



Draft Environmental Statement Clarification Document and ES Addendum

New City Court, Southwark

August 2019

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Comments
Response to LUC's Draft Review Report (March 2019)

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Contents

1. Introduction

Background to this Document

In December 2018, GPE (St Thomas Street) Limited, submitted a detailed planning application (reference: 18/AP/4039) to the London Borough of Southwark (LBS) for the demolition of the existing 1980s office buildings, part restoration and refurbishment of listed terrace, and redevelopment of Keats House with retention of existing façade, and construction of an office-led, mixed-use scheme (hereafter referred to as the 'Development'). The Development is proposed on a parcel of land along Thomas Street in the London Bridge area (hereafter referred to as the 'Site').

The Development was described on the planning application form as follows:

'Comprehensive redevelopment of the site to include demolition of existing 1980s office buildings and erection of a 37-storey building (including ground and mezzanine) of a maximum height of 144m (AOD), restoration and refurbishment of existing listed terrace, and redevelopment of Keats House with retention of existing façade to provide a total of 46,374 sqm of Class B1 office floorspace, 765 sqm of Class A1 retail floorspace, 1,139 sqm of Class A3 retail floorspace, 615 sqm of leisure floorspace (Class D2), 719 sqm hub space (Class B1/D2) and a 825 sqm elevated public garden, associated public realm and highways improvements, new station entrance, cycling parking, car parking, servicing, refuse and plant areas, and all ancillary or associated works.'

An Environmental Impact Assessment (EIA) was undertaken to identify the likely significant environmental effects of the Development, in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations, 2017 (as amended)¹. The findings of the EIA were presented in an Environmental Statement (ES) (the 'December 2018 ES') prepared by Waterman Infrastructure & Environment Limited (Waterman IE) which was submitted with the detailed planning application (the 'December 2018 Planning Application').

As part of the determination process, LBS appointed Land Use Consultants (LUC) in association with Delva Patman Redler, Clewlow Consulting, Ricardo Energy and Environment, and Xi Engineering to undertake an independent review of the December 2018 ES; the purpose of the review being to advise LBS whether the information provided in the December 2018 ES is sufficient for the purposes of making a planning decision. The review is presented in a document entitled 'Review of the Environmental Statement for New City Court, St Thomas Street, Southwark, Draft Review Report'² (the 'March 2019 DRR').

In addition, LBS have requested that additional schemes be included within the Chapter 14: Cumulative Effects of the December 2018 ES, which are as follows:

- Capital House (ref: 18/AP/0900);
- Becket House / 60 St Thomas Street (ref: 18/AP/4136);
- Vinegar Yard (ref: 18/AP/4171);
- Bermondsey Street/Snowfields (ref: 19/AP/0404); and
- 2-4 Melior Place (ref: 18/AP/3229).

Purpose of this Document

The March 2019 DRR sets out a number of 'points of clarification' and 'potential Regulation 25 requests' in respect of the December 2018 ES. This document (hereafter referred to as the 'August 2019 ES

¹ 2017 No. 571 Town and Country Planning 'Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended)'.

² LUC (2019); 'Review of the Environmental Statement for New City Court, St Thomas Street, Southwark, Draft Review Report', March 2019.

Clarification Document and ES Addendum') sets out the Applicant's response to the March 2019 DRR and should be read in conjunction with the December 2018 ES and collectively constitute the ES. Accordingly, in the following sections of this document the 'points of clarification' and 'potential Regulation 25 requests' are quoted with the Applicant's responses (informed by the Applicant's original December 2018 ES team) provided directly below. However, to fully understand the context of each quote, the March 2019 DRR should be read in conjunction with this document.

In addition, this document includes an updated Chapter 14: Cumulative Effects, which supersedes that within the December 2018 ES, which includes the five additional schemes requested by LBS as outlined above. This is presented at **Appendix B**, along with the Townscape, Visual and Built Heritage (TVBHA) Cumulative ES Addendum.

In addition to the above, this document addresses two further issues:

- Since submission of the December 2018 ES, the proposed roof plans have been revised following amendments to the energy strategy, resulting in a change to the flue locations and plant generation specifications. The air quality assessment has been re-modelled accordingly to take account of this and a revised ES Chapter 9: Air Quality prepared (**Appendix G**) which supersedes that within the December 2018 ES. Consequently, the Air Quality Neutral Assessment has also been updated (**Appendix G**). The only other environmental assessment considered within the December 2018 ES that could be affected by a change in energy strategy would be noise. However, to safeguard existing amenity the December 2018 ES Chapter 8: Noise and Vibration recommended suitable limits to which plant should adhere to, and this would be expected to be controlled by a standard planning condition. Therefore, the effect of noise generated from changed building plant on surrounding existing and future sensitive receptors would remain unchanged from the December 2018 ES.
- Chapter 13: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare of the December 2018 ES and associated ES figures and appendices have also been updated (**Appendix I**) to take into account comments from LBS (which have been responded to separately from this June 2019 ES Clarification Document and ES Addendum).

An updated Non-Technical Summary (NTS) (refer to **Appendix C**) and ES Chapter 7: Transportation and Access (refer to **Appendix F**) have also been provided which supersede and replace the ones submitted with the December 2018 ES, and picks up any changes as a result of the March 2019 DRR and further assessment work.

To summarise, the following 2018 ES chapters have been superseded and the revised chapters included within this June 2019 ES Clarification Document and ES Addendum:

- Chapter 7: Transportation and Access (**Appendix F**);
- Chapter 9: Air Quality (**Appendix G**);
- Chapter 13: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare (**Appendix I**);
- Chapter 14: Cumulative Effects (**Appendix B**); and
- Non-Technical Summary (**Appendix C**).

The figures referred to within these replacement ES chapters are contained within **Appendix A** of this June 2019 ES Clarification Document and ES Addendum.

2. Review of Regulatory Compliance

LUC have not sought any clarifications or potential Regulation 25 information requests when reviewing the December 2018 ES against IEMA's EIA Quality Mark guidance for EIA Regulatory Compliance³.

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³ IEMA EIA Quality Mark – ES Review Criteria, COM3: EIA Regulatory Compliance.

3. Review of Context and Influence (December 2018 ES Part 1: Main Text – Chapters 1 & 5)

March 2019 DRR Clarification Requested (EC1)

'Clarification is sought as to why full and original consultation responses from other relevant statutory and non-statutory consultees have not been included.'

Response

Full and original consultation responses regarding the EIA methodology from relevant statutory and non-statutory consultees were provided in the following appendices of the December 2018 ES to correspond with the relevant technical ES Chapters of the December 2018 ES:

- December 2018 ES Part 4 – Appendix 2.1 (EIA Scoping Report): Appendix B – Preliminary Environmental Risk Assessment (PERA) – Consultation information provided in Appendix C of the PERA includes Landmark technical report, response from LBS Environmental Health Department and response from the London Fire and Emergency Planning Authority (LFEPA);
- December 2018 ES Part 4 – Appendix 2.2 (LBS' EIA Scoping Opinion) – Statutory consultee responses from Transport for London, Natural England and the Environment Agency (EA) are available online (refer to planning ref: 18/AP/2633), which informed LBS' EIA Scoping Opinion;
- December 2018 ES Part 4 - Appendix 2.3: EA response to the EIA Scoping Opinion regarding land contamination and flood risk;
- December 2018 ES Part 4 - Appendix 8.4: Correspondence with LBS Environmental Health Department regarding noise & vibration EIA methodology;
- December 2018 ES Part 4 - Appendix 9.1: Correspondence with LBS regarding air quality EIA methodology;
- December 2018 ES Part 4 - Appendix 10.2: MOLA letter to LBS regarding future archaeological investigation;
- December 2018 ES Part 4 - Appendix 11.1 (Drainage Strategy): Appendix 3 – Thames Water response to pre-planning enquiry, confirming sufficient sewer capacity; and
- December 2018 ES Part 4 - Appendix 11.2 (Flood Risk Assessment): Appendix C - Thames Water correspondence and Appendix E – EA Flood Data.

Correspondence with LBS on the agreed viewpoints in regards to the December 2018 TVIBHA is provided in **Appendix J**.

March 2019 DRR Clarification Requested (EC2)

'The Applicant should include key points raised through findings gathered from the survey and meetings with local stakeholder groups.'

Response

It is not necessary to include the key points raised through the consultation process with local stakeholder groups in an ES. This information is provided within the Statement of Community Involvement, prepared by KANDA, submitted as a standalone planning document with the December 2018 Planning Application. A summary of the pre-application consultation is also provided in the planning statement. The consultation process informed the design evolution of the Development (refer to December 2018 ES Part

1 – Chapter 4: Alternatives and Design Evolution), particularly in relation to the proposed design of the building, public realm improvements, proposed new station entrance and the proposed elevated public garden.

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4. Review of EIA Presentation (December 2018 ES)

LUC have not sought any clarifications or potential Regulation 25 information requests when reviewing the EIA presentation of the December 2018 ES.

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5. Review of December 2018 ES Part 1: Main Text – Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction

March 2019 DRR Clarification Requested (CD1)

'Clarification on the scope and content and implementation of a SWMP is sought from the Applicant.'

Response

It is expected that LBS would secure the requirement for a Site Waste Management Plan (SWMP) via planning condition. The SWMP would be prepared prior to the commencement of any demolition and construction works, setting out the approach to and targets for waste management, redirecting from landfill, and improving recycling and reuse rates.

Paragraphs 6.86-6.88 of the December 2018 ES Part 1 – Chapter 6 describe the following waste management measures to be implemented during the Works that would be investigated further and form part of the SWMP:

'The Main Contractor would ensure that construction waste is segregated into separate categories, such as timber, steel and packaging, to reduce the amount of waste sent to landfill.'

The Main Contractor and trade contractors would investigate opportunities to minimise waste arisings at source and, where such waste generation is unavoidable, to maximise the recycling and reuse potential of other demolition and construction materials. Strategies including just-in-time deliveries and suitable storage of materials prior to use would also be applied to prevent spoiling.'

The destination of all waste or other materials removed from the Site would be notified by the Construction Site Manager for approval. Loads would only be deposited at authorised waste treatment and disposal sites daily. Deposition would be in accordance with the requirements of the EA, the Control of Pollution Act 1974, Part IIA of the Environmental Protection Act 1990, Clean Neighbourhoods and Environment Act 2005, Hazardous Waste Regulations 2005 and the Environmental Protection (Duty of Care) Regulations 2003. The disposal of excavated materials would be carried out in accordance with relevant legislation and options for disposal are currently being investigated.'

March 2019 DRR Clarification Requested (CD2)

'Clarify that all assessments in the ES have had regard to properties that may be occupied during the construction works and that the worst case assessments have been undertaken.' (Note: text in paragraph 5.4 in relation to CD2 is different "Clarification is sought on the extent of overlap and which phases of the Development overlap with each other, use of a Gantt chart would be useful (CD2)")

Response

As requested, a Gantt chart has been provided in **Appendix D** to visually represent Table 6.1 of the December 2018 ES:

Paragraph 6.1 of the December 2018 ES states that *'The estimated start date for the Site clearance and demolition is quarter one 2022. The anticipated duration of each task within the Works is set out in Table 6.1. Although the exact weeks may vary, the approximate duration of the works means the works are expected to finish in quarter four 2025.'*

Table 1: Table 6.1 of the December 2018 ES: Indicative Programme of the Works

Activities	Anticipated Start Date	Anticipated Completion Date	Approximate Duration (Weeks)
Site set up and enabling works	Week 1	Week 37	38
Demolition and Site clearance	Week 1	Week 31	32
Piling	Week 29	Week 47	19
Basement construction	Week 46	Week 78	34
Construction of the superstructures	Week 76	Week 160	85
Service installation and fit-out	Week 75	Week 205	131
Keats House	Week 134	Week 179	40
Landscaping and external works	Week 171	Week 196	26

Please refer to the response below regarding assessing the worst-case (CD3). The assessments have identified sensitive receptors (including surrounding occupied properties) that could be affected during the Works and these are detailed in the technical ES chapters. A list of identified sensitive receptors is provided in Table 3.1 of Chapter 3: Existing Land Uses and Activities.

March 2019 DRR Clarification Requested (CD3)

'The Applicant is to clarify that all assessments in the ES have had regard to the worst case scenario in terms of overlap between plant operating on the site as well as vehicle movements across all phases of the development.'

Response

Based on our review of the Works programme, the most intensive period for construction vehicle activity is predicted to be during the excavation and piling works. The Applicant's construction advisors have stated that the peak daily number of Heavy Goods Vehicles (HGVs) trips during construction are likely to be 28 but could be 44 during excavation and piling, as outlined in Table 6.2 of the December 2018 ES (**Table 1** above). As a worst-case, the assessments (transport, air quality and noise & vibration) in the December 2018 ES and where relevant this document have considered the peak figure from these periods in the assessment of effects of the Works. It can also be confirmed that the peak trip figure included overlap of construction activities and programme and therefore assessments took into account the worst case scenario.

Table 6.2 of the December 2018 ES (**Table 1** above), shows the type and numbers of plant operating on the Site throughout the Works. Assessments, such as noise and vibration, are based on when the construction activity (such as demolition or piling etc) is being undertaken at the shortest distance (generally the site boundary) to the receptor over a 1-hour period. So for noise and vibration the assessment is therefore considered indicative of the worst case scenario. Over a 10-hour working day with periods of plant inactivity and plant working at a greater distance than is used for assessment purposes, the overall construction noise and vibration levels would be lower. Where construction activities (such as piling or earthworks) occur concurrently on Site it is considered unlikely that they would both be undertaken at the shortest distance to the sensitive receptors such as residents in the upper floors of the Bunch of Grapes Public House (immediately adjacent to the Site), and it is therefore the activity, which takes account of a number of different plant items operating concurrently, being undertaken at the shortest distance to the SR that would dominate and which forms the basis of the ES assessment. In conclusion, it can be clarified that all assessments in the December 2018 ES and where

relevant this document have had regard to the worst case scenario in terms of overlap between plant operating on the site as well as vehicle movements across all phases of the Development.

March 2019 DRR Clarification Requested (CD4)

'Clarify whether the assessment of vehicle movements has had regard to the projected waste movements that are stated in the chapter (if not, the assessment will need to be revised).'

Response

The Applicant's construction advisor provided the demolition and construction details that informed Chapter 6 of the December 2018 ES. The expected number of HGV movements during the Works was calculated based on the construction programme and activities, which took into account the amount of construction materials required for the Development and the waste quantities from demolition. Waste arisings were included in the construction trips over the full course of the construction programme as 1 wagon (identified as muck away lorries in Table 6.2 of the December 2018 ES Chapter 6) per day, apart from during demolition, which would result in additional trips from waste arisings. Additional waste arisings (as reported in the December 2018 ES Chapter 6) during demolition were taken into account when calculating the peak trips during the demolition works.

March 2019 DRR Clarification Requested (CD5)

'Clarification is sought as to the scope of the CMP document and how it relates to the SEMP also referenced in the ES.'

Response

In relation to paragraph 6.75 to which this clarification request arises, an outline Construction Management Plan (CMP) has been submitted to support the December 2018 Planning Application that commits the Main Contractor to dust mitigation measures. A Site Environmental Management Plan (SEMP) will be issued to any demolition or construction contractors and in line with best practice on construction sites a range of environmental management controls would be implemented.

The aim of the outline CMP submitted to LBS is to identify the proposed phasing and construction methodology and highlight and addresses any potential issues during construction that the Main Contractor should consider when developing their specific SEMPs.

March 2019 DRR Clarification Requested (CD6)

'Clarification is sought as to whether consultation on crane heights and locations has been undertaken with London City Airport.'

Response

A response was not received from London City Airport during the EIA scoping process or prior to submission of the December 2018 ES. Since submission, the National Air Traffic Safeguarding Office has responded to the December 2018 Planning Application and confirmed that it anticipates no impact on aviation as a result of the Development and accordingly has no objections to the December 2018 Planning Application (refer to **Appendix E**).

March 2019 DRR Potential Regulation 25 Request (CD7)

'Further information on the proposed construction and demolition works including details on the proposed

programme of works, dates when the development is likely to start and finish and working hours during the demolition/construction programme should be provided in the NTS.'

Response

The NTS has been updated accordingly and provided in **Appendix C**.

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6. Review of December 2018 ES Part 1: Main Text – Chapter 7: Transport

March 2019 DRR Clarification Requested (T1)

‘Present capacity based information for bus usage as part of the baseline conditions rather than as information introduced later as part of the assessment.’

Response

The following text has been inserted in the Baseline Conditions (Bus Network and Services) section, after Table 7.5, in the updated ES Transport Chapter appended to this document (**Appendix F**) (which replaces and supersedes Chapter 8 Transportation and Access of the December 2018 ES):

‘Table 7.5 shows that during the AM peak there are approximately 128 bus services per direction and 257 bus services in both directions. Based on an average bus operational capacity of 63 persons and a weekday AM Peak frequency of 128 buses in each direction, the planning bus capacity has been calculated as 8,064 passengers per direction per hour.

In the PM peak, the planning bus capacity is approximately 8,001 passengers per direction per hour based on there being approximately 127 buses per direction and thus 253 bus services in total.’

March 2019 DRR Clarification Requested (T2)

‘Present usage (load) based information for London Underground usage as part of the baseline conditions rather than as information introduced later as part of the assessment.’

Response

The following text has been inserted at paragraph 7.8 in the Baseline Conditions (Underground Services) section in the updated ES Transport Chapter (**Appendix F**):

‘Planning capacity figures obtained from TfL indicate that each Jubilee Line train has a planning capacity of 960 passengers. With regard to the Northern Line, each train has a planning capacity of 800 passengers. A summary of the planning capacity expressed as the number of passengers per hour per direction (pphd) is set out below.

Table 2: Services & Frequencies from London Bridge Underground Station (Table 7.9 of **Appendix F**)

Service	Direction	No. of Trains		Planning Capacity (pphd)	
		0800-0900	1700-1800	0800-0900	1700-1800
Jubilee Line	Westbound	30	30	28,800	28,800
	Eastbound	30	30	28,800	28,800
Northern Line	Northbound	25	23	20,000	18,400
	Southbound	23	23	18,400	18,400

March 2019 DRR Clarification Requested (T3)

‘Provide clarity in respect of the contents of paragraphs 7.9 – 7.11 and how these relate to Table 7.10.’

Response

Paragraphs 7.9 – 7.11 of Chapter 7: Transport of the December 2018 ES have been revised in the updated ES Transport Chapter (**Appendix F**) to clarify the various scenarios as follows:

1. 'The following scenarios have been considered within the assessment:

- Existing Baseline 2018;
- Assessment (Future) Baseline 2026: This scenario comprises the Existing Baseline 2018 + committed developments which are currently under construction and are expected to be completed by the Development opening year (this scenario is set out in Table 7.10). These developments are listed below:

Tower Bridge Magistrates Court and Police Station (15/AP/3303);

175-179 Long Lane (15/AP/4072);

25-29 Harper Road (15/AP/3886);

Isis House, 67-69 Southwark Street;

1 Bank End (15/AP/3066); and

Fielden House (Shard Place) (17/AP/4008).

- Assessment (Future) Baseline 2026 + Development; and
- Assessment (Future) Baseline 2026 + Development + committed developments: This scenario comprises the Assessment Baseline 2026 + Development + the remaining committed developments. The remaining committed developments are identified in Chapter 14 Cumulative Effects. It is noted that since the submission of the planning application, additional committed developments have been identified and these have been considered as part of the assessment of the cumulative effects (in the updated ES Cumulative Effects Chapter – (**Appendix B**)).'

March 2019 DRR Clarification Requested (T4)

'Amend apparent error in Table 7.2.'

Response

The corrected table is provided below (changes highlighted in yellow) and in the updated ES Transport Chapter (**Appendix F**):

Table 3: Significance Criteria (Table 7.2 of **Appendix F**)

	Effect	Insignificant	Minor	Moderate	Major
Highway Network	Change in traffic flow on highway network	Increase or decrease in flows of less than 10%	Increase or decrease in flows of 10-30%	Increase or decrease in flows of 30-60%	Increase or decrease in flows of more than 60%
Bus Network	Change in passenger numbers leading to a change in journey experience	Less than 10% change in passenger numbers leading to no change in journey experience	10%-30% change in passengers leading to a change in journey experience	30%-60% change in passenger numbers leading to a change in journey experience	More than 60% change in passenger numbers leading to a change in journey experience
Underground and Rail Network	Change in passenger	Less than 10% change in	10%-30% change in	30%-60% change in	More than 60% change in

	Effect	Insignificant	Minor	Moderate	Major
	numbers leading to a change in journey experience	passenger numbers leading to no change in journey experience	passengers leading to a change in journey experience	passenger numbers leading to a change in journey experience	passenger numbers leading to a change in journey experience
Walk and Cycle Network: Severance	Change in perceived divisions within a community separated by a traffic route	Increase in traffic flows of less than 10%	Increase in traffic flows of 10-30%	Increase in traffic flows of 30-60%	Increase in traffic flows of more than 60%
Pedestrian Delay	A judgement based on the routes with two way traffic flow exceeding 1,400 vehicles per hour in context of their individual characteristics				
Pedestrian Amenity	Change in perceived pleasantness of the journey/walking route	Change in total traffic or HGV flows < 100% No change to pedestrian comfort level rating or a change that does not alter the description of the rating as per TfL's criteria.		Change in total traffic or HGV flows ≥ 100% A change in Pedestrian Comfort Level which alters the description of the rating criteria as per TfL's criteria	
Pedestrian Fear and Intimidation	Increase in traffic flows, HGV composition and narrow footways	Increases in traffic flow, HGV composition and narrow footways		As set out in Table 7.4.	
Accidents and Safety	A judgement based on change in collision numbers over a route under consideration				
Dust and Dirt on the road	A judgement taking into account baseline construction management processes				

March 2019 DRR Clarification Requested (T5)

'Amend apparent error in Table 14.3.'

Response

This has been undertaken in the updated ES Cumulative Effects Chapter – (**Appendix B**).

March 2019 DRR Potential Regulation 25 Request (T6)

'Present information on baseline conditions for all transport modes.'

Response

The December 2018 ES Chapter 7: Transport describes the existing conditions including service provision for the local bus, underground and train services. The planning capacity is also provided but within the assessment section and has been moved to the baseline section as set out earlier in the response and in the updated ES Transport Chapter (**Appendix F**).

Additionally the existing cycle flows for links surrounding the Site are set out below and in Table 7.7 of **Appendix F**:

Table 4 Existing baseline cycle flows (no. of cyclists two-way) (Table 7.7 of **Appendix F**)

Link	AM Peak	PM Peak
Borough High Street between St Thomas Street and King's Head Yard	1,008	750
St Thomas Street	138	132
White Hart Yard	6	3
King's Head Yard	6	3
Southwark Bridge Road	369	273

Pedestrian counts have been undertaken in 2016 by Space Syntax to inform the baseline conditions at key locations surrounding the Site. These are summarised below and provided within Table 7.5 of **Appendix F**.

Table 5 Existing baseline pedestrian flows (two-way, no. of people) (Table 7.5 of **Appendix F**)

Link	AM Peak	Lunch-time peak	PM Peak
St Thomas Street north side	312	717	522
St Thomas Street south side	906	1,896	1,617
Borough High Street east side	2,562	3,357	3,444
Borough High Street west side	1,440	2,406	2,220
King's Head Yard	207	645	423
White Hart Yard	81	372	234

March 2019 DRR Potential Regulation 25 Request (T7)

'In respect of baseline conditions for pedestrians, consider use of the Pedestrian Comfort Level (PCL) pertaining to key parts of the existing walking network by reference to the report by Space Syntax.'

Response

ES Chapter 7: Transport has been updated with the following paragraphs provided (paragraphs 7.52-7.56 of **Appendix F**):

'The pedestrian flows have been used to establish the pedestrian comfort level on the footways of St Thomas Street, Borough Street and King's Head Yard. This has been undertaken in line with TfL's Pedestrian Comfort Guidance (2010)⁴.

*The Guidance outlines a benchmark for Pedestrian Comfort Level (PCL) for how footways should operate during peak hour pedestrian flows for different area types. The PCL ratings range from A to E with A indicating the highest footway capacity relative to pedestrian comfort. **Figure 1** (Figure 7.1 of the updated ES Chapter) shows how the ratings correspond to the different levels of comfort for an office/retail area type which is the most suitable area choice for footways in the vicinity of the Site.*

*The footways around the Site vary in width due to the presence of street furniture etc and this has been taken into account with the assessment undertaken at various locations. These locations are illustrated in **Figure 1** (Figure 7.1 of the updated ES Chapter).*

*The results of the PCL assessment for the existing situation and for the future baseline situation are set out in below in **Table 7.6**.*

⁴ Transport for London (2010): Pedestrian Comfort Guidance for London.

Table 6 PCL Assessment (Table 7.6 of **Appendix F**)

Link Ref	Existing PCL		Future Assessment Baseline PCL (Without NCC)	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B+	A-	B	A-
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B+	A-	B	A-
2a (St Thomas Street)	F	F	F	F
2b (St Thomas Street)	B-	B+	B-	B+
3a (St Thomas Street)	F	F	F	F
3b (St Thomas Street)	B	B+	B-	B+
4a (Borough High Street)	B-	B-	C+	C+
4b (Borough High Street)	B-	C+	C	C
5a (Borough High Street)	B-	C+	C	C
5b (Borough High Street)	C	C-	D	D
5c (Borough High Street)	B-	B-	C+	C+
6 (King's Head Yard)	A+	A+	A+	A+
7 (King's Head Yard)	A+	A+	A+	A+

The assessment shows that the footways around the Site generally provide comfortable to acceptable level of pedestrian comfort. However, it is noted that on Borough High Street the pedestrian comfort is described as being at risk and becoming 'uncomfortable' in the future baseline situation. Additionally, on St Thomas Street, there are localised areas of the footway width being less than 1.5m. Accordingly, this results in localised pinch points providing areas that are less comfortable but these are localised only with the majority of the footway providing acceptable level of comfort.'

March 2019 DRR Potential Regulation 25 Request (T8)

'In respect of baseline conditions for cyclists, consider use of data derived from classified counts and include classified counts as an appendix to the TA.'

Response

Refer to **Table 7.7** on existing baseline cycle flows above which is also included in the updated ES Transport Chapter (**Appendix F**).

March 2019 DRR Potential Regulation 25 Request (T9)

'Identify potential receptors and whether any of the receptors of transport impact should be considered sensitive.'

Response

Review of sensitivity of receptors was undertaken as part of the December 2018 ES Chapter 7. The Site is located in a busy central London setting with roads that carry high traffic flows. The only links that have

been assessed as being sensitive receptors for pedestrians and cyclists are White Hart Yard and King's Head Yard as these roads are shared between vehicles and pedestrians with limited footway provision.

The table below provides the sensitive receptors that were considered in Chapter 7: Transport of the December 2018 ES, and using the guidelines in Table 7.3 of the ES Chapter, identifies their type and sensitivity:

Table 7 Summary of Sensitive Receptors (Table 7.3 of Appendix F)

Receptor Type	Receptor Sensitivity	Sensitive Receptor
Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.	High	Pedestrians and cyclists along White Hart Yard and King's Head Yard
Traffic flow sensitive receptors: congested junctions/links, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities.	Medium	Guy's Hospital patients
Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision.	Low	<p>Future and existing surrounding residential occupants to the west, north and east of the Development including Bunch of Grapes Public House, 43 Borough High Street, Shard Place and 6 London Bridge Street.</p> <p>Future and existing surrounding residential occupants to the south of the Development including Nos. 51-55 Borough High Street, 22 Southwark Street.</p> <p>Residential students at Iris Brook House and Orchard Lisle House</p>

March 2019 DRR Potential Regulation 25 Request (T10)

'Review assessment of effects on pedestrians during construction in light of review of identification of potentially sensitive receptors.'

Response

The assessment of effects on pedestrians during construction included within the December 2018 ES Chapter 7: Transport has been reviewed with the pedestrian movement in mind. The transport related effects on pedestrians could arise from construction vehicles entering and leaving the Site and from local footway closures on the southern side of St Thomas Street. It has been shown within the December 2018 ES Chapter 7: Transport that the maximum addition of HGV movements an hour, during the most intense construction period, would be 4 HGVs on St Thomas Street i.e. 2 arrivals and 2 departures and even less on other roads surrounding the Site. It has been shown that this is an insignificant addition onto the existing traffic flows on those roads. Therefore, pedestrian capacity, severance, delay, amenity, fear and intimidation effects are considered to be local to immediately outside the Site, and temporary adverse effects of moderate significance in the absence of mitigation, based on professional judgement and the traffic flow changes predicted. Given the low number of construction vehicles associated with the Site and

the proposed mitigation measures, the residual effects on pedestrian movement would be insignificant as outlined in December 2018 ES Chapter 7: Transport.

It is noted that both King's Head Yard and White Hart Yard are considered sensitive receptors to any changes in HGV flows. However, construction vehicles would not enter the yards and no further assessment is necessary.

March 2019 DRR Potential Regulation 25 Request (T11)

'Review assessment of effects on cyclists during construction in light of review of identification of potentially sensitive receptors.'

Response

The assessment of effects on cyclists during construction included within the December 2018 ES Chapter 7: Transport has been reviewed with consideration of the cycle movement. The data shows that St Thomas Street and Borough High Street are well used by cyclists during the peak periods. However, cyclists already share road space with traffic in those locations. The addition of the development construction traffic onto those roads result in negligible increases in traffic and the roads are not sensitive to such a small increase in flows i.e. extra 4 movements on St Thomas Street and an extra 2 movements on Borough High Street; these are maximum numbers during the most intense construction period. This would therefore have an insignificant effect and the original assessment of effects is therefore valid.

It is noted that both King's Head Yard and White Hart Yard are considered sensitive receptors to any changes in HGV flows. However, construction vehicles would not enter the yards and no further assessment is necessary.

March 2019 DRR Potential Regulation 25 Request (T12)

'Review the content of Table 7.2 with reference to the criteria to be applied to pedestrian delay, amenity, fear and intimidation and severance in line with use of PCL to describe baseline conditions.'

Response

The corrected table is provided as per the response to LUC's Clarification request T4 above and in the revised ES Transport Chapter (**Appendix F**).

March 2019 DRR Potential Regulation 25 Request (T13)

'Review the assessment of effects on pedestrian delay, amenity, fear and intimidation and severance in the operational phase of the proposed development in the light of changes made to Table 7.2.'

Response

The below table shows how the pedestrian comfort levels are forecast to change significantly following the proposed Development. The following table and paragraphs are provided as Table 7.22 and paragraphs 7.141-7.142 in **Appendix F**.

Table 8 Changes to PCL (Table 7.22 of **Appendix F**)

Link Ref	Future Baseline PCL (Without NCC)		Future Assessment Baseline PCL with NCC	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B	B	B	B+
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B	B	B	A-
2a (St Thomas Street)	F	F	B-	B
2b (St Thomas Street)	B-	B-	B+	A+
3a (St Thomas Street)	F	F	B-	B+
3b (St Thomas Street)	B-	B-	B-	B+
4a (Borough High Street)	C+	C+	B	B
4b (Borough High Street)	C	C	B-	B-
5a (Borough High Street)	C	C	B	B-
5b (Borough High Street)	D	D	C	C
5c (Borough High Street)	C+	C+	B-	B-
6 (King's Head Yard)	A+	A+	A	A
7 (King's Head Yard)	A+	A+	A+	A+

The highlighted cells indicate where a significant change in pedestrian comfort is predicted as a result of the proposed Development. This shows that many locations will operate in accordance with the recommended level of comfort as a result of the Development which is beneficial and an improvement compared to the future baseline without the Development in place.

With the above in mind, the effects local to the Site once the Development is completed and operational are as reported in the December 2018 ES Chapter 7: Transport, with the improvement to pedestrian comfort level contributing to the permanent beneficial effect of major significance on pedestrian amenity (as highlighted below):

- **permanent beneficial** effect of **moderate significance** on pedestrian severance given that the Development would open up the existing Site to pedestrians and potentially offer a new connection to the London Bridge Underground station in future;
- **permanent beneficial** effect of **moderate significance** on pedestrian delay due to increased connectivity and permeability. This is with the exception of pedestrians on White Hart Yard where the effects are being assessed as **minor adverse** in respect of pedestrian delay.
- **permanent beneficial** effect of **minor significance** on pedestrian fear and intimidation due to provision of active frontages and improvements to and creation of public amenity spaces which is considered significant. The Development would allow for natural surveillance, provision of lighting and CCTV to provide security coverage within public and private areas.
- **permanent beneficial** effect of **major significance** on pedestrian amenity due to public realm enhancements, provision of active frontages, seating, landscaping and improvements to open spaces and **improvement to pedestrian comfort level** as a result of the proposed Development.

March 2019 DRR Potential Regulation 25 Request (T14)

'Review the content of the NTS so that it reflects any changes to the Transport chapter.'

Response

The NTS would remain unchanged as a result of the amendments to the December 2018 ES Chapter 7: Transport and clarifications above.

DRAFT

7. Review of December 2018 ES Part 1: Main Text – Chapter 8: Noise and Vibration

March 2019 DRR Clarification Requested (NV1)

'Clarification is required as to why the internal and external noise guidelines of BS8233:2014 have not been described for the office spaces and amenity area.'

Response

The December 2018 ES, as detailed within the Scoping Report, addresses the impact of the proposed Development on surrounding land-uses. Suitability of the Site for office use and amenity is not a direct impact of the Development and therefore does not form part of the December 2018 ES. Inclusion of the assessment of vibration from LUL on the Development, is not a direct impact of the Development and would not normally be included within an ES. Inclusion of the potential impact of LUL vibration on the Development was included within the December 2018 ES at the request of LBS.

March 2019 DRR Clarification Requested (NV2)

'Clarification of the apparent inconsistency between the assigned significance descriptions for construction noise and the definition of the construction noise threshold.'

Response

The Construction Threshold Level stated in British Standard (BS) BS5228-1:2009 Annex E ABC method⁵ does not provide comment on the level of significance of exceeding the Construction Threshold Level, although it is accepted that it does state 'a significant effect is deemed to occur if the predicted construction noise level exceeds the threshold level'. In the absence of guidance on the level of significance based on the magnitude of exceedance of the Construction Threshold Level, an exceedance of <3dB is regarded as insignificant on the basis that an increase in a noise source of less than 3dB in an environmental setting is unlikely to be discernible. Exceedance of the Construction Threshold Level above this are assigned significance levels depending on the magnitude above the Threshold Level, as detailed in Table 8.4 of the December 2018 ES. The lowest daytime Construction Threshold Level is 65dB LAeq,T, where T is typically 10 hours per day during the weekday period and 5 hours on a Saturday. A construction level of 67.5dB LAeq,T is therefore regarded as insignificant or 'negligible', whereas a construction level of 78dB LAeq,T when assessed against a Construction Threshold Level of 65dB LAeq,T is regarded to be of major adverse significance.

March 2019 DRR Clarification Requested (NV3)

'A description of the full list of construction noise and vibration mitigation measures proposed to be included in the SEMP, and how this relates to the CMP.'

Response

The purpose of the SEMP referred to within Chapter 8 of the December 2018 ES is to reduce the noise and vibration effects from the Works to acceptable levels when assessed against guidance and standards. The SEMP will essentially form one element of the CMP, the latter including general construction details such as the construction programme, method of working, etc.

⁵ British Standard (2009); 'BS 5228 -1:2009 'Code of practice for noise and vibration control on construction and open sites – Part 1: Noise, Annex E 'significance of noise effects'.

March 2019 DRR Clarification Requested (NV4)

'Clarification as to why an assessment of ambient noise levels on the proposed development has not been provided.'

Response

Refer to response to clarification response to NV1.

March 2019 DRR Clarification Requested (NV5)

'If comments on the assessment result in amendments to the effects of the scheme, this should be considered in the NTS.'

Response

Following responses to clarifications NV1, NV2, NV3 and NV4, no changes to the NTS of the December 2018 ES are considered necessary.

DRAFT

8. Review of December 2018 ES Part 1: Main Text – Chapter 9: Air Quality

March 2019 DRR Clarification Requested (AQ1)

'The potential impacts of New City Court upon the Mayor of London's ambition to meet World Health Organisation's PM_{2.5} target should be clarified.'

Response

The assessment has been undertaken for the proposed heating plant which is gas fired. For gas-fired plants emission factors are not provided for PM₁₀ because gas-fired plants do not emit any significant level of particulates and would therefore not impact on the Mayor of London's ambition to meet the WHO PM_{2.5} target.

As shown in Table 9.15 of Chapter 9 Air Quality (**Appendix G**), the Development would not increase concentrations of PM₁₀ and PM_{2.5}. The Development would not impact on the Mayor of London's ambition to meet World Health Organisation's targets for PM₁₀ and PM_{2.5}.

March 2019 DRR Clarification Requested (AQ2)

'Clarify the results of trackout dust risk impacts.'

Response

When using the IAQM criteria in Table 9 of the guidance document⁶, a medium sensitivity area and a medium dust emission magnitude results in a low risk of dust impact from trackout in respect of human health and medium risk in respect of dust soiling as presented in the updated ES Chapter 9: Air Quality (**Appendix G**).

Table 9 IAQM guidance document on dust impacts

Table 9: Risk of Dust Impacts - Trackout

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

March 2019 DRR Clarification Requested (AQ3)

'Clarify whether mitigation consistent with IAQM "Medium" risk has been provided for earthworks, demolition, construction and trackout dust risk impacts. If so, has there been any deviation from the standard suite of mitigation measures within section 8.2 of IAQM's guidance on, the assessment of dust from demolition and construction?'

⁶ Institute of Air Quality Management (2014); 'Guidance on the assessment of dust from demolition and construction.'

Response

The mitigation measures in the updated ES Chapter (**Appendix G**) are consistent with those presented in Section 8.2 of the IAQMs guidance for Medium risk sites.

March 2019 DRR Clarification Requested (AQ5)

'Clarification is required on whether overlapping construction activities, as identified within Table 6.1 of the ES, would result in more peak construction HDV movements than already assessed as the maximum movements as set out in paragraph 9.19 of the ES.'

Response

Based on the review of the Works programme, the most intensive period for construction vehicle activity is predicted to be during the excavation and piling works. The Applicant's construction advisors have stated that the peak daily number of HGVs trips during construction are likely to be 28 but could be 44 during excavation and piling, as outlined in Table 6.2 of the December 2018 ES. As a worst-case, the air quality assessment in the ES has considered the peak figure from these periods in the assessment of effects of the Works.

March 2019 DRR Potential Regulation 25 Request (AQ4)

'Table 7.26 of the Transport ES chapter shows 179 vehicle movements per day associated with the scheme on Borough High Street. Clarification is required on why these traffic changes were considered to be below the 'EPUK/IAQM criteria'. Should this require a detailed assessment, clarification is also required on whether there are any significant adverse impacts and mitigation required to offset impacts in full. If dispersion modelling of this traffic flow change is required, it should be carried out in combination with the potential impacts of emissions from the energy centre. Depending on the clarification, further information may be required.'

Response

A detailed assessment has been undertaken and an updated Air Quality ES Chapter is appended to this document (Appendix G) (which replaces and supersedes Chapter 9 Air Quality of the December 2018 ES). The figures referred to by the revised air quality ES chapter are presented within Appendix A. As indicated previously, since submission of the December 2018 ES, the proposed roof plans have been revised following amendments to the energy strategy, resulting in a change to the flue locations and plant generation specifications. The updated Air Quality ES Chapter has been updated following remodelling to take account of this.

9. Review of December 2018 ES Part 1: Main Text – Chapter 10: Archaeology

March 2019 Potential Regulation 25 Request (ARCH1)

'The Applicant is to revisit the assessment of residual effects and to ensure that they are internally consistent and accurately reflect that the potential total loss of buried archaeology within the site is not fully mitigated by the strategy of preservation by record proposed.'

Response

There has been no change to the assessment of the potential for, and significance of, baseline archaeological assets at the Site, nor to the physical impacts of the Development since the December 2018 ES Chapter 10: Archaeology. No buried heritage assets of Very High or High significance are anticipated in the Site which would merit a mitigation strategy of permanent preservation *in situ*, and under such circumstances it is standard practice to mitigate the loss of archaeological remains through appropriate excavation, recording and dissemination of the results to achieve **preservation by record**.

It has been indicated by LBS's Archaeological Advisor that the archaeological interest of the Site can be protected by the implementation of an agreed phased programme of archaeological investigation under a planning condition. This will comprise evaluation (if feasible this will be combined with any geotechnical works) following removal of the basement slab. The results will inform the need and scope for any necessary subsequent targeted excavation and recording, and/or a watching brief during ground reduction, as appropriate.

LUC has however queried the conclusions of the assessment regarding residual effects (i.e. that effects remaining after the implementation of an appropriate programme of archaeological mitigation, approved by LBS's Archaeological Advisor, would be insignificant).

Whilst the exact significance of archaeological remains (and therefore scale of likely residual significance of effect) is not known until further site field investigation is undertaken, as a precaution, residual effects have been reassessed as follows on the basis that preservation by record offsets the environmental effect but does not prevent or change the physical loss of the archaeological resource.

Without mitigation, the effects of the scheme are as follows:

- on archaeological remains of **Medium significance** (i.e. Isolated and truncated prehistoric and/or Roman cut features) the effects would be of **major adverse** significance;
- on archaeological remains of **Low significance** (redeposited prehistoric and/or Roman artefacts, truncated post-medieval remains, and disarticulated human bone) the effects would be of **moderate adverse** significance.

On completion of the programme of archaeological investigation to the satisfaction of the LBS's Archaeological Advisor it is considered that the residual effects on any truncated prehistoric and/or Roman cut features will be **moderate adverse**, and on any redeposited prehistoric and/or Roman artefacts, truncated post-medieval remains, and disarticulated human bone will be **minor adverse**.

March 2019 Potential Regulation 25 Request (ARCH2)

'The Applicant is to revisit the assessment of cumulative effects and to ensure that they are internally consistent and accurately reflect that the potential total loss of buried archaeology within the site is not fully mitigated by the strategy of preservation by record proposed.'

Response

With the completion of the construction works of Shard Place, previously included as a cumulative scheme but now considered as part of the baseline for archaeology, no nearby development scheme, including the additional cumulative scheme requested by LBS, is located within the study area used for the archaeological assessment of the Development Site. No elevated effects are therefore predicted that are greater than those identified in relation to the Development alone i.e. moderate and minor adverse.

However, any development project that has an impact on archaeology contributes to the cumulative erosion of this resource.

March 2019 Potential Regulation 25 Request (ARCH3)

'The Applicant is to clarify if the cumulative assessment with Shard Place has been correctly undertaken given that it is stated that the development will already be completed and is considered as part of the baseline in paragraphs 14.12-13'

Response

It is understood that construction of Shard Place is now completed and therefore forms part of the baseline for the archaeological assessment rather than a potential cumulative impact. This change does not give rise to a material change to the baseline nor a change in the assessment of impacts and effects.

10. Review of December 2018 ES Part 1: Main Text – Chapter 11: Water Resources and Flood Risk

March 2019 DRR Clarification Requested (WR1)

'The Applicant should provide a more detailed list and references to the applicable legislation and relevant planning policies and how this has informed the scheme and the process of the development of the ES.'

Response

It is not a legal requirement to provide in an ES a summary of applicable legislation and relevant planning policies and how this has informed the Development or relates to assessments. Policies and guidance that specifically influence assessment methodology are provided in the assessment methodology section of ES chapters, i.e. they are included where directly relevant to the ES assessment within the Assessment Methodology section of the ES Chapter.

March 2019 DRR Clarification Requested (WR2)

'Clarification is sought as to the mitigation measures related to water resources that will be included in the SEMP.'

Response

Please refer to response to CD5 regarding how the outline CMP relates to the SEMP.

Paragraph 11.82-11.88 of Chapter 11 of the December 2018 ES set out the mitigation measures related to water resources during the Works that will be included in the SEMP, which have been repeated below for ease:

- **Groundwater flooding** - Groundwater management measures would be set out within the SEMP. Appropriate dewatering and disposal, using standard techniques such as sumps and pumps would likely be required.
- **Surface water (pluvial) flooding** - The SEMP developed for the Works would include temporary measures to control surface water runoff from the Site. Such measures would include the provision of adequate drainage to manage surface water run-off. Construction of the drainage system should be designed and managed to comply with BS 6031:2009 'The British Standard Code of Practice for Earthworks'⁷, which details methods that should be considered for the general control of drainage on construction sites. Discharge rates and volumes of water discharged would be agreed with the EA and Thames Water.
- **Effects to Controlled Waters from ground contamination** - The Works would be undertaken in accordance with the SEMP to negate adverse risks to Controlled Waters. Protective measures would include:

Handling and storing any potential hazardous liquids/materials in accordance with relevant legislation and Environment Agency (EA) pollution prevention guidance;

The use of appropriately tanked and bunded storage areas for fuels, oils and other chemicals;

Procedures for the management of materials, spillage and spill clean-up, use of best practice construction methods and monitoring;

Surface drainage would pass via settlement and oil interception facilities, where required, and discharge

⁷ British Standards (2009): BS 6031:2009 'The British Standard Code of Practice for Earthworks', December 2009.

arrangements would be agreed with the EA and Thames Water Utilities Limited (TWUL);

The provision of adequate drainage to manage surface water run-off and minimise contaminated water reaching the groundwater;

The stockpiling of contaminated materials would be avoided, wherever possible. Stockpiles would be located on areas of hard standing or on plastic sheeting to prevent mobile contaminants infiltrating into the underlying ground; and

Potentially hazardous liquids on the Site, such as fuels and chemicals, would be managed and stored in accordance with best practice guidance, such as that published by the EA. Storage tank and container facilities would be appropriately bunded with designated areas and located away from surface water drains.

- **Potable water demand** – all relevant contractors would be required to investigate opportunities to minimise and reduce the use of water in accordance with the SEMP. These would include:

selection and specification of equipment;

implementation of staff-based initiatives such as turning off taps, plant and equipment when not in use;

use of recycling water systems in functions such as wheel washes and toilets; and

where possible, water from excavation would be used for dust suppression during construction.

March 2019 DRR Clarification Requested (WR3)

'With regards to the proposed drainage strategy, the Applicant should confirm that consultation has taken place and the local authority/Thames Water are satisfied with the proposed attenuation of flows.'

Response

Appendix 3 of December 2018 ES Part 4 - Appendix 11.1 (Drainage Strategy prepared by AKTII) contains Thames Water's response to AKTII's pre-planning enquiry, which confirms that there is sufficient sewer capacity for the proposed foul flows of the Development.

March 2019 DRR Clarification Requested (WR4)

'The Applicant should include an outline of the likely evolution of the baseline environment and review the assessment accordingly.'

Response

It is acknowledged in Chapter 4: Alternatives and Design Evolution of the December 2018 ES (paragraph 4.10 and Table 4.1) that the EIA Regulations require the consideration of the likely evolution of the baseline conditions of the Site without implementation of the Development as a result of natural changes occurring. The existing conditions of the Site are reported in **Chapter 7** to **Chapter 14** of the December 2018 ES (and any additional information contained within this document) and relate to conditions identified at the time the surveys and desk-based research were undertaken between 2017 and 2018. The December 2018 ES Chapter 4: Alternatives and Design Evolution outlines that the baseline conditions without the Development are expected to evolve for a number of the environmental issues considered, as outlined in Table 4.1 of the December 2018 ES. The December 2018 ES Chapter 4: Alternatives and Design Evolution also states that where no evolution of the baseline conditions as a result of natural changes occurring is anticipated, the baseline conditions would remain as reported in the technical chapters of the December 2018 ES (and any additional information contained within this document).

Water resources and flood risk are not considered to evolve, and therefore the ‘future’ baseline conditions would remain as reported in Chapter 11: Water Resources and Flood Risk of the December 2018 ES. The flood risk baseline information used the latest available EA data, which considers the impact of climate change on future flood levels.

March 2019 Potential Regulation 25 Request (WR5)

‘The Applicant does not discuss the sensitivity of receptors in Chapter 11. The sensitivity value (and criteria) of a receptor should be clear, or justified reasoning provided for not using this terminology as part of the assessment. Further information in regards to the sensitivity of receptors, i.e. the River Thames, underlying geology and local infrastructure should be provided.’

Response

A review of the sensitivity of receptors in Chapter 11 of the December 2018 ES is provided in **Table 10** below.

Table 10 Sensitivity of Receptor

Receptor	Commentary	Sensitivity (H/M/L)
River Thames	<p>The River Thames forms part of the River Thames and Tidal Tributaries Site of Metropolitan Importance for nature conservation. The section of River Thames nearest to the Site is also known as the Middle Thames and is located within the Thames River Basin Management Area. It has been assessed by the EA as having a ‘Moderate’ Ecological Potential (failure against the Water Framework Directive, 2000 (WFD)⁸). It also fails with regard to Chemical Quality. Owing to the historic physical habitat modifications of the river throughout this reach, the Middle Thames is classified as a Heavily Modified Waterbody (HMWB).</p> <p>As the current chemical quality of the Middle Thames has been recorded as ‘Fail’ and the ecological status is Moderate, the surface water quality receptor is assessed as being of high importance / sensitivity.</p>	High
Existing surface and foul water sewers	Thames Water combined public sewers are located adjacent to the Site. It is believed that all surface water and foul water from the existing building currently discharges to one or more of these public sewers. Given these sewers are public (rather than private) these are considered to be have high importance / sensitivity.	High
Existing water mains	Thames Water public water supplies are located adjacent to the Site. Given these water mains are public (rather than private) these are considered to be have high importance / sensitivity.	High
Deep Principal Aquifer	As stated in Table 11.3 of the December 2018 ES, a deep Principal Aquifer lies within the Chalk Group stratum. This aquifer classification has a high intergranular and/ or fracture permeability – meaning they usually provide a high level of water storage and likely to be used for potable water abstraction. This Principal Aquifer therefore has high sensitivity.	High
Secondary Aquifers	<p>As stated in Table 11.3 of the December 2018 ES, the shallow aquifers (Secondary Undifferentiated Aquifer in the Alluvium and Secondary A Aquifer in the Kempton Park Gravel Formation) above the low permeable London Clay Formation (Unproductive Stratum) underneath the Site may be important in supporting local abstractions or in providing baseflow to rivers and streams. As such these aquifers have medium sensitivity.</p> <p>Secondary A Aquifers lie within the Lambeth Group and Thanet Formation stratum underneath the Site. These Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale and as such have medium sensitivity.</p>	Medium

⁸ European Union, (2000), ‘Council Directive 2000/60/EC establishing a framework for Community action in the field of water policy (Water Framework Directive)’.

Receptor	Commentary	Sensitivity (H/M/L)
Groundwater quality	The Site is not located in a groundwater Source Protection Zone. Groundwater vulnerability is therefore classified as medium-low.	Medium-Low

On review of the above, the sensitivity value of the identified receptors in **Table 10**, do not affect the significance criteria in Table 11.1 of Chapter 11 of the December 2018 ES. The sensitivity of a receptor is often based on its spatial scale (i.e. locality to the Site and its local or regional importance), which is inherently considered within Table 11.1 of Chapter 11 of the December 2018 ES and used for determining the significance of effect (e.g. a major adverse effect if there were an increase in water supply which would exceed the water resource capacity of the region versus a minor adverse effect if it placed additional pressure on existing local supplies and existing water supply infrastructure).

11. Review of December 2018 ES Part 1: Main Text – Chapter 12: Wind

March 2019 DRR Clarification Requested (W1)

'Clarification is sought to which software was used for the CFD analysis

Response

The software that Wirth Research use is ANSYS Fluent.

March 2019 DRR Clarification Requested (W2)

'Clarification is sought as to how the wind gust analysis takes place and how this is benchmarked against the wind tunnel test'

Response

The Gust Equivalent Mean (GEM) for these results is calculated using a proprietary method which uses the Turbulent Kinetic Energy (TKE) field and the velocity field from the Computational Fluid Dynamics (CFD) to estimate the gust velocity across the Site and surrounds.

The use of TKE has been questioned due to the known limitations of Reynolds-averaged Navier–Stokes (RANS) in predicting absolute TKE values, but for the purposes of generating GEM only the additional TKE generated by the flow structures within the Site and surrounds is relevant.

There is published literature which demonstrates that discrepancies between mean velocities from CFD and GEM from wind tunnels are only marked when concerned with the gustiness associated with flow accelerations around the corners of buildings.

The CFD method has been correlated against wind tunnel data. The studies used for this are confidential, but an anonymised section is shown in **Figure 2** to demonstrate the benefits from changing from mean velocity to GEM.

12. Review of December 2018 ES Part 1: Main Text - Chapter 13: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

March 2019 DRR Clarification Requested (DS1)

'Consider whether it would be more appropriate to categorise the effects on daylight to The Old Kings Head as minor to moderate beneficial rather than insignificant.'

Response

On balance, due to both adverse and beneficial effects, the insignificant effects to the Old Kings Head is considered to be appropriate.

March 2019 DRR Clarification Requested (DS2)

'It is recommended that the Applicant provides clarification on the likelihood of the ILP guidelines being exceeded to some of the windows that are shown to be close to guideline levels before any account is taken of existing baseline levels of light trespass.'

Response

The Light Pollution assessment (**Appendix H**) assumes all floors are fully lit with lighting of 500 lux which is a worst-case scenario. In reality, owing to the occupancy sensors being proposed, fewer floors would be fully lit, especially post-curfew (after 11pm), and the effects would likely be lower than those reported within the December 2018 ES and as demonstrated by the 300 Lux light pollution assessment for 9 St Thomas St (**Appendix H**). Including baseline light pollution, it is unlikely that windows marginally under the guidance, would exceed the ILP maxima. In addition, as the detailed lighting design progresses, it will do so using the ILP Guidelines. In addition to this, the lower floors will contain restaurants and other retail uses, which typically use a lighting design far lower than 500 lux. Therefore, any windows affected by the lower floors of the Development, will be lower than those reported within the December 2018 ES.

March 2019 DRR Clarification Requested (DS3)

'Revise the description in paragraph 13.226 of the number and magnitude of impacts on sunlight to the dwellings in Shard Place that exceed the BRE guidelines.'

Response

The text in paragraph 13.225 of Chapter 13: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare (**Appendix I**) relating to total annual probable sunlight hours (APSH) for Shard Place has been amended from the December 2018 ES to state *'For total APSH, four rooms would experience alterations between 20-29.9% which is considered a Minor Adverse effect, and 16 would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining 11 rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.'* However, the effect should remain the same.

March 2019 DRR Clarification Requested (DS4)

'Consider whether it would be more appropriate to categorise the effects on post-curfew light intrusion to Orchard Lisle House as minor adverse significance rather than insignificant.'

Response

Owing to the response to clarification request **DS2**, GIA consider the effect to Orchard Lisle House to remain insignificant.

March 2019 Potential Regulation 25 Request (DS1)

'An assessment of light intrusion to the residential element of St Thomas Church ought to be undertaken.'

Response

As requested an additional light pollution assessment for the residential element at 9 St Thomas Street has been undertaken (**Appendix H**). Overall the results show that the levels of light trespass seen on sensitive receptors at 9 St Thomas Street pre-curfew are acceptable and below those recommended by the ILE. Post-curfew potential light pollution issues have been identified on some of the tested windows. However, in reality, the proposed lighting system will include occupancy sensors which would detect the presence of a person to automatically control the lighting system, turning artificial lights off when rooms are unoccupied. Therefore, as demonstrated by additional assessments with a 300 Lux maximum output (pages 12 to 15 of **Appendix H**), the proposed lighting system is unlikely to cause any significant nuisance post-curfew upon 9 St Thomas Street and therefore the effect of the Development is considered insignificant. The conclusion of the December 2018 ES Chapter 13: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution that the residual effect of light pollution would be insignificant to all properties therefore remains valid.

In addition to the above clarification requests from LUC, LBS have provided additional comments on the December 2018 ES Chapter 13: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare which has resulted in an updated ES Chapter 13 and ES Figures 13.1 and 13.2 (**Appendix I**) and amendments to the NTS (**Appendix C**). The response to the LBS comments have been provided separately to this document and are entitled 'GIA Letter to Victoria Crosby (London Borough of Southwark) Ref: 1234_ISXX Dated 14.08.19'.

13. Review of December ES Part 3: Built Heritage, Townscape and Visual Impact Assessment

Here follows a response to LUC's review of the December 2018 ES Townscape, Visual Impact and Built Heritage Assessment (TVIBHA). Where necessary the responses below refer the reader to information either submitted in the December 2018 ES or detailed in separate documents that have been provided at the request of LUC in the same review.

Reference is made below to the following reports submitted in the December 2018 ES:

- Part 3: Townscape, Visual and Built Heritage Assessment of the December 2018 ES.
- Part 4: Appendices of the December 2018 ES:

Appendix BHTVIA: KM Heritage Listed Building Heritage Assessment.

Appendix BHTVIA: Peter Stewart Consultancy Heritage Limited.

Reference is also made below to the following documents, provided at the request of LUC:

- Updated NTS (**Appendix C**);
- Updated Figure 3-7 of the TVBHIA (**Appendix J**);
- TVBHIA Erratum Notice (**Appendix J**);
- Correspondence with LBS on the agreed viewpoints (**Appendix J**); and
- Detailed response to LUC item BH1 – Parts 1 and 2 (**Appendix J**).

Part 1 comprises table BH1, which sets out:

- The significance of effect for individual heritage assets considered in the December 2018 ES TVIBHA, including grouped assets referred to in Table 3-6 of the December 2018 ES TVIBHA;
- A clear statement of whether the effect is significant or not significant EIA terms relating to the 'Works' and once the Development is completed and operational;
- Further detail on the mitigation to be undertaken on the Site during the Works, including control measures, as requested in item BH23.

Part 2 of this response to BH1 provides further clarification regarding the Development's effect on the significance of heritage assets lying within the study area. This provides further information on those attributes of each heritage asset and/or its setting that contribute to significance.

March 2019 DRR Clarification Requested (TVIA1)

'Clarification is sought on the impact on View 51 which is stated as beneficial when it looks similar to view 50 which is deemed to be adverse.'

Response

The commentary on these views is provided in the December 2018 ES TVIBHA, which explains the reasons for the difference. As noted, at paragraph. 5.635, by comparison with View 50, the 'as proposed' image for view 51 illustrates that:

- the public realm benefits of the Development would become more apparent the closer one gets to it;
- the removal of the unsatisfactory 20th century office building currently fronting St Thomas Street allows for a better appreciation of the Georgian terrace and Keats House; and
- the new opening in the street frontage signals the location of the main point of entry to the office

development and to the new public space within the Development, and the new route to the underground station.

Further it is noted at paragraph 5.636 that by contrast with View 50, the proposed tower is less visually dominating, since this viewpoint is closer and the upper parts are peripheral to the viewer's field of vision.

March 2019 DRR Clarification Requested (TVIA2)

'The NTS should be updated to clarify which effects are considered to be significant.'

Response

It is considered that stating the significance of the effects would result in the NTS failing to be 'non-technical' in nature. Furthermore, this would result in an overly long (not summary) document which would not fulfil the primary purpose of an NTS.

March 2019 DRR Clarification Requested (BH2)

'The function of the ES chapter is to provide an objective assessment of the effect to the heritage significance of assets. It is therefore requested that the Applicant remove all references to defining public benefit and discussion of 'balance' (particularly those at 12.63-13.2 and 13.6 onwards, as well as those in the NTS and Heritage Statements)'

Response

The Built Heritage Assessment (BHA, within the December 2018 ES TVIBHA) has been informed by the findings of the KMH Listed Building Heritage Statement (LBHS) (an appendix to the December 2018 TVIBHA). The BHA quotes from the LBHS (paragraphs 12.62-63), which in turn quotes the NPPF when discussing the potential for 'substantial' harm to the listed buildings on the Site. This is entirely appropriate.

Elsewhere, where the December 2018 BHA quotes the NPPF (such as in the concluding paragraphs on residual effects 13.2 and 13.12) this is also appropriate – the point being made in these instances is that we have been mindful of the NPPF in carrying out our assessment according to our methodology, setting out our assessment in the context of the national policy framework which includes consideration of public benefit.

On the question of 'balance', PSC's methodology states when referring to effects being assessed qualitatively, that 'an effect on an HA or its setting can enhance its heritage significance (a beneficial effect), harm its heritage significance (an adverse effect) or leave its heritage significance unchanged (a neutral effect).' (paragraph 10.22). At paragraph 10.25, it states 'The general conclusions about the effect of the Development on HAs include consideration of the overall effect on the historic environment considered in the round'. The balancing exercise carried out in line with PSC's methodology weighs any harm against benefits and comes to a conclusion based on professional judgement.

In referring to 'consideration in the round', this simply means that while there may be an adverse effect on a view of a HA that has been chosen to illustrate general townscape effects, and not a special view of that HA, it is one of many views of that HA, and this does not affect any element of setting that contributes to the significance of the asset.

March 2019 DRR Clarification Requested (BH3)

'The Applicant is asked to provide a rationale for:

- 1) why a ZTV was not used and:
- 2) for the use of a 1km study area.'

Response

The area of study was informed by professional experience, including a good knowledge of the area and of other developments in planning, site visits, and desktop research. A Zone of Theoretical Visibility (ZTV) was commissioned as part of the December 2018 ES TVIBHA to inform the process of agreeing townscape viewpoints with LBS (refer to correspondence with officers detailed in the response to BH20 below). It was only used to confirm decisions taken regarding the extent of coverage of the study area.

PSC exercised their professional judgment in determining which HAs were reasonable to include within the 1km radius. For example, decisions concerning the area of coverage to the north of the Thames took into account the densely developed townscape of the City of London beyond the built up edge of the north bank. It was considered appropriate to include HAs lying on streets aligned on the Site (e.g. along Gracechurch Street) within the radius, a decision that was supported by the results of the ZTV.

A map detailing Built Heritage Assets included in the study area was supplied to officers in mid-October 2018, following a request by LBS' consultant's, LUC, in its review of the EIA Scoping Report (September 2018, Appendix 2.1 of the December 2018 ES). This was provided specifically to be read alongside the ZTV map, which was also requested by LUC. No further correspondence was received from LBS/LUC in relation to the heritage baseline prior to planning submission.

March 2019 DRR Clarification Requested (BH4a/b)

'It is unclear as to how heritage assets have been scoped in/ out of the assessment (or indeed if any have actually been scoped out). Therefore, the Applicant is to provide a plan of the ZTV (if used) overlaid with a plan of all the heritage assets within that area, including those that are scoped out of the assessment (BH4a). The heritage assets on the plan should be clearly labelled and cross-referenceable to a gazetteer of all of the assets (again including those scoped out)'. If a ZTV was not used then the Applicant is asked to provide a rationale for the process by which assets were scoped in/ out (BH4b).'

Response

Refer to response to BH3.

The December 2018 TVBHIA Figure 3-7 (listed building groups considered in the assessment) has been updated, which now lists those assets falling within each group. No heritage assets have been scoped out.

Figure 3-7 (as updated, refer to **Appendix J**) should be read alongside the ZVI report (re-provided in this response to the ES review) and the following figures submitted in the December 2018 ES TVIBHA:

- Figure 3-4 (Townscape Character Areas);
- Figure 3-5 (Townscape Character Areas with Heritage Assets); and
- Figure 3-6 (Built Heritage Assets considered in the assessment).

March 2019 DRR Clarification Requested (BH5)

'The Applicant is asked to clarify whether the GLHER was examined and, if not, they are asked to provide a rationale as to why.'

Response

As noted at paragraph.10.7 of the December 2018 TVIBHA, PSC made use of data available on LBS's website and Historic England's online database: 'The Heritage List' (officially the National Heritage List for England or NHLE at <http://www.historicengland.org.uk/listing/the-list>)⁹ - the official and up to date record of all nationally protected historic buildings or sites in England.

With regard to Scheduled Monuments (SMs), paragraph 10.1 of the December 2018 BHA notes under 'Scope' that only those lying above ground that are also listed grade II* or higher were included in the assessment. In the Applicant's response to the scoping review, LBS was made aware that:

'The scope of this assessment covers above-ground SAMs in the study area that are also grade I/ II LBs (or a WHS in the case of the Tower of London). These comprise the following:*

- *Remains of Winchester Palace;*
- *Vintners Hall;*
- *Fishmongers Hall;*
- *The Monument;*
- *Portion of Old London Wall, Tower Hill, and*
- *Tower of London.'*

Given that the effect on above ground SMs that are also listed grade II* or higher was considered as part of the assessment of effect on the subject listed buildings (as noted in paragraph 12.467), it was judged appropriate to use the sources noted above. There was no need to extend the source material to include the GLHER.

March 2019 DRR Clarification Requested (BH9)

'The Heritage Statement includes a broadly appropriate range of images and photos to help understand the site, its development and the nearby assets. However, a figure with the 1746 map to evidence the alley layout that is to be reinstated would be useful.'

Response

This map can be found in Chapter 2 of the December 2018 Design and Access Statement (DAS), as noted at Paragraph 4.12 of the December 2018 TVIBHA.

March 2019 DRR Clarification Requested (BH11)

'The Applicant is asked to clarify their use of the terms setting 'quality' and 'visual setting'.'

Response

The assessment is not based solely on the quality of a visual setting of a heritage asset. For example, the assessment has regard for the dense urban context of heritage assets assessed and their distance from the Site. A case in point is the characterisation of the setting of LBs lying with Group vii – 'Southwark Street, east end and streets to the north (grade II)' (paragraph 12.129) This notes that *'The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of these listed buildings. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street'*. Views are referenced here as they help to illustrate the point, demonstrating the relevance of visual considerations in making an assessment.

⁹ Historic England's (2019): 'The Heritage List' (officially the National Heritage List for England or NHLE at <http://www.historicengland.org.uk/listing/the-list>)

Notwithstanding, further details has been provided regarding those aspects of the HAs' settings that contribute to their heritage significance, if any. This information can be found in the response to BH1.

March 2019 DRR Clarification Requested (BH12)

'The Applicant should provide further information on how judgements 'in the round' have been reached.'

Response

Refer to response to BH2 above.

A case in point is the assessment of effect on St Saviours Southwark War Memorial, Borough High Street (grade II*).

The war memorial has a very local setting, dominated by the busy main road today, and the development, as a consequence of its distance from the Site and the nature of the context of the heritage asset would not affect any element of setting that contributes to its significance. The principal views of the memorial is from the south, looking directly at it, with grade II listed mid-19th century former Town Hall Chambers in the background, within which there is a clear civic association, and the principal reason for the 'GV' specifically noted in the list description (see Statement of Significance (SOS) at appendix A of the December 2018 TVIBHA)).

In referring to 'consideration in the round', this simply means that while there is an adverse effect on view 43 (in Section 1 of the December 2018 TVIBHA), the effect on this view chosen to illustrate general townscape effects and not a special view of the war memorial (simply one of many views of the war memorial) does not affect any element of setting that contributes to the significance of the asset.

March 2019 DRR Clarification Requested (BH14)

'The Applicant is to provide clarification on the purpose of the apparent duplication of assessment for the Tower of London.'

Response

There is no duplication. One assessment was undertaken for the purposes of the ES. Our assessment is carried out at paragraphs 12.30-12.32 of the December 2018 TVIBHA. The text at paragraphs 12.34-12.58 demonstrates how PSC's assessment at 12.30 - 12.32 relates to guidance in the Mayor's SPG: 'London's World Heritage Sites – Guidance On Settings' (Ref. 3-38 in the December 2018 TVIBHA)¹⁰.

This example demonstrates there can be more than one way of carrying out such an assessment, and that different methodologies can be equally valid.

March 2019 DRR Clarification Requested (BH15)

'The Applicant is asked to provide a rationale for why an exception has been made in relation to the measuring of significant effects in relation to built heritage.'

Response

PSC applied our standard methodology, which has been found to be acceptable when tested at public inquiry. Our approach was agreed in consultation with the Environmental Impact Assessment consultants, Waterman IE.

PSC methodology is consistent with the guidance set out in Guidelines for Landscape and Visual Impact

¹⁰ Mayor of London (2012); Supplementary Planning Guidance: 'London's World Heritage Sites – Guidance On Settings'.

Assessment (Third Edition)¹¹, which states (at paragraph 3.32) that *'There are no hard and fast rules about what effects should be deemed 'significant' by LVIA's should always distinguish clearly between what are considered to be the significant and non-significant effects.'* At paragraph 3.34 the Guidance states *'When drawing a distinction between levels of significance is required (beyond significant /not significant) a word scale for degrees of significance can be used (for example, a four-point scale of major/moderate/minor/negligible). Descriptions should be provided for each of the categories to make clear what they mean, as well as a clear explanation of which categories are considered to be significant and which are not. It should also be made clear that effects not considered to be significant will not be completely disregarded.'* Our assessment draws a distinction between levels of significance, providing descriptions for each of the categories (see Table 3.4, Ch10). The distinction between significant and non-significant effects is made clear at paragraph 10.20 and Table 3-5 in Chapter 10 of the December 2018 BHA.

