

14 Strafford Road
Twickenham, TW1 3AE

Planning Fire Safety Strategy



APEX
STRATEGIES

Control Sheet

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The works are to be carried out to the approval and satisfaction of the Building Control Officer, to accepted good building practice and with full compliance and in accordance with all relevant British Standards and Codes of Practice.

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Contents

1. Introduction	4
1.1 - Overview	4
1.2 - Drawing Information	5
1.3 - Statement of Competency	5
2. Planning Fire Safety Strategy	5
Criteria 1a	6
Criteria 1b	6
Criteria 2	7
Criteria 3	8
Criteria 4	9
Criteria 5	10
Criteria 6	11
Appendices	12
Appendix A: Proposed Site Layout Plans	

1. Introduction

1.1 - Overview

This Planning Fire Safety Strategy has been prepared by Apex Strategies Ltd. on behalf of Mark Owen in relation to development proposals at 14 Trafford Road, Twickenham, TW1 3AE which comprise the conversion of two flats (basement with maisonette above) to a single family dwelling.

Validation requirements introduced by London Borough of Richmond upon Thames Council in response to London Plan (2021) Policy D12(a) 'Fire Safety', require all applications to be supported by a Planning Fire Safety Strategy report. This document considers the implications of the development proposals in the context of Policy D12(A), detailed below.

"Policy D12(A): In the interests of fire safety and to ensure the safety of all building users, all development proposals must achieve the highest standards of fire safety and ensure that they:

1. *identify suitably positioned unobstructed outside space:*
 - a. *for fire appliances to be positioned on*
 - b. *appropriate for use as an evacuation assembly point*
2. *are designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures*
3. *are constructed in an appropriate way to minimise the risk of fire spread*
4. *provide suitable and convenient means of escape, and associated evacuation strategy for all building users*
5. *develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in*
6. *provide suitable access and equipment for firefighting which is appropriate for the size and use of the development."*

London Plan paragraph 3.12.2 notes that;

"The matter of fire safety compliance is covered by Part B of the Building Regulations. However, to ensure that development proposals achieve the highest standards of fire safety, reducing risk to life, minimising the risk of fire spread, and providing suitable and convenient means of escape which all building users can have confidence in, applicants should consider issues of fire safety before building control application stage, taking into account the diversity of and likely behaviour of the population as a whole."

The aim of this document is therefore to demonstrate the relevant fire safety aspects of the proposed development design to date. This document does not constitute the detailed fire strategy under the Building Regulations which will be developed as the scheme progresses. However, this Strategy evidences the provisions made for the safety of occupants and protection of property as well as the provision of suitable access and provisions for firefighting in light of London Plan fire safety policy requirements.

This Strategy is presented in a format which responds to the listed criteria of London Plan Policy D12(A).

The development provides residential accommodation, as such, the proposals have been considered against the requirements set out within The Building Regulations (2010) Approved Document B: Volume 1 - 2019 edition incorporating 2020 and 2022 amendments; hereafter referred to as '**ADB1**'.

1.2 - Drawing Information

This Strategy has been informed by the submitted layouts and elevations, copies of which are included at **Appendix A**.

1.3 - Statement of Competency

This Planning Fire Safety Strategy has been prepared by Brett Littlewood, who is qualified with a HND in Construction and the Built Environment (Civil Engineering), a higher level apprenticeship in Construction Management, has 11+ years experience as a consulting Highways Engineer and is a Member of the Institute of Highways Engineers (MIHE). The author's qualifications and experience are considered to be commensurate with the size, scope and complexity of the development.

2. Planning Fire Safety Strategy

Criteria 1a - Identify suitably positioned unobstructed outside space for fire appliances to be positioned on

ADB1 [13.1] states that:

For dwellinghouses, access for a pumping appliance should be provided to within 45m of all points inside the dwellinghouse.

London Fire Brigade Guidance Note 29 (GN29) 'Access for Fire Appliances' states that:

Access roads for pumping appliances should be provided with 6m working area(s) at appropriate locations where appliances are to be positioned and used around the building.

However, the Association of Chief Fire Officers provided the following comments in Manual for Streets in relation to access for fire service vehicles:

A 3.7m carriageway (kerb to kerb) is required for operating space at the scene of a fire.

Strafford Road is a residential distributor road with a typical carriageway width of ~8m. Wider sections are present in locations to accommodate on-street parking, and narrower sections are also present as traffic calming measures.

The road forms priority controlled junctions with Richmond Road (A305) to the south and Amyand Park Road to the north. As such, a fire service vehicle is able to approach and depart the site in forward gear without the need to reverse / perform a turn-in-the-road manoeuvre.

Access to within 45m of all parts of the development is achievable from Strafford Road with sufficient working area available around the vehicle.

Based on the above Criteria 1a is satisfied.

Criteria 1b - Identify suitably positioned unobstructed outside space appropriate for use as an evacuation assembly point

It is not necessary to formally designate an evacuation assembly point for individual dwellinghouses. Nevertheless, in principle, assembly points should be located sufficiently far from the premises to minimise interference with the fire and rescue service or danger from falling debris, but should be accessible and not so far away as to discourage people from assembling.

It is considered that in the event of a fire, evacuation assembly could be accommodated either within the large rear garden area, or along the footway along Strafford Road at an appropriate distance from the building, and in a location which minimises interference with the fire and rescue service.

