AMBIENTAL

ENVIRONMENTAL ASSESSMENT

Flood Risk Assessment

Flat 4

129 Camberwell Road

Camberwell

London

SE5 0HB

Ambiental Environmental Assessment
Sussex Innovation Centre,
Science Park Square,
Brighton, BN1 9SB

Document Issue Record

Project: Phase 1 Flood Risk Assessment

Prepared for: Kathryn Bryant

Reference: 6349

Site Location: Flat 4, 129 Camberwell Road, Camberwell, SE5 0HB

Proposed Development: It is understood that the development is for the construction of a single storey rear extension.

Consultant		Date	Signature
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Contents

1. Summary

1.1 Ambiental Environmental Assessment has been appointed by Kathryn Bryant to undertake a National Planning Policy Framework (NPPF) compliant Flood Risk Assessment (FRA) for the proposed development at Flat 4, 129 Camberwell Road, London, SE5 0HB.

1.2 The existing site currently consists of residential use. It is understood that the proposed development is for the construction of a single storey rear extension to provide greater habitable space.

1.3 With reference to the Environment Agency (EA) Flood Map for Planning, the proposed development is located within Flood Zone 3, in an area which benefits from the Thames Tidal Defence scheme.

1.4 The existing dwelling is classified as More Vulnerable under the National Planning Policy Framework (NPPF). The proposed development is for the construction of an extension to an existing residential dwelling to provide greater habitable space and is considered to be a minor development, as such, the NPPF classification will not change post-development.

1.5 The site is protected against tidal flooding through the Thames Tidal Defence (TTD) system. The TTD provides a 1 in 1000-year standard of protection through a combination of raised defences, flood proofing, and the Thames Barrier. The Thames Estuary 2100 study (HR Wallingford, 2008) indicates that the defences along the Thames would provide a 1:1000-year standard of protection until at least the year 2100.

1.6 The increase in impermeable surface area will not be greater than 250m^2 and is therefore not expected to increase the volume of surface water runoff from the site. It is recommended that the developer discharges surface water runoff as per the existing drainage system associated with the existing building. Betterment could be provided by incorporating small scale SuDS, such as a water butt connected to an existing rainwater downpipe. This could provide rainwater for non-potable uses around the garden area.

1.7 The proposed development site is located outside the EA's 2100 defence breach modelled flood extent. As such, safe access/egress should be possible in a defence breach event.

1.8 It is recommended that residents are aware of the EA Flood Information service which identifies whether any flood warnings or alerts have been issued for a specific postcode or place in England or Wales: https://flood-warning-information.service.gov.uk/.

1.9 During periods of bad weather, site users should monitor local weather reports and sign up for the Met Office UK weather warnings. Warnings can be monitored through an Apple/Android app, Twitter or directly via emails. Further information can be found at https://www.metoffice.gov.uk/.

1.10 In Summary:

- The proposed development is for the construction of a single storey rear extension to provide greater habitable space. The proposed extension is under 250m^2 and therefore should be considered a 'minor development.
- The site is located in an area of Flood Zone 3 that benefits from the presence of flood defences with a standard of protection of up to 1000 years. Furthermore, the site is located outside of modelled breach flood extents.
- Betterment can be provided by formalising flood warning and evacuation procedures.

1.11 The proposed development is considered to be suitable, assuming appropriate mitigation (including adequate warning procedures) can be maintained for the lifetime of the development.

Development Description	Existing	Proposed
Development Type:	Residential dwelling	Construction of a single storey rear extension
Number of Bedrooms:	1	2
EA Vulnerability Classification:	More Vulnerable	More Vulnerable
Ground Floor Level:	Topographic Levels on site vary between approximately 2.31mAOD and 3.70mAOD (2m LiDAR data)	Floor levels unchanged
Level of Sleeping Accommodation:	Lower Ground Floor	No change
Impermeable Surface Area:	N/A[1]	
Surface Water Drainage:	N/A[1]	Recommended to discharge surface water from the small extension as per the existing drainage infrastructure. Betterment can be provided by incorporating small-scale SuDS measures
Site Size:	N/A[1]	No change
Risk to Development	**Summary**	**Comment**
EA Flood Zone:	3	
Flood Source:	Tidal	River Thames
1:100 Year Flood Level	Defended	Thames Estuary 2100 study (HR Wallingford, 2008) indicates that the defences along the Thames would provide a 1:1000-year standard of protection until at least the year 2100.
1:100 Year Flood Level & Climate Change	Defended	
1:1000 Year Flood Level	Defended	Site is located outside of modelled breach flood extents
Recorded Flood Events in Area:	Yes	Council recorded flood incidents approximately 200m south, 200m west and 300m north of the proposed development site
Recorded Flood Events at Site:	No	
SFRA Available:	Yes	London Borough of Southwark (2017)
Management Measures	**Summary**	**Comment**
Ground floor level above extreme flood levels:	N/A	Finished Floor Levels to be set no lower than existing in line with EA Standing Advice for minor extensions.
Safe Access/Egress Route:	Yes	Site is located outside of modelled breach flood extents
Flood Resilient Design:	Yes	In line with guidance set out in 'Improving the Flood Performance of New Buildings' (2007)
Site Drainage Plan:	N/A	Recommended to discharge surface water from the small extension as per the existing drainage infrastructure. Betterment can be provided by incorporating small-scale SuDS measures
Flood Warning & Evacuation Plan:	Yes	Site is located outside of modelled breach flood extents
Offsite Impacts	**Summary**	**Comment**
Displacement of floodwater:	No	Site is located outside of modelled breach flood extents
Increase in surface run-off generation:	Negligible	Recommended to discharge surface water from the small extension as per the existing drainage infrastructure
Impact on hydraulic performance of channels:	No	Does not affect channel

Table 1 Summary of flood risks, impacts and proposed flood mitigation measures.
N/A[1] not required for this assessment; N/A[2] data not available.

2. Development Description and Site Area

Proposed Development and Location

2.1 The proposed development is located at Flat 4, 129 Camberwell Road, SE5 0HB (Figure 1).

2.2 The existing site currently consists of residential use. It is understood that the proposed development is for the construction of a single storey rear extension to provide greater habitable space.

2.3 Analysis of topographic levels demonstrates that the site varies between approximately 2.31mAOD and 3.70mAOD (2m LiDAR data).

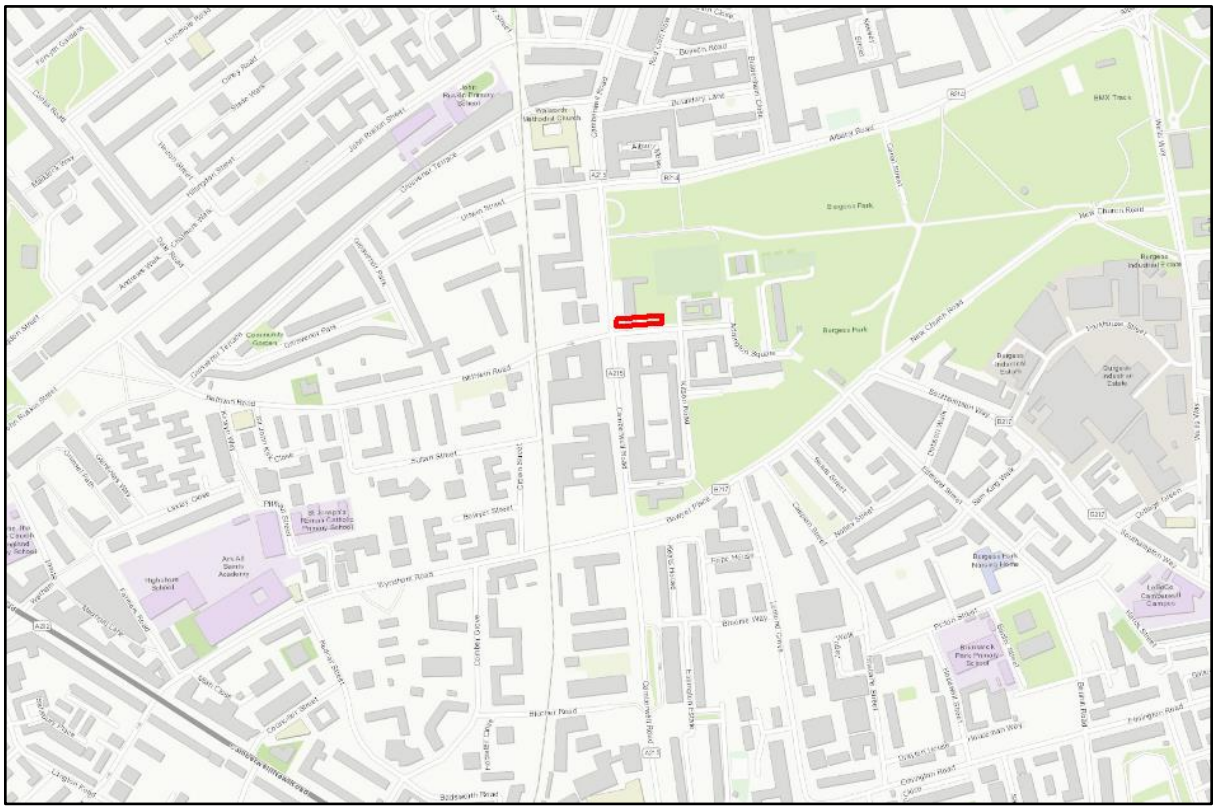


Figure 1 Location Map, identifying the redline curtilage of site (Source: Client)

Vulnerability Classification

2.4 The EA Flood Map for Planning (Figure 2) demonstrates that the proposed development lies within Flood Zone 3 with a high probability of greater than 1 in 100 (1%) or river or tidal flooding in any year. The proposed development is in an area which benefits from flood defences.

2.5 The existing dwelling is classified as More Vulnerable under the National Planning Policy Framework (NPPF). The proposed development is for the construction of an extension to an existing residential dwelling to provide greater habitable space and is considered to be a minor development, as such, the NPPF classification will not change post-development.

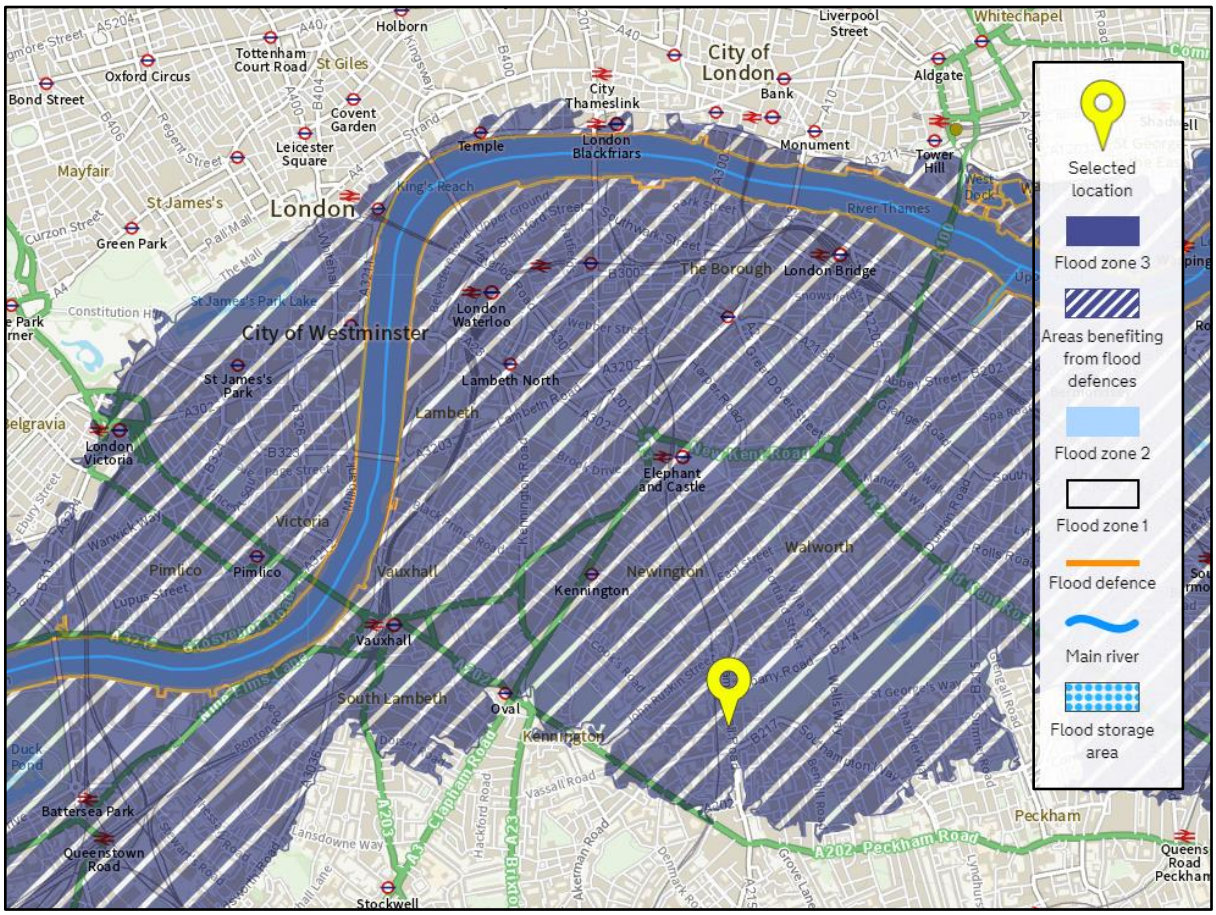


Figure 2 EA Flood Map for Planning (Source: EA)