March 2019 DRR Clarification Requested (BH16)

'The Applicant is requested to clarify what has been taken into account in weighing the effects and to include all effects to heritage assets in the table requested [BH1] with individual levels of significance to make their consideration in the round transparent to the reader/ decision-maker.'

Response

Refer to responses to BH2 and BH12 in relation to how judgements 'in the round' have been reached for an explanation of what has been taken into account in weighing the effects.

The grouping of heritage assets is common practice and has been accepted on other assessments by LUC when working with them as the EIA consultant on a recent planning submission (Shoreditch High Street).

Grouping is carried out in part for the benefit of the reader, avoiding unnecessary repetition in an assessment.

Nevertheless, in response to this request, Table BH1 notes individual levels of significance for those assets located in groups.

March 2019 DRR Clarification Requested (BH19)

'The Applicant is to provide further information explaining the neutrality of effect on the Tower of London WHS.'

Response

The submitted assessment provides clear reasoning behind the finding of a neutral effect on the WHS, as stated in paragraphs 12.25 – 12.29 of the December 2018 TVIBHA. This followed PSC's stated methodology (see paragraph 10.22 of the December 2018 TVIBHA). The assessment has regard for the guidance in the Mayor's SPG: *'London's World Heritage Sites – Guidance On Settings'*.

March 2019 DRR Clarification Requested (BH21)

'The ES should be updated to clarify that hoardings are a standard control measure that provide no amelioration of effects to the heritage significance of assets in the sense that the hoarding itself is likely to give rise to a measure of setting change, in addition/combination to that created by the works it seeks to hide.'

¹¹ Landscape Institute (2013); 'Guidelines for Landscape and Visual Impact Assessment (Third Edition)'.

Response

Noted. This will be a temporary state of affairs. Refer to response to BH1 (Part 1 - Table BH1) which provides further detail on the proposed mitigation measures during the Works, in addition to the use of hoardings on the Site.

March 2019 DRR Clarification Requested (BH22)

'The Applicant is to revisit the wording of paragraph 13.2 (in relation to mitigation by design) so that it accurately explains that the proposed development will result in harm to a number of heritage assets and that there is no mitigation that can be undertaken to reduce that harm.'

Response

The December 2018 TVIBHA has drawn to the attention of the decision maker those instances where harm would result from the Development. PSC consider the commentary in paragraph 13.2 to be sound, highlighting where adverse effects would occur. It does not state that the harm identified would be offset by mitigation. It does state that *'The adverse effects noted in respect of the hospital and the Cathedral have been considered in the context of the impact of the Development overall, which would result in a number of benefits to other HAs, as detailed above'*, a point that is valid in this context.

March 2019 Potential Regulation 25 Request (TVIA3)

'LBS has advised that as there are four applications for tall buildings along St Thomas Street (ie the three on Bermondsey Street/Snowsfield/Melior Street to the east, of which two are in as new planning applications, and the one at Beckett House is a scoping opinion, and this New City Court), they are asking all the applicants to do an updated cumulative assessment that takes them all into account. This includes the New City Court applicant'

Response

Refer to the Addendum to the December 2018 TVIBHA (**Appendix B**), which provides the requested updated cumulative assessment.

March 2019 Potential Regulation 25 Request (BH1)

'The Applicant is requested to submit a table in which the significance of each heritage asset potentially affected in any way (whether at distance or not and whether designated or not), the potential change to that significance, and the residual effect and mitigation is set out. To clarify, this table is to include a full baseline of all heritage assets potentially affected by the development, specifically including those that appear to have been omitted due to distance (e.g. St Paul's Cathedral) or because they are non-designated. It is to include separate assessments of effects and they are not to be weighed in the round (as this is for the decision-maker to do). All effects, including physical ones, must clearly relate to the heritage significance of the assets.'

Response

Concerning the baseline coverage, please refer to our response to BH3 above.

In response to this request, Table BH1 (refer to **Appendix J**: Part 1 of response to BH1) notes individual levels of significance for those assets located in groups.

The effect of the Development on those positive contributors located within the conservation area within which the Site lies (Borough High Street) is considered as part of the assessment of effect on that

conservation area, which is the designated heritage asset.

March 2019 Potential Regulation 25 Request (BH6)

'The Applicant should clarify that assets of low value have been considered beyond those on the Local List. They should also update their assessment to include all non-designated assets or to provide a statement to indicate where non-designated assets have been considered, but are judged not to be the recipients of significant effects.'

Response

PSC's approach to non-designated heritage assets was consistent with that sought in the LUC response to the scoping submission. That response requested at paragraph 3.28 that the applicant's Heritage Statement *'covers the direct effects (physical and setting change) to the non-designated heritage asset on the site, namely the façade of Keats House'*. It went on to state in paragraph 3.29 that *'The heritage assessment must present a full consideration of significant effects on the designated and non-designated assets on site, as well as any heritage assets in the wider area'*. At paragraph 3.30, the LUC response noted with reference to the HAs mentioned in the scoping submission that *'...non-designated heritage assets are not mentioned, and these should be given due consideration in the assessment. If there are none within the study area, this should be clearly stated in the assessment'*.

Under the title 'Scope' in Chapter 10 (Assessment Methodology and Significance Criteria) of the December 2018 TVIBHA, it is noted at paragraph 10.2 *'Registered Parks and Gardens of Special Historic Interest (RPGSHI) are also considered as HAs but none were identified at a distance close enough to be affected by the Development. The same is true of Locally Listed Buildings, which are considered as non-designated HAs'*. In Chapter 11 (Baseline Conditions) of the December 2018 TVIBHA, it is confirmed that *'No Registered Parks and Gardens of Special Historic Interest (RPGSHI) or Locally Listed Buildings lie within the study area'*.

Notwithstanding, the December 2018 TVIBHA acknowledges the status of both Keats House and no.20 St Thomas Street (New City Court) on the Site, as defined in the Borough High Street Conservation Area Appraisal (BHSCAA), which characterises each as an *'unlisted building that makes a positive contribution'* (i.e. a positive contribution to the character and appearance of the conservation area). The PSC Heritage Statement, located in Part 4: Appendices of the December 2018 ES, considers the impact of the Development on the Site's positive contributors to the Borough High Street Conservation Area (Chapter 6), applying the methodology set out in the English Heritage document, 'Understanding Place: Conservation Area Designation, Appraisal and Management' (2011). The main text of the December 2018 TVIBHA considers the effects of the Development on the Site's 'positive contributors' in its assessment of the direct effect on the Borough High Street Conservation Area as the designated heritage within which they lie (Refer to paragraphs 12.8-12.15 and 12.391 -12.397). Reference should also be made to the Listed Buildings Heritage Statement by KMHeritage in ES Part 4: Appendices, which provides further detail on the works to both Keats House and no.20 St Thomas Street's screen wall to King's Head Yard (paragraphs 2-17 – 2.23).

March 2019 Potential Regulation 25 Request (BH7)

'For the sake of transparency, and to aid reader understanding of how the magnitude of effects and their nature have been derived, the Applicant is to provide more detailed information on the nature of the effects to the heritage significance for each heritage asset. This would be best included in the table requested at BH1.'

Response

Refer to the further details provided regarding those aspects of the HAs' settings that contribute to their heritage significance, if any. This information can be found in the response to BH1.

March 2019 Potential Regulation 25 Request (BH8)

'The Applicant should provide updated figures in which all assets are labelled or at least another set of figures that includes labels for those assets not labelled on the existing figures.'

Response

The heritage assets falling under each group are clearly listed in the assessment text.

Refer to the updated Figure 3-7 (Listed building groups considered in the assessment in **Appendix J**), which now lists those assets falling within each group.

March 2019 Potential Regulation 25 Request (BH10)

'There is no clear breakdown of the attributes of setting that are important to the significance of the heritage assets and sensitivity cannot be said to be clearly evaluated. The Applicant is therefore requested to provide further information on the attributes of each asset's setting that contribute to its significance. This information should be presented in the table requested previously, both for the convenience of the reader and ease of the Applicant [BH1].'

Response

Refer to the further details provided regarding those aspects of the HAs' settings that contribute to their heritage significance, if any. This information can be found in the response to BH1.

March 2019 Potential Regulation 25 Request (BH13)

'The Applicant is requested to provide further information on the potential effects to the individual assets within the WHS site.'

Response

Individual assets lying within the WHS were identified under the Tower of London WHS Listed Buildings group (p357 of the December 2018 TVIBHA). It was made clear in the paragraph that followed (paragraph 12.390) that *'The effect of the Development on the listed buildings located within this group is considered as part of the assessment of effect on the Tower of London WHS, which also takes account of the Tower of London's designation as a SM. That assessment can be found at the start of this chapter'*.

Paragraph 12.49 states that *'With regard to other heritage assets within the WHS, there is no significant potential for any effect on the significance of other heritage assets not already considered as part of the WHS'*.

In effect, the assessment considered the 'worst case' by assessing HAs of all grades under the umbrella of the most highly graded asset: the WHS.

Notwithstanding, for clarification, Table BH1 (**Appendix J**: Part 1 of response to BH1) now presents an individual assessment of the Listed Buildings falling within this group to fulfil this request.

March 2019 Potential Regulation 25 Request (BH17)

'The Applicant is to clarify the nature, magnitude and significance of the harmful effects where both adverse and beneficial effects are stated to occur.'

Response

Where beneficial and adverse effects have been identified, PSC have provided more information on the nature of these in the response to BH1 (Refer to Part 2 of PSC's response to BH1 in **Appendix J**).

March 2019 Potential Regulation 25 Request (BH18)

'The Applicant is to either provide an individual rationale explaining specifically how the reported beneficial effects relate to the heritage significance of the assets, or the beneficial findings should be revisited. Only benefits that are demonstrably related to heritage significance should be included in the assessment overview table [BH1]. Given the importance of the assets affected, and the potential for significant adverse effects, transparency is critical.'

Response

Where beneficial effects have been identified, PSC have provided more information on the nature of these, and how they relate to heritage significance in their response to BH1.

March 2019 Potential Regulation 25 Request (BH20)

'It is requested that view 29 be updated to include a wireframe so that the effect of the proposed development is clearly legible [BH20a]. This is important as it is in this view that 'the silhouette of the Tower can be appreciated against an open skyline' (with the exception of the Shard), enabling appreciation of its many layers and dominance in the local townscape. The Management Plan notes that the contrast between the Tower and the surrounding city is more apparent at night, when the foreground is characterised by a continuous stream of traffic and vehicle lights yet no night time visualisations have been prepared. A night-time photomontage should also be provided [BH20b].'

Response

The LUC DRR incorrectly quotes the views assessment text for this view. It is stated at paragraph 5.383 under 'View as proposed' that *'The top levels of the Development would be glimpsed beyond the Tower of London, seen to the right The Shard, as illustrated here'*.

No night time views were requested by LBS officers at the application stage. Nevertheless, a number of additional images will be prepared to demonstrate the likely impact of the scheme from selected view points at night time. These will be Accurate Visual Representations (AVRs), but at this stage the final design of the external lighting is not known and so will be estimated. The lighting design would be subject to agreement with the Council via planning condition in due course. The lighting (both internal and external) will also vary significantly depending on the time of day/night and levels of occupancy of the building. These AVRs will be prepared in due course and circulated to assist the Council in its consideration of the application.

The request for a view from Trinity Church Square was accommodated in the December 2018 TVIBHA (Refer to View 62).

March 2019 Potential Regulation 25 Request (BH23)

'The Applicant is to update the mitigation section with information briefly outlining any mitigation to be undertaken in relation to the heritage assets on the site and to clarify whether any control measures will be in place.'

Response

Please see Table BH1 (**Appendix J**) for this information. For more detailed information on the above measures reference should be made to the submitted Outline Construction Management Plan (December 2018), Chapter 6 of ES Volume 1 - Development Programme, Demolition, Deconstruction, Refurbishment and Construction; and Chapter 8 of ES Volume 1 - Noise and Vibration.

March 2019 Potential Regulation 25 Request (BH24)

'The Applicant should update the NTS to clearly state what level of effects is predicted.'

Response

It is considered that stating the significance of the effects would result in the NTS failing to be 'non-technical' in nature. Furthermore, this would result in an overly long (not summary) document which would not fulfil the primary purpose of an NTS. Reference to 'direct' and 'indirect' built heritage effects has been removed from the updated NTS (**Appendix C**) as it is agreed that this could be considered technical language and that the wording regarding indirect and direct effects was incorrect.

March 2019 Potential Regulation 25 Request (BH25)

'The NTS currently states that adverse effects will occur to 'the settings of two heritage assets'. The NTS should be updated to clearly state that the effect is to the heritage significance of the assets not their setting.'

Response

This has been updated in the revised NTS (**Appendix C**).

March 2019 Potential Regulation 25 Request (BH26)

'The NTS should also be updated to reflect any other changes to the chapters findings as a result of the feedback provided within this review.'

Response

There are no changes to any of the findings of the TVIBHA, an updated summary is provided in **Appendix C**.

14. Review of December 2018 ES Part 1: Main Text - Chapter 14: Cumulative Effects

March 2019 DRR Clarification Requested (CE1)

'The Non-Technical Summary should be updated to state the significance, scale and projected duration and reflect any points noted in this review.'

Response

A revised NTS is provided in **Appendix C**. The projected duration of the Works and anticipated opening year of the Development has been added to the revised NTS. It is considered that stating the significance and scale of the effects would result in the NTS failing to be 'non-technical' in nature. Furthermore, this would result in an overly long (not summary) document which would not fulfil the primary purpose of an NTS.

LBS Additional Cumulative Assessment

LBS have requested that the following additional cumulative schemes are considered in the Type 2 cumulative assessment:

Table 11 Additional Cumulative Schemes to be considered since submission of the December 2018 ES

Additional Cumulative Scheme	Planning Ref	Description	Distance from Site	Status
Capital House (revised scheme)	18/AP/0900	Redevelopment of the site to include the demolition of Capital House and the erection of a 39-storey building (3 basement levels and ground with mezzanine and 38 storeys) of a maximum height of 137.9m (AOD) to provide up to 905 student accommodation units (Sui Generis use), flexible retail/café/office floorspace (Class A1/A3/B1), cycle parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development. The application is accompanied by an Environmental Statement.	269m southeast	Approved May 2019
Becket House / 60 St Thomas Street	18/AP/4136	Request for an Environmental Impact Assessment Scoping Opinion relating to the redevelopment of the site for a commercial building up to 24 storeys in height.	286m southeast	Pre-application

Additional Cumulative Scheme	Planning Ref	Description	Distance from Site	Status
Vinegar Yard	18/AP/4171	Redevelopment of the site to include the demolition of the existing buildings and the erection of a 5 to 19 storey building (plus ground and mezzanine) with a maximum height of 86.675m (AOD) and a 2 storey pavilion building (plus ground) with a maximum height of 16.680m (AOD) with 3 basement levels across the site providing a total of 30,292 sqm (GIA) of commercial floorspace comprising of use classes B1, A1, A2, A3, A4, D2 and sui generis (performance venue), cycle parking, servicing, refuse and plant areas, public realm (including soft and hard landscaping) and highway improvements and all other associated works.	356m southeast	Validated April 2019, not yet determined
Bermondsey Street/Snowfields	19/AP/0404	Demolition of existing buildings at 40-44 Bermondsey Street including partial demolition, rebuilding and refurbishment of existing Vinegar Yard Warehouse and erection of three new buildings (two linked) with up to two levels of basement and heights ranging from five storeys (24.2m AOD) to 17 storeys (67m AOD) to provide office space (Class B1); flexible retail space (Classes A1/A2/A3/A4/A5); new landscaping and public realm; reconfigured pedestrian and vehicular access; associated works to public highway; ancillary servicing; plant; storage and associated works. The application is accompanied by an Environmental Statement.	392m southeast	Validated March 2019, not yet determined
2-4 Melior Place	18/AP/3229	Redevelopment of the site involving the construction of a 6-storey plus basement building, comprising a retail art gallery (Class A1) on the ground floor and 3 x 2 bed, 2 x 3 bed and 2 x 4 bed residential units on the upper floors.	350m southeast	Approved June 2019

Response

An update to the December 2018 ES Type 2 cumulative assessment has been undertaken, which considers the combined effects of the Development with the previous cumulative schemes assessed and the five additional schemes in **Table 11** above. A replacement Chapter 14: Cumulative Effects has been provided at **Appendix B**. ES Figure 14.1 in the December 2018 ES has been replaced to show the location of these new cumulative schemes, refer to **Figure 14.1 (Appendix A)**. As reported in the replacement ES Chapter 14, additional ES figures have been prepared illustrating the results of the wind cumulative assessment considering the above additional cumulative schemes. These figures are listed below and located in **Appendix A**:

- Figure 14.1: Location of Cumulative Schemes Assessed;
- Figure 14.2 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season);

- Figure 14.3 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Winter Season);
- Figure 14.4 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Annual Wind Safety);
- Figure 14.5 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season);
- Figure 14.6 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Winter Season); and
- Figure 14.7 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Annual Wind Safety).

The methodology of the revised cumulative assessments remains unchanged from that used for the December 2018 ES.

It is considered that the cumulative effects remain the same as reported in the December 2018 ES for a number of topics owing to the distance of these additional cumulative schemes from the Development. Therefore there would be no further cumulative effect from then, as the following:

- Noise and vibration;
- Water Resources and Flood Risk; and
- Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution.

The December 2018 ES Chapter 14: Cumulative Effects has been updated in regard to:

- Transport (revised assessment taking into account the revised traffic flows as a result of the additional cumulative schemes);
- Air Quality (revised assessment taking into account the combined traffic flows as a result of the cumulative schemes (note – modelling of traffic emissions was not undertaken in the 2018 ES, therefore, this is a new assessment));
- Archaeology (noting that as the construction of Shard Place is now complete, this should no longer form part of the cumulative assessment);
- Wind (revised assessment to take into account the additional cumulative schemes that fall within the wind model context Snowfield / Bermondsey Street; Vinegar Yard; Becket House, 60 St Thomas Street; and 2-4 Melior Place. It should be noted that as the results of this revised cumulative assessment were found not to be materially different from the results reported in ES Chapter 12: Wind Microclimate, Chapter 12 of the December 2018 ES has not been revised and remains valid); and
- Townscape, Visual and Built Heritage (this is provided in **Appendix B** as a separate ES Addendum document with revised Accurate Visual Representations (AVRs) and commentary)).

15. Review of December 2018 ES Part 1: Main Text - Chapter 15: Residual Effects and Monitoring

LUC have requested that ES Chapter 15 should be updated if any of the assessment findings change as a result of comments made in the DRR.

Other than the inclusion of the tabulated summary of effects in relation to built heritage provided in **Appendix J: Part 1** for BH1 (which were not previously included in the December 2018 ES Chapter 15), there have been no changes to the significance of effects (likely and residual) and mitigation measures. Chapter 15 of the December 2018 ES therefore remains valid.

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APPENDICES

A. Figures

Figure 1: Pedestrian Comfort level Assessment Locations

Figure 2: A comparison of WT (dots) and CFD (continuous field) using CFD mean velocity versus CFD GEM (v & TKE combined)

Figure 14.1: Location of Cumulative Schemes Assessed

Figure 14.2 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season)

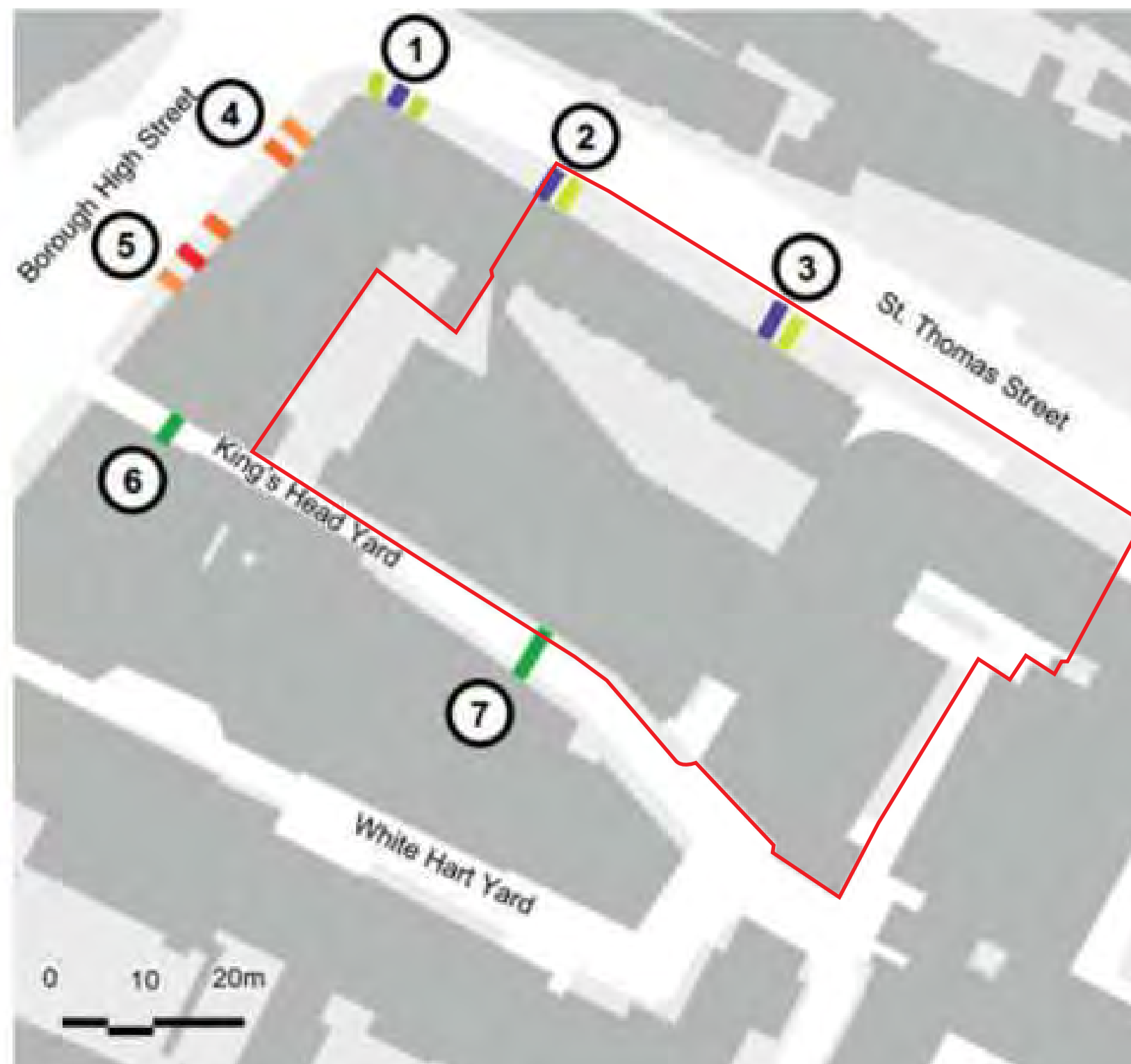
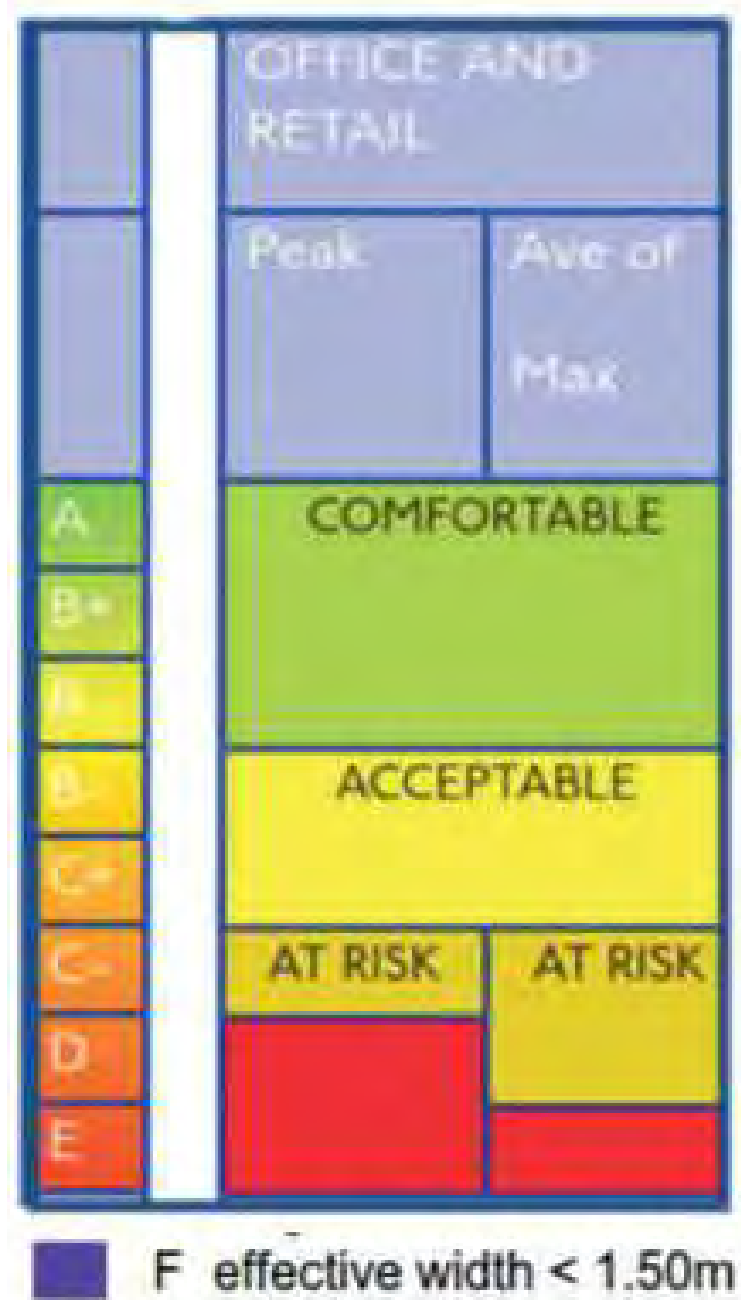
Figure 14.3 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Winter Season)

Figure 14.4 - Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Annual Wind Safety)

Figure 14.5 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season)

Figure 14.6 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Winter Season)

Figure 14.7 - Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Annual Wind Safety)



Site Boundary

Project Details

WIE11375-102: New City Court

Figure Title

Figure 1: Pedestrian Comfort Level Assessment Locations

Figure Ref

WIE11375-102_GR_ESA_1A

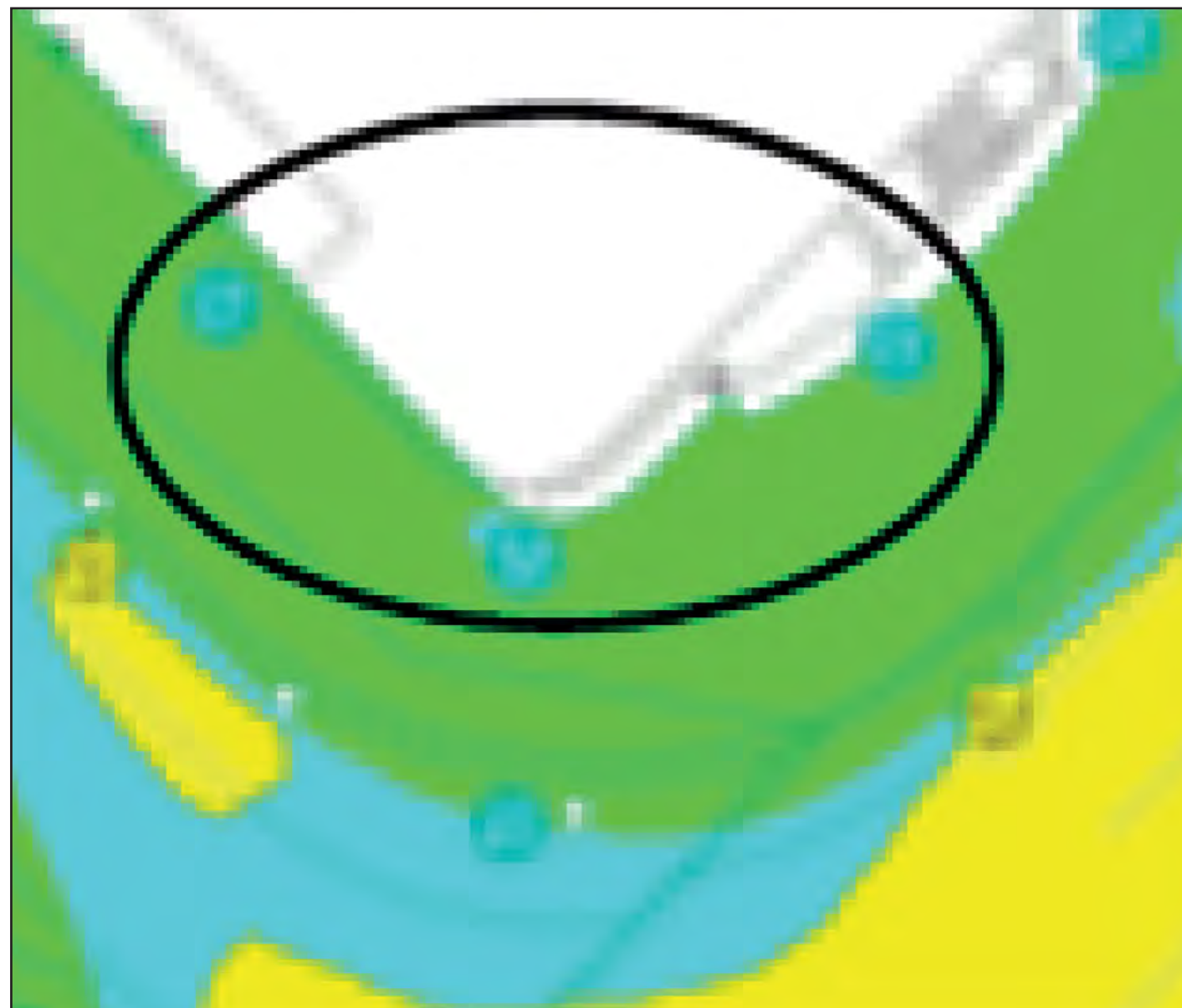
Date

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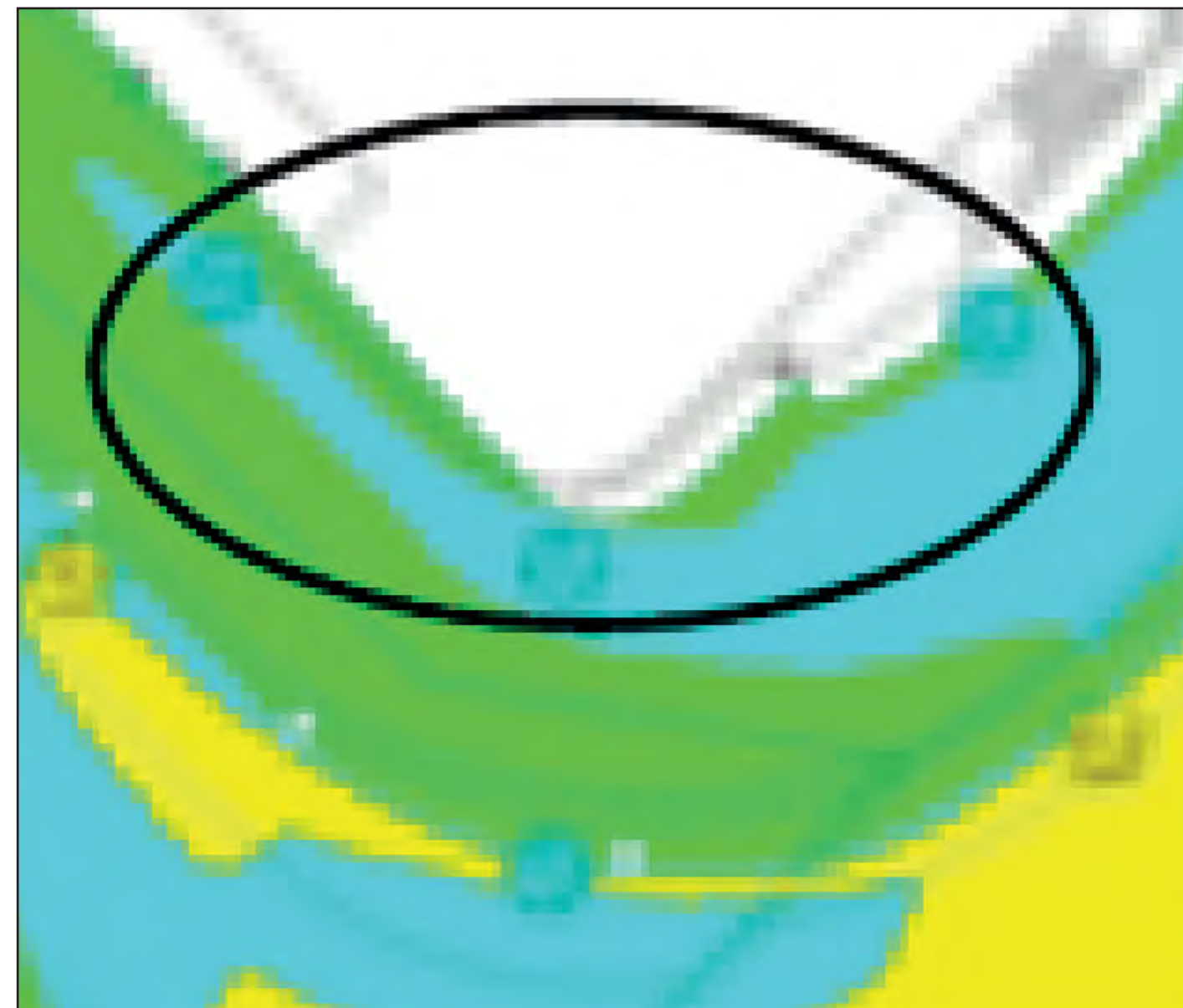
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CFD mean velocity



CFD GEM (v & TKE combined)

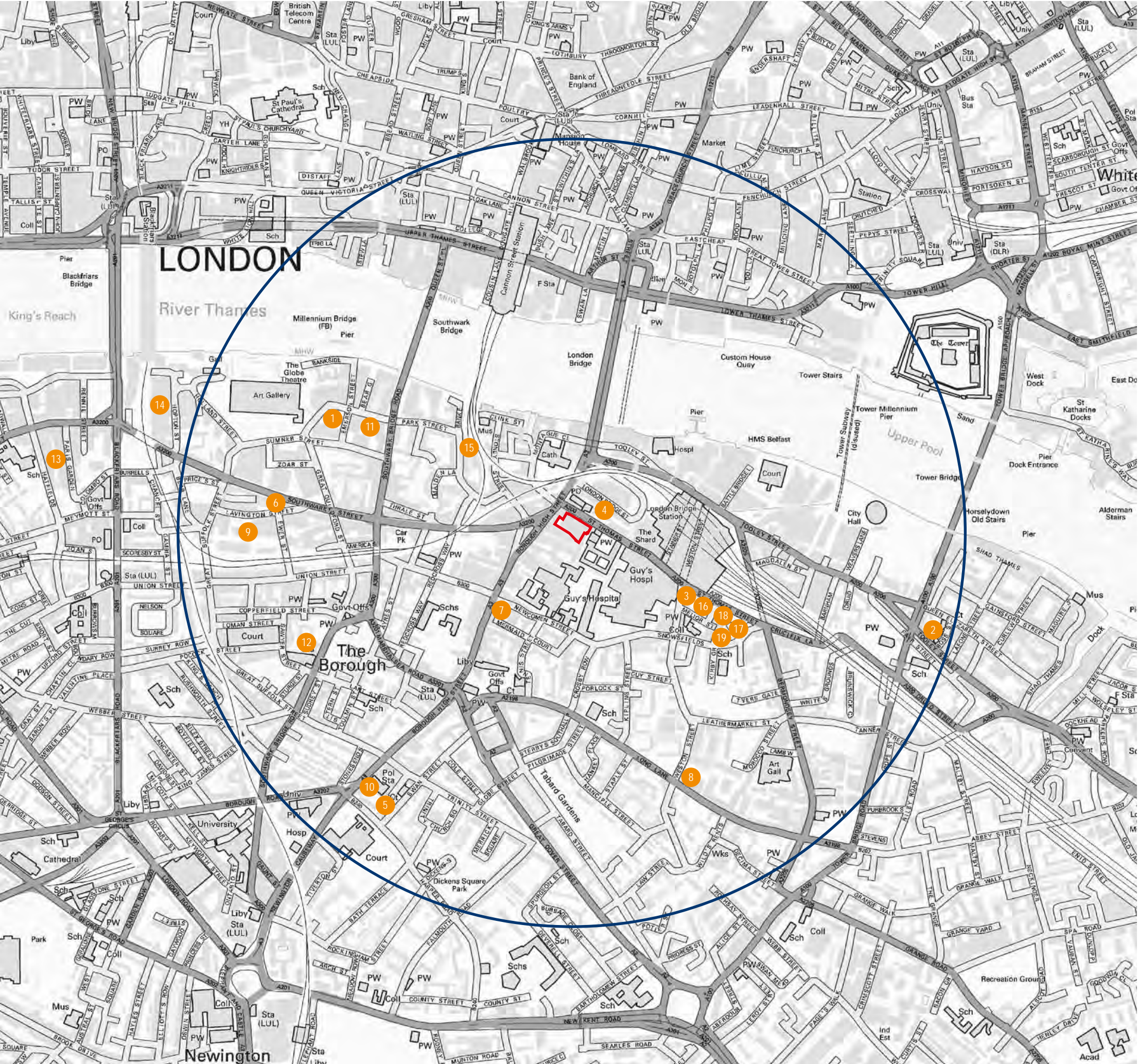
Note – Using GEM improved correlation for the circled probes

Source: Wirth Research Ltd 2018

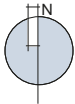
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Project Details	WIE11375-102: New City Court
Figure Title	Figure 2: A comparison of WT (dots) and CFD (continuous field) using CFD mean velocity versus CFD GEM (v & TKE combined)
Figure Ref	WIE11375-102_GR_ESA_2A
Date	2019
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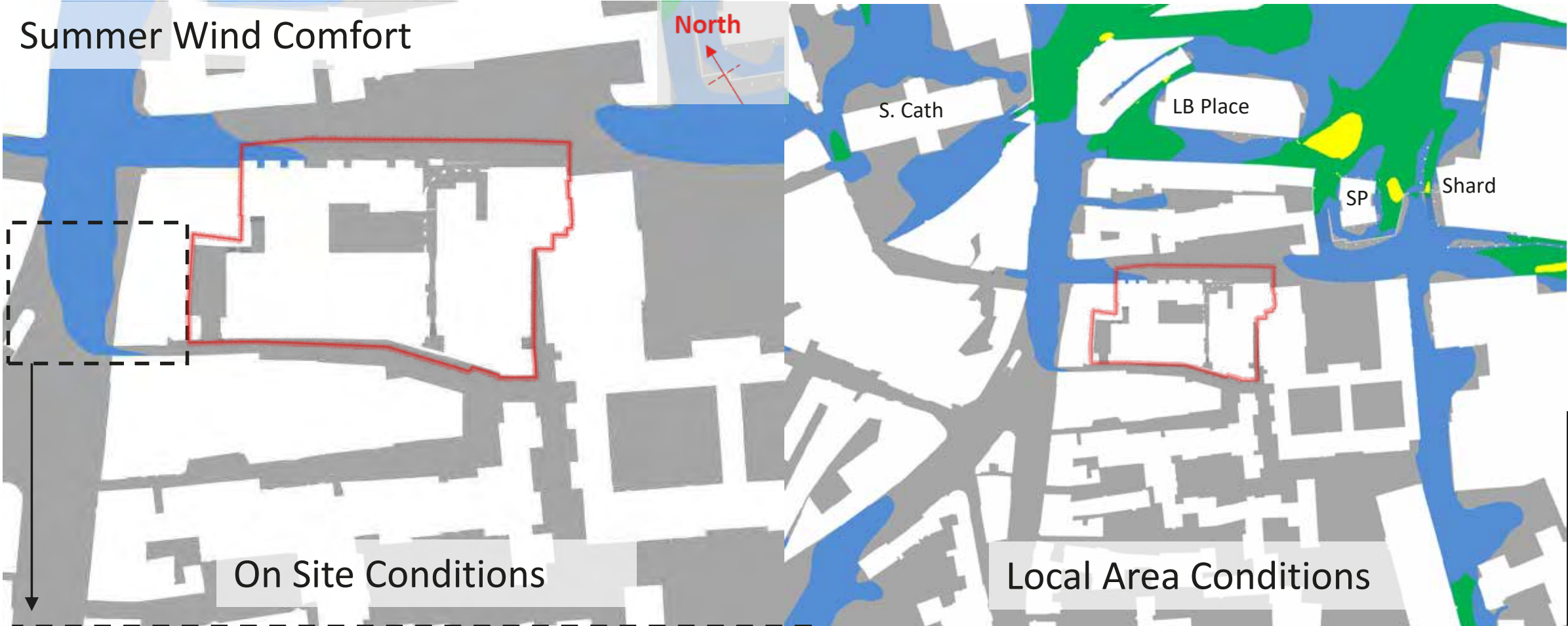


- Site Boundary
- 1km Radius
- 185 Park Street
- Tower Bridge Magistrates Court and Police Station, 209-211 Tooley Street
- Capital House (Revised Scheme)
- Fielden House (now called Shard Place), Street, 28-42 London Bridge
- 25-29 Harper Road
- Isis House, 67-69 Southwark Street,
- 153-159 Borough High Street
- 175-179 Long Lane
- Lavington House, 25 Lavington Street,
- 19-23 Harper Street, 325 Borough High Street and 1-5 and 7-11 Newington Causeway
- 133 Park Street
- Southwark Fire Station, 94 Southwark Bridge Road
- 1-5 Paris Garden and 16-19 Hatfields
- Sampson House, 64 Hopton Street
- 1 Bank End
- Becket House / 60 St Thomas Street
- Bermondsey Street / Snowfields
- Vinegar Yard
- 2-4 Melior Place



Project Details	WIE11375-102: New City Court
Figure Title	Figure 14.1: Location of Cumulative Schemes Assessed
Figure Ref	WIE11375-102_GR_ESA_14.1A
Date	2019
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Summer Wind Comfort



Comfort Category	Colour
Frequent Sitting	Grey
Occasional Sitting	Blue
Standing	Green
Walking	Yellow
Uncomfortable	Red

Project Details	WIE11375-102: New City Court
Figure Title	Figure 14.2: Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season)
Figure Ref	WIE11375-102_GR_ESA_14.2A
Date	2019
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Winter Wind Comfort



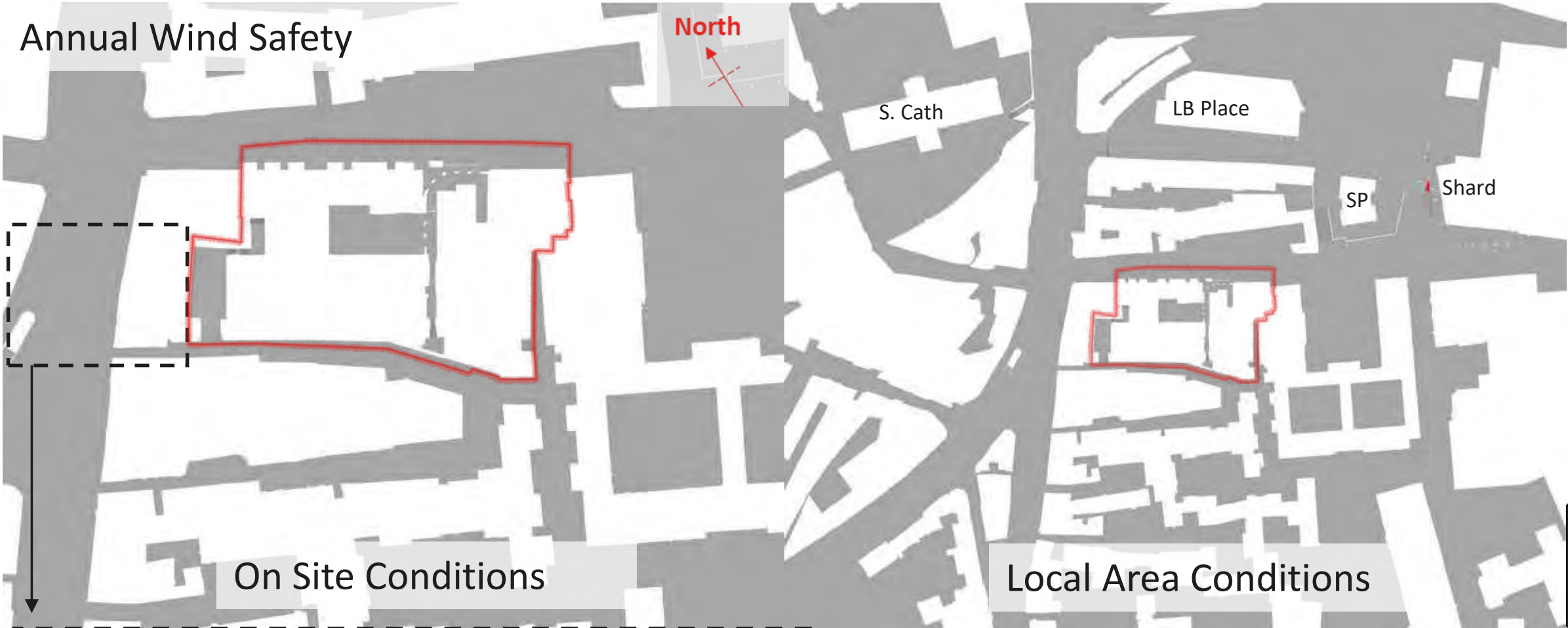
On Site Conditions

Local Area Conditions

LUL Station Conditions

Project Details	WIE11375-102: New City Court
Figure Title	Figure 14.3: Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Winter Season)
Figure Ref	WIE11375-102_GR_ESA_14.3A
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Annual Wind Safety



On Site Conditions

Local Area Conditions

LUL Station Conditions

Project Details

WIE11375-102: New City Court

Figure Title

Figure 14.4: Configuration 5: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes (Annual Wind Safety)

Figure Ref

WIE11375-102_GR_ESA_14.4A

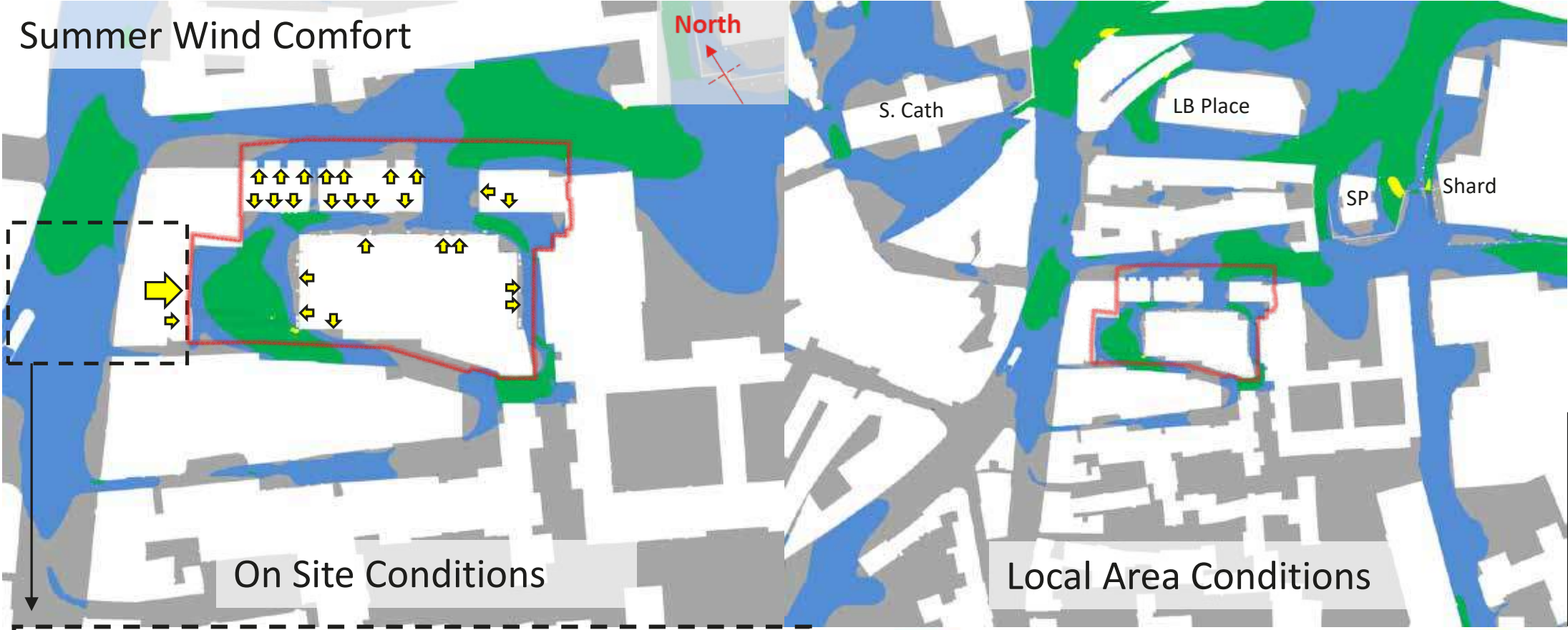
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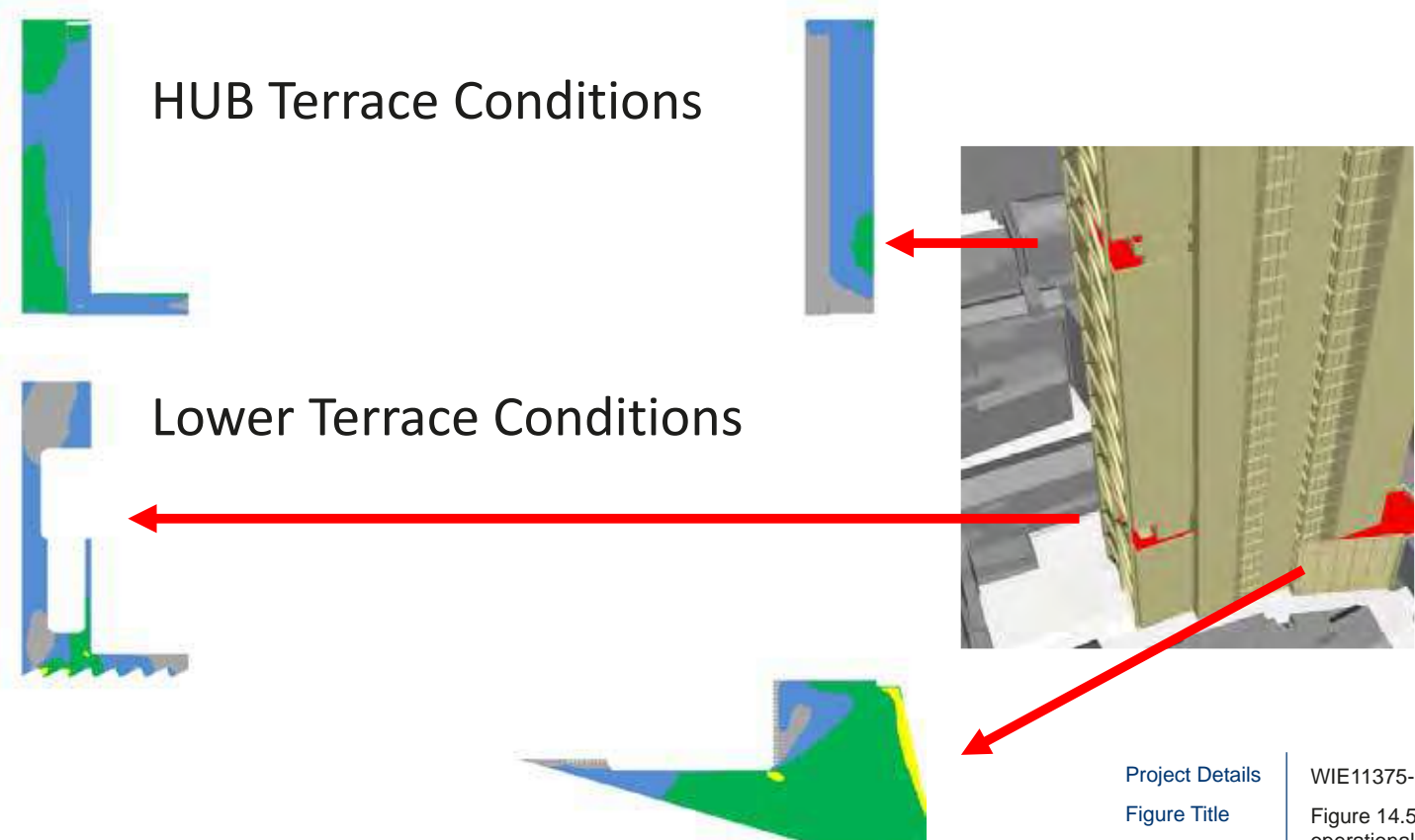
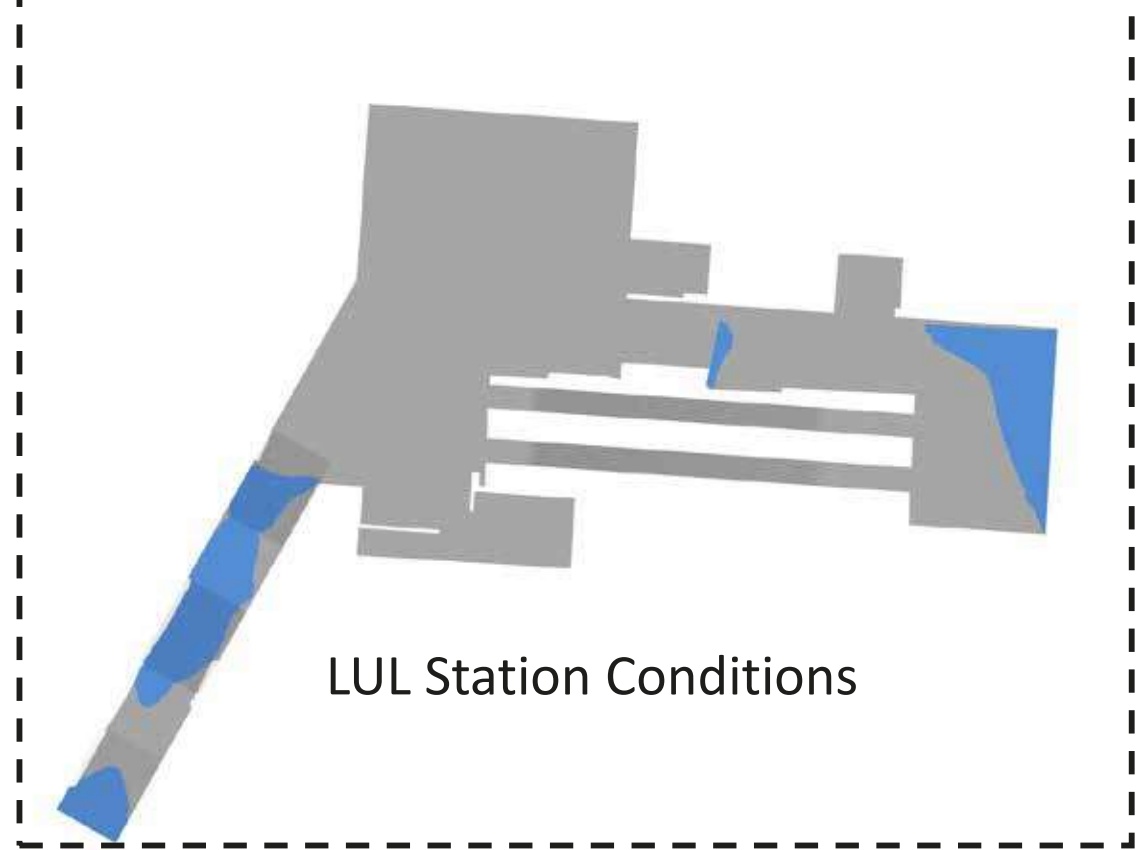
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Summer Wind Comfort



Site Boundary

Comfort Category	Colour
Frequent Sitting	Grey
Occasional Sitting	Blue
Standing	Green
Walking	Yellow
Uncomfortable	Red

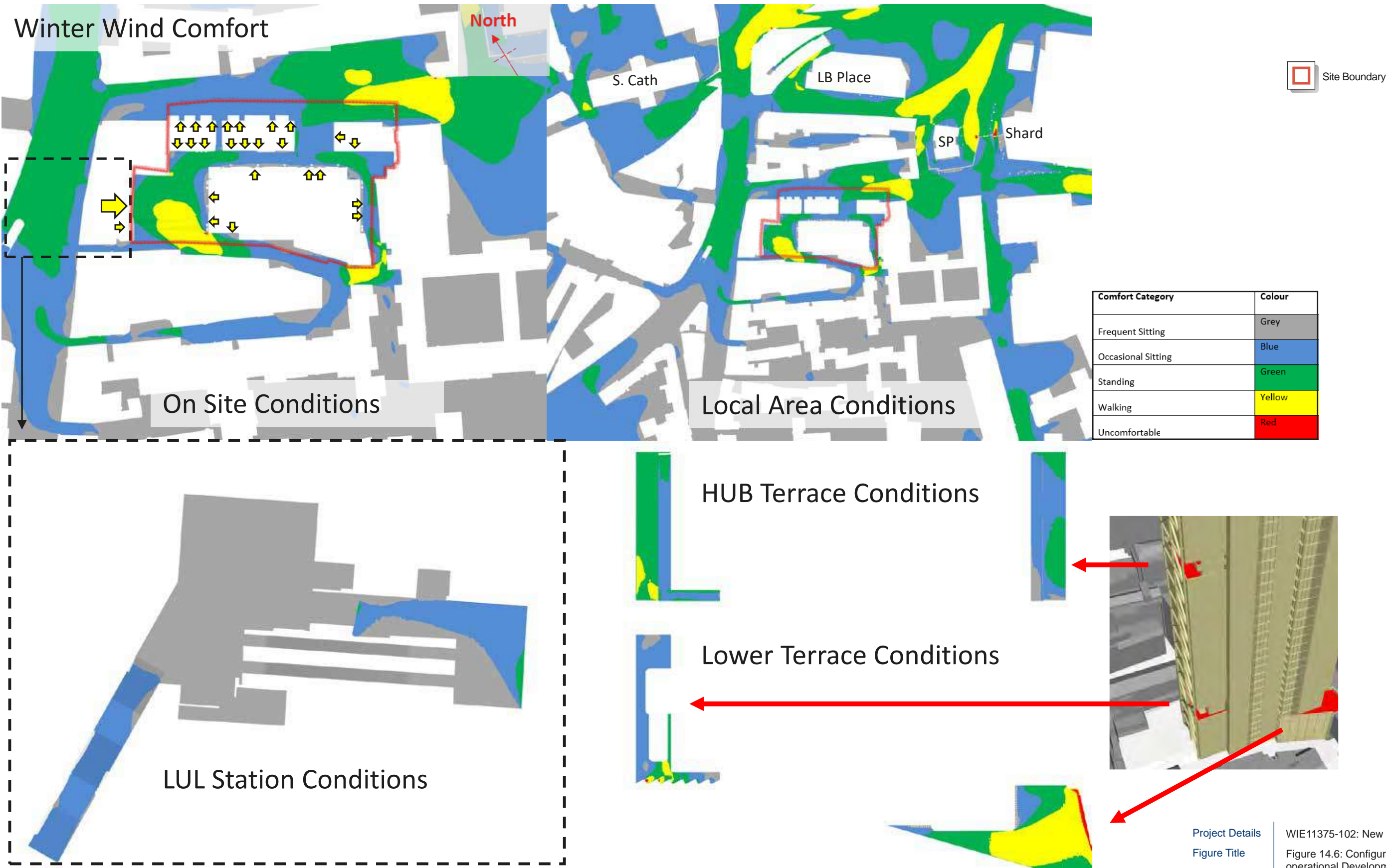


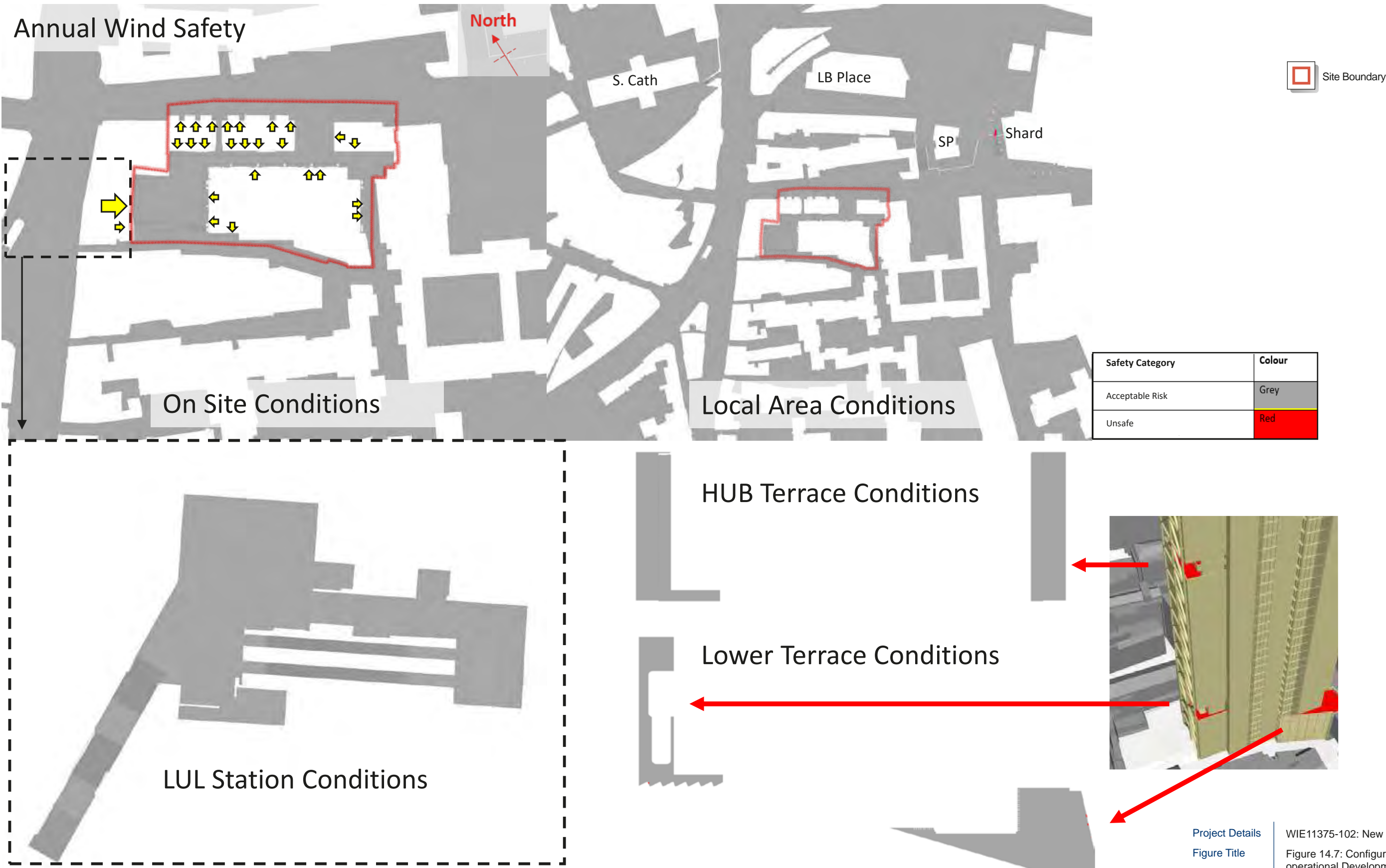
Project Details
Figure Title

WIE11375-102: New City Court
Figure 14.5: Configuration 6: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes (Summer Season)

Figure Ref
Date
File Location

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B. Updated ES Chapter 14: Cumulative Effects and TVIBHA Cumulative ES Addendum

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14. Cumulative Effects

Introduction

- 14.1. This chapter supersedes and replaces Chapter 14 of the December 2018 ES. This updated chapter presents an assessment of the likely significant cumulative effects of the Development in relation to interactions between the various environmental effects of the Development and the likely significant environmental effects of the Development in combination with those arising from consented and 'reasonably foreseeable' schemes near the Site.
- 14.2. This chapter has been written by Waterman Infrastructure & Environment (Waterman IE) with input from all other consultants and specialists who have contributed to the December 2018 ES. The Chapter has been informed by all preceding technical chapters of the December 2018 ES (**Chapter 7 to Chapter 13**) including **Part 3: Townscape, Visual Impact and Built Heritage Assessment** and **Appendices F** (updated ES Chapter 7: Transport) and **Appendix G** (updated ES Chapter 9: Air Quality) of the August 2019 ES Addendum and Clarification Document.
- 14.3. Please note that for the purposes of this ES chapter, the demolition, deconstruction, refurbishment and construction works will be referred to as 'the Works'.

Assessment Methodology

- 14.4. The Chapter considers two types of cumulative effects:
- **Type 1 Cumulative Effects:** the combination of individual likely significant environmental effects resulting from the Development in isolation upon sensitive receptors, e.g. combination of noise, dust and visual effects on a particular receptor such as residents; and
 - **Type 2 Cumulative Effects:** the combined effects arising from consented and 'reasonably foreseeable' schemes (collectively known as 'cumulative schemes'), which individually might be insignificant, but when considered together, could create a significant cumulative effect.

Type 1 Effects

- 14.5. Likely significant Type 1 cumulative effects have been identified and qualitatively assessed using the findings of all technical assessments reported within this ES, together with professional judgement.
- 14.6. Type 1 cumulative effects likely to arise from the Development have been considered in the context of both the Works and once the Development is complete and operational.
- 14.7. In consideration of the comprehensive range of environmental management controls and other mitigation measures committed to by the Applicant, as reported in this ES, Type 1 cumulative effects have only been considered in relation to the likely residual effects of the Development, as identified in **Chapter 7 to Chapter 13** of this ES and within **Part 3: Townscape, Visual Impact and Built Heritage Assessment**. The Type 1 cumulative effects for the Works were therefore assessed qualitatively using professional judgement based on the findings of the assessments of this ES.

Type 2 Effects

- 14.8. Although there is no formal guidance as to what should be considered a cumulative scheme, criteria for defining a scope of assessment for Type 2 cumulative effects was developed using

professional experience and expert judgement and was stated in the EIA Scoping Report (**Appendix 2.1**). To determine which cumulative schemes are likely to give rise to significant cumulative effects in combination with the Development, consideration was given to the following criteria:

- Schemes within 1km of the Site and with a valid planning permission which have a floorspace uplift of greater than 10,000 sqm Gross External Area (GEA); and
- Schemes within 1km of the Site and with a valid planning permission, which have a floorspace uplift in GEA of less than 10,000 sqm but would introduce sensitive receptors near to the Site.

- 14.9. Likely significant Type 2 cumulative effects have been assessed for each of the environmental topics scoped into the EIA. The likely significance of Type 2 cumulative effects have been assessed through a combination of quantitative and qualitative means, as appropriate. Where likely significant Type 2 cumulative effects are not anticipated, justification is provided. As for Type 1 cumulative effects, only the likely residual effects are considered within this assessment since it is a reasonable assumption that all mitigation and enhancement measures recommended for the Development such as the Site-specific Environmental Management Plan (as set out in this ES) and cumulative schemes would be implemented.
- 14.10. **Table 14.1** provides the details of all the cumulative schemes which have been considered in this assessment. A plan showing the location of the cumulative schemes in relation to the Site is presented as **Figure 14.1**. The cumulative schemes to be included in the assessment were agreed through consultation with Southwark Council (SC).