Suitable unobstructed space for evacuation is available from the development thereby satisfying Criteria 1b.

Criteria 2 - Designed to incorporate appropriate features which reduce the risk to life and the risk of serious injury in the event of a fire; including appropriate fire alarm systems and passive and active fire safety measures

Fire Detection and Alarm:

An automatic detection and alarm system in a building provides an effective means to identify a fire scenario in the early stages of fire growth and to notify building occupants automatically of the fire scenario with a clear message or sound.

All dwellings should have a fire detection and alarm system in accordance with the relevant recommendations of BS 5839-6. (ADB1 - 1.1) For the proposed development, a four-storey residential dwelling, the following system requirements are recommended:

- **LD2 (Additional Protection):** A system incorporating detectors in all circulation areas that form part of the escape routes from the premises, and in all specified rooms or areas that present a high fire risk to occupants, including a heat alarm in any kitchen and a smoke alarm in principle habitable room(s).
- **Grade A:** Separate detectors, sounders and central control and indicating equipment with back-up power supply that conforms to British Standards BS EN 54.

Passive fire safety:

Passive fire safety measures are built-in structural and design features that aim to contain fires and slow their spread without human intervention or mechanical systems. These measures include fire-resistant walls, floors, and doors, which compartmentalise buildings to prevent the spread of fire and smoke between different areas. See '**Criteria 3 - Internal Fire Spread**' for further details.

Active fire safety:

In order to comply with means of escape requirements for residential dwellings containing two or more storeys over 4.5m above ground level, it is recommended that a sprinkler system is provided throughout the dwelling, designed and installed in accordance with BS 9251. See '**Criteria 4 - Means of Escape**' for further details.

Criteria 2 Summary:

Fire detection and alarm systems designed, installed & commissioned in accordance with BS 5839-6 shall be provided within the dwelling.

All construction shall achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1.

It is recommended that a sprinkler system is provided throughout the dwelling, designed and installed in accordance with BS 9251.

Criteria 2 is thereby satisfied.

Criteria 3 - Constructed in an appropriate way to minimise the risk of fire spread

Internal Fire Spread:

Compartmentation is the process of dividing a structure into 'compartments' for effective risk management. The main objective of compartmentation is to contain a fire within a specific section of a building, limiting the passage of flames and smoke. This then allows more time for occupants to safely evacuate a building and for fire services to extinguish the flames.

ADB1 Table B4 sets out minimum periods of fire resistance for a range of development types. For dwellinghouses with a top storey height between 5m - 11m above ground level, Table B4 states a minimum of 60 minutes fire resistance is required. This is applicable to any load bearing walls, upper storey floors, and walls separating the dwelling from the adjacent occupancy.

30 minutes fire resistance should be provided to the protected stairway which serves all floors of the dwelling.

Fire doors are an important feature of compartmentation and are vital for protecting escape routes, allowing residents more time to evacuate safely. Additionally, these doors help in reducing property damage by keeping the fire localised. Fire doors also assist firefighters by slowing down the fire's spread, making it easier to extinguish and reducing the fire's intensity, thereby safeguarding both lives and property.

FD20 fire doors are required to all doors leading from habitable rooms (excluding bathrooms) onto the stairway serving all floors of the dwelling.

External Fire Spread:

No material changes are proposed to the exterior of the building other than the replacement of existing (non-fire rated) windows.

The proposed conversion to a single family dwelling would therefore have no impact on the risk of external fire spread, or the risk of fire spread from one building to another.

Criteria 3 Design Comments:

Any internal works shall be constructed to achieve adequate fire resistance and compartmentation in accordance with the requirements of ADB Tables B3, B4 and C1.

No material changes are proposed to the exterior of the building.

Based on the above, it is considered that Criteria 3 is satisfied.

Criteria 4 - Provide suitable and convenient means of escape, and associated evacuation strategy for all building users

Means of Escape (dwellinghouses):

The existing dwelling can be summarised as follows:

- Basement/Lower Ground Floor (-1.35m below ground level)
- Upper Ground Floor (+1.56m above ground level)
- First Floor (+4.65m above ground level)
- Second Floor (+8.15m above ground level)

The requirements for means of escape set out in ADB1 are as follows:

Basement:

Basement storeys containing habitable rooms should have one of the following.

- A. *An emergency escape window or external door providing escape from the basement.*
- B. *A protected stairway leading from the basement to a final exit.*

Ground Floor:

All habitable rooms (excluding kitchens) should have either of the following.

- A. *An opening directly onto a hall leading to a final exit.*
- B. *An emergency escape window or door*

Dwellinghouses with one storey more than 4.5m above ground level:

The dwellinghouse should have either of the following.

- A. *Protected stairway – a stair separated by fire resisting construction (minimum REI 30) at all storeys, that complies with one of the following.*
 - i. *Extends to a final exit.*
 - ii. *Gives access to a minimum of two ground level final exits that are separated from each other by fire resisting construction (min REI 30) and fire doorsets (min E 20).*
- B. *Alternative escape route – a top storey separated from lower storeys by fire resisting construction (minimum REI 30) and with an alternative escape route leading to its own final exit.*

Dwellinghouses with two or more storeys more than 4.5m above ground level:

- A. *Provide an alternative escape route from each storey more than 7.5m above ground level. At the first storey above 7.5m, the protected stairway should be separated from the lower storeys by fire resisting construction (minimum REI 30) if the alternative escape route is accessed via either of the following.*
 - i. *The protected stairway to an upper storey.*
 - ii. *A landing within the protected stairway enclosure to an alternative escape route on the same storey. The protected stairway at or about 7.5m above ground level should be separated from the lower storeys or levels by fire resisting construction.*
- B. *Provide a sprinkler system throughout, designed and installed in accordance with BS 9251.*

At basement level, all habitable rooms have direct access to a protected stair which leads to a final exit. At upper ground floor level, all habitable rooms open directly onto the hallway leading to a final exit. Both of which meet the means of escape requirements.

