

Proposed Residential Redevelopment
Broom Road, Teddington TW11 9BE
Teddington Riverside
Daylight & Sunlight Report



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TEDDINGTON RIVERSIDE, LONDON – DAYLIGHT AND SUNLIGHT

1.0 INTRODUCTION

We have been instructed to provide a Daylight and Sunlight Report in respect of the above development.

This Report concentrates on the daylight and sunlight to the proposed development itself and to the neighbouring properties, and provides commentary on our analysis where appropriate.

In producing the three dimensional AutoCAD model for our analysis we have relied on the information noted in paragraph 2 (below) - other limitations can be found at paragraph 4.

2.0 SOURCES OF INFORMATION

Ordnance Survey

Digital OS extract

Aerial Photography

Subscription free photographic images available from Google and Multimap

Site Photography

Taken by Savills (UK) Limited

Surrounding Context Information

Three dimensional survey model by Architect*

Proposed Scheme

Proposed scheme drawings by Architect* #

Notes: * - see drawings enclosed at Appendix 1 for further Source Information.

- note the reference to the scheme dated 12/12/2013 on the attached drawings references the current design in terms of this analysis. Although the scheme has changed subtly since these changes were not sufficiently material to warrant re-analysing the scheme

3.0 BRIEF DESCRIPTION OF THE SITE

The development site is broadly square in shape and is located on the bank of the River Thames. Previously the site was known as Teddington Studios - a television production facility. Access to the site is from Broom Road, which forms part of the southernmost boundary to the site, the sites northernmost boundary is formed by the River Thames.

The proposed scheme consists of a high quality, multi storey, residential development, which contains blocks A – E7 (see Appendix 1).

Unless specifically commented upon within the main body of this Report, we have not been made aware of any other planning permissions which could impact upon our analysis.

Our understanding of the existing and proposed massing is detailed in drawings enclosed at Appendix 1. The results of our analysis is provided at Appendix 2.

4.0 STANDARD LIMITATIONS

Although we have undertaken as detailed an inspection of the information as possible, we are required by our professional indemnity insurers to notify you that our Report is based upon the Terms of Business attached at Appendix 3.

In addition to the Standard Limitations the following limitations and assumptions also apply.

- Our analysis reflects the site model provided by the Architect together with the Proposed Scheme as designed at the point of analysis. Where changes occur, from this original baseline proposal, our analysis will need to be updated.

5.0 DAYLIGHT AND SUNLIGHT

National Planning Policy

There is no current, specific legislative framework relating to developments and their potential effect on daylight and sunlight. However, in terms of guidance the most common point of reference is the BRE Guide (see below).

Local Planning Policy

In assessing proposals for development, local Policy has regard to 'Site Layout Planning for Daylight and Sunlight: a Guide to Good Practice (Second Edition)', published by the Building Research Establishment in 2011 (BRE Guide)."

Whilst the BRE Guide does apply to offices / commercial accommodation, local authorities are principally concerned with the impact to residential properties and in particular 'habitable rooms' within these. A more detailed explanation of the BRE Guide can be found in our Guidance Note which is enclosed at Appendix 4.

It is important to remember that the BRE Guide states that *'the advice given here is not mandatory and should not be seen as an instrument of planning policy' – instead it should be considered a guide to aspirational levels of daylight and sunlight.* Furthermore, daylight criteria should, particularly in built up areas, be *'interpreted flexibly because natural lighting is only one of many factors'*. Based upon these statements it is important to apply the guidance sensibly and flexibly taking into account the context of the site.

Daylight and Sunlight Detail

Externally

Conventionally, only residential properties are considered for daylight and sunlight levels. Furthermore, living rooms, kitchens and bedrooms are the primary focus of the guideline recommendations. A more detailed explanation of BRE Guidance on daylight can be found in our Guidance Notes.

We have considered the proposal in relation to the Vertical Sky Component (VSC), Daylight Distribution (DD) and Average Daylight Factor (ADF) methodologies as recommended by the BRE Guide. VSC is a measure of daylight at the window centre and the BRE Guide permit a reduction of up to 20% on the existing situation. This is based upon the BRE stating that such a change would remain unnoticeable.

ADF is an additional method for considering daylight within a room. The ADF calculation combines the VSC from each window serving the room with various characteristics such as room and window size to provide value that can give an approximate expression to the amount of daylight within the room.

The BRE Guide use Average Probable Sunlight Hours (APSH) as the methodology for calculating sunlight levels. This considers the amount of total and winter sunlight. The BRE recommends that the APSH in the proposed situation should be at least 25% of the annual total (of which 5% should ideally be from the Winter months). When the proposed value falls short of this standard the reduction should be within 0.8 times its former value.

Only residential properties that face within 90° of due South are taken into account for sunlight analysis, the BRE Guide considers that sunlight to main living room windows as the most important.

Internally

The daylight and sunlight conditions within proposed residential dwellings are assessed using the ADF assessment for daylight and the APSH assessment for sunlight. This is in line with the BRE Guide and Policy.

The BRE Guide and British Standard 8206 - 2:2008 only provides aspirational ADF values for habitable rooms within dwellings. The defined target values are restricted to the following rooms:

- 2.0% - Kitchens
- 1.5% - Living Rooms
- 1.0% - Bedrooms

For sunlight the Annual Probable Sunlight Hours (APSH) test calculates the percentage of statistically probable hours of sunlight received by each window in both the summer and winter periods. March 21st through to September 21st is considered to be the summer period while September 21st to March 21st is considered the winter period. In the United Kingdom the sun travels from East to West through the southern hemisphere. This being the case only those windows orientated within 90° of due South and which overlook the site of the proposal are relevant for assessment because only these will receive noticeable sunlight levels.

In housing, the main requirement for sunlight is in living rooms, where it is valued at any time of day, but especially in the afternoon. It is deemed as less important in bedrooms and in kitchens, where people generally prefer it in the morning rather than the afternoon.

The BRE Guide also states that:

“In general, a dwelling...will appear reasonable sunlight provided [that it has] at least one main window..[which] faces within 90 degrees of due South and the centre of at least one window to a main living room can receive 25% of annual probable sunlight hours, including 5% of annual probable sunlight hours in the winter months between 21 September and 21 March.”

In terms of daylight and sunlight analysis we have restricted our comments below to relevant residential habitable rooms (i.e. living rooms, kitchens and bedrooms), within the scheme – concentrating on those which experience the lowest ADF and APSH levels. Any rooms not specifically mentioned are either non-habitable and therefore should not be considered or are seen to fall within the criteria laid down by the BRE Guide.

Results of Analysis

Our results have considered those areas of the scheme which are likely to receive the lowest levels of daylight and sunlight as a result of the design of the proposal. The remaining properties comply with BRE Guide and can therefore be assumed to be fully supportable. The areas tested have therefore been confined to those detailed in our drawings, which are enclosed at Appendix 1. For obvious reasons, we have not made detailed comment upon each of those rooms which are considered supportable under the BRE Guide.

When undertaking our tests we have assumed light finishes to all internal surfaces, and have used other factors recommended under the BRE Guide (i.e. maintenance factors etc).

As recommended by the BRE Guide we have factored in the impacts of the balconies to the scheme as by testing the scheme without these in place. Our comments below are based upon this.

External Daylight & Sunlight

Having considered the Flats to South of Site - the most proximate residential receptors; all of which are shown in drawings SA132/30a – 33a (See Appendix A) we have provided analysis detailing the results of the impacts. This is enclosed at Appendix B. The results of our analysis show that none of the adjacent residential properties analysed will suffer a loss in daylight or sunlight which will not comply with the aspirations of the BRE Guide. This scheme is therefore fully supportable in respect of surrounding receptors. For clarity, as the Anglers Pub and Lensbury Lodge are in commercial use they would not normally be considered in respect of daylight and sunlight.

Internal Daylight

Having analysed the scheme for daylight internally it can be seen that only 2, single aspect, rooms (out of a total in excess of 750) will fall short of the aspirational ADF levels detailed within the BRE Guide. The remaining rooms achieve ADF levels which can be considered fully supportable. Those rooms experiencing shortfalls are confined to R8/40 and R28/40. The location of these ground floor LKD rooms, within Building C, can be seen within the drawings which are enclosed at Appendix 1.

As can be seen these rooms achieve 1.59% and 1.80% ADF respectively. Whilst this falls short of the 2% ADF aspirations, for a Kitchen, within the BRE Guide, this level of daylight illumination would only be relevant for the kitchen elements of the rooms. With the majority of the space as a living room being above aspirational levels (1.5%) for this use. In reality, it would be possible to achieve the desired result in terms of daylight to these 'shortfalls' by simply providing a dividing partition to windowless kitchens to the rear of these rooms, however, it was felt that the rooms would function more effectively on an open plan basis. Given these minor derogations we are satisfied that the daylight levels to these rooms and others are entirely supportable.