Table 14.1 List of Cumulative Schemes Assessed

Ref. (Figure 14.1)	Cumulative Scheme	Planning Reference Number (Borough)	Summary Description
1	185 Park Street	17/AP/1944 (SC)	Minor material amendment to planning permission 14/AP/3842. Demolition of existing buildings and redevelopment to provide a mixed use development providing three new buildings comprising basement, lower ground and ground floor plus part 8, 14 and 18 storeys (maximum height 19 storeys) containing 163 residential units (Class C3), Office (Class B1), Retail (Class A1/A3/A4), Cultural facility (Class D1/A1/A3/A4); provision of hard and soft landscaping and the provision of parking, servicing and plant areas
2	Tower Bridge Magistrates Court and Police Station, 209-211 Tooley Street	15/AP/3303 (SC)	Part demolition, alteration and extension of existing building, construction of new build floorspace, excavation and change of use of the site from magistrates' court (use class D1) and police station (use class Sui Generis) to provide a seven storey building for hotel use (use class C1) at lower ground, ground, mezzanine and 1st to 5th floors (198 bedrooms), delicatessen (use class A1), restaurant and cafe use (use class A3), hotel bar use (use class A4), and leisure use (use class D2) with associated vehicle and cycle parking, landscaping, plant and engineering works'
3	Capital House	18/AP/0900 (SC) (revised scheme)	Redevelopment of the site to include the demolition of Capital House and the erection of a 39-storey building (3 basement levels and ground with mezzanine and 38 storeys) of a maximum height of 137.9m (AOD) to provide up to 905 student accommodation units (Sui

Ref. (Figure 14.1)	Cumulative Scheme	Planning Reference Number (Borough)	Summary Description
			Generis use), flexible retail/café/office floorspace (Class A1/A3/B1), cycle parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development. The application is accompanied by an Environmental Statement.
4	Shard Place (Fielden House) 28-42 St Thomas Street	17/AP/4008 (SC)	Minor material amendment to planning permission 14-AP-1302. Demolition of existing buildings and erection of part 26 and part 16 storeys to provide 176 apartments (141 Use Class C3 and 35 flexible use C1/C3), with 1,800sqm (gross) of flexible retail space (Classes A1, A2, A3 and A4) at St. Thomas Street and London Bridge Street (Concourse) levels, service area, one level of basement including car parking (4 spaces) and associated hard and soft landscaping, amenity spaces and alterations to existing highways adjoining
5	25-29 Harper Road	15/AP/3886 (SC)	Demolition of the existing former Sorting Office and Former Court building and redevelopment to provide 64 residential units (2 studios, 20 x 1b2p, 29 x 2b4p, 8 x 3b5p, 4 x 4b5p, 1 x 4b6p) in three blocks of 4, 5 and 7-storeys in height plus lower ground floor; 299sqm of B1 floorspace together with associated amenity space, landscaping and related ancillary works.
6	Isis House, 67-69 Southwark Street	13/AP/2075 (SC)	Demolition of existing building and erection of a part 13, part 16 storey building comprising a retail unit on the ground floor (Use Class A1) and 9 self-contained residential units above (Use Class C3).
7	153-159 Borough High Street	15/AP/4980 (SC)	Demolition of 153-159 Borough High Street, and erection of 7-storey hotel (with basement), comprising 50 bedrooms and roof terrace, top 2 floors set back; and A1/A3 use at basement and ground floor level.
8	175-179 Long Lane	15/AP/4072 (SC)	Redevelopment of site to provide a part 6, part 7 and part 8 storey building comprising commercial units at ground and mezzanine level (Use Class B1) with 94 residential units above (Use Class C3) (39 x 1 bed, 39 x 2 bed and 16 x 3 bed), associated car and cycle parking, landscaping, gymnasium, podium garden at first floor level and other associated works.
9	Lavington House, 25 Lavington Street	16/AP/2668 (SC)	Demolition of existing buildings and redevelopment of the site to provide a 10 storey (plus basement) commercial building with two flexible A1/A3/B1 units at ground/basement level and B1 floorspace on all upper levels and accessible parking/vehicular access and servicing from Ewer Street; 170 apartments in three residential buildings at 8, 13 and 21 storeys (plus basement, including roof plant) with a flexible A1/A3/B1 unit at basement/ground floor level; parking/vehicular access from Lavington Street; 3 mews houses (3 storeys); new public realm; hard and soft landscaping; pedestrian routes; alterations to the public highways including widened footways, relocated parking and service bays, tree planting, resurfacing and associated works.

Ref. (Figure 14.1)	Cumulative Scheme	Planning Reference Number (Borough)	Summary Description
10	19-23 Harper Street, 325 Borough High Street and 1-5 and 7-11 Newington Causeway	18/AP/0657 (SC)	Demolition of existing buildings and redevelopment to provide a hotel-led mixed use development comprising construction of a part single, part 5, part 7, part 8 and part 14-storey building (maximum height 51m AOD) plus basement, providing 427 hotel rooms (Use Class C1) 6 no. residential dwellings (Use Class C3), office use (Class B1), retail use (Class A1-A3) and flexible use (Class B1/D1), 4 no. car parking spaces together with access, cycle parking, hard and soft landscaping and other associated works incidental to the development.
11	133 Park Street	16/AP/4569 (SC)	Demolition of existing buildings and redevelopment to provide two Class B1 office buildings of nine storeys and ten storeys plus plant (41m AOD on Sumner Street and 42.85m AOD on Park Street). The development will include the creation of a new basement; new public realm; provision of a retail (Class A1/A3/A5) kiosk; hard and soft landscaping and other associated works.
12	Southwark Fire Station, 94 Southwark Bridge Road;	17/AP/0367 (SC)	Redevelopment of the site including alterations and extensions to listed buildings for a mixed use scheme to provide a new secondary school with 6th form (up to 1150 pupils), 199 residential units in buildings up the 10 storeys in height, 234 sqm of flexible commercial or community use (Class A1, A3, B1, D1, D2), a 139 sqm Gym, associated landscape and public realm works, cycle parking, disabled parking and servicing access; and the redevelopment of land at Grotto Place for the provision of a new sports hall (1,452sqm) and external multi use games facility and landscaping.
13	1-5 Paris Garden and 16-19 Hatfields	17/AP/4230 (SC)	Phased redevelopment comprising: Phase 1: Demolition of 4-5 Paris Garden and 18-19 Hatfields to create a part 23 and part 26 storey tower building (+ double basement)(up to 115.75m AOD) to be used for offices (Class B1), above a new public space with flexible retail/professional services/restaurant uses (Classes A1/A2/A3) at ground floor level and restaurant/bar uses (Classes A3/A4) at third floor level; Phase 2: Partial demolition, refurbishment and extensions to 16-17 Hatfields and 1-3 Paris Garden for continued use as offices (Class B1) with flexible use of the ground floor level (Classes A1/A2/A3/A4/B1) and restaurant/bar uses (Classes A3/A4) at part fifth floor level; creation of a new public, landscaped roof terrace at part fifth floor level and green roof at sixth floor level; lowering of existing basement slab; new landscaping and public realm; reconfigured vehicular and pedestrian access; associated works to public highway; cycle parking; ancillary servicing and plant and other associated works.
14	Sampson House, 64 Hopton Street	17/AP/2286 (SC)	Variation of Condition 2, approved plans, of planning permission 12-AP-3940 for "Demolition of existing buildings and the construction of a mixed use development totalling 144,622 sq.metres GEA comprising 489 flats (Class C3), 45,378 sqm (including basement) of offices (Class B1), 2,627sqm of retail (Classes A1-A5), 1,969sqm of community uses (Class D1) and 1,014sqm of gym (Class D2). New open space including formation of two new east-west routes, new

Ref. (Figure 14.1)	Cumulative Scheme	Planning Reference Number (Borough)	Summary Description
			public square, reconfigured vehicular and pedestrian access and works to the public highway with associated works including landscaping and basement car park for 200 cars (including 54 disabled car parking spaces) plus servicing and plant areas. Change of use of the railway arches from a nightclub to retail, gym and community uses. Configuration of the toilet block for retail uses and toilets. The development contains of 9 new buildings: Ludgate A: 13 storeys (62.08m AOD), Ludgate B: 49 storeys (169.60m AOD), Ludgate C: 15 storeys (73m AOD), Sampson A: 17 storeys (62.85m AOD), Sampson B: 31 storeys, (112.10m AOD), Sampson C: 27 storeys (98.30m AOD), Sampson D: 14 storeys (60.80m AOD), Sampson E: 5 storeys (24.6m AOD), Sampson F: 6 storeys (28.9m AOD)"
15	1 Bank End	15/AP/3066 (SC)	Redevelopment of 1 Bank End, including reuse of railway arches and rebuilding and extension of the rear of Thames House, Park Street (behind retained facade); remodelling of Wine Wharf building on Stoney Street and development of a two storey building at 16 Park Street, all to provide a development reaching a maximum height of 6 storeys (maximum building height 27.419m AOD) comprising retail units (flexible class A1 shops, A3 cafes/restaurants and A4 drinking establishments use) at ground and first floor levels, a gallery (Class D1 use) at ground floor level, office floorspace (Class B1 use) at ground up to fifth floor level, a cinema (Class D2 use) at ground floor and basement level, associated cycle parking spaces at basement, associated refuse and recycling with new public access routes and public open space.
16	Becket House / 60 St Thomas Street	18/AP/4136 (SC) Pre-application.	Request for an Environmental Impact Assessment Scoping Opinion relating to the redevelopment of the site for a commercial building up to 24 storeys in height.
17	Bermondsey Street/Snowfields	19/AP/0404 (SC) Not yet determined	Demolition of existing buildings at 40-44 Bermondsey Street including partial demolition, rebuilding and refurbishment of existing Vinegar Yard Warehouse and erection of three new buildings (two linked) with up to two levels of basement and heights ranging from five storeys (24.2m AOD) to 17 storeys (67m AOD) to provide office space (Class B1); flexible retail space (Classes A1/A2/A3/A4/A5); new landscaping and public realm; reconfigured pedestrian and vehicular access; associated works to public highway; ancillary servicing; plant; storage and associated works. The application is accompanied by an Environmental Statement.
18	Vinegar Yard	18/AP/4171 (SC) Not yet determined.	Redevelopment of the site to include the demolition of the existing buildings and the erection of a 5 to 19 storey building (plus ground and mezzanine) with a maximum height of 86.675m (AOD) and a 2 storey pavilion building (plus ground) with a maximum height of 16.680m (AOD) with 3 basement levels across the site providing a total of 30,292 sqm (GIA) of commercial floorspace comprising of use classes B1, A1, A2, A3, A4, D2 and sui generis (performance venue), cycle parking,

Ref. (Figure 14.1)	Cumulative Scheme	Planning Reference Number (Borough)	Summary Description
			servicing, refuse and plant areas, public realm (including soft and hard landscaping) and highway improvements and all other associated works.
19	2-4 Melior Place	18/AP/3229 (SC)	Redevelopment of the site involving the construction of a 6-storey plus basement building, comprising a retail art gallery (Class A1) on the ground floor and 3 x 2 bed, 2 x 3 bed and 2 x 4 bed residential units on the upper floors.

14.11. Five other applications were reviewed but excluded from the list of schemes, as follows:

- 127-143 Borough High Street (13/AP/1714) – it is completed and operational as a hotel and so forms part of the baseline;
- 59-61 Borough High Street (14/AP/4623) – comprises four residential units and so is too small to have cumulative effects, but the occupants have been included as sensitive receptors;
- 43 Borough High Street (15/AP/3224) - comprises four residential units and so is too small to have cumulative effects, but the occupants have been included as sensitive receptors;
- Boland House – this is a change in use from a restaurant to a museum which is not considered to be significant enough to require inclusion;
- London Bridge Station works – these are ongoing works and complete enough to be included in the baseline.

14.12. It should be noted that Shard Place (reference 4 in **Table 14.1**) forms part of the baseline for the assessments. This is because the physical mass of Shard Place is already built and the scheme is due for completion in 2019, prior to the commencement of the Works on Site. This was agreed with SC. Shard Place is in close proximity to the Site and therefore has the potential to affect the baseline situation for these disciplines. Shard Place along with five other committed developments are part of the 'future baseline' traffic model (as outlined in paragraph 14.21) and so are 'baseline' schemes for transport and the associated air quality, noise and vibration effects.

14.13. As Shard Place will be constructed before the Works start there are no demolition or construction cumulative effects between the Development and Shard Place. Shard Place is a Sensitive Receptor (SR) for baseline and cumulative assessments as it will be present by the time the Works on New City Court commence.

14.14. The visual impact assessment includes some cumulative developments outside of the criteria stated above, principally that they are further away from the Site than 1km. The reason is that long distance views are included in the visual impact assessment and therefore these other schemes are relevant to the assessment. These schemes are identified in **Part 3: Townscape, Visual Impact and Built Heritage Assessment** and were discussed and agreed with SC.

14.15. The above cumulative schemes comprise a combination of consented and 'reasonably foreseeable' schemes which have yet to be determined.

14.16. Design information for the cumulative schemes have been based upon readily available public information at the time of undertaking the assessment. Where construction programmes and

completion dates for the cumulative schemes are not known, for the purposes of the assessment, it is assumed that some may overlap with the Development as a worst case.

Assessment of Type 1 Cumulative Effects

The Works

- 14.17. The likely Type 1 cumulative effects for various sensitive receptors and land uses (identified in **Chapter 7 to Chapter 13**) in the vicinity of the Site are listed in **Table 14.2**. **Table 14.2** also identifies the anticipated effect interactions during each of the key stages of the Works. In accordance with **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction**, the Works activities have been outlined, some of which would overlap in terms of programme and timescales.
- 14.18. In view of the assessment methodology and the findings of the technical assessments reported within this ES, the most significant Type 1 cumulative effects interactions during the Works phase of the Development are likely to result from:
- **Temporary, local, adverse effects of moderate to major significance** on heritage receptors (e.g. Grade II Georgian Terrace and Borough High Street Conservation Area) and a **short to medium term, local to regional, adverse effect of minor to moderate to major significance** on Townscape Character Areas (refer to **Part 3: Townscape, Visual Impact and Built Heritage Assessment**);
 - **Temporary, local, adverse effects of minor to major significance** on nearby residents in relation to noise generated from activities such as demolition, earth works, piling, concreting and pavement works (refer to **Chapter 8: Noise and Vibration**);
 - **Temporary, local, beneficial effects to local, adverse effects of minor to major significance** in relation to daylight, sunlight and overshadowing reflecting the gradual change from demolition (beneficial) to a situation where the effects will be as per the completed Development (see **Chapter 13: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution**).
- 14.19. Within **Table 14.2**, the likely sensitive receptors have been grouped together according to land use and / or key receptors.

Table 14.2 Type 1 Effect Interactions During the Works of the Development

Sensitive Receptor / Land Use	Demolition	Excavation/ Piling	Substructure	Superstructure and Envelope	Fitting-Out	Landscaping and External Works
Future and existing surrounding residential occupants to the south of the Development including Nos. 51-55 Borough High Street, 22 Southwark Street,	L, LP, N	L, LP, N	L, LP	TH, TC, D, N	TH, TC, D	D
Future and existing surrounding residential occupants to the west, north and east of the Development including Bunch of Grapes Public House, 43 Borough High Street ⁱ , Shard Place and 6 London Bridge Street.	L, LP, N	L, LP, N	L, LP	TH, TC, D, N	TH, TC, D	D
Iris Brook House and Orchard Lisle House	L, LP, N	L, LP, N	L, LP	TH, TC, D, N	TH, TC, D	VE, D
Existing and future pedestrians, cyclists and road / rail users.	TH, TC, N, L, SG	TH, TC, N, L, SG	TH, TC, N, L, SG	TH, TC, N, D, L	TH, TC, N, D	N, D
Site construction workers	N	N	N	N	×	×
Guy's Hospital patients	L, LP, N	L, LP, N	L, LP	N	×	N
Listed Buildings/ non-designated heritage assets	TH, TC	TH, TC	TH, TC	TH, TC	TH, TC	×

Notes: TH - temporary, local, adverse effects of moderate to major significance on heritage receptors.
TC - short to medium term, local to regional, adverse effect of minor to moderate to major significance on Townscape Character Areas
N - temporary, local, adverse effects of moderate to major significance in relation to noise generated from activities.
D - local, adverse effects of minor to moderate significance in relation to daylight, sunlight and overshadowing
L – temporary, local, beneficial effects of minor to moderate significance in relation to daylight, sunlight and overshadowing
LP – temporary, local, beneficial effect of minor significance due to reduced light pollution
SG – temporary, beneficial effect from reduced solar glare
× - No interactive effects

ⁱ The loss of daylight and sunlight from 43 Borough High Street is considered an adverse effect of major significance. However it is important to note that this property is recessed between two buildings on either side, creating flank walls which would limit the amount of daylight available from oblique angles.

Type 2 Effects

Transportation and Access

- 14.20. In order to assess the cumulative effects of the Development and other committed developments on users of the road network, public transport users, pedestrians and cyclists surrounding the Site, a cumulative assessment has been undertaken. As described within **Chapter 7: Transportation and Access** of this ES, there are 15 developments in the vicinity of the Development with the potential to result in cumulative effects. The Transport Assessment included those committed developments which are currently under construction and are expected to be completed by the Development opening year within a Future Baseline scenario. These included:
- Tower Bridge Magistrates Court and Police Station (15/AP/3303);
 - 175-179 Long Lane (15/AP/4072);
 - 25-29 Harper Road (15/AP/3886);
 - Isis House, 67-69 Southwark Street;
 - 1 Bank End (15/AP/3066); and
 - Shard Place (Fielden House) (17/AP/4008).
- 14.21. The remaining developments were included within the cumulative scenario, which is reported below.

The Works

- 14.22. Should construction works of the Development and the cumulative schemes overlap, there would be an increase in construction vehicle movements on the surrounding road network, compared to the Development in isolation. However, given that there is an uncertainty over when the various committed developments would come forward in the area, the methods of construction that would be employed; the management measures that would be adopted at each site and the periods of peak construction vehicle movement, it is difficult to predict the cumulative impacts of construction activities, particularly where the intensive operations are of short duration. Capital House construction vehicles could be expected to use St. Thomas Street to access the site, as the Development does. Information provided within the ES for the Capital House cumulative scheme indicates that there would be potentially 6 construction vehicle movements per hour on St Thomas Street. Similarly, for cumulative schemes Bermondsey Street/Snowfields and the Vinegar Yard construction vehicles will also use St Thomas Street with 11 movements predicted as part of the redevelopment. It is noted that these figures are peak construction estimates during the most intense phase of construction activities.
- 14.23. Beyond this the cumulative schemes may use the A2 and A201 but these are main roads and have large traffic volumes on them already given their strategic importance. The A2 carries in excess of 15,508 vehicles a day of which over 1,000 are HGVs. The A201 has a daily flow of over 25,000 vehicles including 2,000 HGVs.

- 14.24. It is anticipated that each site coming forward would be required to develop their own SEMP and construction logistics plan (CLP) and therefore agree vehicular numbers and vehicular routes with SC and TfL. It is therefore considered that on this basis and subject to the implementation of best practice construction traffic management measures, the residual cumulative effects on all users of the local transport network would be **insignificant**.

Completed Developments

Effect on Pedestrian Movement, Capacity, Severance, Delay, Fear and Intimidation, Amenity

- 14.25. Each of the committed developments would generate their individual number of pedestrian trips, but as with the Development, they would be required to deliver schemes that would enable easy pedestrian movement, not restrict capacity, provide high environmental and design quality and improved public realm. Some of the pedestrian links in the vicinity of the Site are forecast to have poor pedestrian comfort as a result of additional developments in the area with Borough High Street predicted to experience very uncomfortable conditions, (see the 'do nothing 2031 future baseline scenario' set out in Space Syntax report).
- 14.26. The additional permeability and the improved public realm as part of the Development significantly improves the pedestrian comfort around the site and takes away pressure off Borough High Street.
- 14.27. Therefore, when the committed developments are considered together with the Development, the resultant cumulative effects are assessed as **insignificant to moderate beneficial** on pedestrians in respect of movement, capacity, severance, delay, fear, intimidation and amenity.

Effect on Cyclists

- 14.28. Each of the committed developments would establish the individual number of cycling trips generated by the scheme, but similar to the Development, they would be required to deliver schemes of high environmental and design quality, improved public realm and sufficient cycle parking provision for occupants and visitors in accordance with SC and TfL requirements.
- 14.29. These would translate as mitigation measures and when considered collectively would be expected to result in an **insignificant** effect on cyclists.

Effect on Bus Users

- 14.30. As part of current TfL guidance, developers are required to assess and report the likely bus trip generation associated with their site. TfL subsequently undertake their own capacity analysis based on their current and proposed level of services to meet predicted demand levels. Therefore the cumulative effects on bus users would be **insignificant**.

Effect on London Underground Services

- 14.31. The passenger numbers on the Jubilee and the Northern Line for the future baseline have been established based on growth assumptions supplied by TfL. These take into account changes to line loads and Crossrail. In order to assess the cumulative effects on the assessment baseline, the predicted Underground trips from the committed developments have been added to the

Proposed Development trips. These trips have been obtained from the committed developments' respective Transport Assessments. From the review of the transport reports, it has been found that each of the committed development proposals involve redeveloping brownfield land whereby the proposed development replaces an existing use allowing for the trips to be offset against the existing sites the committed developments seek to replace. The additional committed developments Underground trips have been obtained from their respective transport documents with the trips added onto the cumulative flows as set out below in **Table 14.3**.

- 14.32. Additionally, it has been noted that it is understood that there are proposals to enhance the capacity of both the Jubilee and the Northern Line by increasing the peak hour frequencies to 36 and 30 services per hour respectively although there is no guarantee at present that these improvements would be implemented by the Development opening year and therefore have not been taken into account.

Table 14.3 Cumulative Assessment on Underground Capacity

Direction		Future Planning Capacity (pphd)	Future Assessment Baseline Loads 2026	Ratio of Demand to Capacity	Cumulative Loads + Development	Ratio of Demand to Capacity	% Change
Jubilee Line	From Bermondsey	28,800	24,828	86.21%	25,093	87.1%	0.92%
	To Southwark	28,800	24,688	85.72%	24,710	85.8%	0.08%
	From Southwark	28,800	20,313	70.53%	20,649	71.7%	1.17%
	To Bermondsey	28,800	21,214	73.66%	21,231	73.7%	0.06%
Northern Line	From Borough	20,000	15,402	77.01%	15,640	78.2%	1.19%
	To Bank	20,000	18,094	90.47%	18,122	90.6%	0.14%
	From Bank	18,400	12,243	66.54%	12,683	68.9%	2.39%
	To Borough	18,400	6,353	34.53%	6,369	34.6%	0.08%

- 14.33. From the above table, it can be seen that the additional passenger loads as a result of the cumulative assessment would be less than 3% resulting in an **insignificant** effect.

Effect on National Rail Services and Users

- 14.34. Developers are required to provide the likely rail trip generation associated with their site together with an associated trip purpose and distribution analysis. Rail operators subsequently undertake their own capacity analysis based on their current and proposed level of services to meet predicted demand levels. The additional demand of the committed developments on rail services would be mitigated directly by these schemes through service enhancements secured as planning contributions. Therefore residual cumulative effect would be **insignificant**.

Effect on Traffic Flows and Road Vehicle Users

- 14.35. The cumulative baseline traffic flows have been estimated based on the trip generation set out in each of the committed developments' Transport Assessments which have been obtained from SC. From the review of the transport reports, it has been found that each of the committed

development proposals involve redeveloping brownfield land whereby the proposed development replaces an existing use. All schemes have been designed to exclude general car parking in order to comply with the current transport guidance and additionally many of the developments replace sites with car parking provision. As a result, the majority of the committed developments are reported not to result in additional traffic on the highway network. For those developments where an increase in traffic is predicted the increases are **insignificant** and these have been added to the baseline flows to generate the cumulative baseline flows.

- 14.36. With regard to the additional committed developments, their transport documentation has been reviewed to understand their respective traffic generation estimates. With regard to Vinegar Yard, only one and two car/taxi trips are predicted in the AM and PM peak respectively. In addition, as a worse case, 3 delivery trips are estimated during both the AM and PM peak hour.
- 14.37. Melior Place is proposed to be car-free and additional does not provide a vehicular access. No car or delivery trips are forecast in the peak periods.
- 14.38. The Bermondsey Street/Snowfields site is predicted to attract an extra 2 vehicle trips in the AM and PM peak hour and a maximum of 6 deliveries per peak hour.
- 14.39. Transport information for the Capital House scheme predicts a reduction of 11 and 13 vehicle movements during the AM and PM peak hour respectively.
- 14.40. Becket House whilst not yet submitted replaces an existing office development which has a sizeable car park with a car-free development. Accordingly, the redevelopment is expected to result in a reduction in vehicle trips.
- 14.41. Overall, when considered together, the additional committed developments result in a net reduction in vehicle movements although it is noted that the reduction is not significant. The original assessment is therefore valid and represents a robust, worse case assessment.
- 14.42. **Table 14.4** provides details of the effects of the committed developments in combination with the Development on the local highway network.

Table 14.4 Cumulative Assessments of Traffic Flows

Link	Future Baseline Flows		Cumulative Baseline + Development		Percentage Difference	
	AM	PM	AM	PM	AM	PM
London Bridge to the north of Tooley Street	1,294	1,108	1,309	1,120	1.1%	1.0%
Borough High Street to the south of London Bridge	2,347	2,525	2,362	2,537	0.6%	0.5%
St. Thomas Street	258	213	263	218	1.7%	2.1%
White Hart Yard	4	2	8	6	100.0%	200.0%
Southwark Street to the east of Southwark Bridge Road	413	381	431	393	4.4%	3.1%
Southwark Street to the west of Southwark Bridge Road	890	741	908	753	2.0%	1.6%
Southwark Bridge Road	759	623	762	626	0.3%	0.4%
Marshalsea Road	763	755	766	758	0.3%	0.3%

Link	Future Baseline Flows		Cumulative Baseline + Development		Percentage Difference	
	AM	PM	AM	PM	AM	PM
Borough High Street to the north of Union Street	862	837	886	851	2.8%	1.7%
Long Lane	683	570	684	571	0.1%	0.1%
Tower Bridge Road to the south of Druid Lane	1392	1160	1,392	1,160	0.0%	0.0%
Tooley Street	537	460	537	460	0.0%	0.0%

- 14.43. As can be seen from the above assessment, when the cumulative baseline plus the Development traffic flows are compared with the baseline flows, White Hart Yard is predicted to experience increases in traffic flows which exceed the Rule 1 threshold with major adverse significance. This is as the direct result of the completed Development and has been assessed in **ES Chapter 7 Transportation and Access** with mitigation measures proposed. This assessment showed that in real terms, the resultant traffic flows on White Hart Yard will continue to be well within the 'low traffic volumes' threshold for when pedestrians treat a street as a space to be occupied and not a road based on advice provided within the Manual for Streets. Additionally, the proposed pedestrian and public realm enhancements are expected encourage pedestrians to divert onto King's Head Yard instead. Therefore, the cumulative effect is expected to be **insignificant to adverse and of minor significance**.
- 14.44. All other links would experience an increase of traffic of less than 10% during both the AM and PM peak. Therefore, the cumulative effect is assessed as being **insignificant** across the wider road network.

Noise and Vibration

The Works

- 14.45. Potential cumulative noise and vibration effects may be expected where construction sites are within 100m of each other and noisy or vibration-inducing operations occur concurrently. It is clear that each of the cumulative schemes are located at a distance greater than 100m with the exception of Shard Place which is to be completed by the time the Works start on the Site and therefore its construction works will not overlap with the Works. Given the screening between the cumulative sites from intervening buildings it is considered that the potential for Type 2 cumulative noise and vibration effects during the Works is **insignificant** with the implementation of a SEMP and CLP by each site.
- 14.46. Cumulative effects resultant from construction traffic, generated by cumulative schemes within beyond 100m of the Site but which are passing by the Site, would have the potential to cause Type 2 cumulative effects from road traffic noise, should the construction phases of each cumulative scheme and the Development overlap. However, each cumulative scheme (as per the Development) would be required to implement its own CLP including consideration of concurrent construction schemes to minimise the combined effects of construction traffic. A combined management strategy shared by all developers may also be used, as far as reasonably

practicable, to minimise cumulative adverse effects. Consequently, the likely Type 2 cumulative residual effects from construction traffic noise are likely to be **insignificant**.

Completed and Operational Development

- 14.47. Noise from fixed plant associated with the Development would be subject to a standard planning condition based upon the guidance provided in BS 4142. Such a planning condition would limit noise generated by fixed mechanical plant and building services to 10 dB (A) below the minimum background noise level. It is expected that other schemes would adhere to the same noise policy. As such, noise from fixed plant from all cumulative schemes and the Development would be **insignificant**.
- 14.48. All other noise and vibration from operation of the Development is insignificant, as is the noise and vibration from Shard Place. All other committed developments are too distant from the sensitive receptors around the Development to cause significant Type 2 cumulative residual impacts in terms of noise and vibration.
- 14.49. It is considered that noise associated with the cumulative schemes and the Development in relation to deliveries and servicing noise would be **insignificant**.

Air Quality

The Works

- 14.50. The main effects on air quality during the construction phase of the cumulative developments are in relation to dust. Owing to the typical dispersal and deposition rates of dust with distance from their source and assuming that as per the Development, all other cumulative schemes would implement their own SEMP's in order to mitigate dust nuisance effects as far as practicable possible, it is considered that Type 2 cumulative dust effects would likely be an issue for those cumulative schemes within 100m of the Site, and only if they were to be constructed at the same time.
- 14.51. One of the 15 cumulative schemes is located within 100m of the Site, Shard Place to the north-east of the Site. However this scheme will be completed by the time the Development starts on Site. Cumulative dust effects are therefore considered to be **insignificant**.
- 14.52. Construction vehicle exhaust emissions from the combined construction traffic of the Development and the cumulative schemes could give rise to cumulative residual effects on local air quality. However, this would depend upon the extent to which the implementation of the Development and the cumulative schemes overlap. In the worst-case scenario, the demolition and construction of the cumulative schemes would overlap with the Works, and use the same construction traffic routes. It is considered that the Works' traffic would add a very small proportion of additional traffic to the local highway network around the Site. In addition, it is considered that appropriate traffic management measures would be implemented to reduce the generation of cumulative construction traffic on the local road network. Based on professional judgement, with the implementation of appropriate CLP for the cumulative schemes, the residual cumulative effect of construction vehicles is considered to have a **short-term, local adverse effect of minor significance**.

- 14.53. Exhaust emissions from plant operating on the Site and cumulative scheme sites concurrently would be **insignificant**, even in a combined situation, in the context of the existing adjacent road traffic and exhaust emissions.

Completed and Operational Development

- 14.54. The main effect of the cumulative Developments on air quality is linked to associated changes in traffic flows. The traffic data used within the air quality assessment for the future year of 2026 includes traffic related to other relevant cumulative schemes in the surrounding area and therefore comprises a cumulative effect assessment in this regard. Therefore, is it considered that the likely Type 2 cumulative residual effects of traffic emissions upon local air quality from the Development and cumulative schemes would be **insignificant**.

Archaeology

The Works

- 14.55. This assessment considers the effect of other developments affecting the same buried heritage assets as the Development. Buried heritage assets (archaeological remains) are generally site-specific, and construction in relation to the only nearby development scheme, Shard Place, which is located within the study area used for the archaeological assessment of the Site, is already complete and therefore considered as part of the baseline. Since the Works are subject to an appropriate programme of mitigation (reviewed and agreed by the local planning authority and its archaeological advisors), and given the limited archaeological potential of the Site, it is considered that with the implementation of a successful programme of mitigation at the Site, cumulative effects with regard to buried heritage assets would be no greater than those identified in relation to the Development alone i.e. moderate and minor adverse. From a wider perspective however, and particularly within the archaeological priority areas, any development project that has an impact on archaeology contributes to the cumulative erosion of this resource.

Completed and Operational Development

- 14.56. As for the Development, none of the cumulative schemes are likely to give rise to any additional intrusive ground works or activities over and above those required for the implementation of the cumulative schemes once completed and operational. It is therefore considered that there would be **no cumulative effects** on archaeology once the Development and all cumulative schemes are completed.

Water Resources and Flood Risk

The Works

- 14.57. Flood risk effects associated with demolition and construction are typically of local significance. The only scheme near enough to cause a flood risk during construction is Shard Place (Fielden House) but this will have reduced surface water discharge to Thames Water's combined sewer by 10% due to the proposed 50% betterment in surface water runoff before commencement of the Works and hence there are not expected to be any cumulative effects.

- 14.58. The Works are unlikely to significantly alter or displace groundwater flows and surface water runoff from the sites would be controlled through the implementation of management plans, where required. It can therefore be concluded that there will be no Type 2 cumulative effects.
- 14.59. The demolition and construction of cumulative schemes, alongside the Development, is unlikely to increase pressure on potable water demand, and as such, it is considered there would be **insignificant** effects.

Completed and Operational Development

- 14.60. With regard to flood risk, this assessment has assumed that in order for an applicant to submit a planning application and gain planning permission, cumulative schemes have or will be approved by the Local Lead Flood Authority and Environment Agency. This would mean that as per the Development, each cumulative scheme in isolation, and combined, would not increase flood risk within the area.
- 14.61. Similarly, in line with planning policy requirements, it has been assumed that cumulative schemes would increase surface water attenuation, where required. Should some or all of the cumulative schemes adhere to the Mayor's London Plan Supplementary Planning Guidance on Sustainable Design and Construction¹, then reductions to at least 50% of existing surface water runoff have the potential to result in significant beneficial effects to flood risk. Consequently, the overall likely cumulative effect in relation to flood risk is considered to range from **insignificant to long-term, local, beneficial** and of **minor significance**.
- 14.62. Where necessary, the cumulative schemes would include diversion and upgrading of sewers, which would be undertaken in agreement with Thames Water. The upgrade / upsizing of sewers would ensure that there is adequate capacity to accommodate these schemes, together with the Development. The likely cumulative effects on foul water drainage capacity and potable water demand are therefore anticipated to be **insignificant**.

Wind

- 14.63. Based on professional judgement Wirth Research consider it unlikely that there would be cumulative effects during demolition given the relatively calm conditions of the existing Site and the relative low height of the existing buildings to be demolished on Site.
- 14.64. As construction of the Development and cumulative schemes progress, the likely wind microclimate would gradually adjust to that identified for the Development and cumulative schemes, once completed and operational, as reported below.
- 14.65. As reported in **Chapter 12: Wind Microclimate**, Computational Fluid Dynamics (CFD) has been used to assess the pedestrian conditions at and around the Site. Configurations 3 and 4, as described in **Chapter 12** included relevant cumulative schemes that would be reasonably expected to result in potential cumulative effects. These include Capital House (not started yet) and 153-159 Borough High Street (not started yet). Shard Place (Fielden House) is included in the baseline surrounds for wind microclimate assessments as the physical mass that affects wind is already completed for this development.
- 14.66. Comparison of the completed and operational development with baseline surrounds and the completed and operational development with baseline and cumulative schemes shows the same

strength and pattern of wind effects at every level analysed (see **Appendix 12-1**). Therefore, same as for the Development an insignificant effect on wind microclimate is expected.

- 14.67. Capital house is located 120° (from north) relative to the Development, which is a highly uncommon wind direction, perpendicular to the prevailing winds. 153-159 Borough High Street is upwind from the Development from 210°, which is a dominant wind direction, but is only 7 storeys high and 250m from the Development. Thus, it is to be expected that the choice between baseline and cumulative surrounds would not have an effect upon wind conditions on or around these cumulative sites.
- 14.1. In June 2019, further CFD studies were performed to include further additional cumulative schemes. These are as follows:
- Snowsfield / Bermondsey Street site - ref. 19/AP/0404
 - Vinegar Yard - ref. 18/AP/4171
 - Beckett House, 60 St Thomas Street – ref. 18/AP/4136
 - 2-4 Melior Place – ref. 18/AP/3229
- 14.2. The further CFD studies were formed of 2 additional configurations:
- Configuration 6: The Site (as existing) with the baseline and original cumulative schemes, plus further cumulative schemes; and
 - Configuration 7: The completed and operational Development with landscaping and mitigation measures, with the baseline and original cumulative schemes, plus further cumulative schemes.
- 14.3. The results of these studies are shown in **Figures 14.2-14.7**.
- 14.4. Comparison of these figures with **Figures 12.5, 12.6, 12.7, 12.13, 12.14 and 12.15 of the December 2018 ES** shows that the effect of adding the additional cumulative schemes results in the same peak level wind conditions for all regions.
- 14.5. Furthermore, the effect of changing from the existing Site to the completed and operational Development (with landscaping and mitigation measures) has not been materially impacted by the inclusion of the additional cumulative schemes.
- 14.6. It can be concluded that the cumulative effects on wind microclimate are **insignificant**.

Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

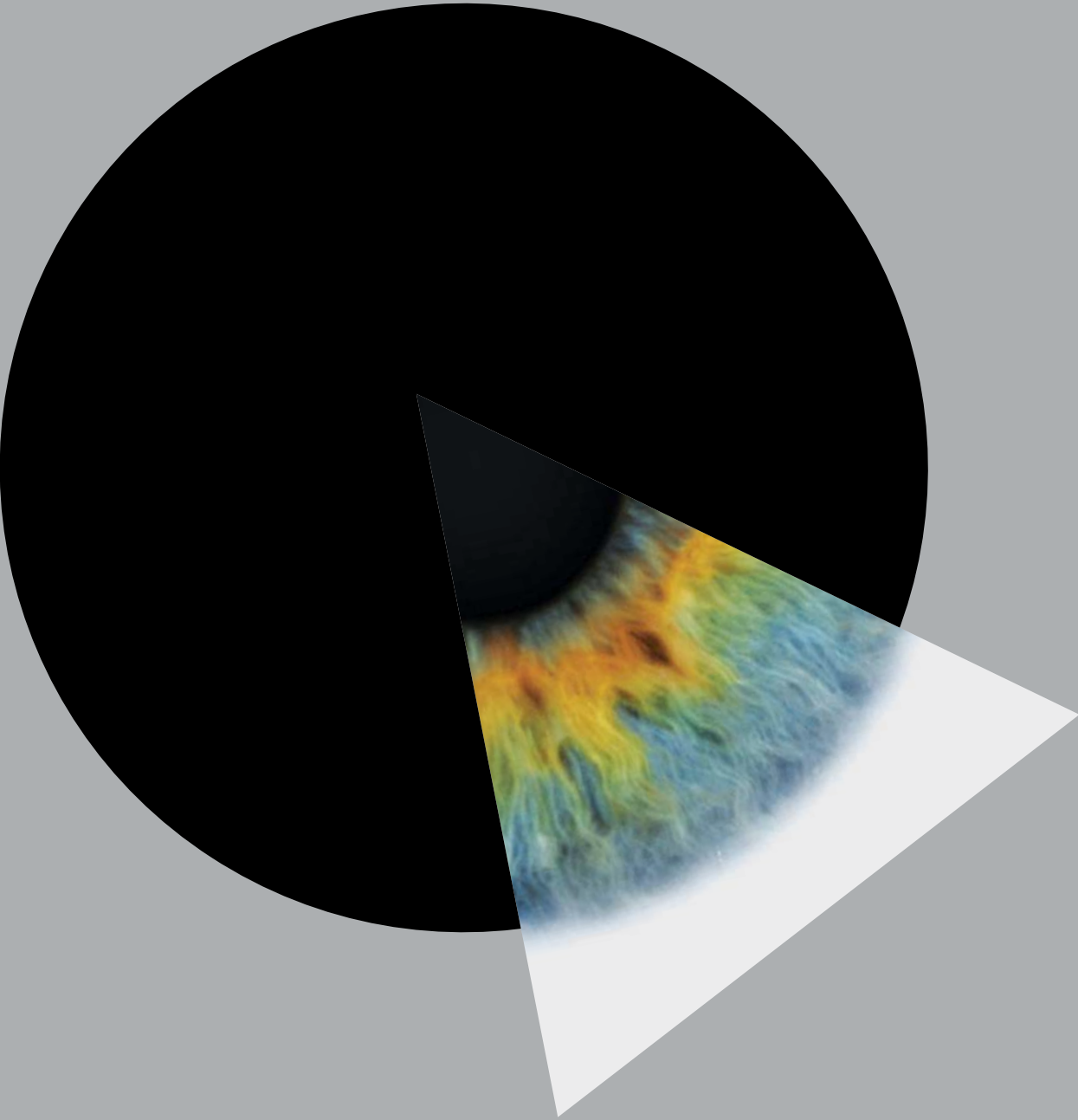
- 14.7. Shard Place (Fielden House) was included in the baseline assessment as reported within **Chapter 13: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution** as the physical mass that affects daylight, sunlight and overshadowing measures is already present. The other cumulative schemes are too distant from the Site to result in any cumulative daylight, sunlight, overshadowing effects, therefore a separate cumulative effects assessment has not been undertaken.

Townscape, Visual Impact and Built Heritage

- 14.8. The full cumulative assessment for townscape, visual and built heritage effects is provided in **Part 3: Townscape, Visual Impact and Built Heritage Assessment (TVIBHA)** of the December 2018

ES and **Appendix B: TVIBHA ES Addendum** of the June 2019 ES Clarification Document and ES Addendum and not reproduced within this chapter. This approach enables the reader to view the Accurate Visual Representations (AVRs) of the Development alongside the committed developments together with the resulting cumulative assessment. This approach also restricts this chapter from becoming overly long.

- 14.9. As for previous topics, Shard Place (Fielden House) was included in the baseline assessment as its physical mass was present in the AVRs.



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TVIBHA Addendum

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1 Introduction

1.1 In December 2018, GPE (St Thomas Street) Limited submitted a planning application for a new development ('the Development') at New City Court, including nos. 4-8, 12-16, 20 and 24-26 St Thomas Street, London, SE1, ('the Site'). Part 3 of the Environmental Statement (ES) submitted in support of the planning application (planning reference no. 18/AP/4039) comprised a Townscape, Visual Impact and Built Heritage Assessment (the 'December 2018 TVIBHA'), prepared by Peter Stewart Consultancy.

1.2 This Addendum to the December 2018 TVIBHA has been prepared by Peter Stewart Consultancy in response to a request from Southwark Council to include additional schemes in the cumulative assessment, following a review of the ES by its consultants. The Addendum considers the cumulative effects of the Development with significant recently submitted and permitted developments or developments that are on the point of submission at the time of writing. These additional cumulative developments have been identified by Southwark Council.

1.3 Whilst minor changes to the Development may be made in response to consultation or local authority requirements during the course of determination, no material changes have been made to date or are currently anticipated that would impact on our assessment. We will keep this under review in the event of any further changes.

1.4 This Addendum forms part of the December 2018 Environmental Statement for the Development and should be read in conjunction with the December 2018 TVIBHA.

Methodology

1.5 The methodology for the assessment is as set out in the December 2018 TVIBHA. As set out in paragraph 3.47 of that assessment, the approach to cumulative assessment is to focus on the additional effects of the Development on top of the cumulative 'future baseline' formed by consented/submitted schemes (i.e. as if the schemes were in place).

1.6 The Guidelines for Landscape and Visual Impact Assessment' (GLVIA) acknowledge this as one of two main assessment approaches which are acceptable. It is considered that this approach is best suited to an urban environment, in which the cumulative effects between the Development and other schemes can be complex (including situations in which the effect of the Development could be lessened or removed entirely by cumulative schemes) and because, as also acknowledged in the GLVIA, it may not be considered reasonable to assess the effect of many complex schemes other than the Development in the manner required by the alternative approach, known as the 'combined effects' approach.

1.7 The 'future baseline' considered in this Addendum comprises those cumulative schemes assessed in the December 2018 TVIBHA and the following additional cumulative schemes:

Scheme	Description	Status
Capital House, 42-46 Weston Street (18/AP/0900 Submitted:16 March 2018 Validated:18 April 2018 Approved: 14 May 2019)	Demolition of Capital House and the erection of a 39-storey building	Approved
2-4 Melior Place (18/AP/3229 Submitted: 25 September 2018 Validated: 4 October 2018).	Development of 6 storeys	Submitted
40 Bermondsey Street, 42-44 Bermondsey Street and 1-7 Snowfields (19/AP/0404 Submitted: 6 February 2019 Validated: 8 March 2019).	Development of up to 18 storeys	Submitted
Vinegar Yard (18/AP/4171 Submitted: 21 December 2018 Validated: 15 April 2019).	Development of up to 21 storeys	Submitted
Becket House, 60 St Thomas Street (18/AP/4136)	Scoping submitted for a 24-storey building	Pre-planning

Table 1-1: New cumulative schemes

Visual Impact Assessment

1.8 The December 2018 TVIBHA included an assessment of the visual impact of the Development from 67 viewpoints. This Addendum considers the effect of the Development under the revised cumulative condition on a subset of those viewpoints. Professional judgment has been used to determine this set, taking into account the visibility (or lack thereof) of the Development and the new cumulative schemes from the viewpoints identified in the December 2018 TVIBHA.

1.9 Where it was clear from inspection that the Development would be concealed from view in the 'as proposed' and 'as proposed with cumulative' views as previously submitted, or

that the new cumulative schemes would be out of shot in a given view, or where those schemes would be concealed from view by other buildings in the photo, it was determined that those views would not be included in the subset. Exceptions were made in the case of viewpoint locations of particular sensitivity, such as Montague Close.

1.10 This led to the selection of 43 viewpoints from which the visual impact of the Development would be assessed under the revised cumulative condition. These are identified in Table 1-2 below.

View	Description	View type
1	LVMF 1A.1 Alexandra Palace: the viewing terrace – south-western section	Wireline
2	LVMF 1A.2 Alexandra Palace: the viewing terrace – approaching from the north-eastern car park	Wireline
3	LVMF 2A.1 Parliament Hill: the summit – looking toward St Paul's Cathedral	Render
4	LVMF 2B.1 Parliament Hill: east of the summit – at the prominent oak tree	Render
5	LVMF 3A.1 Kenwood: the viewing gazebo – in front of the orientation board	Render
6	LVMF 4A.1 Primrose Hill: the summit – looking towards St Paul's Cathedral	Wireline
7	LVMF 5A.2 Greenwich Park: the General Wolfe statue – north-east of the statue	Wireline
8	LVMF 6A.1 Blackheath Point – near the orientation board	Wireline
9	LBS Borough View 1 North facing view from One Tree Hill	Wireline
10	LBS Borough View 2 St Paul's Cathedral from Nunhead Cemetery	Wireline
12	LVMF 10A.1 Tower Bridge: Upstream – The North Bastion	Render
13	St Katharine's Dock, at Girl with a Dolphin Fountain	Wireline
14	LVMF 12B.1 Southwark Bridge: downstream – close to the City of London bank	Wireline
15	Millennium Bridge (centre)	Wireline
18	LVMF 17B.1 Golden Jubilee/Hungerford Footbridges: downstream – crossing the Westminster bank	Wireline
19	LVMF 17B.2 Golden Jubilee/Hungerford Footbridges: downstream – close to the Westminster bank	Wireline
22	Victoria Embankment, opposite Temple Gardens	Wireline
24	London Bridge: upstream – at the City of London bank	Render
25	Old Billingsgate Walk	Render
26	Tower of London: Inner Curtain Wall Walkway	Render
27	Tower of London: Inner Ward, north of the White Tower	Render
29	Tower of London Local Setting Study View 8: The Royal Mint	Render
31	Tower Bridge Road / Queen Elizabeth Street	Wireline
32	Saint Mary Magdalen Churchyard	Wireline
33	Leathermarket Gardens	Wireline
34	Weston Street / Guy Street	Render
35	Tabard Gardens	Wireline

View	Description	View type
37	Southwark Bridge Road outside no.92	Wireline
38	Red Cross Garden (middle)	Wireline
41	Southwark Street / Southwark Bridge Road	Wireline
52	St Thomas Street, outside St. Thomas' Church	Render
53	Bedale Street / Borough Market	Render
54	Borough High Street / Bedale Street	Render
55	Cathedral Street / Winchester Walk	Wireline
56.2	Southwark Cathedral I north-west corner 1	Render
56.3	Southwark Cathedral I north-west corner 2	Render
56.6	Southwark Cathedral: Millennium Courtyard I Panorama	Render
57	London Bridge, outside Glazier's Hall	Render
58	Islington Local View 4: Farringdon Lane, near Ray Street Bridge	Render
59	Ray Street Bridge, corner with Farringdon Lane	Render
60	Islington Local View 3: Vine Street Bridge	Render
61	Islington Local View 1: Clerkenwell Road, bridge across Farringdon	Render
62	Trinity Church Square, south-west corner	Wireline

Table 1-2: The Views

- 1.11 For each viewpoint, the following views have been provided:

1. **View ‘as existing’**, showing the baseline conditions;

2. **View ‘as proposed’**, showing the Development in the image; and

3. **View ‘as proposed with updated cumulatives’**, showing the Development in the context of the updated cumulative condition, i.e. including the new cumulative schemes listed in Table 1-1.
- 1.12 Where the Development is shown in wireline form in the AVRs, it can be identified by the blue outline. Cumulative schemes assessed in the December 2018 TVIBHA are represented by an orange wireline outline. The new cumulative schemes under consideration are represented in wireline outline (dotted where obscured by intervening buildings) in different colours as follows:

Capital House, 42-46 Weston Street – purple wireline

2-4 Melior Place – green wireline

40 Bermondsey Street, 42-44 Bermondsey Street and 1-7 Snowsfields – magenta wireline

Vinegar Yard – turquoise wireline

Becket House, 60 St Thomas Street – yellow wireline
- 1.13 Technical details for the production of these verified view images can be found in Appendix 1 of this Addendum, which is provided by the project visualiser, Millerhare.

Townscape Assessment

- 1.14 The assessment of effect on the Townscape Character Areas (‘TCAs’) identified in the December 2018 TVIBHA (see page 5 and page 200 of this Addendum) is informed by the updated cumulative views provided in this Addendum.

Built Heritage Assessment

- 1.15 The assessment of effect on the Built Heritage Assets identified in the December 2018 TVIBHA is informed by the updated cumulative views provided in this Addendum.

Legislation and Planning Policy

- Town and Country Planning and Infrastructure Planning (EIA) (Amendment) Regulations 2018*

1.16 The 2018 Regulations are an amendment to the 2017 Regulations to make minor changes to correct drafting errors in the 2017 Regulations that were referenced in the December 2018 TVIBHA. This has no bearing on this assessment.

- The National Planning Policy Framework (2019)*

1.17 The National Planning Policy Framework (NPPF) was revised in February 2019. None of the changes applied are of relevance to this assessment.

- New Southwark Plan Proposed Submission Version: Amended Policies 2019*

1.18 The New Southwark Plan Proposed Submission Version: Amended Policies 2019 was published in January 2019.

- 1.19 The changes relevant to this assessment are as follows:

- 1.20 **Policy SP2** ‘Regeneration that works for all’ states that the Council will continue to revitalise its places and neighbourhoods to create new opportunities for residents, promote well-being and reduce inequalities. This will be achieved through, inter alia:

‘6. Enhancing local distinctiveness and heritage-led regeneration by requiring the highest possible standards of design, creating vibrant, attractive, healthy, safe and distinctive buildings and places that install pride of place in all our communities. This will include green infrastructure and opportunities for healthy activities and improving streets, squares and public places between buildings’.

- 1.21 **Policy P14** ‘Tall Buildings’ notes that areas where the Council expects tall buildings are set out on Map 1 (located on page 24 of the amended plan). The Site is located in one of these areas (Central Activities Zone). The policy states:

‘These are typically within our Major Town Centres, Opportunity Area Cores, Action Area Cores and the Central Activities Zone. The tallest buildings will be

located in areas that benefit from the highest levels of public transport accessibility and where there is the greatest opportunity for regeneration. Individual sites where taller buildings may be possible have been identified in the site allocations. Some of these site allocations have identified possible sites for tall buildings in Peckham and Camberwell town centres taking account of conservation areas and other heritage assets.’

- 1.22 The policy goes on to state that new tall buildings – now defined as ‘significantly higher than surrounding buildings or their emerging context’ (p.23) – must:

‘2. Not cause a harmful impact on strategic views, as set out in the London View Management Framework, or to our Borough Views; and

2.1 Make a positive contribution to the London skyline and landscape, taking into account the cumulative effect of existing tall buildings and emerging proposals for tall buildings; and

2.2 Respond positively to local character and townscape; and

2.3 Be of exemplary architectural design and residential quality; and

2.4 Be located at a point of townscape significance and have a height that is proportionate to the significance of the proposed location and the size of the site; and

2.5 Have a positive relationship with the public realm, provide opportunities for new street trees, and design lower floors to successfully relate to and create a positive pedestrian experience; and

The design of tall buildings will be required to:

2.6 Avoid unacceptable harm to the significance of designated heritage assets or their settings; and

Avoid harmful and uncomfortable environmental impacts including wind shear, overshadowing and solar glare;

2.7 Maximise energy efficiency and prioritise the use of sustainable materials; and

2.8 Have a positive relationship with the public realm, provide opportunities for new street trees, and design lower floors to successfully relate to and create a positive pedestrian experience; and

Proposals of above 30m must provide:

3.1 A new, functional public space that is appropriate to the height and size of the proposed building; and

3.2 Widened footways and routes to accommodate increased footfall;

3.2 Provide a new publically accessible space at or near to the top of the building and communal facilities for users and residents when above a height of 60m’.

- 1.23 **Policy P70** (new policy) ‘Local list’ states that new development

‘must take into account locally listed buildings and structures that positively contribute to local character and amenity’.

- 1.24 **Annex 4** ‘Borough Views’ has been amended so that the proposed view geometry is consistent with the approach taken in the London View Management Framework and to better protect the view of the entire length of St Paul’s Cathedral’s balustrade above the screen walls to the Nave and Chancel.

- Liberty of The Mint Conservation Area Appraisal (2018)*

1.25 The Liberty of The Mint Conservation Area Appraisal was published by Southwark Council in November 2018. After detailing the historic background of the area and its development, the document considers the character of the conservation area and its setting. It notes that the conservation area

‘contains a varied section of Southwark townscape broadly dating from the later 19th century. This consists of a mix of industrial, residential, educational, transport and historic, mixed-use buildings fronting onto Borough High Street’.

Baseline Conditions

- 1.26 The baseline conditions for the assessment have not altered and remain as set out in the December 2018 TVIBHA.

Cumulative Effects during the Works

Views

2.1 Taking into account the additional cumulative schemes, if demolition and construction of the cumulative schemes were to occur simultaneously with that of the Development, the significance of the effect on views would be the same as that set out in the December 2018 TVIBHA. The magnitude of change during the Works would range from **‘insignificant’** to **‘major’**. Taking into account the sensitivity of the views as set out under ‘Views and Visual Impact Assessment’ in the December 2018 TVIBHA (ranging from ‘low’ sensitivity to ‘high’ sensitivity), the significance of effect would range from **‘no effect’** to **‘major’** (the latter in the case of views close to the Site and from Montague Close). The effect would be **‘adverse’** or **‘neutral’**, and **‘short to medium term’** in all cases.

Townscape

2.2 Taking into account the additional cumulative schemes, if demolition and construction of the cumulative schemes were to occur simultaneously with that of the Development, the significance of the effect on townscape would be the same as that set out in the December 2018 TVIBHA. The magnitude of change during the Works would be **‘moderate to major’** for TCA 1, and no more than **‘minor to moderate’** for all other TCAs. Taking into account the sensitivity of the TCAs as set out in the baseline section of the December 2018 TVIBHA (ranging from ‘low to medium’ to ‘high’ sensitivity overall), the significance of effect would be **‘moderate to major’** for TCA 1, **‘moderate’** for TCA 5, and no more than **‘minor’** for all other TCAs. The effect would be **‘adverse’** or **‘neutral’**, and **‘short to medium term’** in all cases.

Built Heritage

2.3 In terms of built heritage, taking into account the additional cumulative schemes, the effects during the Works would remain as set out in the December 2018 TVIBHA. There will be adverse effects (both direct and indirect) but these will be temporary and necessary to deliver the scheme.

Cumulative Effects Once the Development is Complete and Occupied

Views

2.4 As noted in the previous chapter, the December 2018 TVIBHA included an assessment of the visual impact of the Development from 62 viewpoints. This Addendum considers the effect of the Development under the revised cumulative condition on a subset of those viewpoints. The effect on these views is illustrated on the following pages. This presents each view ‘as existing’ and ‘as proposed’, followed by the revised cumulative condition.

2.5 The new cumulative schemes under consideration are represented in wireline outline (dotted where obscured by intervening buildings) in different colours as follows:

- Capital House, 42-46 Weston Street – purple wireline
- 2-4 Melior Place – green wireline
- 40 Bermondsey Street, 42-44 Bermondsey Street and 1-7 Snowsfields – magenta wireline
- Vinegar Yard – turquoise wireline
- Becket House, 60 St Thomas Street – yellow wireline

2.6 The assessment of effect on these views under the revised cumulative condition follows the views images (see page 200 of this Addendum).

The Views



1 | LVMF 1A.1 | Alexandra Palace: the viewing terrace - south-western section



2 | LVMF 1A.2 | Alexandra Palace: the viewing terrace - approaching from the north-eastern car park



3 | LVMF 2A.1 | Parliament Hill: the summit - looking toward St Paul's Cathedral



3.1 | LVMF 2A.1 | Parliament Hill: the summit - looking toward St Paul's Cathedral | Telephoto



4 | LVMF 2B.1 | Parliament Hill: east of the summit - at the prominent oak tree



5 | LVMF 3A.1 | Kenwood: the viewing gazebo - in front of the orientation board



5.1 | LVMF 3A.1 | Kenwood: the viewing gazebo - in front of the orientation board | Telephoto



6 | LVMF 4A.1 | Primrose Hill: the summit - looking towards St Paul's Cathedral



7 | LVMF 5A.2 | Greenwich Park: the General Wolfe statue - north-east of the statue



8 | LVMF 6A.1 | Blackheath Point - near the orientation board



9 | LBS Borough View 1 | North facing view from One Tree Hill



9.1 | LBS Borough View 1 | North facing view from One Tree Hill | Telephoto



10 | LBS Borough View 2 | St Paul's Cathedral from Nunhead Cemetery



10.1 | LBS Borough View 2 | St Paul's Cathedral from Nunhead Cemetery | Telephoto



12 | LVMF 10A.1 | Tower Bridge: Upstream - The North Bastion



13 | St Katharine's Dock, at Girl with a Dolphin Fountain



14 | LVMF 12B.1 | Southwark Bridge: downstream - close to the City of London bank



15 | Millennium Bridge (centre)



18 | LVMF 17B.1 | Golden Jubilee/Hungerford Footbridges: downstream - crossing the Westminster bank



19 | LVMF 17B.2 | Golden Jubilee/Hungerford Footbridges: downstream - close to the Westminster bank



22 | Victoria Embankment, opposite Temple Gardens



24 | London Bridge: upstream - at the City of London bank



25 | Old Billingsgate Walk



26 | Tower of London: Inner Curtain Wall Walkway



27 | Tower of London: Inner Ward, north of the White Tower



29 | Tower of London Local Setting Study View 8: The Royal Mint



31 | Tower Bridge Road / Queen Elizabeth Street



32 | Saint Mary Magdalen Churchyard



33 | Leathermarket Gardens



34 | Weston Street / Guy Street



35 | Tabard Gardens



37 | Southwark Bridge Road outside no.92



38 | Red Cross Garden (middle)



41 | Southwark Street / Southwark Bridge Road



52 | St Thomas Street, outside St. Thomas' Church



53 | Bedale Street / Borough Market



54 | Borough High Street / Bedale Street



55 | Cathedral Street / Winchester Walk



56.2 | Southwark Cathedral | north-west corner 1



56.3 | Southwark Cathedral | north-west corner 2



56.6 | Southwark Cathedral: Millennium Courtyard | Panorama



57 | London Bridge, outside Glazier's Hall



58 | Islington Local View 4: Farringdon Lane, near Ray Street Bridge



59 | Ray Street Bridge, corner with Farringdon Lane



60 | Islington Local View 3: Vine Street Bridge



61 | Islington Local View 1: Clerkenwell Road, bridge across Farringdon



62 | Trinity Church Square, south-west corner

View	Description	MH Reference	Type	Method	Camera Location			Camera	Lens	HFOV		Photo date/time	Bearing	distance (km)
					Easting	Northing	Height			Photo	Image			
1	LVMF 1A.1 Alexandra Palace: the viewing terrace – south-western section	3090	AVR1	Verified	529611.2	189963.7	94.61	Canon EOS 5D Mark III DSLR	40mm	48.8	48.8	26/04/2018 18:15	162.4	10.3
2	LVMF 1A.2 Alexandra Palace: the viewing terrace – approaching from the north-eastern car park	0690	AVR1	Verified	529702.5	190064.6	94.00	Canon EOS 5D Mark III DSLR	35mm	54.4	54.4	02/03/2015 17:20	163.1	10.4
3	LVMF 2A.1 Parliament Hill: the summit – looking toward St Paul's Cathedral	3010	AVR3	Verified	527665.4	186131.5	98.10	Canon EOS 5D Mark II DSLR	40mm	48.6	48.6	22/06/2018 17:16	139.8	7.8
3.1	LVMF 2A.1 Parliament Hill: the summit – looking toward St Paul's Cathedral Telephoto	3020	AVR3	Verified	527665.4	186131.5	98.10	Canon EOS 5D Mark II DSLR	300mm	6.9	6.9	22/06/2018 17:25	139.8	7.8
4	LVMF 2B.1 Parliament Hill: east of the summit – at the prominent oak tree	3240	AVR3	Verified	528043.1	186154.5	71.61	Canon EOS 5D Mark II DSLR	40mm	48.6	48.6	06/08/2018 17:32	142.1	7.6
5	LVMF 3A.1 Kenwood: the viewing gazebo – in front of the orientation board	3300	AVR3	Verified	527270.1	187486.2	114.15	Canon EOS 5D Mark II DSLR	40mm	48.8	48.8	06/08/2018 18:35	143.4	9.1
5.1	LVMF 3A.1 Kenwood: the viewing gazebo – in front of the orientation board Telephoto	3310	AVR3	Verified	527270.1	187486.2	114.15	Canon EOS 5D Mark II DSLR	300mm	6.9	6.9	06/08/2018 18:39	143.4	9.1
6	LVMF 4A.1 Primrose Hill: the summit – looking towards St Paul's Cathedral	3000	AVR1	Verified	527657.3	183893.0	68.29	Canon EOS 5D Mark II DSLR	40mm	48.6	48.6	25/01/2018 15:43	126.5	6.3
7	LVMF 5A.2 Greenwich Park: the General Wolfe statue – north-east of the statue	0720	AVR1	Verified	538936.1	177334.5	48.80	Canon EOS 5D Mark III DSLR	35mm	54.3	54.3	24/02/2017 09:42	294.3	6.8
8	LVMF 6A.1 Blackheath Point – near the orientation board	4000	AVR1	Verified	538238.2	176823.1	47.61	Canon EOS 5D Mark II DSLR	70mm	28.0	28.0	13/06/2018 11:38	301.1	6.4
9	LBS Borough View 1 North facing view from One Tree Hill	3030	AVR1	Verified	535430.0	174189.3	91.88	Canon EOS 5D Mark II DSLR	24mm	73.7	73.1	16/01/2018 13:16	335.6	6.5
9.1	LBS Borough View 1 North facing view from One Tree Hill Telephoto	3040	AVR1	Verified	535430.1	174189.4	91.88	Canon EOS 5D Mark II DSLR	300mm	6.9	6.9	16/01/2018 13:08	335.6	6.5
10	LBS Borough View 2 St Paul's Cathedral from Nunhead Cemetery	3050	AVR1	Verified	535367.0	175378.2	60.99	na	na	73.5	73.2	na	331.0	5.5
10.1	LBS Borough View 2 St Paul's Cathedral from Nunhead Cemetery Telephoto	3060	AVR1	Verified	535367.1	175378.1	60.99	Canon EOS 5D Mark II DSLR	300mm	7.0	7.0	16/01/2018 10:27	331.0	5.5
12	LVMF 10A.1 Tower Bridge: Upstream – The North Bastion	0460	AVR3	Verified	533665.0	180311.4	14.82	Canon EOS 5D Mark III DSLR	24mm	74.2	73.2	06/04/2017 09:44	260.0	1.0
13	St Katharine's Dock, at Girl with a Dolphin Fountain	8800	AVR1	Verified	533790.0	180355.1	6.74	Canon EOS 5D Mark II DSLR	24mm	74.1	73.5	22/09/2017 09:16	258.9	1.1
14	LVMF 12B.1 Southwark Bridge: downstream – close to the City of London bank	0470	AVR1	Verified	532386.3	180647.1	13.93	Canon EOS 5D Mark III DSLR	24mm	74.3	73.2	03/04/2017 17:40	146.1	0.6
15	Millennium Bridge (centre)	2810	AVR1	Verified	532052.5	180687.5	15.32	Canon EOS 5D Mark II DSLR	24mm	74.2	73.2	28/11/2017 14:12	128.9	0.9
18	LVMF 17B.1 Golden Jubilee/Hungerford Footbridges: downstream – crossing the Westminster bank	0760	AVR1	Verified	530470.6	180325.7	13.58	Canon EOS 5D Mark III DSLR	24mm	74.3	73.1	07/03/2017 14:45	94.6	2.3
19	LVMF 17B.2 Golden Jubilee/Hungerford Footbridges: downstream – close to the Westminster bank	0770	AVR1	Verified	530521.7	180301.9	13.64	Canon EOS 5D Mark III DSLR	24mm	74.3	73.1	07/03/2017 15:12	94.0	2.2
22	Victoria Embankment, opposite Temple Gardens	0910	AVR1	Verified	531201.9	180798.4	6.26	Canon EOS 5D Mark II DSLR	24mm	73.2	73.2	10/08/2017 16:50	113.2	1.7
24	London Bridge: upstream – at the City of London bank	2600	AVR3	Verified	532815.3	180630.5	15.55	Canon EOS 5D Mark II DSLR	24mm	74.4	73.3	22/09/2017 08:24	190.8	0.5
25	Old Billingsgate Walk	1500	AVR3	Verified	533086.6	180586.9	7.16	Canon EOS 5D Mark II DSLR	24mm	74.1	73.4	22/09/2017 08:53	219.5	0.6
26	Tower of London: Inner Curtain Wall Walkway	3400	AVR3	Verified	533624.9	180474.1	13.59	Canon EOS 5D Mark II DSLR	24mm	73.6	73.3	07/08/2018 08:49	250.0	1.0
27	Tower of London: Inner Ward, north of the White Tower	3080	AVR3	Verified	533616.8	180591.8	13.32	Canon EOS 5D Mark II DSLR	24mm	73.4	73.1	12/12/2017 09:42	243.5	1.0
29	Tower of London Local Setting Study View 8: The Royal Mint	0930	AVR3	Verified	533794.8	180690.1	13.65	Canon EOS 5D Mark II DSLR	24mm	73.7	73.1	29/04/2017 08:02	243.1	1.2
31	Tower Bridge Road / Queen Elizabeth Street	5000	AVR1	Verified	533565.6	179960.8	7.52	Canon EOS 5D Mark II DSLR	24mm	74.3	73.3	22/09/2017 10:06	282.4	0.9
32	Saint Mary Magdalen Churchyard	5100	AVR1	Verified	533376.6	179401.8	6.46	Canon EOS 5D Mark II DSLR	24mm	74.3	73.8	22/09/2017 10:19	318.7	1.0
33	Leathermarket Gardens	1440	AVR1	Verified	533123.9	179691.5	4.72	Canon EOS 5D Mark II DSLR	24mm	73.9	73.4	22/09/2017 10:35	318.6	0.6
34	Weston Street / Guy Street	5300	AVR3	Verified	532967.2	179777.1	4.92	Canon EOS 5D Mark II DSLR	24mm	74.3	73.1	22/09/2017 10:58	326.5	0.4
35	Tabard Gardens	1420	AVR1	Verified	532675.1	179507.1	5.64	Canon EOS 5D Mark II DSLR	24mm	74.0	73.5	22/09/2017 11:21	4.3	0.6
37	Southwark Bridge Road outside no.92	2820	AVR1	Verified	532171.1	179917.9	5.81	Canon EOS 5D Mark II DSLR	24mm	74.1	73.1	28/11/2017 13:32	67.5	0.6
38	Red Cross Garden (middle)	2830	AVR1	Verified	532339.5	179952.2	5.93	Canon EOS 5D Mark II DSLR	24mm	74.2	73.2	28/11/2017 13:06	63.2	0.4
41	Southwark Street / Southwark Bridge Road	2100	AVR1	Verified	532253.7	180156.7	5.48	Canon EOS 5D Mark II DSLR	24mm	73.8	73.1	24/09/2017 15:38	91.3	0.5
52	St Thomas Street, outside St. Thomas' Church	2400	AVR3	Verified	532755.2	180177.4	6.28	Canon EOS 5D Mark II DSLR	24mm	73.7	73.0	03/10/2017 09:07	225.7	0.0
53	Bedale Street / Borough Market	1900	AVR3	Verified	532674.1	180218.1	7.29	Canon EOS 5D Mark II DSLR	24mm	53.4	52.6	24/09/2017 16:02	145.8	0.1
54	Borough High Street / Bedale Street	2000	AVR3	Verified	532689.4	180212.9	7.14	Canon EOS 5D Mark II DSLR	24mm	75.1	73.3	24/09/2017 16:09	153.3	0.1
55	Cathedral Street / Winchester Walk	2500	AVR1	Verified	532629.3	180310.1	6.33	Canon EOS 5D Mark II DSLR	24mm	73.6	73.2	28/09/2017 16:42	150.3	0.2
56.2	Southwark Cathedral north-west corner 1	2520	AVR3	Verified	532656.5	180371.3	6.09	Canon EOS 5D Mark II DSLR	24mm	73.4	73.0	28/09/2017 16:54	163.6	0.2
56.3	Southwark Cathedral north-west corner 2	2530	AVR3	Verified	532662.2	180376.0	6.23	Canon EOS 5D Mark II DSLR	24mm	73.4	73.1	28/09/2017 17:24	165.2	0.2
56.6	Southwark Cathedral: Millennium Courtyard Panorama	3600	AVR3	Estimated	532687.4	180351.8	6.29	na	na	65.0	65.0	na	170.2	0.2
57	London Bridge, outside Glazier's Hall	2700	AVR3	Verified	532766.0	180376.0	14.01	Canon EOS 5D Mark II DSLR	24mm	73.7	73.1	22/09/2017 08:15	190.6	0.2
58	Islington Local View 4: Farringdon Lane, near Ray Street Bridge	1360	AVR3	Verified	531366.6	182194.2	14.77	Canon EOS 5D Mark II DSLR	24mm	73.3	72.6	06/10/2017 16:22	146.5	2.5
59	Ray Street Bridge, corner with Farringdon Lane	1340	AVR3	Verified	531386.0	182169.6	13.99	Canon EOS 5D Mark II DSLR	24mm	73.3	73.0	06/10/2017 16:15	146.5	2.4
60	Islington Local View 3: Vine Street Bridge	1320	AVR3	Verified	531436.8	182093.3	15.00	Canon EOS 5D Mark II DSLR	24mm	73.6	72.9	06/10/2017 16:37	146.6	2.3
61	Islington Local View 1: Clerkenwell Road, bridge across Farringdon	1300	AVR3	Verified	531451.4	182072.7	15.54	Canon EOS 5D Mark II DSLR	24mm	73.5	73.0	06/10/2017 16:00	146.6	2.3
62	Trinity Church Square, south-west corner	5340	AVR3	Verified	532356.8	179453.8	6.07	Canon EOS 5D Mark II DSLR	24mm	74.1	73.2	20/02/2018 14:34	27.9	0.8



[View location map](#)



Existing

3462_3091





3462_3095

Proposed



LVMF 1A.1 | Alexandra Palace: the viewing terrace - south-western section



Updated cumulative



Existing



3462_0691

Appendices (continued)

AVR 1 – Outline



Example of AVR 1 confirming degree of visibility (in this case as an occluded 'wire-line' image)

- A5.14

The purpose of a wire-line view is to accurately indicate the location and degree of visibility of the Proposed Development in the context of the existing condition and potentially in the context of other proposed schemes.
- A5.15

In AVR1 representation each scheme is represented by a single line profile, sometimes with key edges lines to help understand the massing. The width of the profile line is selected to ensure that the diagram is clear, and is always drawn inside the true profile. The colour of the line is selected to contrast with the background. Different coloured lines may be used in order to distinguish between proposed and consented status, or between different schemes.
- A5.16

Where more than one scheme is represented in outline form the outlines will obscure each other as if the schemes were opaque. Trees or other foliage will not obscure the outline of schemes behind them. This is because the transparency of trees varies with the seasons, and the practical difficulties of representing a solid line behind a filigree of branches. Elements of a temporary nature (e.g. cars, tower cranes, people) will similarly not obscure the outlines.
- Framing the view

A5.17

Typically AVRs are composed with the camera looking horizontally i.e. with a horizontal Optical Axis. This is in order to avoid converging verticals which, although perspectively correct, appear to many viewers as unnatural in print form. The camera is levelled using mechanical levelling devices to ensure the verticality of the Picture Plane, being the plane on to which the image is projected; the film in the case of large format photography or the CCD in the case of digital photography.
- A5.18

For a typical townscape view, a Landscape camera format is usually the most appropriate, giving the maximum horizontal angle of view. Vertical rise may be used in order to reduce

the proportion of immediate foreground visible in the photograph. Horizontal shift will not be used. Where the prospect is framed by existing buildings, portrait format photographs may be used if this will result in the proposal being wholly visible in the AVR, and will not entirely exclude any relevant existing buildings.