At first and second floor level, in accordance with ADB1, all habitable rooms have direct access to the protected stair. However, no alternative escape route is provided. Therefore, **it is recommended that a sprinkler system is provided throughout the dwelling, designed and installed in accordance with BS 9251.**

FD20 fire doors separating the protected stair from all habitable rooms should be provided on all floors.

Evacuation Strategy:

In all premises, the guiding principle for evacuation should be 'keep it simple', which should ensure that all persons likely to be in the building will correctly follow the chosen procedure. The simplest suitable option for a dwellinghouse is single stage evacuation; i.e. in the event of a fire, all occupants should immediately evacuate to a place of safety.

For individual dwellinghouses it is considered that the development of a detailed evacuation strategy is unwarranted.

Criteria 4 Design Comments:

Subject to the installation of a suitable residential sprinkler system in accordance with BS 9251, satisfactory means of escape will be provided from all areas of the dwelling. Details of the simple evacuation strategy have also been provided.

Criteria 4 is thereby satisfied.

Criteria 5 - Develop a robust strategy for evacuation which can be periodically updated and published, and which all building users can have confidence in

Evacuation Strategy

As discussed under Criteria 4, the development of a robust evacuation strategy for individual residential dwellings is not warranted.

Criteria 5 is not applicable to the proposed development.

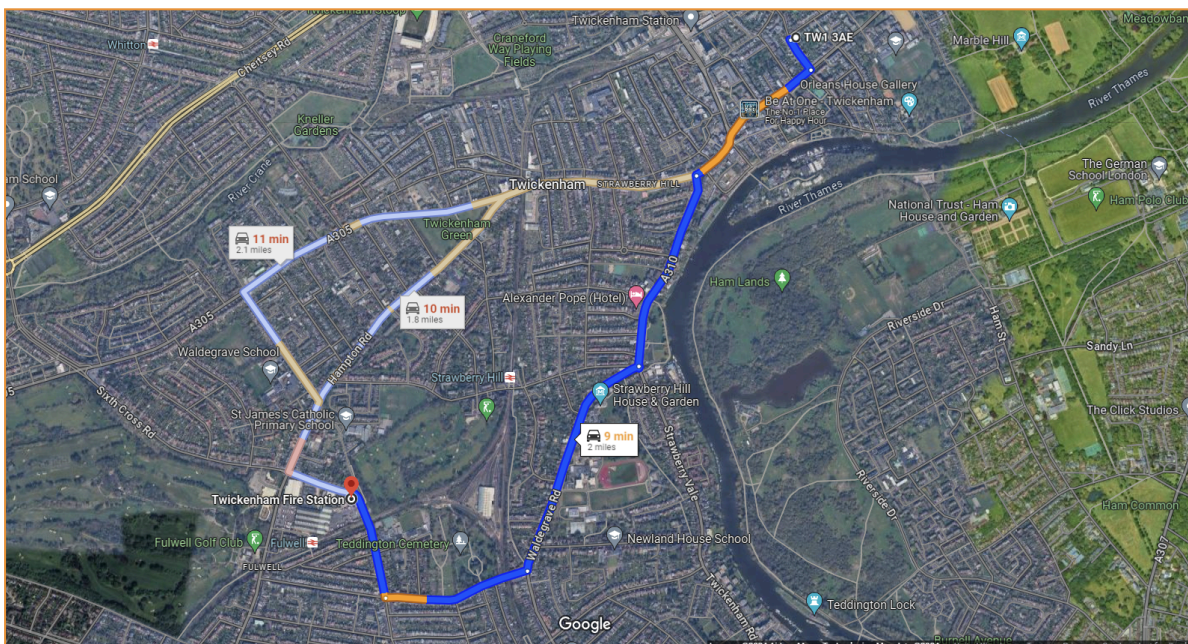
Criteria 6 - Provide suitable access and equipment for firefighting which is appropriate for the size and use of the development

Access and Facilities

As noted under **Criteria 1a**, unobstructed access for fire vehicles is available within 45m of all parts of the development. Doors providing access to the interior of the dwelling are over 750mm wide. It is therefore considered that suitable access is available for the fire and rescue service.

In terms of facilities, as well as supporting the building occupant life safety objectives, the provision of active and passive fire safety systems (such as sprinkler systems and fire doors) also provide substantial benefits to firefighter operations. No additional facilities are considered necessary to support firefighting operations at the site.

For information purposes, the nearest Fire Station is Twickenham Fire Station located approximately ~2 miles (9 minutes drive) to the south-west of the site as illustrated below.



Adequate access and facilities to support fire fighting operations are proposed and therefore Criteria 6 is satisfied.