Internal Sunlight

Generally

Of all rooms with South facing windows only 2 living rooms (or LKD's to be precise) fall short of the BRE Guide aspirations. Whilst other rooms did have shortfalls the BRE Guide states that Living Rooms are most important and should be analysed in terms of sunlight whereas Bedrooms, Kitchens less important. In accordance with the BRE Guide these other shortfalls should not be considered important and on the basis that sunlight tends to disturb the primary bedroom function (sleep) we consider that the derogations affecting living rooms should only be considered further.

The single Living Room shortfall affects room R19/11, a First Floor LKD to Building A. Room R19/11 greatly exceeds the room total requirements for APSH but falls short of the Winter requirements with 60% of the aspirational 5% APSH. However, this is greatly influenced by the fact that because one of the room windows faces outside 90 degrees of due South and therefore does not provide sunlight to the room at the most challenging time of year (Winter).

Having considered the above (very minor) derogation in terms of sunlight, when compared against the aspirational levels quoted within the BRE Guide and the suggestion for a flexible approach in built up areas, together with all of the factors outlined above, we are satisfied that that these few real derogations can be supported.

Furthermore, the above derogations must be taken into context in relation to in excess of 1000 windows to the scheme in total.

Overshadowing

The BRE Guide provides aspirational levels of overshadowing limits in relation to gardens and amenity areas, for existing spaces to adjacent properties, whilst providing an indication of significance, based on amenity, as follows:

"It is recommended that for it to appear adequately sunlit at least half of the garden or amenity area should receive at least 2 hours sunlight on 21 March. If as a result of a development a garden or amenity area does not meet the above, and the area which can receive 2 hours of sun on 21 March is less than 0.8 times its former value, then the loss of sunlight is likely to be noticeable. If a detailed calculation cannot be carried out it is recommended that the centre of the area should receive at least 2 hours of sunlight on 21 March."

In summary the BRE Guide, by way of aspirational levels, states that where the centre of a garden or amenity area can receive at least 2 hours of sunlight on 21st March it will be considered well lit provided that the area receiving sunlight is not reduced by more than 20% as a result of a proposed development.

For the purpose of this Report, overshadowing has been assessed on 21st March following the recommendations set out in the BRE Guide. Sun-path tracking allows the likely shadows cast to be created at hourly intervals throughout the day when the sun is above 10° in elevation. We have also analysed those areas of amenity space which will be in permanent shadow throughout the day. The results of our analysis can be found at Appendix 1.

When considering overshadowing to the amenity areas to the scheme itself, by considering the Drawings at Appendix 1, it can be seen that the aspirations of the BRE Guide will be achieved between the hours of 12.30pm and 2.30pm on 21st March (with 2 hours of sunlight on the ground being achieved to all amenity areas). Whilst the BRE Guide does allow a further 20% reduction [principally in the case of neighbouring properties] this needs no further consideration.

In terms of adjacent properties, having considered the BRE Guide aspirations, it is clear that surrounding properties will not be adversely affected by overshadowing as a result of the scheme.

6.0 CONCLUSION

We have undertaken a daylight, sunlight and overshadowing assessments in respect of the proposed development. Subject to the limitations, assumptions and clarifications within this Report our analysis demonstrates compliance with the BRE Guide and Planning Policy.

We have undertaken daylight and sunlight assessments in respect of the proposed development. In the very few areas where compliance with the aspirations of the BRE Guide is more challenging we feel, for reasons outlined above, that the design is supportable as *any derogations would not be inconsistent with what one would generally expect to find in a location*¹ such as this. Any such derogations should be considered *flexibly as natural lighting is only one of many factors in site layout and design*² and care must be taken not to allow these factors to *outweigh the advantages of the scheme*³. It is important to note that the BRE Guide specifically states that it is not an instrument of planning policy and that the stipulations within it should be not be rigidly adhered to.

We trust the above is useful, please do not hesitate to contact me should you have any further queries.

Savills (UK) Limited

¹ Para. 13.105 Report of Inspector John L Gray in Approval of Planning Application, on Appeal by West End Green (Properties) Limited in respect of Land at Edgware Road, Church St, Paddington Green and Newcastle Place.

² Para. 1.6 BRE Guide 209 Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice.

³ Para.28 of First Secretary of State Decision in Approval of Planning Application, on Appeal by West End Green (Properties) Limited in respect of Land at Edgware Road, Church St, Paddington Green and Newcastle Place.

APPENDIX 1

Scheme Drawings



SOURCES:
 TP BENNETT
 Plans, Elevations and Site Model:
 Teddington Riverside_Iteration_(1) and (2);
 A15.skp
 Proposed scheme dated 12/12/13:
 A9991D0099-107.dwg



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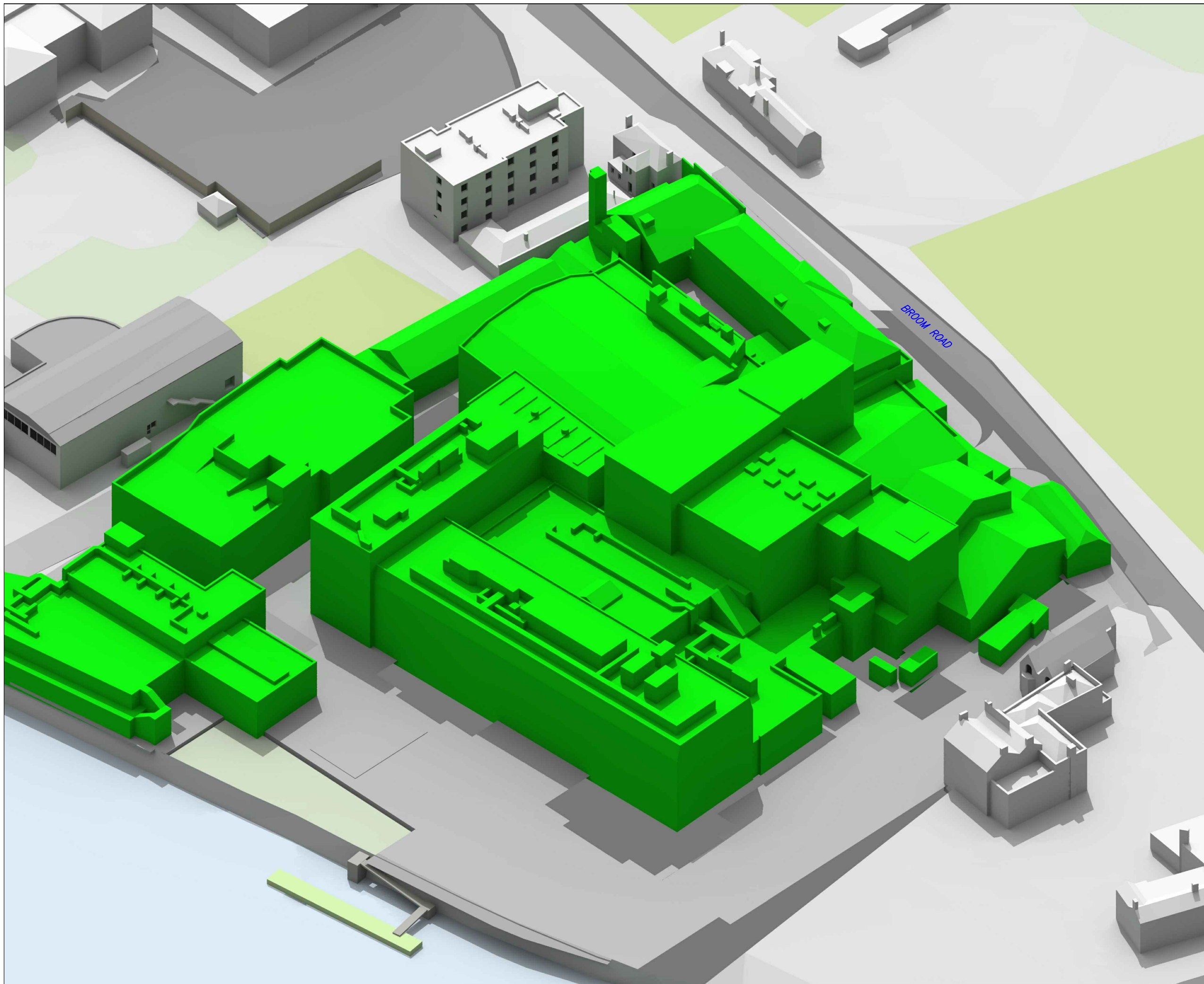
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Project
 TEDDINGTON RIVERSIDE
 LONDON TW11

Drawing
 PLAN VIEW
 EXISTING DEVELOPMENT

Date	JAN 14	Scale	-
Drawn By	CT	Checked By	
Drawing No.	SA189/30A	Rev.	001



SOURCES:
 TP BENNETT
 Plans, Elevations and Site Model:
 Teddington Riverside_iteration _ (1) and (2);
 A15.skp
 Proposed scheme dated 12/12/13:
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Drawing
 3D VIEW
 EXISTING DEVELOPMENT