- A5.19

Where the Proposed Development would extend off the top of the photograph, the image may be extended vertically to ensure that the full height of the Proposed Development is shown. Typically images will be extended only where this can be achieved by the addition of sky and no built structures are amended. Where it is necessary to extend built elements of the view, the method used to check the accuracy of this will be noted in the text.

Documenting the AVR

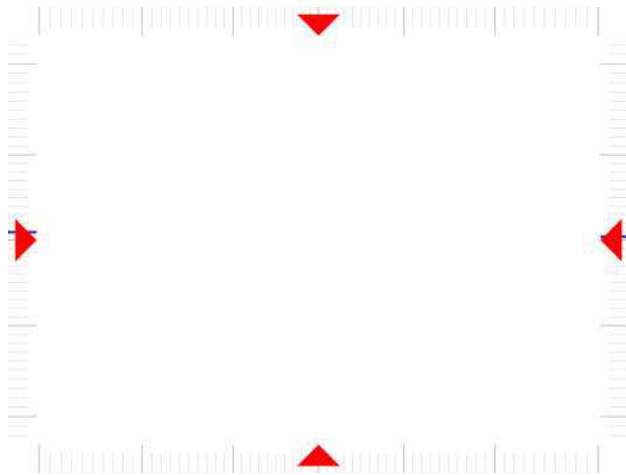
Border annotation

- A5.20

A Millerhare AVR image has an annotated border or 'graticule' which indicates the field of view, the optical axis and the horizon line. This annotation helps the user to understand the characteristics of the lens used for the source photograph, whether the photographer applied tilt, vertical rise or horizontal shift during the taking of the shot and if the final image has been cropped on one or more sides.
- A5.21

The four red arrows mark the horizontal and vertical location of the 'optical axis'. The optical axis is a line passing through the eye point normal to the projection plane. In photography this line passes through the centre of the lens, assuming that the film plane has not been tilted relative to the lens mount. In computer rendering it is the viewing vector, i.e the line from the eye point to the target point.
- A5.22

If the point indicated by these marks lies above or below the centre of the image, this indicates either that vertical rise was used when taking the photograph or that the image has subsequently been cropped from the top or bottom edge. If it lies to the left or right of the centre of the image then cropping has been applied to one side or the other, or more unusually that horizontal shift was applied to the photograph.

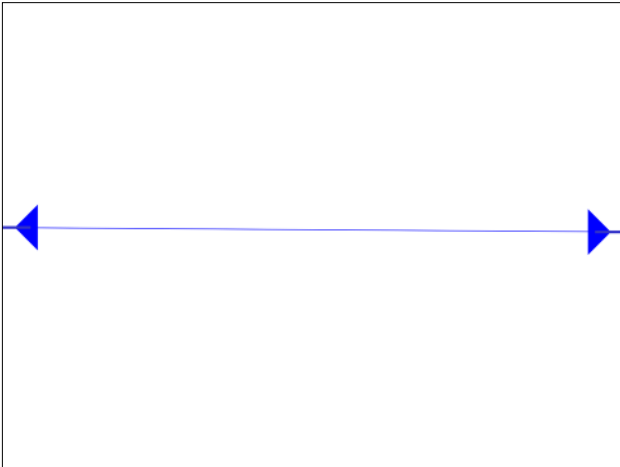


Sample graticule showing optical axis markers

- A5.23

The vertical and horizontal field of view of the final image is declared using a graticule consisting of thick lines at ten degree increments and intermediate lines every degree, measured away from the optical axis. Using this graticule it is possible to read off the resultant horizontal and vertical field of view, and thereby to compare the image with others taken using specific lens and camera combinations. Alternatively it can be used to apply precise crops during subsequent analysis.
- A5.24

The blue marks on the left and right indicate the calculated location of the horizon line i.e. a plane running horizontally from the location of the camera. Where this line is above or below the optical axis, this indicates that the camera has been tilted; where it is not parallel with the horizontal marking of the optical axis, this indicates that the camera was not exactly horizontal, i.e. that "roll" is present. Note that a small amount of tilt and roll is nearly always present in a photograph, due to the practical limitations of the levelling devices used to align the camera in the field.



Sample graticule showing horizon line markers

Comparing AVRs with different FOVs

- A5.25

A key benefit of the index markings is that it becomes practical to crop out a rectangle in order to simulate the effect of an image with a narrower field of view. In order to understand the effect of using a longer lens it is simply necessary to cover up portions of the images using the graticule as a guide.

Appendices (continued)

A6 Methodology for the production of Accurate Visual Representations

Overview of Methodology

- A6.1

The study was carried out by Millerhare (the Visualiser) by combining computer generated images of the Proposed Development with either large format photographs or with rendered images from a context model at key strategic locations around the site as agreed with the project team. Surveying was executed by Absolute Survey (the Surveyor).
- A6.2

The methodology employed by Millerhare is compliant with Appendix C of the London View Management Framework: Supplementary Planning Guidance (March 2012) and Landscape Institute Advice Note 01/11.
- A6.3

The project team defined a series of locations in London where the proposed buildings might have a significant visual effect. At each of these locations Millerhare carried out a preliminary study to identify specific Assessment Points from which a representative and informative view could be taken. Once the exact location had been agreed by the project team, a photograph was taken which formed the basis of the study. The precise location of the camera was established by the Surveyor using a combination of differential GPS techniques and conventional observations.
- A6.4

For views where a photographic context was to be used additional surveying was carried out. A number of features on existing structures visible from the camera location were surveyed. Using these points, Millerhare has determined the appropriate parameters to permit a view of the computer model to be generated which exactly overlays the appropriate photograph. Each photograph has then been divided into foreground and background elements to determine which parts of the current context should be shown in front of the Proposed Development and which behind. When combined with the computer-generated image these give an accurate impression of the impact of the Proposed Development on the selected view in terms of scale, location and use of materials (AVR Level 3).
- Spatial framework and reference database
- A6.5

All data was assembled into a consistent spatial framework, expressed in a grid coordinate system with a local plan origin. The vertical datum of this framework is equivalent to Ordnance Survey (OS) Newlyn Datum.
- A6.6

By using a transformation between this framework and the OSGB36 (National Grid) reference framework, Millerhare have been able to use other data sets (such as OS land line maps and ortho-corrected aerial photography) to test and document the resulting photomontages.
- A6.7

In addition, surveyed observation points and line work from Millerhare’s London Model database are used in conjunction with new data in order to ensure consistency and reliability.

- A6.8

The models used to represent consented schemes have been assembled from a variety of sources. Some have been supplied by the original project team, the remainder have been built by Millerhare from available drawings, generally paper copies of the submitted planning application. While these models have not been checked for detailed accuracy by the relevant architects, Millerhare has used its best endeavours to ensure that the models are positioned accurately both in plan and in overall height.
- Process – photographic context
- Reconnaissance
- A6.9

At each Study Location the Visualiser conducted a photographic reconnaissance to identify potential Assessment Points. From each candidate position, a digital photograph was taken looking in the direction of the Proposed Development using a wide angle lens. Its position was noted with field observations onto an OS map and recorded by a second digital photograph looking at a marker placed at the Assessment Point.
- A6.10

In the situation where, in order to allow the appreciation of the wider setting of the proposal, the assessor requires more context than is practical to capture using a wide angle lens, multiple photographs may be combined to create a panorama, typically as a diptych or triptych. This will be prepared by treating each panel as a separate AVR and then combining in to a single panorama as a final process.
- A6.11

The Visualiser assigned a unique reference to each Assessment Point and Photograph.
- Final Photography
- A6.12

From each selected Assessment Point a series of large format photographs were taken with a camera height of approximately 1.6m. The camera, lens, format and direction of view are determined in accordance with the policies set out above.
- A6.13

Where a panoramic view is specified the camera/tripod head is rotated through increments of 40 degrees to add additional panels to the left and/or right of the main view.
- A6.14

The centre point of the tripod was marked and a digital photograph showing the camera and tripod in situ was taken to allow the Surveyor to return to its location. Measurements and field notes were also taken to record the camera location, lens used, target point and time of day.
- Surveying the Assessment Points
- A6.15

For each selected Assessment Point a survey brief was prepared, consisting of the Assessment Point study sheet and a marked up photograph indicating alignment points to be surveyed. Care was taken to ensure that a good spread of alignment points was selected, including points close to the camera and close to the target.

- A6.16

Using differential GPS techniques the Surveyor established the location of at least two intervisible stations in the vicinity of the camera location. A photograph of the GPS antenna in situ was taken as confirmation of the position.
- A6.17

From these local survey stations, the requested alignment points were surveyed using conventional observation.
- A6.18

The resulting survey points were amalgamated into a single data set by the Surveyor. This data set was supplied as a spreadsheet with a set of coordinates transformed and re-projected into OSGB36 (National Grid) coordinates, and with additional interpreted lines to improve the clarity of the surveyed data.
- A6.19

From the point set, the Visualiser created a three dimensional alignment model in the visualisation system by placing inverted cones at each surveyed point.
- Photo preparation
- A6.20

From the set of photographs taken from each Assessment Point, one single photograph was selected for use in the study. This choice was made on the combination of sharpness, exposure and appropriate lighting.
- A6.21

The selected photograph was copied into a template image file of predetermined dimensions. The resulting image was then examined and any artefacts related to the digital image capture process were rectified.
- A6.22

Where vertical rise has been used the image is analysed and compensation is applied to ensure that the centre of the image corresponds to the location of the camera’s optical axis.
- Calculating the photographic alignment
- A6.23

A preliminary view definition was created within the visualisation system using the surveyed camera location, recorded target point and FOV based on the camera and lens combination selected for the shot.
- A6.24

A lower resolution version of the annotated photograph was attached as a background to this view, to assist the operator to interpret on-screen displays of the alignment model and other relevant datasets.
- A6.25

Using this preliminary view definition, a rendering was created of the alignment model at a resolution to match the scanned photograph. This was overlaid onto the background image to compare the image created by the actual camera and its computer equivalent. Based on the results of this process adjustments were made to the camera definition. When using a wide angle lens observations outside the circle of distortion are given less weighting.
- A6.26

This process was iterated until a match had been achieved between the photograph and alignment model. At this stage, a second member of staff verified the judgements made. An A3 print was made of the resulting photograph overlaid with the

alignment model as a record of the match. This was annotated to show the extents of the final views to be used in the study.



Example of alignment model overlaid on the photograph

Preparing models of the Proposed Development

- A6.27

A CAD model of the Proposed Development was supplied by the Architect. The level of detail applied to the model is appropriate to the AVR type of the final images.
- A6.28

Models of the Proposed Development and other schemes are located within the spatial framework using reference information supplied by the Architect or, when not available, by best fit to other data from the spatial framework reference database . Study renders of the model are supplied back to the Architect for confirmation of the form and the overall height of the Proposed Development. The method used to locate each model is recorded. Each distinct model is assigned a unique reference code by the Visualiser.
- Determining occlusion and creating simple renderings
- A6.29

A further rendering was created using the aligned camera, which combined the Proposed Development with a computer-generated context. This was used to assist the operator to determine which parts of the source image should appear in front of the Proposed Development and which behind it. Using this image and additional site photography for information, the source file is divided into layers representing foreground and background elements.
- A6.30

In cases where the Proposed Development is to be represented in silhouette or massing form (AVR1 or AVR2), final renderings of an accurate massing model were generated and inserted into the background image file between the foreground and background layers.
- A6.31

Final graphical treatments were applied to the resulting image as agreed with the Architect and environmental and planning consultants. These included the application of coloured outlines to clarify the reading of the images or the addition of tones to indicate occluded areas.
- Creating more sophisticated renderings
- A6.32

Where more sophisticated representations of the Proposed Developments were required (AVR3) the initial model is

Appendices (continued)

developed to show the building envelope in greater detail. In addition, definitions were applied to the model to illustrate transparency, indicative material properties and inter-reflection with the surrounding buildings.

A6.33 For each final view, lighting was set in the visualisation system to match the theoretical sunlight conditions at the time the source photograph was taken, and additional model lighting placed as required to best approximate the recorded lighting conditions and the representation of its proposed materials.

A6.34 By creating high resolution renderings of the detailed model, using the calculated camera specification and approximated lighting scenario, the operator prepared an image of the building that was indicative of its likely appearance when viewed under the conditions of the study photograph. This rendering was combined with the background and foreground components of the source image to create the final study images.

A6.35 A single CAD model of the Proposed Development has been used for all distant and local views, in which the architectural detail is therefore consistently shown. Similarly a single palette of materials has been applied. In each case the sun angles used for each view are transferred directly from the photography records.

A6.36 Material definitions have been applied to the models assembled as described. The definitions of these materials have been informed by technical notes on the planning drawings and other available visual material, primarily renderings created by others. These resulting models have then been rendered using the lighting conditions of the photographs.

A6.37 Where the Proposed Development is shown at night-time, the lightness of the scheme and the treatment of the materials was the best judgment of the visualiser as to the likely appearance of the scheme given the intended lighting strategy and the ambient lighting conditions in the background photograph.

A6.38 Where a panoramic view is specified each panel is prepared by treating each photograph as an individual AVR following the process described in the previous paragraphs. The panels are then arranged side by side to construct the panorama. Vertical dividers are added to mark the edge of each panel in order to make clear that the final image has been constructed from more than one photograph.

Documenting the study

A6.39 For each Assessment Point a CAD location plan was prepared, onto which a symbol was placed using the coordinates of the camera supplied by the Surveyor. Two images of this symbol were created cross-referencing background mapping supplied by Ordnance Survey.

A6.40 The final report on the Study Location was created which shows side by side, the existing and proposed prospect. These were supplemented by images of the location map, a record of the camera location and descriptive text. The AVR level is described.

A6.41 Peripheral annotation was added to the image to clearly indicate the final FOV used in the image, any tilt or rise, and whether any cropping has been applied.

A6.42 Any exceptions to the applied policies or deviations from the methodology were clearly described.

A6.43 Where appropriate, additional images were included in the study report, showing the Development in the context of other consented schemes.

Process – modelled context



Example of AVR using a modelled context

Reconnaissance

A6.44 At each Study Location the Visualiser conducted a photographic reconnaissance to identify potential Assessment Points. From each candidate position, a digital photograph was taken looking in the direction of the Proposed Development using a wide angle lens. Its position was noted with field observations onto an OS map and recorded by a second digital photograph looking at a marker placed at the Assessment Point.

A6.45 The Visualiser assigned a unique reference to each Assessment Point and Photograph.

Reference Photography

A6.46 From each selected Assessment Point a large format photograph was taken with a camera height of approximately 1.6m. The camera, lens, format and direction of view are determined in accordance with the policies set out above

A6.47 The centre point of the tripod was marked and a digital photograph showing the camera and tripod in situ was taken to allow the Surveyor to return to its location. Measurements

and field notes were also taken to record the camera location, lens used, target point and time of day.

Surveying the Assessment Points

A6.48 For each selected Assessment Point a survey brief was prepared consisting of the Assessment Point study sheet.

A6.49 Using differential GPS techniques the Surveyor established the location of at least two intervisible stations in the vicinity of the camera location. A photograph of the GPS antenna in situ was taken as confirmation of the position.

Creating the context model

A6.50 Three dimension model data from a variety of sources was assembled to determine the location of significant roofscape features (parapet edges, ridge lines, chimneys etc) and groundscape features (kerb and dock edges, walls etc).

A6.51 From this data an accurate roofscape model was prepared. For buildings close to the site fenestration detail was added to the model to aid in understanding the scale of the context. Indicative trees with estimated height and width were added to the model. Additional entourage (cars, buses, street furniture etc) was inserted in order to provide scale.

Creating the study model

A6.52 Using drawings and 3D models supplied by the Architects, an accurate massing model of the project was created showing all significant elements of the building that would affect that overall silhouette of the proposals. A palette of simple abstract materials is applied to the model. In general specific construction materials are not shown, except for glass which is used in order to indicate a degree of transparency where this affects the profile of the Development.

A6.53 Using data supplied by the Architects that defined the relationship of the building grid to the Ordnance Survey, the completed study model was located in the same geometric space as the context model, the survey and other reference data.

A6.54 Indicative trees with estimated height and width were added to the model. Additional entourage (cars, buses, street furniture etc) was inserted in order to provide scale.

Rendering and Post-production

A6.55 For each selected view, a virtual camera was created at the same location as the digital photograph and using a similar FOV and target. Renders of both the existing model and the proposal model were produced using lighting from a sun at an appropriate time of day. As the models are internally consistent the relationship of the Proposed Development to the context is exact.

Documenting the study

A6.56 For each Assessment Point a CAD location plan was prepared, onto which a symbol was placed using the coordinates of the camera supplied by the Surveyor. Two images of this symbol

were created cross-referencing background mapping supplied by Ordnance Survey.

A6.57 The final report on the Study Location was created which shows side by side, the existing and proposed prospect. These were supplemented by images of the location map, a record of the camera location and descriptive text. The AVR level is described.

A6.58 Peripheral annotation was added to the image to clearly indicate the final FOV used in the image, any tilt or rise, and whether any cropping has been applied.

A6.59 Any exceptions to the applied policies or deviations from the methodology were clearly described.

A6.60 Where appropriate, additional images were included in the study report, showing the Development in the context of other consented schemes.

References

- 1 Greater London Authority (2014), 'Sustainable Design and Construction - Supplementary Planning Guidance', Greater London Authority, London.

C. Updated ES Non-technical Summary

DRAFT

Appendices



New City Court

Environmental Statement Non-Technical Summary

August 2019

Waterman Infrastructure & Environment Ltd

Client Name: GPE (St Thomas Street) Limited
Document Reference: WIE11375_NTS_1.4.1
Project Number: WIE11375

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS OHSAS 18001:2007)

Issue	Date	Prepared by	Checked by	Approved by
First	30 November 2018	Jo Dickson	Peter Gardner	Jo Dickson
Second	3 December 2018	Jo Dickson	Peter Gardner	Jo Dickson
Third	August 2019	Ellen Smith	Ros Boalch	Ros Boalch



Comments

First: draft for team comment

Second: final version revised with team comments for final issue

Third: replacement document to address LUC Draft Review Report of the Environmental Statement

Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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Contents

1. Introduction

This Non-Technical Summary (NTS) of the Environmental Statement (ES) has been prepared by Waterman Infrastructure & Environment Ltd ('Waterman IE') on behalf of GPE (St Thomas Street) Limited ('the Applicant') in support of a full planning application and listed building consent application for the redevelopment of a site at 4-26 St. Thomas Street in the London Bridge area, to the south of the Thames (the 'Site') within the administrative boundary of Southwark Council.

The location, existing buildings and boundary of the Site is shown in **Figure 1**. The Site occupies an area of approximately 0.36 hectares and is bounded by St. Thomas Street to the north, shops on Borough High Street (A3) to the west; King's Head Yard to the south; and Guy's Hospital buildings to the east.

The redevelopment (hereafter referred to as 'the Development') would provide an office-led, mixed use scheme (including new retail, leisure and community floorspace) and significant, high quality public realm. The Development would involve the demolition of all existing buildings and structures within the Site with the exception of the Georgian listed terrace of townhouses which will undergo significant restoration. Keats House façade would be reconstructed 2.7m to the west on Site to provide a new standalone building.

An Environmental Impact Assessment (EIA) was undertaken by Waterman IE in December 2018 to assess the environmental effects of the Development. The EIA is reported in an ES (the December 2018 ES) which has been prepared to accompany the applications. The ES describes the likely significant environmental effects of the Development. This document forms part of the ES and provides a summary of the ES in non-technical language. Since submission of the December 2018 ES, post-submission comments have been made by Southwark Council and an independent review of the December 2018 ES has been undertaken by Land Use Consultants. As a result an ES Clarification and ES Addendum Document has been prepared, and a replacement NTS that supersedes the NTS submitted in December 2018.

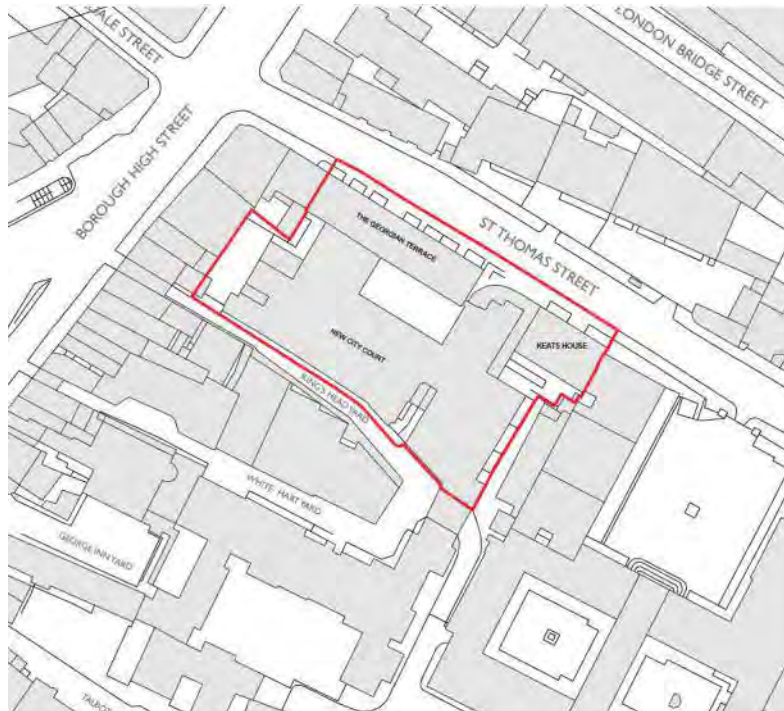


Figure 1 Existing Buildings and Red Line Planning Application Boundary.

2. The Existing Site and Surrounding Context

As shown in **Figure 2**, the Site comprises the following:

- Georgian terraced townhouses at Nos. 4, 6, 8, 12, 14 and 16 St. Thomas Street (No. 10 St. Thomas Street does not exist) which are grade II listed buildings (the 'Georgian Terrace');
- New City Court office building at No. 20 St. Thomas Street built in the 1980s; and
- Keats House at Nos. 24 to 26 St. Thomas Street, which was built in the 1980s with a retained 19th century façade fronting St. Thomas Street.

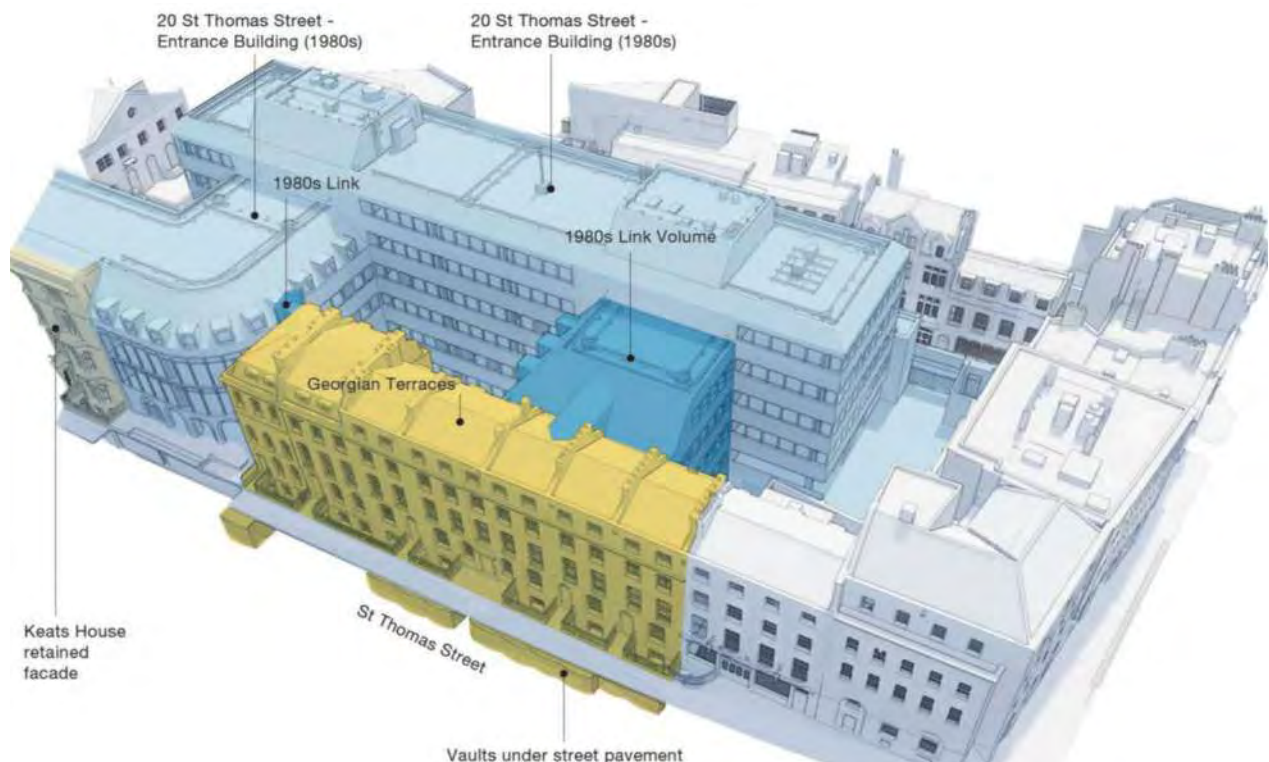


Figure 2 Existing Site Buildings. Source: AHMM

In addition to the above, there is also a central courtyard at lower ground level, which adjoins the rear of the Georgian Terrace, and a service area off King's Head Yard. There is no public open space on the Site, although a non-public pedestrian route runs through the Site from St. Thomas Street to King's Head Yard.

The Site is located in an area which has been in use by humans since the prehistoric period. The 11-14th centuries (later medieval period) saw the southern side of the Thames develop with many townhouses, churches and inns. The Site was part of St. Thomas' Hospital and was developed with backyards and outbuildings of properties lining the road. By the 18th century the Site was occupied by residential terraced buildings along the north-eastern boundary (the present Grade II listed buildings), a single building occupying the western and southern boundary and a dis-used graveyard situated in the south-east of the Site. The Site was relatively unaffected by bombing during the Second World War, with the majority of the area listed as receiving minor blast damage. The current layout was built in the 1980s which remains to the present time.

A London Underground Limited (LUL) railway tunnel runs beneath the north-western corner of the Site.

There is a mix of land uses surrounding the Site (see **Figure 3**). These are made up of residential, retail, office, hospital, and public transport infrastructure. In particular, the larger area of the Site is bounded by:

- Commercial properties located to the north, south-east and west of the Site, including shops, restaurants, office, hotels, public houses (including The Old King's Head), banks, museums and post offices;
- Residential properties including those situated on St. Thomas Street, King's Head Yard, White Hart Yard and Borough High Street; and
- King's College University facilities, including Guy's Campus, which comprises Guy's Hospital, student centre and student accommodation, as well as a library, IT suite, and auditoriums to the south and east of the Site.

The Shard, which is a mixed-use building, is located approximately 60m to the east of the Site and includes retail, offices, hotel, apartments, restaurants and a public viewing gallery. It is a destination for tourists. Other tourist attractions in the area include Borough Market, Shakespeare's Globe theatre, Hayes Galleria and Tate Modern. Southwark Cathedral is located to the west of the Site beyond Borough High Street. The Old Operating Theatre Museum and Herb Garret is located on the opposite side of St. Thomas Street to the Site.

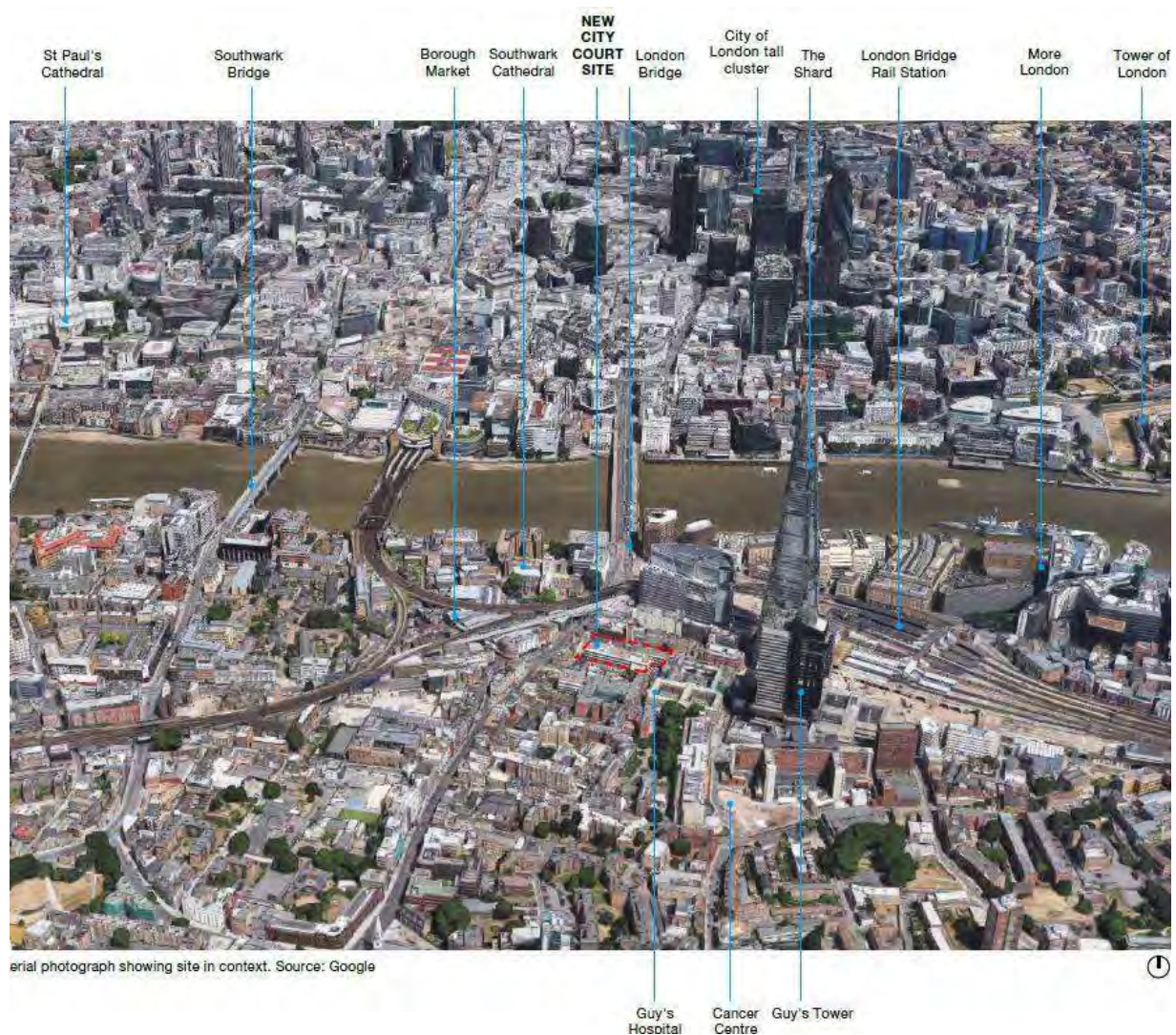


Figure 3 Aerial Photograph Showing the Site in Context of Surrounding Land Uses. Source: AHMM

3. What are the Proposals?

The detailed planning and listed building consent applications seek approval for the redevelopment of the Site for office, retail and leisure uses. Existing buildings would either be demolished (20 St. Thomas Street), restored and refurbished (the Georgian Terrace) or relocated and redeveloped (Keats House, the façade of which will be retained).

The Development would provide:

- demolition of the existing 1980s buildings and alterations;
- delivery of a 37-storey building (including ground, mezzanine and two storeys of plant at roof level) extending to 144m Above Ordnance Datum (AOD), providing high quality office and retail floorspace ('the Tower');
- introduction of retail floorspace at ground, lower ground and first floor level providing an enhanced retail offer for the local area and provision of active frontages along St. Thomas Street;
- provision of 1,067 sqm of affordable workspace on upper floors of the Georgian Terrace and 181 sqm of affordable retail at ground floor/lower ground floor level of the Georgian Terrace;
- provision of hub space at 21st and 22nd floor level of the Tower providing auditorium and exhibition space for both office and wider commercial use;
- sympathetic restoration of listed buildings along St. Thomas Street;
- reconstruction of Keats House as a standalone building with retention of the existing façade;
- delivery of high quality and fully accessible public realm, providing enhanced connectivity through new public routes and a public square;
- delivery of an elevated double height public garden at fifth and sixth floor level of the Tower with a complementary café/restaurant area;
- creation of a new entrance to London Bridge Underground Station; and
- improved servicing strategy to maximise servicing options.

As shown in **Figure 4 and 5**, there would be three buildings comprising the Development: The Tower (at 37 storeys), the Georgian Terrace and Keats House (both four storeys). As well as new pedestrian entrances to the Site would also be created: one off St. Thomas Street, one off King's Head Yard and one to the east of New City Court and entrances to retail units in the Georgian Terrace off the New Yard.



Figure 4 Aerial view of buildings and public realm areas. Source: MRG Studio



Figure 5 Elevation Drawing of New City Court Looking South from St. Thomas Street. Source: MRG Studio

The façade of Keats House would be carefully deconstructed, stored and reconstructed 2.7m to the west to enable a service route to be created off St. Thomas Street. There would be a new loading bay outside Keats House on St. Thomas Street. The Georgian Terrace would be retained and refurbished for retail and office use.

The Tower would provide 29 storeys of office space, with a double height ground floor. Retail uses would be on ground, lower ground and first floor levels as well as the fifth and sixth floors of the Tower. There would be a hub on the 21st and 22nd floors of the Tower, including an auditorium, which would be used for presentations and meetings. A gym would be located on Level B1. Plant would be located on the 34th and 35th floors as well as being on the lower basement Level B2.

A double basement is proposed across the Site. Basement Level 1 would include showers, cycle parking and the gym (beneath the Tower), retail and storage (beneath the Georgian Terrace) and building management offices (beneath Keats House). At Basement Level 2, there would be storage, plant and the service yard (beneath the Tower), plant (beneath the Georgian Terrace) and the bin holding zone and plant (beneath Keats House). Vehicle lifts, accessed off White Hart Yard, would enable access to the service yard at basement Level B2.

Figures 6-11 are artists impressions of how the scheme would look.



Figure 6 Artist's Impression of The Development Looking East from Proposed Exit from London Bridge Underground Station. Georgian Terrace on Left, Tower Straight Ahead and King's Head Yard to the Right. Source: AHMM



Figure 7 Artist's Impression of The Development Looking South from the Georgian Terrace to King's Head Yard. Source: AHMM



Figure 8 Artist's Impression of The Development Looking East Along King's Head Yard. Source: AHMM



Figure 9 Artist's impression of Keats House Relocated and Rebuilt (with Original Façade) to be a Standalone Building. Source: AHMM



Figure 10 Artist's Impression of The Development Looking South East from St. Thomas Street with Relocated Keats House and Level 5 Public Gardens Visible Above the Refurbished Georgian Terrace. Source: AHMM



Figure 11 Artist's Impression of The Development from Southwark Street in Context of Surrounding Buildings. Source: AHMM

There are two areas of public realm proposed, totalling 2,021 sqm:

- One at ground level, surrounding the three buildings and providing connectivity between St. Thomas Street, White Hart Yard and Borough High Street. It is intended to be fully accessible and used by both the office tenants and the wider general public. The ground level public realm (see Figure 12) is split into five areas: Main Courtyard (664 sqm), New Yard (181 sqm), St. Thomas Street Entrance (239 sqm), East Courtyard (149 sqm), East Passage (72 sqm).
- An elevated garden on Level 5 and 6 of the Tower which will provide 640sqm of double height temperature controlled enclosed area accessible to the public during working hours. There is also a 76 sqm external terrace garden at this level of the Tower.



Figure 12 Plan of Public Realm Areas on Ground Level and Level 5 of the Tower. Source: MRG Studio

There would also be a terrace on Level 34 of the Tower, but this would be for use by the office workers.

Deliveries and servicing carried out by cars and small vans would utilise White Hart Yard to access the vehicle lifts to the service yard (where three loading bays are proposed) on basement Level B2. By using White Hart Yard as a primary service route, traffic can be alleviated on King's Head Yard, making it more pedestrian friendly and accessible.

The movement of Keats House to the west allows the creation of a new controlled service route to the east, including convenient access to a new bin store for the collection of refuse. The creation of a broader pavement via loading and parking bays elevated to a shared surface type, would make St. Thomas Street feel less congested and pedestrian friendly, while a new loading bay adjacent to Keats House would allow more convenient deliveries from the new loading bay on St. Thomas Street.

No car parking is proposed, with the exception of 2 spaces for disabled users. Cycle parking would be in accordance with planning standards and would comprise 1,310 cycle spaces as well as 70 showers and 447 lockers across the three buildings.

The ground floor external spaces would be planted with medium and tall trees to enhance biodiversity and microclimatic conditions on the Site. There would be use of native trees of local habitats where appropriate as well as the use of ornamental non-native species. The planting selection would include plants historically used for medicinal purposes at Guy's Hospital. Typically, rainwater attenuation would be integrated into soil and an attenuation layer under permeable paving at ground level.

The elevated garden would be filled with tropical and subtropical planting inspired by habitats found in Asia and East Africa today (see **Figure 13**). The external terraces will be planted with temperate and

hardy subtropical plants. Natural paving and natural stone cladding on raised planters is proposed on these terraces.



Figure 13 Artist's Impression of a Section through the Internal Gardens on Level 5/6 of the Tower.
Source: MRG Studio

Bird boxes would be included within the Development to encourage the local bird population to nest, including house sparrows, swifts and starlings.

The waste and foul water, including sewage, from the Development would be discharged to the existing public sewers. In order to reduce the surface water discharge rate to greenfield rate (5 litres per second (l/s)), some storage would be required on Site in voids. These voids would be located below ground level and also on the 34th floor of the Tower, below the plant and photovoltaic cells. Both systems would allow gravity discharge to the sewers in St. Thomas Street and King's Head Yard.

The Development has been designed to ensure that it is accessible to all. Design features would include raising the ground level of the Site and creating level entrances into the rear of the Georgian Terrace as well as removing the stepped entrance into the rebuilt Keats House façade to enable level access into the reception / office areas via lift.

The Development has also been designed to be an energy efficient as possible. Key features include:

- south facing staircases incorporate vents and shadow boxes to reduce overheating risk;
- high efficient LED lighting and occupancy sensors and daylight control sensors;
- a good level of insulation on the new building fabric and where possible also on the refurbished exposed walls and roof of the Georgian Terrace;
- openable fenestrations provided at every floor of Keats House and the Georgian Terrace to allow for the potential of natural ventilation during mid-season period;

- well insulated ductwork with very low losses in the heating/hot water system distribution and thermal insulation on solid elements of the new building fabric; and
- high efficiency mechanical ventilation with heat recovery systems will be provided for the office and retail spaces of the Tower and Keats House.

The estimated start date for demolition, deconstruction, refurbishment and construction ('the Works') is during the first quarter of 2022 and expected to finish in the fourth quarter of 2025 (a duration of approximately four years). The Works would include:

- Site set up and enabling works;
- demolition and Site clearance;
- piling;
- basement construction;
- construction of the superstructures;
- service installation and fit-out; and
- landscaping and external works.

Normal core working hours for the Works would be agreed with Southwark Council. They are anticipated to be as follows:

- 08:00 - 18:00 hours Monday to Friday;
- 08:00 - 14:00 hours Saturday; and
- No working on Sundays or Bank Holidays.

An outline Construction Management Plan (CMP) has been prepared and is submitted with the application. The CMP aims to identify the proposed phasing and construction methodology and addresses any potential issues during construction that the Appointed Contractor should consider when developing their specific Site Environmental Management Plan (SEMP). The SEMP will be issued to any demolition or construction contractors and in line with best practice on construction sites a range of environmental management controls would be implemented, for example for mitigating dust, noise and vibration.

4. Alternatives and Design Evolution

In line with the UK regulations which relate to EIA, the ES **Chapter 4 Alternatives and Design Evolution** provides a description of the main alternatives to the Development which were considered by the Applicant and a description of how the design of the Development evolved over time.

Guidance on the preparation of EIA suggests that it is good practice to consider 'alternative sites'. However, given the Applicant has owned the Site for ten years and due to policy objectives for the redevelopment of the Site, the Applicant has not considered alternative locations for the Development.

EIA guidance also suggests that the option of doing nothing (the 'No Development' scenario) is considered in an ES. The 'No Development' scenario would entail leaving the Site in its current state. Much of the Site is not an efficient use of space or pedestrian friendly and does not connect well to its surroundings. It is considered that under this scenario, the planning policy aims for redevelopment of the Site would not be realised leading to a number of missed opportunities for the Site.

Masterplanning of the Development commenced in 2014 and since this time the design has evolved in response to extensive public consultation, consultation with Southwark Council, and other statutory consultees (such as Historic England and the Greater London Authority), together with the findings of environmental and other technical studies. Key environmental considerations in the evolution of the Development have included:

- London View Management Framework (LVMF) height constraints and other key viewpoints identified;
- heritage setting effects to Borough High Street Conservation Area, as well as other conservation areas;
- daylight, sunlight and overshadowing effects to neighbouring residential properties;
- wind microclimate effects at ground level;
- considering the location of the Tower element to respond to the scale of neighbouring properties as well as to height constraints;
- improving connectivity within the surrounding area and assisting in reducing crowding outside the London Bridge Underground Station on Borough High Street;
- facilitating a new entrance and exit from the London Bridge Underground Station directly into the Site;
- assistance with reducing crowded pavements of Borough High Street outside the underground station;
- retention of key listed buildings and returning them closer to their original design;
- increasing active frontages along St. Thomas Street and King's Head Yard; and
- considering effects on, and ensuring appropriate conditions at sensitive receptors, for example by undertaking wind studies and noise and vibration assessments.

5. Approach and Environmental Impact Assessment Methodology

EIA is a process which aims to ensure that the likely significant environmental effects of a proposed development are given due consideration in the determination of a planning application. Effects can be beneficial (positive) or adverse (negative). In accordance with the relevant legislative requirements and best practice guidelines, the EIA was undertaken using established methods and assessment criteria. This involved visits to the Site, along with surveys, data reviews, consultation with relevant statutory authorities, computer modelling and specialist assessment undertaken by a team of qualified and experienced consultants.

The first stage of the EIA process involved undertaking 'EIA scoping studies'. The purpose of the study was to identify the potentially significant environmental effects associated with the Development and therefore provide the focus or scope of the EIA. The EIA Scoping Report which presented the findings of the scoping studies was submitted to Southwark Council to support a request for their 'Scoping Opinion'. Southwark Council issued their Scoping Opinion on 4 October 2018.

It was agreed with Southwark Council that the EIA would need to include an assessment of the following environmental topics:

- Transportation and Access;
- Noise and Vibration;
- Air Quality;
- Archaeology (Buried Heritage);
- Water Resources and Flood Risk;
- Wind Microclimate;
- Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
- Townscape, Built Heritage and Visual Impact Assessment; and
- Cumulative Effects.

Each of the above topics are addressed in the ES, with a chapter dedicated to each topic (with Townscape and Visual and Built Heritage impact assessments presented within ES Part 3, separate from the main text in ES Part 1 due to its size. In each chapter, a description of the assessment methodology is given together with the relevant environmental conditions on and adjacent to the Site and the likely significant effects of the Development (both beneficial and adverse). The significance of likely effects is graded on a scale as either insignificant, minor, moderate or major (note, this NTS does not include this terminology of effects as its purpose is to present the findings of the ES in non-technical language). Each chapter also describes a range of measures that would be incorporated to avoid, reduce, or offset any identified likely adverse effects, and / or enhance likely beneficial effects. Such measures are referred to as 'mitigation measures'. The resulting effects (known as 'residual effects'), following the implementation of mitigation measures, are also described.

The likely significant cumulative effects of the Development in combination with other 'reasonably foreseeable' redevelopment proposals are set out in the August 2019 ES Clarifications and Addendum **Chapter 14 Cumulative Effects**.

6. What are the Likely Environmental Effects and how would they be minimised?

6.1 Transportation and Access

As set out in the updated **Chapter 7** of the ES (and ES Addendum and Clarification Document) and Transport Assessment (**Appendix 7.1** in Part 4 of the ES), an assessment of the transportation effects of the Development in terms of effects on road users, pedestrians, cyclists and public transport users was undertaken. This has been based upon a range of information sources and includes baseline surveys and computer models.

During the demolition, refurbishment and construction phase there would be a short-term increase in traffic flow, particularly heavy goods vehicles (HGVs), associated with general plant and materials deliveries and the removal of waste from the Site. To effectively manage this traffic management measures would be set out within a Site Environmental Management Plan (SEMP) and Construction Logistics Plan (CLP). This would be agreed with Southwark Council prior to the commencement of works and would include measures such as the use of agreed appropriate routes to and from the Site for construction vehicles. Appropriate signage would be implemented around the Site as well as communication methods for keeping local residents informed of activities.

The Site has a high level of accessibility to public transport, with London Bridge Mainline and Underground Stations in close proximity to the Site. Several bus services pass close by the Site. However, current pedestrian provision within the Site itself is poor.

Overall, once the Development is completed and occupied, it is predicted to result in no noticeable increases in traffic flows on the local road network. The two blue badge car parking spaces and cycle parking spaces provided are in accordance with relevant policy guidelines and have been agreed in consultation with Southwark Council and Transport for London (TfL). A Travel Plan has been developed in support of the planning application. This sets out a framework for the delivery of new transport initiatives and measures for users of the Site that would travel to and from the Development on a regular basis and how they can minimise reliance on private vehicle use and maximise the use of more sustainable modes of transport.

With regard to the increased use of public transport in the area, the predicted net increase in passengers using London Bridge Mainline and Underground stations and local buses is not expected to give rise to any significant capacity issues.

The Development is predicted to generate additional walking and cycle trips on the local network surrounding the Site. However, the Development provides a new pedestrian route through the Site and enhances the Site's permeability and connectivity for pedestrians and cyclists. The pedestrian environment within the Site would be of high quality with the provision of attractive open spaces, well maintained and legible pathways, lighting and active ground floor uses, thus providing natural surveillance. The new pedestrian route linked to the proposed new exit/entrance to the Underground station would reduce the existing pedestrian overcrowding on the pavements on Borough High Street. Cycling will be encouraged via the provision of 1,322 cycle parking spaces for users of the Development.

6.2 Noise and Vibration

As set out in **Chapter 8** of the ES, the noise and vibration effects of the Development have been established in accordance with published guidelines and included a comprehensive baseline monitoring survey at the Site. The assessment used calculations based on the baseline monitoring survey and the proposed layout of the Development.

The baseline noise survey found the noise climate to be dominated by road traffic noise from the surrounding road network, construction activities on nearby sites as well as distant mainline railway and aircraft noise.

Vibration monitoring found that the LUL Jubilee Line tunnel underneath the Site had no material effect on existing occupants or would have on future occupants at the Site.

Demolition, refurbishment and construction works would include activities that would be likely to temporarily increase noise levels and potentially cause vibration within and immediately adjacent to the Site (particularly demolition activities, breaking activities and piling). In particular, when activities are occurring closest to the Site boundary, this could result in temporary effects on occupants in surrounding properties, including residents.

The implementation of noise and vibration control and management measures through the SEMP during demolition and construction would help to reduce noise disturbance to occupants of existing and future properties. Such measures would include using low-noise machinery and equipment, enclosing and screening machinery, using low-vibratory foundation methods and the use of appropriate hoarding to the required height and density. Despite these measures there could still be temporary noise disturbance of Guy's Hospital including the Chapel, the Bunch of Grapes Public House and Iris Brook House / Orchard Lisle House during demolition and concreting works. Demolition and construction traffic is not predicted to result in significant noise increases on local roads and would be managed through the CLP.

Any items of fixed building services plant installed as part of the completed Development would have the potential to generate noise. Suitable noise level limits have therefore been proposed to ensure that noise from plant would not cause disturbance to existing or future receptors in the surrounding area or future occupants of the Development.

Although predicted potential effects arising from servicing and delivery are not likely to be significant, a Delivery, Servicing and Waste Management Plan (DSWMP) submitted to support the application would be implemented to manage the arrival and departure of delivery and servicing vehicles and their activities when on-site, and therefore assist in mitigating noise emissions.

6.3 Air Quality

As set out in the updated **Chapter 9** of the ES (and ES Addendum and Clarification Document), the air quality within the administrative boundary of Southwark Council exceeds legal limits and, as a result, Southwark Council have designated the entire northern part of the Borough as an Air Quality Management Area (AQMA). The Site is located within this AQMA. An AQMA is designated where there is public exposure (e.g. residential properties) in areas exceeding the Air Quality Strategy (AQS) Objectives. An assessment was undertaken to determine the likely effects of the Development on local air quality.

Monitoring undertaken by Southwark Council shows that, at the nearest monitoring location to the Site on Borough High Street, nitrogen dioxide (NO₂) levels exceeded the national objectives. NO₂ is primarily produced as a result of road traffic and other processes that burn fossil fuels.

The main likely effects on local air quality during the demolition and construction works would relate to the generation of dust and to exhaust emissions from construction vehicles. A range of measures to minimise or prevent dust would be implemented through the SEMP so that no significant dust effects would result. Such measures include dust suppression techniques such as water sprays, appropriate hoardings and dust monitoring.

A detailed modelling exercise has been undertaken to assess the likely effects associated with the traffic and proposed heating plant emissions from the operational Development on local air quality. The modelling indicates the Development would have a negligible impact on local air quality for all nearby

properties. It is concluded that the effect of the Development on levels of NO₂, PM₁₀ and PM_{2.5} would be insignificant.

Whilst no mitigation is needed, as the Development is predicted to have no noticeable effects on local air quality, the Applicant is committed to adopting a range of measures to reduce impacts on air quality and promote health and wellbeing within the Development and wider area. In addition to the measures included within the SEMP, measures which are likely to have a benefit to the air quality include, but are not limited to:

- a new entrance/exit to the London Bridge Underground Station, which would reduce pedestrian footfall on Borough High Street and encourage the use of public transport;
- new open space within the Site would be planted with medium and tall trees;
- the provision of 1,322 cycle spaces, 70 showers and 447 lockers, to encourage sustainable forms of transport;
- implementation of a Delivery, Servicing and Waste Management Plan to manage the arrival and departure of delivery and servicing vehicles and their activities when on-site; and
- implementation of a Travel Plan to encourage employees to move up within the sustainable transport hierarchy.

6.4 Archaeology (Buried Heritage)

As set out in **Chapter 10** of the ES, an assessment of the effects of the works on the archaeological (below ground heritage asset) resource within the Site was undertaken. This was assessed qualitatively based on professional judgement using a desk study and review of historical archaeological fieldwork undertaken at the Site.

The Site does not contain any statutorily designated heritage assets, but does contain the Grade II listed Georgian Terrace on St. Thomas Street. The Site lies within an archaeological priority area designated by Southwark Council. The Site is therefore recognised as being in an area of significant known archaeological interest or potential.

However, due to the construction of the existing building and its basement on the Site, archaeological survival is expected to be very limited and localised and may include isolated and truncated (partially removed) prehistoric cut features, isolated and truncated Roman cut features, redeposited Roman artefacts or Roman pits/ditches, and truncated post-medieval remains. All of these, if present, would be of low or medium significance and do not require preservation in situ.

The likely effects of the Development on any potential archaeological remains are associated with the excavation of a new lowered basement level and for new foundations, and any underpinning beneath the Georgian Terrace. These works will truncate or remove entirely any archaeological remains within the area affected. Accordingly, archaeological mitigation has been proposed in the form of a suitable programme of archaeological investigation and recording before demolition (archaeological monitoring of geotechnical test pits etc) and / or during groundworks (archaeological trenched evaluation followed by targeted excavation and/or watching brief), to advance understanding of the archaeology and achieve preservation by record.

There would be no likely effects on archaeological assets once the Development is complete and occupied.

6.5 Water Resources and Flood Risk

The assessment in **Chapter 11** of the ES was supported by a Flood Risk Assessment and Drainage Strategy (**Appendix 11.1** and **11.2** in Part 4 of the ES). The lowest point of the Site is the south eastern corner near where King's Head Yard and White Hart Yard meet. The nearest surface water to the Site is the River Thames, approximately 200m to the north. The Site is protected by the Thames Tidal Defences, and as such, tidal and fluvial flood risk at the Site is considered to be low. However, in the event that the tidal defences fail, the design includes demountable flood resilient barriers at the building entrances in order to prevent flood water entering the buildings and a permanent flood barrier to prevent ingress into the basement.

Thames Water stated that there was not a history of flooding from sewers in the vicinity of the Site and the risk of flooding to the Site from surcharged (overloaded) sewers is therefore considered low.

Surface water flooding can occur as a result of either overland flow or ponding. Overland flow occurs following heavy or prolonged rainfall, snow melt, or where intense rainfall is unable to soak into the ground or enter drainage systems due to blockages or capacity issues. Unless it is channelled elsewhere, the run-off travels overland, following the gradient of the land. Ponding occurs as the overland flow reaches low lying areas in the local topography. These flood events tend to have a short duration and depend on a number of factors such as geology, topography, rainfall, saturation, extent of urbanisation and vegetation.

As the surrounding area is highly developed, it almost entirely comprises impermeable hardstanding area, which during high intensity storms will generate large surface water runoff flows. The Site is located within an area identified as having surface water 'critical' drainage problems and the Site is located within an area identified as a low to medium risk of surface water flooding (or a risk between 1% to 0.1% of flooding occurring each year).

A drainage strategy for the Development has been developed, which includes measures to reduce water runoff from the Site and control the rate of discharge of this water to the local sewer network. The waste and foul water, including sewage, from the Development would be discharged to the existing public sewers. In order to reduce the surface water discharge rate to the greenfield runoff rate (5 litres per second (l/s)), some storage would be required on Site in voids. The greenfield runoff rate is the runoff that would occur from the site in its undeveloped and undisturbed state. This is required to be calculated by the Environment Agency to ensure that the drainage network is not overloaded.

These voids would be located below ground level permeable paving in public realm areas and hold about 150 cubic metres of water and also on the 34th floor as blue roof below the plant and photovoltaic cells (holding 50 cubic metres of water). These volumes allow for the likely future increase in rainfall due to climate change.

The inclusion of the voids would result in a reduction in the volume and peak rate of surface water runoff from the Site and hence a reduction in flood risk elsewhere compared to the current situation. The risk of surface water flooding from the ponding of water in the low point in levels along King's Head Yard would be mitigated through the use of the demountable and permanent flood barriers within the Development.

The Pre-Development enquiry submitted to Thames Water has confirmed that the existing public sewer network has the capacity to accommodate the foul and surface water flows from the Development and Site.

There would be an increased demand for water supply resulting from the Development. However, the implementation of water efficiency measures would be incorporated into the Development to minimise the demand as far as possible.

The Site is underlain with a chalk aquifer at >50m below ground but this is hydrologically separated from the Site by a layer of clay. The deepest level of the basement would be constructed within a gravel layer (known as the Kempton Park Gravel formation) which could contain groundwater. This groundwater would be expected to flow around and beneath the basement, and so not result in any groundwater flooding. In addition, the basement would be appropriately waterproofed to enable it to remain watertight throughout the lifetime of the Development.

6.6 Wind

As set out in **Chapter 12** of the ES, an assessment of the likely wind conditions as a result of the Development and the suitability of these in terms of pedestrian comfort has been undertaken. The assessment has been informed by appropriate meteorological data and computational fluid dynamics (CFD) modelling. CFD is a computer based modelling technique, which simulates the effect of wind on the built environment.

The meteorological data for the Site shows that prevailing winds blow from the south-west throughout the year, which is typical for many areas of southern England, with the strongest winds during the winter season. There is a secondary peak from the north-east during the late spring and early summer. The winds from the north-east are not as strong as the prevailing winds from the south-west. The wind microclimate conditions throughout and surrounding the Site are generally as would be expected within an urban environment, ranging from acceptable for sitting use to leisure walking use during the windiest season.

During the Development design process the CFD modelling results were used to inform the design of the Development and resulted in the southern façade being stepped and including a wider base to the building along the southern boundary to protect the ground level in King's Head Yard.

The demolition of the existing buildings would not be expected to have a significant effect on the wind conditions within, and immediately surrounding, the Site. As construction of the Development proceeds, the wind conditions of the Site would gradually change to the conditions of the completed Development.

Following completion of the Development, and with mitigation measures in place such as localised screening and landscaping, the wind conditions likely to be experienced at all locations within, and immediately surrounding, the Site have been found to be suitable for the intended uses. These locations include pedestrian thoroughfares, entrances, and amenity spaces including above ground level terraces. It is therefore considered that wind conditions would not significantly affect pedestrian comfort or safety either within the Development or for the streets or buildings in proximity to the Site, following completion of the Development.

6.7 Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

As set out in the updated **Chapter 13** of the ES (and ES Addendum and Clarification Document), an assessment has been made of the likely effect of the Development on the daylight, sunlight, overshadowing, and light pollution on neighbouring properties and amenity spaces. A solar glare assessment has also been undertaken by identifying sensitive viewpoints for road and train drivers surrounding the Site.

The technical analysis has been undertaken quantitatively via the creation of a digital three-dimensional model of the Site and surroundings, based on measured survey data. A total of 2,127 windows serving 775 rooms within 18 (mainly residential) buildings surrounding the Site have been assessed for existing daylight conditions.

A total of 255 rooms were assessed for existing sunlight conditions. These rooms serve residential

buildings, student accommodation (Iris Brook House and Orchard Lisle House) and one hospital (Guy's hospital with two wings).

In respect of overshadowing, seven public amenity locations were assessed. Twenty-seven locations, including road junctions and on rail tracks, were assessed for the solar glare assessment and residential receptors in close proximity to the Site were assessed in the light pollution assessment.

During the demolition works there would be some temporary improvements to the level of daylight, sunlight, overshadowing, light pollution and solar glare to properties and areas surrounding the Site. As construction of the Development progresses, the daylight, sunlight, overshadowing, solar glare and light pollution effects to properties and areas surrounding the Site would progress to the conditions predicted for the completed Development.

In relation to daylight, eight of the 18 buildings identified would not experience a noticeable alteration in the levels of daylight that they receive with the completed Development in place. The remaining ten properties would experience noticeable effects with reductions in daylight levels in excess of the industry standard guidelines with respect to daylight availability. The properties that would be affected are located along Nos. 43, 51, 53-55, 57 and 63a Borough High Street, No. 6 London Bridge Street, Chaucer House, the two student accommodation blocks to the south and Shard Place to the northeast.

In relation to sunlight, 14 of the 16 buildings identified would not experience a noticeable alteration in the levels of sunlight that they receive with the completed Development in place. The remaining two properties would experience noticeable effects with reductions in sunlight levels in excess of the industry standard guidelines with respect to sunlight availability. The properties that would be affected are located along No. 6 London Bridge Street and Shard Place to the northeast.

Despite the above, it is widely accepted that the industry standard guidelines for daylight and sunlight should be applied with flexibility, particularly given their original application was intended for developments within the suburban environment. Accordingly, it is considered that the relatively limited impacts of the Development upon daylight and sunlight availability are acceptable.

The Development would not have significant effects on surrounding amenity areas in terms of overshadowing.

In terms of solar glare, the assessment considered the worst-case potential occurrence of solar reflections from the Development and proximity to a driver's line of sight. Eight out of the 27 locations were considered to be insignificant with effects to varying degrees at the other 19 locations. Of these 15 locations had mitigating factors such as reflections occurring from a small section of façade, the ability to deploy a car visor or the traffic signals being unaffected. There were varying degrees of short term effects expected from solar glare at a point on Southwark Street, on Borough High Street and on the London Bridge Station rail track, however without the Development in place the track and road would be exposed to direct line of sight of the sun.

The Development would not have significant light pollution effects on the residential receptors assessed.

6.8 Townscape, Built Heritage and Visual

As set out within Part 3 (**Townscape, Visual Impact and Built Heritage Assessment**) of the ES and ES Addendum and Clarification Document, the Site is located within Borough High Street Conservation Area and there are listed buildings – the Grade II Georgian Terrace - on the Site. There are several conservation areas surrounding the Site and numerous listed buildings. Five Townscape Character Areas (TCAs) have been identified as being relevant to the assessment. A TCA is an area which has readily identifiable characteristics in common, for example building form or patterns of land use.

In the visual assessment, the suitability of the design of the Development has been assessed using 67 different viewing positions, including 12 London View Management Framework (LVMF) viewpoints; all viewpoints were agreed with Southwark Council. Other statutory bodies, such as the GLA, Historic England and Historic Royal Palaces, were also consulted.

The likely significant effects on visual amenity and townscape character would vary according to the nature of the demolition and construction works over time, with certain operations having more perceptible effects than others. The most significant visual effect would be the presence of tower cranes which would be likely to be visible from all viewpoints where the Development is visible. Visible construction activities would be likely to form only small to medium features of most views and in many instances would be seen in combination with the existing buildings and other local construction activities. With mitigation in place, including appropriate hoarding and following best construction industry standards, visual effects would range from no effect on distant views to adverse effects on some local views.

The Development would transform the Site from a disparate collection of buildings, varied in quality, into a major new development in which the best buildings are retained, a major and substantial new building of high quality is added, and the buildings are brought together into a coherent whole with a significant new contribution to the public realm of the conservation area which provides useful new routes and connections, and a variety of new landscaped spaces open to all. The Development would encourage more use and enjoyment of King's Head Yard, benefitting the conservation area in which it lies. The Development's office Tower would be at a height and scale that would reflect the landmark significance of the Site at the intersection of Borough High Street and St. Thomas Street, in close proximity to London Bridge Station. It would take advantage of the townscape opportunities offered by the Site, to the benefit of the local and wider area around it.

Only 7 out of the 67 views were judged in the assessment to have adverse effects and 11 of the views were considered to have beneficial effects. The assessment concluded that the effects on the TCAs would be either beneficial or neutral.

The built heritage assessment assesses the likely effect of the Development on heritage assets on and around the Site including listed buildings, conservation areas, World Heritage Sites and scheduled monuments. Extensive data have been collected on the heritage assets, so ensuring that a full assessment can be made.

During the demolition and construction works there will be temporary adverse effects on the Borough High Street Conservation Area and to the setting on the listed Georgian terrace, due to the detrimental appearance of the construction activities. Effects on other heritage assets will be less significant. There would also be some adverse effects on the fabric of the listed buildings, however this would be temporary and measures to protect heritage assets during the works would be set out in the SEMP.

The proposals to the listed buildings on-Site will address the physical defects and reverse inappropriate change undertaken in the 1980s. The restoration and alteration works will therefore benefit these listed buildings. A detailed specification and methodology for reconstruction of the Keats House façade would be developed to ensure that the salvage of brickwork is maximised. All key decorative stone and other features will be retained, repaired and reinstated.

The heritage assessment concludes that the Development delivers a scheme that is sensitive to heritage assets and demonstrates various references in its design to local building types. The effects on the Borough High Street Conservation Area and effects on the listed buildings would be beneficial.

The restoration of the listed terrace will ensure its continued contribution to the heritage significance of the conservation area. Similarly, the reconstruction of Keats House will enhance its contribution to the

heritage significance of the conservation area. The assessment identifies that there will be adverse effects to the heritage significance of two highly graded heritage assets: Southwark Cathedral (Grade I listed) and Guy's Hospital (Grade II* listed).

6.9 Cumulative Effects

As set out in **Chapter 14** of the ES, two types of cumulative effects have been assessed in relation to the Development:

- Type 1 Cumulative Effects: The interaction of individual effects from the Development upon a set of defined sensitive receptors. For example, noise and dust during the demolition and construction works; and
- Type 2 Cumulative Effects: The combination of effects from several developments (in this case, the Development together with other reasonably foreseeable schemes (hereafter referred to as 'cumulative schemes'), which individually might be insignificant, but when considered together could create significant cumulative effects.

A number of cumulative developments have been identified within the vicinity of the Site. Each technical environmental topic has considered the cumulative effects of these schemes all taking place in combination with the Development (both during construction and demolition works and once the Development is completed). The 19 cumulative schemes included in the assessment were agreed with Southwark Council (refer to **Figure 14** below for the location of the schemes).

