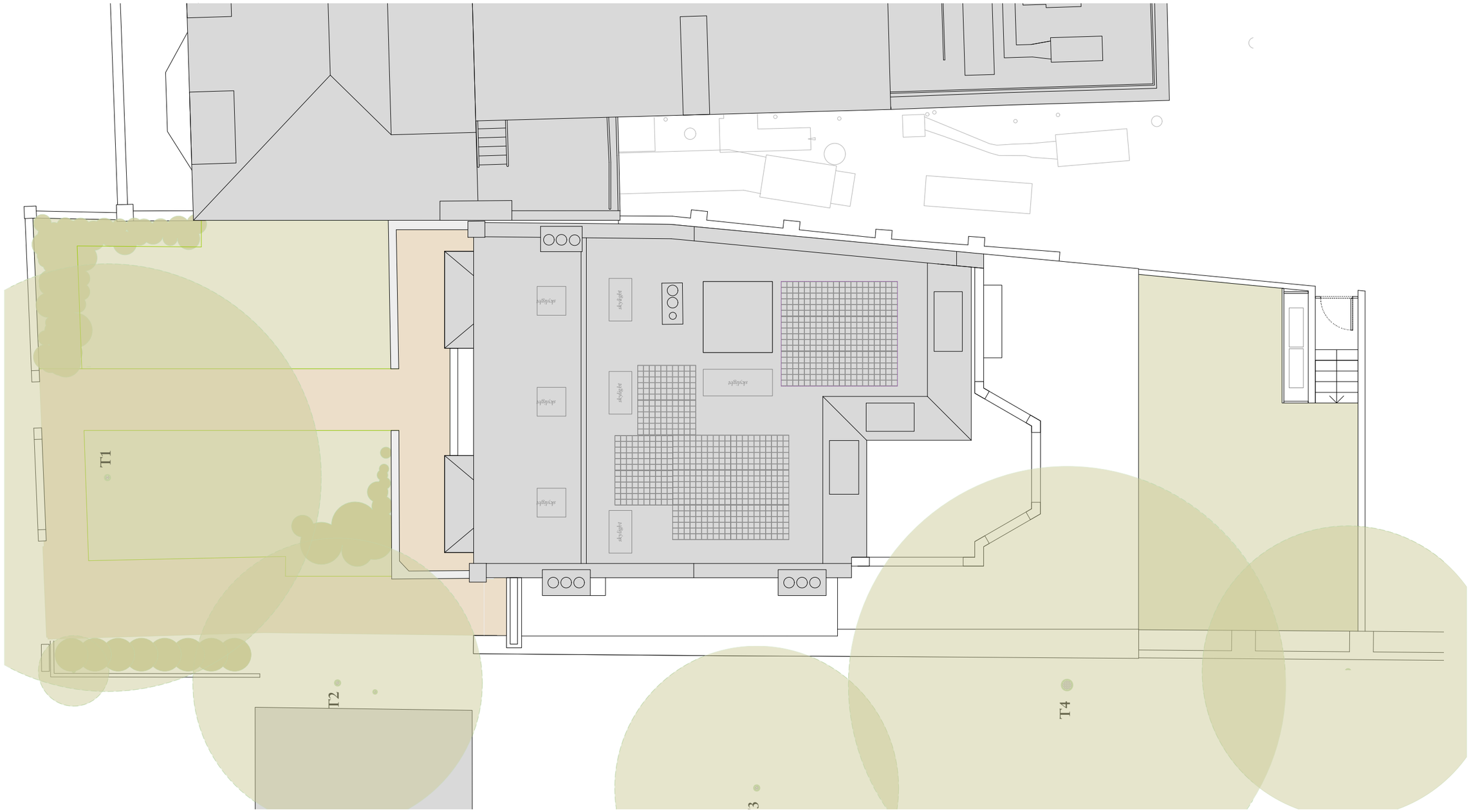
The proposal seeks to increase the floor to ceiling height at Attic Level to accommodate one bedroom with private en suite which is fully accessible and also provides utility space.