Date	JAN 14	Scale	-
Drawn By	CT	Checked By	
Drawing No.	SA189/32A	Rev.	001



SOURCES:
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 Plans, Elevations and Site Model:
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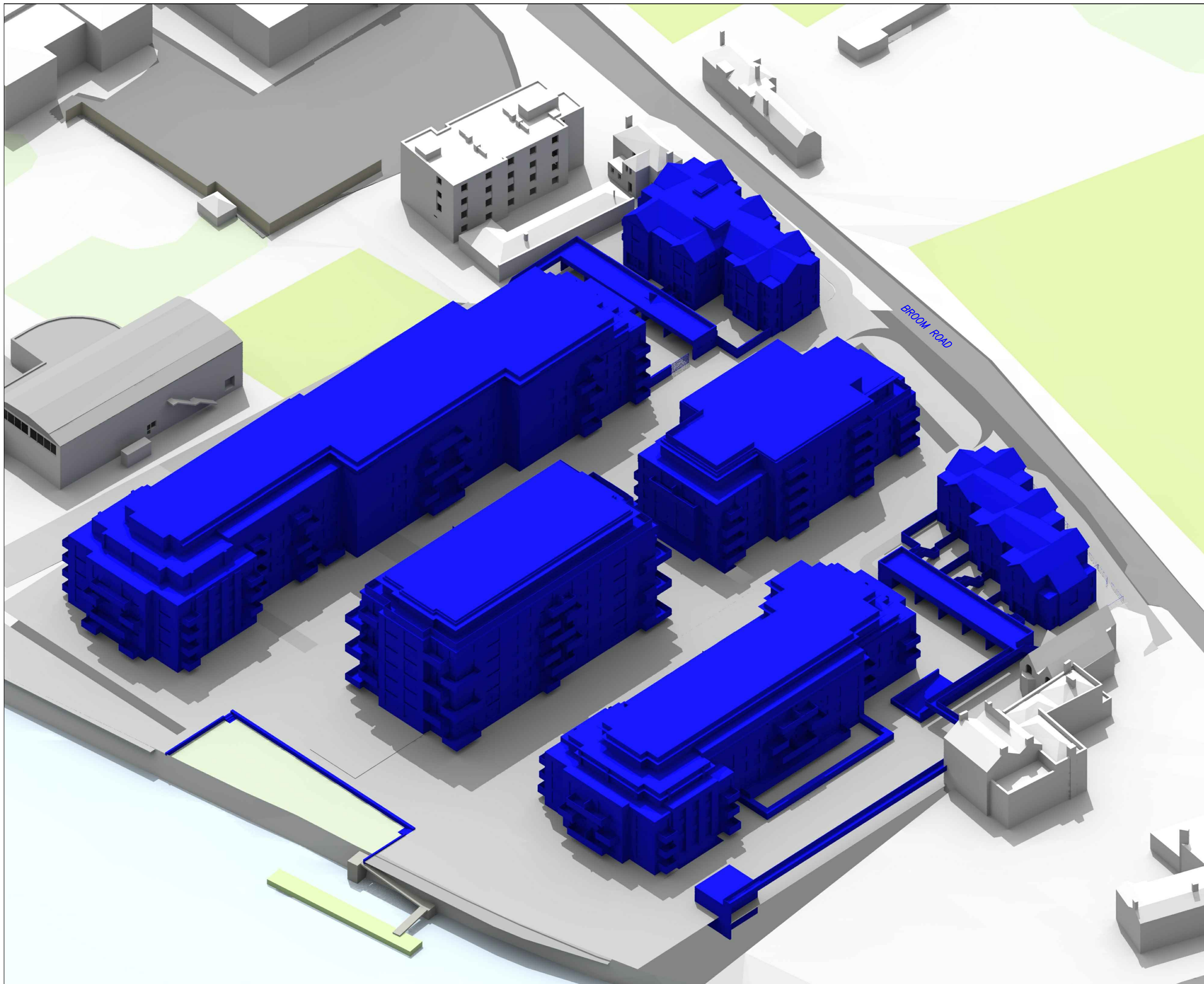
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Project
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Drawing
 PLAN VIEW
 PROPOSED SCHEME DATED 12/12/13

Date	JAN 14	Scale	-
Drawn By	CT	Checked By	
Drawing No.	SA189/31A	Rev.	001



SOURCES:
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 Plans, Elevations and Site Model:
 Teddington Riverside_iteration _ (1) and (2);
 A15.skp
 Proposed scheme dated 12/12/13:
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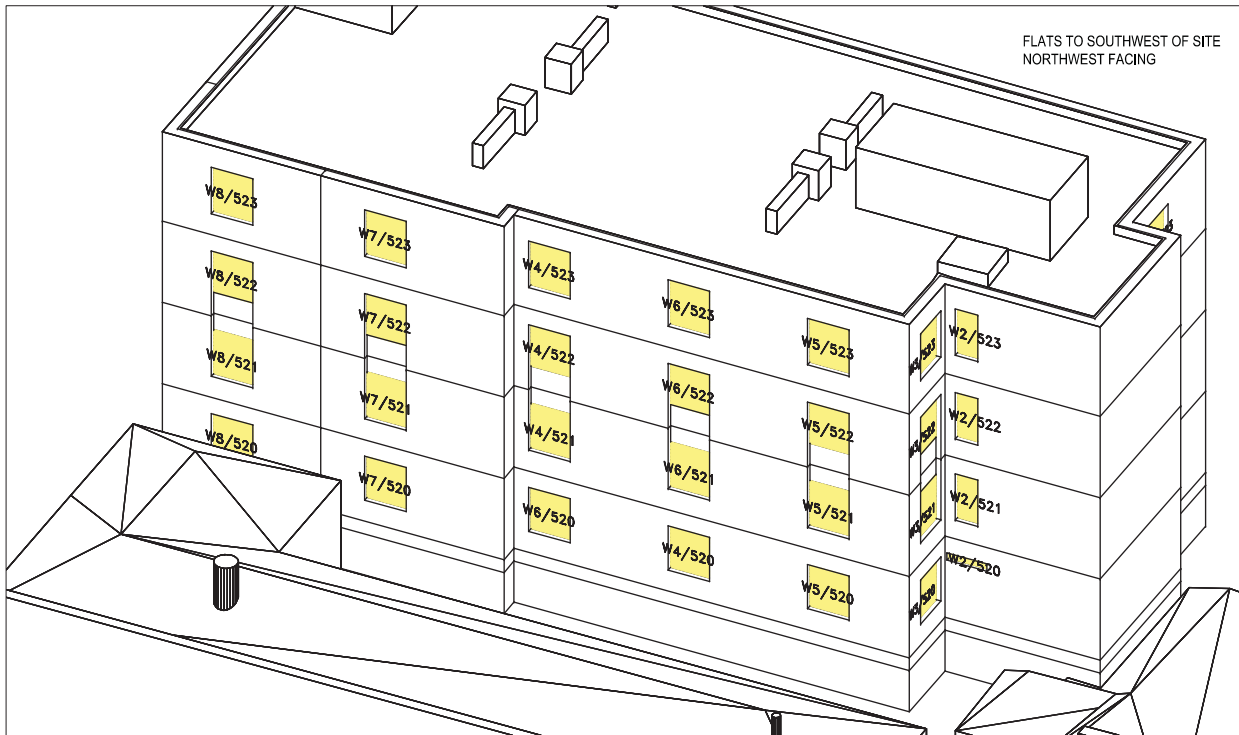
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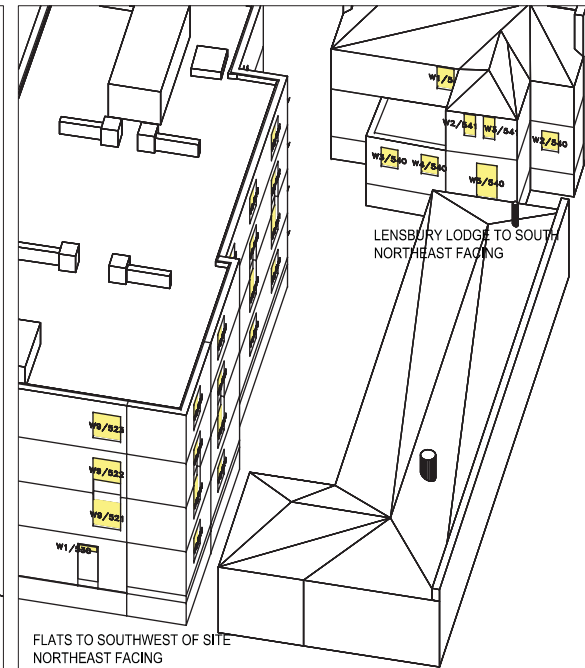
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 LONDON TW11