Geology

2.6 The British Geological Survey (BGS) Geology of Britain Viewer indicates that the bedrock underlying the site is the Lambeth group, comprised of clay and silt. This is a Secondary 'A' type aquifer, comprised of permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

2.7 The British Geological Survey (BGS) Geology of Britain Viewer indicates that the superficial deposits underlying the site is the Langley Silt Member. This is also a Secondary 'A' type aquifer.

3. Sequential Test/Exception Test

3.1 Under the NPPF, all new planning applications should undergo a *Sequential Test*. This test should be implemented by local planning authorities with a view to locating particularly vulnerable new developments (e.g. residential, hospitals, mobile homes etc.) outside of the floodplain.

3.2 The Flood Risk and Coastal Change Planning Practice Guidance (PPG) *Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table* is reproduced below;

Flood Risk Vulnerability Classification	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable	Less Vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test Required	✓	✓
Zone 3a	Exception Test Required	✓	×	Exception Test Required	✓
Zone 3b ***Functional Floodplain***	Exception Test Required	✓	×	×	×

Table 2 The Sequential Test: Flood Risk Vulnerability and Flood Zone 'Compatibility' Table as specified by NPPF. Please note: ✓means development is appropriate; ×means the development should not be permitted.

3.3 Using the principles of the Sequential Test outlined above, the proposed development is More Vulnerable. The site is located within Flood Zone 3 (as defined by the EA) and therefore, the proposed development may require the application of the exception test.

3.4 Furthermore, the NPPF (paragraph 164) states that:

*Applications for some **minor development** and changes of use[1] should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote[2].*

3.5 The proposed development is for the construction of a single storey rear extension to an existing dwelling. This is considered a minor development under the NPPF and therefore may be permitted without the application of the sequential or exception tests, if it can be demonstrated that the proposed development can be achieved without increase to flood risk on site or elsewhere.

[1] This includes householder development, small non-residential extensions (with a footprint of less than 250m2) and changes of use; except for changes of use to a caravan, camping or chalet site, or to a mobile home or park home site, where the sequential and exception tests should be applied as appropriate

[2] A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use

4. Site Flood Hazards

Sources of Flooding

4.1 The proposed development is located within Flood Zone 3 (high risk of flooding) and is considered to be 'More Vulnerable' according to NPPF guidelines. Table 3 summarises the potential sources of flooding to the site:

Source	Description
Tidal	Area Benefitting from Flood Defences (Flood Zone 3)
Surface	Low Risk
Groundwater	Low Risk
Sewer	Low Risk

Table 3 Summary of flood sources.

Mechanisms and History of Flooding

4.2 The EA Flood Map for Planning (Figure 2) demonstrates the site to be located within Flood Zone 3 (high risk of flooding) in an area benefitting from flood defences.

Tidal

4.3 This location falls in the Greenwich Tertiaries Operational Catchment, in the Thames River Basin. The River Thames is located approximately 2.4km east of the proposed development at the nearest proximity and is tidal at this location.

4.4 With reference to the Environment Agency (EA) Flood Map for Planning (Figure 2), the proposed development is located within Flood Zone 3, with a high probability of flooding without the local flood defences. The site is also shown to be located within an area benefitting from the presence of flood defences.

4.5 The borough is protected against tidal flooding through the Thames Tidal Defence (TTD) system. The TTD provides a 1 in 1000-year standard of protection through a combination of raised defences, flood proofing, and the Thames Barrier. The Thames Estuary 2100 study (HR Wallingford, 2008) indicates that the defences along the Thames would provide a 1:1000-year standard of protection until at least the year 2100.

4.6 Tidal flooding is generally caused by low pressure weather systems creating storm-surges (or storm tides) chiefly via high speed winds. These winds (and to a certain extent, the low pressure) create a 'bulge' of water which, if it coincides with high tide, can generate very high-water levels. This mechanism is well understood, so it is very likely that an early warning will be issued before such an event. As such, it is very unlikely that the site would be subject to tidal flooding without several hours of early warning.

4.7 The risk from tidal flooding to the proposed development is considered to be of low significance due to the comprehensive nature of the flood defence in this area. There is, however, a residual risk in the event of a breach of defences, which is discussed in section 6 of this report.

4.8 The risk of tidal flooding to the proposed development could be considered low.

Surface Water (Pluvial)

4.9 The Environment Agency Flood Risk from Surface Water map (Figure 3) shows the proposed development to be within an area at very low risk of flooding from surface water. Areas identified to be at very low risk have an annual probability of less than 1 in 1000 (0.1%) of flooding from this source.

4.10 The EA Surface Water Flood Depth Map for the low risk (1 in 1000 year) Scenario is shown in Figure 4. In this scenario, the site would not be affected, and safe access/egress to the property would still be possible along Camberwell Road.

4.11 The surface water flood risk to site may be considered very low.

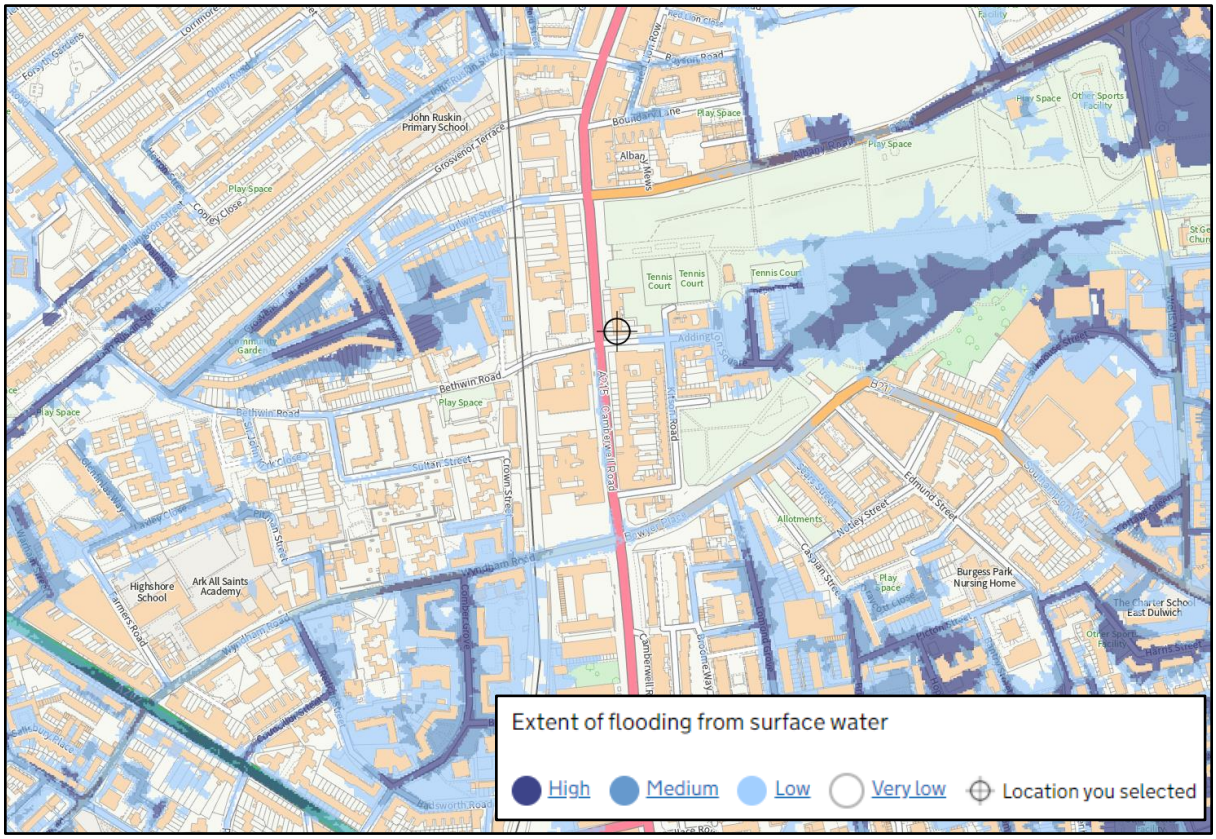


Figure 3 EA Surface Water Flood Risk Map. (Source: EA) Crosshairs mark site

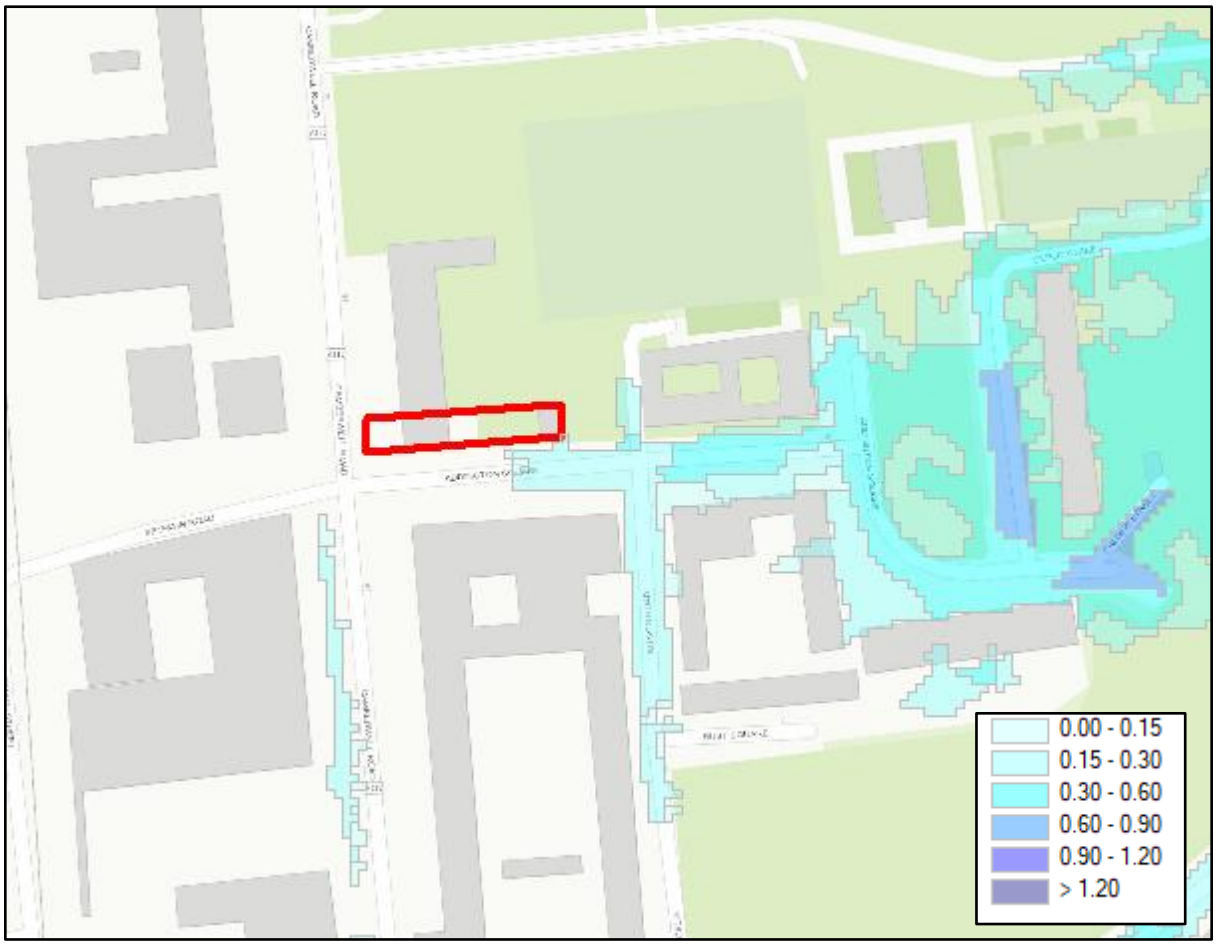


Figure 4 Surface Water Depths for a Low Risk (1 in 1000 year) Scenario. (Source: EA) Redline indicates proposed site boundary