The floor is designed to maximise flexibility and might work as a self contained accommodation for an elderly family member.

3.0

Proposal

3.19 Roof Plan - Proposed



The design proposes the retention of the pitch roof at the front of the property to preserve the character of the conservation area.

Behind the ridge line the roof extends as a crown roof, that accommodates 25smq of PV panels.

4.0

Accessibility

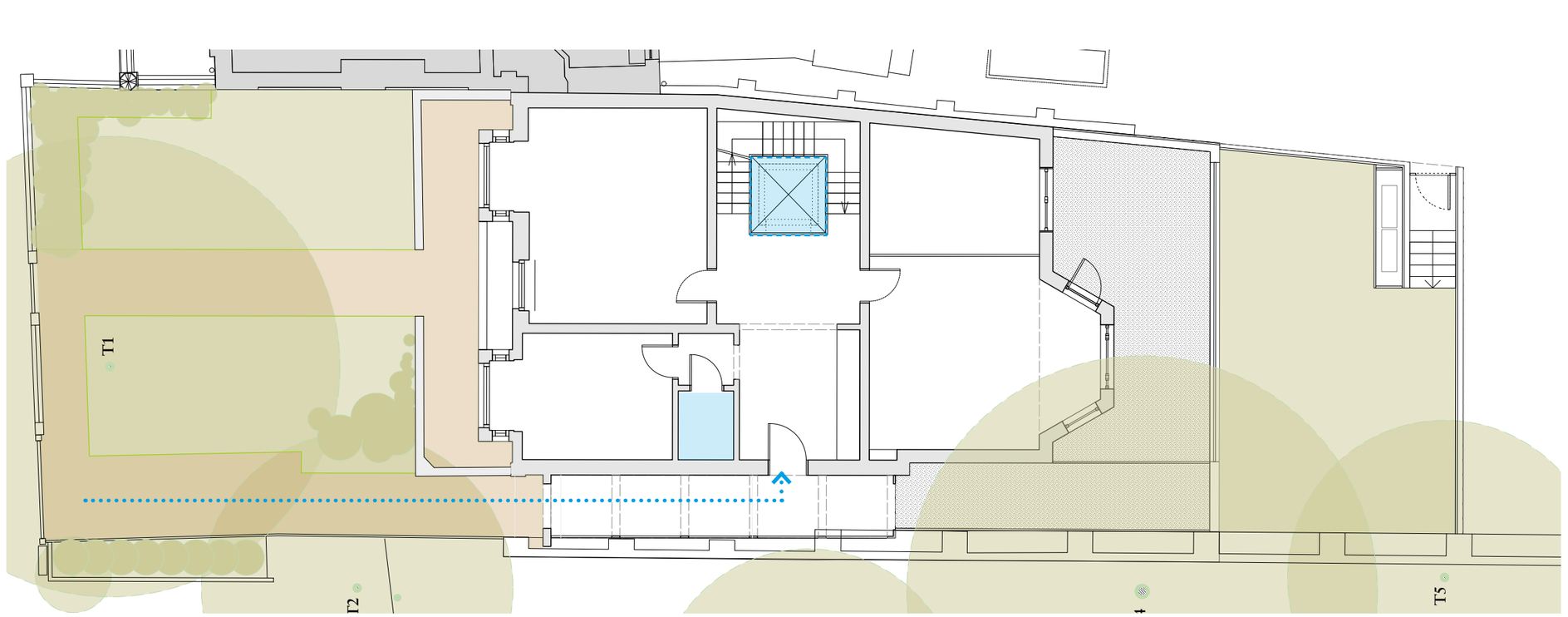
4.1 Accessible Approach Route

Due to landscape constrains and split levels, the existing house is completely inaccessible for wheelchair users.