Appendices

Appendix A

Proposed Site Layout Plans

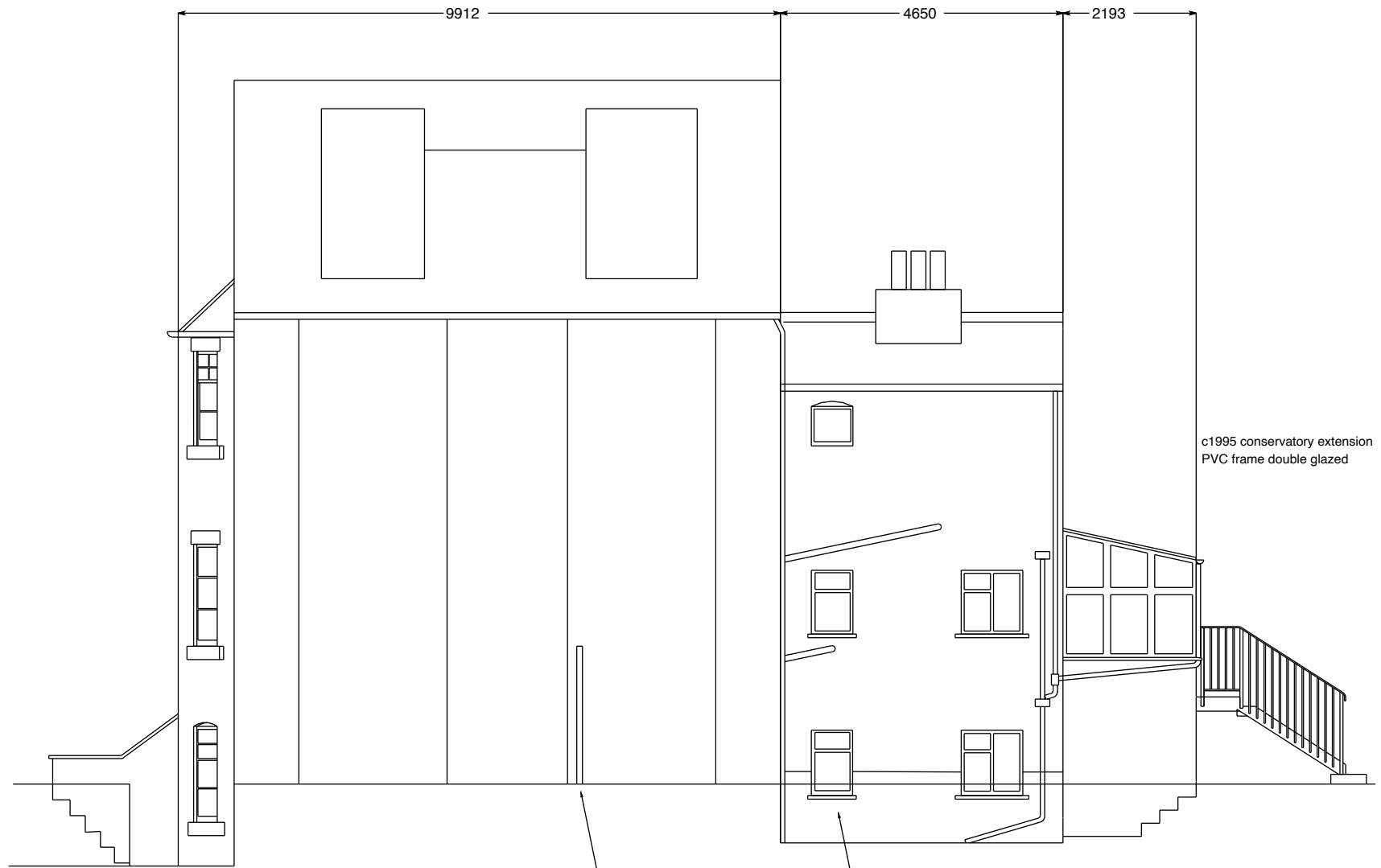


all windows on front elevation
proposed to be replaced with like
for like narrow profile, timber or
hardwood double glazed equivalents

14 stafford road TW1 3AE
front elevation - revised layout

dimensions in mm

1:100 when printed 100% on A4
drawn by mark owen 2nd july 2024
v1.1



side passage gate to rear garden

♦ all windows on rear return proposed to be replaced with like for like double glazed units