Groundwater

4.12 The British Geological Survey (BGS) Geology of Britain Viewer indicates that the bedrock underlying the site is the Lambeth group, comprised of clay and silt. The British Geological Survey (BGS) Geology of Britain Viewer indicates that the superficial deposits underlying the site is the Langley Silt Member.

4.13 The London Borough of Southwark SFRA (2017) provides a map of susceptibility to groundwater flooding, using BGS data (Figure 5). This map indicates that the proposed development is located in an area which is not considered to be susceptible to groundwater flooding.

4.14 The risk of groundwater flooding could be considered relatively low.

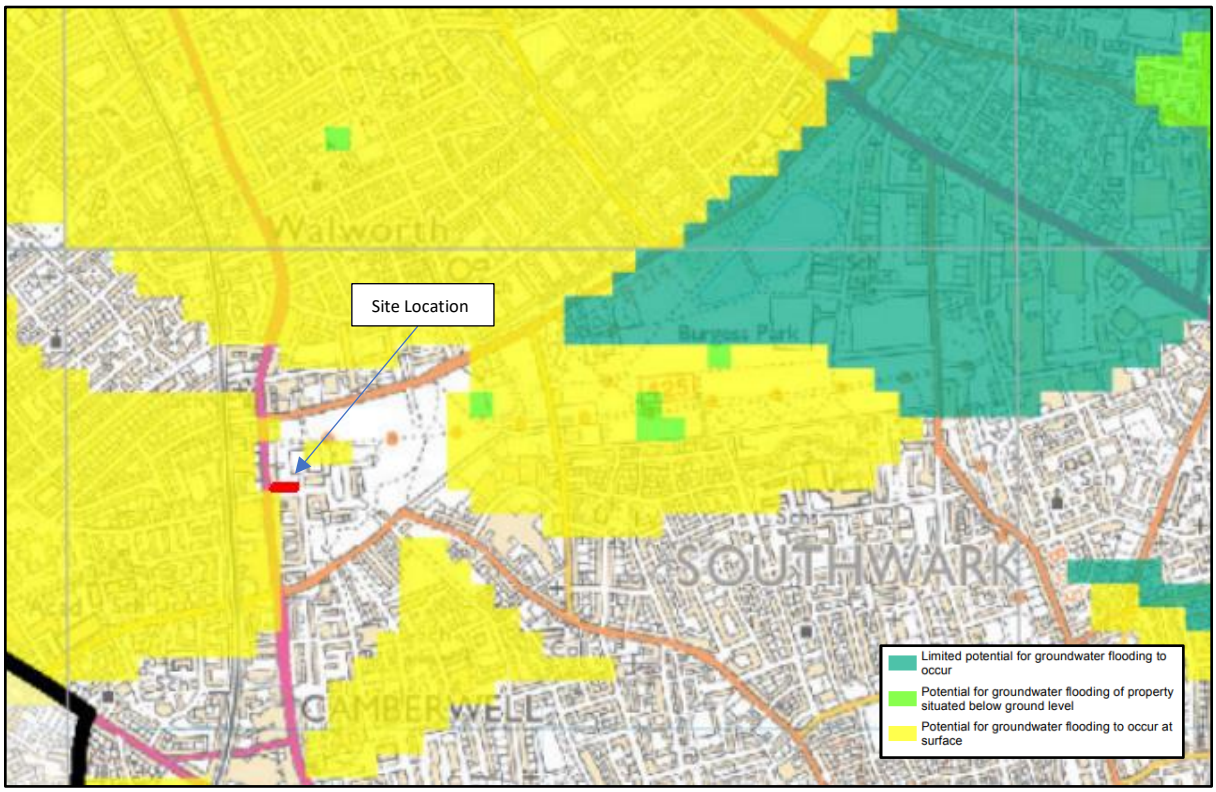


Figure 5 Groundwater Susceptibility. (Source: London Borough of Southwark SFRA, 2016)

Sewer

4.15 The London Borough of Southwark SFRA (2017) provides a map of sewer flooding by postcode, based on Thames Water DG5 register (Figure 6). This map indicates that the proposed development is located in an area where there have been between 1 and 2 sewer flooding incidents recorded.

4.16 The risk of sewer flooding to the proposed development could be considered relatively low.

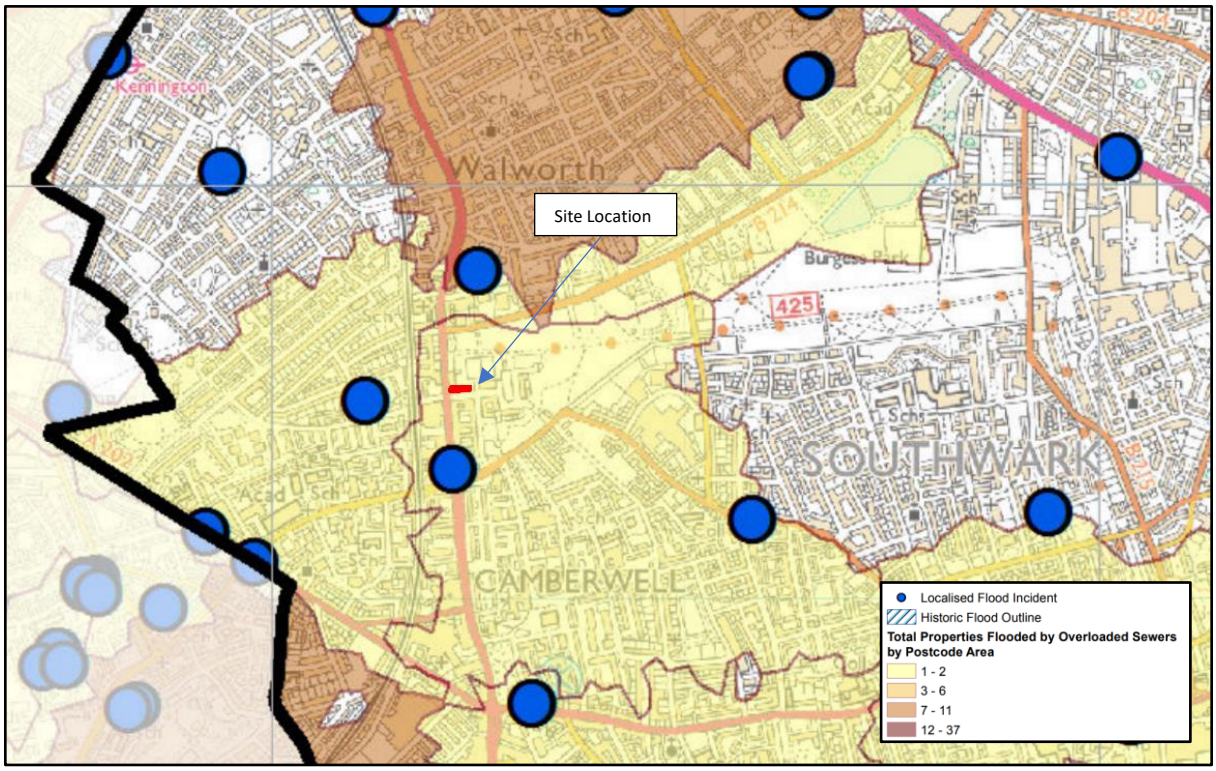


Figure 6 Sewer. (Source: London Borough of Southwark SFRA, 2017, based on DG5 Register). Redline indicates proposed site boundary.

Surface Water Drainage Strategy

4.17 It is understood that the development is for the construction of a single storey rear extension.

4.18 The proposed development is considered a minor development under the NPPF. The increase in impermeable surface area will not be greater than 250m^2 and is therefore not expected to increase the volume of surface water runoff from the site. It is recommended that the developer discharges surface water runoff as per the existing drainage system associated with the existing building.

4.19 Betterment could be provided by incorporating small scale SuDS, such as a water butt connected to an existing rainwater downpipe. This could provide rainwater for non-potable uses around the garden area.

Records of Historical Flooding

4.20 The site is located in an area where there were between one and two Thames Water or council recorded incident of sewer flooding in the ten years preceding publication of the London Borough of Southwark SFRA (2017).

4.21 The London Borough of Southwark SFRA (2017) provides a map of historic council-recorded flooding incidents within the borough (Figure 6), which indicates that there have been three flood incidents recorded close to the site. One of these was located approximately 200m south of the proposed development site, one was located approximately 200m west of the proposed development site and one was located approximately 300m north of the proposed development site.

5. Probability of Flooding

Flood Zones

5.1 According to the EA Flood Map for Planning, the site is located within Flood Zone 3 in an area benefitting from flood defences.

5.2 The EA Flood Map for Planning has been produced in part using a relatively coarse, national scale flood modelling strategy, and in part by detailed modelling. It is important to note that only the potential floodplain is modelled; **the mitigating effects of any flood defences currently in place are not considered**. For reference, the definition of the NPPF flood risk zones is included below.

Zone	Description
1	**Low Probability.** This zone comprises land assessed as having a less than 1 in 1000 annual probability of river or sea flooding in any year (<0.1%).
2	**Medium Probability.** This zone comprises land assessed as having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% – 0.1%) or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% – 0.1%) in any year.
3a	**High Probability.** This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%) or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year.
3b	**The Functional Floodplain.** This zone comprises land where water has to flow or be stored in times of flood. SFRA's should identify this Flood Zone (land which would flood with an annual probability of 1 in 20 (5%) or greater in any year or is designed to flood in an extreme (0.1%) flood, or at another probability to be agreed between the LPA and the EA, including water conveyance routes).

Table 4 Definition of the NPPF Flood Zones. (Source: EA)

Climate Change on Site

5.3 Climate change is likely to increase the flow in rivers and raise sea levels and storm intensity. The proposed development is likely to be at more risk of tidal flooding in the future. The borough is protected against tidal flooding through the Thames Tidal Defence (TTD) system. The TTD provides a 1 in 1000-year standard of protection through a combination of raised defences, flood proofing, and the Thames Barrier. The Thames Estuary 2100 study (HR Wallingford, 2008) indicates that the defences along the Thames would provide a 1:1000-year standard of protection until at least the year 2100.