The proposal seeks to provide an new accessible and adaptable dwelling compliant to Building Regulation Part M4(2).

At upper ground Floor Level an accessible and adaptable WC has been located near the entrance door.

The stairwell has been designed provide enough room to allow the installation of a passenger lift to connect all floors.

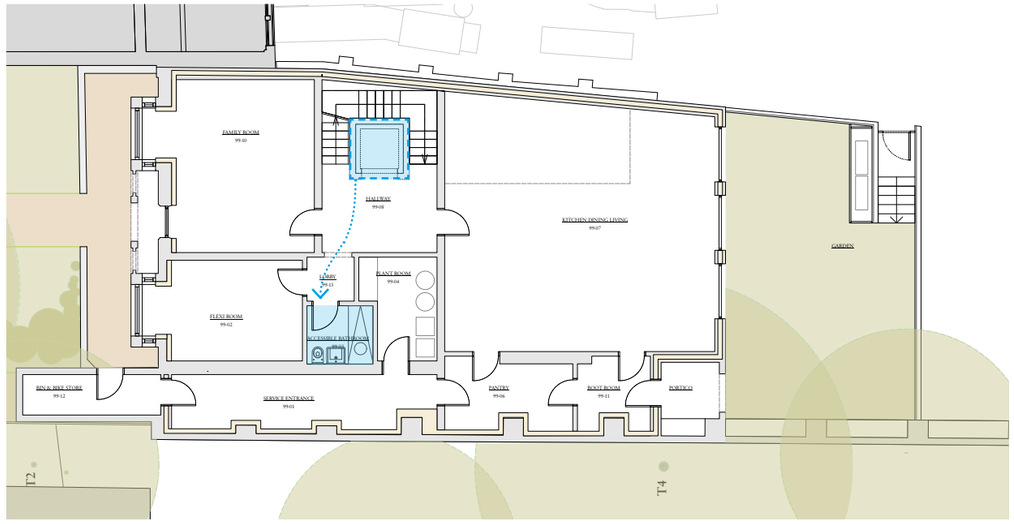


1. Upper Ground Floor Plan

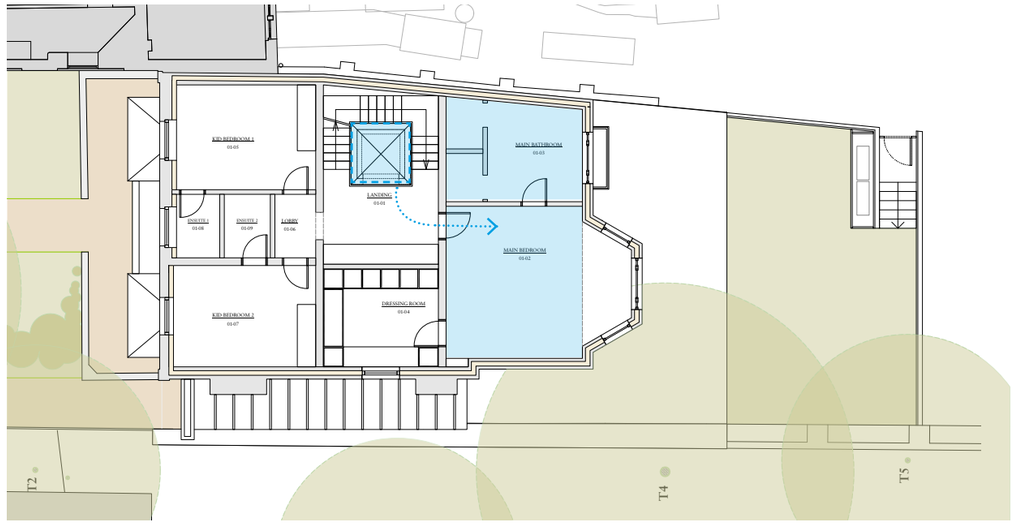
4.0

Accessibility

4.2 Spaces within the dwelling



1. Lower Ground Floor Plan

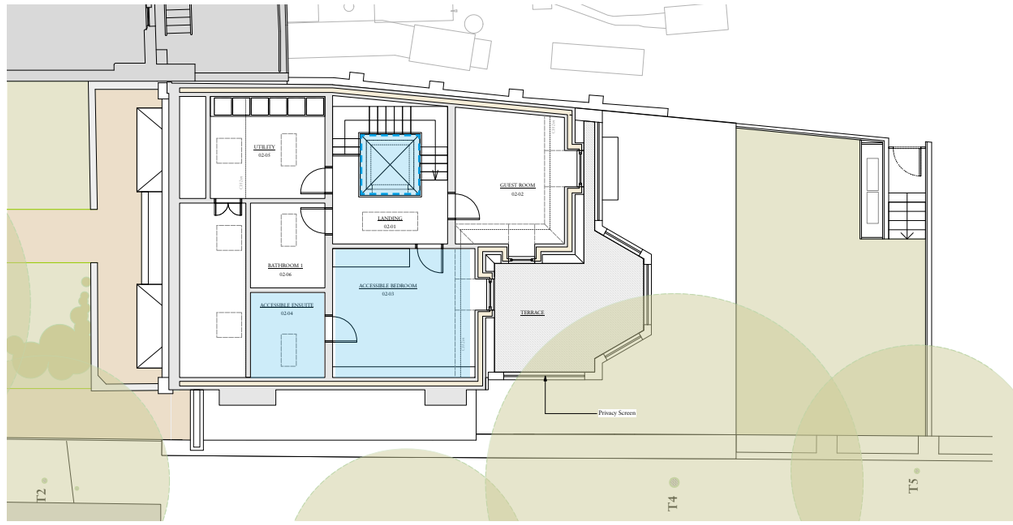


2. First Floor Plan

The stairwell on each floor has been designed with sufficient space to accommodate a passenger lift which would make each floor accessible.

Accessible and adaptable toilets can be found on each floor.

Both the First Floor Level and the Second Floor Level have double bedrooms that are accessible and supplied with an accessible bathroom.