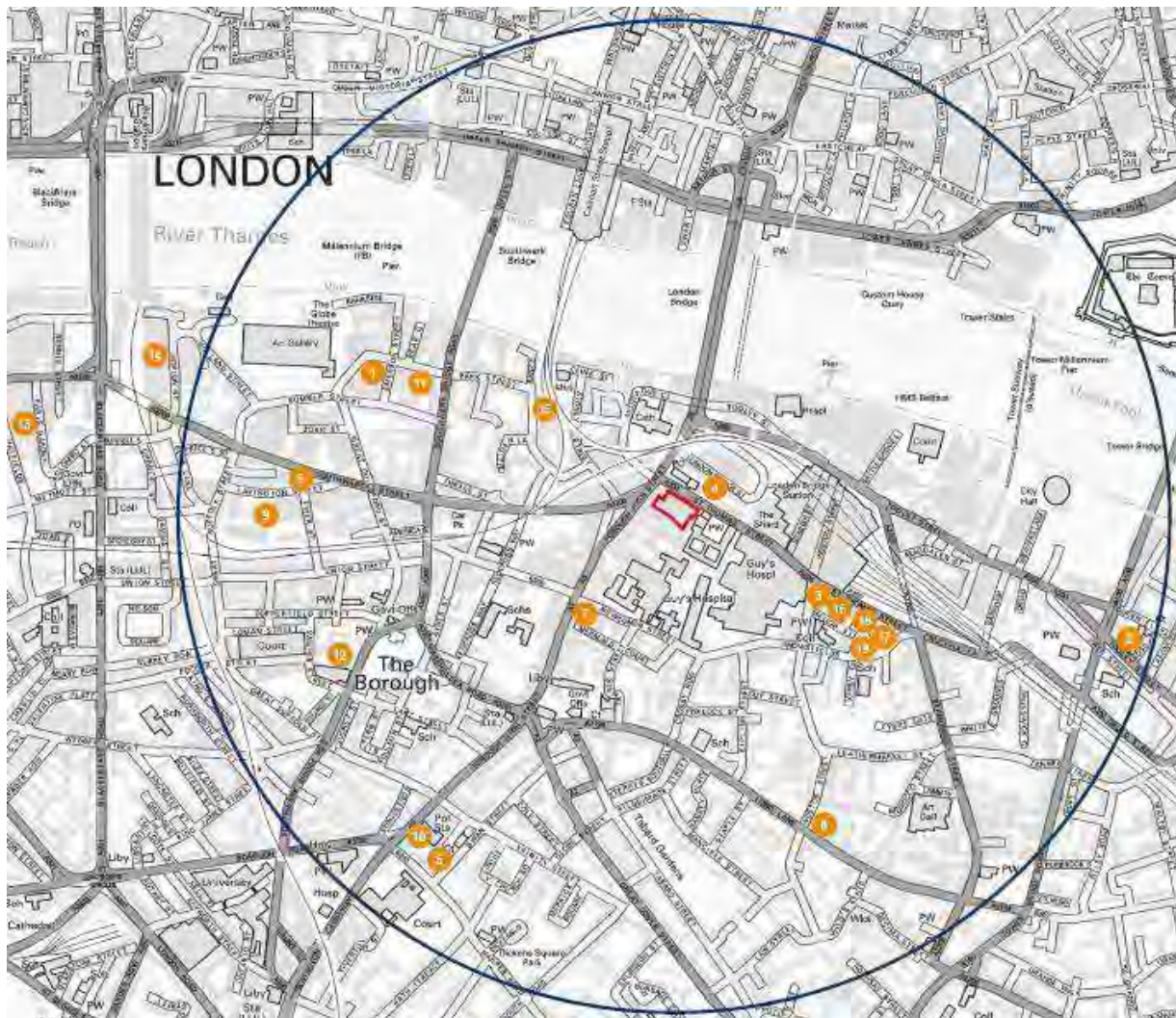
During the demolition, refurbishment and construction works (approximately four years), a combination of effects arising from the Development in isolation (i.e. Type 1 Effects) would likely arise from noise from demolition and construction plant and machinery and traffic, vibration, and townscape, heritage and visual effects. In addition, effects from daylight, sunlight and solar glare would change as the existing buildings on the Site are demolished and there is a gradual change to a situation where the effects will be as per the completed Development. The implementation of mitigation measures through the SEMP would minimise the effects to existing and future residents and occupants and users of existing commercial and education uses surrounding the Site.

In relation to the Type 2 Effects, the cumulative operational effects of the Development in conjunction with the schemes were found to not be significant for townscape, visual, built heritage, daylight, sunlight, overshadowing, solar glare, light pollution, wind, archaeology, noise and vibration.

The cumulative transport assessment for the completed Development showed that in real terms, the resultant traffic flows may increase on White Hart Yard but would continue to be well within the 'low traffic volumes' threshold for when pedestrians treat a street as a space to be occupied and not a road. Additionally, the proposed pedestrian and public realm enhancements are expected to encourage pedestrians to divert onto King's Head Yard instead. Therefore, the cumulative effect on traffic flows in White Hart Yard is expected to be at the worst noticeable and adverse and not noticeable across the wider road network.

With the implementation of appropriate Construction Logistics Plans for the cumulative schemes, the residual cumulative effect of construction vehicles is considered to not be noticeable on all users of the local transport network.

The improved public realm and pedestrian links through the Site when the committed developments are considered together with the completed Development, are expected to result in either no noticeable effect or a recognisable beneficial effects on pedestrians in respect of movement, capacity, severance, delay, fear, intimidation and amenity.



- 1 185 Park Street
- 2 Tower Bridge Magistrates Court and Police Station, 209-211 Tooley Street
- 3 Capital House
- 4 Shard Place (Fielden House) 28-42 St. Thomas Street
- 5 25-29 Harper Road
- 6 Isis House, 67-69 Southwark Street
- 7 153-159 Borough High Street
- 8 175-179 Long Lane
- 9 Lavington House, 25 Lavington Street
- 10 19-23 Harper Street, 325 Borough High Street and 1-5 and 7-11 Newington Causeway
- 11 133 Park Street
- 12 Southwark Fire Station, 94 Southwark Bridge Road;
- 13 1-5 Paris Garden and 16-19 Hatfields
- 14 Sampson House, 64 Hopton Street
- 15 1 Bank End
- 16 Becket House / 60 St Thomas Street
- 17 Bermondsey Street / Snowfields
- 18 Vinegar Yard
- 19 2-4 Melior Place

Figure 14 Plan of Cumulative Schemes Around the Development

The cumulative air quality assessment concluded that construction vehicle exhaust emissions from the combined construction traffic of the Development and the cumulative schemes could give rise to cumulative residual effects on local air quality. However, this would depend upon the extent to which the implementation of the Development and the cumulative schemes overlap. In the worst-case scenario, the demolition and construction of the cumulative schemes would overlap with the Works and use the same construction traffic routes. The residual cumulative effect is considered to be, at worst, temporary and noticeable, although in reality the construction works would be unlikely to be taking place at the same time or all using the same traffic routes.

The schemes would all be required to meet the London Plan targets for greater than 50% reduction in surface water runoff and therefore, once these measures are implemented, the cumulative effect on flood risk is considered to range from not noticeable to beneficial.

7. What will happen next?

Following the submission of the planning application, there will be an opportunity for any interested parties to comment on the proposals.

The ES is available for public viewing on Southwark Council's website: www.southwark.gov.uk. Copies of the ES are also available for viewing by the public during normal office hours in the planning department of Southwark Council at the address provided below. Comments on the planning application should be forwarded to the Southwark Council planning case officer at the address given below:

Southwark Council
160 Tooley Street
PO BOX 64529
London
SE1P 5LX
Tel: 0207 525 5000

Additional copies of the ES can be purchased from Waterman on request (contact details below). A CD version of the ES can be purchased at a cost of £25.

Waterman Infrastructure & Environment Ltd
Pickfords Wharf
Clink Street
London
SE1 9DG
Tel: 020 7928 7888
Email: ie@watermangroup.com

UK and Ireland Office Locations



D. Construction Phasing Gantt Chart

DRAFT

New City Court

Construction Programme Phasing

[illegible]

E. Post-planning Response the National Air Traffic Safeguarding Officer

DRAFT

Appendices

Demetriou, Affie

From: Planning.Applications
Subject: FW: Consultation for Planning Application 18/AP/4039 [SG27524]

From: Crosby, Victoria
Sent: Friday, April 05, 2019 12:06 PM
To: Planning.Applications
Subject: FW: Consultation for Planning Application 18/AP/4039 [SG27524]

Please can this be uploaded to Therefore as an extra comment from NATS as a statutory consultee on 18/AP/4039.

Thanks
Victoria

From: NATS Safeguarding [<mailto:NATSSafeguarding@nats.co.uk>]
Sent: Friday, February 22, 2019 5:32 PM
To: Planning.Applications
Cc: NATS Safeguarding
Subject: RE: Consultation for Planning Application 18/AP/4039 [SG27524]

Dear Sirs,

NATS has assessed the application referenced above and anticipates no impact from the proposal. Accordingly it has no objections to the Application.

Regards
S. Rossi
NATS Safeguarding Office



Sacha Rossi
ATC Systems Safeguarding Engineer

D: 01489 444 205
E: sacha.rossi@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk/windfarms



From: planning.applications@Southwark.gov.uk [<mailto:planning.applications@Southwark.gov.uk>]
Sent: 28 January 2019 13:21
To: NATS Safeguarding
Subject: Consultation for Planning Application 18/AP/4039

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Dear Sir/Madam

CONSULTATION on APPLICATION FOR FULL PLANNING PERMISSION

Application number: 18/AP/4039

Address: NEW CITY COURT, 4-26 ST THOMAS STREET LONDON SE1 9RS

Attached is a letter seeking your comments on the above application. The application form, drawings and supporting documents can be [viewed on the Council's web site by following this link](#). If you require any further information please contact the case officer whose contact details are in the letter.

Your comments are requested within the period set out in the letter. If no reply is received within this time it will be taken that you have no comments to make on the application and I shall proceed to a decision on that basis.

You can send your comments by email to: planningstatconsultees@southwark.gov.uk (please ensure that you use this email address to avoid delay in your comments being taken into account).

Yours faithfully

Duty Admin Officer

Southwark Council
Chief Executive's Department
Planning & Transport
Development Management [5th Floor Hub 2]
PO Box 64529
London, SE1P 5LX

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F. Updated ES Chapter 7: Transport

DRAFT

7. Transportation and Access

Introduction

- 7.1 This chapter, which was prepared by Transport Planning Practice (TPP), supersedes and replaces Chapter 7 of the December 2018 ES. This replacement chapter presents an assessment of the likely transport and access effects of the Development. Information on traffic flows and routes during the Works has been provided by Gardiner & Theobald.
- 7.2 This chapter provides a description of the assessment methodology; a description of the relevant baseline conditions of the Site and surrounding area; and an assessment of the likely significant effects of the Development, that could arise during demolition, deconstruction, refurbishment and construction, and once the Development is completed and operational. Where appropriate, mitigation measures are identified to avoid, reduce or offset adverse effects and / or enhance likely beneficial effects. Taking account of the mitigation measures, the nature and significance of the likely residual effects are described.
- 7.3 This chapter refers to the Transport Assessment and Travel Plan submitted to support the December 2018 Planning Application.

Assessment Methodology and Significance Criteria

Assessment Methodology

Consultation

- 7.4 Consultation has taken place with Southwark Council (SC) Highways over the last three years by means of pre-application meetings.
- 7.5 A formal pre-application meeting with Transport for London (TfL) took place on 14 August 2018.
- 7.6 An EIA Scoping Report was submitted to SC in July 2018 and an EIA Scoping Opinion was received from SC on 4 October 2018 (refer to **Appendix 2.1** and **2.2**). Relevant comments raised within the EIA Scoping Opinion have been summarised in **Table 7.1** below, along with an indication of where within this ES Chapter each issue is addressed.

Table 7.1 Consultation Feedback

Consultee	Comment	Where in the Chapter this is addressed
Southwark Council	In respect of the changes which will result from the new areas of public realm to be created at ground level within the Site along with a potential new access to London Bridge Underground Station, a description should be provided of the reasonable alternatives for ground level pedestrian routes studied by the developer. The alternative route options considered should be noted and the main reasons for selecting the chosen option should be set out together with the reasons for other route options being discounted so that the transport effects can be properly weighed.	The alternatives for ground level pedestrian routes are considered in Chapter 4: Alternatives and Design Evolution. A description of the new public realm created at ground level is included in Chapter 5: The Development. An assessment of the effects on pedestrians of the Development is included within this Chapter.
Southwark Council	Any mitigation measures proposed for inclusion in the outline Travel Plan, including any contingency measures identified, should be properly assessed and any effects and their significance identified.	The Travel Plan is included in Appendix 7.2 and a summary of the measures have been set out within the mitigation section of this

Consultee	Comment	Where in the Chapter this is addressed
		ES chapter.
TfL	It is noted that TfL has stated that it would like to see details of alternative servicing arrangements that have been considered. The rationale for selecting the chosen option and the reasons for other arrangements being discounted should accordingly be provided.	The alternatives considered for servicing arrangements are discussed in Chapter 4: Alternatives and Design Evolution.

Establishing Baseline Conditions

- 7.7 The baseline conditions have been identified using a combination of site observations, desktop studies, traffic surveys and reviews of available information such as the 2011 Census data. In particular, information on the following transport modes has been obtained:
- Public transport services by review of service routes and frequencies;
 - Review of pedestrian routes from the Site to local public transport nodes (bus stops, London Bridge Underground and National Rail stations) undertaken during a site visit;
 - Undertaking of a Pedestrian Environment Review System (PERS) audit in order to assess the level of provision and quality of the local pedestrian environment;
 - Accident data for the most recent three-year period, from 2015 to 2018, for roads surrounding the Site;
 - Information on the 2011 travel to work modal split data for the local area;
 - Review of the London Borough of Southwark (LBS) and TfL car and cycle parking standards;
 - The most up-to-date Rolling Origin and Destination Survey (RODS) data has been obtained for the Jubilee Line and the Northern Line from TfL;
 - Review of the frequencies of the River taxi services from the London Bridge City Pier;
 - Automatic Traffic Count (ATC) surveys have been undertaken in 2018 on Borough roads in the vicinity of the Site i.e. White Hart Yard, Marshalsea Road and Southwark Street;
 - Traffic data has been obtained from TfL for roads forming part of the Transport for London Road Network (TLRN) for 2017 in the vicinity of the Site i.e. London Bridge, Borough High Street, Southwark Bridge Road, St. Thomas Street and Tooley Street; and
 - Review of the Department for Transport (DfT) website for current and historical traffic data has been undertaken for the period from 2000 - 2017 for the surrounding roads.

Assessment Area

- 7.8 The assessment area has been established based on the likely areas of influence on the various travel modes available and where these are likely to give rise to significant effects as follows:
- Travel by foot - the focus is on access to amenities and facilities within 10 - 15 minutes' walk;
 - Travel by cycle - the focus is on access to amenities and facilities within 10 - 15 minutes' cycle;
 - Travel by public transport - the focus is on access to stops within the range of travel by foot and those destinations which can be reached within 40 minutes on public transport; and
 - Traffic flows – the broad rules set out by the Institute of Environmental Management and Assessment (IEMA)¹ guidance have been followed to define the geographical extent of the assessment of traffic flows:

- Rule 1 – Include highway links where traffic flows will increase more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and
- Rule 2 – Include any other specifically sensitive areas where traffic flows have increased by 10% or more.

Assessment Scenarios

7.9 The following scenarios have been considered within the assessment:

- Existing Baseline 2018;
- Assessment (Future) Baseline 2026: This scenario is set out in **Table 7.14** and comprises the Existing Baseline 2018 + committed developments which are currently under construction and are expected to be completed by the Development opening year. These developments are listed below:
 - Tower Bridge Magistrates Court and Police Station (15/AP/3303);
 - 175-179 Long Lane (15/AP/4072);
 - 25-29 Harper Road (15/AP/3886);
 - Isis House, 67-69 Southwark Street;
 - 1 Bank End (15/AP/3066); and
 - Fielden House (Shard Place) (17/AP/4008).
- Assessment (Future) Baseline 2026 + Development; and
- Assessment (Future) Baseline 2026 + Development + committed developments: This scenario comprises the Assessment Baseline 2026 + Development + the remaining committed developments. The remaining committed developments are identified in **Chapter 14 Cumulative Effects**. It is noted that since the submission of the planning application, additional committed developments have been identified and these have been considered as part of the assessment of the cumulative effects (in the updated ES Cumulative Effects Chapter – (**Appendix B**)).'

Assessment of Likely Significant Transport and Access Effects

7.10 This section outlines the methodologies applied to identify and assess the range of potential transport and access effects that may result from the Development. The assessment has been undertaken in line with TfL's Transport Assessment Best Practice guidelines² and IEMA Guidelines.

The Works

7.11 An assessment of the potential effects of demolition, deconstruction, refurbishment and construction (referred to as the 'Works') traffic from the Development has been undertaken based upon professional judgement and experience of such analysis at other comparable schemes within London and Southwark. Detailed consideration of the demolition and construction activities for the Development is set out within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction**. For the purposes of providing a robust, worst case assessment of the Works, the peak construction period has been used, and traffic control measures that would be developed post planning secured through a Construction Logistics Plan (CLP) and Site Environmental Management Plan (SEMP) have not been included within the main assessment (pre-mitigation).

- 7.12 Based on the review of the Works programme, the most intensive period for construction vehicle activity is predicted to be during piling, substructure works. The peak figure from these periods has been used in the assessment of effects of Works traffic.

Completed and Operational Development

- 7.13 A detailed multi-modal trip generation for the Development is set out in the Transport Assessment (TA) and summarised later in Table 7.19 and Table 7.20.

Employee and visitors travel

- 7.14 The morning and evening peak hour trip generation assessment has been undertaken based on an agreed methodology with SC and TfL. For both the existing and proposed office space (B1 use) at the Site, the total person trips during the AM and PM peak hour have been established based on a first principles assessment taking into consideration the expected occupancy levels in terms of the number of employees, supplemented by the TRICS database. This assessment has shown that the Development morning peak would be expected to occur between 08:30 – 09:30 which is typical for employment uses in central London. The evening peak is predicted to occur between 17:00 – 18:00.
- 7.15 The mode distribution of the trips has been derived from the 2011 Census method of travel to work data with adjustments made to take account of the limited car parking provision around the Site and the lack of parking at the Development (other than two disabled bays). On the basis of the above, a net change in trips on all modes of transport has been calculated which forms the basis of the assessment of potential effects.
- 7.16 With regard to the proposed A1/A3 uses, the trips are expected to be pass-by or linked trips and would not generate additional movements on the transport infrastructure. This is with the exception of staff travel and servicing trips which are considered later in the chapter. Staff travel is expected to be arranged in shift work arriving and leaving outside of the peak hours. It is noted that some customers might be arriving/departing using a taxi and an assessment of the likely taxi movements for the A1/A3 uses has been undertaken.

Servicing vehicle generation

- 7.17 For the proposed office element of the Development, servicing vehicle generation has been established based on a servicing survey undertaken in July 2016 at an existing office development in Southwark; this methodology has been agreed with SC and TfL during pre-application discussions. The expected number of servicing trips to the A1/A3 uses has been calculated based on data contained within the TRICS database.

Significance Criteria

- 7.18 Guidance provided by the Institute of Environmental Management and Assessment (IEMA)¹ and Department for Transport (DfT)³ has been consulted in order to identify significance criteria applicable to the assessment of walking, cycling, public transport and vehicle trips associated with the Development.
- 7.19 For a number of effects there are no readily available thresholds of significance, in which case interpretation and judgement has been applied based on knowledge of the Site or quantitative data where available.

Characterisation of Effects

7.20 All effects have been characterised as being either:

- **Beneficial:** meaning that the changes produce positive benefits in terms of transportation and access (such as reduction of traffic, travel time or patronage, or provision of a new service, access or facility);
- **Insignificant:** meaning that their bearing is too small to measure meaningfully (e.g. less than 10% change); or
- **Adverse:** meaning that changes produce negative effects in terms of transportation and access (such as increase of traffic, travel time, patronage or loss of service or facility).

7.21 Effects have been further characterised as:

- **Minor:** slight, very short or highly localised effect (where the data is available/applicable, 10% to 30% change);
- **Moderate:** limited effect (by extent, duration or magnitude) which may be considered significant, (where the data is available/applicable, 30% to 60% change); or
- **Major:** considerable effect (by extent, duration or magnitude) of more than local significance or breach of recognised acceptability, legislation, policy or standards (where the data is available/applicable greater than 60% change).

7.22 The significance criteria apply to all assessments within this ES Chapter are summarised below in **Table 7.2:**

Table 7.2 Significance Criteria

	Effect	Insignificant	Minor	Moderate	Major
Highway Network	Change in traffic flow on highway network	Increase or decrease in flows of less than 10%	Increase or decrease in flows of 10-30%	Increase or decrease in flows of 30-60%	Increase or decrease in flows of more than 60%
Bus Network	Change in passenger numbers leading to a change in journey experience	Less than 10% change in passenger numbers leading to no change in journey experience	10%-30% change in passengers leading to a change in journey experience	30%-60% change in passenger numbers leading to a change in journey experience	More than 60% change in passenger numbers leading to a change in journey experience
Underground and Rail Network	Change in passenger numbers leading to a change in journey experience	Less than 10% change in passenger numbers leading to no change in journey experience	10%-30% change in passengers leading to a change in journey experience	30%-60% change in passenger numbers leading to a change in journey experience	More than 60% change in passenger numbers leading to a change in journey experience
Walk and Cycle Network: Severance	Change in perceived divisions within a community separated by a traffic route	Increase in traffic flows of less than 10%	Increase in traffic flows of 10-30%	Increase in traffic flows of 30-60%	Increase in traffic flows of more than 60%
Pedestrian Delay	A judgement based on the routes with two way traffic flow exceeding 1,400 vehicles per hour in context of their individual characteristics				

	Effect	Insignificant	Minor	Moderate	Major
Pedestrian Amenity	Change in perceived pleasantness of the journey/walking route	Change in total traffic or HGV flows < 100%	No change to pedestrian comfort level rating or a change that does not alter the description of the rating as per TfL's criteria.	Change in total traffic or HGV flows > 100%	A change in Pedestrian Comfort Level which alters the description of the rating criteria as per TfL's criteria.
Pedestrian Fear and Intimidation	Increase in traffic flows, HGV composition and narrow footways	Increases in traffic flow, HGV composition and narrow footways		As set out in Table 7.4.	
Accidents and Safety	A judgement based on change in collision numbers over a route under consideration				
Dust and Dirt on the road	A judgement taking into account baseline construction management processes				

Assessing Significance of Changes in Traffic Flows

Receptor Sensitivity

- 7.23 In order to help define the value and sensitivity of receptors, the following guidance has been obtained from the IEMA Guidelines as shown in Table 7.3.

Table 7.3 Guidelines for the Assessment of Receptor Value and Sensitivity

Receptor Type	Receptor Sensitivity	Sensitive Receptor
Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.	High	Pedestrians and cyclists along White Hart Yard and King's Head Yard.
Traffic flow sensitive receptors: congested junctions/links, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities.	Medium	Guy's Hospital patients
Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision.	Low	Future and existing surrounding residential occupants to the west, north and east of the Development including Bunch of Grapes Public House, 43 Borough High Street, Shard Place and 6 London Bridge Street.
		Future and existing surrounding residential occupants to the south of the Development including Nos. 51-55 Borough High Street, 22 Southwark Street. Residential students at Iris Brook House and Orchard Lisle House

- 7.24 It is noted that the Site is located in a busy central London setting in close proximity to roads that carry high traffic flows. The only receptors of high sensitivity are considered to be pedestrians and cyclists on White Hart Yard and King's Head Yard as these roads are shared between vehicles and pedestrians with limited footway provision.

Assessing Significance of Changes on Pedestrians, Cyclists and Public Transport Users

Pedestrian Severance

- 7.25 Pedestrian severance can be described as the perceived divisions that can occur within a community when it becomes separated by a traffic route. Thresholds for assessing severance are based on changes in traffic flows as set out in the Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3, Part 8⁴. This document suggests changes in traffic flow of 30%, 60% and 90% are considered equivalent to 'minor', 'moderate' and 'major' changes in severance respectively.

Pedestrian Delay

- 7.26 Increases in traffic flows can lead to increases in delay to pedestrians seeking to cross roads. IEMA guidance suggests a range of pedestrian crossing times of 10 seconds (lower threshold) to 40 seconds (higher threshold) which equate to a link with no crossing facilities and a two-way flow of approximately 1,400 vehicles in the peak periods. However, the guidance also recommends that assessments should be based on judgement rather than specific thresholds to determine whether or not there is significant pedestrian delay.

Pedestrian Amenity

- 7.27 The IEMA Guidelines describe pedestrian amenity as the relative pleasantness of a journey. It is affected by traffic flow, traffic composition, footway width and separation from traffic. The Guidelines suggest that the threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is doubled. Significance of such an increase beyond that would be based on professional judgement. Additionally, the effect on pedestrian amenity has been assessed based on the changes in pedestrian comfort level on footways surrounding the Site with reference to the TfL's Pedestrian Comfort Level Guidance document (2010).⁵

Accidents and Safety

- 7.28 The significance of the change to accidents and safety likely to be introduced by the Development was assessed by means of professional judgement based on the projected changes to daily vehicle flows and Development trips.

Dust and Dirt on the Road

- 7.29 The significance of the change to dust and dirt likely to be introduced during the construction activities for the Development was assessed by means of professional judgement.

Pedestrian Footway Movement and Capacity

- 7.30 The significance of the change to pedestrian footway movement and capacity likely to be introduced by the Development was assessed by means of professional judgement.

Pedestrian Fear and Intimidation

- 7.31 Pedestrian fear and intimidation is caused by a number of factors, including a combination of volume of traffic, its Heavy Goods Vehicle (HGV) composition, its proximity to people and the lack of protection caused by such factors as narrow footway widths. The criteria for assessing fear and intimidation in the IEMA Guidelines are presented in **Table 7.4**. The significance is determined from the change of the classification of the degree of hazard for a particular road.

Table 7.4 IEMA Thresholds for Pedestrian Fear and Intimidation

Degree of Hazard	Average Traffic Flow over 18 Hour Day (vehicles/hour)	Total 18 Hour Goods Vehicle Flow	Average Speed over 18 Hour Day (miles/hour)
Extreme	1,800+	3,000+	20+
Great	1,200 – 1,800	2,000 – 3,000	15 – 20
Moderate	600 – 1,200	1,000 – 2,000	10 – 15

Public transport

- 7.32 The effects on the public transport users have been assessed based on the increase in trips in relation to the capacity of the services and the significance criteria.

Walking and cycling

- 7.33 In addition to the effects of traffic flows on pedestrians, the effects of the Development, including increase in walking and cycling trips and provision of pedestrian and cycle facilities, have also been assessed by means of professional judgement, using the significance criteria.

Limitations and Assumptions

- 7.34 The modal split of the trips undertaken by the existing and future staff have been derived from the 2011 Census Method of Travel to Work – Workday Population dataset for Southwark 002 Middle Layer Super Output Area, with adjustments made to reflect the limited car parking provision at the existing Site and the car-free nature of the Development (other than two disabled bays).
- 7.35 The Development lies within this area and therefore it is reasonable to assume that the travel characteristics of people travelling into this area would be representative of those which would be generated by the existing and the Development.
- 7.36 In order to determine the likely direction the employees would be travelling to and from the Development, the 2011 Census data: Special Workplace Statistics (SWS) has been used.

Baseline Conditions

- 7.37 In order to assess the potential effects of the Development, it is necessary to determine the environmental conditions, resources and sensitive receptors that currently exist on the Site and in the surrounding area.

Existing Land Uses

- 7.38 The Site comprises the offices of New City Court occupying the majority of ground level on the Site behind the buildings on St. Thomas Street and Borough High Street. The Site also includes the Georgian townhouses and Keats House which form most of the northern boundary of the Site fronting onto St. Thomas Street.
- 7.39 Vehicular and pedestrian access to the Site is currently from St. Thomas Street (A200) and King's Head Yard. King's Head Yard provides access to the Site's car parking/servicing area. Servicing to the existing buildings has also been observed to take place from St. Thomas Street.
- 7.40 There is currently no public open space or a route through the Site.

Pedestrian Network and Facilities

- 7.41 The Site is located in an area with an established network of footways and pedestrian facilities. Due to its central London location, numerous public transport services and amenities can be accessed on foot. Details of the existing pedestrian infrastructure on each of the roads surrounding the site are provided below.
- 7.42 The key pedestrian desire lines are expected to be the footways of St. Thomas Street and Borough High Street (see **Figure 1.2 Planning Application Boundary**) as they would provide access from the Site to the nearest facilities for public transport.

St. Thomas Street

- 7.43 St. Thomas Street provides footways on both sides of its carriageway. The width of the footways varies between 2m (western section of the road near the junction with Borough High Street) and 5m (in the vicinity of London Bridge Station and Weston Street).
- 7.44 A signalised pedestrian crossing facility is located on St. Thomas Street, near the junction with London Bridge Street and Bedale Street. The crossing is provided with tactile paving on the footways on both sides of the carriageway and zig-zag road markings.
- 7.45 Signalised pedestrian crossings are also located at the junction with Borough High Street and outside the entrance to London Bridge Underground Station. Both crossings are provided with tactile paving on the footways on both sides of the carriageway. The crossing outside the entrance to London Bridge Underground Station is provided with zig-zag road markings.
- 7.46 The footways of St. Thomas Street are well lit as they are provided with light columns at regular intervals.

Borough High Street

- 7.47 Borough High Street provides footways on both sides of the carriageway. The footways are generally wide and provide a minimum width of approximately 3m.
- 7.48 Signalised pedestrian crossings are located on each arm at the four-arm junction between Borough High Street, St. Thomas Street and Bedale Street. Signalised crossings are also provided at the junction between Borough High Street and Southwark Street, at the junction between Borough High Street and London Bridge Street and at the junction between Borough High Street and Duke Street Hill.
- 7.49 The footways of Borough High Street are well lit as they are provided with light columns at regular intervals.

King's Head Yard and White Hart Yard

- 7.50 King's Head Yard is accessible from the south-eastern side of Borough High Street and provides narrow footways (approximately 1.0-1.5m wide) on both sides of the carriageway. White Hart Yard is also accessible from the south-eastern side of Borough High Street and offers very limited footway provision. The road is very lightly trafficked and is effectively used as a shared surface with pedestrians utilising the whole width of the yard and having priority over vehicles.

Pedestrian Flows

- 7.51 Pedestrian counts have been undertaken in 2016 by Space Syntax to inform the baseline conditions at key locations surrounding the Site. These are summarised in **Table 7.5**.

Table 7.5 Existing baseline pedestrian flows (two-way, no. of people)

Link	AM Peak	Lunch-Time Peak	PM Peak
St Thomas Street north side	312	717	522
St Thomas Street south side	906	1,896	1,617
Borough High Street east side	2,562	3,357	3,444
Borough High Street west side	1,440	2,406	2,220
King's Head Yard	207	645	423
White Hart Yard	81	372	234

Pedestrian Comfort Level (PCL) Assessment

- 7.52 The pedestrian flows have been used to establish the pedestrian comfort level on the footways of St Thomas Street, Borough Street and King's Head Yard. This has been undertaken in line with TfL's Pedestrian Comfort Guidance (2010).
- 7.53 The Guidance outlines a benchmark for Pedestrian Comfort Level (PCL) for how footways should operate during peak hour pedestrian flows for different area types. The PCL ratings range from A to E with A indicating the highest footway capacity relative to pedestrian comfort. A rating of F indicates a location where the effective footway width is less than 1.5m i.e. below the recommended required width for a wheelchair use. **Figure 7.1** below shows how the ratings correspond to the different levels of comfort for an office/retail area type which is the most suitable area choice for footways in the vicinity of the site.
- 7.54 The footways around the Site vary in width due to the presence of street furniture etc and this has been taken into account with the assessment undertaken at various locations. These locations are illustrated in **Figure 7.2**.
- 7.55 The results of the PCL assessment for the existing situation and for the future baseline situation are set out in **Table 7.6**.

Table 7.6 PCL Assessment

Link Ref	Existing PCL		Future Assessment Baseline PCL (Without the Development)	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B+	A-	B	A-
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B+	A-	B	A-
2a (St Thomas Street)	F	F	F	F
2b (St Thomas Street)	B-	B+	B-	B+
3a (St Thomas Street)	F	F	F	F
3b (St Thomas Street)	B	B+	B-	B+

4a (Borough High Street)	B-	B-	C+	C+
4b (Borough High Street)	B-	C+	C	C
5a (Borough High Street)	B-	C+	C	C
5b (Borough High Street)	C	C-	D	D
5c (Borough High Street)	B-	B-	C+	C+
6 (King's Head Yard)	A+	A+	A+	A+
7 (King's Head Yard)	A+	A+	A+	A+

- 7.56 The assessment shows that the footways around the Site generally provide comfortable to acceptable level of pedestrian comfort. However, it is noted that on Borough High Street the pedestrian comfort is described as being at risk and becoming 'uncomfortable' in the future baseline situation. Additionally, on St Thomas Street, there are localised areas of the footway width being less than 1.5m. Accordingly, this results in localised pinch points providing areas that are uncomfortable but these are localised only with the majority of the footway providing acceptable level of comfort.

PERS Audit

- 7.57 A PERS audit has been undertaken of the existing pedestrian network surrounding the Site including area immediately south of London Bridge and around London Bridge Station.
- 7.58 It is noted that the local pedestrian environment would be undergoing changes as a result of the proposed Development's public realm and also TfL's proposals for St. Thomas Street. Therefore, the pedestrian environment in the vicinity of the Site by the time the Development is completed and operational would be different to the one currently in place. Notwithstanding this, the PERS audit was requested by TfL and SC during pre-application discussions. The audit has been undertaken by Transport Research Laboratory (TRL) and is included in Appendix A of the Transport Assessment.
- 7.59 Crossing points were also assessed and all were given a good or acceptable score with the exception of the diagonal crossing on Borough High Street.
- 7.60 The audit shows that at present, a number of links achieved a red rating which indicates poor level of provision. These include on the southern side of St. Thomas Street, on the southern side of Borough High Street outside of the Site, on White Hart Yard and on King's Head Yard. The links have scored based on several parameters with worst scoring parameters being poor maintenance, user conflict, colour contrast, tactile information and permeability. It is noted that this is the existing situation and the Development includes proposals which would improve the existing situation. The new entrance to the London Bridge Underground Station means that pedestrian conditions on St. Thomas Street and Borough High Street are expected to improve as pedestrians divert through the Site:
- In respect of St. Thomas Street, this would be subject to improvements as part of TfL's proposals and would be expected to provide good level of pedestrian provision once implemented.
 - In respect of King's Head Yard, this would become a largely car-free pedestrian route and would be adjacent to the new public square as part of the Development proposals significantly enhancing this link.

- With regard to White Hart Yard, the Development is not expected to add any additional pedestrians onto the yard and the pedestrian enhancements and new connection through the site seek to encourage pedestrians to divert from this link. Additionally, the audit assumed that pedestrians are limited to the limited footway provision on the yards whereas in reality, pedestrians are observed utilising the whole width with the yards operating as informal shared surfaces.

Cycle Network and Facilities

- 7.61 The Site is located in close proximity to established cycle routes which provide access within the Borough and the wider area (see Figure 3 in the TA for the local cycle network in the context of the Site). The available network for cyclists and cycle facilities in the vicinity of the Site include:
- Cycle Superhighway 7 (CS7); and
 - National Cycle Network Route 4.
- 7.62 Additionally, Weston Street and Bermondsey Street are located to the east of the Site and are identified by TfL on their cycle maps as routes “signed or marked for use by cyclists on a mixture of quiet or busier roads”. Tooley Street (north to the site) has been labelled in the same way.
- 7.63 Newcomen Street, Snowfields and Crosby Row are local roads located to the west of the Site which feature on the TfL cycle map as ‘quieter roads recommended by other cyclists’.
- 7.64 Cycle parking facilities are provided along St. Thomas Street in the form of Sheffield Stands. A cycle hire docking station is located on Tooley Street, approximately 400m (4-5 minute walk) to the north of the Site. The docking station has a maximum provision of 20 bikes.
- 7.65 Southwark Bridge Road is located to the west of the Site and is part of Cycle Superhighway 7. The superhighway extends by approximately 13.7km (an approximate 45-minute cycle) and connects the City, Southwark, Lambeth, Wandsworth and Merton. Tooley Street is part of the National Cycle Network Route 4, a long distance route between London and Fishguard via Reading, Bath, Bristol, Haverfordwest and St. Davids.

Cycle Flows

- 7.66 Cycle counts have been undertaken in 2016 by Space Syntax to inform the baseline conditions at key locations surrounding the site. These are summarised below in **Table 7.7**.

Table 7.7 Existing baseline cycle flows (two-way, no. of cyclists)

Link	AM Peak	PM Peak
Borough High Street between St Thomas Street and King's Head Yard	1,008	750
St Thomas Street	138	132
White Hart Yard	6	3
King's Head Yard	6	3
Southwark Bridge Road	369	273

Cycling Level of Service (CLOs)

- 7.67 A Cycling Level of Service (CLOs) assessment has recently been undertaken for the cycle routes near the Site as part of the planning application submission for Capital House (planning reference: 18/AP/0900) which is available from SC's planning portal. The assessment shows that the

existing routes between the Site and CS7 / CS3 are considered to be suitable for cyclists, indicating that the site has good connections to the wider cycle network and is therefore in a favourable location to encourage cycling.

Public Transport Accessibility Level (PTAL)

- 7.68 The TfL Planning Information Database⁶ identifies the Site as having a PTAL of 6b, ('excellent') the highest obtainable.

Bus Network and Services

- 7.69 The local area is served by several bus routes. London Bridge Bus Station is located within a 200m walking distance (2-3 minute walk) to the north of the Site and provides access to bus stops 'B', 'C' and 'D'. Bus stop 'B' provides access to routes 521 and N343. Bus stop 'C' provides access to routes 43 and 141. Bus stop 'D' provides access to routes 149, N21 and N343.
- 7.70 Bus stops 'S' and 'R' are located on Duke Street Hill within a 300m walking distance (3-4 minute walk) to the north of the Site. Both bus stops are served by routes 47, 343, 381, N381 and RV1. Bus stop R is also served by route N199.
- 7.71 Bus stops 'M' and 'Y' are located on Borough high Street within a 320m walking distance (3-4 minute walk) to the north of the Site. Bus stop 'M' is served by routes 17, 21, 35, 40, 43, 47, 48, 133, 141, 149, 344 and N21. Bus stop 'Y' is served by routes 17, 21, 35, 40, 47, 48, 133, N21, N133 and N199.
- 7.72 There are two bus stops located outside of The Hop Exchange on Southwark Street within a 250m walking distance (2-3 minute walk) to the west of the Site. These bus stops are served by routes 344, 381, N343, N381 and RV1.
- 7.73 Bus Stop 'Southwark Street' is located on Borough High Street within a 280m walking distance (2-3 minute walk) to the south-west of the Site. The bus stop provides access to routes 21, 35, 40, 133, 343, N21, N133, and N343. Bus stop 'G' is located on Borough High Street within a 400m walking distance (4-5 minute walk) to the south-west of the Site and is served by the same bus routes as bus stop 'Southwark Street'.
- 7.74 Bus stop 'BD' is located on Southwark Bridge Road within a 580m walking distance (5-7 minute walk) to the west of the Site. The bus stop is served by route 344.
- 7.75 **Table 7.8** presents the bus services which are accessible from the Site.

Table 7.8 Summary of Local Bus Services

Bus Route	Stop Location	Destination	Monday - Friday		Saturday	Sunday
			AM Peak	PM Peak		
48	Y	London Bridge	6	6	6	5
	M	Walthamstow Bus Station	6	6	6	5
343	S / Southwark Street	New Cross / Jerningham Road	7	7	8	6
	R / G	City Hall	8	8	8	6
21	Y / Southwark Street	Molesworth Street	9	9	8	5
	M / G	Newington Green	9	9	8	5

Bus Route	Stop Location	Destination	Monday - Friday		Saturday	Sunday
			AM Peak	PM Peak		
17	Y	London Bridge	7	7	6	4
	M	Archway Station	8	8	6	4
40	M / G	Duke's Place	8	8	6	4
	Y / Southwark Street	Dulwich Library	7	7	6	4
35	M / G	Shoreditch	6	6	6	4
	Y / Southwark Street	Clapham Junction Station / Falcon Road	6	6	6	4
381	S / The Hop Exchange	County Hall	6	6	6	5
	R / The Hop Exchange	Peckham Bus Station	6	6	6	5
344	M / The Hop Exchange	Appold Street	8	8	6	7
	BD	Clapham Junction Station	8	8	7	7
RV1	R / The Hop Exchange	Tower Gateway Station	4	3	3	3
	S / The Hop Exchange	Covent Garden / Catherine Street	4	3	3	3
521	B	London Bridge Station	20	20	-	-
	B	Waterloo Station / Mephram Street	21	23	-	-
141	C	London Bridge Station	8	8	8	5
	C / M	Tottenham Road	8	8	7	6
149	London Bridge Station	London Bridge Station	11	9	8	7
	A / M	Edmonton Green Bus Station	11	9	7	7
43	C	London Bridge Station	11	11	9	7
	C / M	Halliwick Park or Archway Station	11	11	7	6
47	S / M	Shoreditch	6	6	5	3
	R / Y	Catford Garage	5	5	5	3
133	M / G	Great Winchester Street	11	11	7	4
	Y / Southwark Street	Streatham Station	11	11	8	4
Total			257	253	182	138

7.76 **Table 7.8** shows that during the AM peak there are approximately 128 bus services per direction and 257 bus services in both directions. Based on an average bus operational capacity of 63

persons and a weekday AM Peak frequency of 128 buses in each direction, the planning bus capacity has been calculated as 8,064 passengers per direction per hour.

- 7.77 In the PM peak, the planning bus capacity is approximately 8,001 passengers per direction per hour based on there being approximately 127 buses per direction and thus 253 bus services in total.

Underground Services

- 7.78 Access to London Bridge Underground Station can be taken from St. Thomas Street, Borough High Street and Tooley Street. The station is served by the Jubilee Line, which provides services towards Stratford and Stanmore, and the Bank branch of the Northern Line, which provides services towards High Barnet, Mill Hill East, Edgware and Morden. **Table 7.9** shows the peak hour frequencies at London Bridge Underground Station.

Table 7.9 Services & Frequencies from London Bridge Underground Station

Service	Direction	Monday – Friday		Saturday	Sunday
		0800-0900	1700-1800		
Jubilee Line	Westbound	30	30	24	24
	Eastbound	30	30	24	24
Northern Line	Northbound	25	23	20	20
	Southbound	23	23	20	20

- 7.79 **Table 7.9** indicates that London Bridge Underground Station provides 30 Jubilee Line services and a minimum of 23 Northern Line services in both directions during the weekday AM and PM peak hours. Over Saturday and Sunday, the station provides 24 hourly Jubilee Line and 20 hourly Northern Line services in both directions throughout the day.
- 7.80 Planning capacity figures obtained from TfL indicate that each Jubilee Line train has a planning capacity of 960 passengers. With regard to the Northern Line, each train has a planning capacity of 800 passengers. A summary of the planning capacity expressed as the number of passengers per hour per direction (pphd) for the weekday AM and PM peak hour is set out in **Table 7.10**.

Table 7.10 Underground Planning Capacity Figures

Service	Direction	No. of Trains		Planning Capacity (pphd)	
		0800-0900	1700-1800	0800-0900	1700-1800
Jubilee Line	Westbound	30	30	28,800	28,800
	Eastbound	30	30	28,800	28,800
Northern Line	Northbound	25	23	20,000	18,400
	Southbound	23	23	18,400	18,400

National Rail Network and Services

- 7.81 London Bridge National Rail Station provides services operated by Southern, Southeastern Rail and Thameslink.

- 7.82 **Table 7.11** presents the peak hour frequencies of National Rail services departing from London Bridge National Rail Station. These include through trains heading north (Thameslink) or terminating / leaving London Charring Cross or Cannon Street as well as the services to the south, to destinations in Sussex, Kent and Surrey.

Table 7.5 Services & Frequencies from London Bridge National Rail Station

Destination	Monday – Friday		Saturday	Sunday
	0800-0900	1700-1800		
Bedford and northern destinations	11	13	6	4
Other London Terminating stations	53	29	29	15
Sussex, Kent and Surrey	57	71	21	9

River Taxi services

- 7.83 The London Bridge City Pier is located approximately within a 550m walking distance (5-7 minute walk) to the north-east of the Site. It is served by services RB1, RB1X, RB2 and RB6.
- 7.84 RB1 and RB1X provide services between Westminster and North Greenwich. RB1 operates daily whereas RB1X provides additional services on the weekend. RB2 operates daily and provides services between Battersea Power Station and London Bridge City. RB6 provides services between Blackfriars to Canary Wharf on weekday mornings and evenings only.
- 7.85 The river services during the AM, PM and weekend peak hours are summarised in **Table 7.12** below.

Table 7.12 River Taxi Services

Service	Destination	AM Peak	PM Peak	Saturday	Sunday
		0800–0900	1700-1800		
RB1	Westminster	3	1	2	2
	North Greenwich	2	3	2	2
RB1X	Westminster	-	-	2	2
	North Greenwich	-	-	2	2
RB2	Battersea Power Station	-	-	2	2
	London Bridge City	-	-	2	2
RB6	Blackfriars	2	3	-	-
	Canary Wharf	3	1	-	-

Highway Network

St. Thomas Street

- 7.86 St. Thomas Street is a TfL red route and is marked with double red lines on both sides of the carriageway which restrict stopping at all times. The road is approximately 8-9m wide near the junction with Borough High Street (at its western end) but narrows to approximately 5m to the east of the Shard.
- 7.87 The eastern section of the road only allows for one-way westbound traffic. The western section of the road allows for two-way traffic. The road allows for two-way traffic from the vicinity of the junction with Weston Street (approximately 80m to the west of the junction).
- 7.88 There are a number of parking facilities located on the western section of the road, near the Site's access and in the vicinity of the junction with Borough High Street. At this location, there are marked taxi and 'Pay and Display' bays located on the southern side of the carriageway. The 'Pay and Display' bays are in operation from Monday to Saturday between 08:00 and 18:30 and provide a maximum stay of four hours. There is also a loading bay located on the southern side of the carriageway which has a 'No stopping' restriction between 07:00 and 19:00 except between 10:00 and 16:00. During these times, loading is available for a maximum of 20 minutes. The northern side of the carriageway provides bays restricted to authorised vehicles only.

Borough High Street

- 7.89 Borough High Street provides a wide carriageway which ranges between 12m and 15m in width. The section of the road in the vicinity of the Site is a TfL red route and is marked with double red lines on both sides of the carriageway which restrict stopping at all times.
- 7.90 There are loading bays provided on Borough High Street, near the access junction with Talbot Yard and King's Head Yard / White Hart Yard. The loading bays have a 'No stopping' restriction between 07:00 and 19:00 except between 13:00 and 16:00 or between 10:00 and 13:00. During these times, loading is available for a maximum of 20 minutes and parking for disabled users is available for up to three hours.

King's Head Yard and White Hart Yard

- 7.91 King's Head Yard and White Hart Yard are marked with single yellow lines on both sides of the carriageway with restrictions from Monday to Saturday between 08:00 and 18:30. A disabled bay is provided at the south-eastern end of White Hart Yard and is available for use only by disabled badge holders. Both yards operate effectively as shared spaces with pedestrians utilising the full width of the roads given low traffic flows on the yards.

Baseline Traffic Flows

- 7.92 Traffic data has been obtained for roads and junctions surrounding the Site which are summarised in **Table 7.13** below.

Table 7.13 Baseline Traffic Flows

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
London Bridge to the north of	1,294	276	1,108	236	25,388	4,663

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
Tooley Street						
Borough High Street to the south of London Bridge	2,347	673	2,525	572	19,622	3,566
St. Thomas Street	258	7	213	4	6,104	567
White Hart Yard	4	1	2	1	26	5
Southwark Street to the east of Southwark Bridge Road	413	56	381	34	12,375	1,375
Southwark Street to the west of Southwark Bridge Road	890	87	741	72	14,825	1,447
Southwark Bridge Road	759	134	623	88	14,493	1,768
Marshalsea Road	763	160	755	107	14,311	2,044
Borough High Street to the north of Union Street	862	160	837	127	14,326	2,371
Long Lane	683	45	570	38	11,390	756
Tower Bridge Road to the south of Druid Lane	1,392	145	1,160	95	23,202	1,909
Tooley Street	537	116	460	100	8,949	1,932

Assessment Baseline Flows 2026

- 7.93 Given that the Development is not expected to be completed before 2026, the future baseline conditions which are expected to be in place at the year of opening are considered more applicable in terms of assessing of the Development effects. To this end, a future baseline scenario has been created incorporating those committed developments which are currently already under construction and would be expected to be operational by the Development opening year.
- 7.94 Based on the review of the transport reports for each of the committed developments under construction it has been found that they are reported to result in minor changes to traffic flows across the whole day with not changes in traffic during the AM and PM peak hours. The 2026 assessment baseline flows for the AM and PM peak hour as well as across the whole day are provided in **Table 7.14**.

Table 7.14 Assessment Baseline Traffic Flows

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
London Bridge to the north of Tooley Street	1,294	276	1,108	236	25,427	4,664
Borough High Street to the south of London Bridge	2,347	673	2,525	572	19,661	3,567
St. Thomas Street	258	7	213	4	6,104	567
White Hart Yard	4	1	2	1	26	5
Southwark Street to the east of Southwark Bridge Road	413	56	381	34	12,429	1,375
Southwark Street to the west of	890	87	741	72	14,887	1,447

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
Southwark Bridge Road						
Southwark Bridge Road	759	134	623	88	14,501	1,768
Marshalsea Road	763	160	755	107	14,319	2,044
Borough High Street to the north of Union Street	862	160	837	127	14,361	2,372
Long Lane	683	45	570	38	11,406	756
Tower Bridge Road to the south of Druid Lane	1,392	145	1,160	95	23,202	1,909
Tooley Street	537	116	460	100	8,965	1,934

Accident Data

- 7.95 Road traffic collision data has been provided by Transport for London (TfL) and provides an account of all incidents within the local area in the three year period between February 2015 and February 2018.
- 7.96 **Table 7.15** presents a summary of the collisions that occurred within the most recent three years.

Table 7.15 Road Collision Data for 2015 to 2018

Year	Collision severity			Total
	Slight	Serious	Fatal	
February 2015 – February 2016	12	1	0	13
February 2016 – February 2017	5	1	0	6
February 2017 – February 2018	17	2	0	19
Total	34	4	0	38

- 7.97 As shown in **Table 7.15**, there were a total of 38 collisions recorded over the three year period, the majority of which (90%) were classified as slight in severity. Of the casualties involved in the 38 collisions, 12 were pedestrians and 17 were cyclists with remainder being drivers or motorbike riders.
- 7.98 It is noted that no collisions were recorded on King's Head Yard and White Hart Yard.
- 7.99 The majority of collisions occurred at / near the junctions between Borough High Street and St. Thomas Street and between Borough High Street and Bedale Street. A total of 13 collisions took place at or near the junction of Borough High Street with St. Thomas Street all of which were slight. Of these collisions, three involved a pedestrian and five involved a cyclist.
- 7.100 Of the total number of collisions, 4 (10%) were serious and two of these occurred at the junction of Borough High Street with Southwark Street. The other two serious collisions took place on Borough High Street near its junction with Talbot Yard and near the junction of Union Street.
- 7.101 All of the collisions that occurred over the three-year period primarily occurred due to human error. "Failure to look properly", "reckless" behaviour and "poor manoeuvring" were among the main reasons for the collisions occurring. Only one collision was attributed to the conditions of the local highway network although this collision was also attributed to numerous human errors.
- 7.102 Overall, it can be concluded that the local area is relatively safe given the very few (4) serious injuries and no fatal collisions over the three year study period.

Assessment of Likely Significant Effects

The Works

- 7.103 Information related to the Works has been provided within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction** which includes an indicative construction programme, predicted construction traffic flows, vehicle routing and the proposed hours of working.

Vehicle Movements

- 7.104 The Works would generate short-term increases in vehicle movements on the highway in the vicinity of the Site. It should also be noted that these increases would not be constant throughout the construction period and consideration has only been given in the assessment to the highest peak frequency of vehicle movements as this gives a worst case assessment.
- 7.105 Based on the information provided within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction**, there is expected to be a maximum of 44 two-way Heavy Goods Vehicles (HGVs) movements a day during the most intense construction period (piling activities). Based on a ten-hour day, the peak hour two-way HGV traffic would be 4 movements (i.e. 2 in, 2 out). This represents a worst-case assessment as it looks at only the peak operational periods, at other times of construction traffic movements would be less.

Construction Vehicle Distribution

- 7.106 All construction vehicles would enter the Site via St. Thomas Street from the east. In order to depart, vehicles would travel in the westbound direction on St. Thomas Street and turn left onto Borough High Street which is a strategic route and enables connections with other major road links.

Impact of Construction Vehicles

- 7.107 The predicted increases in traffic flows during construction based on assessment baseline traffic are shown in **Tables 7.16, 7.17 and 7.18** for the AM peak, PM peak and 24 hours respectively.

Table 7.16 AM Peak Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,294	276	1,294	276	0.0%	0.0%
Borough High Street to the south of London Bridge	2,347	673	2,347	673	0.0%	0.0%
St. Thomas Street	258	7	262	11	1.7%	62.9%
White Hart Yard	4	1	4	1	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	413	56	414	57	0.1%	1.0%
Southwark Street to the west of Southwark Bridge Road	890	87	890	87	0.1%	1.3%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Southwark Bridge Road	759	134	760	135	0.1%	0.8%
Marshalsea Road	763	160	764	161	0.1%	0.7%
Borough High Street to the north of Union Street	862	160	864	162	0.2%	1.0%
Long Lane	683	45	683	45	0.1%	1.2%
Tower Bridge Road	1,392	145	1,392	145	0.1%	0.8%
Tooley Street	537	116	537	116	0.0%	0.2%

Table 7.17 PM Peak Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,108	236	1,108	236	0.0%	0.0%
Borough High Street to the south of London Bridge	2,525	572	2,525	572	0.0%	0.0%
St. Thomas Street	213	4	217	8	2.1%	100.0%
White Hart Yard	2	1	2	1	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	381	34	382	35	0.1%	1.6%
Southwark Street to the west of Southwark Bridge Road	741	72	742	73	0.1%	1.5%
Southwark Bridge Road	623	88	624	89	0.2%	1.3%
Marshalsea Road	755	107	756	108	0.1%	1.0%
Borough High Street to the north of Union Street	837	127	839	129	0.2%	1.3%
Long Lane	570	38	571	39	0.1%	1.4%
Tower Bridge Road	1,160	95	1,161	96	0.1%	1.2%
Tooley Street	460	100	460	100	0.0%	0.0%

Table 7.18 Daily Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	25,427	4,664	25,429	4,666	0.0%	0.0%
Borough High Street to the south of London Bridge	19,661	3,567	19,661	3,567	0.0%	0.0%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
St. Thomas Street	6,104	567	6,148	611	0.7%	7.8%
White Hart Yard	26	5	26	5	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	12,429	1,375	12,435	1,381	0.0%	0.4%
Southwark Street to the west of Southwark Bridge Road	14,887	1,447	14,898	1,458	0.1%	0.8%
Southwark Bridge Road	14,501	1,768	14,512	1,779	0.1%	0.6%
Marshalsea Road	14,319	2,044	14,330	2,055	0.1%	0.5%
Borough High Street to the north of Union Street	14,361	2,372	14,378	2,389	0.1%	0.7%
Long Lane	11,406	756	11,412	762	0.0%	0.7%
Tower Bridge Road	23,202	1,909	23,213	1,920	0.0%	0.6%
Tooley Street	8,965	1,934	8,965	1,934	0.0%	0.0%

- 7.108 From the above analysis, it can be seen that construction vehicle activity would have a negligible effect on the majority of the surrounding roads (i.e. resulting in an increase or reduction of less than 10%). The greatest changes in traffic would occur on St. Thomas Street which has existing low HGV flows in the AM and PM peak hour. The increase in HGVs would be up to 100% for St. Thomas Street in the PM peak. This equates to a major adverse effect, but this is only as a result of the low baseline HGV movements on this road. In real terms, there would only be an increase of 4 HGV movements (which is the equivalent of 2 HGVs) in the AM and PM peak hour which averages an additional 1 HGV vehicle every 15 minutes; this level of increase is not considered significant. It is also noted that St. Thomas Street has been closed to through traffic since 2012 as part of the London Bridge Station redevelopment project resulting in a lower amount of HGV traffic that would otherwise be expected to occur on this road. It is also noted that in respect of the overall traffic flows, the increase in vehicle movements would be less than 10% on all road links and therefore **insignificant**.
- 7.109 On the basis of the above, the overall effects of construction traffic on the road users on local highway network are assessed as being **insignificant** for all links but a **temporary adverse** effect of **major** significance as a result of HGV flows only on the road users on St. Thomas Street during the AM and PM peak hour.

Pedestrian Movement, Capacity, Severance, Delay, Amenity, Fear and Intimidation

- 7.110 Potential traffic and transportation related effects could arise causing temporary disruption to road users and pedestrians from vehicles (particularly HGVs) entering and leaving the Site. These include footway closure on the southern side of St. Thomas Street outside the Site with pedestrians being diverted onto the opposite side of the road.
- 7.111 Based on the proposed number of construction vehicles, the maximum addition of HGV movements in a single hour would be 4 HGVs on St Thomas Street i.e. 2 arrivals and 2 departures. Given the low number of construction vehicles associated with the Site, the effects on pedestrian movement would be **insignificant**.
- 7.112 Pedestrian capacity, severance, delay, amenity, fear and intimidation effects are considered to be **local** to immediately outside the Site, and **temporary adverse** effects of **moderate significance**

in the absence of mitigation, based on professional judgement and the traffic flow changes predicted.

- 7.113 It is noted that pedestrians on King's Head Yard and White Hart Yard are considered sensitive receptors to changes in HGV flows. However, construction vehicles would not enter the yards and therefore no further assessment is necessary.

Dust and Dirt on the Road

- 7.114 Another potential effect as a result of construction would be mud and dirt on road surfaces. This effect is considered to be **temporary adverse** effect of **minor significance** on pedestrians and cyclists in the absence of mitigation.

Cyclists

- 7.115 The existing cycle flow data set out within the baseline conditions in this Chapter shows that St Thomas Street and Borough High Street are well used by cyclists during the peak periods. However, cyclists already share road space with traffic in those locations. The addition of the development construction traffic onto those roads result in negligible increases in traffic and the roads are not sensitive to such a small increase in flows i.e. extra 4 movements on St Thomas Street and an extra 2 movements on Borough High Street.
- 7.116 Given the low number of construction vehicles associated with the Development (a maximum of 4 vehicle movements an hour), the effects on cyclists as a result of construction activities would be **insignificant**.
- 7.117 It is noted that cyclists on King's Head Yard and White Hart Yard are considered sensitive receptors to any changes in HGV flows. However, construction vehicles would not enter the yards and no further assessment is necessary.

Public Transport Users

- 7.118 During the Works there would be an increased number of workers in the local area who would use the public transport network. However, based on the proposed working hours which would be from 8am – 6pm, the majority of the construction workers would be travelling outside of the peak periods. Therefore, the significance of effects on the bus, rail and underground network users would be **insignificant**.

Completed and Operational Development

Land Uses within the Development

- 7.119 The proposals are to provide a total of 46,374 sqm Gross Internal Area (GIA) of B1 office within the Development. The majority of this space would be provided within the proposed Tower (44,906 sqm GIA) with 1,468 sqm GIA accommodated within Keats House and the Georgian Terraces fronting St. Thomas Street.
- 7.120 It is also proposed to provide 1,904 sqm GIA of flexible retail/restaurant Use Class (A1-A3) space, 719 sqm GIA of hub space (Class B1/D2) and an elevated public garden of 825 sqm GIA.
- 7.121 There would also be a 615 sqm GIA gym (Use Class D2) at basement level B1 of the Tower, open to both building users and the public.

Public Realm Improvements

- 7.122 The proposed public spaces include a public garden of 825 sqm GIA located on the 5th and 6th floors of the Tower. In addition, public realm is proposed on ground level outside the Tower and this is intended to be fully accessible and used by both the office workers and the wider general public. Hours of operation are intended to be extensive and the area could double up as a ‘classroom’ as part of an educational outreach programme. The area is split into five different sections (See Chapter 5: The Development):
- Main Courtyard – 730 sqm
 - New Yard – 140 sqm
 - St. Thomas Street Entrance – 250 sqm
 - East Courtyard – 160 sqm
 - East Passage – 70 sqm
- 7.123 A 719 sqm GIA hub provides a multi-level communal space linked via a fixed seat auditorium. Connected with the mid-high rise lift transfer, this provides quick and easy access for all office tenants. These levels also enjoy external terraces and balconies with a sheltered environment.
- 7.124 Additionally, as part of the planning application, it is proposed to open up the rear of the London Underground Limited (LUL) station building at ground level to provide a new exit directly onto the Site’s public realm and the enhanced connectivity it affords. TFL / LUL support the proposal and the Applicant is to enter into a developer agreement with London Underground Limited (LUL) to undertake the works.

Proposed Parking Provision

- 7.125 The Development would be car-free with the exception of two bays at basement level for the use of blue badge holders only.
- 7.126 Cycle parking at the Development would meet the provision requirements set out in the currently adopted London Plan, the Draft New London Plan, the currently adopted SC’s standards as well as SC’s emerging requirements in their Draft Local Plan. In total, the Development would provide 1,322 cycle spaces. Of these, 1,031 spaces would be long stay spaces located at basement level B1 of the Tower and within the pavement vaults underneath St. Thomas Street. 291 spaces would be for short-stay use (visitors and customers) of which 187 would be provided within the Tower with 104 located within the public realm at ground level.

Proposed Access and Servicing

- 7.127 Deliveries and servicing carried out by cars and LGVs would utilise White Hart Yard to access the vehicle lifts to the service yard (where three loading bays are proposed) on basement level B2. Two vehicle lifts have been provided, one for entering and the other for exiting vehicles.
- 7.128 Deliveries to the proposed office accommodation within Keats House and the Georgian Terrace are envisaged to stop on St. Thomas Street within the on-street loading bay or the pay & display bays if they are not being used for parking. Motorcycle couriers would also stop on St. Thomas Street to deliver / collect packages from the Development. It is also proposed that the on-street loading bay would be used by HGVs, given the existing access constraints on White Hart Yard and King’s Head Yard.
- 7.129 With regard to refuse, the strategy is that waste would be stored in 19 x 1,280l Eurobins at basement level with separate containers provided for the various waste streams

(general/recyclables). On-site management would transport the relevant waste stream to a ground level storage room via a bin lift on collection day. The storage room would be located at ground level fronting St. Thomas Street where an on-street loading bay is located allowing a refuse vehicle to stop within 10m of the waste storage room.

- 7.130 A Stage 1 Road Safety Audit (RSA) has been carried out for the proposed access and Servicing arrangements proposals. Comments and recommendations made by the Safety auditors have been reviewed and responded to. A copy of the RSA and the Designer's Response are provided within the Delivery, Servicing and Waste Management Plan.

Development Trips

- 7.131 **Table 7.19** provides the multi-modal trip generation for the Development for the weekday AM and PM peak hour with servicing vehicle generation shown in **Table 7.20**. Trip generation figures for the individual land uses along with the trip generation methodology are set out in greater detail within the Transport Assessment.

Table 7.19 Development Trips (Net Change)

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Underground	298	18	316	30	270	300
Underground (having used train as main mode)	133	8	141	13	121	134
Train	512	30	542	51	464	515
Bus	108	6	114	11	98	109
Bicycle	59	4	63	6	53	59
On foot	53	4	57	5	49	54
Car	-5	0	-5	0	-5	-5
Taxi (Person)	2	0	2	0	2	2
Motorcycle	16	1	17	1	15	16
Passenger in a car	4	0	4	1	3	4
Other (River Taxi)	3	0	3	0	3	3
Total	1,183	71	1,254	118	1,073	1,191

Table 7.20 Servicing Trips – Net Change

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Cars + LGVs	2	2	4	2	2	4	76	76	152
HGVs	0	0	0	0	0	0	20	20	40
Taxi Vehicles	2	2	4	3	3	6	28	28	56

Effect on Pedestrian Movement and Capacity

- 7.132 The total two-way pedestrian trips to and from the Development are calculated to be 1,032 and 981 in the AM and PM peak hours respectively. These include walking trips between the Development and transport access points such as to/from the local bus stops and

Underground/train station with the remainder being undertaken solely on foot. The breakdown of the pedestrian trips associated with the Development is set out below in Table 7.21:

Table 7.21 Breakdown of Development Walking Trips

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Walking to/from Underground	298	18	316	30	270	300
Walking to/from Underground (having used train as main mode)	133	8	141	13	121	134
Walking to/from London Bridge Train Station *	379	22	401	38	343	381
Walking to from Buses	108	6	114	11	98	109
Walking to from Other (River Taxi)	3	0	3	0	3	3
Solely on Foot	53	4	57	5	49	54
Total	974	58	1,032	97	884	981

*Note: Trips to/from railway stations other than London Bridge excluded from walking trips as they would use the Underground to get to/from the area and are already accounted for in the table.

- 7.133 The walking trips would be dissipated across the existing network and the main pedestrian desire lines are anticipated to be to/from the London Bridge Underground Station and National Rail Mainline Station and to local bus stops on Borough High Street and St. Thomas Street. Nearly 45% of the walking trips are predicted to be between the Site and the underground station. The nearest entrance to London Bridge Underground Station is adjacent to the Site on Borough High Street and as such these trips would be contained within the immediate vicinity of the Development minimising impacts on the local highway network. Furthermore, as part of the Development, there are proposals to provide a new entrance to the Underground station directly from the Development's public square. With the new entrance in place, the Development walking trips associated with the Underground access would be contained within the Site's boundary and would have no impact on the pedestrian network.
- 7.134 It is noted that approximately 39% of walking trips would be between the Site and London Bridge National Rail station. The Development would have a pedestrian entrance directly off St. Thomas Street approximately 100m to the west of London Bridge Street which provides access to the station either via the retail arcade or the escalators adjacent to the Shard. The pedestrian provision between the Development's entrance and London Bridge station is of high quality with some recently improved sections especially in the vicinity of the Shard. The only walking trips that would be expected to be undertaken over a wider pedestrian network are those being made solely on foot which only account for approximately 6% of all walking trips. Pedestrian trips to and from the bus stops would be on the local pedestrian network.
- 7.135 As shown in Space Syntax's Pedestrian Forecast and Landscape Assessment the new routes proposed by the Development create more permeability, adding circulation choices and alternative routes, which helps to evenly disseminate movement at the busy Borough High Street and St. Thomas Street junction, and therefore takes pressure off Borough High Street and St. Thomas Street. For example the new route through the Site would reduce flows by 16% along the Borough High Street eastern footway compared with a do-nothing scenario. The additional permeability and the improved public realm of the Development results in a significant improvement of Pedestrian Comfort Levels (PCL) around the Site. All locations within the Development are comfortable and well above the minimum PCL recommended."

- 7.136 The existing and proposed infrastructure is therefore considered sufficient to meet the additional pedestrian and cyclists demand and bring benefits to the local area. Hence the Development would have a **permanent beneficial** effect of **moderate significance** on pedestrian movement and available pedestrian facility capacity in the local area.
- 7.137 It is noted that the Development would increase traffic flows on White Hart Yard which is considered to be a sensitive receptor as it is a road shared between vehicles and pedestrians with limited footway provision. It will be shown later in the chapter that the addition of the Development traffic would technically result in a major adverse effect on White Hart Yard due to very low baseline traffic flows on this road. It should be noted, however, that during the AM and PM peak hour, the flows are set to increase to 8 and 6 two-way movements respectively and this level of increase is considered insignificant. The resultant traffic flows would continue to be well within the 'low traffic volumes' threshold for when pedestrians treat a street as a space to be occupied and not a road based on advice provided within the Manual for Streets. Therefore, the effect of the Development on pedestrian movement and capacity on White Hart Yard could be classed as an **adverse** effect of **major significance**. However, due to the very low baseline traffic levels on the yard, in real terms, the effect on pedestrian movement and capacity has been assessed as an **adverse** effect of **moderate significance** on White Hart Yard before mitigation.

Effect on Pedestrian Severance, Delay, Amenity and Fear and Intimidation

- 7.138 The pedestrian environment within the Site would be of high quality with the provision of fully accessible public realm, providing enhanced connectivity through new public routes and a public square. The public areas would be well maintained and would benefit from natural natural/passive surveillance provided by the office lobby and entrances to the retail/restaurant units. The Development would also contribute to the perception of pedestrian safety on Site by significantly enhancing the public realm.
- 7.139 The Development would enhance permeability by providing a pedestrian route through the Site linking King's Head Yard with St. Thomas Street. At present, no such connection is possible.
- 7.140 The proposed new connections and enhanced permeability are expected to alter pedestrian movement in the vicinity of the Site, this in turn affecting pedestrian comfort on the adjacent footways. **Table 7.22** shows how the pedestrian comfort levels are forecast to change as a result of the Development.

Table 7.22 PCL Assessment

Link Ref	Future Assessment Baseline PCL (Without the Development)		Future Assessment Baseline PCL (With the Development)	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B	B	B	B+
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B	B	B	A-
2a (St Thomas Street)	F	F	B-	B
2b (St Thomas Street)	B-	B-	B+	A+

3a (St Thomas Street)	F	F	B-	B+
3b (St Thomas Street)	B-	B-	B-	B+
4a (Borough High Street)	C+	C+	B	B
4b (Borough High Street)	C	C	B-	B-
5a (Borough High Street)	C	C	B	B-
5b (Borough High Street)	D	D	C	C
5c (Borough High Street)	C+	C+	B-	B-
6 (King's Head Yard)	A+	A+	A	A
7 (King's Head Yard)	A+	A+	A+	A+

7.141 The highlighted cells indicate where a significant change in pedestrian comfort is predicted as a result of the improved connections and the associated changes to pedestrian movement. This shows that many locations are predicted to operate in accordance with the recommended level of comfort as a result of the Development where otherwise they would be expected to operate with below the recommended level of comfort.