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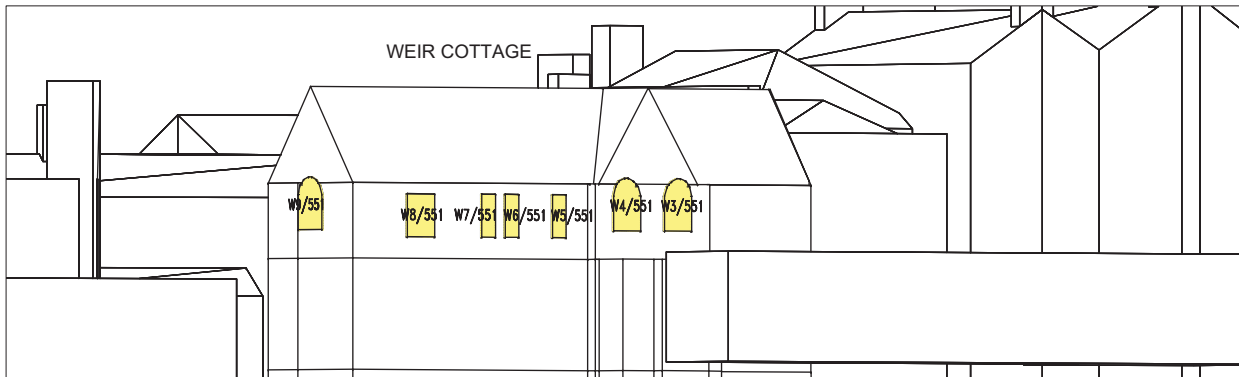
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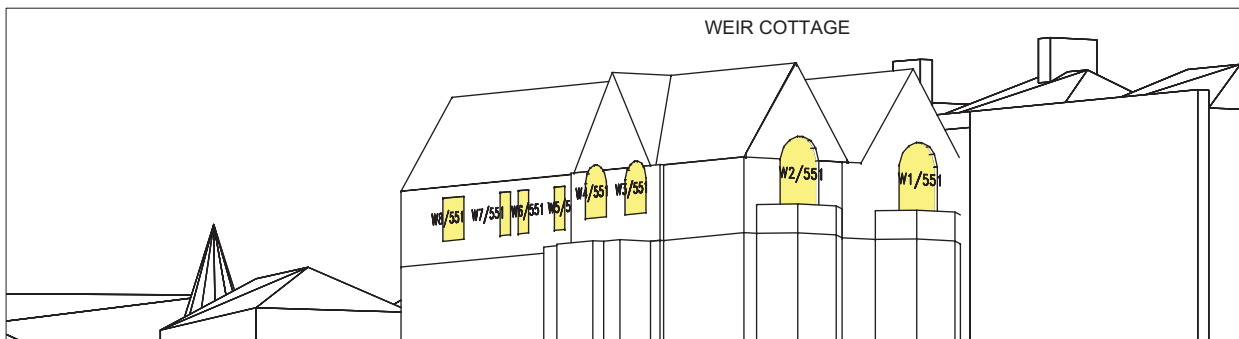
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NORTHWEST FACING



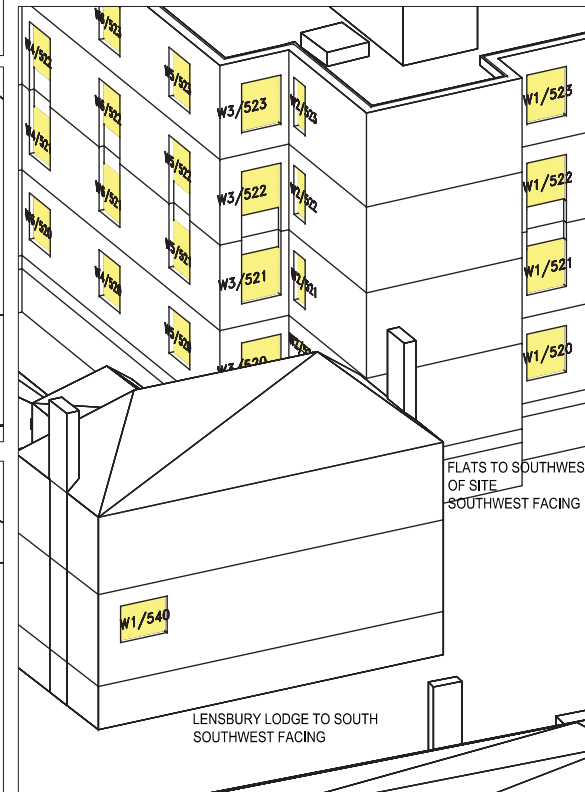
FLATS TO SOUTHWEST OF SITE
NORTHEAST FACING



WEIR COTTAGE



WEIR COTTAGE



FLATS TO SOUTHWEST
OF SITE
SOUTHWEST FACING

LENSBURY LODGE TO SOUTH
SOUTHWEST FACING

SOURCES:
TP BENNETT
Plans, Elevations and Site Model:
Teddington Riverside_Iteration_(1) and (2);
A15.skp
Proposed scheme dated 12/12/13:
A9991D0099-107.dwg