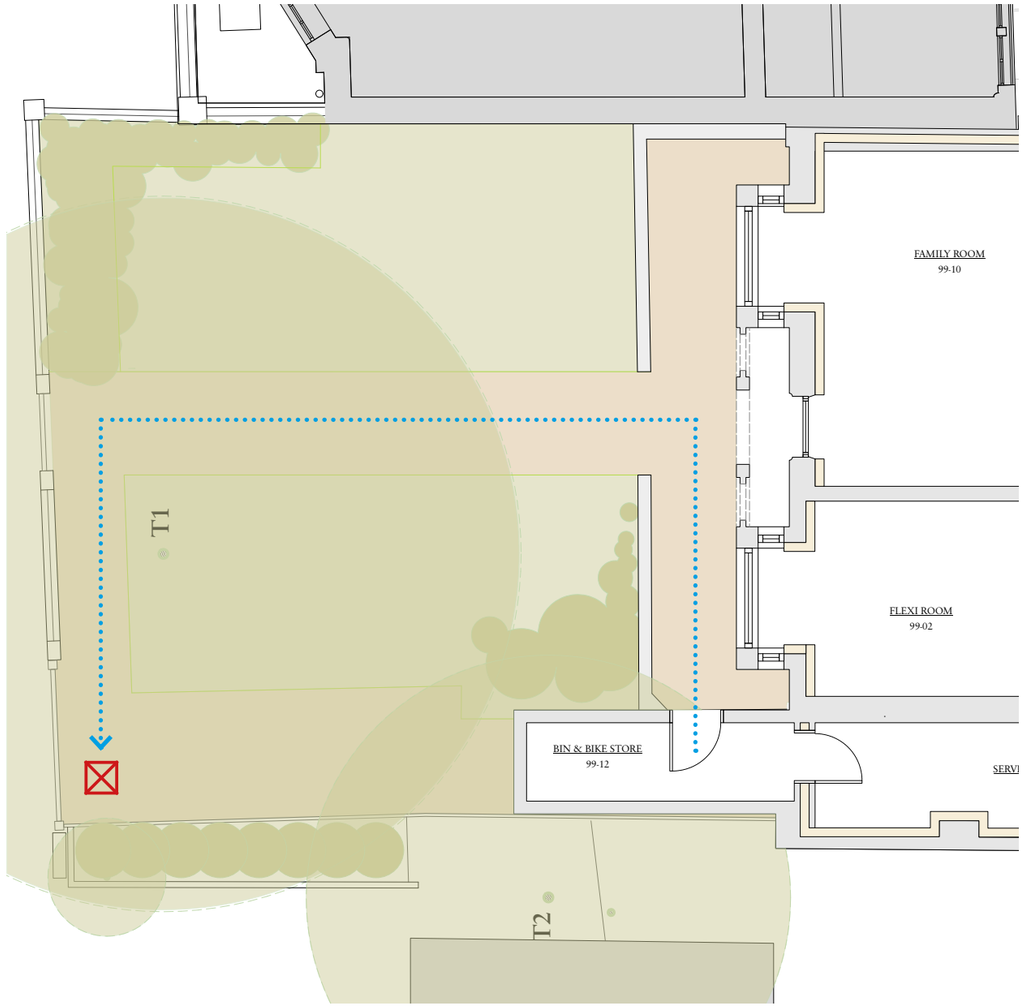
3. Second Floor Plan

4.0

Accessibility

4.3 Refuse and Recycling Strategy

Refuse and recycling bins will be located in the store at the front of the property.
On collection day, they will be taken from the store, up the ramp through the front garden and placed by the double gates at the front boundary.
These gates will be left open, on the relevant collection day, so as to allow the bins to be collected but avoid having to locate these on the pavement causing possible obstructions to pedestrians.



5.0

Sustainability

5.1 Energy Assessment