6. Residual Risks

Identification of Residual Risks

6.1 Residual risks are those remaining after applying the sequential approach to the location of development and taking mitigating actions. Examples of residual flood risk include:

- the failure of flood management infrastructure such as a breach of a raised flood defence, blockage of a surface water conveyance system, overtopping of an upstream storage area, or failure of a pumped drainage system;
- failure of a reservoir; and,
- a severe flood event that exceeds a flood management design standard, such as a flood that overtops a raised flood defence, or an intense rainfall event which the drainage system cannot cope with.

Defence Breach

6.2 The site is located entirely within Flood Zone 3 and within an area benefitting from the presence of flood defences. As such there is a residual risk of flooding following a defence breach. The hazard map for defence breach is shown in figure 7, and this indicates that the proposed development is located outside of the potential affected area. Therefore, the risk to site in the event of a defence breach is very low.

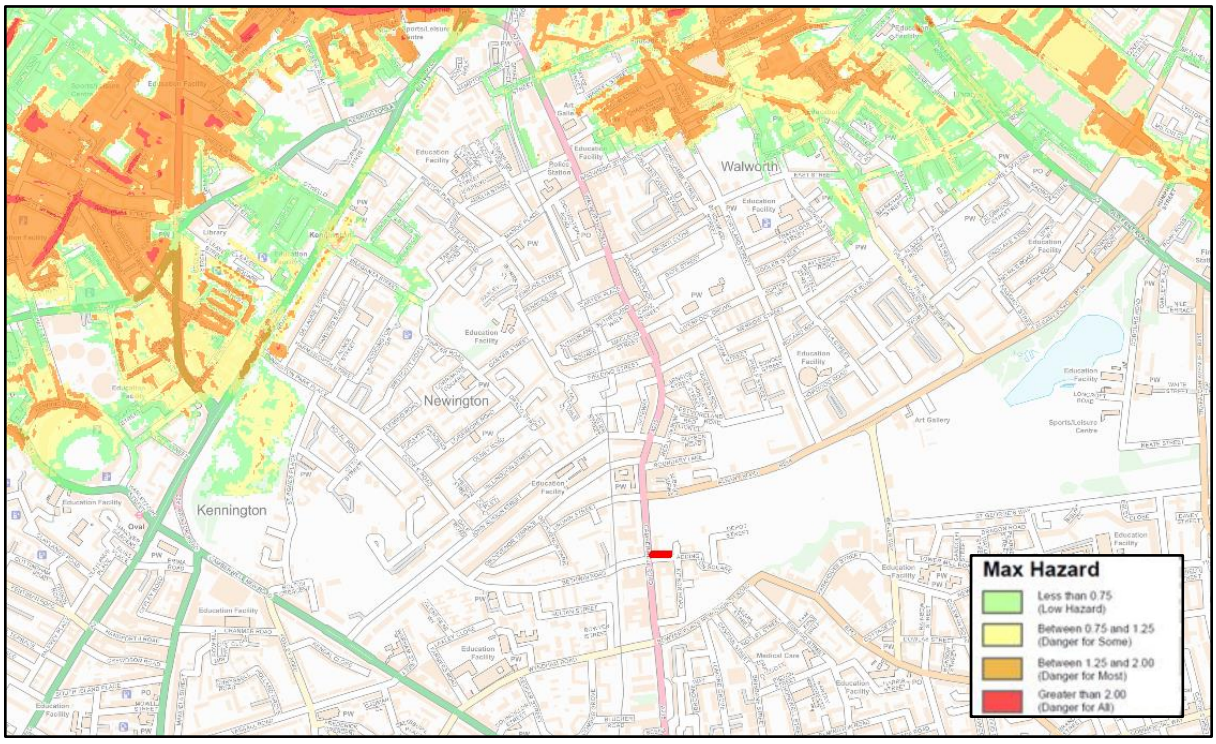


Figure 7:2100 Defence breach. Redline indicates proposed site boundary.

Reservoir Failure

6.3 The EA Risk of Flooding from Reservoir Map demonstrates that the site is outside flood extents in the event of reservoir flooding.

Drainage Exceedance

6.4 In the event of drainage system failure under extreme rainfall events or blockage, flooding may occur within the site. In the event of the development's drainage system failure, the runoff flow will be dictated by topography on site. Topographic elevations from 2m LiDAR suggest that runoff would be directed towards the east of the site.

7. Flood Risk Management Measures

Flood Risks

7.1 The site is located entirely within EA Flood Zone 3, in an area which benefits from flood defences in the form of the Thames Barrier. In addition, the site is at low risk of flooding in the event of a defence breach.

7.2 As discussed, the FRA will be required to comply with relevant EA Standing Advice (Minor Developments Standing Advice) which states:

Use the advice for minor extensions to complete an assessment for a minor extension in flood zone 2 or 3. A minor extension is a household or non-domestic extension with a floor space of no more than 250 square metres.

Make sure the floor levels are either no lower than existing floor levels or 300 millimetres (mm) above the estimated flood level. If they are not, ask your local planning authority if you also need to consider extra flood resistance and resilience measures.

Show how you're going to ensure the development is not flooded by surface water. An example of this could be to divert surface water away from the property or by using flood barriers.

7.3 It should be noted that the risk of flooding to the site is generally considered to be low and is located outside of modelled breach flood extents. As such, the following mitigation measures are recommended to be incorporated into the proposed extension:

- Finished floor levels of the proposed extension are to be set no lower than the existing floor levels;
- Non-return valves on any new sewer connections to prevent back flow;
- Exterior ventilation outlets, utility points and air bricks to be fitted with removeable waterproof covers, and;
- The site owner and residents to sign up to the EA Flood Warning/Alert Service and have an evacuation plan.

7.4 It is recommended that residents are aware of the EA Flood Information service which identifies whether any flood warnings or alerts have been issued for a specific postcode or place in England or Wales: https://flood-warning-information.service.gov.uk/.

7.5 During periods of bad weather, site users should monitor local weather reports and sign up for the Met Office UK weather warnings. Warnings can be monitored through an Apple/Android app, Twitter or directly via emails. Further information can be found at https://www.metoffice.gov.uk/.

Flood Warning Service

7.6 The EA operates a 24-hour telephone service on 0345 988 1188 that provides frequently updated flood warnings and associated floodplain information. Further information can be found on www.environment-agency.gov.uk/floodline. Floodline Warnings Direct is a free service operated by the EA that provides flood warnings direct to occupants by telephone, mobile phone, fax or pager.

7.7 The proposed development site is located within an EA Flood Warning/Alert Service Area. As such, it is recommended that site users sign up to this service. Upon receipt of a Flood Warning, site users are advised to evacuate the site to a designated place of safe refuge within Flood Zone 1.

7.8 During a flood event the existing building should remain dry, however surrounding roads may be inundated. The hazard rating for the surrounding area is 'Hazard for Most' and therefore safe access egress cannot be provided. It is recommended to seek prior evacuation upon receipt of a severe flood warning or if instructed to do so by emergency services.

7.9 The site benefits from defences which offer a standard of protection against the 1:1000-year tidal event and should continue to do so until at least 2100. The site lies outside the modelled flood extent for the 2100-epoch defence breach event. As such, safe access/egress should be viable in a 2100 breach event. In a defence breach event, if the decision is made to evacuate, site users leave the site and travel south away from the modelled breach extent.

What to do if you receive a **Flood Alert**

7.10 A flood alert means you need to prepare, flooding is possible. You should:

- check your flood risk - https://flood-warning-information.service.gov.uk/long-term-flood-risk
- sign up for flood warnings - https://www.gov.uk/sign-up-for-flood-warnings
- keep up to date with the latest situation - call Floodline on 0345 988 1188 or follow @EnvAgency and #floodaware on Twitter for the latest flood updates
- have a bag ready with vital items like insurance documents and medications in case you need to leave your home
- check you know how to turn off your gas, electricity and water mains supplies
- plan how you'll move family and pets to safety

What to do if you receive a **Flood Warning**

7.11 A flood warning means you need to act, flooding is expected. You should do all the actions for a flood alert but also:

- move vehicles to higher ground if it's safe to do so
- move family and pets to safety
- move important items upstairs or to a safe place in your property, starting with cherished items and valuables, then furniture and furnishings
- turn off gas, electricity and water supplies if it's safe to do so; never touch an electrical switch if you're standing in water
- if you have property protection products such as flood barriers, or air brick covers, use them now
- keep track of the latest situation - https://flood-warning-information.service.gov.uk/warnings

What to do if you receive a **Severe Flood Warning**

7.12 A severe flood warning means there is danger to life: you must act now:

- call 999 if you're in immediate danger
- follow advice from the emergency services and evacuate if you're told to do so
- make sure you have an emergency kit including a torch, spare batteries, mobile phone and charger, warm clothes, important numbers like your home insurance, water, food, first aid kit and any medicines and baby care items you may need
- alert neighbours and offer help if it's safe to do so

- avoid driving or walking through flood water: just 30cm (1 foot) of fast flowing water could move your car and even shallow moving water can knock you off your feet
- keep your family and pets away from floodwater – it may contain heavy debris, sharp objects, open manhole covers, sewage and chemicals
- wash your hands if you've been in contact with flood water which may contain toxic substances

8. Off Site Impacts

Flood Water Displacement

8.1 It is understood that the development is for the construction of a single storey rear extension.

8.2 The proposed development site is at low risk of flooding and therefore the proposed development is not expected to cause displacement of flood water.

Generation of Runoff

8.3 It is understood that the development is for the construction of a single storey rear extension.

8.4 The proposed development is considered a minor development under the NPPF. The increase in impermeable surface area will not be greater than 250m^2 and is therefore not expected to increase the volume of surface water runoff from the site. It is recommended that the developer discharges surface water runoff as per the existing drainage system associated with the existing building.

8.5 Betterment could be provided by incorporating small scale SuDS, such as a water butt connected to an existing rainwater downpipe. This could provide rainwater for non-potable uses around the garden area.

9. Conclusion

9.1 Ambiental Environmental Assessment has been appointed by Kathryn Bryant to undertake a National Planning Policy Framework (NPPF) compliant Flood Risk Assessment (FRA) for the proposed development at Flat 4, 129 Camberwell Road, London, SE5 0HB.

9.2 The existing site currently consists of residential use. It is understood that the proposed development is for the construction of a single storey rear extension to provide greater habitable space.

9.3 With reference to the Environment Agency (EA) Flood Map for Planning, the proposed development is located within Flood Zone 3, in an area which benefits from the Thames Tidal Defence scheme.

9.4 The existing dwelling is classified as More Vulnerable under the National Planning Policy Framework (NPPF). The proposed development is for the construction of an extension to an existing residential dwelling to provide greater habitable space and is considered to be a minor development, as such, the NPPF classification will not change post-development.

9.5 The site is protected against tidal flooding through the Thames Tidal Defence (TTD) system. The TTD provides a 1 in 1000-year standard of protection through a combination of raised defences, flood proofing, and the Thames Barrier. The Thames Estuary 2100 study (HR Wallingford, 2008) indicates that the defences along the Thames would provide a 1:1000-year standard of protection until at least the year 2100.

9.6 The increase in impermeable surface area will not be greater than 250m^2 and is therefore not expected to increase the volume of surface water runoff from the site. It is recommended that the developer discharges surface water runoff as per the existing drainage system associated with the existing building. Betterment could be provided by incorporating small scale SuDS, such as a water butt connected to an existing rainwater downpipe. This could provide rainwater for non-potable uses around the garden area.

9.7 The proposed development site is located outside the EA's 2100 defence breach modelled flood extent. As such, safe access/egress should be possible in a defence breach event.

9.8 It is recommended that residents are aware of the EA Flood Information service which identifies whether any flood warnings or alerts have been issued for a specific postcode or place in England or Wales: https://flood-warning-information.service.gov.uk/.

9.9 During periods of bad weather, site users should monitor local weather reports and sign up for the Met Office UK weather warnings. Warnings can be monitored through an Apple/Android app, Twitter or directly via emails. Further information can be found at https://www.metoffice.gov.uk/.