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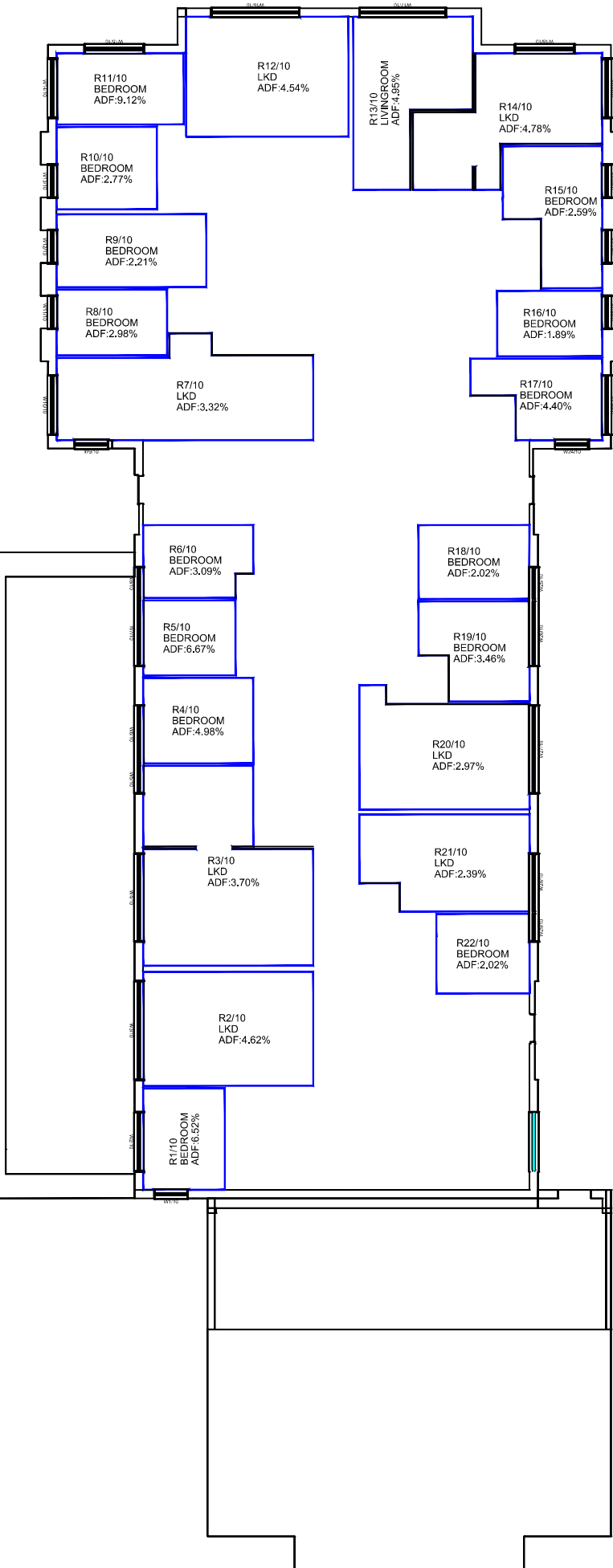
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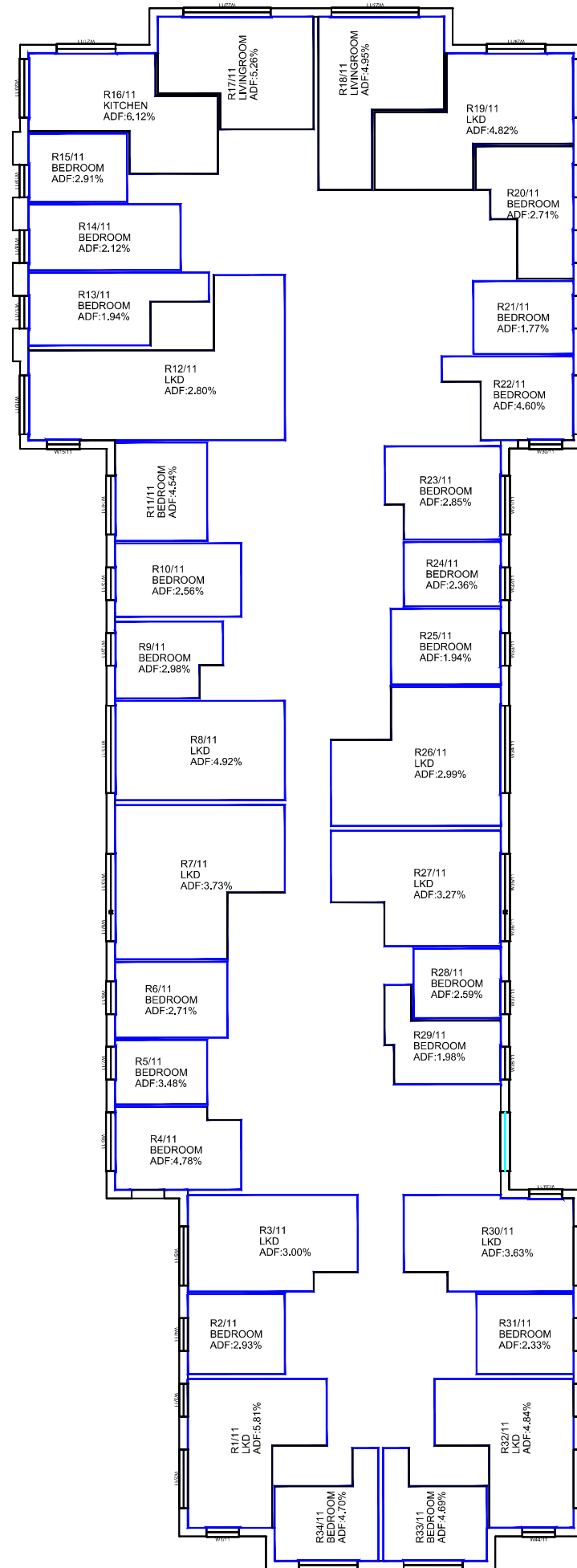
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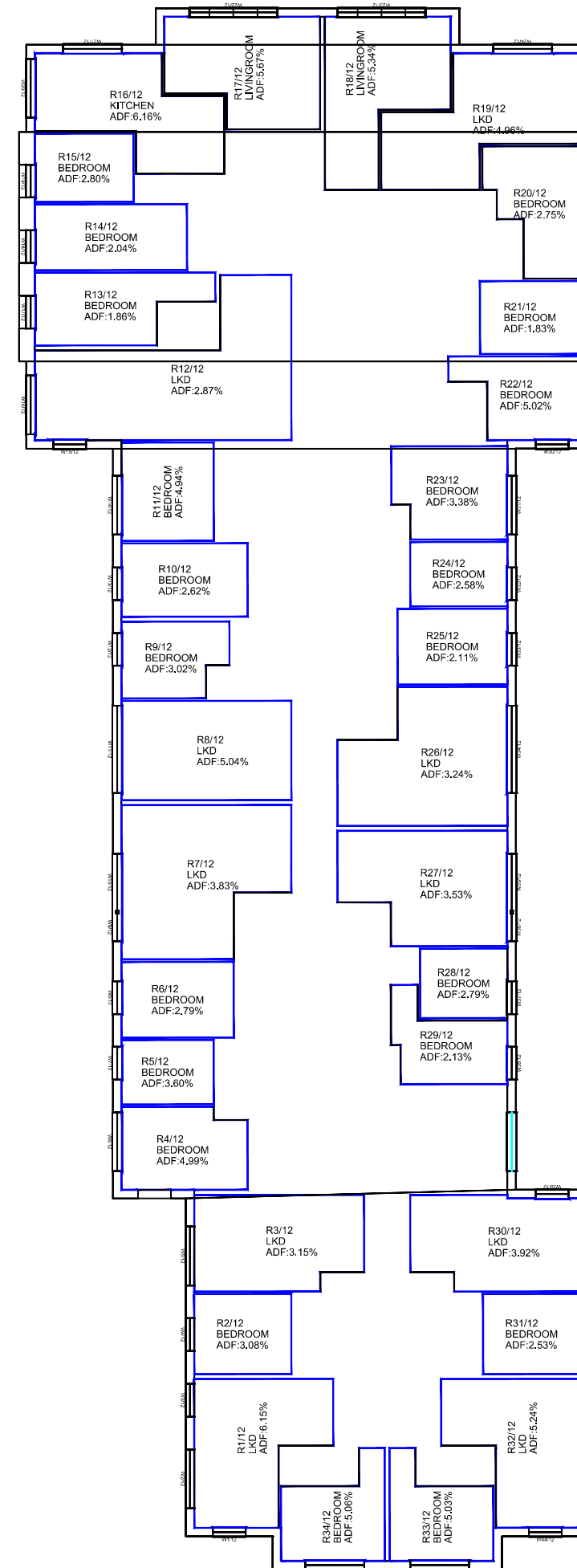
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GROUND FLOOR**



**BUILDING A
FIRST FLOOR**



**BUILDING A
SECOND FLOOR**



SOURCES:
TP BENNETT
Plans, Elevations and Site Model:
Teddington Riverside Iteration _ (1) and (2);
A15.skp
Proposed scheme dated 12/12/13:
A9991D0099-107.dwg

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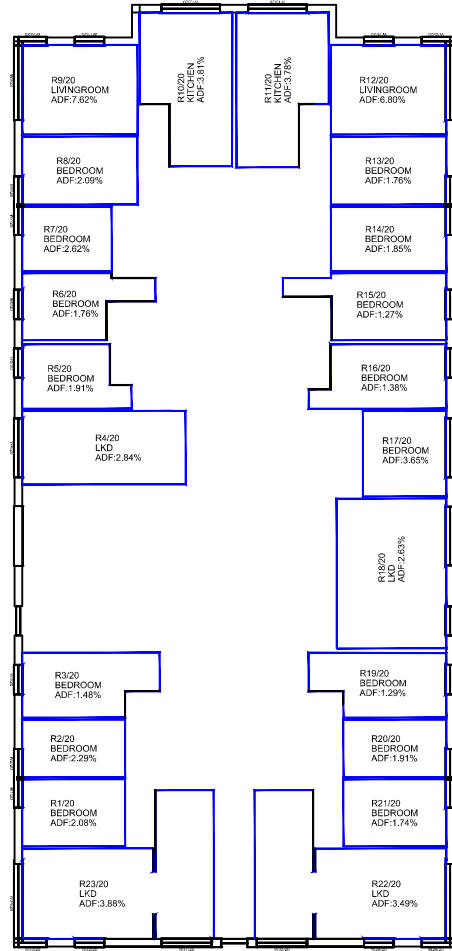
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Proposed Scheme dated 12/12/13;
Without Balconies

Date DEC 13 Scale 1:250

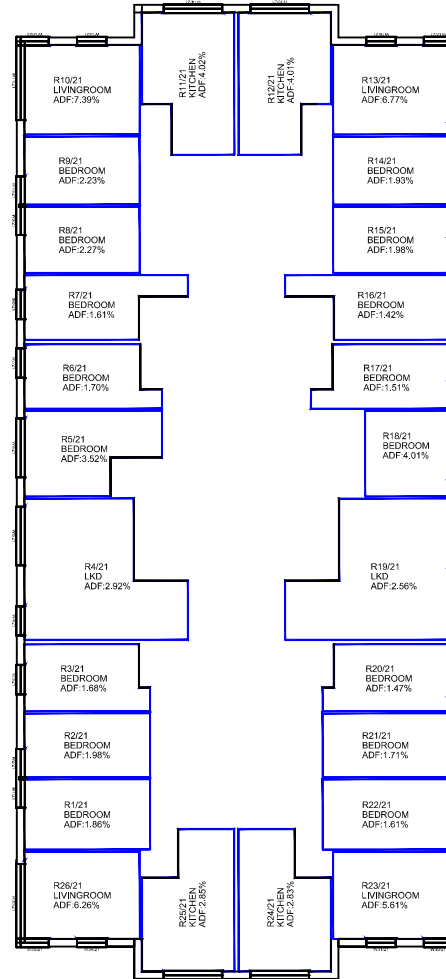
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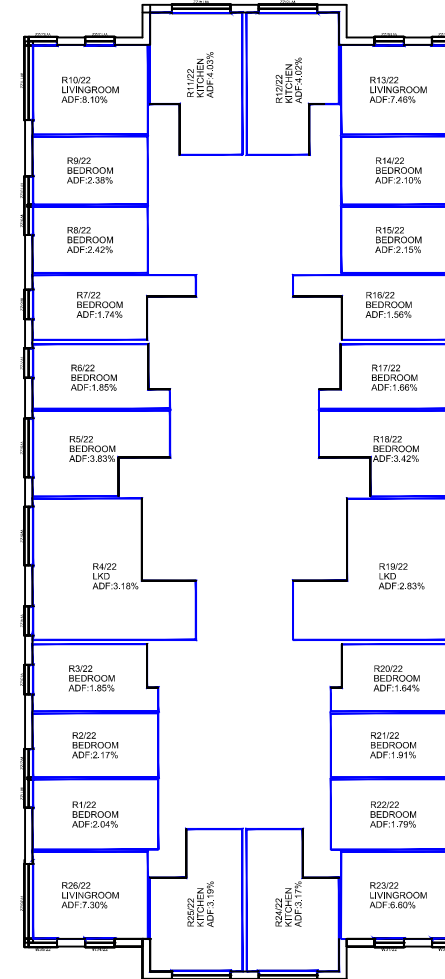
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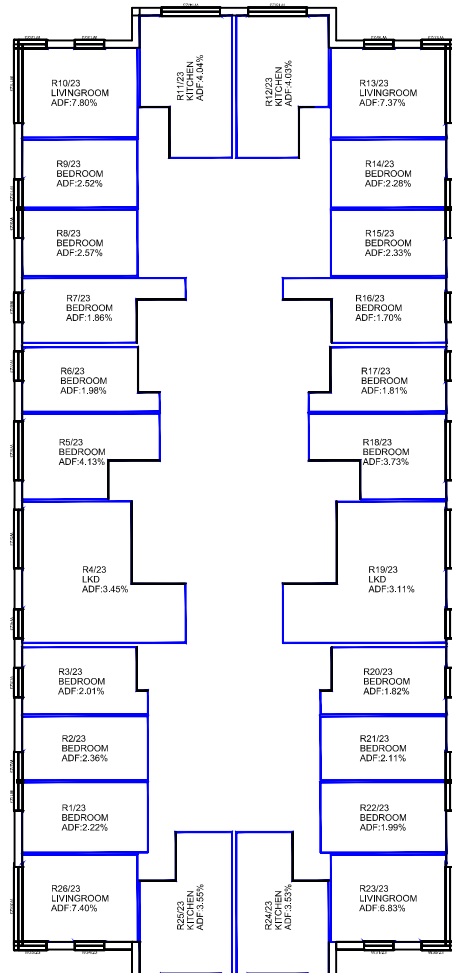
**BUILDING B
FIRST FLOOR**