In December 2022 an Energy Assessment was carried out to evaluate the energy performance of the existing building and its potential for improvement.

The building scored 1 point only, which sets it in band G, the lowest energy band available.

The assessment identified the following conditions:

- Walls: solid brick wall without insulation
- Floor: suspended and solid floor without insulation
- Roof: pitched roof with 75-200mm insulation, although some areas have no insulation
- Windows: single glazed windows or missing windows
- Main heating: no heating system present
- Hot water: no hot water system present

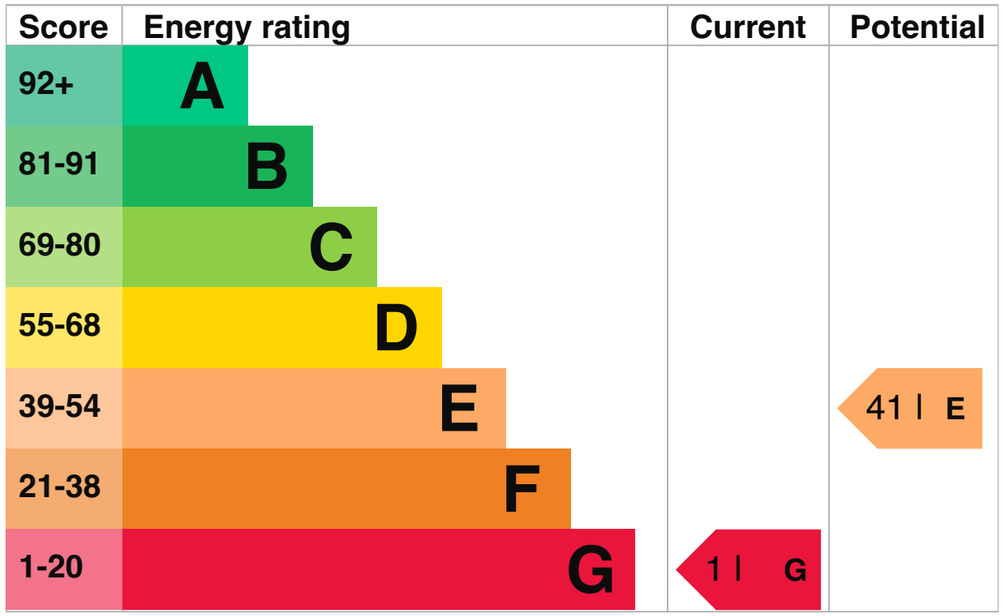
The **primary energy use** of the existing building is:

605 kWh/m²

As a result the existing building produces:

26 tCO_2/year

The Energy Assessment also shows how, even with significant improvements to the building fabric, the energy rating could not be improved beyond band E.



1. Extract from EPC of 26 Rosslyn Hill.

5.0

Sustainability

5.2 Energy Strategy

The energy strategy has been developed by following the GLA Energy Hierarchy of Be Lean, Be Clean, Be Green, Be Seen along with Local policy guidance.

The new proposal seeks to achieve a highly efficient building in line with the emission reduction outlined in the London plan as follows:

- 10% improvement over Building Regulation 2021 from energy efficiency measures alone
- 50% improvement over Building Regulation 2021 overall
- >20% Carbon offset from LZC technologies
- <105 l/p/d Reduced internal water use in line with the requirements
- Application of the cooling hierarchy
- General Sustainability Measures

In particular the proposal seeks to meet those target by means of:

- Enhanced building fabric in line with LETI guidance
- MVHR ventilation
- High Efficiency ASHP supplying heating and hot water
- 4.8 kWp Roof mounted PV
- Highly Efficient LED lighting

As part of this planning application, Charlton Brown Architects engaged with the Sustainability Consultants SRE who provided an Energy and Sustainability Statement of the proposed development that articulate the proposed Sustainability Strategy in Details.

The following paragraphs are intended to illustrate how the proposal seeks to meet the required targets.

5.0

Sustainability

5.3 Be Lean 1/2

1. Sunlight & Daylight

The proposal, sensitive to the Conservation Area, retains the existing south-west facing front facade and minimises new openings toward the Grade II listed buildings of the neighbouring properties.
However, facade openings are maximised towards the private rear garden space allowing natural light in.
Furthermore, new skylights are proposed at roof level, allowing for natural light to the service areas and extensive eaves storage located in the attic space.

2. Preventing Overheating & Natural Cooling

Whilst retaining the original south-west facing facade, the proposal introduces new openings to the north-east facade.
The introduction of openings on opposite façades, together with the operable skylights on the roof, will allow for plenty of natural cross ventilation and minimize overheating.

Although external shading will not be possible to the South-West Façade due to the Conservation Area restrictions, internal shading will be installed throughout.

External shading will be installed to the Lower Ground Floor openings of the Rear Façade to avoid overheating during the warm months.

All new widows will have low g-value.

5.0

Sustainability

5.3 Be Lean 2/2

3. Thermal Performance

The new proposal is considerate of the volume to surface ratio and significantly improves it compared to the original building.

The proposal prioritises the building performances of the fabric and meets the LETI standards for new built medium scale housing. The retained facade will be insulated and made airtight as recommended by the LETI standard for the retrofit of a semi detached constrained building.