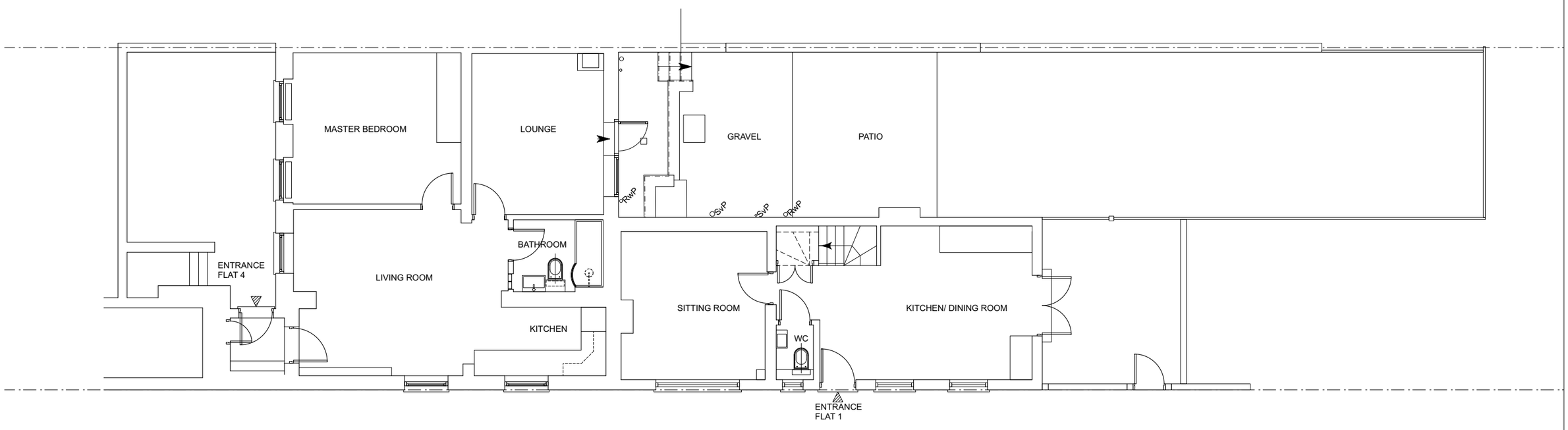
9.10 In Summary:

- The proposed development is for the construction of a single storey rear extension to provide greater habitable space. The proposed extension is under 250m^2 and therefore should be considered a 'minor development.
- The site is located in an area of Flood Zone 3 that benefits from the presence of flood defences with a standard of protection of up to 1000 years. Furthermore, the site is located outside of modelled breach flood extents.
- Betterment can be provided by formalising flood warning and evacuation procedures.

9.11 The proposed development is considered to be suitable, assuming appropriate mitigation (including adequate warning procedures) can be maintained for the lifetime of the development.

Appendix I - Site Plans

Ambiental Environmental Assessment
Sussex Innovation Centre,
Science Park Square,
Brighton, BN1 9SB



0 500 1500 2500 3500 4500 mm

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To be read in conjunction with all relevant information - do not scale

project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title LOWER GROUND FLOOR PLAN
EXISTING BLOCK PLAN

scale	size	drawing number	rev.
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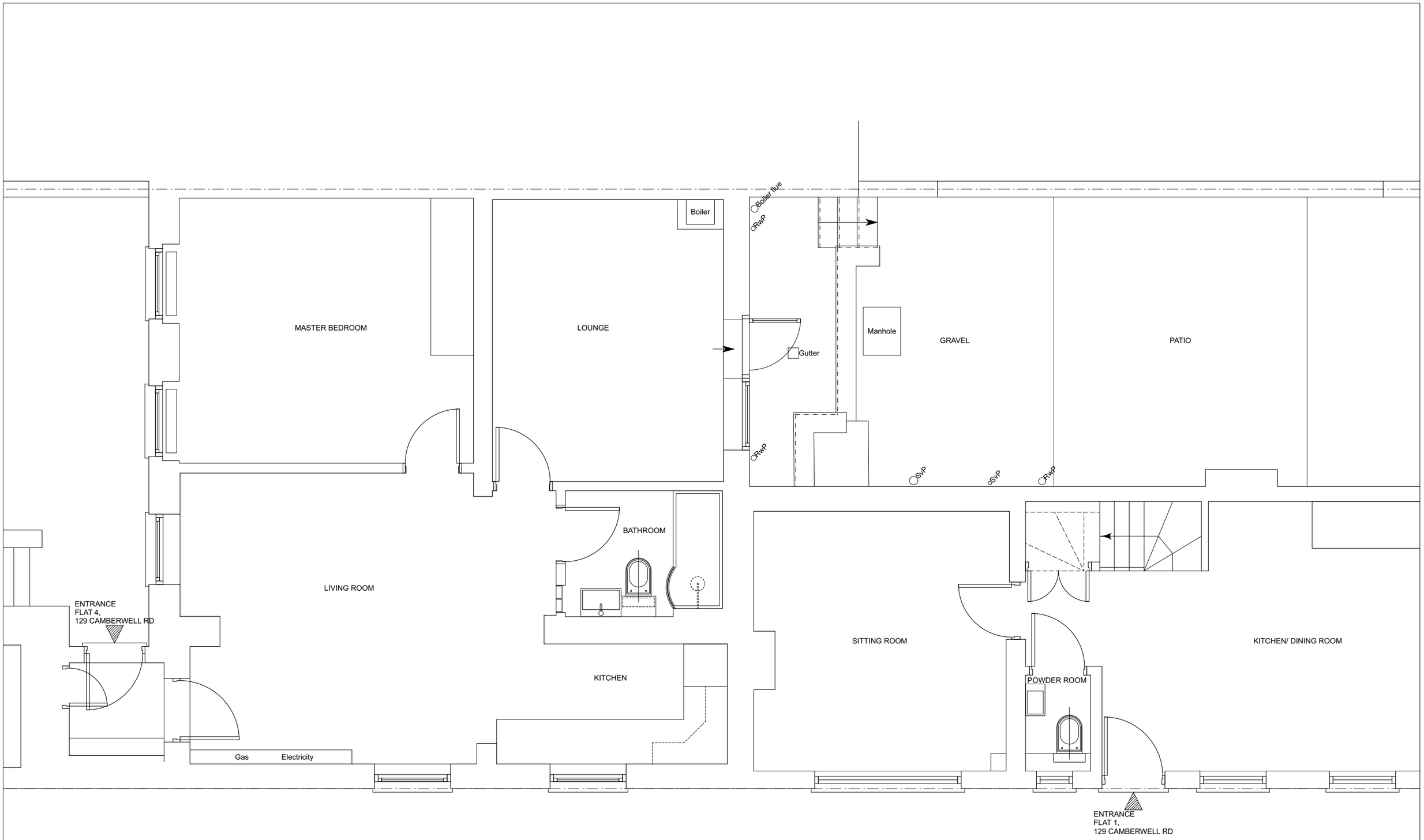

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title LOWER GROUND FLOOR PLAN
EXISTING

scale	size	drawing number	rev.
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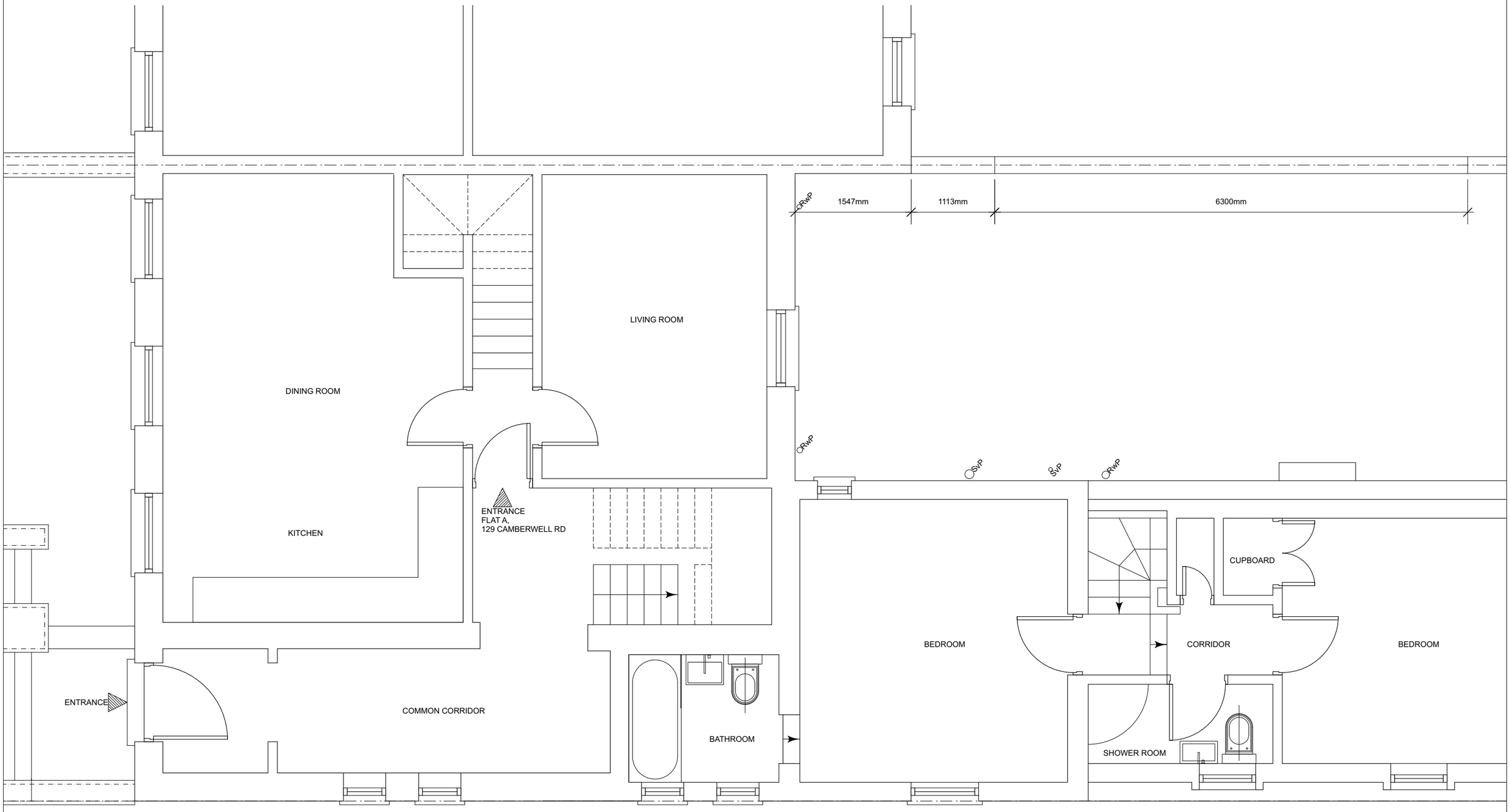

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title UPPER GROUND FLOOR PLAN
EXISTING

scale	size	drawing number	rev.
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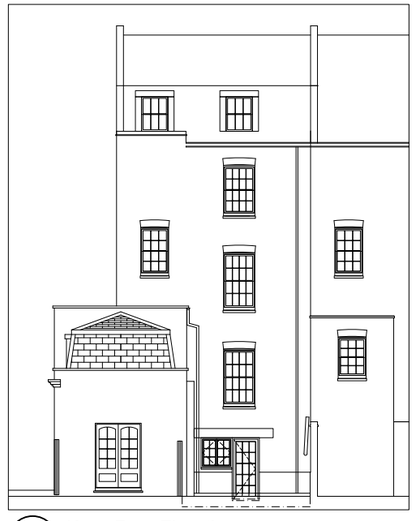