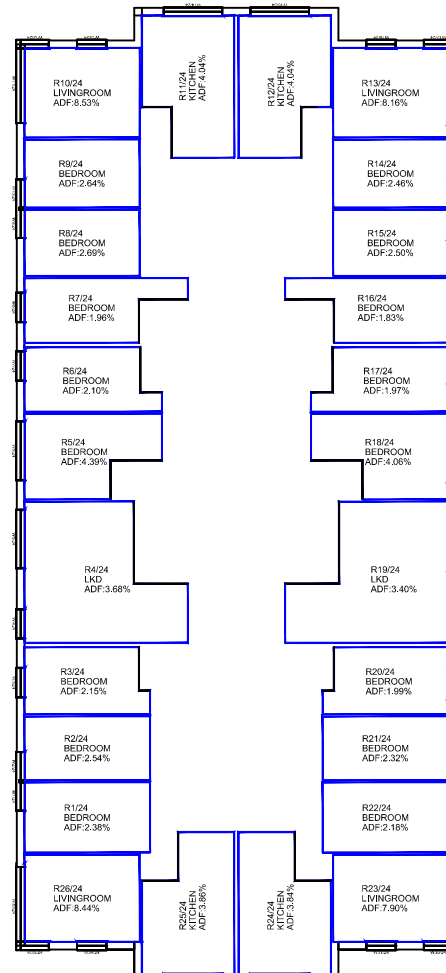
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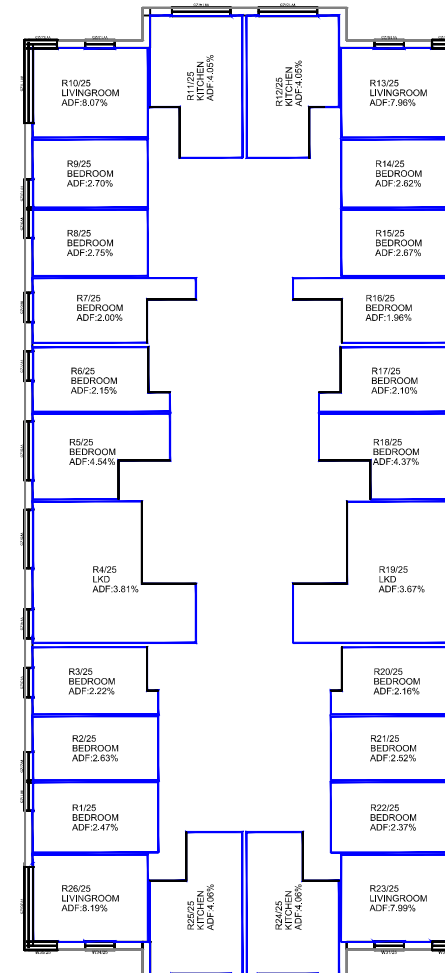
**BUILDING B
THIRD FLOOR**



**BUILDING B
FOURTH FLOOR**



**BUILDING B
FIFTH FLOOR**



SOURCES:
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Plans, Elevations and Site Model:
Teddington Riverside Iteration _ (1) and (2);
A15.skp
Proposed scheme dated 12/12/13:
A9991D0099-107.dwg



KEY
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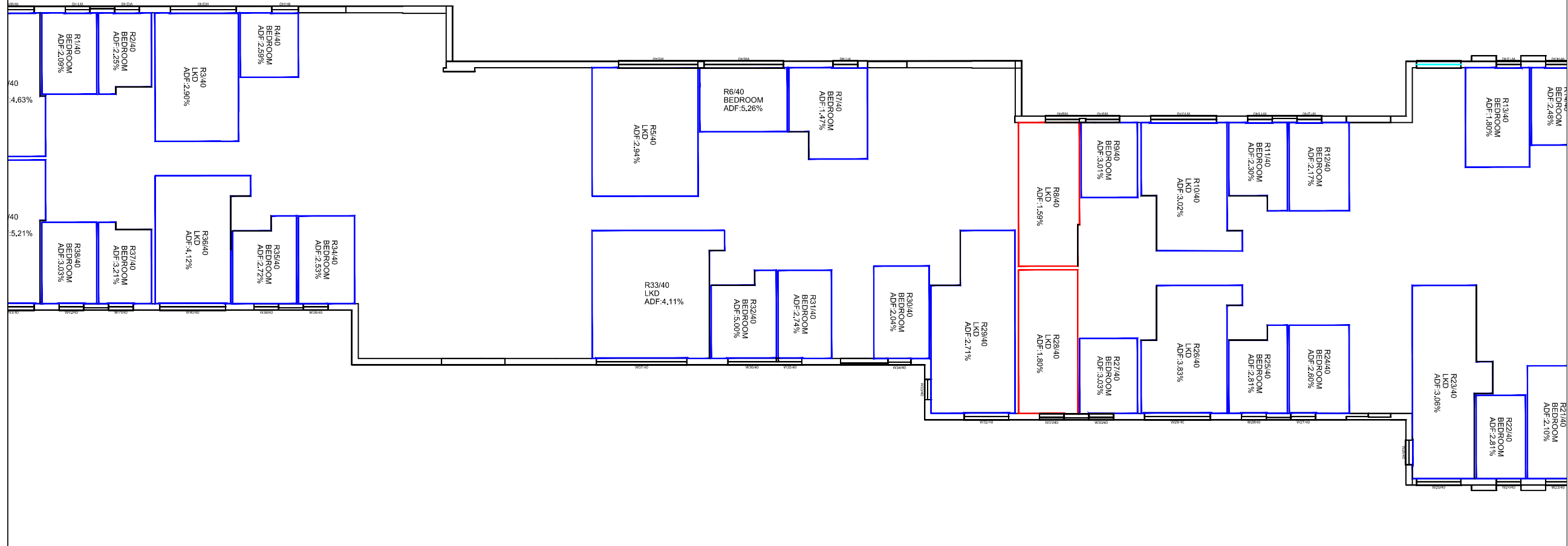
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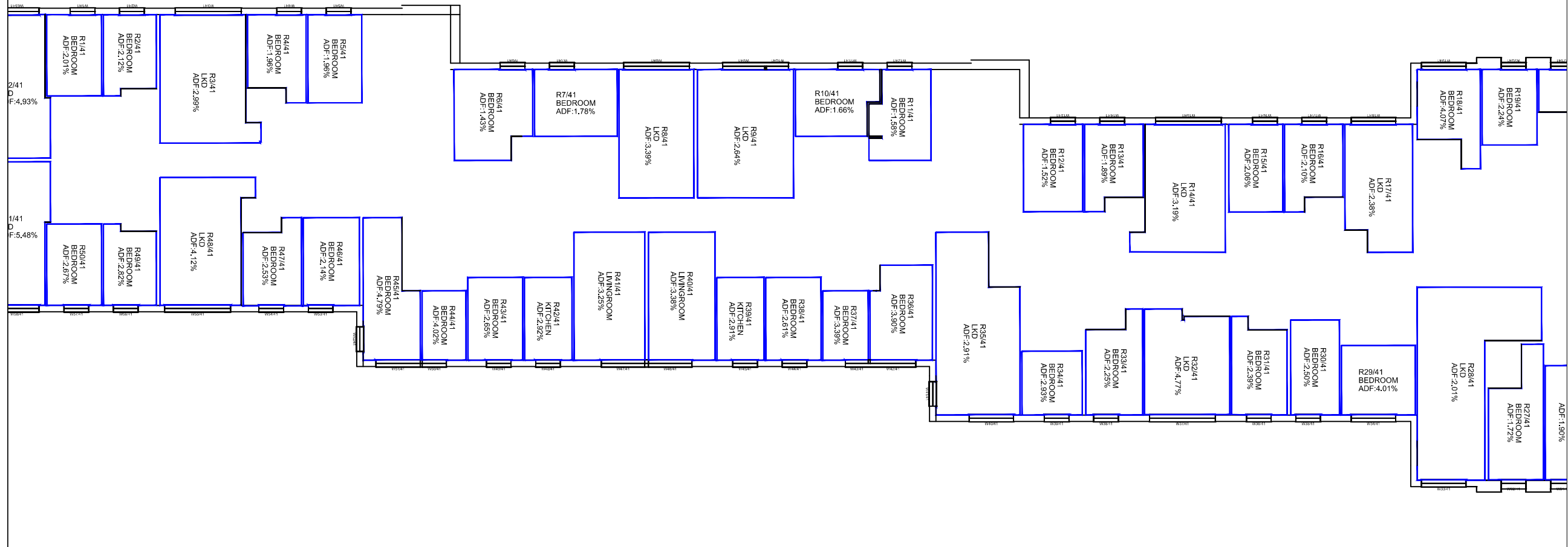
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Proposed Scheme dated 12/12/13;
Without Balconies