7.142 With the above in mind, the effects local to the Site would be:

- **permanent beneficial** effect of **moderate significance** on pedestrian severance given that the Development would open up the existing Site to pedestrians and potentially offer a new connection to the London Bridge Underground Station in future;
- **permanent beneficial** effect of **moderate significance** on pedestrian delay due to increased connectivity and permeability. This is with the exception of pedestrians on White Hart Yard where the effects are being assessed as **minor adverse** in respect of pedestrian delay;
- **permanent beneficial** effect of **minor significance** on pedestrian fear and intimidation due to provision of active frontages and improvements to and creation of public amenity spaces which is considered significant. The Development would allow for natural surveillance, provision of lighting and CCTV to provide security coverage within public and private areas; and
- **permanent beneficial** effect of **major significance** on pedestrian amenity due to public realm enhancements, provision of active frontages, seating, landscaping and improvements to open spaces and improvement to pedestrian comfort level as a result of the Development.

Effect on Cycle Network

7.143 As shown on **Table 7.19**, the Development is expected to generate 63 and 59 cycle trips in the AM and PM peak respectively. The proposed long-stay cycle parking at the Site would more than meet the operational demand. Additionally, cycle stands would be provided within the public realm for the use of the visitors/customers and the general public.

7.144 With the above in mind, the Development is expected to have an **insignificant** effect on cyclists on the local cycle network.

Effect on Bus Services

- 7.145 As shown on **Table 7.19**, the Development is predicted to generate 114 two-way bus trips during the AM peak and 109 two-way bus trips during the PM peak.
- 7.146 Based on an average bus operational capacity of 63 persons and a weekday AM and PM peak bus frequency of 128 buses in each direction, the planning bus capacity was calculated as 8,064 passengers per direction per hour. On this basis, the effect of the additional bus trips associated with the Development on the bus network is set out in **Table 7.23**.

Table 7.23 Bus Network Impact Assessment

Time and direction		Bus Trips	Bus network capacity (hr)	% of bus network capacity
AM Peak	In	108	8,064	1.34%
	Out	6	8,064	0.07%
PM Peak	In	11	8,001	0.14%
	Out	98	8,001	1.22%

- 7.147 **Table 7.23** shows that the greatest impact on the bus network as a result of the Development would be 1.34% which would occur as a result of the arrival trips in the AM peak and equates to approximately on average one additional person per bus. This level of increase in passengers is considered **insignificant** on the existing bus users.

Effect on Underground Services

Planning Capacity

- 7.148 As shown on **Table 7.19**, the Development is predicted to generate 316 and 300 two-way London Underground person trips during the AM and PM peak hour respectively. Additionally, some of the Development rail trips are expected to use the underground to get to London Bridge having used one of the other railway stations in London as their main mode. Based on the analysis of the 2011 Census "*Location of usual residence and place of work by method of travel to work*" it has been found that about 26% of rail trips would terminate at stations other than London Bridge and therefore, 26% of these rail trips have been added onto the number of Underground trips (141 and 134 in the AM and PM peak hour respectively). As a result, the total number of Underground trips is 457 and 434 two-way trips in the AM and PM peak hour respectively.
- 7.149 London Bridge Underground station is served by the Jubilee Line and the Bank branch of the Northern Line and thus the Underground trips would be split between the various services. The 2011 Census data: Special Workplace Statistics (SWS), which provides travel to work data, has been used to determine the direction employees would be travelling to and from and then which Underground services is most appropriate. The split of the main mode underground trips is set out in **Table 7.24**.

Table 7.24 Split of Underground Trips

Underground Line	Direction	Arrivals	Departures
Jubilee Line Westbound	From Bermondsey to London Bridge	22.7%	0%
	To Southwark from London Bridge	0%	22.7%
Jubilee Line Eastbound	From Southwark to London Bridge	20.3%	0%
	To Bermondsey from London Bridge	0%	20.3%

Underground Line	Direction	Arrivals	Departures
Northern Line Northbound	From Borough to London Bridge	16.1%	0%
	To Bank from London Bridge	0%	16.1%
Northern Line Southbound	From Bank to London Bridge	40.9%	0%
	To Borough from London Bridge	0%	40.9%

7.150 In respect of the rail trips that have been added on the underground as a secondary mode, the expected split is as follows based on the location of the railways stations relative to London Bridge and available underground connections:

- Jubilee Line to/from Southwark 44.4%; and
- Northern Line to/from Bank 55.6%.

Planning Capacity

7.151 Planning capacity figures obtained from TfL indicate that each Jubilee Line train has a planning capacity of 960 passengers. Based on the AM Peak frequency of 30 trains per hour per direction there is a planning capacity of 28,800 passenger per hour per direction (pphd) on the Jubilee Line. With regard to the Northern Line, each train has a planning capacity of 800 passengers and therefore capacity of 20,000 pphd in the northbound direction in the AM peak and 18,400 in the southbound direction. In the PM peak the capacity is 15,295 per each direction. The assessment of the Development underground trips on the Jubilee Line and the Northern Line planning capacity is set out in **Table 7.25** and **Table 7.26** respectively.

Table 7.25 Assessment of Development Jubilee Line trips on Jubilee Line Planning Capacity

Time	Direction	Jubilee Line person trips	Jubilee Line planning capacity (pphd)	% of Jubilee Line network capacity
AM Peak	Westbound To Southwark	75	28,800	0.26%
	Eastbound To Bermondsey	124	28,800	0.43%
PM Peak	Westbound To Southwark	115	28,800	0.40%
	Eastbound To Bermondsey	73	28,800	0.25%

7.152 The largest impact on the Jubilee Line network would be 0.43% of the planning capacity, due to AM peak arrivals from the west. The likely effect of the Development on the users of the Jubilee Line network is therefore assessed as **insignificant**.

Table 7.26 Assessment of Development Northern Line trips on Northern Line Planning Capacity

Time	Direction	Northern Line person trips	Northern Line planning capacity (pphd)	% of Northern Line network capacity
AM Peak	Northbound to Bank	60	20,000	0.30%
	Southbound to Borough	199	18,400	1.08%
PM Peak	Northbound to Bank	183	18,400	0.99%
	Southbound to Borough	63	18,400	0.34%

7.153 It can be seen that the largest impact on the Jubilee Line network would be 1.08% of the planning capacity, due to AM peak arrivals from the north. The likely effect of the Development on the users of the Northern Line network is therefore assessed as **insignificant**.

Demand Capacity

- 7.154 The passenger numbers on the Jubilee Line and the Northern Line have been obtained from TfL in order to establish the effects of the Development on the assessment baseline line flows. The assessment baseline flows have been created by applying predicted growth in passenger numbers to the existing baseline flows, supplied by TfL. This has been undertaken for the AM peak hour when the impact of the Development on the underground network is predicted to be greater than the PM peak.

Table 7.27 Development (Demand Capacity) Underground Person Trips AM Peak

Direction		Baseline Planning Capacity (pphd)	Assessment Baseline Demand Capacity	Ratio of Demand to Capacity	Development Trips	Assessment Baseline + Development	Ratio of Demand to Capacity	% Change
Jubilee Line	From Bermondsey	28,800	24,828	86.21%	68	24,896	86.4%	0.23%
	To Southwark	28,800	24,688	85.72%	7	24,695	85.7%	0.03%
	From Southwark	28,800	20,313	70.53%	120	20,433	70.9%	0.42%
	To Bermondsey	28,800	21,214	73.66%	4	21,218	73.7%	0.01%
Northern Line	From Borough	20,000	15,402	77.01%	48	15,450	77.3%	0.24%
	To Bank	20,000	18,094	90.47%	12	18,106	90.5%	0.06%
	From Bank	18,400	12,243	66.54%	196	12,439	67.6%	1.06%
	To Borough	18,400	6,353	34.53%	3	6,356	34.5%	0.01%

- 7.155 **Table 7.27** shows that in respect of the Jubilee Line services, the greatest increase of ratio to flow capacity is 0.42% on inbound services from the west. Regarding the Northern Line, the highest increase of ratio to flow capacity is 1.06 % for inbound services from the North. Therefore, the effect of the Development on the users of the Jubilee Line and the Northern Line network is assessed as **insignificant**.

Effect on Rail Services

- 7.156 As shown in Table 7.19, the Development is predicted to generate 542 two-way rail trips during the AM peak and 515 two-way rail trips during the PM peak. As mentioned previously, based on the SWS Census data, approximately 74% of rail trips would be expected to use London Bridge Station with 26% of trips using other railways stations within London and then using the underground. The number of total trips expected to use London Bridge Station is therefore calculated as 401 and 381 trips in the AM and PM peak respectively.
- 7.157 London Bridge Station is currently served by 121 trains arriving and departing in the AM Peak with 113 services arriving and departing in the PM peak hour including South-eastern, Southern and Thameslink services. Based on the information provided on each of the train operators' websites, the average capacity of each train has been taken as 980 passengers. This equates to a capacity of 118,588 passengers in each direction in the AM Peak and 115,200 passengers in the PM peak hour. Therefore, based on the Development rail trips, the impact of on the rail network has been calculated in **Table 7.28**.

Table 7.28 Rail Network Impact Assessment

Time and direction		Rail Trips	Rail network capacity (hr)	% of rail network capacity
AM Peak	In	379	118,588	0.32%
	Out	22	118,588	0.02%
PM Peak	In	38	115,200	0.03%
	Out	343	115,200	0.30%

- 7.158 The above shows that the largest impact on the current rail network is expected to be 0.32 % which would occur in the weekday AM peak hour as a result of the additional 379 inbound trips. This represents an **insignificant** effect on rail users.

Effect on Traffic Flows

- 7.159 The Development is predicted to generate 8 two-way vehicle trips during both the AM and PM peak hour and 258 two-way vehicle trips across the whole day. **Table 7.29, Table 7.30 and Table 7.31** show the predicted effect these trips would have on the local highway network during the AM, PM peak and across the whole day.

Table 7.29 Effect of Development Trips on Traffic Flows – AM Peak

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,294	276	1,296	276	0.1%	0.0%
Borough High Street to the south of London Bridge	2,347	673	2,349	673	0.1%	0.0%
St. Thomas Street	258	7	263	7	1.7%	0.0%
White Hart Yard	4	1	8	1	100.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	413	56	415	56	0.5%	0.0%
Southwark Street to the west of Southwark Bridge Road	890	87	892	87	0.2%	0.0%
Southwark Bridge Road	759	134	762	134	0.3%	0.0%
Marshalsea Road	763	160	766	160	0.3%	0.0%
Borough High Street to the north of Union Street	862	160	867	160	0.6%	0.0%
Long Lane	683	45	684	45	0.1%	0.0%
Tower Bridge Road to the south of Druid Lane	1,392	145	1,392	145	0.0%	0.0%
Tooley Street	537	116	537	116	0.0%	0.0%

Table 7.30 Effect of Development Trips on Traffic Flows – PM Peak

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,108	236	1,110	236	0.2%	0.0%
Borough High Street to the south of London Bridge	2,525	572	2,527	572	0.1%	0.0%
St. Thomas Street	213	4	220	4	3.1%	0.0%
White Hart Yard	2	1	6	1	200.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	381	34	384	34	0.7%	0.0%
Southwark Street to the west of Southwark Bridge Road	741	72	744	72	0.3%	0.0%
Southwark Bridge Road	623	88	626	88	0.4%	0.0%
Marshalsea Road	755	107	758	107	0.3%	0.0%
Borough High Street to the north of Union Street	837	127	843	127	0.7%	0.0%
Long Lane	570	38	571	38	0.1%	0.0%
Tower Bridge Road to the south of Druid Lane	1,160	95	1,160	95	0.0%	0.0%
Tooley Street	460	100	460	100	0.0%	0.0%

Table 7.31 Effect of Development Trips on Traffic Flows – Daily

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	25,427	4,664	25,462	4,666	0.1%	0.0%
Borough High Street to the south of London Bridge	19,661	3,567	19,694	3,567	0.2%	0.0%
St. Thomas Street	6,104	567	6,214	608	1.8%	7.2%
White Hart Yard	26	5	178	5	584.6%	0.0%
Southwark Street to the east of Southwark Bridge Road	12,429	1,375	12,485	1,380	0.5%	0.4%
Southwark Street to the west of Southwark Bridge Road	14,887	1,447	14,948	1,457	0.4%	0.7%
Southwark Bridge Road	14,501	1,768	14,605	1,778	0.7%	0.6%
Marshalsea Road	14,319	2,044	14,423	2,054	0.7%	0.5%
Borough High Street to the north of Union Street	14,361	2,372	14,540	2,387	1.2%	0.6%
Long Lane	11,406	756	11,429	761	0.2%	0.7%
Tower Bridge Road to the south of Druid Lane	23,202	1,909	23,211	1,919	0.0%	0.5%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
Tooley Street	8,965	1,934	8,967	1,936	0.0%	0.1%
London Bridge to the north of Tooley Street	25,427	4,664	25,462	4,666	0.1%	0.0%

- 7.160 The above tables show that all of the road links would experience change in traffic flows of less than 10% with traffic flows predicted to increase by negligible amounts. This is with the exception of White Hart Yard where the increase in traffic would technically result in a major adverse effect. However, this is only as a result of very low baseline traffic flows on this road at present. The resultant traffic flows would remain within the environmental capacity thresholds for when pedestrians treat a street as a space to be occupied and not a road. With the above in mind, the Development traffic would have an **insignificant** effect on the road users in respect of all road links other than White Hart Yard where the effect is being assessed as being **adverse** and of **major significance** although this would result in an **insignificant** level of traffic flow.

Mitigation Measures and Likely Residual Effects

- 7.161 As part of the Applicant's commitment to ensure an appropriate development response, the Applicant and the design team have developed a number of measures within the Development proposals to ensure that the potential for adverse effects are avoided. These are discussed in the following paragraphs.

The Works

Construction Traffic Vehicular Movements

- 7.162 Consideration has been given to the likely numbers of construction vehicles and the routes to and from the Site. The construction vehicles would be managed in accordance with a CLP and a SEMP. These documents would be agreed with the SC prior to the commencement of works and are expected to be secured by planning conditions.
- 7.163 Other potential effects as a result of construction would be on road surfaces from mud and dirt, as well as temporary footway closure on the southern side of St. Thomas Street which would be actively managed in accordance with measures set out in the SEMP and the CLP. These measures would be expected to be incorporated as planning conditions / Section 106 measures and are therefore considered as mitigation measures rather than part of the scheme design, hence their consideration as such within this assessment. These measures are summarised as follows:
- restricted hours of work;
 - demolition and construction method statements;
 - Considerate Constructors Scheme;
 - management of deliveries and trade contractors;
 - management of noise, vibration and dust; and
 - management of construction waste.
- 7.164 With the implementation of a SEMP and CLP, the residual effects of the Works traffic are considered to be **insignificant** on the road users.

Dust and Dirt on the Road

- 7.165 In respect of dust and dirt mitigation, this would be undertaken as per details provided within SEMP which would be agreed with SC and TfL. This includes washing down vehicles before leaving the Site.

Pedestrian and Cyclist Movement and Amenity

- 7.166 Details on the management of footway closures and routing would be agreed with the SC through the SEMP post-planning and prior to commencement of the Development as part of discharging the expected planning conditions / Section 106 Obligations for the CLP and SEMP.
- 7.167 Given the predicted level of hourly volumes of construction vehicles associated with Works activities on the Site and the control measures within the CLP and SEMP that would be implemented, the residual effects of construction traffic on pedestrian movement and capacity would be **insignificant**.
- 7.168 Details on the management of road closures and routing would be agreed with SC through the CLP and SEMP post-planning. The residual effects of construction traffic on cyclists would be **insignificant**.

Public Transport (DLR, LUL, Bus Network)

- 7.169 During the construction period there would be an increased number of workers in the local area that would use the public transport network. As the majority of the construction workers would be travelling outside of the peak periods due to their normal working hours, the residual effect on public transport users would therefore be **insignificant**.

Completed and Operational Development

Pedestrian and Cyclist Facilities and Conditions

- 7.170 The pedestrian and cyclist environment within the Site would be enhanced by the Development and therefore no mitigation is required.
- 7.171 The Development would create an attractive pedestrian route using King's Head Yard which would be largely car-free. This in combination with the management of vehicle servicing trips through the Delivery, Servicing and Waste Management Plan (DSWMP) for the Development would to a degree mitigate the major adverse effect of increased traffic flow on the Yard. The residual effects on pedestrians and cyclists using White Hart Yard are therefore assessed as **permanent adverse** effects of **minor significance**. It is noted that the level of traffic expected on White Hart Yard would continue to be insignificant.
- 7.172 Outside of White Hart Yard, the residual effects are assessed as follows:
- Pedestrian movement and capacity – **beneficial** effect of **moderate significance**.
 - Pedestrian severance – **beneficial** effect of **moderate significance**.
 - Pedestrian delay – **beneficial** effect of **moderate significance**.
 - Pedestrian fear and intimidation – **beneficial** effect of **minor significance**.
 - Pedestrian amenity – **beneficial** effect of **major significance**.
 - Cyclists – **insignificant** effect.
- 7.173 As shown above, there would be **beneficial residual** effects of **major, moderate and minor significance** on pedestrians and cyclists within the study area.

Public Transport Network and Accessibility

- 7.174 The completed Development is predicted to have a negligible effect on bus, London Underground and rail service capacities. It is noted that TfL might require contributions towards improving bus service frequencies as part of the Development to accommodate the additional patronage predicted. This would be secured through a financial contribution to bus services, if required. As this would increase service frequencies or the number of services provided it would also benefit the wider public within the area.
- 7.175 The residual effect on bus, London Underground and rail services would be **insignificant**.

Traffic Flows and Highways

- 7.176 The increase in traffic on White Hart Yard compared to the very low baseline flows is within the threshold of environmental capacity of the road and no mitigation is required.
- 7.177 The effects on the wider highway network are considered to be **insignificant** and therefore no mitigation is required in respect of traffic flows on the surrounding highway network.
- 7.178 The completed Development would be subject to a Travel Plan, and a DSWMP. Each of these would be subject to planning conditions or Section 106 Obligations within any planning consent for discharge post-planning.
- Travel Plan – The Development would be subject to a Workplace Travel Plan which would be expected to be subject to planning condition or Section 106 Obligation for discharge post-planning, prior to first occupation. As the Development is car-free and has a central London location with excellent public transport accessibility, it is already sustainable and staff and visitors would already be influenced towards sustainable modes. Therefore, the proposed measures would be focused on provision of information to staff to make them aware of all travel options available to them to encourage employees to move up within the sustainable transport hierarchy (e.g. from public transport to walking or cycling where practical). Other measures would include provision of high quality cycle parking, lockers and shower facilities which form part of the design of the Development, to make cycling a viable alternative as a transport mode. With the above in mind, it is considered that no other measures would be necessary as part of the Travel Plan as staff would be expected to select sustainable and active modes for travel to and from the Development.
 - DSWMP – this would manage the arrival and departure of delivery and servicing vehicles and their activities when on-site.
- 7.179 The residual effect on traffic flows and highway capacity is **insignificant** except for White Hart Yard where there would be an **adverse** effect of **minor significance**.
- 7.180 **Table 7.32** summarises the likely significant effects, mitigation measures and likely residual effects identified within this Chapter.

Table 7.32: Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
The Works			
Effects of traffic flows from construction vehicle movements upon the local highway network users.	Adverse effect of major significance on St. Thomas Street (HGVs only), insignificant on all other links.	Site Environmental Management Plan (SEMP) and Construction Logistics Plan (CLP) prior to commencement	Insignificant
Effects of construction activities on pedestrians in terms of movement and capacity, severance, delay, fear and intimidation, amenity.	Adverse effect of moderate significance to Insignificant	Management of walkways, any temporary closures and routing would be agreed with the SC through the CLP and SEMP post-planning and prior to commencement.	Insignificant
Dust and dirt	Insignificant	Dust and dirt to be prevented and managed as set out in SEMP.	Insignificant
Effects of construction on cyclists.	Insignificant	Management of road closures and routing would be agreed with the SC through the CLP and SEMP post-planning and prior to commencement.	Insignificant
Effects of increased number of public transport trips as a result of construction workers' travel on public transport users.	Insignificant	None required	Insignificant
Completed and Operational Development			
Effects of the Development on pedestrians in respect of pedestrian movement and capacity.	Beneficial effect of moderate significance. adverse effect of moderate significance on White Hart Yard only.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. Delivery, Servicing and Waste Management Plan (DSWMP) minimising servicing vehicles on White Hart Yard during peak periods.	beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian severance.	Beneficial effect of moderate significance. Insignificant on White Hart Yard	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard	Beneficial effect of moderate significance. Insignificant on White Hart Yard

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
		from White Hart Yard.	
Effects of the Development on pedestrian delay.	Beneficial effect of moderate significance. Adverse effect of minor significance on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. DSWMP minimising servicing vehicles on White Hart Yard during peak periods.	Beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian fear and intimidation.	Beneficial effect of minor significance. Insignificant on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of minor significance. Insignificant on White Hart Yard
Effects of the Development on pedestrian amenity.	Beneficial effect of major significance. Insignificant on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of major significance. Insignificant on White Hart Yard.
Effects of the Development cycle trips on cyclists using the local cycle network	Insignificant	None required	Insignificant
Effects of the Development bus services on bus users.	Insignificant	None required	Insignificant
Effects of the Development underground trips on Underground passengers.	Insignificant	None required	Insignificant
Effects of the Development Rail trips on train passengers.	Insignificant	None required	Insignificant
Effects of the Development Traffic Flows on road users on the local highway network.	Adverse effect of major significance on White Hart Yard. Insignificant on all other links.	DSWMP minimising servicing vehicles on White Hart Yard during peak periods.	Adverse effect of minor significance on White Hart Yard. Insignificant on all other links.

References

- 1 Institute of Environmental Management and Assessment (1993); Guideline for the Environmental Assessment of Road Traffic
- 2 <https://tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>
- 3 Department for Transport (2007): Guidance on Transport Assessment.
- 4 Department for Transport (1993); Design Manual for Roads and Bridges – Volume 11, Section 3, Part 8: Pedestrians, Cyclists, Equestrians and Community Effects.
- 5 Transport for London (2010): Pedestrian Comfort Guidance for London.
- 6 <https://tfl.gov.uk/info-for/urban-planning-and-construction>

G. Updated ES Chapter 9: Air Quality

DRAFT

Appendices

9. Air Quality

Introduction

- 9.1 This chapter, supersedes and replaces Chapter 9 of the December 2018 ES. This updated chapter, prepared by Waterman Infrastructure & Environment (Waterman IE), presents an assessment of the likely air quality effects of the Development from changes in transport emissions and emissions from the proposed heating and energy plant associated with the operational Development. Information on the transport trips have been provided by Transport Planning Practice Limited, and information on the heating and energy plant during the operation of the completed Development have been provided by Chapman BDSP (the project's building services engineer).
- 9.2 This chapter provides a description of the assessment methodology, a description of the relevant baseline conditions of the Site and surrounding area and an assessment of the likely significant effects of the Development, that could arise during demolition, deconstruction, refurbishment and construction (the 'Works') and once the Development is completed and operational. Where appropriate, mitigation measures are identified to avoid, reduce or offset adverse effects and / or enhance likely beneficial effects. Taking account of the mitigation measures, the nature and significance of the likely residual effects are also described.
- 9.3 This chapter is accompanied by the following appendices, presented in **ES Part 4**:
- **Appendix 9.1:** Correspondence with Southwark Council;
 - **Appendix 9.2:** Air Quality Assessment Detailed Methodology; and
 - **Appendix 9.3:** Air Quality Neutral Assessment.
- 9.4 Please note that for the purposes of this ES Chapter, the demolition, deconstruction, refurbishment and construction works will be referred to as 'the Works'. Where required, specific reference to the deconstruction and refurbishment works will be made.

Assessment Methodology and Significance Criteria

Assessment Methodology

Consultation

- 9.5 As well as the EIA Scoping Report (submitted in August 2018) and EIA Scoping Opinion (dated 4 October 2018) (described in **Chapter 2: EIA Methodology**), consultation was undertaken with the Environmental Health Department at Southwark Council (SC) to confirm the methodology to be used within the air quality assessment (see **Appendix 9.1**).

Establishing Baseline Conditions

- 9.6 To establish baseline conditions at and around the Site, information has been taken from a review of SC's Air Quality Updating and Screening Assessment and Progress Reports, published as part of the Local Air Quality Management (LAQM) regime. It was agreed with the Principal Enforcement Officer within the Environmental Health Department at SC that site specific diffusion tube baseline NO₂ monitoring was not required (see **Appendix 9.1**).

Assessment of Likely Significant Air Quality Effects

- 9.7 This section of this chapter outlines the methodology used to assess the likely significant air quality effects arising from the Works and the completed and operational Development.
- 9.8 This air quality assessment has been undertaken using a variety of information and procedures, and professional judgement, as follows:
- review of the local area to identify potentially sensitive receptor locations that could be affected by changes in air quality due to the Development;
 - identification of air quality sensitive receptors within the Site, to determine the air quality conditions to which future users of the Development would be exposed;
 - review and use of relevant traffic flow and car park data from the Applicant's transport consultant (Transport Planning Practice Ltd), which inherently accounts for traffic flows relating to the schemes considered within the cumulative effect's assessment (**Chapter 14**);
 - Dispersion modelling of pollutant emissions using the ADMS-Roads model¹ to predict the likely pollutant concentrations at the Site and surrounding area; and the likely effect of the complete and operational Development on local air quality from additional traffic emissions and the two proposed car parks. Version 7.1 of the NO_x Calculator, is available from the LAQM Support website² and has been applied to derive the road-related NO₂ concentrations from the modelled NO_x concentrations;
 - review and use of relevant heating and energy plant data from the Applicant's building services engineer (Chapman BDSP);
 - application of atmospheric dispersion modelling using the ADMS 5TM model to predict the likely pollutant concentrations at the Site and the effects of the Development on local air quality due to the additional emissions that would be generated by the proposed energy and heating plant when operational;
 - comparison of the predicted air pollutant concentrations with monitored concentrations from three SC diffusion tubes. The tubes are located on Lamppost No 02 on Borough High Street (SDT 81), Lamppost No 01 Adjacent to 125 Borough High St (SDT 82), and Little Dorritt Park Entrance Lamppost No 8 (SDT 84) located approximately 45m, 170m and 360m from the Site boundary respectively. Adjustment of the model results was then undertaken, details are provided in **Appendix 9.2**;
 - determination of the effects of the operational phase of the Development on air quality, based on the application of the Environmental Protection UK and Institute of Air Quality Management significance criteria to modelled results;
 - qualitative assessment of the likely effects of the proposed activities during the Works;
 - an Air Quality Neutral Assessment has been completed which compares the Development against the relevant building emissions benchmarks to determine whether the Development is Air Quality Neutral. This concludes the Development would be Air Quality Neutral and that no further mitigation measures are required. Details are provided in **Appendix 9.3**; and
 - identification of mitigation measures, where appropriate.
- 9.9 The UK Air Quality Strategy (AQS) identifies the pollutants associated with road traffic emissions and local air quality as:
- Nitrogen oxides (NO_x);

- Particulate matter (as PM₁₀ (particles with a diameter up to 10µm) and PM_{2.5} (particles with a diameter up to 2.5µm));
- Carbon monoxide (CO);
- 1, 3-butadiene (C₄H₆); and
- Benzene (C₆H₆).

9.10 Emissions of total NO_x from motor vehicle exhausts comprise nitric oxide (NO) and nitrogen dioxide (NO₂). NO oxidises in the atmosphere to form NO₂. The most significant pollutants associated with road traffic emissions, in relation to human health, are NO₂ and particulate matter (PM₁₀ and PM_{2.5}). This assessment therefore focuses on NO₂ and particulate matter (PM₁₀ and PM_{2.5}).

The Works

Dust Emissions

- 9.11 In line with the Mayor of London Control of Dust and Emissions Supplementary Planning Guidance (SPG)³, the assessment of the effects of the activities undertaken during the Works in relation to dust has been based on the IAQM's Guidance on the Assessment of Dust from Demolition and Construction⁴ and the following:
- Consideration of planned construction activities and their phasing; and
 - A review of the sensitive uses in the area immediately surrounding the Site in relation to their distance from the Site.
- 9.12 The SPG identifies receptors within 350m of the Site boundary, and within 50m of construction routes would be sensitive to emissions and nuisance dust from construction activities. **Figure 9.1** shows the area surrounding the Site where sensitive receptors could be affected. **Table 9.3** presents the location of individual sensitive receptors assessed for the operational phase of the Development.
- 9.13 Following the SPG, construction activities can be divided into the following four distinct activities:
- Demolition - any activity involved in the removal of an existing building, including any deconstruction;
 - Earthworks – the excavation, haulage, tipping and stockpiling of material, but may also involve levelling the site and landscaping;
 - Construction – any activity involved with the provision of a new structure; and
 - Trackout – the movement of vehicles from unpaved ground on a site, where they can accumulate mud and dirt, onto the public road network where dust might be deposited.
- 9.14 The SPG considers three separate dust effects, within proximity of sensitive receptors being taken into consideration for:
- annoyance due to dust soiling;
 - potential effects on human health due to significant increase in exposure to PM₁₀; and
 - harm to ecological receptors.

- 9.15 In accordance with the SPG, to determine the risk of the Works phase, the following four step process, as set out in **Table 9.1**, has been undertaken.

Table 9.1: Summary of the Guidance for Undertaking a Construction Dust Assessment

Step	Description
1. Screen the Need for a Detailed Assessment	Simple distance based criteria are used to determine the requirement for a detailed dust assessment. An assessment would normally be required where there are 'human receptors' within 50m of the boundary of the site and / or within 50m of the route(s) used by construction vehicles on public highway, up to 350m from the site entrance or 'ecological receptors' within 50m of the boundary of the site and/or within 50m of the route(s) used by construction vehicles on public highway, up to 500m from the site entrance.
2. Assess the Risk of Dust Impacts	<p>The risk of dust arising in sufficient quantities to cause annoyance and/or health or ecological effects should be determined using four risk categories: insignificant, low, medium and high based on the following factors:</p> <ul style="list-style-type: none"> the scale and nature of the works, which determines the risk of dust arising (i.e. the magnitude of potential dust emissions) classed as small, medium or large; and the sensitivity of the area to dust effects, considered separately for ecological and human receptors (i.e. the potential for effects) defined as low, medium or high.
a. Define the potential Dust Emission Magnitude	Classify the magnitude of the likely risk as small, medium or large for the four activities.
b. Define the Sensitivity of the Areas	Define the sensitivity of receptors as High, Medium or Low. Define sensitivity of people to Dust Soiling Effects and define the sensitivities of people to the health effects of PM10.
c. Define the Risk of Impacts	<p>Combine the magnitude (as detailed in 2a) and the sensitivity (in 2b) to determine the risk of impacts with no mitigation applied.</p> <p>Summarise the risk of dusts impacts for the four activities in a table</p>

- 9.16 Following the above air quality dust risk assessment, appropriate dust and pollution measures are provided to ensure the air quality impacts of construction are minimised and any mitigation measures employed are effective.
- 9.17 The potential impacts and effects of construction activities on local air quality were based on professional judgement and reference to the criteria set out in the SPG. This includes an assessment of the risk of dust effects arising from the likely construction activities, based on the magnitude of potential dust emissions and the sensitivity of the area.

Construction Vehicle Exhaust Emissions

- 9.18 The IAQM guidance on assessing construction effects states that:

“Experience of assessing the exhaust emissions from on-site plant and site traffic suggests that they are unlikely to make a significant effect on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed.”

- 9.19 The Applicant’s construction advisors have stated the peak daily number of Heavy Goods Vehicles (HGVs) trips during construction are likely to be 28. Although this could increase to 44 during excavation and piling these 44 trips would be represent a short term situation in relation to the overall programme of the Works, and the average number of construction vehicles would be significantly less. As such, in line with the EPUK/IAQM guidance, it is considered that a quantitative assessment of the exhaust emissions from construction traffic is not required, and a qualitative assessment is appropriate.

Construction Plant Emissions

- 9.20 In accordance with Part 7 of the Mayor of London Control of Dust and Emissions SPG, all construction plant would need to adhere to the emissions standards for NO₂ and PM₁₀ set out for Non-Road Mobile Machinery (NRMM). As such, in line with the IAQM guidance on assessing construction effects, it is considered that an assessment is not required.

Completed and Operational Development

ADMS Model

- 9.21 The likely impacts on local air quality from traffic movements and heating and energy plant emissions have been assessed using the atmospheric dispersion model ADMS-Roads and ADMS 5 respectively. **Appendix 9.2** presents the details of the dispersion modelling.
- 9.22 For the purposes of modelling, traffic data for the relevant local road network and car park trips, was provided by the Applicant’s transport consultant. Further details are provided in **Appendix 9.2**. The year 2017 has been used to assess the baseline, as this is the latest year of available air quality monitoring data available from SC contained in the public domain. The year 2026 was used for the ‘without Development’ and ‘with Development’ scenarios, which is the anticipated year of completion of the Development.
- 9.23 The ADMS-Roads dispersion model predicts how emissions from roads combine with local background pollution levels, taking account of meteorological conditions, to affect local air quality. The model has been run for the completion year, using background data and vehicle emission rates for 2026 as inputs. For the verification assessment (referred to later in this Chapter), background data and vehicle emission rates for 2017 have been used, which would be higher than the 2026 data. Pollutant concentrations have been modelled at locations representative of nearby sensitive receptors.
- 9.24 Data relating to the proposed heating plant for the Development has been provided by the Applicant’s Building Services Engineers. The proposed heating plant includes five 665kW gas-fired boilers and two gas fired water heaters. Emissions from heating plant was modelled using the detailed dispersion model ADMS 5, which has been designed for small scale and large industrial stack emissions. The contribution from the energy plant was added to the predicted road traffic contributions and background concentrations.

- 9.25 Full details of the dispersion modelling study, including the road traffic and heating plant data used in the assessment, are presented within **Appendix 9.2**.

Model Uncertainty

- 9.26 Analyses of historical monitoring data by Defra⁵ have identified a disparity between actual measured NO_x and NO₂ concentrations and the expected decline associated with emission forecasts which form the basis of air quality modelling as described above. The reason is related to the on-road performance of certain vehicles compared to calculations based on Euro emission standards which inform emission forecasts.
- 9.27 The note 'Projecting NO₂ Concentrations'⁶ published by Defra provides alternative approaches that can be followed in air quality assessments, in relation to the modelling of future NO₂ concentrations, considering that future NO_x/ NO₂ road-traffic emissions and background concentrations may not reduce as previously expected. This includes the use of revised background pollution maps, alternative projection factors and revised vehicle emission factors. However, the Defra note does not form part of statutory guidance and no prescriptive method is recommended for use in an air quality assessment.
- 9.28 This air quality assessment has been based on current guidance, which assumes a progressive reduction in forecast emission rates and background concentrations from 2017 to 2026. In addition, a sensitivity analysis has been undertaken.
- 9.29 The sensitivity analysis assumes no reduction in NO_x and NO₂ background concentrations or road-traffic emissions rates between 2017 and 2026. Therefore, assessing the likely significant effect of the Development against baseline 2017 conditions. The sensitivity approach presented in this air quality assessment is now typically agreed and accepted by local authorities as being robust, and provides a clear method to account for the uncertainty in future NO_x and NO₂ concentrations in air quality assessments. The results of this sensitivity analysis, which represent a more conservative assessment scenario, are presented in **Table 9.16**.
- 9.30 The UK government's announcement in July 2017 that no new diesel or petrol vehicles will be sold in the UK from 2040 reflects the national measures being taken to improve background air quality. In addition, the Development is located in the operational Ultra Low Emission Zone (ULEZ); anticipated to be fully operational. Transport for London have predicted the ULEZ will decrease NO_x emissions from vehicles by 31% in Inner London and by 28% in outer London by 2021⁷. As such it is considered the emissions factors and background concentrations used present a reasonable worst-case assessment of future concentrations.

Background Pollutant Concentrations

- 9.31 To estimate the total concentrations due to the contribution of any other nearby sources of pollution, background pollutant concentrations need to be added to the modelled concentrations. Full details of the background pollution data used within the air quality assessment are included in **Appendix 9.2**.

Model Verification

- 9.32 Model verification is the process of comparing monitored and modelled pollutant concentrations and, if necessary, adjusting the modelled results to reflect actual measured concentrations, to improve the accuracy of the modelling results. The model has been verified by comparing the predicted annual mean NO₂ concentrations for the baseline 2017, with the 2017 results from the SC diffusion tube on Lamppost No 02 on Borough High Street (SDT 81). Modelled concentrations have then been adjusted accordingly. The verification and adjustment process is described in detail in **Appendix 9.2**.

UK Air Quality Strategy Objectives

- 9.33 The Government has established a set of air quality standards and objectives to protect human health. The current AQS objectives was published in July 2007⁸ and sets out the objectives for Local Planning Authorities (LPA) in undertaking their LAQM duties. The AQS objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. Box 1.1 of Defra's Local Air Quality Management Technical Guidance (LAQM.TG16)⁹ explains the locations where these objectives apply.
- 9.34 The European Union (EU) also sets Limit Values for NO₂, PM₁₀ and PM_{2.5}¹⁰, which have been adopted by the UK¹¹. The Limit Value for NO₂ is the same numerical level but the target date differs. Achievement of these values is a national obligation rather than a local obligation. In the UK, only monitoring and modelling carried out by Defra and Central Government meets the specification required to assess compliance with the Limit Values. Further, Defra and Central Government does not recognise local authority monitoring or local modelling studies when determining the likelihood of the Limit Values being exceeded. As such the Limit Values have not been considered further in the Air Quality Assessment.
- 9.35 The UK AQS objectives in relation to air pollutants relevant to this assessment are summarised in **Table 9.2**.

Table 9.2: National Air Quality Strategy Objectives

Pollutant	Objective		Date by Which Objective is to be Met
	Concentration	Measured As	
Nitrogen Dioxide (NO ₂)	200µg/m ³	1 hour mean not to be exceeded more than 18 times per year	31/12/2005
	40µg/m ³	Annual Mean	31/12/2005
Particulate Matter (PM ₁₀) (a)	50µg/m ³	24 hour mean not to be exceeded more than 35 times per year	31/12/2004
	40µg/m ³	Annual Mean	31/12/2004
Particulate Matter (PM _{2.5}) (b)	Target of 15% reduction in concentrations at urban background locations	Annual Mean	Between 2010 and 2020

Pollutant	Objective		Date by Which Objective is to be Met
	Concentration	Measured As	
	25µg/m ³	Annual Mean	01/01/2020

Note: (a) Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm)
(b) Particulate matter with a mean aerodynamic diameter less than 2.5 microns

Potentially Sensitive Receptors

- 9.36 The approach adopted by the UK AQS is to focus on locations at, and close to, ground level where members of the public (in a non-workplace area) are likely to be exposed over the averaging time of the objective in question (i.e. over 1-hour, 24-hour or annual periods). Objective exceedances principally relate to the annual mean NO₂ and concentrations, so that associated potentially sensitive locations relate mainly to residential properties and other sensitive locations (such as schools) where the public may be exposed for prolonged periods.
- 9.37 **Table 9.3** presents worst-case existing (R) and proposed (P) sensitive receptors selected due to their proximity to the road network and location of the proposed heating and energy plant flues. The locations of the selected receptors assessed are located at ground floor level and presented in **Figure 9.2**.

Table 9.3: Selected Receptor Locations

Receptor		Classification	Grid Reference	Height Above Ground (m)	Approximate Distance and Direction from Stack
ID	Address				
R1	Orchard Lisle House	Student	532749, 180109	20	30m South
R2	Orchard Lisle House	Student	532708, 180105	20	50m South
R3	Boland House	Student	532821, 180095	18.4	85m Southeast
R4	Guy's Hospital	Hospital	532857, 180054	124	135m Southeast
R5	The Shard	Residential	532863, 180114	310	115m East
R6	Nuffield House	Residential	532724, 179952	22.5	190m South
R7	26 Park Street	Residential	532472, 180261	11.6	280m West
R8	21 Park Street	Residential	532475, 180218	14.4	265m West
R9	31-41 Park Street	Residential	532446, 180288	9.1	315m West
R10	St. Thomas Church	Residential	532748, 180184	28.3	15m North
R11	2 St. Thomas Street	Residential	532714, 180174	21.6	5m West
R12	70 Southwark Bridge Road	Residential	532248, 179980	0	500m Southwest
R13	Ilfracombe Flats	Residential	532770, 179867	0	525m Southwest
R14	Maple Building	Residential	532504, 179922	3	300m Southwest
R15	57 Borough High Street	Residential	532659, 180146	3	60m Southwest
P1^	Proposed: West Tower	Office	532717, 180152	137.7	-

Receptor		Classification	Grid Reference	Height Above Ground (m)	Approximate Distance and Direction from Stack
ID	Address				
P2^	Proposed: Georgian Terrace	Office	532733, 180162	21.6	-

Note: The heights presented in Table 9.3 are taken from Promap (www.promap.co.uk) and represent the roof level of the buildings, the closest point to the heating plant emissions. The floor heights of the receptors in Table 9.3 are modelled at 3m intervals
Receptors R2, R16, P1, and P2 are located within the London Bridge at Borough High Street TfL NO2 Focus Area.

- 9.38 The public exposure of the office and retail uses of the proposed Development are only subject to short-term AQS objectives, as stated in the LLAQM Technical Guidance¹.

Significance Criteria

The Works

Dust Emissions

- 9.39 The potential effects of the Works on local air quality were based on professional judgement and with reference to the criteria in the Mayor of London Control of Dust and Emissions (SPG) set out in **Appendix 9.2**. Details of the assessor's experience and competence to undertake the dust assessment is provided in **Appendix 9.2**.
- 9.40 The assessment of the risk of dust effects arising from each of the construction activities as part of the Works, as identified by the SPG, is based on the magnitude of potential dust emission and the sensitivity of the area. The risk category matrix for each of the construction activity types, taken from the criteria set out in the SPG, are presented in **Table 9.4 to Table 9.7**. Examples of the magnitude of potential dust emissions for each construction activity and factors defining the sensitivity of an area are provided in **Appendix 9.2**.

Table 9.4: Risk Category from Demolition Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Medium Risk
Medium	High Risk	Medium Risk	Low Risk
Low	Medium Risk	Low Risk	Insignificant

Table 9.5: Risk Category from Earthworks Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Insignificant

¹ Defra (2016), 'London Local Air Quality Management (LLAQM) Technical Guidance 2016 (LLAQM.PG (16))', DEFRA, London.

Table 9.6: Risk Category from Construction Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Insignificant

Table 9.7: Risk Category from Trackout Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Insignificant
Low	Low Risk	Low Risk	Insignificant

- 9.41 The risk category determined for each of the construction activity types is used to define the appropriate and Site-specific mitigation measures that should be applied. The IAQM guidance recommends that significance is only assigned to the effect after considering mitigation because it assumes that all actions to avoid or reduce the environmental effects are an inherent part of the Development, and that, in the case of demolition / construction, mitigation measures (secured through planning conditions, legal requirements or required by regulations) would ensure that likely significant adverse residual effects would not occur.
- 9.42 However, to maintain consistency with the structure of this EIA and ES, as outlined in **Chapter 2: EIA Methodology**, pre-mitigation significance criteria as outlined in **Table 9.8** have been applied which are based on professional judgement.

Table 9.8: Pre-Mitigation Significance Criteria for the Works

Significance Criteria	Definition
Adverse effect of major significance	Receptor is less than 20m from an active construction or demolition site.
Adverse effect of moderate significance	Receptor is 20m to 100m from an active construction or demolition site.
Adverse effect of minor significance	Receptor is between 100m and 350m from an active construction or demolition site.
Insignificant	Receptor is over 350m from an active construction or demolition site.

- 9.43 IAQM outlines that experience of implementing mitigation measures for construction activities demonstrates that total mitigation is normally possible such that residual effects would not be 'significant'. Therefore, it follows that, within this assessment, no post-mitigation matrix of significance criteria are provided for the likely residual effects of the Works.

Construction Vehicle Exhaust Emissions

- 9.44 The significance of the effects from construction vehicle exhaust emissions on air quality were based on the EPUK / IAQM methodology described below under the Completed and Operational Development methodology below.

Construction Plant Emissions

- 9.45 The significance of the effects from construction plant emissions on air quality is also based on professional judgement, because all construction plant is required to meet the NRMM emissions standards for NO₂ and PM₁₀ as set out in Part 7 of the Mayor of London Control of Dust and Emissions SPG.

Completed and Operational Development

- 9.46 The EPUK / IAQM guidance provides an approach to assigning the magnitude of changes because of a development as a proportion of a relevant assessment level, followed by examining this change in the context of the new total concentration and its relationship with the assessment criterion to provide a description of the impact at selected receptor locations.
- 9.47 **Table 9.9** presents the IAQM framework for describing the impacts (the change in concentration of an air pollutant) at individual receptors. The term Air Quality Assessment Level (AQAL) is used to include air quality objectives or limit values, where these exist.

Table 9.9: Impact Descriptors for Individual Receptors for Annual Mean Objective

Long term average Concentration at receptor in assessment year	% Change in concentration relative to Air Quality Assessment Level (AQAL)			
	1	2-5	6-10	>10
75% or less of AQAL	Insignificant	Insignificant	Minor	Moderate
76-94% of AQAL	Insignificant	Minor	Moderate	Moderate
95-102% of AQAL	Minor	Moderate	Moderate	Major
103-109% of AQAL	Moderate	Moderate	Major	Major
110% or more of AQAL	Moderate	Major	Major	Major

Note: AQAL may be an air quality objective, EU limit value, or an Environment Agency 'Environmental Assessment Level (EAL)'

The table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers. Changes of 0% (i.e. less than 0.5%) are described as Insignificant.

The table is only to be used with annual mean concentrations

- 9.48 The approach set out in the EPUK / IAQM Guidance provides a method for describing the impact magnitude at individual receptors only. The Guidance outlines that this change may have an effect on the receptor depending on the severity if the impact and other factors that may need to be considered. The assessment framework for describing impacts can be used as a starting point to make a judgement on significance of effect. However, whilst there may be 'slight', 'moderate' or 'substantial' impacts described at one or more receptors, the overall effect may not necessarily be judged as being significant in some circumstances.

9.49 Following the approach to assessing significance outlined in the EPUK / IAQM Guidance, the significance of likely residual effects of the completed Development on air quality has been established through professional judgement and the consideration of the following factors:

- the geographical extent (local, district or regional) of effects;
- their duration (temporary or long term);
- their reversibility (reversible or permanent);
- the magnitude of changes in pollution concentrations;
- the exceedance of standards (e.g. AQS objectives); and
- changes in pollutant exposure.

Limitations and Assumptions

9.50 For the purposes of the assessment of dust nuisance during the Works it has been assumed that the works would be carried out at the boundary of the Site to provide a worst-case assessment.

9.51 Currently there is no methodology to assess and determine the impact of a development against the EU Limit Values. In addition, compliance with the EU Limit Values is the UK Government's responsibility given that national measures (such as vehicle scrappage schemes and increased diesel fuel prices) would be required to meet compliance. As such the effect of the Development has been assessed against the UK AQS objectives rather than the EU Limit Values. To demonstrate that the Development would have a positive influence on air quality, a summary of measures which are likely to lead to a benefit to air quality have been outlined.

9.52 There is no standard or recognised methodology to predict the reduction in pollutant concentrations from all air quality mitigation measures or measures likely to have a positive impact on local air quality (such as cycle spaces, electric charging points, sustainable transport options, green infrastructure etc) as these measures are either based on holistic behavioural changes and/or there is a lack of real-world quantifiable data (in $\mu\text{g}/\text{m}^3$). However, the mitigation measure and measures to benefit air quality proposed as part of the Development are consistent with those identified by SC in their Air Quality Action Plan (discussed below) and Defra's Air Quality Plan¹². As such the results presented in the assessment do not consider the potential reduction from these mitigation measures and are therefore considered to be worst-case.

9.53 The sensitivity assessment for NO_x and NO_2 is conservative as the air quality assessment does not take account of older vehicles being replaced by the newest vehicles with lower emissions or the ban and phasing out of the sale of diesel and petrol vehicles by 2040; or the potential improvements to air quality as a result of the ULEZ and its extension in 2021.

Baseline Conditions

London Borough of Southwark's Review and Assessment of Existing Air Quality

9.54 Because of work undertaken to date as part of their review and assessment of air quality process, SC has declared the entire northern part of its Borough, from the A205 north to the boundary with the River Thames, as an Air Quality Management Area (AQMA)² for both annual mean NO_2 and 24-hour mean PM_{10} which are attributable to road traffic emissions. The Site is located within this AQMA.

² AQMA's are declared if a local authority finds any places where the national air quality objectives are not likely to be achieved

- 9.55 The Site is also located in London Bridge at Borough High Street Transport for London (TfL) nitrogen dioxide (NO₂) Focus Area.

London Borough of Southwark's Local Air Quality Monitoring

- 9.56 SC currently undertakes monitoring of NO₂ and PM₁₀ at one roadside location and one urban background location within the Borough using automatic monitors. NO₂ is also measured at 45 locations by SC using diffusion tubes. The nearest monitor to the Site is the kerbside diffusion tube on Borough High Street (ID – SDT81), located approximately 0.08km from the Site. The 2017 mean monitored NO₂ concentration at the SDT81 Borough High Street diffusion tube was 82.3µg/m³, indicating the annual mean NO₂ objective of 40µg/m³ was exceeded at the diffusion tube closest to the Site in 2017.

Assessment of Likely Significant Effects

The Works

Nuisance Dust

- 9.57 The following construction dust assessment follows the methodology set out in **Table 9.1**.

Step 1- Site Evaluation / Screen the Need

- 9.58 The nearest sensitive receptors are residential properties on Borough High Street and student accommodation at White Hart Yard, located within 20m of the Site boundary. There are also residential and commercial receptors located further afield and Guy's Hospital is located approximately 100m to the east of the Site boundary. Therefore, in accordance with **Table 9.1** the assessment would proceed to detailed assessment. There are no ecological receptors within 50m of the Site boundary or the routes used by construction vehicles, therefore ecological effects have not been considered further.

Step 2 - Potential Dust Emission Magnitude

- 9.59 The risk of dust impacts from the Works has been considered based upon the magnitude of works as detailed in **Table A1** in **Appendix 9.2**. This includes:
- Demolition and deconstruction – It is estimated the total volume of building to be demolished would be between 20,000m³ and 50,000m³. Based on this and considering the criteria in **Table A1** in **Appendix 9.2**, the potential dust emissions during demolition activities would be of medium magnitude.
 - Earthworks – **ES Chapter 6** states an approximate total of 13,450m³ of excavated material is expected to be removed from the Site. Based on this and considering the criteria in **Table A1** in **Appendix 9.2**, the potential dust emissions during earthworks activities would be of large magnitude.
 - Construction– the total volume of building to be constructed is greater than 100,000m³. Based on the criteria in **Table A1** in **Appendix 9.2**, the potential dust emissions during construction activities would be of large magnitude.

- Trackout – the Applicant’s construction advisors (Gardiner & Theobald) estimated the number of HGV trips during the construction period would peak at 28 outward daily trips. Based on this and considering the criteria in **Table A1** in **Appendix 9.2**, the potential for dust emissions due to trackout activities would be of medium magnitude.

9.60 A summary of the potential dust emission magnitude is presented in **Table 9.10**.

Table 9.10: Dust Emission Magnitude

Activity	Dust Emission Magnitude
Demolition	Medium
Earthworks	Large
Construction	Large
Trackout	Medium

Step 3 - Sensitivity of the Area

9.61 In accordance with the Mayor of London Control of Dust and Emissions SPG (paragraph 4.36 of the SPG, Step 2B: Define the Sensitivity of the Area), the sensitivity of the area has taken account of the following factors:

- the specific sensitivities of receptors in the area;
- the proximity and number of those receptors;
- the local background PM₁₀ concentration; and
- Site-specific factors, such as whether there are trees or other vegetation to reduce the risk of wind-blown dust.

Step 4 - Sensitivity of the Area to Dust and Soiling Effects on People and Property

9.62 As discussed above, the nearest sensitive receptors are residential properties located within 20m of the Site boundary. Based on **Table A3** in **Appendix 9.2**, given that there are 10-100 high sensitivity receptors within 50m, it is considered the area would be of medium sensitivity to dust and soiling effects on people and property.

9.63 The summary of the sensitivity of people to dust and soiling effects is detailed in **Table 9.11**.

Table 9.11: Sensitivity of the Area to Dust and Soiling Effects on People and Property

Activity	Sensitivity of Area to Dust and Soiling Effects
Demolition	Medium
Earthworks	Medium
Construction	Medium
Trackout	Medium

Step 5 - Sensitivity of the Area to Human Health Impacts

- 9.64 As shown in **Table A8** of **Appendix 9.2**, the annual mean PM₁₀ concentration at the Old Kent Road monitor, the closest monitoring location to the Site, was 22.0µg/m³ in 2017. This is below the annual mean AQS objective for PM₁₀ of 40ug/m³.
- 9.65 Based on **Table A4** in **Appendix 9.2**, given that there are estimated to be 10-100 receptors within 50m and that PM₁₀ concentrations are 22ug/m³, it is considered the area is of low sensitivity to human health impacts.
- 9.66 The summary of the sensitivity of people to the health effects of particulate matter is detailed in **Table 9.12** below.

Table 9.12: Sensitivity of the Area to Human Health Effects

Activity	Sensitivity of Area to Human Health Effects
Demolition and deconstruction	Low
Earthworks	Low
Construction and refurbishment	Low
Trackout	Low

Step 6 - Risk of Impacts

- 9.67 Based on the dust emissions magnitude as set out in **Table 9.10** and taking account of the sensitivity of the area as detailed in **Tables 9.11** and **9.12**, the overall risk impacts have been identified and presented in **Table 9.13**. This is based on the matrices set out in **Tables 9.4** to **9.7**. The predicted risks are prior to, and do not take account of, mitigation applied.

Table 9.13: Summary of Risk

Potential Effect	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	Medium Risk	Medium Risk	Medium Risk
Human Health	Low Risk	Low Risk	Low Risk	Low Risk

- 9.68 As outlined in **Table 9.13**, the Site is a **medium risk** site, due to dust soiling effects. Therefore, Site specific mitigation measures would be required to ensure that there are no adverse effects from the Works. However, based on the criteria in **Table 9.8**, in the absence of mitigation, the worst-case nuisance dust from the Works would give rise to:
- short-term, local effects of major adverse significance at receptors within 20m from the Site boundary;
 - short-term, local effects of moderate adverse significance at receptors between 20m and 100m of the Site boundary;
 - short-term, local effects of minor adverse significance at receptors between 100m and 350m of the Site boundary; and

- insignificant effects at receptors over 350m from the Site boundary.

Construction Vehicle Exhaust Emissions

- 9.69 Emissions from Works traffic (44 HGVs peak daily) would be relatively small compared to existing road traffic emissions on St. Thomas Street (6,874 daily vehicles including 8.2% HDVs) and on Borough High Street (25,930 daily vehicles including 14.9% HDVs)¹³. Therefore, the likely effect of construction vehicles entering and egressing the Site on air quality would be **insignificant** during the Works.

Construction Plant Emissions

- 9.70 In accordance with Part 7 of the Mayor of London Control of Dust and Emissions SPG, all construction plant would need to adhere to the emissions standards for NO₂ and PM₁₀ set out for NRMM. It is therefore considered the likely effect of construction plant on local air quality would be **insignificant**.

Completed and Operational Development

Nitrogen Dioxide (NO₂)

- 9.71 **Table 9.14** presents the predicted worst-case NO₂ concentrations at relevant existing receptors and receptors introduced as part of the Development, assuming a progressive reduction in forecast emission rates and background concentrations from 2017 to 2026.

Table 9.14: Results of the NO₂ ADMS Modelling at Sensitive Receptors (µg/m³)

ID	Receptor Location	2017 Baseline	2026 Without Development	2026 With Development	2026 Change
R1	Orchard Lisle House	49.4	32.2	32.2	0.0
R2	Orchard Lisle House	50.8	32.7	32.7	0.0
R3	Boland House	48.2	31.6	31.6	0.0
R4	Guy's Hospital	47.3	31.3	31.3	0.0
R5	The Shard	50.7	32.5	32.5	0.0
R6	Nuffield House	40.5	26.1	31.3	0.0
R7	26 Park Street	46.3	30.8	30.8	0.0
R8	21 Park Street	46.4	30.9	30.9	0.0
R9	31-41 Park Street	46.2	30.8	30.8	0.0
R10	St. Thomas Church	55.3	35.2	35.2	0.0
R11	2 St. Thomas Street	57.0	36.6	36.6	0.0
R12	70 Southwark Bridge Road	47.6	28.5	28.5	0.0
R13	Ilfracombe Flats	44.3	27.4	27.4	0.0
R14	Maple Building	46.0	28.0	28.0	0.0
R15	57 Borough High Street	70.5	43.5	43.6	0.1
P1^	Proposed: West Tower	-	-	34.6	-

ID	Receptor Location	2017 Baseline	2026 Without Development	2026 With Development	2026 Change
P2^	Proposed: Georgian Terrace	-	-	37.8	-

Note: For accuracy, the changes arising from the Development have been calculated using the exact output from the ADMS models rather than the rounded numbers within Table 9.14.

- 9.72 The results in **Table 9.14** indicate that for 2017, the NO₂ annual mean UK AQS objective is exceeded at all the existing 15 receptor locations. These results are consistent with the existing receptors being located within the SC AQMA declared by SC and the London Bridge at Borough High Street TfL NO₂ Focus Area. The highest concentration is predicted at Receptor 15, located on Borough High Street and within the Focus Area (70.5µg/m³).
- 9.73 In 2026, both 'without' and 'with' the Development, all but one sensitive receptor modelled (Receptor 15) are predicted to be below the NO₂ annual mean objective.
- 9.74 As discussed in **Appendix 9.2**, the 1-hour mean AQS objective for NO₂ is unlikely to be exceeded at a roadside location where the annual mean NO₂ concentration is less than 60µg/m³. As shown in **Table 9.14**, the predicted NO₂ annual mean concentrations in 2017 were above 60µg/m³ at one existing receptor and as such it is likely that the 1-hour mean objective could be exceeded at this location. This result is consistent with the Development being located within the SC AQMA and the London Bridge at Borough High Street TfL NO₂ Focus Area.
- 9.75 In 2026, both 'without' and 'with' the Development, Receptor 16 is the only existing receptor predicted to exceed the NO₂ annual mean objective. In 2026 both 'without' and 'with' the Development were below 60µg/m³ at all sensitive receptors modelled. It is therefore likely the 1-hour mean objective would be met. This is discussed in further detail in **Appendix 9.2**.
- 9.76 Using the impact descriptors outlined in **Table 9.9**, the Development is predicted to result in a 'negligible' impact on NO₂ concentrations at all existing sensitive receptors modelled. Using professional judgement, based on the magnitude of the impact and the concentrations predicted at sensitive receptors, it is considered that the effect of the Development on NO₂ concentrations would be **insignificant**.

Particulate Matter (PM₁₀ and PM_{2.5})

- 9.77 **Table 9.15** presents the predicted PM₁₀ and PM_{2.5} concentrations, assuming a progressive reduction in forecast emission rates and background concentrations from 2017 to 2026.

Table 9.15: Results of the PM₁₀ and PM_{2.5} ADMS Modelling at Sensitive Receptors

ID	PM ₁₀ Annual Mean (µg/m ³)				PM ₁₀ Number of Days >50µg/m ³				PM _{2.5} Annual Mean (µg/m ³)			
	2017 Baseline	2026 Without Development	2026 With Development	2026 Change	2017 Baseline	2026 Without Development	2026 With Development	2026 Change	2017 Baseline	2026 Without Development	2026 With Development	2026 Change
R1	19.8	17.9	17.9	0.0	3	1	1	0	13.3	11.8	11.8	0.0
R2	19.9	18.0	18.0	0.0	3	1	1	0	13.4	11.9	11.9	0.0
R3	19.7	17.8	17.8	0.0	3	1	1	0	13.2	11.8	11.8	0.0
R4	19.6	17.7	17.8	0.0	2	1	1	0	13.2	11.7	11.7	0.0
R5	20.1	18.2	18.2	0.0	3	1	1	0	13.5	12.1	12.1	0.0
R6	19.6	17.8	17.8	0.0	2	1	1	0	13.2	11.7	11.7	0.0
R7	19.5	17.7	17.7	0.0	2	1	1	0	13.1	11.6	11.6	0.0
R8	19.5	17.7	17.7	0.0	2	1	1	0	13.1	11.6	11.6	0.0
R9	19.5	17.7	17.7	0.0	2	1	1	0	13.1	11.6	11.6	0.0
R10	20.3	18.3	18.3	0.0	3	1	1	0	13.6	12.2	12.2	0.0
R11	20.3	18.2	18.2	0.0	3	1	1	0	13.6	12.2	12.2	0.0
R12	20.4	18.3	18.3	0.0	3	1	1	0	13.6	12.2	12.2	0.0
R13	20.2	18.3	18.3	0.0	3	1	1	0	13.5	12.2	12.2	0.0
R14	20.3	18.4	18.4	0.0	3	1	1	0	13.5	12.2	12.2	0.0
R15	21.5	19.2	19.2	0.0	5	2	2	0	14.5	13.1	13.1	0.0
P1^	-	-	18.1	-	-	-	1	-	-	-	12.1	-
P2^	-	-	18.4	-	-	-	1	-	-	-	12.3	-

Note: For accuracy, the changes arising from the Development have been calculated using the exact output from the ADMS models rather than the rounded numbers within Table 9.15.

- 9.78 As shown in **Table 9.15** and **Appendix 9.2**, the annual mean concentrations of PM₁₀ are predicted to be below the objective of 40µg/m³ in 2017 and in 2026, both 'without' and 'with' the Development, at all sensitive receptors modelled. The maximum predicted concentration is 21.5µg/m³ at Receptor 15 in 2017.
- 9.79 The results in **Table 9.15** indicate that in 2017 and in 2026, both 'without' and 'with' the Development, all existing sensitive receptors are predicted to be below the 24-hour mean PM₁₀ objective value of 35 days exceeding 50µg/m³.
- 9.80 The results in **Table 9.15** indicate that in 2017 and in 2026, both 'without' and 'with' the Development, all sensitive receptors are predicted to be below the annual mean PM_{2.5} objective value of 25µg/m³. The maximum predicted concentration is 14.5µg/m³ at Receptor 15 in 2017.

- 9.81 Using the impact descriptors outlined in **Table 9.9**, the Development is predicted to result in a 'negligible' impact on PM_{2.5} and PM_{2.5} concentrations at all sensitive receptors modelled. Using professional judgement, based on the magnitude of the impact and the concentrations predicted at the existing sensitive receptors modelled, it is considered that the effect of the Development on PM₁₀ and PM_{2.5} concentrations would be **insignificant**.

Nitrogen Dioxide Sensitivity Analysis Results

- 9.82 Sensitivity analysis considers the potential effect of the Development against 2017 baseline conditions. The results of this sensitivity analysis in relation to NO₂ are presented in **Table 9.16**.

Table 9.16: Results of the ADMS Assessment Assuming No Improvement in NO_x and NO₂

ID	Receptor Location	2026 Without Development	2026 With Development	2026 Change
R1	Orchard Lisle House	49.5	49.5	0.0
R2	Orchard Lisle House	50.8	50.9	0.1
R3	Boland House	48.2	48.3	0.0
R4	Guy's Hospital	47.4	47.4	0.0
R5	The Shard	50.9	51.0	0.1
R6	Nuffield House	40.6	40.6	0.0
R7	26 Park Street	46.3	46.3	0.0
R8	21 Park Street	46.4	46.4	0.0
R9	31-41 Park Street	46.2	46.2	0.0
R10	St. Thomas Church	55.5	55.6	0.1
R11	2 St. Thomas Street	57.2	57.2	0.1
R12	70 Southwark Bridge Road	47.7	47.8	0.1
R13	Ilfracombe Flats	44.4	44.4	0.0
R14	Maple Building	46.0	46.1	0.1
R15	57 Borough High Street	70.7	70.7	0.0
P1^	Proposed: West Tower	-	54.1	-
P2^	Proposed: Georgian Terrace	-	59.5	-

Note: For accuracy, the changes arising from the Development have been calculated using the exact output from the ADMS models rather than the rounded numbers within Table 9.16.

- 9.83 The overall predicted concentrations, and changes, presented in **Table 9.16**, are higher than those presented in **Table 9.14** owing to the higher background concentrations and vehicle emissions rates in 2017 than 2026. The results in **Table 9.16** show that the NO₂ annual mean concentrations are predicted to be above the objective value of 40µg/m³, 'without' and 'with' the Development, at all 15 existing receptor locations, when assuming no improvements to NO_x and NO₂.
- 9.84 As shown in **Table 9.16**, assuming that NO_x and NO₂ concentrations are not declining as expected, predicted annual mean concentration, 'without' and 'with' the Development Scenario are above 60µg/m³ at Receptor 15 and as such it is likely that the 1-hour mean objective could be exceeded

at these locations. This result is consistent with the Development being located within the SC AQMA and the London Bridge at Borough High Street TfL NO₂ Focus Area.

- 9.85 Using the impact descriptors outlined in **Table 9.9**, the Development is predicted to result in a 'negligible' impact on NO₂ concentrations at all existing sensitive receptors modelled, when assuming no improvement to NO_x and NO₂.
- 9.86 Using professional judgement, based on the magnitude of the impact and the concentrations predicted at the receptor locations, it is considered that the effect of the Development on NO₂ concentrations, when assuming no improvements to NO_x and NO₂, would be **insignificant**.

Conditions within the Development

- 9.87 In accordance with LLAQM Technical Guidance only the short-term AQS objectives apply for office and retail users. The modelling undertaken in **Table 9.14** and **Table 9.16** illustrates the NO₂ concentrations are likely to be below the NO₂ short-term AQS objective. Based on the predicted future concentrations, the effect on future users of the proposed Development is **insignificant**.

Mitigation Measures and Likely Residual Effects

The Works

Nuisance Dust

- 9.88 An outline Construction Management Plan (CMP) has been submitted to support planning that commits the Main Contractor to dust mitigation measures. A Site Environmental Management Plan (SEMP) will be issued to any demolition or construction contractors and in line with best practice on construction sites a range of environmental management controls would be implemented. The controls, with reference to the IAQM guidance relating to medium risk sites, are set out in **Table 9.17**.

Table 9.17: Works Phase Mitigation Measures

Communications
Develop and implement a stakeholder communications plan that includes community engagement before work commences on Site.
Display the name and contact details of person(s) accountable for air quality and dust issues on the Site boundary. This may be the environment manager/engineer or the site manager.
Display the head or regional office contact information.
Dust Management
Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by SC. The level of detail would depend on the risk and should include as a minimum the recommended measures as set out in this Table.
Site Management
Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.

Make the complaints log available to the local authority when asked.

Record any exceptional incidents that cause dust and/or air emissions, either on- or off-site, and the action taken to resolve the situation in the log book.

Hold regular liaison meetings with other high-risk construction sites within 500m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised. It is important to understand the interactions of the off-site transport/deliveries which might be using the same strategic road network routes.

Monitoring

Monitoring during the Works as required by the Scoping Opinion. Monitoring could include dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections.

Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked.

Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.

Agree monitoring approach and locations with SC.

Preparing and maintaining the site

Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.

Erect solid screens or barriers around dusty activities or the Site boundary that are at least as high as any stockpiles on Site.

Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.

Avoid Site runoff of water and mud.

Keep site fencing, barriers and scaffolding clean using wet methods.

Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on Site. If they are being re-used on-site cover as described below.

Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

Ensure all vehicles switch off engines when stationary – no idling vehicles.

Avoid the use of diesel or petrol-powered generators and use mains electricity or battery powered equipment where practicable.

Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.

Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).

Operations

Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.

Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.

Use enclosed chutes and conveyors and covered skips.

Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.

Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.

Waste Management

Avoid bonfires and burning of waste materials.

Demolition

Ensure effective water suppression is used during demolition operations.

Avoid explosive blasting, use appropriate manual or mechanical alternatives.

Bag and remove any biological debris or damp down such material before demolition.

Construction

Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.

Trackout

Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.

Avoid dry sweeping of large areas.

Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.

Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.

Record all inspections of haul routes and any subsequent action in a site log book.

Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.

Implement a wheel washing system, with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.

Access gates to be located at least 10m from receptors where possible.

- 9.89 Such measures are routinely and successfully applied to major construction projects throughout the UK and are proven to reduce significantly the potential for adverse nuisance dust effects associated with the various stages of construction work. Therefore, it is considered that residual effects due to fugitive emissions would be **insignificant**.