2 Key - Rear Elevation
Scale: 1:200

0 500 1500 2500 3500 4500 mm

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title REAR [BURGESS PARK] ELEVATION
EXISTING

scale	size	drawing number	rev.
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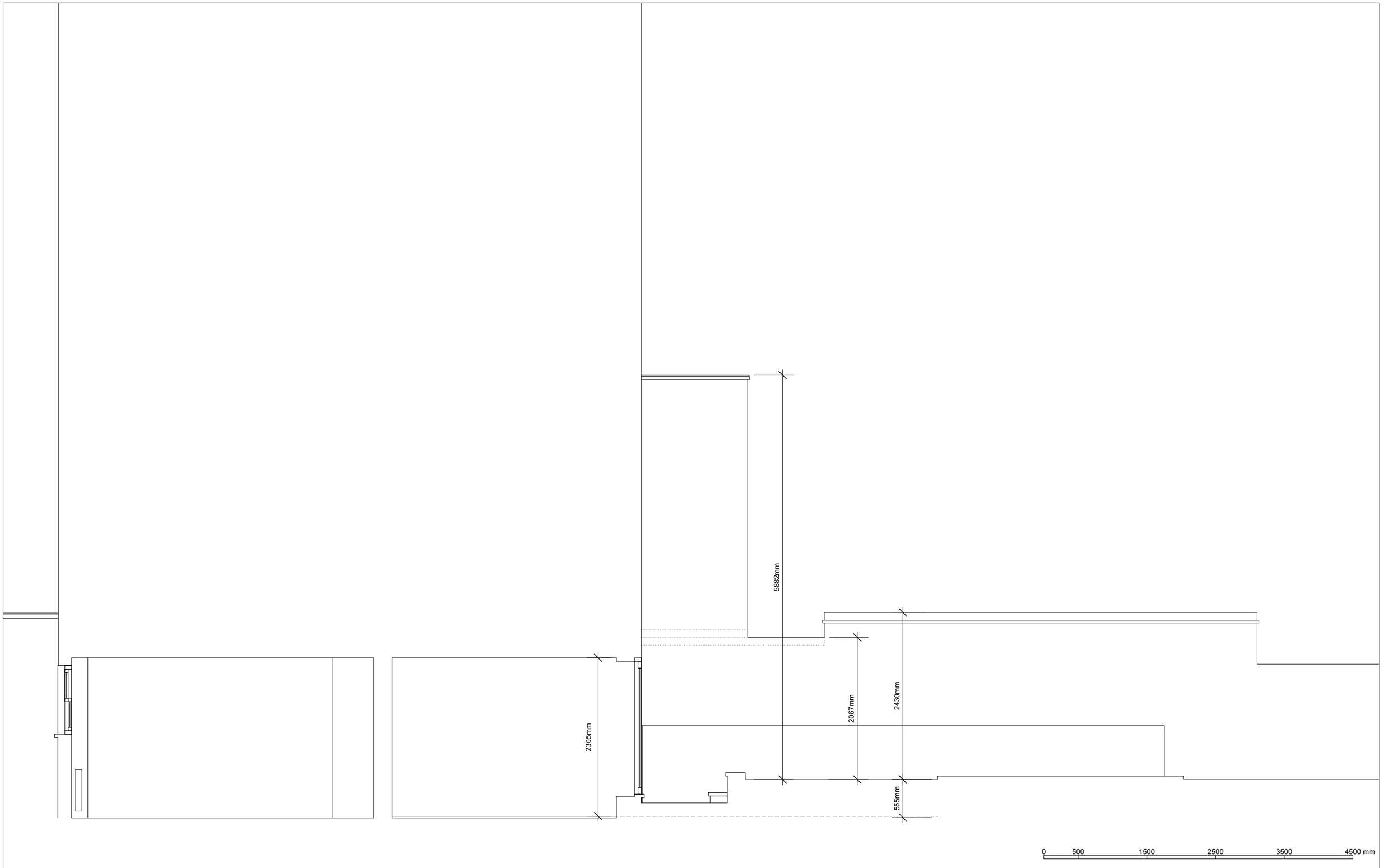

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project: FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for: KATHRYN BRYANT
title: LONGITUDINAL SECTION 01 - EXISTING FACING 127 CAMBERWELL RD

scale	size	drawing number	rev.
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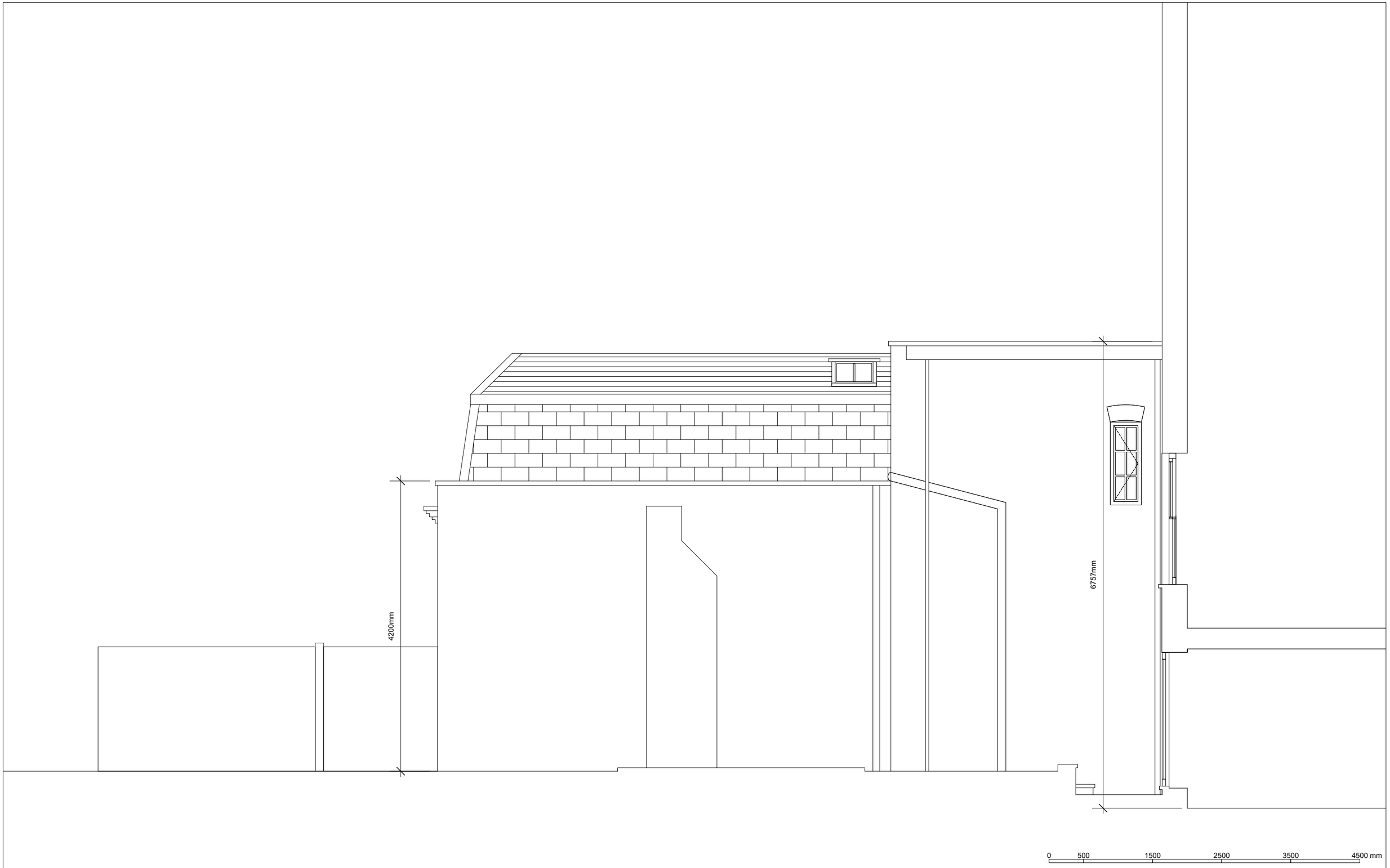

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB

for KATHRYN BRYANT

title LONGITUDINAL SECTION 02 - EXISTING FACING FLAT 1, 129 CAMBERWELL RD

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scale	size	drawing number	rev.
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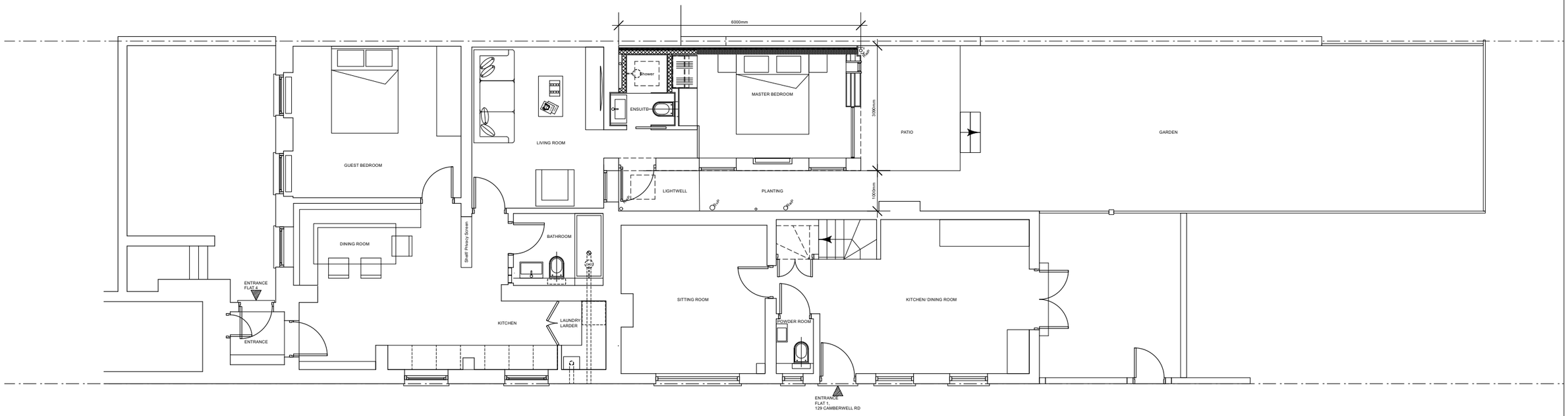

0 500 1500 2500 3500 4500 mm

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title LOWER GROUND FLOOR PLAN
PROPOSED BLOCK PLAN

status 07/09/21 ISSUED FOR PLANNING PERMISSION
To be read in conjunction with all relevant information - do not scale