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Drawing No.	SA189/23	Rev.	

**BUILDING C
GROUND FLOOR**



**BUILDING C
FIRST FLOOR**



SOURCES:
TP BENNETT
Plans, Elevations and Site Model:
Teddington Riverside Iteration _ (1) and (2);
A15.skp
Proposed scheme dated 12/12/13:
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Project
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LONDON TW11

Drawing
INTERNAL ADF RESULTS
Proposed Scheme dated 12/12/13;
Without Balconies

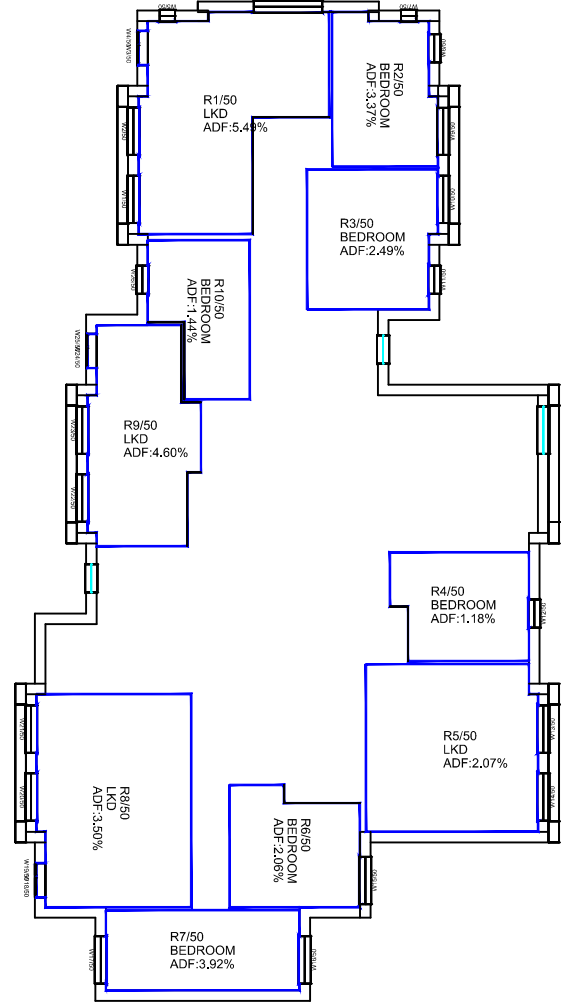
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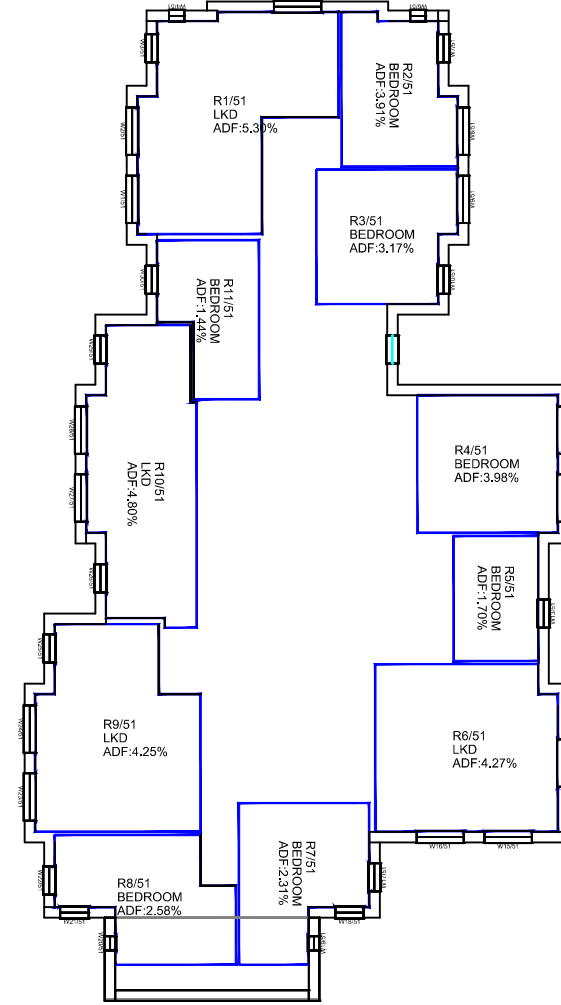
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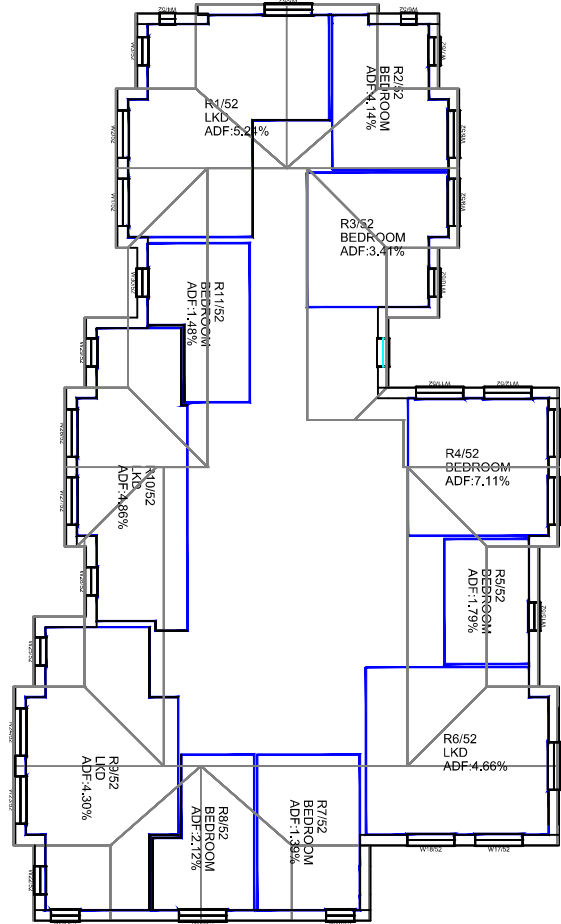
BUILDING E7
GROUND FLOOR



BUILDING E7
FIRST FLOOR



BUILDING E7
SECOND FLOOR



SOURCES:
TP BENNETT
Plans, Elevations and Site Model:
Teddington Riverside_Iteration _ (1) and (2);
A15.skp
Proposed scheme dated 12/12/13:
A9991D0099-107.dwg



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Project
TEDDINGTON RIVERSIDE
LONDON TW11