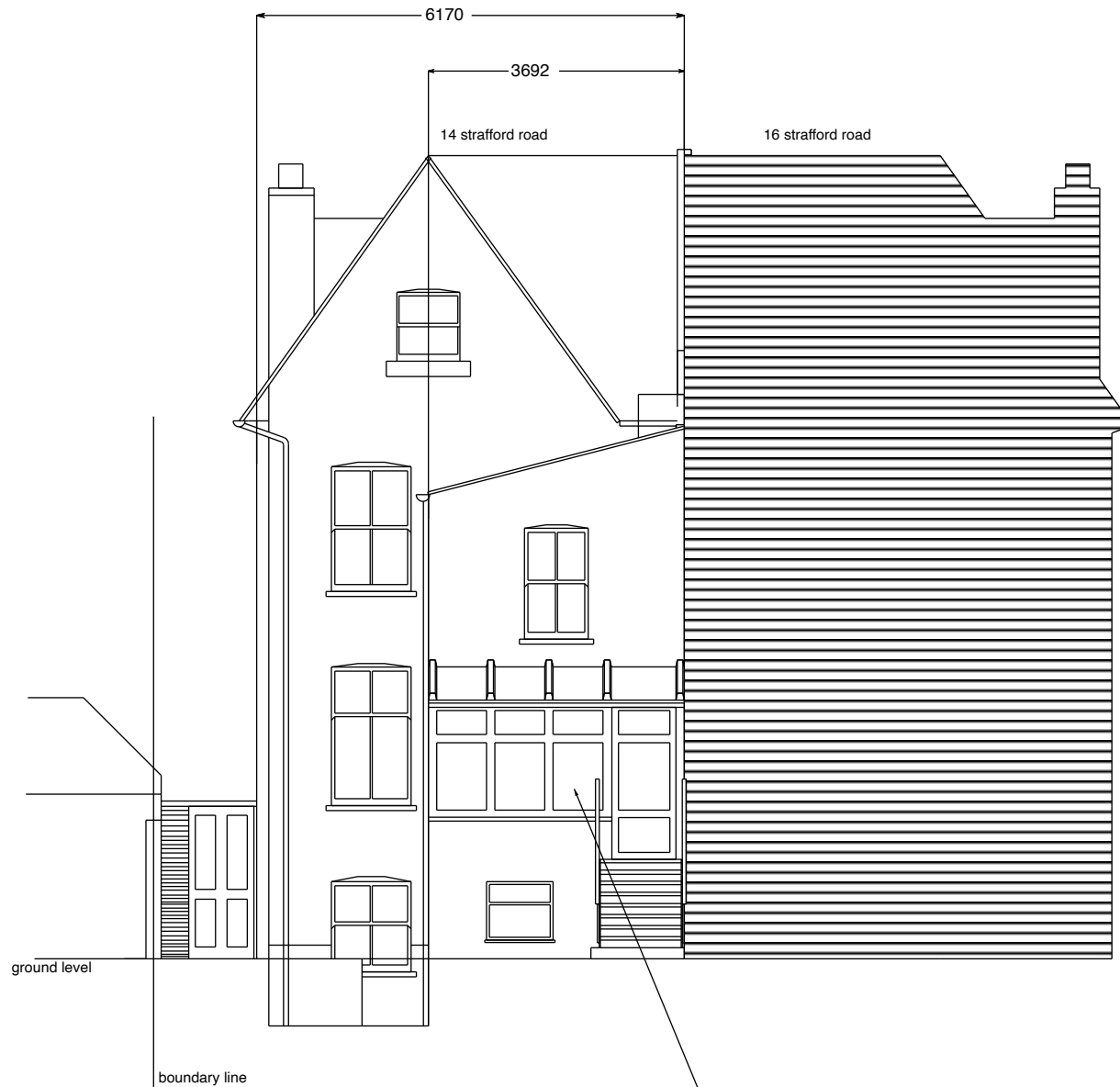
c1995 conservatory extension PVC frame double glazed

14 strafford road TW1 3AE
side elevation - proposed changes

dimensions in mm

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drawn by mark owen 2nd july 2024
v1.0





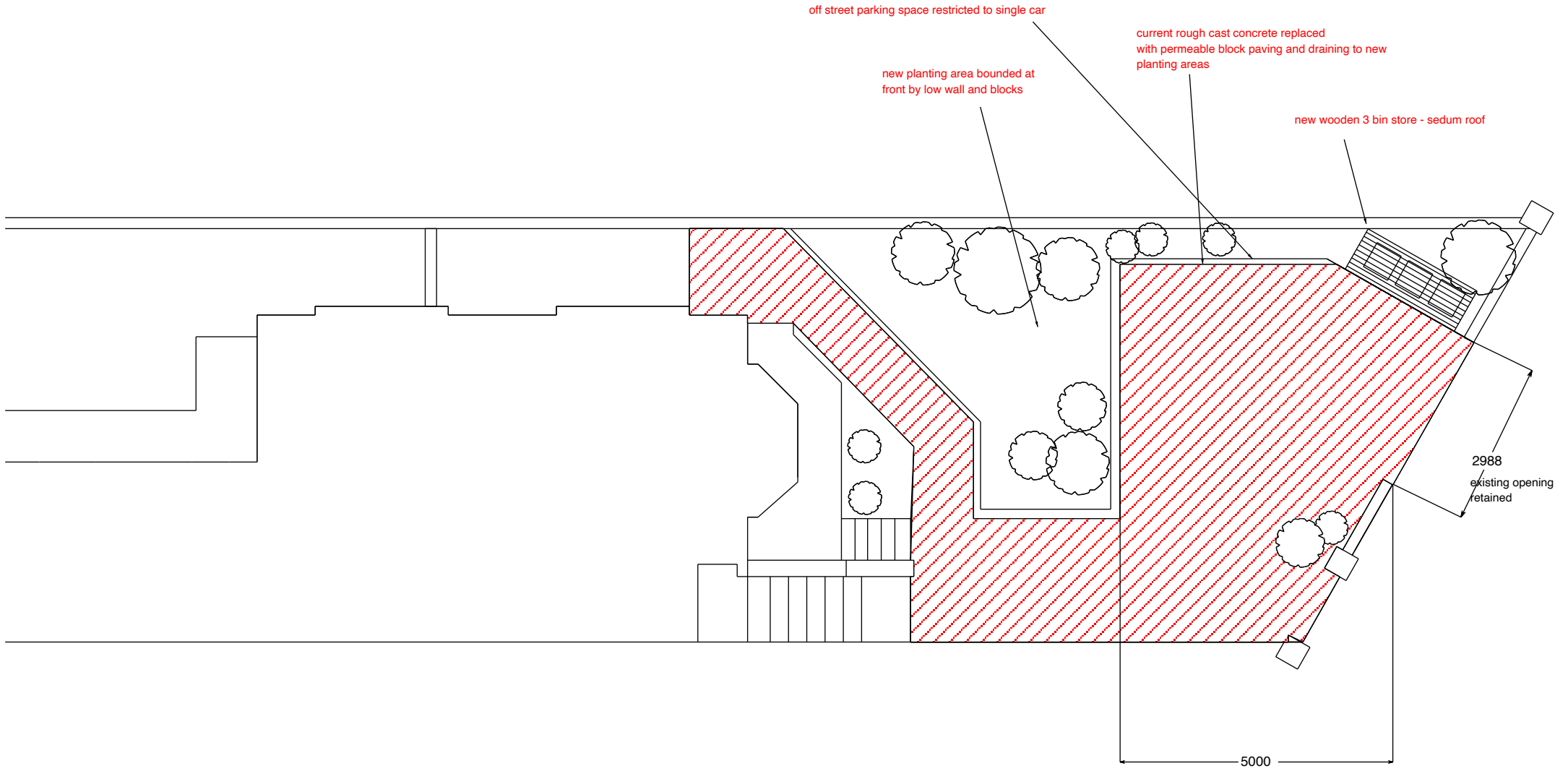
all rear facing single glazed windows to be replaced with like for like double glazed units