scale	size	drawing number	rev
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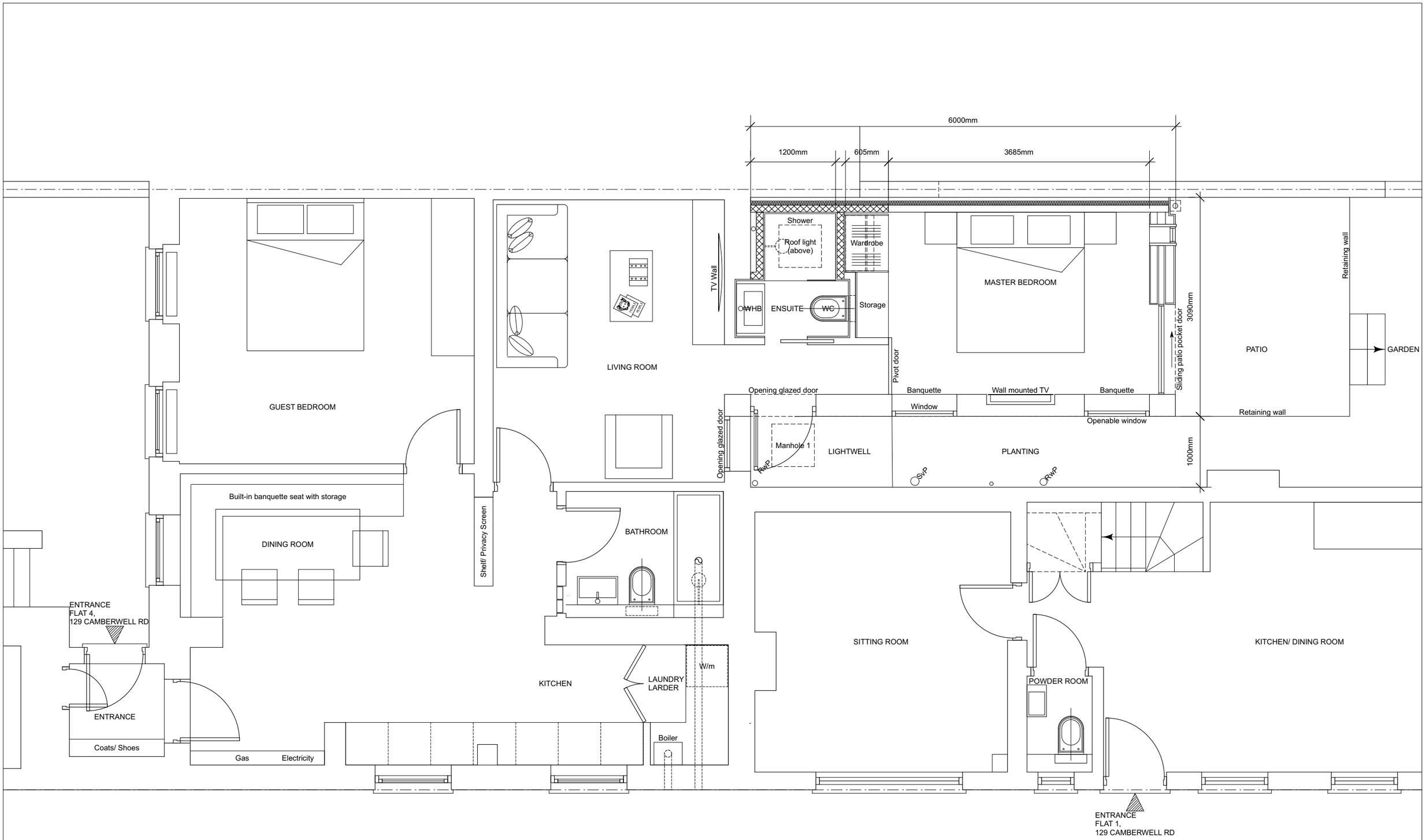

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To be read in conjunction with all relevant information - do not scale

project: FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for: KATHRYN BRYANT
title: LOWER GROUND FLOOR PLAN PROPOSED

scale	size	drawing number	rev.
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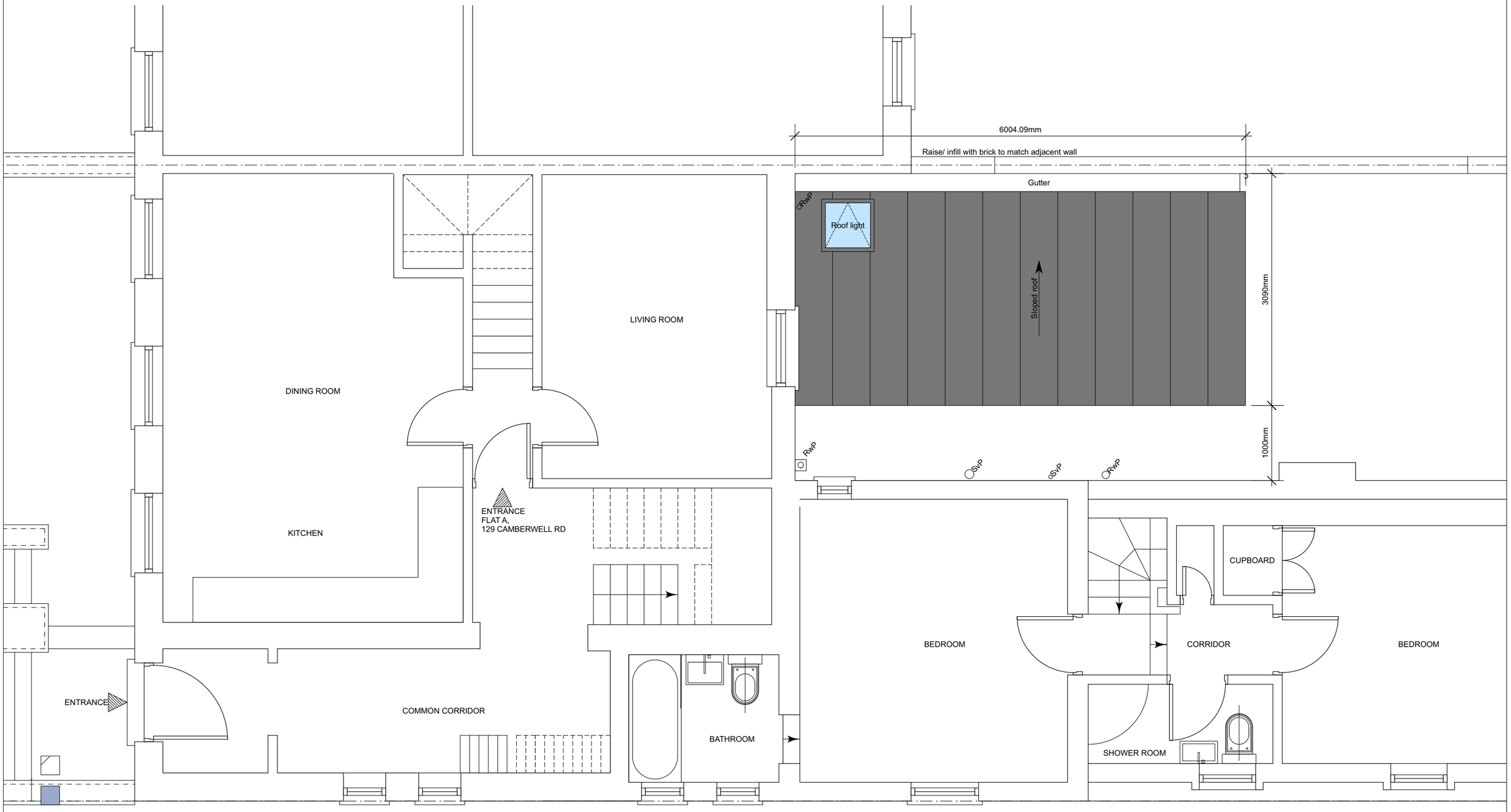

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title UPPER GROUND FLOOR PLAN PROPOSED

scale	size	drawing number	rev.
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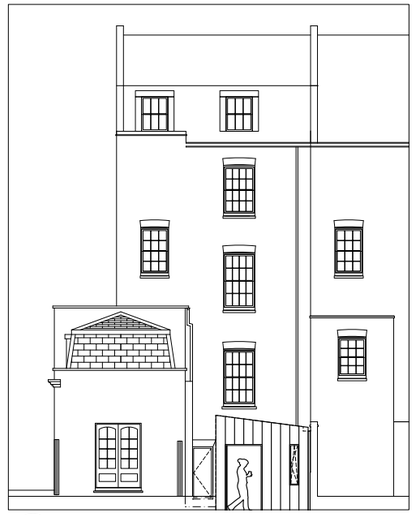

4 Key - Rear Elevation
Scale: 1:200

6088mm
4120mm
5882mm
2430mm

Rain water pipe
Existing boundary wall
Opening window
Metal cladding
Sliding pocket door

0 500 1500 2500 3500 4500 mm

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title REAR [BURGESS PARK] ELEVATION PROPOSED

scale	size	drawing number	rev.
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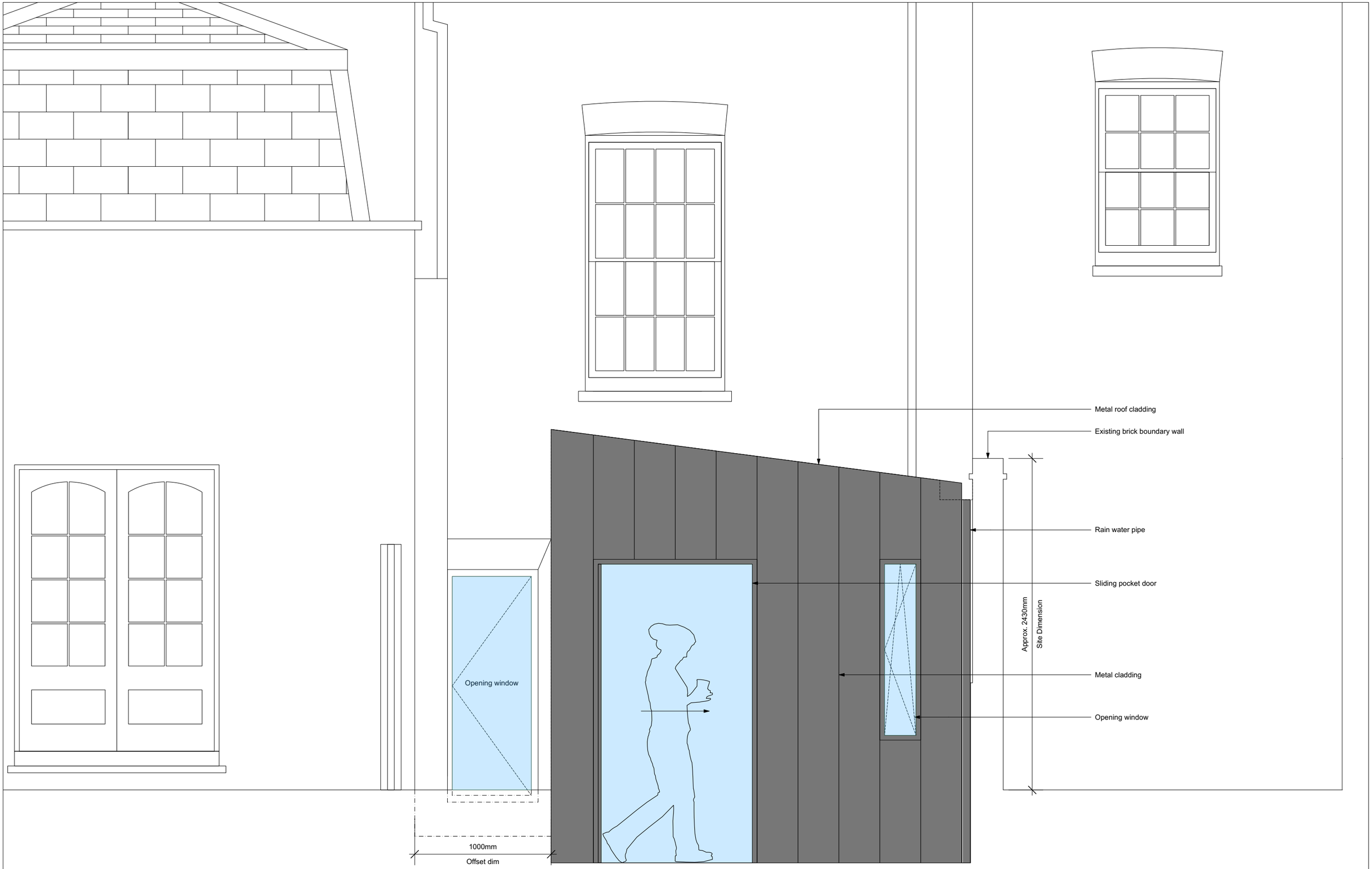

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title REAR [BURGESS PARK] ELEVATION DETAIL