- **Existing Walls:**
Installation of internal thermal insulation to the retained front facade, applying moisture-open material only, sympathetic to the existing building fabric, ensuring all areas are carefully covered, avoiding thermal bridges.
Existing Fabric U-Value target: 0.27 W/m²K

- **New Walls:**
New full filled cavity walls with continuous layer of insulation.
New Fabric U-Value target: 0.15 W/m²K

- **New Floor:** new block&beam floor slab with internal insulation laid on new DPC.
U-Value target: 0.10 W/m²K

- **New Pitched Roof:** Thermal insulation in between and above rafters ensuring all areas are carefully covered, avoiding thermal bridges and ensuring adequate ventilation below roof tiles.
U-Value target: 0.10 W/m²K

- **New Flat Roof:** insulation between and above joists to form warm deck detail.
U-Value target: 0.10 W/m²K

- **Windows:** all windows to be triple glazed vacuum insulated windows. Windows will be installed with air tight seals and brushes.
U-Value target: 0.8-1.0 W/m²K

Fabric Airtightness

- All walls and ceiling to be made airtight by means of a parge wet plaster to new walls and polypropylene layer to existing walls.
- All interfaces with windows, doors and services to be sealed with proprietary sealing tape.

Target: 4 $m^3/hr/m^2$

Thermal Bridges

- **Recurring thermal bridges (e.g. rafts)**: limitation of recurring thermal bridges to be addressed by means of applying a continuous insulation layer throughout
- **Linear thermal bridges**: limitation of linear thermal bridges at junction to be addressed by means of applying high performance insulation where required, such as at windows reveals and services penetrations.

Target Existing Fabric: 0.08 W/m.K<ψ< 0.10 W/m.K
Target New Fabric: W/m.K<ψ< 0.04 W/m.K

5.0

Sustainability

5.4 Be Clean

1. Efficient Heating

- Underfloor Heating system throughout the property with programmable thermostats on smart control.

2. Efficient Ventilation and Cooling

- MVHR featuring Boost, Purge and Summer By-Pass mode to all occupied spaces and wet rooms

3. Air Source Heat Pump

- Highly efficient Air Source Heat Pump to provide energy for heating and hot water.

5.5 Be Green

1. Photovoltaic

- PV System to be installed on flat roof and to be supplied with diverted to redirect surplus energy to water cylinder.
Target: 4.8 kWp

2. Energy Storage

- 13.5 kWh battery storage linked to the installed rooftop PV panels which enables occupants to use green energy at any time.

5.6 Be Seen

1. Smart Meter and BEMS

- The property will be supplied with Smart Meter and Building Energy Management System which will allow the occupants to observe their energy use in real time.

5.0

Sustainability

5.7 Conclusion

The proposal has been designed to deliver passive and active energy demand reduction measures to provide robust and long lasting CO_2 emission reductions.

The primary energy use of the building will be reduced from 605 kWh/m² to 27.4 kWh/m², whilst the CO_2 emissions will be reduced from 26 tCO_2/year to 1.7 tCO_2/year, providing a high performing sustainable dwelling.

Primary energy use per year of the proposed building is:

27.4 kWh/m2

As a result the proposed building produces:

1.7 tCO2/year

Compared to a 2021 Building Regulations compliant scheme, the proposed scheme will achieve:

60% improvement

in CO2 emission

6.0

Conclusion

6.1 Design Statement

The proposal seeks to respond to the client brief offering a family home that is designed to stand the test of time.

The building is respectful of the neighbouring listed buildings and it is sympathetic to the Conservation Area.
In particular it preserves its subservient nature to the adjacent Former Police Station and Courthouse and does not affect the amenity of the other neighbouring listed buildings.

At the same time the building responds to the needs of modern family living.
The plans are designed to allow for generous family open spaces that look towards the new garden and terraces. Each floor allows for maximum flexibility of space and it can accommodate the needs of current and future generations.
The new windows towards the private garden as well as the new skylight allow lots of natural light in.
The building fabric is designed to high standards that require minimum energy use and the proposal will therefore provide significant energy and sustainability benefits whilst bringing the vacant property back into beneficial use.

In terms of accessibility for those with impaired mobility, the scheme has been designed to accommodate a passenger lift so that accessibility for wheelchair users to every floor can be facilitated.
Every room and every area on each floor is fully accessible to wheelchair users and there is level step-free access to both the main rear terrace and the private rear garden.