c1995 conservatory PVC framed double glazed units

14 stafford road TW1 3AE
rear elevation - proposed changes

dimensions in mm

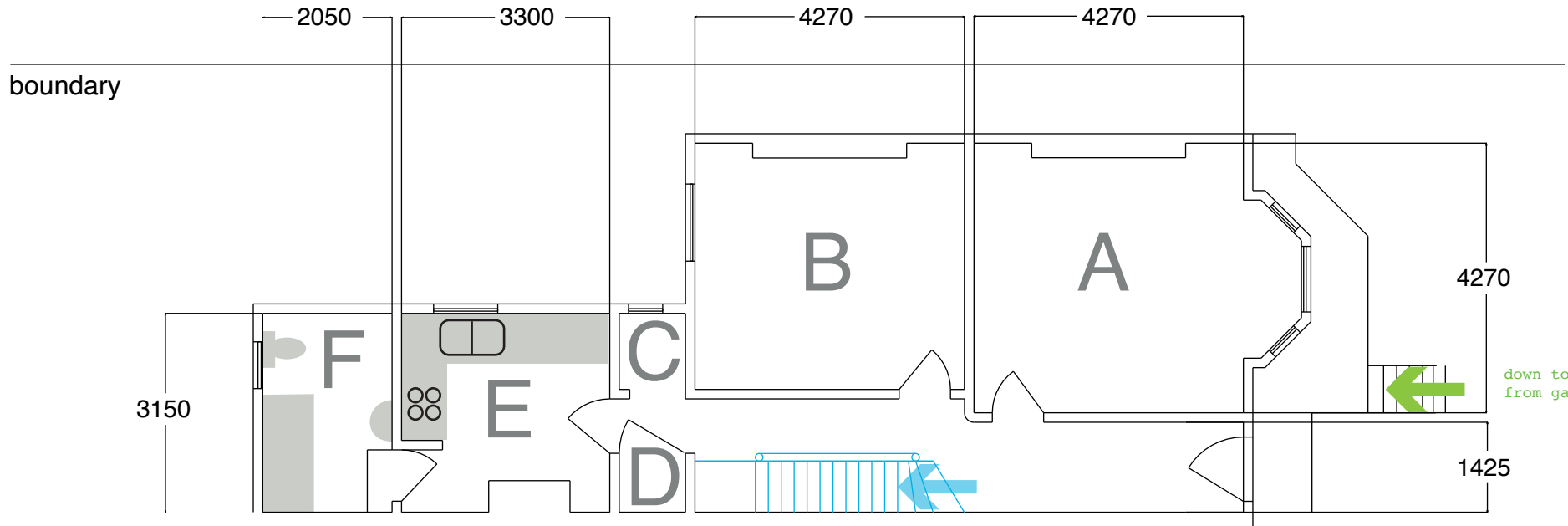
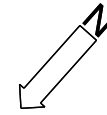
1:100 when printed 100% on A4
drawn by mark owen 2nd july 2024
v1.0