Construction Vehicle Exhaust Emissions

- 9.90 All construction traffic logistics would be agreed with SC, as set out in **Chapter 8: Transportation and Access**. Consideration would also be given to the avoidance (or limited) use of roads during peak hours, where practicable. However, it is anticipated that the likely residual effect of construction vehicles entering and egressing the Site to air quality would remain as per the likely impact. That is, during the construction period the likely worst-case residual impact, given the impacts would be temporary, is **insignificant**.

Construction Plant Emissions

- 9.91 In accordance with Part 7 of the Mayor of London Control of Dust and Emissions SPG, all construction plant would need to adhere to the emissions standards for NO₂ and PM₁₀ set out for NRMM. It is therefore considered the likely residual effects of construction plant on local air quality would be **insignificant**.

Completed and Operational Development

- 9.92 As identified earlier in this chapter, even in the absence of mitigation, the Development is predicted to have an insignificant effect on local air quality. Accordingly, mitigation measures would not be required so residual effects would remain as **insignificant**.
- 9.93 The Development incorporates a number of measures that would benefit local air quality. These include:
- ability to accommodate a new entrance/exit to the London Underground, which would reduce pedestrian footfall on Borough High Street and encourage the use of public transport;
 - new open space surrounding the area identified as a potential new entrance /exit to the London Bridge Underground Station, which would be planted with medium and tall trees which would absorb carbon dioxide and vehicle and heating plant emissions;
 - the provision of 1,310 cycle spaces, 70 showers and 447 lockers, to encourage sustainable forms of transport;
 - implementation of a Delivery, Servicing and Waste Management Plan (DSWMP) to manage the arrival and departure of delivery and servicing vehicles and their activities when on-site; and
 - implementation of a Travel Plan to encourage employees to move up within the sustainable transport hierarchy.
- 9.94 **Table 9.18** summarises the likely significant effects, mitigation measures and likely residual effects identified within this chapter.

Table 9.18: Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
The Works			
Dust emissions arising from the demolition and construction works	Insignificant	None required. However, some of the routine management controls prescribed in the SEMP would relate to good practice measures to limit the impacts of construction traffic and the use of plant and machinery	Insignificant
Emissions from demolition and construction vehicles	Insignificant	None required. However, some of the routine management controls prescribed in the SEMP would relate to good practice measures to limit the impacts of construction traffic and the use of plant and machinery	Insignificant
Emissions from demolition and construction plant	Insignificant	Plant to meet standards set for NRMM	Insignificant
Completed and Operational Development			
Emissions from heating plant and traffic generation associated with the Development	Insignificant	None required.	Insignificant

Monitoring

- 9.95 Monitoring would be undertaken during the Works as required by the Scoping Opinion. Monitoring could include dust deposition, dust flux, real-time PM₁₀ continuous monitoring and/or visual inspections.
- 9.96 Regular site inspections to be carried out to monitor compliance with the Dust Management Plan (DMP), record inspection results, and make an inspection log available to the local authority when asked.
- 9.97 The frequency of Site inspections would be increased by the person accountable for air quality and dust issues on Site when activities with a high potential to produce dust were being carried out and during prolonged dry or windy conditions.
- 9.98 The monitoring approach and locations for monitoring would be agreed with SC.

References

- 1 Cambridge Environmental Research Consultants Ltd, ADMS-Roads, 2018, Version 4.1.1.
- 2 AEA, NO_x to NO₂ Calculator, <http://laqm.defra.gov.uk/review/tools/monitoring/calculator.php> Version 7.1, April 2019
- 3 Greater London Authority (2014), 'Sustainable Design and Construction - Supplementary Planning Guidance', Greater London Authority, London.
- 4 Institute of Air Quality Management, 2014, 'Guidance on the Assessment of dust from demolition and construction.
- 5 <http://laqm.defra.gov.uk/faqs/faqs.html>.
- 6 Defra, 2012, Local Air Quality Management: Note on Projecting NO₂ Concentrations
- 7 https://www.london.gov.uk/sites/default/files/appendix_c1_supporting_information_document_-_copy.pdf
- 8 Department of the Environment, Food and Rural Affairs (Defra), (2007). 'The Air Quality Strategy for England, Scotland, Wales & Northern Ireland'.
- 9 Local Air Quality Management Technical Guidance (TG16) February 2018
- 10 Council Directive 2008/50/EC of 21 May 2008 on ambient air quality and cleaner air for Europe.
- 11 Defra, (2010) The Air Quality Standards (England) Regulations.
- 12 Defra (2017) 'Air quality plan for nitrogen dioxide (NO₂) in UK (2017)'
- 13 <https://www.dft.gov.uk/traffic-counts/cp.php?la=Southwark#37699>

Appendix 9.1: Correspondence with Southwark Council

From: Prickett, Mark [<mailto:Mark.Prickett@southwark.gov.uk>]
Sent: 09 May 2018 15:54
To: Chris Brownlie <chris.brownlie@watermangroup.com>
Subject: RE: New City Court - baseline air quality monitoring

Chris,

Apologies for delayed response, been a busy week.

I can confirm the following sentence is acceptable:

"I just wanted to confirm that based on the fact that the development will be car free and does not contain any residential uses, no site specific monitoring to quantify concentrations at the site is proposed. We propose to utilise the Councils monitoring data."

Kind regards,

Mark Prickett
Principal Enforcement Officer
Environmental Protection Team
Tel: 020 7525 0023

Postal address: Southwark Council, Environmental Protection Team, Regulatory Services, 3rd Floor Hub 1, PO Box 64529, London, SE1P 5LX
Office address (By appointment only): Southwark Council, 160 Tooley Street, London, SE1 2QH

Air Quality web pages: <http://www.southwark.gov.uk/air-quality>
Construction web pages: <http://www.southwark.gov.uk/construction>
London Low Emission Construction Partnership - <http://www.llecp.org.uk/>



Please consider the environment - do you really need to print this email?

From: Chris Brownlie [<mailto:chris.brownlie@watermangroup.com>]
Sent: Tuesday, May 08, 2018 11:43 AM
To: Prickett, Mark; Legassick, Bill
Subject: RE: New City Court - baseline air quality monitoring

Hi Mark,


Just wondering if you have had the chance to consider the email below? If you could provide a response at your earliest convenience that would be much appreciated.

Kind regards,
Chris

Chris Brownlie
Principal Consultant

Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 20 7928 7888 | d +44 330 060 2847 | m +44 7469 858 038

 Please consider the environment before printing this e-mail. Thank you!

From: Chris Brownlie
Sent: 24 April 2018 09:39
To: Mark.Prickett@southwark.gov.uk; Bill.Legassick@SOUTHWARK.GOV.UK
Subject: FW: New City Court - baseline air quality monitoring

Mark,

Further to your email, I just wanted to confirm that based on the fact that the development will be car free and does not contain any residential uses, no site specific monitoring to quantify concentrations at the site is proposed. We propose to utilise the Councils monitoring data.

I would be grateful if you confirm that this approach is still acceptable.

Kind regards,
Chris

From: Prickett, Mark [<mailto:Mark.Prickett@southwark.gov.uk>]
Sent: 27 September 2016 14:07
To: Brownlie, Chris <chris.brownlie@watermangroup.com>
Subject: RE: New City Court

Chris,

EPT agree that there should be an detailed assessment into any proposed CHP's.

Council's AQ monitoring can be found here; <http://beta.southwark.gov.uk/air-quality/how-we-re-improving-air-quality?chapter=2>

EPT would expect a section regarding construction and commitments the developer should undertake to ensure dust nuisance from construction is avoided, as well as NRMM and euro standard emissions for plant and vehicles using the site considering the site is within Southwark's Air Quality Management Area.

Regards,
Mark Prickett
Principal Enforcement Officer
Environmental Protection Team
3rd Floor, Hub 1
Southwark Council, 160 Tooley Street, SE1 2QH
Tel: 0207 525 0023

From: Brownlie, Chris [<mailto:chris.brownlie@watermangroup.com>]
Sent: Thursday, September 15, 2016 12:34 PM
To: Prickett, Mark
Cc: Legassick, Bill

Subject: RE: New City Court
Importance: High

Dear Mark,

I was wondering if you have had a chance to consider my email below and the proposed approach to the air quality assessment. I would be grateful if you could provide a response at your earliest convenience.

Kind regards,
Chris

Kind regards,

Chris Brownlie
Principal Consultant
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 207 928 7888

From: Brownlie, Chris
Sent: 07 September 2016 10:02
To: 'Mark.Prickett@southwark.gov.uk' <Mark.Prickett@southwark.gov.uk>
Cc: 'Bill.Legassick@SOUTHWARK.GOV.UK' <Bill.Legassick@SOUTHWARK.GOV.UK>
Subject: RE: New City Court

Dear Mark,

I was wondering if you have had a chance to consider my email below and the proposed approach to the air quality assessment. I would be grateful if you could provide a response at your earliest convenience.

Kind regards,
Chris

From: Brownlie, Chris
Sent: 18 August 2016 16:06
To: 'Mark.Prickett@southwark.gov.uk' <Mark.Prickett@southwark.gov.uk>
Cc: Bill.Legassick@SOUTHWARK.GOV.UK
Subject: New City Court

Dear Mark,

Waterman have been commissioned to undertake an air quality assessment for the proposed redevelopment of New City Court. The Site, which is approximately centred on National Grid Reference 532727 180155 is bound by St Thomas Street to the north, shops on Borough High Street (A3) to the west, King's Head Yard to the south and Guy's Hospital buildings to the east. Currently, the Site is almost entirely occupied by buildings, which includes:

- Georgian terraced townhouses at Nos. 4, 6, 8, 12, 14 and 16 St Thomas Street (there is no No. 10);

- New City Court office building at No. 20 St Thomas Street; and
- Keats House at Nos. 24 to 26 St Thomas Street.

Although the design of the proposed Development is still evolving, the key parameters of the Development are described below. The Development would comprise a building approximately 125m in height which would be three levels of ground floor (including a triple height reception space, retail units and conference/meeting room uses) together with 29 upper floors together with a new Keats House buildings and regenerated townhouses. In more detail, the Development would include:

- Up to 24,000 sq. m. of high quality office space, including a high level terrace (likely to be on the 11th or 11th floor).
- Up to 1,900 sq. m. of retail facilities in the Georgian townhouses, Keats House and at ground floor level of the main building.
- Up to 555 sq. m. of community, conference, work spaces and meeting room uses.
- A potential new access to London Bridge Underground Station.
- New ground level pedestrian routes through the Site and large areas of public realm at ground level together with a regenerated King's Head Yard. This would include both hard and soft landscaping.

There will be no car parking at the development and therefore the only vehicle trips will be those associated with servicing. Based on the fact that the development has no car parking and there is no sensitive (residential) uses proposed within the development it is proposed to undertake a qualitative assessment of the potential impact of traffic emissions from the proposed development and we do not propose to undertake a detailed modelling assessment of road traffic. The development may include a centralised heating plant (the energy strategy is yet to be finalised), should the final strategy include any combustion plant with a single or combined thermal input >300kW then, in line with the IAQM guidance, we would undertake a detailed modelling assessment of the emissions using the dispersion model ADMS 5.

Based on the fact that the development will be car free and does not contain any residential uses, It is not proposed to undertake site specific monitoring to quantify concentrations at the site. It is proposed to utilise the Councils monitoring data and we would be grateful if you could supply the latest bias adjusted data.

I would be grateful if you could confirm that the above propose approach is acceptable.

Kind regards,

Chris Brownlie
Principal Consultant
Waterman Infrastructure & Environment Ltd

Pickfords Wharf | Clink Street | London SE1 9DG
t +44 207 928 7888

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Note: We have a new company name as of 1st July 2015

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Appendix 9.2: Air Quality Assessment Detailed Methodology

- 1.1 This appendix presents the technical information and data upon which the air quality assessment is based.

Construction Dust Assessment

- 1.2 Table A1 provides examples of the potential dust emissions classes for each of the construction activities, in line with the Mayor of London Control of Dust and Emissions Supplementary Planning Guidance (SPG)¹ (with reference to the IAQM 2014 'Guidance on the Assessment of Dust from Demolition and Construction'²). Noted not all the criteria need to be met for a class. Once the class has been determined, the risk category can be determined from the matrices presented in Tables 9.4 to 9.7 in **Chapter 9: Air Quality**.

Table A1: Criteria for the Potential Dust Emissions Class

Activity	Class	Example Criteria
Demolition	Large	Total Building volume >50,000m ³ , potentially dusty construction material (e.g. concrete), on site crushing and screening, demolition activities >20m above ground level.
	Medium	Total Building volume 20,000-50,000m ³ , potentially dusty construction material, demolition activities 10-20m above ground level.
	Small	Total Building volume <20,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber), demolition activities <10m above ground, demolition during wetter months.
Earthworks	Large	Total site area >10,000m ² , potentially dusty soil type (e.g. clay which will be prone to suspension when dry due to small particle size), >10 heavy earth moving vehicles active at any one time, formation of stockpile enclosures >8m in height, total material moved >100,000 tonnes.
	Medium	Total site area 2,500m ² - 10,000m ² , moderately dusty soil type (e.g. silt), 5-10 heavy earth moving vehicles active at any one time, formation of stockpile enclosures 4m-8m in height, total material moved 20,000 tonnes – 100,000 tonnes (where known).
	Small	Total site area <2,500m ² , soil type with large grain size (e.g. sand), <5 heavy earth moving vehicles active at any one time, formation of stockpile enclosures <4m in height, total material moved <10,000 tonnes, earthworks during wetter months.
Construction	Large	Total Building volume >100,000m ³ , piling, on site concrete batching, sand blasting.
	Medium	Total building volume 25,000 m ³ - 100,000m ³ , potentially dusty construction material (e.g. concrete), on site concrete batching.
	Small	Total building volume <25,000m ³ , construction material with low potential for dust release (e.g. metal cladding or timber).
Trackout	Large	>50 HDV (>3.5t) outward movements in any one day, potentially dusty surface material (e.g. high clay/silt content), unpaved road length >100m.
	Medium	10-50 HDV (>3.5t) trips in any one day, moderately dusty surface material (e.g. high clay content), unpaved road length 50-100m (high clay content).

¹ Mayor of London (2014) Control of Dust and Emissions Supplementary Planning Guidance (SPG)

² Institute of Air Quality Management (2014) 'Guidance on the Assessment of Dust from Demolition and Construction'.

Small	<10 HDV (>3.5t) trips in any one day, surface material low potential for dust release, unpaved road length <50m.
-------	--

- 1.3 Once the risk category has been defined, the significance of the likely dust effects can be determined, considering the factors that define the sensitivity of the surrounding area. Examples of the factors defining the sensitivity of the area, as set out in the SPG, are presented in Table A2.

Table A2: Examples of Factors Defining Sensitivity of the Area

Type of Effect	Sensitivity of Receptor	Examples
Sensitivities of People to Dust Soiling Effects	High	<p>Users can reasonably expect an enjoyment of a high level of amenity; or</p> <p>The appearance, aesthetics or value of their property would be diminished by soiling; and the people or property would reasonably be expected¹ to be present continuously, or at least regularly for extended periods, as part of the normal pattern of use of the land.</p> <p>Indicative examples include dwellings, museums and other culturally important collections, medium and long-term car parks² and car showrooms.</p>
	Medium	<p>Users would expect¹ to enjoy a reasonable level of amenity, but would not reasonably expect to enjoy the same level of amenity as in their home;</p> <p>The appearance, aesthetics or value of their property could be diminished by soiling; or</p> <p>The people or property would not reasonably be expected¹ to be present here continuously or regularly for extended periods as part of the normal pattern of use of the land.</p> <p>Indicative examples include parks and places of work.</p>
	Low	<p>The enjoyment of amenity would not reasonably be expected¹; or</p> <p>Property would not reasonably be expected¹ to be diminished in appearance, aesthetics or value by soiling; or</p> <p>There is transient exposure, where the people or property would reasonably be expected to be present only for limited periods of time as part of the normal pattern of use of the land.</p> <p>Indicative examples include playing fields, farmland (unless commercially-sensitive horticultural), footpaths, short term car parks² and roads.</p>
Sensitivities of People to Health Effects of PM ₁₀	High	<p>Locations where members of the public are exposed over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, relevant location would be one where individuals may be exposed for eight hours or more in a day).³</p> <p>Indicative examples include residential properties. Hospitals, schools and residential care homes should also be considered as having equal sensitivity to residential areas for the purposes of this assessment.</p>
	Medium	<p>Locations where the people exposed are workers⁴, and exposure is over a time period relevant to the air quality objective for PM₁₀ (in the case of the 24-hour objectives, a relevant location would be one where individuals may be exposed for eight hours or more in a day).</p> <p>Indicative examples include office and shop workers, but will generally not include workers occupationally exposed to PM₁₀, as protection is covered by Health and Safety at Work legislation.</p>

Type of Effect	Sensitivity of Receptor	Examples
Sensitivities of Receptors to Ecological Effects	Low	Locations where human exposure is transient. ⁵ Indicative examples include public footpaths, playing fields, parks and shopping streets.
	High	Locations with an international or national designation and the designated features may be affected by dust soiling; or Locations where there is a community of a particularly dust sensitive species such as vascular species included in the Red Data List for Great Britain ⁶ . Indicative examples include a Special Area of Conservation (SAC) designated for acid heathlands or a local site designated for lichens adjacent to the demolition of a large site containing concrete (alkali) buildings.
	Medium	Locations where there is a particularly important plant species, where its dust sensitivity is uncertain or unknown; or Locations with a national designation where the features may be affected by dust deposition. Indicative example is a Site of Special Scientific Interest (SSSI) with dust sensitive features.
	Low	Locations with a local designation where the features may be affected by dust deposition. Indicative example is a local Nature Reserve with dust sensitive features.
1	People's expectations will vary depending on the existing dust deposition in the area.	
2	Car parks can have a range of sensitivities depending on the duration and frequency that people would be expected to park their cars there, and the level of amenity they could reasonably expect whilst doing so. Car parks associated with work place or residential parking might have a high level of sensitivity compared to car parks used less frequently and for shorter durations, such as those associated with shopping. Cases should be examined on their own merits.	
3	This follows Defra guidance as set out in LAQM.TG(16) ³ .	
4	Notwithstanding the fact that the air quality objectives and limit values do not apply to people in the workplace, such people can be affected to exposure of PM ₁₀ . However, they are considered to be less sensitive than the general public as a whole because those most sensitive to the effects of air pollution, such as young children are not normally workers. For this reason workers have been included in the medium sensitivity category.	
5	There are no standards that apply to short-term exposure, e.g. one or two hours, but there is still a risk of health impacts, albeit less certain.	
6	Cheffing C. M. & Farrell L. (Editors) (2005); The Vascular Plant. Red Data List for Great Britain, Joint Nature Conservation Committee.	

- 1.4 Table A3, Table A4 and Table A5 show how the sensitivity of the area may be determined for effects related to dust soiling (nuisance), human health and ecosystem respectively. Distances are to the dust source and so a different area may be affected by the on-Site works than by trackout (i.e. along the routes used to access the Site). The IAQM guidance advises that the highest level of sensitivity from each table should be recorded.

³ Defra (2016); 'London Local Air Quality Management (LLAQM) Technical guidance 2016 (LLAQM.TG (16))', DEFRA, London.

Table A3: Sensitivity of the Area to Dust Soiling Effects on People and Property

Receptor Sensitivity	Number of Receptors	Distance from the Source (m)			
		<20	<50	<100	<350
High	>100	High	High	Medium	Low
	10-100	High	Medium	Low	Low
	1-10	Medium	Low	Low	Low
Medium	>1	Medium	Low	Low	Low
Low	>1	Low	Low	Low	Low

Table A4: Sensitivity of the Area to Human Health Impacts

Receptor Sensitivity	Annual Mean PM ₁₀ Concentration	Number of Receptors	Distance from the Source (m)				
			<20	<50	<100	<200	<350
High	>32µg/m ³	>100	High	High	High	Medium	Low
		10-100	High	High	Medium	Low	Low
		1-10	High	Medium	Low	Low	Low
	28-32µg/m ³	>100	High	High	Medium	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	High	Medium	Low	Low	Low
	24-28µg/m ³	>100	High	Medium	Low	Low	Low
		10-100	High	Medium	Low	Low	Low
		1-10	Medium	Low	Low	Low	Low
	<24µg/m ³	>100	Medium	Low	Low	Low	Low
		10-100	Low	Low	Low	Low	Low
		1-10	Low	Low	Low	Low	Low
Medium	-	>10	High	Medium	Low	Low	Low
	-	1-10	Medium	Low	Low	Low	Low
Low	-	>1	Low	Low	Low	Low	Low

Table A5: Sensitivity of the Area to Ecological Impacts

Receptor Sensitivity	Distance from the Source (m)	
	<20	<50
High	High	Medium
Medium	Medium	Low
Low	Low	Low

Operational Phase Assessment

Model

- 1.5 In urban areas, pollutant concentrations are primarily determined by the balance between pollutant emissions that increase concentrations, and the ability of the atmosphere to reduce and remove pollutants by dispersion, advection, reaction and deposition. An atmospheric dispersion model is used as a practical way to simulate these complex processes; which requires a range of input data, which can include pollutant emissions rates, meteorological data and local topographical information.
- 1.6 The effect of the Development on local air quality was assessed using the advanced atmospheric dispersion models ADMS-Roads and ADMS 5, considering the contribution of emissions from forecast road-traffic on the local road network and from the heating plant by the completion year respectively.

ADMS-Roads

- 1.7 The ADMS-Roads model is a comprehensive tool for investigating air pollution in relation to road networks. On review of the Site, and its surroundings, ADMS-Roads was considered appropriate for the assessment of the long and short-term effects of the proposals on air quality. The model uses advanced algorithms for the height-dependence of wind speed, turbulence and stability to produce improved predictions of air pollutant concentrations. It can predict long-term and short-term concentrations, including percentile concentrations.
- 1.8 ADMS-Roads model is a formally validated model, developed in the United Kingdom (UK) by CERC (Cambridge Environmental Research Consultants). This includes comparisons with data from the UK's air quality Automatic Urban and Rural Network (AURN) and specific verification exercises using standard field, laboratory and numerical data sets. CERC is also involved in European programmes on model harmonisation, and their models were compared favourably against other EU and U.S. EPA systems. Further information in relation to this is available from the CERC web site at www.cerc.co.uk.

ADMS 5

- 1.9 ADMS 5 is a Gaussian atmospheric dispersion model widely used for investigating air pollution from controlled or fugitive emissions. The model is used for a wide range of air quality assessments, from small energy centres in urban areas to large industrial facilities. It is also used to model the dispersion of odours to determine the potential for nuisance at sensitive receptors around installations. The model uses advanced algorithms for the height-dependence of wind speed, turbulence and atmospheric stability which improve calculations of air pollutant concentrations. It can predict long-term and short-term concentrations, as well as concentration percentiles.
- 1.10 ADMS 5 is developed in the UK by Cambridge Environmental Research Consultants (CERC) and has been extensively validated against field data sets to assess various configurations of the model such as flat or complex terrain, line/area/volume sources, buildings, dry deposition, fluctuations and visible plumes. Further information in relation to the model validation is available from the CERC website at www.cerc.co.uk.

Model Scenarios

- 1.11 To assess the potential effects of the Development on local air quality, future 'without Development' and 'with Development' scenarios were assessed. The Development is

anticipated to be complete in 2026⁴ and therefore this is the year in which these future scenarios were modelled.

- 1.12 The year 2017 was also modelled to establish the existing baseline situation as this is the latest full year of available [London Borough of Southwark \(LBES\)](#) monitoring data. Base year traffic data for 2017 and meteorological data for 2017 were also used to be consistent with the verification year.
- 1.13 Taking into account recent analyses by Defra¹ showing that historical NO_x and NO₂ concentrations are not declining in line with emission forecasts, as outlined in the Air Quality Assessment, a sensitivity analysis was undertaken on the basis of no future reductions in NO_x/NO₂ concentrations (i.e. considering the potential effects of the Development against the baseline 2017 conditions by applying the 2026 road traffic data to 2017 background concentrations and road traffic emission rates). The results for this sensitivity analysis are presented in Table 14 of the Report and Table A14 below.

Traffic Data

- 1.14 Traffic flow data comprising Annual Average Daily Traffic (AADT) flows, traffic composition (% Heavy-Duty Vehicles (HDVs)) used in the model were provided by Transport Planning Practice Ltd and used in the model for the surrounding road network.
- 1.15 The methodology for calculating the expected change in vehicle trips because of the Development, once completed and operational, is set out in detail within the Transport Statement. The assessment covers all traffic generated by the Development, including servicing and delivery trips. **Table A6** presents the traffic data used within the Air Quality Assessment.

Table A6: 24-hour AADT Data Used within the Assessment

ID	Link Name	Speed (kph)	Base 2017		Without 2026		With 2026	
			AADT	%HDV	AADT	%HDV	AADT	%HDV
1	Borough High Street to the south of White Yart Yard	20	14,326	16.6	14,717	16.6	14,896	16.5
2	Thomas Street	25	6,104	9.3	6,325	9.7	6,435	10.1
3	White Hart Yard	20	26	19.2	26	19.2	178	2.8
4	Southwark Bridge Road to the north of Marshalsea Road	20	14,493	12.2	14,693	12.2	14,797	12.2
5	Marshalsea Road	32	14,311	14.3	14,511	14.2	14,615	14.2
6	Borough High Street to the north of White Yart Yard	10	19,622	18.2	19,884	18.1	19,917	18.1

Vehicle Speeds

- 1.16 To take into account the presence of slow moving traffic near junctions and at roundabouts, the speed on each junction was reduced to 5-10kph, using the following criteria recommended within LAQM.TG(16)⁴:
 - Traffic on the carriageway approaching the lights when red, e.g. 5-20 kph, depending on the time of day and how congested the junction is.

⁴ Defra, 2016, Local Air Quality Management Technical Guidance LAQM.TG(16)

Diurnal Profile

- 1.17 The ADMS-Roads model uses an hourly traffic flow based on the daily (AADT) flows. Traffic flows follow a diurnal variation throughout the day and week. Therefore, a diurnal profile was used in the model to replicate how the average hourly traffic flow would vary throughout the day and the week. This was based on data (the latest available at the time of the assessment) collated by Waterman from the Department for Transport (DfT) statistics Table TRA0307: 'Traffic Distribution by Time of Day on all roads in Great Britain', 2017⁵, which is the latest data available at the time of undertaking the air quality assessment. **Figure A1** presents the diurnal variation in traffic flows which has been used within the model.

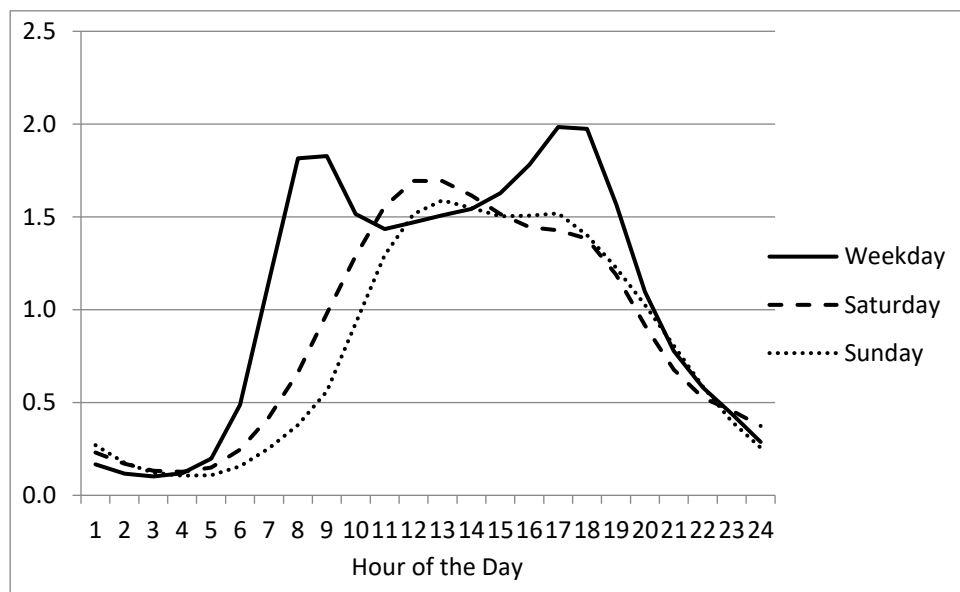


Figure A1: Department for Transport Diurnal Traffic Variation

Street Canyon Effect

- 1.18 Narrow streets with tall buildings on either side have the potential to create a confined space, which can interfere with the dispersion of traffic pollutants and may result in pollutant emissions accumulating in these streets. In an air quality model these narrow streets are described as street canyons.
- 1.19 ADMS-Roads includes a street canyon model to take account of the additional turbulent flow patterns occurring inside such a narrow street with relatively tall buildings on both sides. LAQM.TG(16) identifies a street canyon "as narrow streets where the height of buildings on both sides of the road is greater than the road width."
- 1.20 Following a review of the road network to be included within the model, the street canyon option was included for road links. Reasonable judgement was applied to try and replicate the height of the buildings along the following road links
- St Thomas Street at a height of 22m to represent a four-storey building;
 - Borough High Street North at a height of 22m to represent a four-storey building;
 - White Hart Yard at a height of 10m to represent a two-storey building;
 - Borough High Street South at a height of 18m to represent a four-storey building; and

⁵ Department for Transport (DfT) Statistics, www.dft.gov.uk/statistics/series/traffic

- Marshalsea Marshalsea Road at a height of 15m to represent a three-storey building.

Road Traffic Emission Factors

- 1.21 The latest version of the ADMS-Roads model (version 4.1.1) was used for the assessment. The model includes the latest vehicle emission factors published by Defra in the Emission Factors Toolkit (EFT) (version 9.0 published in May 2019).
- 1.22 The EFT uses several parameters (traffic flow, percentage of HDV, speed and road type) to calculate road traffic emissions for the selected pollutants.

Heating and Energy Strategy

- 1.23 The heating and energy strategy for the Development would provide five 665kW gas-fired boilers and two gas fired water heaters. Technical details of plant have been provided by Chapman BDSP and the stack parameters used within the ADMS 5 model are presented in **Table A7** below.
- 1.24 To take account of the multiple point sources from the boilers and water heaters, ADMS 5 contains the ability to combine multiple point sources into a single stack. The stack parameters for the energy centre, as presented in **Table A7**, have been combined using the additional input file option within ADMS 5.

Table A7: Onsite Plant Stack Parameters

Unit	No.	Grid Ref.	Flue Diameter (m)	Release Rate (m/s)	Release Height (m)	Release Temp (deg °C)	Total NOx Emissions (g/s)
665 kW Boiler	3	532733, 180150	0.25	10	142	71	0.01940
665 kW Boiler	2	532733, 180151	0.25	10	142	71	0.01293
124 kW Water Heater	2	532741, 180145	0.25	10	142	60	0.00255

Note: For gas-fired plants emission factors are not provided for PM₁₀ because gas-fired plants do not emit any significant level of particulates.

Building Parameters

- 1.25 Buildings can have a significant effect on the dispersion of pollutants from sources and can increase the maximum predicted ground level concentrations. ADMS 5 allows buildings to be included in to the model domain as a rectangle or as a circle.
- 1.26 The buildings module is based on experiments in which there was one dominant site building and several smaller surrounding buildings less important for dispersion.
- 1.27 For the heating and energy Centre, the building the flue is located on is considered as the main building. These main buildings have been considered as a rectangular building. The parameters are presented in **Table A8**.

Table A8: Building Parameters

Building	X	Y	Height (m)	Length (m)	Width (m)	Angle (deg)
Georgian Terrace	532734.4	180166.9	15.1	42.32	10.24	120
Keats House	532771.3	180144.0	16.1	17.16	9.92	120
Tower (Main)	532738.5	180139.3	139	50.97	22.07	120

Background Pollutant Concentrations

- 1.28 Background pollutant concentration data (i.e. concentrations due to the contribution of pollution sources not directly considered in the dispersion modelling) have been added to contributions from the modelled pollution sources, for each year of assessment.
- 1.29 Background monitoring of NO₂ is undertaken in LBS at the Elephant and Castle automatic monitor as shown in **Table A9**.

Table A9: Annual Mean Monitored Concentrations at Elephant & Castle Automatic Monitor

Monitor	Pollutant	Averaging Period	AQS Objective	2013	2014	2015	2016	2017
Elephant & Castle	NO ₂	Annual Mean (µg/m ³)	40µg/m ³	42	37	41	39	34
		1-Hour Mean (No. of Hours)	200µg/m ³ not to be exceeded more than 18 times a year	0	0	0	0	0
	PM ₁₀	Annual Mean (µg/m ³)	40µg/m ³	20	19	20	21	19
		24-Hour Mean (No. of Days)	50µg/m ³ not to be exceeded more than 35 times a year	0	1	1	7	5

Notes: Data obtained from www.londonair.org.uk
Exceedences of the Air Quality Strategy (AQS) Objectives shown in **bold** text.

- 1.30 **Table A2** shows that the monitored annual mean NO₂ concentrations were exceeded in 2013 and 2015. All other NO₂ and particulate matter (as PM₁₀) AQS objectives were met in all years at the Elephant & Castle automatic monitor.
- 1.31 In addition to the monitoring data, background concentrations of NO₂, PM₁₀ and PM_{2.5} are available from the Defra LAQM Support website⁶ for 1x1km grid squares for assessment years between 2015 and 2030. **Table A10** presents the Defra background concentrations for the year 2016, for the grid square the Site is located within (532500, 180500).

⁶ <http://laqm.defra.gov.uk/>

Table A10: Defra Background Maps in 2017 and 2026 for the Grid Square at the Site

Pollutant	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)	
	2017	2026
NO ₂	45.5	30.5
PM ₁₀	19.5	17.6
PM _{2.5}	13.1	11.6

- 1.32 The urban background annual mean concentration for NO₂ at the Early Road, Witney diffusion tube was considered representative of the conditions at the Site due to it being the closest monitor to the Site with similar surrounding land use characteristics. The 2016 background concentration at the Early Road, Witney diffusion tube monitor is higher than the Defra Background maps, and so has been used in the assessment for a more conservative approach.
- 1.33 The urban background concentrations for NO₂ and PM₁₀ at the Elephant & Castle automatic monitor are lower than the Defra Background Maps. The Defra Background Maps have therefore been used in the assessment for a more conservative approach. The background concentrations data used within the assessment are presented in **Table A11**.

Table A11: Background Concentrations used in the Assessment ($\mu\text{g}/\text{m}^3$)

Pollutant	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)	
	2017	2026
Grid Square 532500, 180500; Verification – SDT 81, SDT 82, Receptors 1-5, 7-12, and 16		
NO ₂	45.5	30.5
PM ₁₀	19.5	17.6
PM _{2.5}	13.1	11.6
Grid Square 532500, 179500; Verification – SDT 84, Receptors 6, 13, 14, and 15		
NO ₂	38.4	25.3
PM ₁₀	19.5	17.7
PM _{2.5}	13.0	11.6

Meteorological Data

- 1.34 Local meteorological conditions strongly influence the dispersal of pollutants. Key meteorological data for dispersion modelling include hourly sequential data including wind direction, wind speed, temperature, precipitation and the extent of cloud cover for each hour of a given year. As a minimum ADMS requires wind speed, wind direction, and cloud cover.
- 1.35 Meteorological data to input into the model were obtained from the London City Airport Meteorological Station. The London City Airport Meteorological Station was used as it was considered representative of the Site. The 2017 data was used. **Figure A2** presents the wind-rose for the meteorological data.

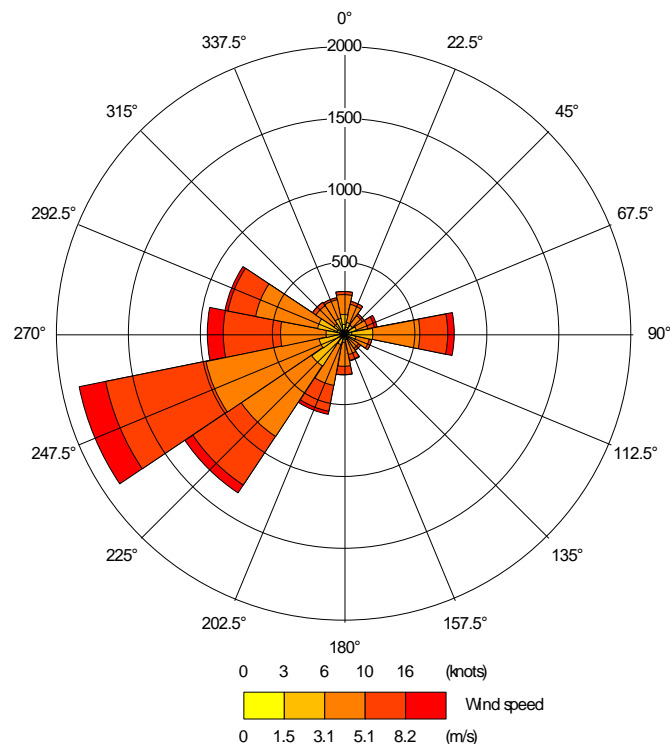


Figure A2: 2017 Wind Rose for the London City Airport Meteorological Site

- 1.36 Most dispersion models do not use meteorological data if they relate to calm winds conditions, as dispersion of air pollutants is more difficult to calculate in these circumstances. ADMS 5 treats calm wind conditions by setting the minimum wind speed to 0.75 m/s. It is recommended in LAQM.TG(16) that the meteorological data file be tested within a dispersion model and the relevant output log file checked, to confirm the number of missing hours and calm hours that cannot be used by the dispersion model. This is important when considering predictions of high percentiles and the number of exceedances. LAQM.TG(16) recommends that meteorological data should only be used if the percentage of usable hours is greater than 85%. 2017 meteorological data from Heathrow includes 8,680 lines of usable hourly data out of the total 8,760 for the year, i.e. 99.1% of usable data. This is above the 85% threshold and is therefore adequate for the dispersion modelling.
- 1.37 A surface roughness value of 1.0 was used for the London City Airport Meteorological Station, which is representative of cities and woodlands, and is considered appropriate following a review of the local area surrounding the Meteorological Station.

Model Data Processing

- 1.38 The modelling results were processed to calculate the averaging periods required for comparison with the Air Quality Strategy Objectives.
- 1.39 NO_x emissions from combustion sources (including vehicle emissions and energy centres) comprise principally nitric oxide (NO) and NO₂. The emitted NO reacts with oxidants in the air (mainly ozone) to form more NO₂. Since only NO₂ is associated with impacts on human health, the air quality standards for the protection of human health are based on NO₂ and not total NO_x or NO.

- 1.40 The ADMS-Roads model was run without the Chemistry Reaction option to allow verification (see below). Therefore, a suitable NO_x:NO₂ conversion was applied to the modelled NO_x concentrations. There are a variety of different approaches to dealing with NO_x:NO₂ relationships, a number of which are widely recognised as being acceptable. However, the current approach was developed for roadside sites, and is detailed within the Technical Guidance LLAQM.TG(16).
- 1.41 The LAQM Support website provides a spreadsheet calculator⁷ to allow the calculation of NO₂ from NO_x concentrations, accounting for the difference between primary emissions of NO_x and background NO_x, the concentration of O₃, and the different proportions of primary NO₂ emissions, in different years. This approach is only applicable to annual mean concentrations.
- 1.42 LLAQM.TG(16) states that where stacks are included within models representing wider urban areas and where the annual mean concentrations are the main focus (as is the case in this assessment) then the spreadsheet calculator, described above, can be used for the conversion of total annual mean NO_x to annual average NO₂ concentrations. This guidance was followed for the assessment NO_x concentrations due to the heating plant emissions.
- 1.43 Research⁸ undertaken on behalf of Defra has indicated that the hourly mean limit value and objective for NO₂ is unlikely to be exceeded at a roadside location where the annual-mean NO₂ concentration is less than 60µg/m³, LLAQM.TG(16) confirms that this assumption is still valid. The hourly objective is, therefore, not considered further within this assessment where the annual-mean NO₂ concentration is predicted to be less than 60µg/m³.
- 1.44 To calculate the number of daily exceedances of 50µg/m³ PM₁₀, the relationship between the number of 24-hour exceedances of 50µg/m³ and the annual mean PM₁₀ concentration from LLAQM.TG (16) was applied as follows:

$$\text{Number of Exceedances} = -18.5 + 0.00145 \times \text{annual mean}^3 + (206/\text{annual mean})$$

Model Parameters

- 1.45 There are several other parameters that are used within the ADMS model which are described for completeness and transparency:
- The model requires a surface roughness value to be inputted:
 - A value of 1.5 was used for the Site, which is representative of large urban areas; and
 - A value of 1.0 was used for the London City Airport Meteorological Station, which is also representative of cities and woodlands;
 - The model requires the Monin-Obukhov length (a measure of the stability of the atmosphere) to be inputted. A value of 100m (representative of large conurbations) was used for the modelling; and
 - The model requires the Road Type to be inputted. '*London [Central]*' was selected and used for the modelling of the road links.

Model Verification

- 1.46 Model verification is the process of comparing monitored and modelled pollutant concentrations for the same year, at the same locations, and adjusting modelled

⁷ AEA, NO_x to NO₂ Calculator, <http://laqm1.defra.gov.uk/review/tools/monitoring/calculator.php>
Version 7.1, April 2019

⁸ Defra (2016), 'Local Air Quality Management Policy guidance PG(16)', DEFRA, London

concentrations if necessary to be consistent with monitoring data. This increases the robustness of modelling results.

- 1.47 Discrepancies between modelled and measured concentrations can arise for a number of reasons, for example:
- Traffic data uncertainties;
 - Background concentration estimates;
 - Meteorological data uncertainties;
 - Sources not explicitly included within the model (e.g. car parks and bus stops);
 - Overall model limitations (e.g. treatment of roughness and meteorological data, treatment of speeds); and
 - Uncertainty in monitoring data, particularly diffusion tubes.
- 1.48 Verification is the process by which uncertainties such as those described above are investigated and minimised. Disparities between modelling and monitoring results are likely to arise as result of a combination of all of these aspects.
- 1.49 Box 7.15 of LAQM.TG(16) provides guidance on approaching model verification and adjustment. This requires the roadside NO_x contribution to be calculated. In addition, monitored NO_x concentrations are required, which have been calculated from the annual mean NO₂ concentration at the diffusion tube sites using the NO_x to NO₂ spreadsheet calculator as described above. The verification process applied here, has been based on Box 7.15.

Nitrogen Dioxide

- 1.50 The dispersion model was run to predict annual mean NO_x concentrations using the LBS diffusion tubes on Lamppost No 02 Borough High Street (SDT 81), Lamppost no 01 Adjacent to 125 Borough High St (SDT 82), and Little Dorritt Park Entrance Lamppost No 8 (SDT 84). This monitoring location is classified as being kerbside. Kerbside monitors are not generally recommended for the adjustment of road traffic modelling results as the inclusion of these sites may lead to an over-adjustment of modelling at roadside sites. The kerbside Borough High Street (SDT 81) diffusion tube was however, used because of its proximity to the Site. The verification would result in a conservative assessment.
- 1.51 Box 7.15 in LAQM.TG(16) indicates a method based on comparison of the road NO_x contributions and calculating an adjustment factor. This requires the roadside NO_x contribution to be calculated. In addition, monitored NO_x concentrations are required, which were calculated from the annual mean NO₂ concentration at the monitoring site using the NO_x to NO₂ spreadsheet calculator as described above. The steps involved in the adjustment process are presented in **Table A11**. The background data for 2017, as presented in **Table A6** were used.

Table A12: 2017 Annual Mean NO₂ Modelled and Monitored Concentrations (µg/m³)

Site ID	Monitored Annual Mean NO ₂ (µg/m ³)	Modelled Total Annual Mean NO ₂ (µg/m ³)	% Difference (modelled – monitored)
SDT 81	82.3	63.0	-23.4
SDT 82	71.0	64.9	-8.6
SDT 84	60.1	46.5	-22.7

- 1.52 **Table A11** indicates that the model under predicts at all three diffusion tubes. Technical Guidance LAQM.TG(16) suggests that where there is a disparity of more than 10% between

modelled and monitored results, adjustment of the modelling results is necessary. The steps involved in the adjustment process are presented in **Table A12** and **Figure A3**.

Table A13: Model Verification Result for Adjustment NO_x Emissions (µg/m³)

Site ID	Monitored NO ₂ (µg/m ³)	Monitored Road NO _x (µg/m ³)	Modelled Road NO _x (µg/m ³)	Ratio of Monitored Road Contribution NO _x /Modelled Road Contribution NO _x
SDT 81	82.3	115.0	48.6	2.4
SDT 82	71.0	74.7	54.5	1.4
SDT 84	60.1	39.8	19.8	2.0

- 1.53 **Figure A3** shows the mathematical relationship between modelled and monitored roadside NO_x (i.e. total NO_x minus background NO_x) in a scatter graph (data taken from **Table A12**), with a trendline passing through zero and its derived equation.

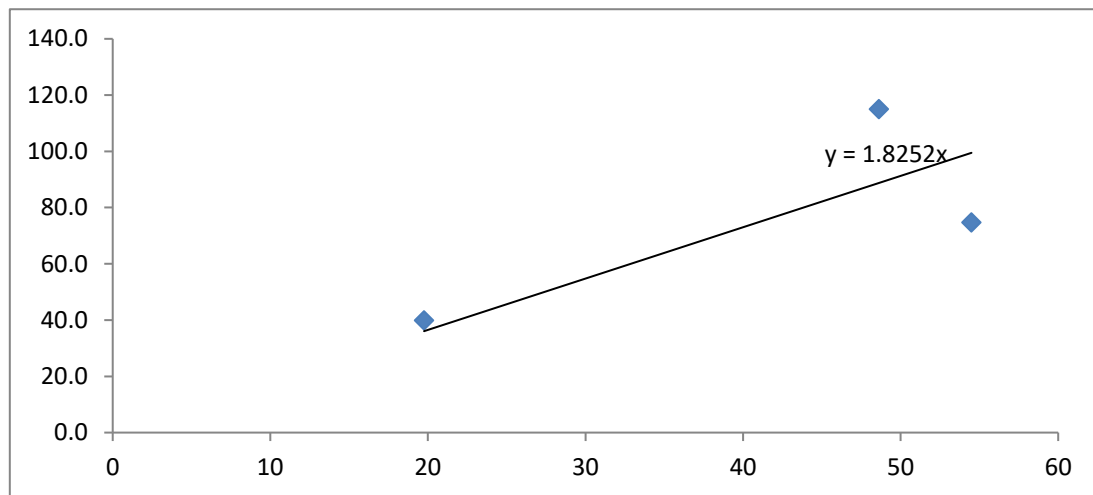


Figure A3: Unadjusted Modelled versus Monitored Annual Mean Roadside NO_x at the Monitoring Sites (µg/m³)

- 1.54 Consequently, in **Table A13** the adjustment factor (1.8252) obtained from **Figure A3** was applied to the relevant modelled NO_x Roadside concentrations before being converted to annual mean NO₂ using the NO_x:NO₂ spreadsheet calculator.

Table A14: Model Verification Result for Adjustment NO_x Emissions (µg/m³)

Site ID	Adjusted Modelled Road NO _x	Modelled Total NO ₂	Monitored Total NO ₂	% Difference
SDT 81	88.7	75.0	82.3	-8.8
SDT 82	99.5	78.0	71.0	9.9
SDT 84	36.1	52.5	60.1	-12.8

- 1.55 The data from the adjusted/verified model in **Table A13** indicates a more conservative agreement between monitored and modelled annual mean NO₂ results compared to the unadjusted model in **Table A11**.
- 1.56 The NO_x adjustment process was therefore applied to the roadside NO_x modelling for 2017 and 2026 'without' and 'with' the Development in place.

Particulate Matter (PM₁₀ and PM_{2.5})

- 1.57 PM₁₀ and PM_{2.5} monitoring data is not available for the Site and local area. Therefore, the roadside modelled NO_x adjustment factor of 1.8252 was subsequently applied to all the roadside PM₁₀ and PM_{2.5} modelling results.

Verification Summary

- 1.58 Any atmospheric dispersion model study will always have a degree of inaccuracy due to a variety of factors. These include uncertainties in traffic emissions data, the differences between available meteorological data and the specific microclimate at each receptor location, and simplifications made in the model algorithms that describe the atmospheric dispersion and chemical processes. There will also be uncertainty in the comparison of predicted concentrations with monitored data, given the potential for errors and uncertainty in sampling methodology (technique, location, handling, and analysis) as well as processing of any monitoring data.
- 1.59 Whilst systematic under or over prediction can be taken in to account through the model verification / adjustment process, random errors will inevitably occur and a level of uncertainty will still exist in corrected / adjusted data.
- 1.60 Model uncertainties arise because of limited scientific knowledge, limited ability to assess the uncertainty of model inputs, for example, emissions from vehicles, poor understanding of the interaction between model and / or emissions inventory parameters, sampling and measurement error associated with monitoring sites and whether the model itself completely describes all the necessary atmospheric processes.
- 1.61 Overall, it is concluded that with the adjustment factors applied to the ADMS-Roads model, it is performing well and modelled results are considered to be suitable to determine the potential effects of the Development on local air quality.

Assessor Experience

Name: Andy Fowler

Years of Experience: 8

Qualifications:

- CEnv
- BSc (Hons)
- Associate Member of the IAQM
- AIEMA (Associate Member of the Institute of Environmental Management and Assessment)
- Full Member of the Institution of Environmental Sciences (IES)

Andy has been responsible for the technical delivery of a wide range of air quality projects for a variety of clients in both the public and private sector. These projects include consideration of emissions from both transportation and industrial sources, through both monitoring and modelling, and therefore he has an in depth understanding of the regulatory requirements for these sources and the published technical guidance for their assessment.

References

- 1 <http://iaqm.defra.gov.uk/faqs/faqs.html>: Measure (NO₂) concentrations in my local authority area do not appear to be declining in line with national forecasts.

Appendix 9.3: Air Quality Neutral Assessment

- 1.1 Calculations have been undertaken by Waterman Infrastructure & Environment (Waterman IE) to accompany the planning permission for the re-development of New City Court in the London Borough of Southwark, London. The purpose of the calculations is to demonstrate how the Development performs against relevant ‘air quality neutral’ benchmarks.

Description of the Development

- 1.2 The proposals (hereafter referred to as the ‘Development’) as described in the planning application form is as follows:
- 1.3 ‘Comprehensive redevelopment of the site to include demolition of existing 1980s office buildings and erection of a 37-storey building (including ground and mezzanine) of a maximum height of 144m (AOD), restoration and refurbishment of existing listed terrace, and redevelopment of Keats House with retention of existing façade to provide a total of 46,374 sqm of Class B1 office floorspace, 765 sqm of Class A1 retail floorspace, 1,139 sqm of Class A3 retail floorspace, 615 sqm of leisure floorspace (Class D2), 719 sqm hub space (Class B1/D2) and a 825 sqm elevated public garden, associated public realm and highways improvements, new station entrance, cycling parking, car parking, servicing, refuse and plant areas, and all ancillary or associated works.’ The Development would include two disabled car parking spaces. For the purposes of the Air Quality Neutral Assessment, the Development is in the Central Activity Zone.

Table A1: The Development Proposals

Land Use (Use Class)	Proposed Floorspace Areas GIA (m ²)
Retail (A1)	765
Restaurants and cafés (A3)	1,139
Office (B1)	46,374
Gym (D2)	615
Hub Space (B1/D2)	719
Total	49,612

Planning Policy and Guidance

The London Plan: The Spatial Development Strategy for Greater London; Consolidated with Alterations since 2011, 2016

- 1.4 Policy 7.14 ‘Improving air quality’ of the London Plan¹ states that development proposals should:
- “...be at least ‘air quality neutral’ and not lead to further deterioration of existing poor air quality (such as areas designated as AQMAs);...”*

¹ Greater London Authority (2016): The 2015 London Plan with Minor Alterations 2016, Spatial Development Strategy for Greater London, GLA, London.

The Draft New London Plan: The Spatial Development Strategy for Greater London, 2018

- 1.5 Policy SI1 'Improving Air Quality' of the Draft New London Plan² states that development proposals should not:
- "a) lead to further deterioration of existing poor air quality*
 - b) create any new areas that exceed air quality limits, or delay the date at which compliance will be achieved in areas that are currently in exceedance of legal limits*
 - c) reduce air quality benefits that result from the Mayor's or boroughs' activities to improve air quality*
 - d) create unacceptable risk of high levels of exposure to poor air quality."*
- 1.6 Policy SI1 also states that *"The development of large-scale redevelopment areas, such as Opportunity Areas and those subject to an Environmental Impact Assessment should propose methods of achieving an Air Quality Positive approach through the new development. All other developments should be at least Air Quality Neutral be at least 'air quality neutral' and not lead to further deterioration of existing poor air quality (such as areas designated as AQMAs)".*

The Mayor's Air Quality Strategy 'Clearing the Air', 2010

- 1.7 Similarly, the Mayor's Air Quality Strategy³ states that:
- "New developments in London shall as a minimum be 'air quality neutral' through the adoption of best practice in the management and mitigation of emissions".*

Sustainable Design and Construction - Supplementary Planning Guidance, 2014

- 1.8 The Sustainable Design and Guidance – Supplementary Planning Guidance (SPG) provides updated guidance to support the implementation of the London Plan.
- 1.9 Further to Policy 7.14 of the London Plan, Section 4.3 of the SPG focusses on air pollution and the effects from the operation of new developments within Greater London. The SPG requires all new developments to be at least 'air quality neutral'.
- 1.10 Paragraph 4.3.15 of the SPG states:
- "This policy applies to all major developments in Greater London. Developers will have to calculate the NO_x and / or PM₁₀ emissions from the buildings and transport elements of their developments and compare them to the benchmarks set out in Appendix 5 and 6."*
- 1.11 The SPG presents emission benchmarks for buildings (associated with emissions from combustion plant introduced as part of a development to provide heating and power) and transport (associated with vehicle trips related to the operation of the development). It is considered that where a development does not exceed these benchmarks, it would be 'air quality neutral' and would not increase NO_x (oxides of nitrogen) and PM₁₀ (particulate matter of 10µm diameter or less) emissions across London as a whole. A discussion on the Building

² Greater London Authority (2018): Draft New London Plan, Spatial Development Strategy for Greater London, GLA, London.

³ Greater London Authority (GLA), 'The Mayor's Air Quality Strategy: Cleaning London's Air', London, 2002.

Emission Benchmarks (BEBs) and the Transport Emission Benchmarks (TEBs) as set out within the SPG is presented below.

- 1.12 In addition to the BEBs and TEBs, the SPG provides emissions standards for any proposed combustion plant (individual / communal gas boilers, solid biomass or Combined Heat and Power (CHP) plant) to be introduced as part of a development. These emissions standards must be complied with.

Building Emissions Benchmarks (BEBs)

- 1.13 Paragraph 4.3.17 and Appendix 5 of the SPG note that BEBs have been defined for a series of land-use classes for both NO_x and PM₁₀. The Land Use Classes for A1-A3 (Retail), B1 (Office) and D2(e) (Gym) BEB is presented in **Table A2**.

Table A2: 'Air Quality Neutral' Emissions Benchmarks for Buildings

Land Use Class	NO _x (g/m ²)	PM ₁₀ (g/m ²)
Class A1	22.6	1.29
Class A3 – A5	75.2	4.32
Class A2 and Class B1	30.8	1.77
Class D2(e)	284	16.3

- 1.14 It is noted that whilst the BEBs have been provided for PM₁₀, these only apply for developments which would introduce heating plants likely to produce significant PM₁₀ emissions. This would typically include heating plant operated by oil or solid fuel (including all biomass appliances). All other plant would not result in an increase in PM₁₀; therefore, an assessment against the PM₁₀ BEBs would not be required.

Transport Emissions Benchmarks (TEBs)

- 1.15 Paragraph 4.3.19 and Appendix 6 of the SPG sets out the TEBs defined by a series of land-use class for both NO_x and PM₁₀. There are no TEBs for Use Class D2, therefore the Land Use Class B1 TEBs were used as it is the nearest comparable land use to Use Class D2. There are no TEBs for Use Class A3, therefore the Land Use Class A1 TEBs were used. Using the most comparable land use TEB is current practice as set out in the Air Quality Neutral Planning Support document. The TEB is presented in **Table A3**.

Table A3: 'Air Quality Neutral' Emissions Benchmarks for Transport

Land Use	London Central Activity Zone	Inner	Outer
NO _x (g/dwelling/annum)			
Retail (A1)	169	219	249
Office (B1)	1.27	11.4	68.5
Residential (C3)	234	558	1553
PM ₁₀ (g/dwelling/annum)			
Retail (A1)	29.3	39.3	42.9
Office (B1)	0.22	2.05	11.8
Residential (C3)	40.7	100	267

Note: No Emissions Benchmark for A3, so A1 was used
No Emissions Benchmark for D2 so B1 was used

- 1.16 Section 4.3.18 of the SPG notes that the design of a development should encourage and facilitate walking, cycling and the use of public transport, thereby minimising the generation of air pollutants.
- 1.17 As well as providing benchmarks the SPG also recommends emission standards for combustion plant to comply with, in addition to meeting the overall 'air quality neutral' benchmark.

Air Quality Neutral Planning Support: GLA 80371, April 2014

- 1.18 In April 2014, the GLA published a report to provide support to the development of the Mayor's policy related to 'air quality neutral' developments. The report provides a method to enable a development to be assessed against the air quality neutral benchmarks set out in the Sustainable Design and Construction SPG.
- 1.19 The report provides a methodology required to apply the air quality neutral policy. It requires the transport and building emissions for the development to be identified and then compared to the benchmark emissions. The report notes that the building and transport emissions should be calculated separately and not combined.

Air Quality Neutral Calculation

- 1.20 The Air Quality Neutral Assessment of the Development has been based on the approach and methodology detailed within the Air Quality Neutral Planning Support Document. The calculations are presented below.

Building Emissions

- 1.21 The energy centre for the proposed development comprises, five gas-fired boilers, two water heaters and two standby generators. The details of the energy centre are presented in **Table A4**.

Table A4: Calculation of the Total Building Emission

Unit	Total NO _x Emissions (g/s)	Hours of Operation (hrs./annum)	Total NO _x (kg/annum)
720kw Boiler	0.007	6,048	152.4
720kw Boiler	0.007	1,960	49.4
720kw Boiler	0.007	1,960	49.4
720kw Boiler	0.007	1,960	49.4
720kw Boiler	0.007	1,960	49.4
131kw Water Heater	0.00135	2,400	11.7
131kw Water Heater	0.00135	2,400	11.7
Standby Generator	1.079	15.7	61.0
Standby Generator	1.079	15.7	61.0
Total Building NO_x Emission			495.3

Note: For gas-fired plants PM₁₀ emission factors are not provided because gas-fired plants do not emit any significant level of particulates
Hours of operation provided by Chapman BDSP

- 1.22 The Development land use BEB's are presented in **Table A5** and is calculated by multiplying the floor area with the BEB presented in **Table A2**.

Table A5: Calculation of the Benchmarked NO_x Building Emission

Land Use	Floorspace GIA (m ²)	Building Emissions Benchmark (gNO _x /m ² /annum)	Benchmarked Emissions (kgNO _x /annum)
Retail (A1)	765	22.6	17.3
Restaurants and cafés (A3)	1,139	75.2	85.7
Office (B1)	46,374	30.8	1428.3
Gym (D2)	615	284	174.7
Hub Space (B1/D2)	719	30.8 [^]	22.1
Total Benchmarked Building Emissions			1,728.1

Note: [^] For a conservative assessment the B1 BEB was used rather than D2 BEB

- 1.23 The Total Building NO_x Emission of 495.3kg/annum is below the benchmark of 1,728.1kg/annum and the Development is therefore considered to be 'Air Quality Neutral', with respect to building emissions and no further abatement would be required.

Transport Emissions

- 1.24 Details of the trip generation per day for the Development have been provided by Transport Planning Practice Ltd (the Applicant's transport consultant). The calculation of the total transport emissions for the Development, as set out within the Air Quality Neutral planning support document, are presented in **Table A6**.

Table A6: Calculation of the Transport Emissions

Land Use	Trips per day	Trips per annum	Average Distance per trip ^(a)	Distance travelled km/annum	Emission Factors (g/vehicle-km) ^(b)	Transport Emission (kg/annum)	
						NO _x	PM ₁₀
Retail (A1 & A3)*	60	21,900	9.3	203,670	NO _x : 0.4224	86.0	14.9
Office (B1) [^]	123	44,895	3.0	134,685	PM ₁₀ : 0.0733	56.9	9.9
Total Transport Emissions						142.9	24.8

Note: ^(a) Average distance travelled by car per trip for sites within Central Activities Zone

^(b) Emissions factors used as presented in Table 10 of the Air Quality Neutral Planning Support Document

* Land use A3 trips have been amalgamated into A1 land use

[^]Land use D2 trips have been amalgamated into B1 land use

- 1.25 The Benchmarked Transport Emissions of the Development are calculated by multiplying the floorspace with the TEB (as presented in **Table A3**). The total benchmarked transport emissions for the Development are presented in **Table A7**.

Table A7: Calculation of the Benchmarked Transport Emissions

Land Use	GIA Floorspace (m ²)	Transport Emissions Benchmark (g/m ² /annum)		Benchmarked Emissions (kg/annum)	
		NO _x	PM ₁₀	NO _x	PM ₁₀
Retail (A1)	765	169	29.3	129.3	22.4
Restaurants and cafés (A3)*	1,139	169	29.3	192.5	33.4
Office (B1)	46,374	1.27	0.22	58.9	10.2
Gym (D2)	615	1.27	0.22	0.8	0.1
Hub Space (B1/D2)^	719	1.27	0.22	0.9	0.2
Total Transport Emissions				382.4	66.3

Note: * No Emissions Benchmark for A3 so A1 was used, in line with Guidance

^ No Emissions Benchmark for D2 so the B1 TEB was used

- 1.26 The total Transport Emissions for NO_x (142.9kgNO_x/annum) are below the Transport Benchmark NO_x Emissions (382.4kgNO_x/annum). Similarly, the Total Transport Emissions for PM₁₀ (24.8kgPM₁₀/annum) is below the Transport Benchmark PM₁₀ Emissions (66.3kgPM₁₀/annum). Therefore, the Development is 'Air Quality Neutral' in relation to transport emissions, and no further mitigation measures would be required.

H. Further Light Pollution Assessment on 9 St Thomas Street

DRAFT

Appendices



DAYLIGHT & SUNLIGHT

LIGHT POLLUTION REPORT

New City Court

03 June 2019

GIA No: **8684**

PROJECT DATA:

Client **Great Portland Estates**
Architect **AHMM**
Project Title **New City Court**
Project Number **8684**

REPORT DATA:

Report Title **Light Pollution Report**
GIA Department **Daylight & Sunlight**
Dated **03 June 2019**

Prepared by **GLE**
Checked by
Type **Planning**

Revisions	No:	Date:	Notes:	Signed:
A		22-05-19	Comments included	GLE
B		23-05-19	Additional assessments	GLE
C		03-06-19	Additional comments	GLE

SOURCES OF INFORMATION:

Information Received **IR-29_38-8684**
Release Number **Rel_04_8684_DSD**
Issue Number **02**
OS Data **FIND Maps**
3D models **VERTEX**
Site Photos **GIA**



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OS 100047514

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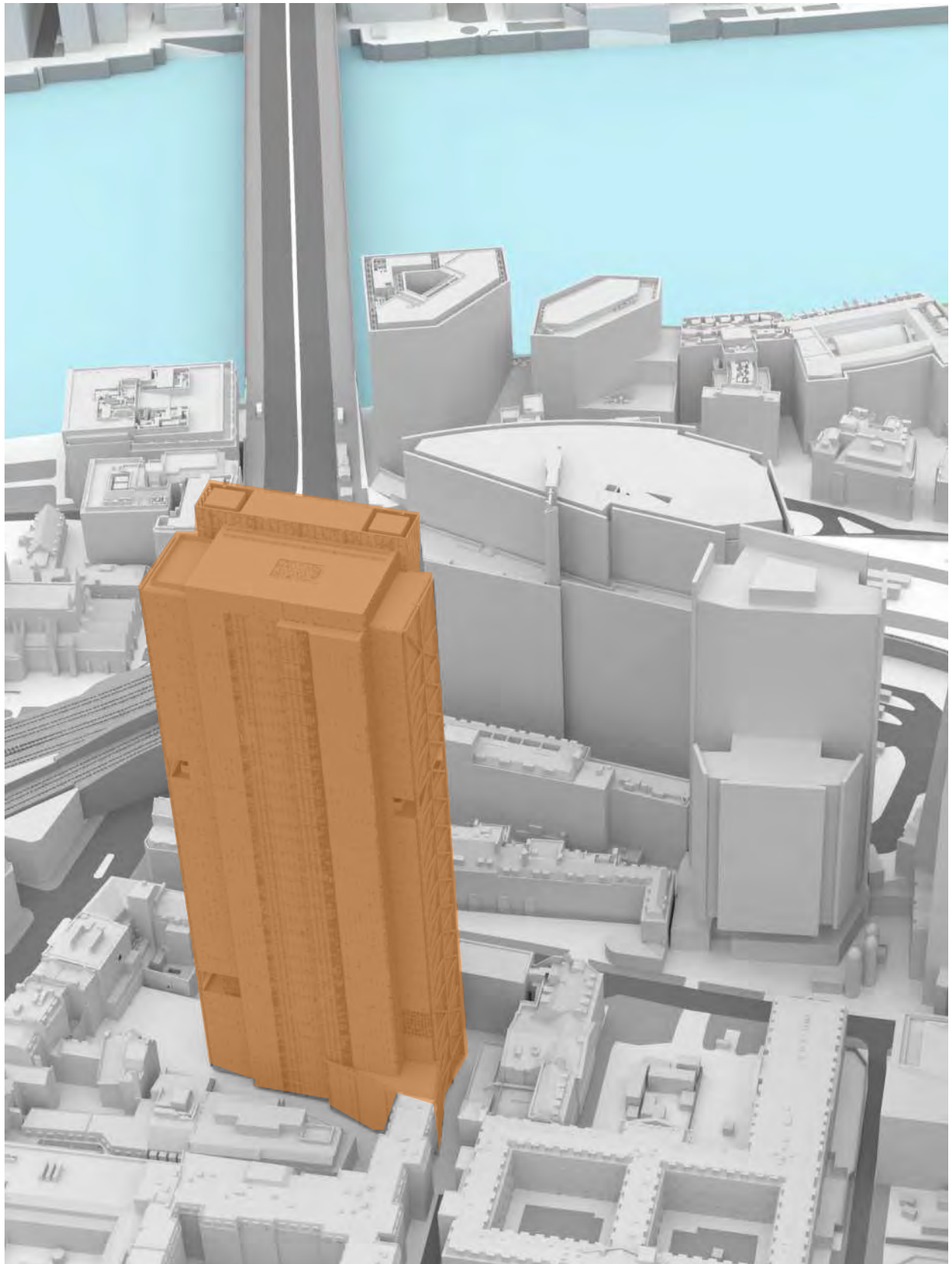


Fig. 01: Site Overview Perspective

1 EXECUTIVE SUMMARY

As requested by the London Borough of Southwark (LBS) we have undertaken a further light pollution assessment for the residential element at 9 St Thomas Street.

The purpose of this assessment is to determine the levels of obtrusive light caused by the interior light fittings of the Proposed Development onto the relevant residential windows within 9 St Thomas Street.

Overall the results show that the levels of light trespass seen on sensitive receptors pre-curfew are acceptable and below those recommended by the ILE.

Post-curfew potential light pollution issues have been identified on some of the tested windows. However, in reality, the proposed lighting system will include occupancy sensors and therefore, as demonstrated by additional assessments with a 300 Lux maximum output, the proposed lighting system is unlikely to cause any significant nuisance upon 9 St Thomas Street.