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scale	size	drawing number	rev.
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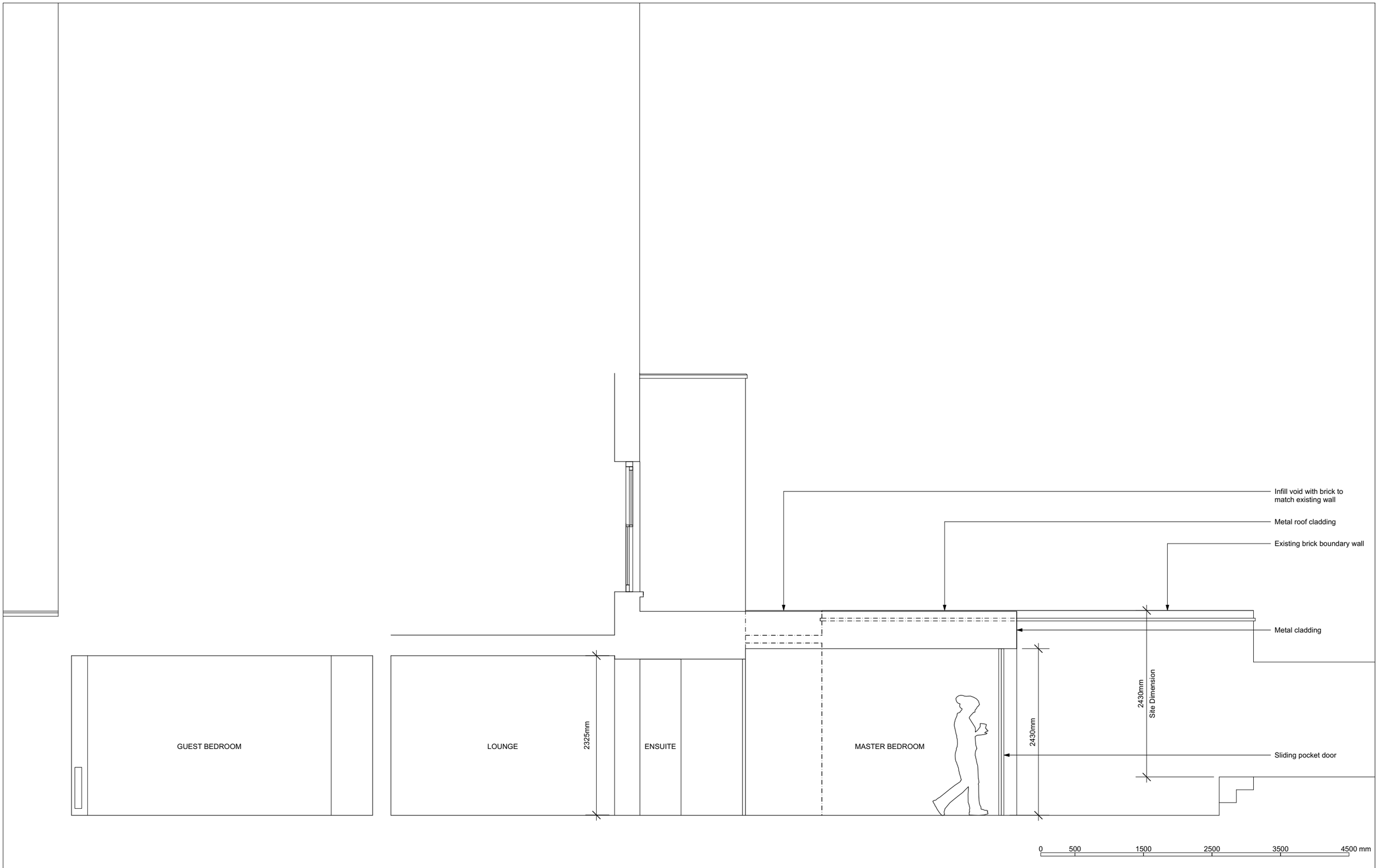

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title LONGITUDINAL SECTION 01 - EXISTING FACING 127 CAMBERWELL RD

scale	size	drawing number	rev.
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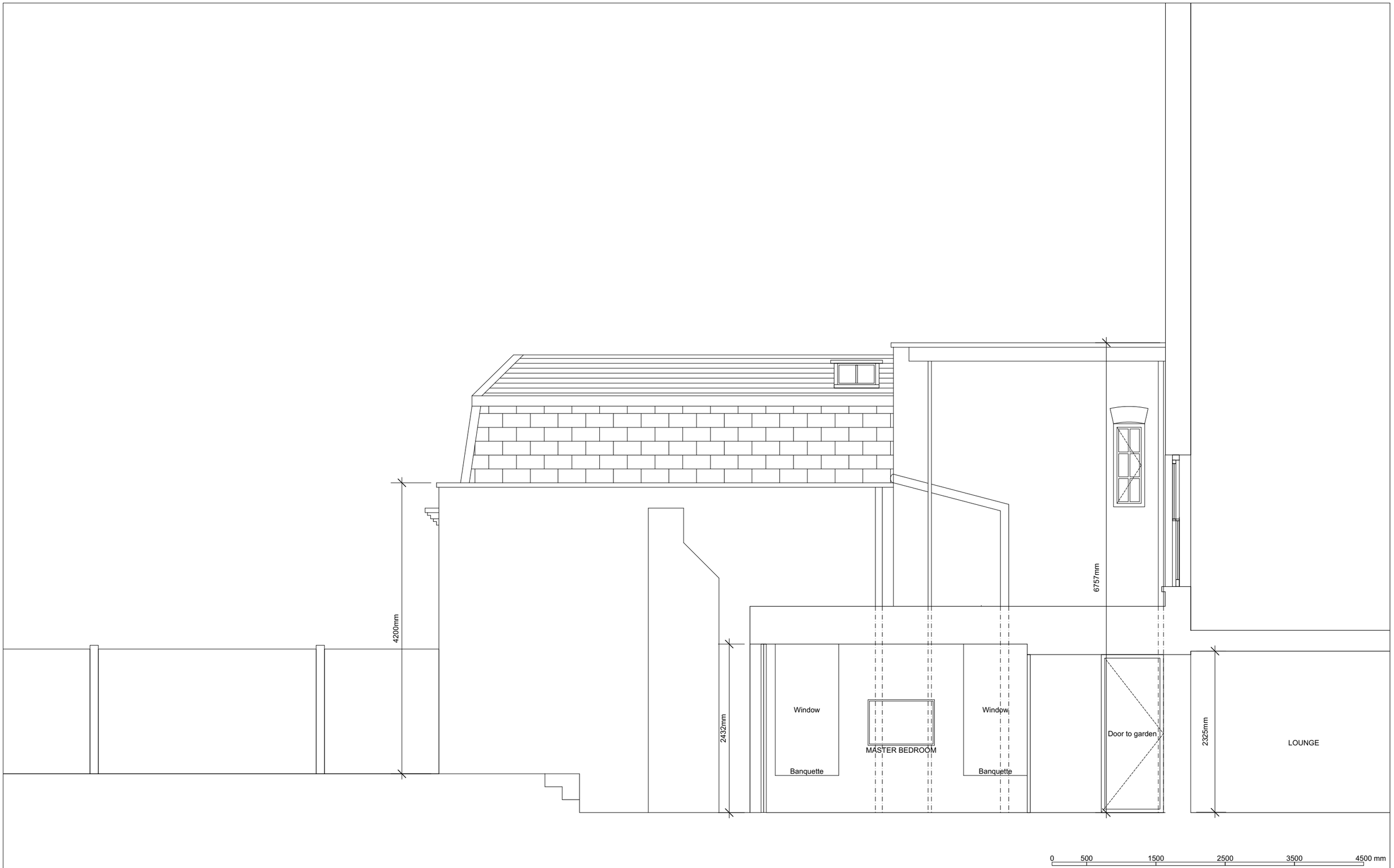

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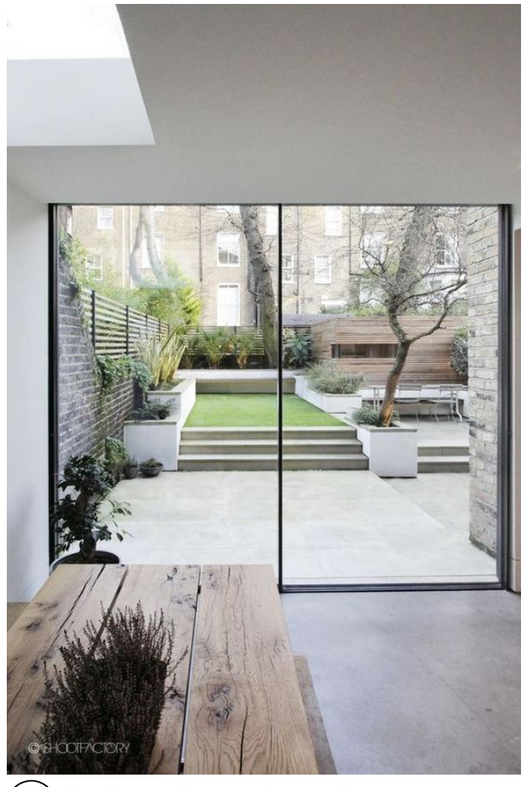
project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title LONGITUDINAL SECTION 02 - EXISTING FACING FLAT 1, 129 CAMBERWELL RD

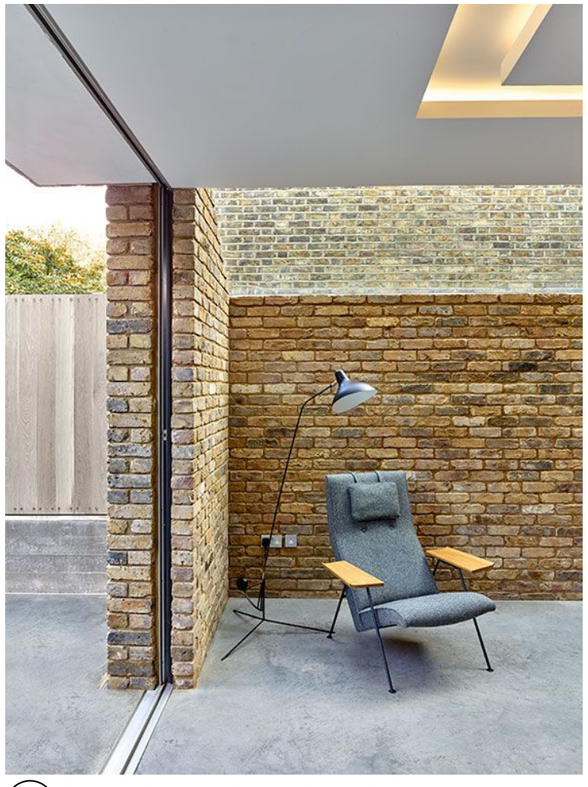
scale	size	drawing number	rev
1:50	A3	2006-PL-013	PL-02

1 Metal Cladding
Scale: NTS



2 Thin Framed Windows/ Concrete Floor
Scale: NTS

3 Exposed Timber Rafters and Timber Cladding
Scale: NTS



4 Exposed Timber Rafters and Timber Cladding
Scale: NTS

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title IDEAS FOR MATERIAL PALETT
PROPOSED

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To be read in conjunction with all relevant information - do not scale

scale	size	drawing number	rev.
NTS	A3	2006-PL-014	PL-02

1 View To Rear Facade
Scale: NTS

2 View Down Lenght of Garden
Scale: NTS

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title PHOTOGRAPHS OF EXISTING CONDITIONS

scale	size	drawing number	rev.
NTS	A3	2006-PL-015	PL-02

3 View of Boundary Condition with Flat 1, 129 Camberwell Rd
Scale: NTS

4 View of Boundary Condition with 127 Camberwell Road
Scale: NTS

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title PHOTOGRAPHS OF EXISTING CONDITIONS

scale	size	drawing number	rev.
NTS	A3	2006-PL-016	PL-02

5 View from Entrance to Flat
Scale: NTS

6 View from Living to Garden Access
Scale: NTS

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project FLAT 4, 129 CAMBERWELL ROAD, SE5 0HB
for KATHRYN BRYANT
title PHOTOGRAPHS OF EXISTING CONDITIONS

scale	size	drawing number	rev.
NTS	A3	2006-PL-017	PL-02

Appendix II - Supplementary Information

Ambiental Environmental Assessment
Sussex Innovation Centre,
Science Park Square,
Brighton, BN1 9SB