14 strafford road TW1 3AE
front garden - proposed layout

dimensions in mm

1:100 when printed 100% on A4
drawn by mark owen 2nd july 2024
v1.1



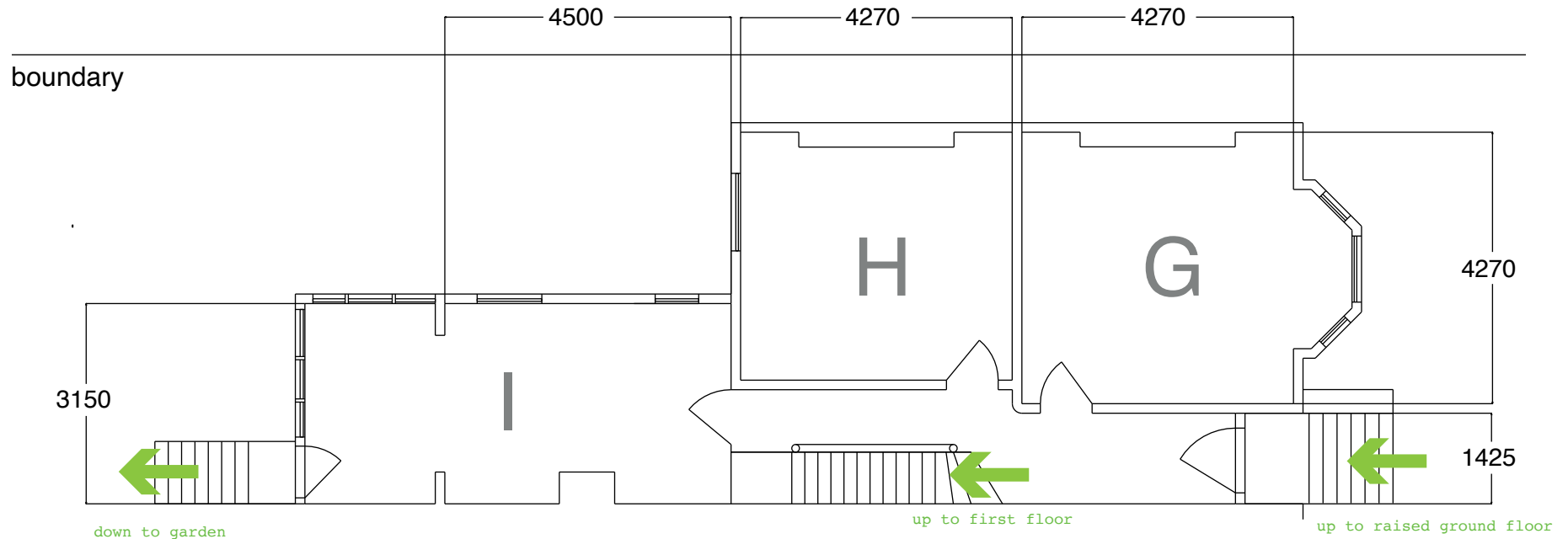
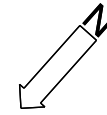
- A reception
- B bedroom
- C washing machine room
- D built in cupboard
- E kitchen
- F bathroom

proposed reinstatement of original single flight staircase to raised ground floor

down to basement from garden

14 strafford road TW1 3AE
 basement floor - current layout in black
 proposed reinstatement of original stairs in blue
 dimensions in mm