Drawing
INTERNAL ADF RESULTS
Proposed Scheme dated 12/12/13;
Without Balconies

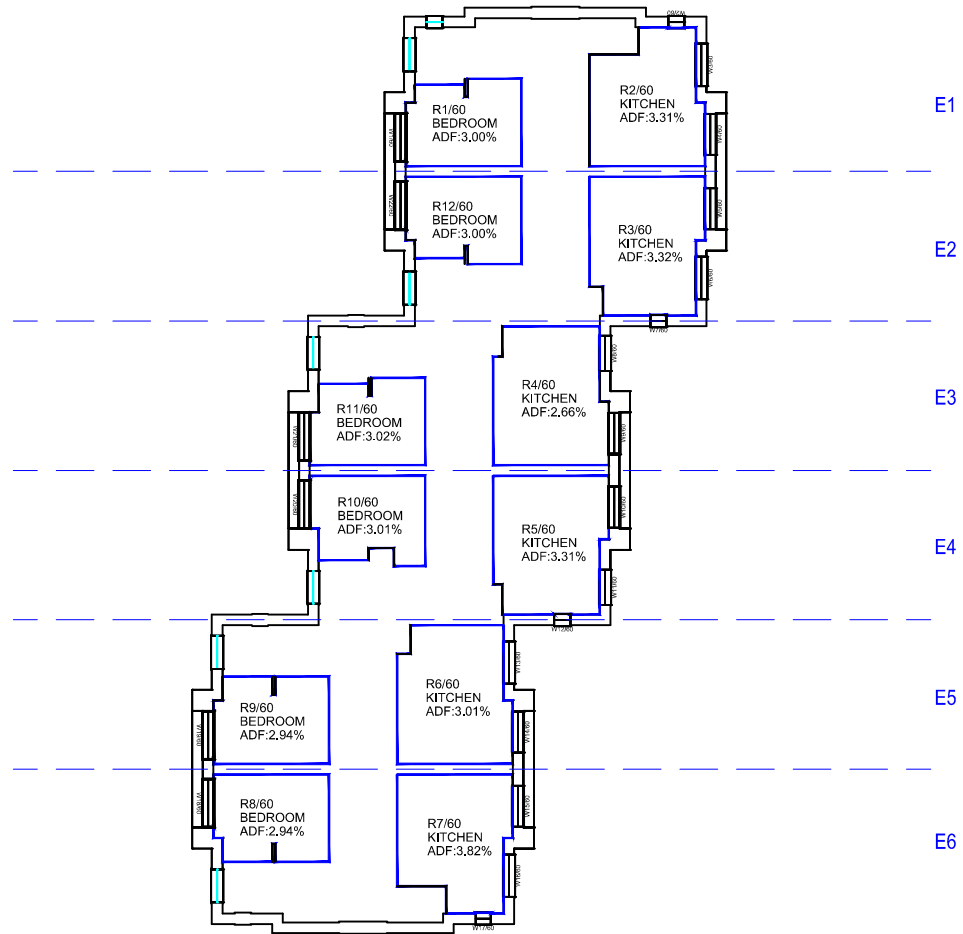
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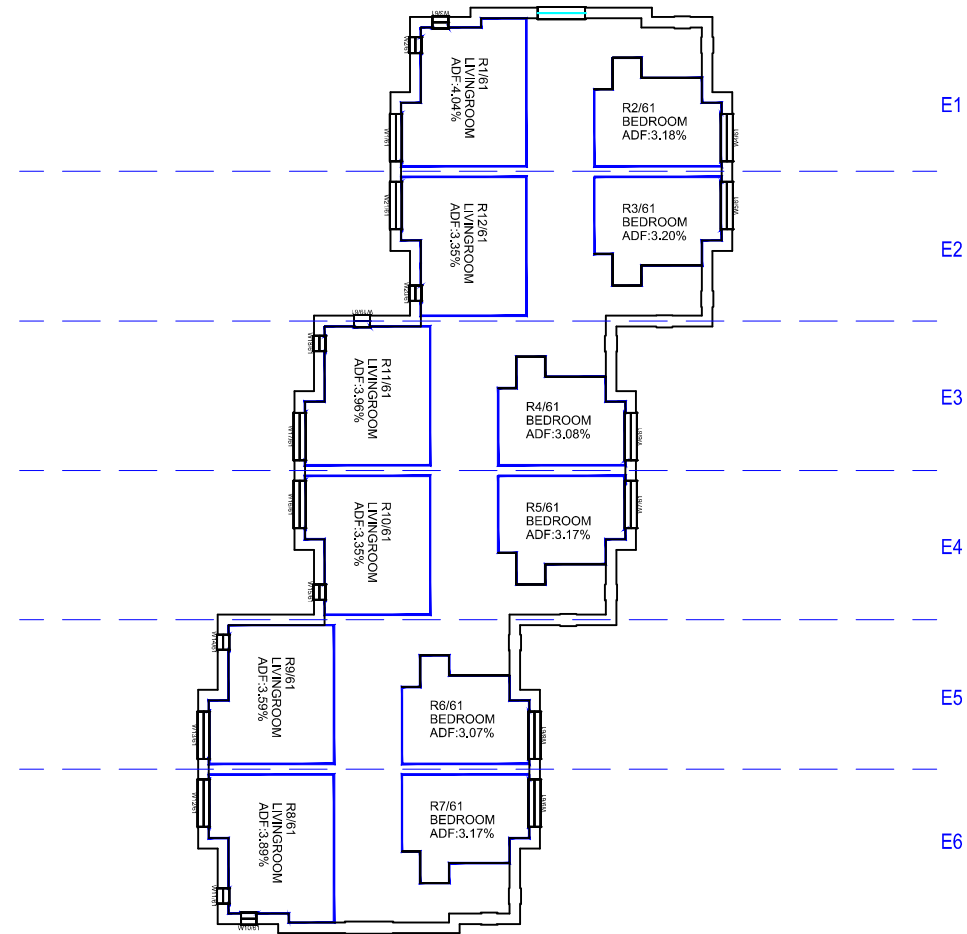
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Rev.
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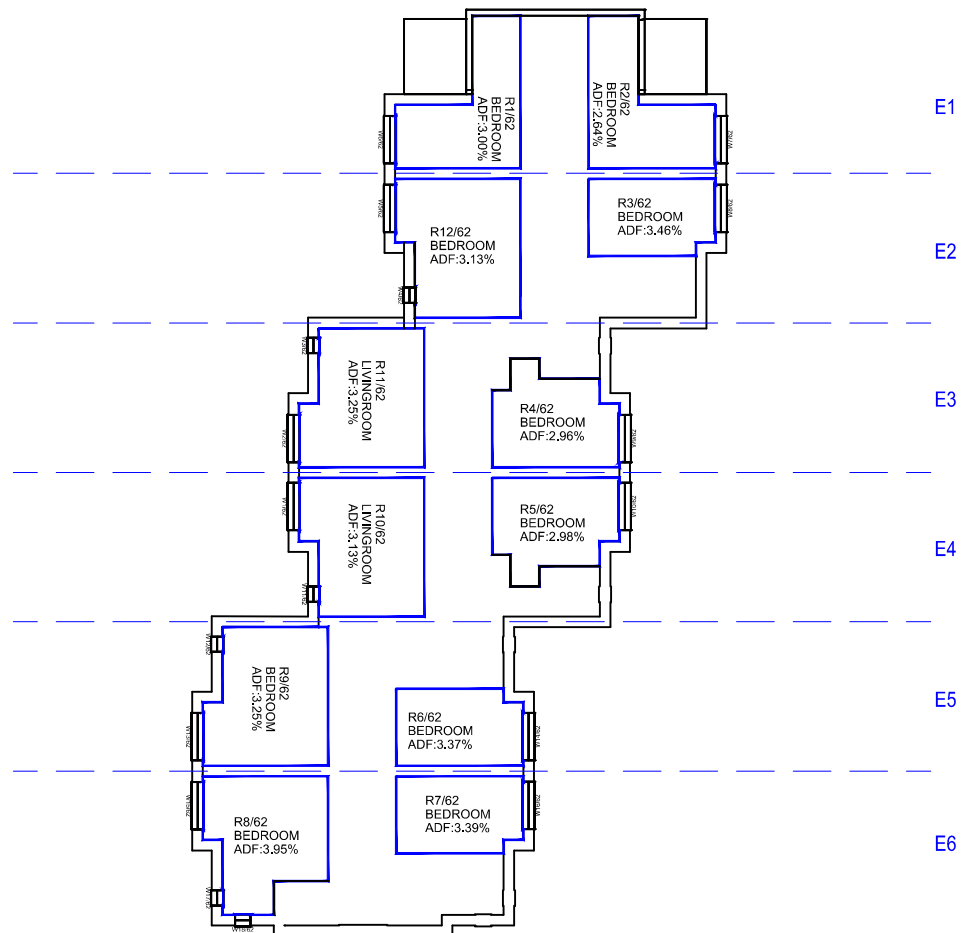
BUILDINGS E1-6
GROUND FLOOR



BUILDINGS E1-6
FIRST FLOOR



BUILDINGS E1-6
SECOND FLOOR



SOURCES:
TP BENNETT
Plans, Elevations and Site Model:
Teddington Riverside_Iteration_. (1) and (2);
A15.skp
Proposed scheme dated 12/12/13;
A9991D0099-107.dwg



KEY
FAIL
PASS

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Project
TEDDINGTON RIVERSIDE
LONDON TW11

Drawing
INTERNAL ADF RESULTS
Proposed Scheme dated 12/12/13;
Without Balconies

Date DEC 13 Scale 1:250

Drawn By DR Checked By

Drawing No. SA189/28 Rev.