1:100 when printed 100% on A4
 drawn by mark owen 23rd april 2024



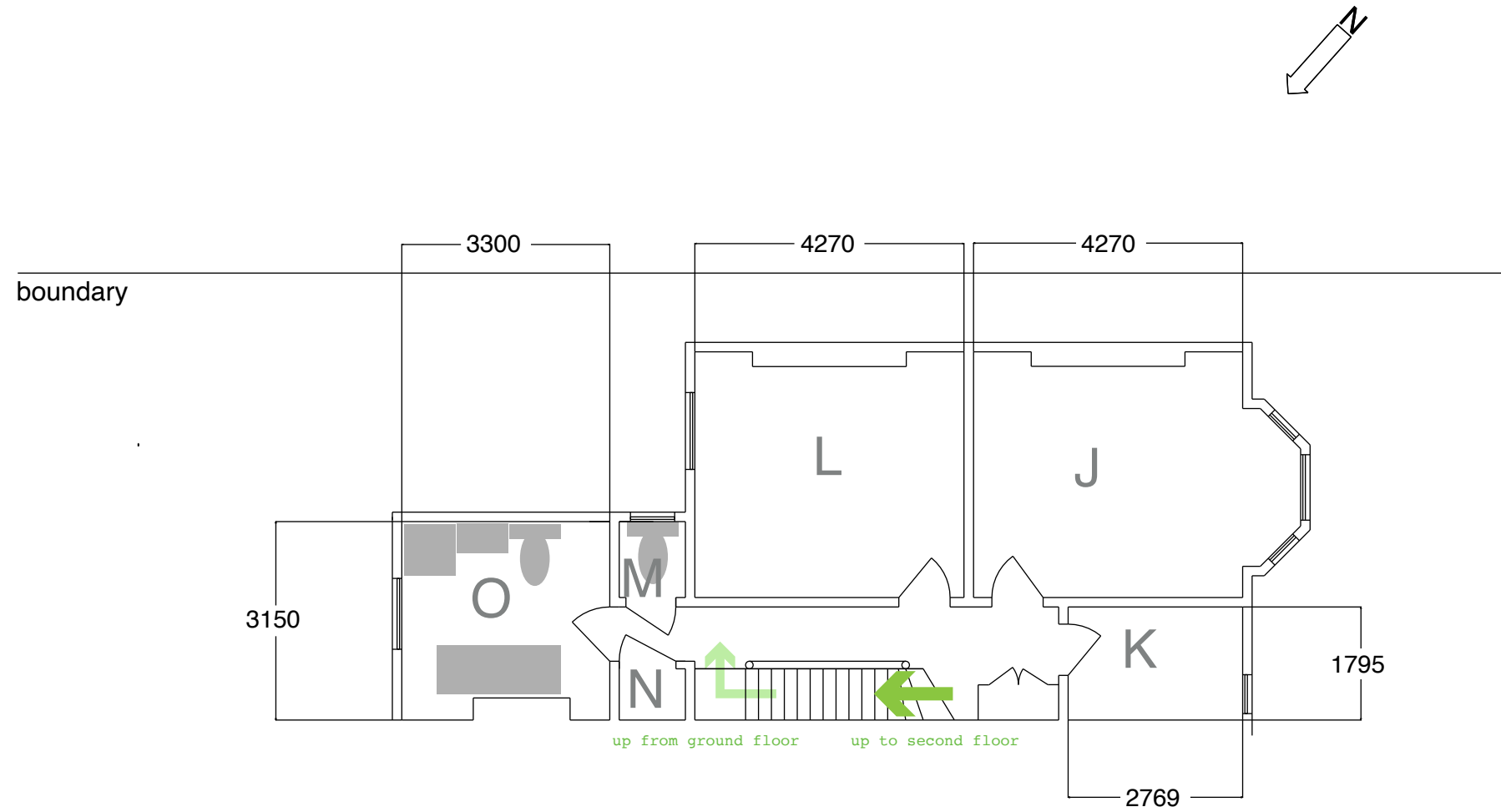
STRAFFORD ROAD

- G reception
- H reception
- I kitchen

14 strafford road TW1 3AE
ground floor - current layout

dimensions in mm

1:100 when printed 100% on A4
drawn by mark owen 23rd april 2024



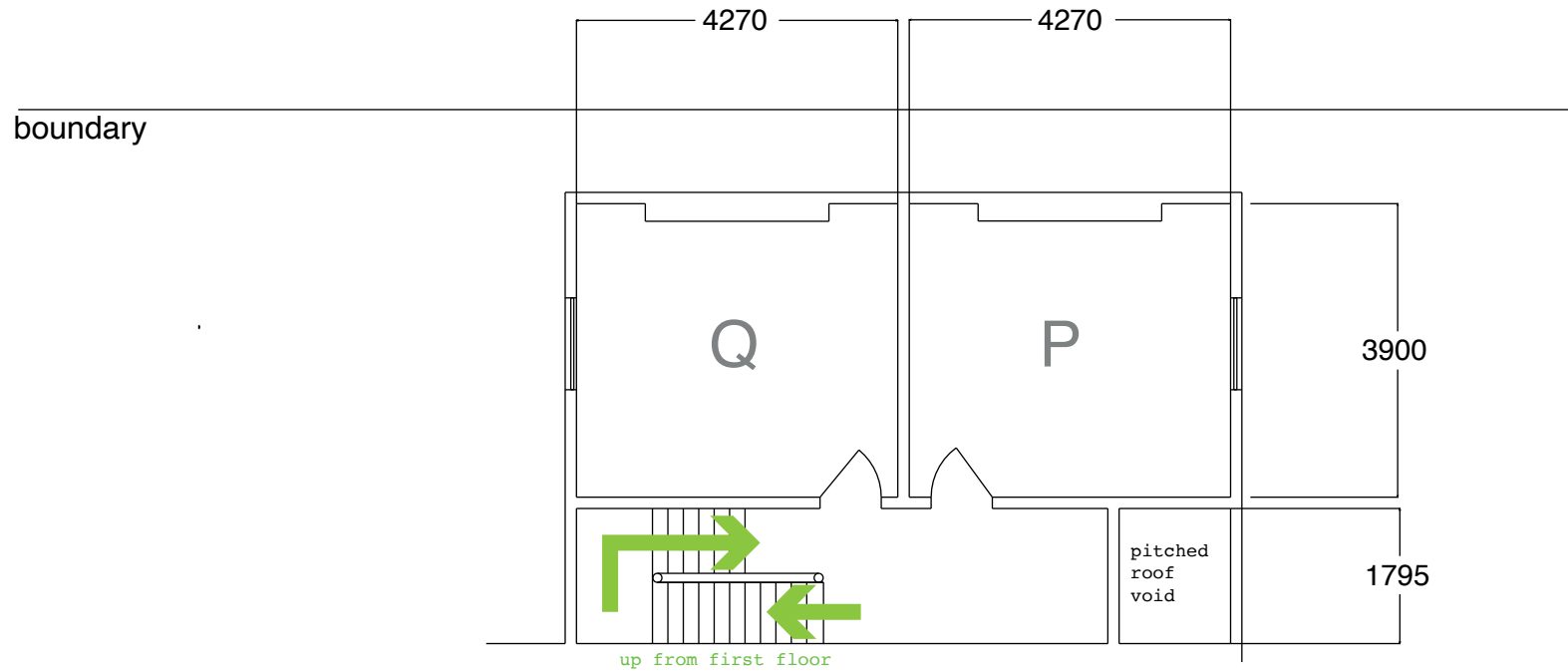
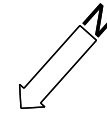
STAFFORD ROAD

- J bedroom
- K office
- L currently artist studio
- M wc
- N washing machine
- O bathroom

14 stafford road TW1 3AE
1st floor - current layout

dimensions in mm

1:100 when printed 100% on A4
drawn by mark owen 23rd april 2024



P bedroom
Q bedroom

STRAFFORD ROAD

14 strafford road TW1 3AE
2nd floor - current layout

dimensions in mm

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drawn by mark owen 23rd april 2024



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