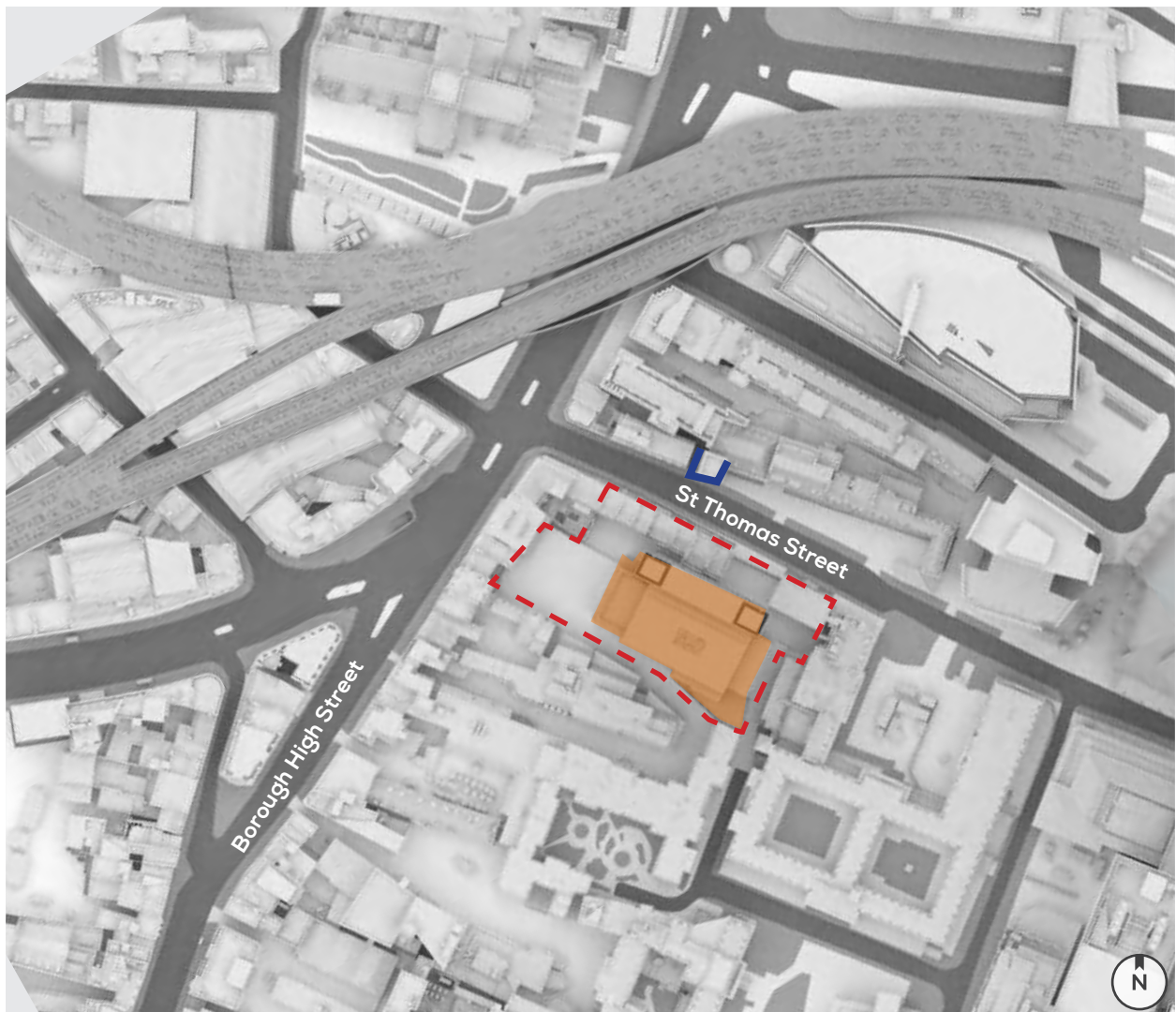


Fig. 02: Site Plan

2 INTRODUCTION AND OBJECTIVE

GIA has been instructed to provide a report upon the potential Light Trespass as a result of the proposed development.

GIA was specifically instructed to carry out the following:

- Create a 3D computer model of the immediate area surrounding the site and the proposed development.
- Apply a standard lighting design within the 3D model so the lighting software can simulate the resultant light spillage.
- Carry out a light trespass assessment to measure the illuminance levels (lux) at sensitive receptors surrounding the site.
- Prepare a report setting out the analysis, findings and recommendations.

3 POLICIES, GUIDANCE, LEGISLATION AND STANDARD

3.1 NATIONAL POLICY AND GUIDANCE

Environmental Protection Act 1990

An amendment contained within the Clean Neighbourhoods and Environment Act 2005 to section 79 of the Environmental Protection Act 1990 states:

"Artificial light emitted from premises so as to be prejudicial to health and nuisance constitutes a 'Statutory Nuisance' and it shall be the duty of every local authority to cause its area to be inspected from time to time to detect any statutory nuisances which ought to be dealt with under section 80 and, where a complaint of a statutory nuisance is made to it by a person living within its area, to take such steps as are reasonably practicable to investigate the complaint".

Guidance notes for the reduction of obtrusive light, Institute of Lighting Professionals ILP (2011)

The ILP guidelines quantify the levels of Sky Glow, Light intrusion, Glare/Source Intensity and Building Luminance seen as acceptable for varying environmental zones:

E0: Dark landscapes (UNESCO Starlight Reserves, IDA Dark Sky Parks, etc.);

E1: Intrinsically dark landscapes (National Parks, Areas of Outstanding Natural Beauty, etc.);

E2: Low district brightness areas (Rural, small village, or relatively dark urban locations);

E3: Medium district brightness areas (Small town centres or urban locations); and

E4: High district brightness areas (Town/city centres with high levels of night time activity)

The limitations below may be supplemented or replaced by the LPA's own planning guidance for exterior lighting installation.

Sky Glow is the brightening of the night sky over our towns, cities and countryside. This can be quantified by measuring the Upward Light Ratio (ULR). This is the maximum permitted percentage of luminaires flux for the total installation that goes directly into the sky. The values suggested in the table opposite are the maximum allowable levels for their respective environmental zones.

Light intrusion is the spilling of light beyond the boundary of the proposed development. This is assessed as vertical illuminance in lux (Ev) measured flat at the centre of the sensitive receptor. The values in the table below are suggested maximum allowable levels, taking into account the existing light intrusion at the point of measurement in each environmental zone (pre and post-curfew).

Glare/Source Intensity is the uncomfortable brightness of a light source when viewed against a dark background. This applies to each source visible from the sensitive receptor and is measured as source intensity (I) (kcd). The values in the table below are the suggested maximum allowable levels in each environmental zone (pre and post curfew).

Building Luminance can cause an increase in the brightness of the general area. This is measured in cd/m² (L) as an average over the building façade caused only by external lighting. The values suggested in the table below are the suggested maximum allowable pre-curfew levels in each environmental zone.

The ILP guidelines suggest that in many cases the levels below may not be obtainable. These specific cases will be dealt with individually and mitigations should be utilised to ensure that the impact is minimised.

Lighting of Work Places – Part 2: Outdoor Work Places, British Standards BS 12464-2:2007 (ref 4)

This document mirrors the recommendations made in the ILP guidelines above. The only variations are higher maximum Upward Lighting Ratio (sky glow) limits. This report will refer to the levels suggested by the ILP guidelines thereby assuring compliance with both documents.

3.2 REGIONAL POLICY AND GUIDANCE

The London Plan (2016)

Section 7.22

“A building should enhance the amenity and vitality of the surrounding streets. It should make a positive contribution to the landscape and relate well to the form, proportion, scale and character of streets, existing open space, waterways and other townscape and topographical features, including the historic environment. New development, especially large and tall buildings, should not have a negative impact on the character or amenity of neighbouring sensitive land uses. Lighting of, and on, buildings should be energy efficient and appropriate for the physical context”

The New London Plan (draft)

Section 3.7.10

“Any external lighting for tall buildings should be energy efficient, and designed to minimise glare, light trespass, and sky glow, and ensure it does not negatively impact on protected views or the amenity of nearby residents.”

OBTRUSIVE LIGHT LIMITATIONS FOR EXTERIOR LIGHTING INSTALLATIONS

Environmental Zone	Sky Glow ULR [Max %] ⁽¹⁾	Light intrusion (into Windows) Ev [Lux] ⁽²⁾		Source Intensity I [kcd] ⁽³⁾		Building Luminance Pre- curfew ⁽⁴⁾
		Pre- curfew	Post- curfew	Pre- curfew	Post- curfew	Average, L [cd/m ²]
E0	0	0	0	0	0	0
E1	0	2	1*	2.5	0	0
E2	2.5	5	1	7.5	0.5	5
E3	5.0	10	2	10	1.0	10
E4	15.0	25	5	25	2.5	25

Curfew The time after which stricter requirements (for the control of obtrusive light) will apply; often a condition of use of lighting applied by the local planning authority. If not otherwise stated 23.00hrs is suggested.

* From Public road lighting installations only

4 METHODOLOGY

In order to undertake the light pollution assessments set out above, we have prepared a 3D computer model and used specialist lighting simulation software.

The 3D representation of the proposed development is based on models and drawings provided by AHMM. This has been placed in the context of its surrounding buildings which have been modelled from measured survey. This allows for a precise model, which in turn ensures that analysis accurately represents the levels of light spillage.

4.1 SIMULATION ASSUMPTIONS

Where no values for reflectance, transmittance and maintenance factor were specified by the designer the following values from BS 8206-2:2008, Annex A, tables A.1-A.6 were used for the calculation of Light Pollution. These values are shown in the table below (Table 01).

Light Sources

The light fittings used for this lighting simulation are typical recessed office luminaires arranged in a regular array on the proposed office ceilings so that an average illuminance of 500 lux is achieved across the working plane. This represents a typical Category A office fit-out. The fittings chosen are circular ceiling-recessed compact fluorescent downlighters. Any proposed retail use has been considered as office and therefore represents the worst-case condition.

All luminaires were assumed to be switched on. Blinds or any other shading devices were considered to be either not installed or not deployed. This therefore, portrays the worst-case scenario in terms of light trespass.

Additional assessments have been undertaken with a maximum 300 Lux output as a way of illustrating a more realistic condition of the proposed lighting system.

4.2 LIGHT TRESPASS

In the proposed scenario virtual sensors are placed on the outside of the relevant windows of the aforementioned residential building. The sensors calculate the incident illuminance to this point.

Sky Glow, Source Intensity and Building Luminance were not assessed in this study since they are not relevant to the project. The first two are of interest with external flood lighting installations such as for sports lighting. The latter would need to be considered for a flood lit facade, which is not a feature of the proposal.

Table 01: Typical reflectance, transmittance and maintenance factors

REFLECTANCE VALUES:		MAINTENANCE FACTORS: GLAZING TYPE	TV (Normal)	A.3	A.4	A.5	A.6	TV (Total)
Surrounding	0.2	Triple Low-E (frames modelled)	0.63	8	1	1	1	0.58
Pavement	0.2	Triple Low-E (frames not modelled)	0.63	8	1	1	0.8	0.46
Grass	0.1	Triple Low-E (inclined, frames modelled)	0.63	8	2	1	1	0.53
Water	0.1	Triple Low-E (inclined, frames not modelled)	0.63	8	2	1	0.8	0.42
Yellow brick	0.3	Triple Low-E (horizontal, frames modelled)	0.63	8	3	1	1	0.48
Red brick	0.2	Triple Low-E (horizontal, frames not modelled)	0.63	8	3	1	0.8	0.38
Portland Stone	0.6							
Concrete	0.4							
Internal walls (light grey)	0.68	Double Low-E (frames modelled)	0.75	8	1	1	1	0.69
Internal ceiling (white paint)	0.85	Double Low-E (frames not modelled)	0.75	8	1	1	0.8	0.55
Internal floor (medium veneer)	0.3	Double Low-E (inclined, frames modelled)	0.75	8	2	1	1	0.63
Internal floor (light veneer)	0.4	Double Low-E (inclined, frames not modelled)	0.75	8	2	1	0.8	0.50

5 CONCLUSIONS

As requested by the London Borough of Southwark (LBS) we have undertaken a further light pollution assessment for the residential element at 9 St Thomas Street which is located opposite the Proposed New City Court Development.

This assessment aims to determine the levels of obtrusive light caused by the interior light fittings of the Proposed Development onto the relevant residential windows within 9 St Thomas Street.

Overall, the results show that the proposed lighting system being installed is unlikely to give rise to any issue of light pollution whether pre or post curfew. Therefore, we consider the light pollution effects of the Proposed Development onto 9 St Thomas Street both pre and post curfew to be insignificant.

5.1 CONCLUSIONS ON LIGHT INTRUSION

As discussed within the methodology section, the light pollution assessment is undertaken with an average illuminance of 500 lux which represents a typical Category A office fit-out. This illustrates the worst-case condition in terms of the potential light intrusion, owing to the fact that detailed lighting design is not available at this stage of the project.

In order to represent a more realistic simulation of the proposed lighting fittings at post-curfew, a 300-lux average illuminance assessment has also been undertaken.

The assessment results show that, even with all the light fittings in use at maximum output (500lx), the pre-curfew levels are below the guidance threshold (25 lux).

Post-curfew levels of light spillage above those recommended by the Institute of Lighting Professionals (ILP) can be seen on the windows directly facing the Proposed Development with the lighting system at its maximum output (500 Lux). At post-curfew these windows achieve a maximum level of 10 lux where 5 lux is the ILP's recommendation.

However, in reality, fewer floors would be fully lit post-curfew (after 11pm), as occupancy sensors are being installed. Therefore, the 300 Lux assessment is a more realistic representation of the proposed lighting design system and the results show that post-curfew levels of light spillage would be within the 5 Lux threshold.

6 LIGHT POLLUTION ASSESSMENTS

LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 500 LUX PRE CURFEW

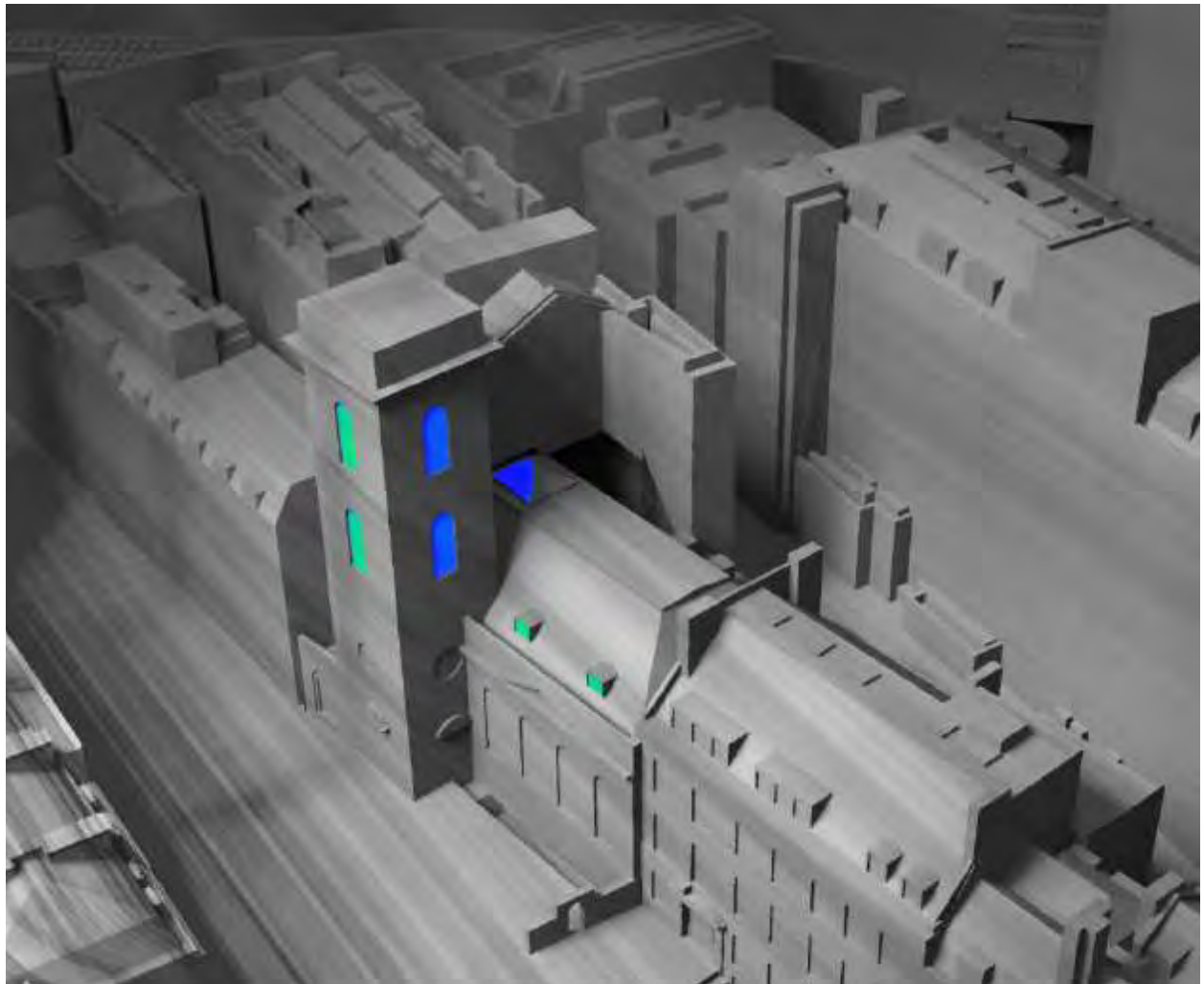
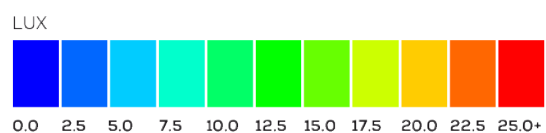


Fig. 03: Light Trespass Assessment - Pre Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 500 LUX
POST CURFEW

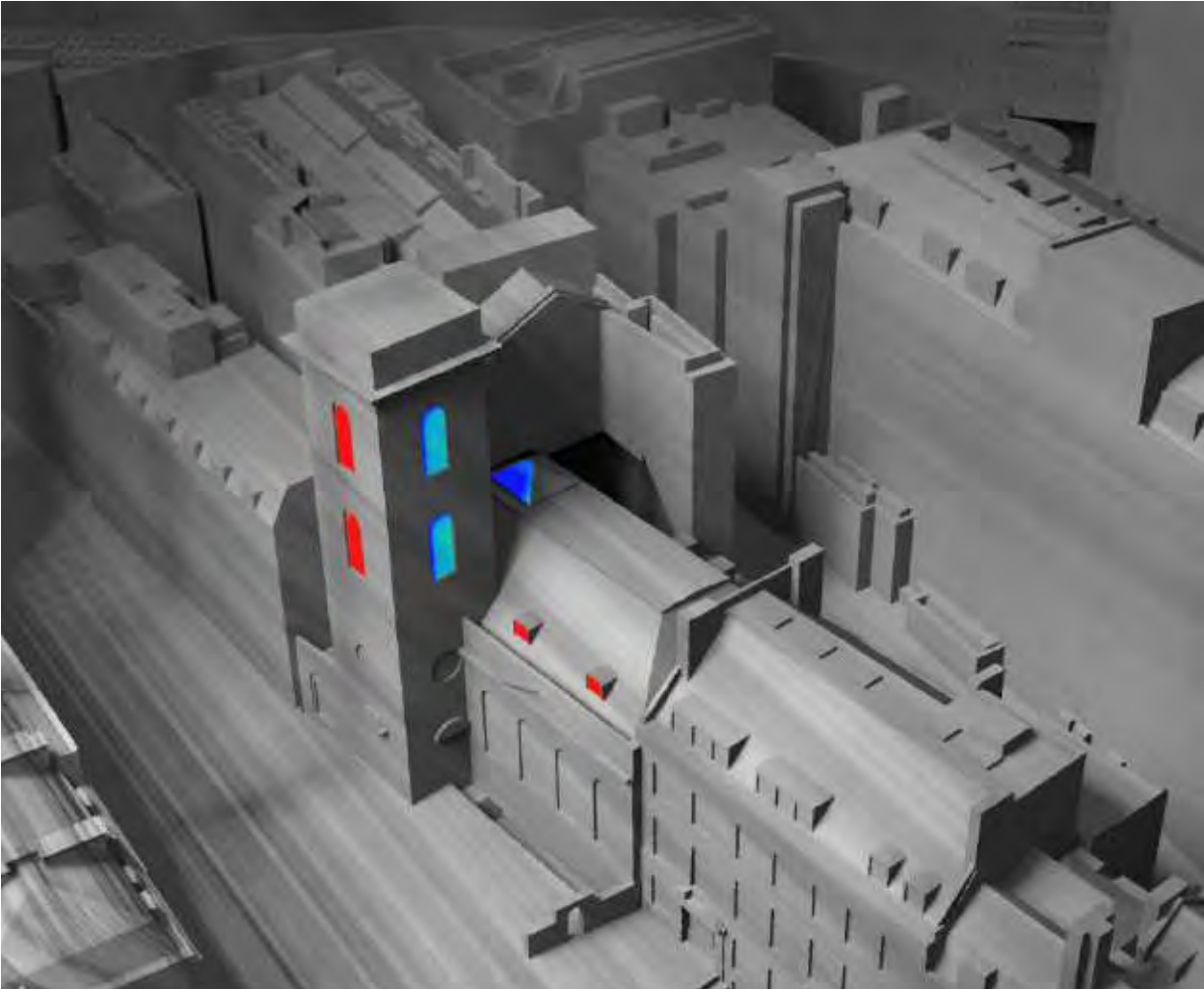
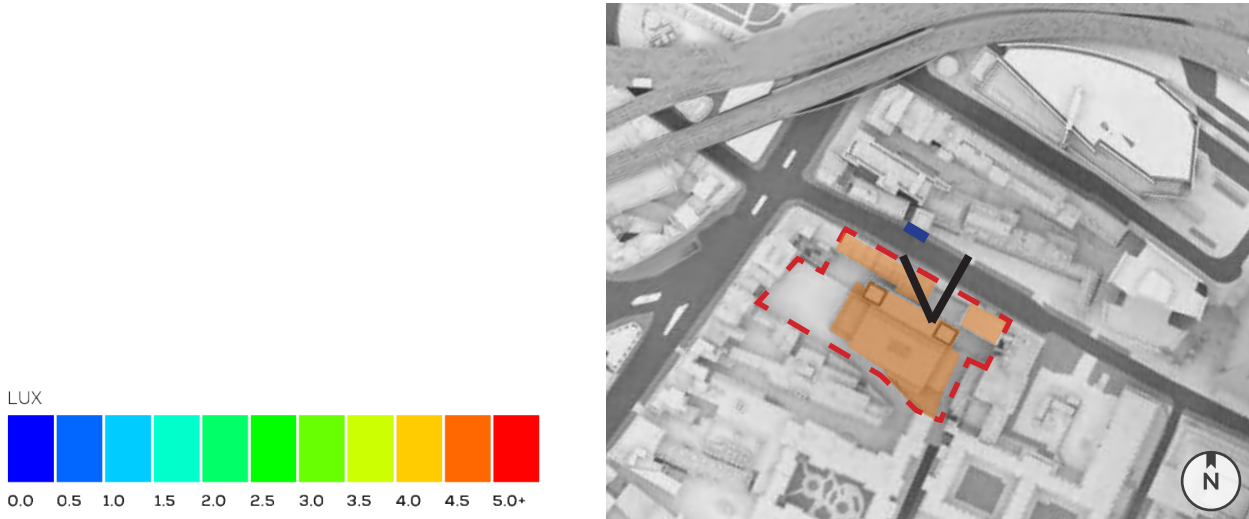


Fig. 04: Light Trespass Assessment - Post Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 500 LUX
PRE CURFEW

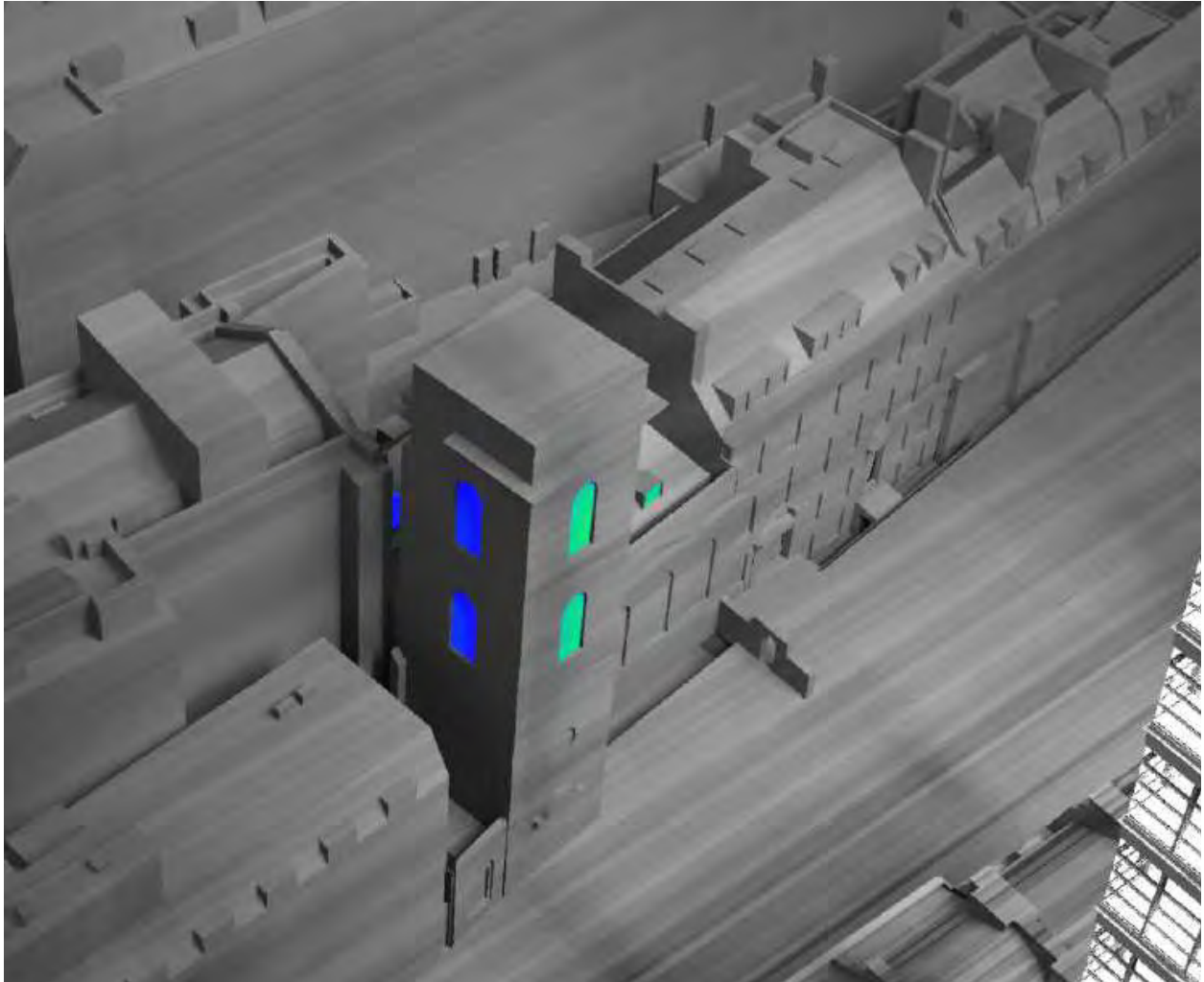
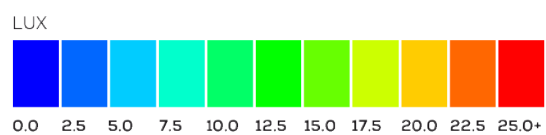


Fig. 05: Light Trespass Assessment - Pre Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 500 LUX
POST CURFEW

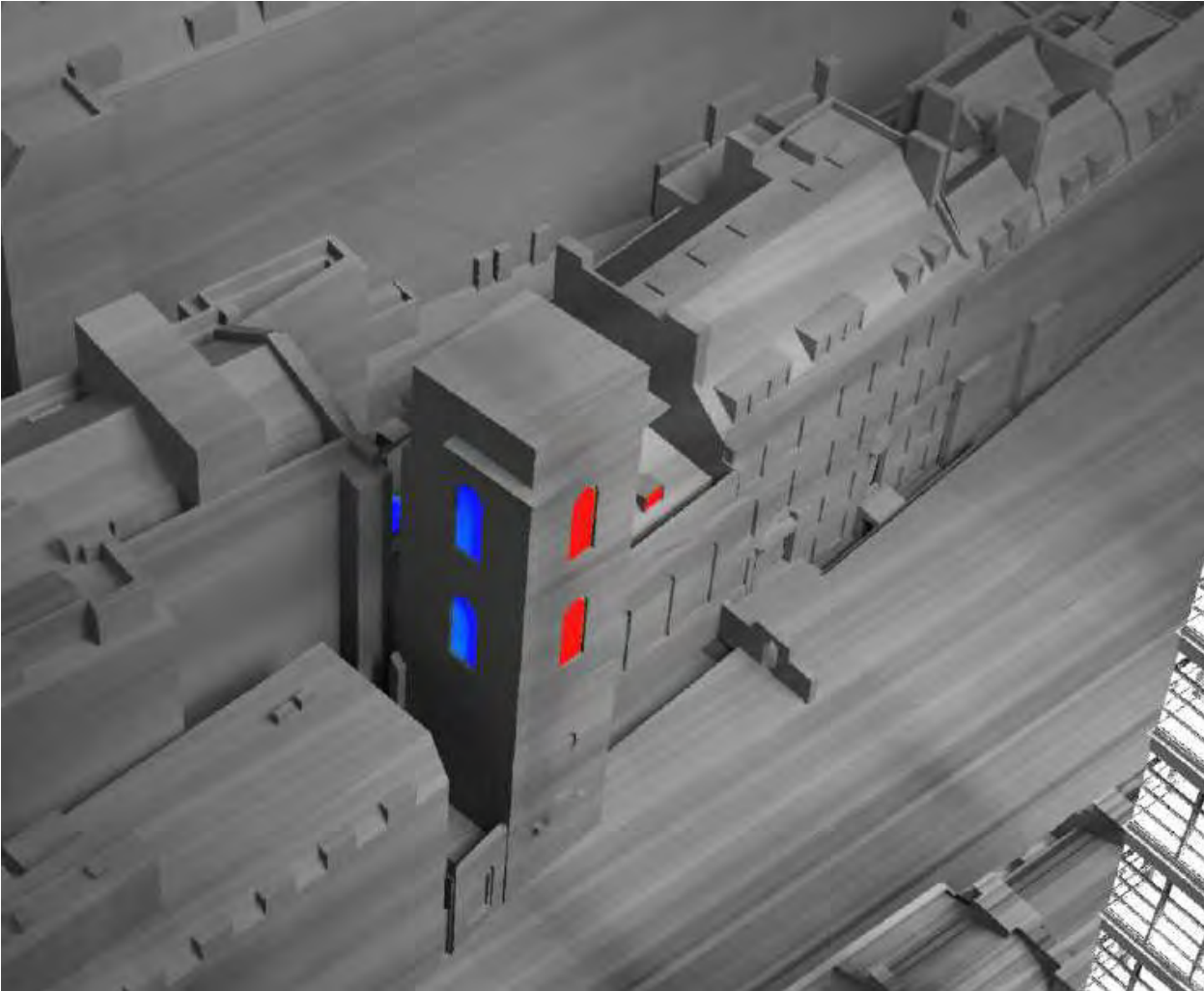
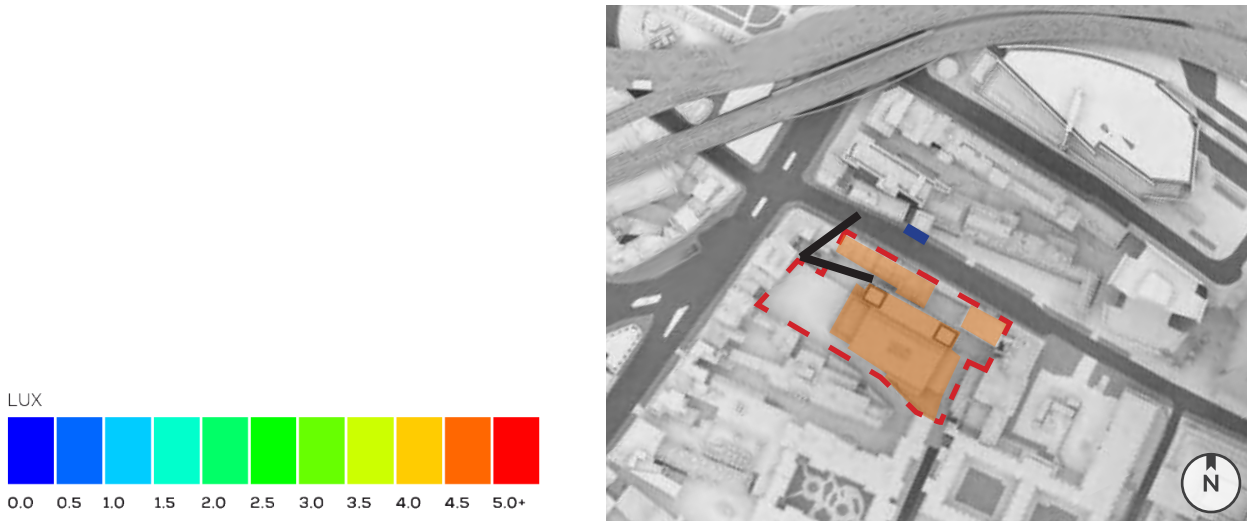


Fig. 06: Light Trespass Assessment – Post Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 300 LUX
PRE CURFEW

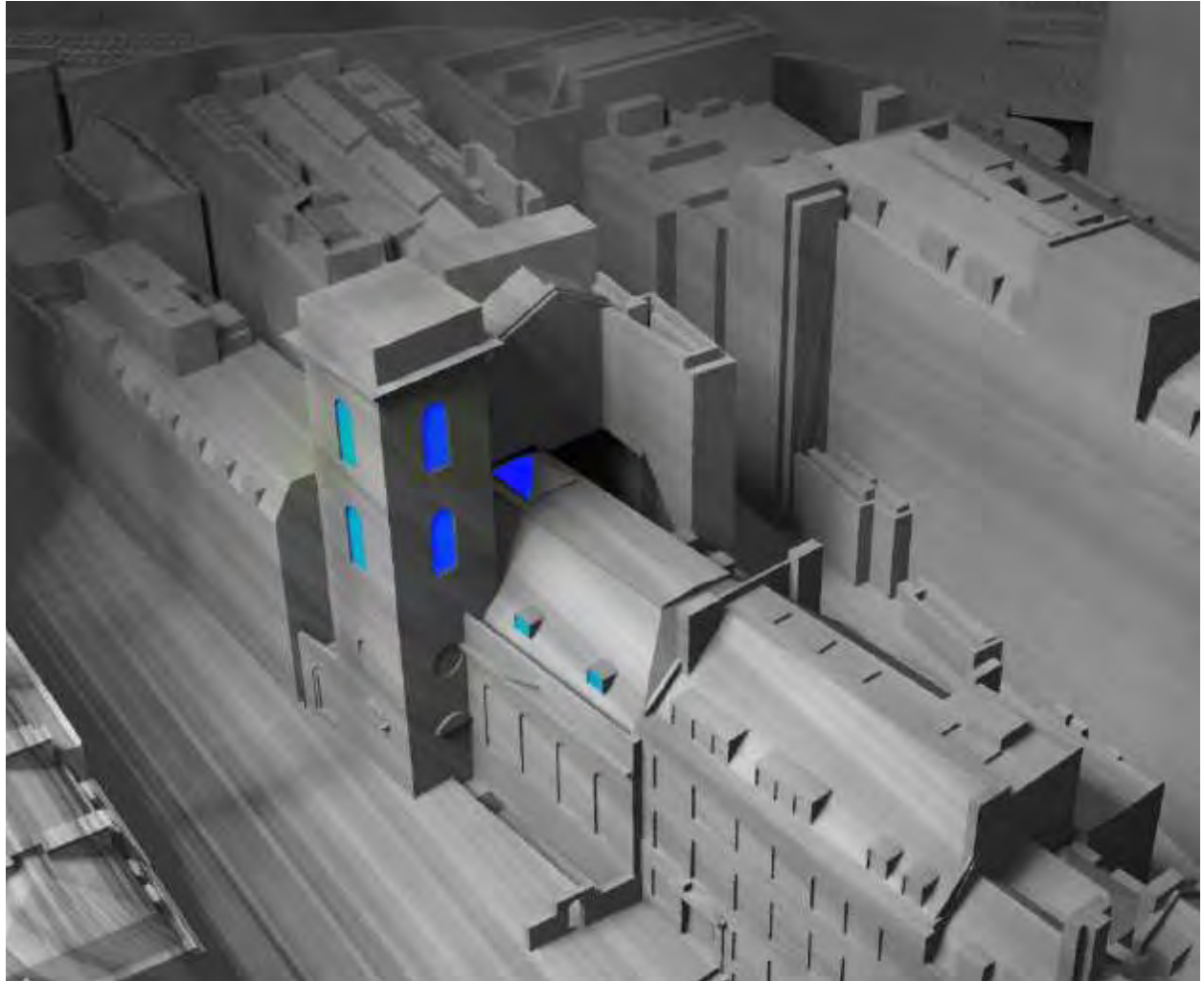
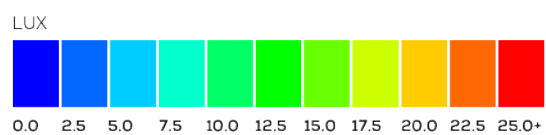


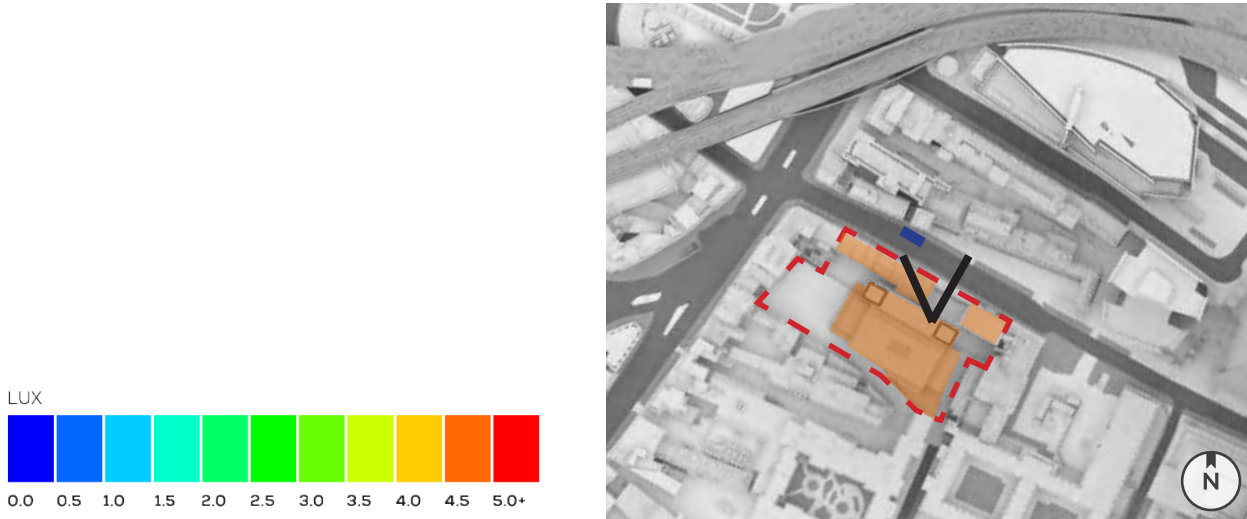
Fig. 07: Light Trespass Assessment - Pre Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 300 LUX
POST CURFEW



Fig. 08: Light Trespass Assessment - Post Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 300 LUX
PRE CURFEW

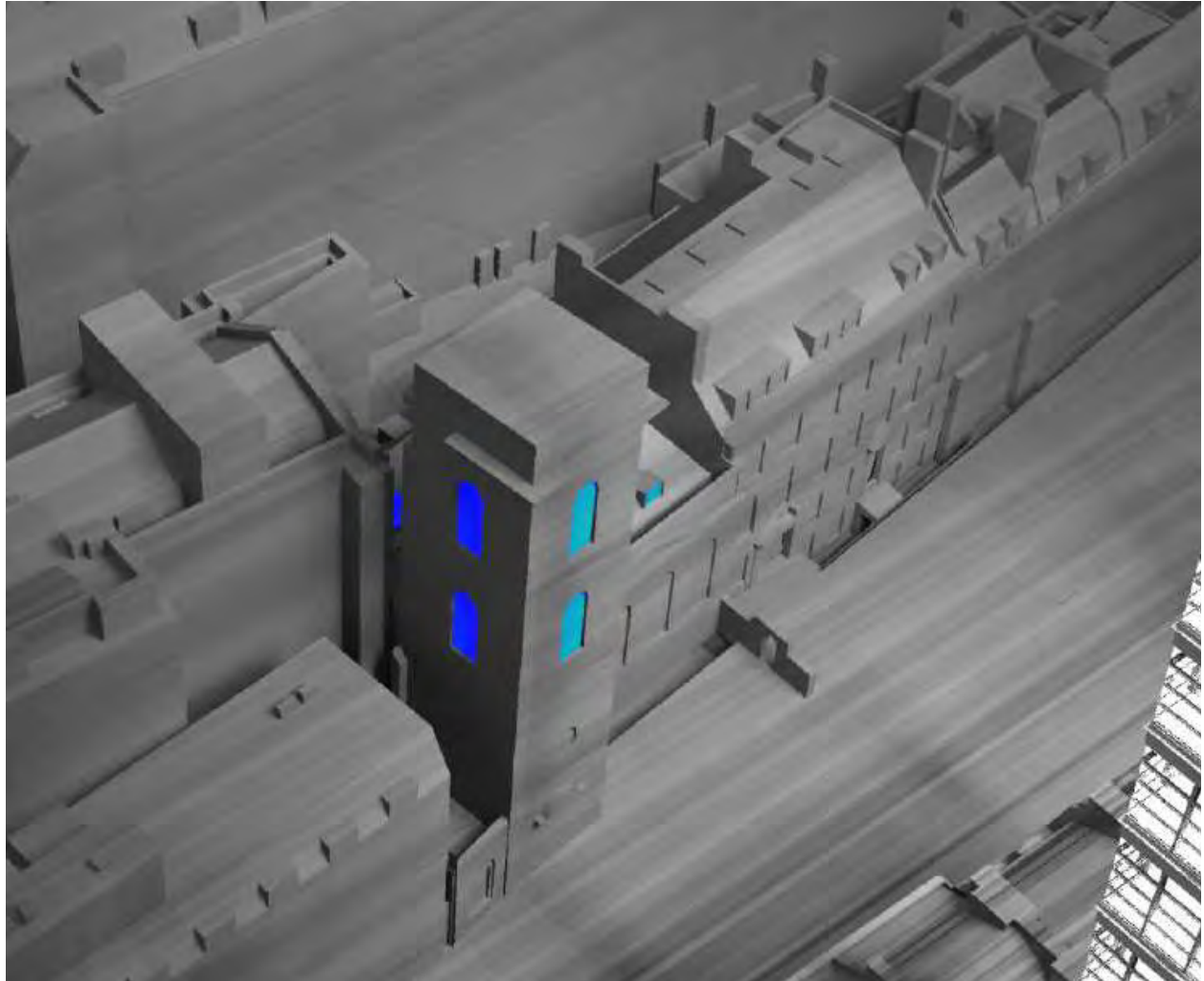
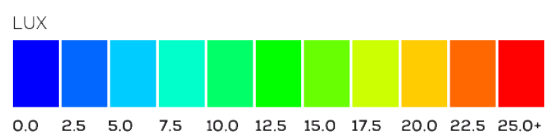


Fig. 09: Light Trespass Assessment - Pre Curfew



LIGHT TRESPASS ASSESSMENT: 9 ST THOMAS STREET - 300 LUX
POST CURFEW

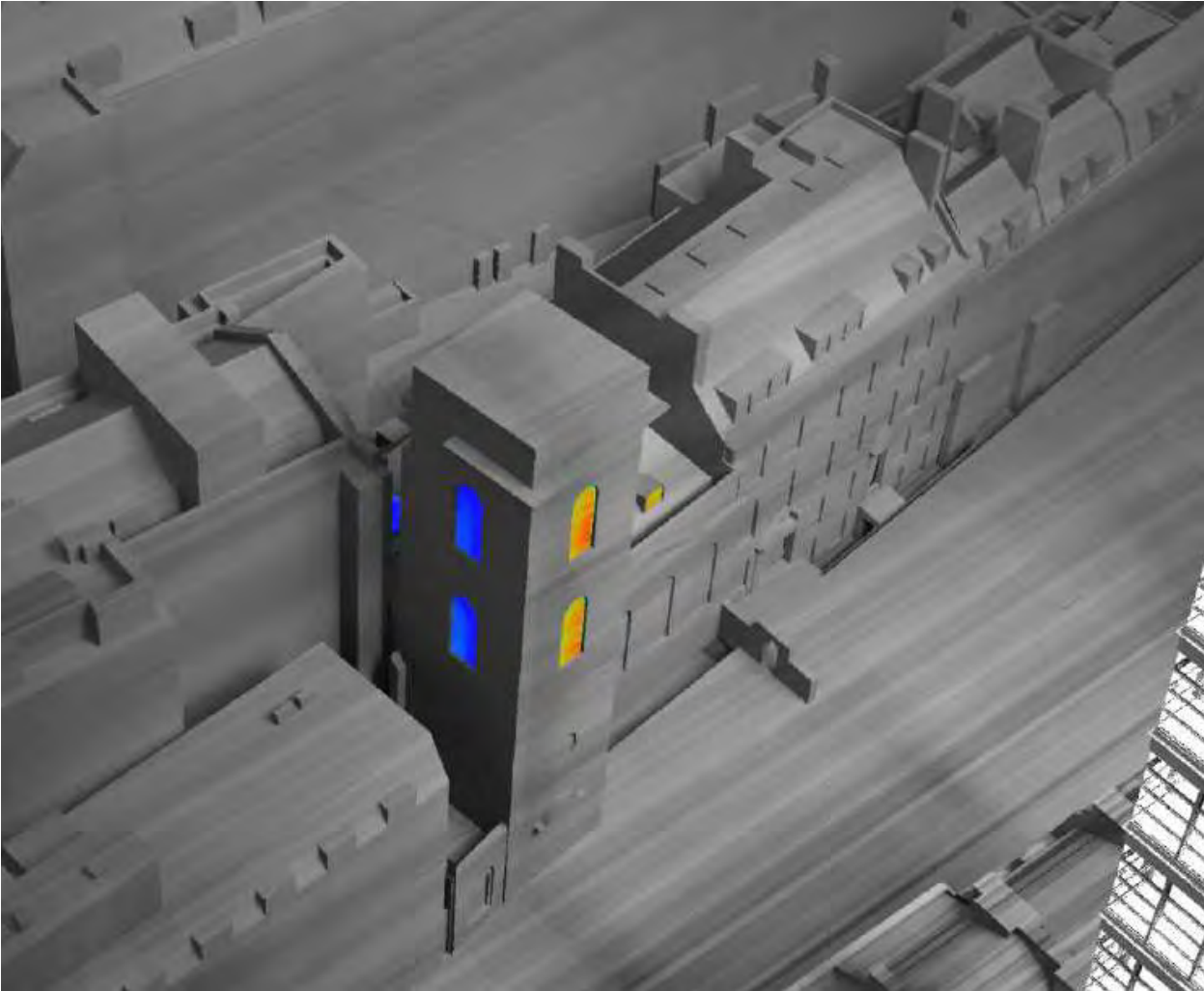
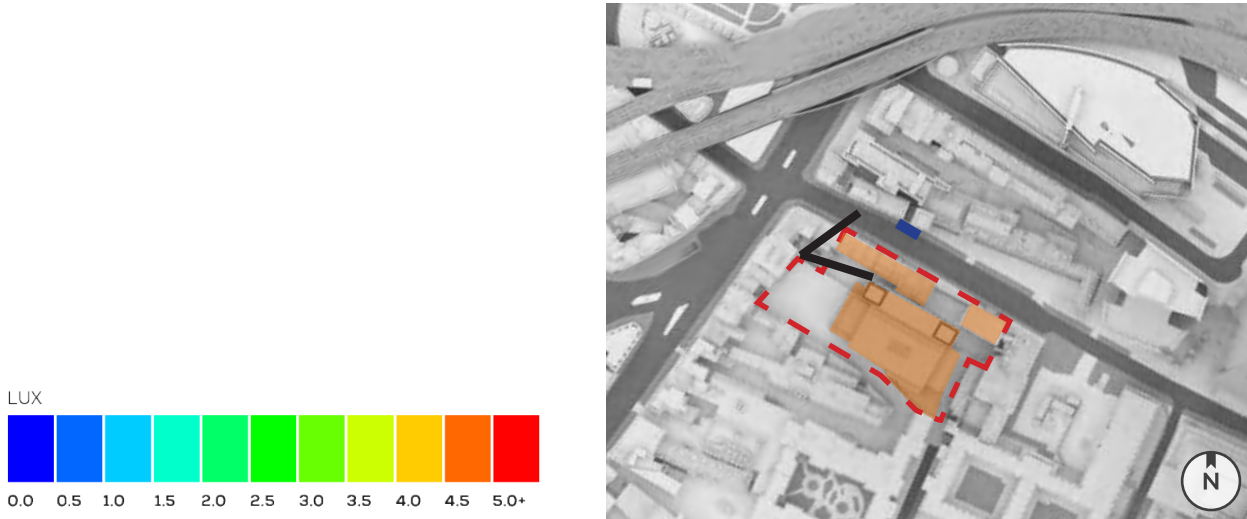


Fig. 10: Light Trespass Assessment - Post Curfew



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I. Updated ES Chapter 13: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

DRAFT

13. Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

Introduction

- 13.1 This chapter, prepared by GIA, supersedes and replaces Chapter 13 of the December 2019 ES. This updated chapter presents an assessment of the likely effects of the Development on the daylight and sunlight amenity to the occupiers of neighbouring sensitive properties and overshadowing to existing amenity areas in the vicinity of the Site.
- 13.2 A solar glare assessment has also been undertaken due to the Development's proximity to multiple road junctions and rail tracks to and from London Bridge mainline station. In addition, a light pollution assessment has been carried out to identify any potential effects to surrounding sensitive receptors.
- 13.3 This chapter contains a description of the methods used to assess the effects and a description of the relevant baseline conditions of the Site and its surrounding area. This is followed by an assessment of the likely significant effects of the Development during the demolition and construction works and once the Development is complete and operational. Mitigation measures are identified, where appropriate, to avoid, reduce or offset any adverse effects identified, and a description is provided of the nature and significance of likely residual effects.
- 13.4 This chapter is supplemented by the following documents:
- **Appendix 13.1:** Drawings of the existing Site and the Development;
 - **Appendix 13.2:** Daylight and Sunlight Results to surrounding sensitive receptors;
 - **Appendix 13.3:** Overshadowing Results;
 - **Appendix 13.4:** Solar Glare Results; and
 - **Appendix 13.5:** Light Pollution Results.
- 13.5 Please note that for the purposes of this ES chapter, the demolition, deconstruction, refurbishment and construction works will be referred to as 'the Works'.

Assessment Methodology and Significance Criteria

- 13.6 The non-mandatory Building Research Establishment (BRE) Guidelines suggest that residential properties have the highest requirement for daylight and sunlight and state that "*the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms*". Therefore, this chapter focuses on those residential buildings and other sensitive receptors such as hospitals surrounding the Site which would have the potential to be affected by the Development. The uses of nearby buildings, in terms of commercial and residential, were established using external observations and Valuation Office Agency (VOA) checks. The BRE Guidelines are the industry recognised standard for assessing all matters related to daylight, sunlight and overshadowing, and the primary reference within all national and local policy.
- 13.7 When determining whether changes in light condition are in line with policy and guidance, it is important to give consideration to other contextual matters, such as instances where the existing

light levels within neighbouring properties are already low, or where the proposed residual values are commensurate with that which one would expect to find in surrounding urban areas of similar density. Furthermore, daylight and sunlight impacts of a development should be balanced against the improvements and benefits which the scheme will bring to the area.

Baseline characterisation

- 13.8 Baseline characterisation was completed by firstly undertaking a review of the surrounding land uses using information and data sourced from the VOA website. This review was undertaken for all surrounding properties in close enough proximity to the Site to be affected by the Development, to identify any residential or other sensitive properties (such as hospital facilities) to be assessed as potential sensitive receptors.
- 13.9 It should be noted that buildings with transient use such as classrooms, hospitals and student accommodation have a lower requirement for daylight and sunlight, and are therefore given a lower sensitivity than permanent residential properties.
- 13.10 This was followed by a Site visit during the month of submission to confirm the existing conditions around the Site remain accurate to those modelled. The conditions recorded are not considered to have changed from the day of the Site visit to the time of writing this ES chapter.
- 13.11 Based on the above, a three dimensional (3D) AutoCAD model was developed for the existing surrounding properties and existing buildings on-Site using a full topographical survey, photogrammetric survey and site photographs.

Scenarios assessed

- 13.12 The following scenarios have been considered and are reported within this chapter of the ES:
- Baseline;
 - Demolition and Construction ('the Works'); and
 - Complete and Operational Development;

Baseline

- 13.13 This scenario has considered the current baseline condition (as at the time of writing) at identified sensitive receptors. It is depicted on drawings 8684/01/01/001 (**Appendix 13.1**).
- 13.14 As noted in paragraph 13.6, the BRE Guidelines state that residential properties have the highest requirement for daylight and sunlight. In addition, the BRE Guidelines state that other uses such as hospitals and schools may also have a requirement for daylight and sunlight.
- 13.15 Accordingly, existing residential and hospital receptors adjoining or in proximity to the Site have been considered within this assessment. In addition, classrooms associated with the London School of Commerce have been included.
- 13.16 It should be noted that Shard Place has been included in the baseline scenario as construction is well underway, and the superstructure is very likely to be completed before work starts on the proposed Development; the scheme is due to be completed in 2020.

- 13.17 With regard to Sun Hours on Ground, as sun exposure is predominantly within southern facing aspects of the Site due to the path of the sun, only the neighbouring amenity areas located to the north of the Site have been considered within this assessment. For transient overshadowing, all neighbouring amenity areas to the north of the Site in close enough proximity to experience overshadowing from the Development have been considered.

Complete and Operational Development

- 13.18 The complete and operational Development scenario consists of the detailed Development in the context of the surrounding existing environment. This scenario assesses the potential daylight, sunlight, overshadowing, solar glare and light pollution effects of the Development on the surrounding receptors and amenity spaces as well as sensitive road junctions and train lines.
- 13.19 This scenario is illustrated on drawing number 8684/03/01/001 within **Appendix 13.1**.

Sensitive Receptors

Daylight and Sunlight

- 13.20 As set out in the assessment methodology, existing residential, hospital and educational receptors are considered to be sensitive receptors that may be affected by the Development. In addition, future residential receptors within Shard Place have been included in the assessment as they are in very close proximity to the Site and construction of Shard Place is well underway and is expected to be complete prior to the Works commencing on New City Court.
- 13.21 As shown in **Figure 13.1** and **Table 13.1**, the following residential properties, Guy's Hospital and the London School of Commerce have been considered due to their proximity to the Site.

Table 13.1: Daylight and Sunlight Receptor Locations

Receptor Location
6 London Bridge Street
43 Borough High Street
51 Borough High Street
53-55 Borough High Street
57 Borough High Street
59-61 Borough High Street
63a Borough High Street
3 Kings Head Yard
The Old King's Head Public House
22 Southwark St
St Thomas Church
Bunch of Grapes Public House, 2 St Thomas Street
Iris Brook House - Talbot Yard (Student Accommodation)
Orchard Lisle House - Talbot Yard (Student Accommodation)
Chaucer House - White Hart Yard – London School of Commerce

Receptor Location
Shard Place
Guy's Hospital – Tower Wing
Guy's Hospital – Southwark Wing

Overshadowing

- 13.22 Owing to the southerly location of the sun path, only the amenity areas located to the north of the Site have the potential to have experience alteration is sunlight with the Proposed Development implemented. Therefore, only amenity areas located from northward of the Site from due east to due west have been considered. Due to the scale of the Development and the nature of the surrounding area, the amenity area in proximity to the Site that is considered sensitive in terms of overshadowing is shown on **Figure 13.2**.
- 13.23 In addition to existing amenity area, the new amenity areas created by the proposed Development have been assessed using Sun Hours on Ground to determine the quantum of sunlight they would receive. As the amenity areas are new, a comparison against a baseline is not possible. Therefore, the amenity areas are assessed in absolute terms.

Solar Glare

- 13.24 Solar glare is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of a Development. Therefore, the assessment considers the effect of the Development in absolute terms and not against the baseline.
- 13.25 Nearby railway lines and roads have also been assessed for solar glare, and the locations assessed can be seen in **Figure 13.5**.

Light Pollution

- 13.26 The following properties were considered sensitive in regard to light pollution due to their close proximity to the Site:
- 2 St Thomas Street;
 - 3 Kings Head Yard;
 - 45 Borough High Street (The Old King's Head);
 - 43, 51, 53, 55, 57, 59, 63 and 63a Borough High Street;
 - Orchard Lisle House; and
 - Shard Place.
- 13.27 An assessment has been undertaken on the effects on these properties caused by the proposed Development.
- 13.28 All other sensitive receptors are considered too far from the Site to be affected by the Development in terms of light pollution.

Methodology for Determining Effects During the Works

- 13.29 Owing to the evolving and changing nature of the Works, the assessment of potential effects during demolition and construction of the Development on daylight, sunlight and overshadowing to surrounding receptors has not been modelled. Instead, a qualitative assessment has been undertaken using professional judgement and experience.
- 13.30 The potential daylight, sunlight and overshadowing effects relating to demolition and construction works would vary throughout the construction programme and gradually increase to the potential effects identified for the completed Development. It is considered that the completed Development represents the worst-case assessment in terms of likely effects on levels of daylight, sunlight and overshadowing received by sensitive receptors.

Methodology for Determining Complete and Operational Effects

- 13.31 The methodologies set out below have been used to determine the effects of the complete and operational Development.

Approach for Daylight, Sunlight, Overshadowing and Solar Glare Assessments

- 13.32 The technical analyses carried out to inform the assessments have been undertaken by creating a digital 3D model of the existing Site, and the complete and operational Development, based on measured survey data.

Daylight

- 13.33 The BRE Guidelines specify two primary methods for assessing daylight within an existing sensitive receptor:
- Vertical Sky Component (VSC); and
 - No Sky Line (NSL) Method.
- 13.34 These are presented in further detail below.

Vertical Sky Component (VSC) Method

- 13.35 The VSC method of assessment is defined in the BRE Guidelines as the:
- “ratio of that part of illuminance at a point on a given vertical plane that is received directly from a CIE standard overcast sky, to illuminate on a horizontal plane due to an unobstructed hemisphere of this sky”.*
- 13.36 The 3D model uses a Waldram Diagram to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the use of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by existing and proposed buildings, and thus calculate the sun hours on ground in each scenario and how the Development would affect the amount of daylight being received at surrounding sensitive receptors.

- 13.37 Only those surrounding properties which have windows facing towards the Site were included in the assessment. If a nearby property has no windows facing the Site, these properties would not be affected by the Development in terms of light.
- 13.38 The assessment is calculated from the centre of a window on the outward face and measures the amount of light available on a vertical wall or window following the introduction of visible barriers, such as buildings.
- 13.39 Regarding existing trees, these may be ignored unless they form dense continuous belts. As stated within the BRE “where the effect of a new building on existing building is being analysed, it is usual to ignore the effect of existing trees. This is because daylight is at its scarcest and most valuable in winter when most trees will not be in leaf.” There are no “dense continuous belts” of trees within the Site, and as such, trees are excluded from the assessment as per the BRE Guidelines.
- 13.40 The maximum VSC value is 39.9% for a completely unobstructed vertical wall or window. In terms of assessment criteria, the BRE Guidelines state that:
- “If any part of a new building or extension, measured in a vertical section perpendicular to a main window wall of an existing building, from the centre of the lowest window, subtends an angle of more than 25° to the horizontal, then the diffuse daylighting of the existing building may be adversely affected. This will be the case if either:*
- *the VSC measured at the centre of an existing main window is less than 27%, and less than 0.8 times its former value*
 - the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.”*
- 13.41 It is acknowledged that the values in the BRE Guidelines are predicated against a 2-3 storey suburban model, therefore the application of its guidelines in inner urban environments should be treated flexibly. This form of assessment does not take account of context or detailed matters such as window size, room use, room size, window number or dual aspect rooms. This assessment also assumes that all obstructions to the sky are 100% non-reflective. It should be noted that the BRE Guidelines acknowledges this and states, in paragraph 2.2.3;
- 2.2.3 ‘The numerical values given here are purely advisory. Different criteria may be used based on the requirements for daylighting in an area viewed against other site layout constraints.’*
- 13.42 Clearly in more urban environments, if development is to meet the scale and proportion of neighbouring buildings, large factor reductions are very difficult to avoid. GIAs experience in daylight and sunlight matters in dense urban environments suggest that weight should also be given to the retained values rather than just the percentage change. Our experience in the field would suggest that a more realistic VSC level in a dense urban environment would be considered to be around 15%.
- 13.43 GIA’s view on retained VSC levels is supported by the Greater London Authority’s hearing report for the Monmouth House and Featherstone Street development (application reference: P2015/3136/FUL) where it was considered in Para 120, Page 31:
- ‘For general guidance, whilst the BRE guidelines recommend a target value of 27% VSC when measured on an absolute scale, that value is derived from a low density suburban housing model.*

In an inner city urban environment, VSC values in excess of 20% should be considered as reasonably good, and VSC in the mid-teens should be acceptable.'

No Sky Line (NSL) Method

- 13.44 The NSL method is a measure of the distribution of daylight at the 'working plane' within a room. The 'working plane' is a horizontal plane 0.85m above finished floor level for residential properties. The NSL divides those areas of the working plane which can receive direct sky light from those which cannot. If a significant area of the working plane lies beyond the NSL (i.e. it receives no direct sky light), then the distribution of daylight in the room may be poor and supplementary electric lighting may be required.
- 13.45 Where actual room layouts were available, these have been considered in the modelling of the internal layouts within the surrounding properties. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms via the NSL. Where layout information was not available assumptions have been made as to the use and internal configuration of the rooms (from external observations) behind the fenestration observed. In such cases a standard 4.2m (14 ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable.
- 13.46 The potential effects of daylighting distribution in an existing building can be found by plotting the NSL in each of the main rooms. For houses, this would include living rooms, dining rooms and kitchens. Bedrooms should also be analysed, although they are less important. The BRE Guidelines identify that if the area of a room that does receive direct sky light is reduced to less than 0.8 times its former value, then this would be noticeable to its occupants.
- 13.47 British Standard (BS) 8206 Part 2 Lighting for Buildings, Code of Practice for Daylighting also states that the:
- "uniformity of daylight is considered to be unsatisfactory if a significant part of the working plane (normally more than 20%) lies behind the no-sky line".*
- 13.48 Therefore, an NSL of at least 80% would be considered satisfactory.
- 13.49 In relation to deep rooms lit by windows on one side, the BRE Guidelines state in paragraph 2.2.20:
- "If an existing building contains rooms lit from one side only and greater than 5m deep, then a greater movement of the no sky line may be unavoidable."*

Sunlight

Annual Probable Sunlight Hours (APSH)

- 13.50 The APSH is a measure of sunlight that a given window may expect over the period of a year, and where there is no obstruction, equates to a maximum of 1,486 hours. Sunlight is measured using a sun indicator which contains 100 spots, each representing 1% of APSH (i.e. 14.86 hours of the total APSH).

- 13.51 The number of spots is calculated for all scenarios during the year and also during the winter period, and a comparison made between the two. This provides a percentage of APSH for each of the time periods for each window assessed.
- 13.52 The BRE Guidelines note on page 14 that:
- *“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.”*
 - *“all main living rooms of dwellings...should be checked if they have a window facing within 90° of due south. Kitchens and bedrooms are less important, although care should be taken not to block too much sun”.*
 - *“If the main living room to a dwelling has a main window facing within 90° of due north, but a secondary window facing within 90° of due south, sunlight to the secondary window should be checked.”*
 - *“...a south facing window will, in general, receive most sunlight, while a north facing one will receive it only on a handful of occasions. East and west facing windows will receive sunlight only at certain times of day”.*
- 13.53 In regard to existing surrounding receptors, the BRE Guidelines provide that a window may be adversely affected if a point at the centre of the window receives for the whole year, less than 25% of the APSH, including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and if there is a reduction in total APSH which is greater than 4%.
- 13.54 BS 8206 Part 2 states that:
- *“Provided that the entry of sunlight is properly controlled, it is generally welcome in most buildings in the UK. Dissatisfaction can arise as much from the permanent exclusion of sunlight as from its excess. The provision of sunlight is important in dwellings, particularly during winter months. Sunlight is especially valued in habitable rooms used for long periods during the day.”*
 - *“Interiors in which the occupants have a reasonable expectation of direct sunlight should receive at least 25% of probable sunlight hours (see 2.10.2). At least 5% of probable sunlight hours should be received during the winter months, between 21 September and 21 March. Sunlight is taken to enter an interior when it reaches one or more window reference points.”*
- 13.55 It is often not possible to determine the room uses within each of the neighbouring properties, nor is it clear which windows should be considered as the ‘main windows’. Therefore, regardless of use, all the rooms with windows facing the Site and within 90 degrees of due south have been considered in the assessment.

Summary of Criteria for Daylight and Sunlight

13.56

- 13.57 **Table 13.2** provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Table 13.2: Summary of Daylight and Sunlight Assessment Criteria

Method	BRE Criteria
VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times its former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.

Overshadowing

Transient overshadowing

- 13.58 The BRE Guidelines suggests that where large buildings are proposed that may affect a number of gardens or open spaces, it is useful to plot a shadow plan to illustrate the location of shadows at different times of the day and year. For the purpose of this assessment the hourly shadows were mapped for the following three key dates in the year:
- 21 March (Spring Equinox);
 - 21 June (Summer Solstice); and
 - 21 December (Winter Solstice).
- 13.59 21 September (Autumn Equinox) provides the same overshadowing images as March 21 (Spring Equinox) as the sun follows the same path at these corresponding times of year. Therefore, 21 March is used within the overshadowing assessment.
- 13.60 The transient overshadowing has been calculated at hourly intervals throughout the day from 08:00 to 19:00, and visual representations are provided in **Appendix 13.3**. Where there are gaps in timings in **Appendix 13.3**, this is because the sun would not be present during these times (for example, from approximately 16:00 onwards on 21 December) and thus no shadow can be cast. On December 21, the sun is at its lowest point causing long shadows to be cast and represents the worst-case scenario in terms of overshadowing.

Sun Hours on Ground

- 13.61 The BRE Guidelines suggest that Sun Hours on Ground assessments should be undertaken on the equinox (21st March or 21st September). Using specialist software, the path of the sun is tracked to determine where the sun would reach the ground and where it would not.
- 13.62 It is recommended that at least half of a garden or amenity area should receive at least two hours of sunlight on 21st March or the area which receives 2 hours of direct sunlight should not be reduced to less than 0.8 times its former value (i.e. there should be no more than a 20% reduction).

Solar Glare

- 13.63 Solar glare is particularly important at pedestrian crossings, road junctions and train lines, where glare can reduce visibility for drivers or pedestrians. Typically, elements considered to be reflective are either glazed apertures or metal cladding.
- 13.64 The BRE Guidelines includes the following statement in regard to the potential for reflected solar glare from a new development:

“Glare or solar dazzle can occur when sunlight is reflected from a glazed façade. This can affect road users outside and the occupants of adjoining buildings. The problem can occur either when there are large areas of reflective glass or cladding on the façade, or when there are areas of glass or cladding which slope back so that high altitude sunlight can be reflected along the ground. Thus solar dazzle is only a long term problem only for some heavily glazed (or mirror clad) buildings...”

- 13.65 Solar glare is not a comparative assessment; the fact it may occur in the baseline does not justify its occurrence as a result of a Development. Therefore, the assessment presented in this chapter considers the effect of the Development in absolute terms, by reference to the relevant guidance levels.

Viewpoints for Road Users and Pedestrians

- 13.66 As indicated previously, the assessment considers potentially sensitive viewpoints for road users and pedestrians surrounding the Site. The viewpoints are generally located at the minimum stopping distance (see paragraph 13.69 of this chapter for further information) and at the driver's eye level. The focal point is a relevant traffic element, such as signals or incoming traffic.
- 13.67 Identifying the viewpoints based on the stopping distance is calculated as the combination of thinking and braking distances, using the following formula:

$$D_{total} = D_{thinking} + D_{braking} = V \cdot T + \frac{V^2}{2\mu \cdot g}$$

- 13.68 Where each component is:

- V = Relevant vehicle speed, typically the road speed limit;
- T = Thinking time (0.67 seconds);
- μ = Braking effort (considered 0.65 for cars and 0.5 for buses); and
- g = Gravity acceleration.

- 13.69 The height of the viewpoint is considered to be 1.5m for cars and 2.0m for buses. **Figure 13.3** identifies the typical stopping distance range for a car travelling at different speeds. Therefore, a viewpoint for a car driving at 20mph (32km/h) (i.e. speed limit for a dense urban location) would be placed at 12m from a traffic light and 1.5m above the ground.

- 13.70 The assessment also considers a driver's / pedestrian's field of vision which takes the angular extent seen at any given time, which for humans facing forwards is approximately 180 degrees.

Railway lines

- 13.71 In addition to road users, instances of solar reflection also have the potential to effect train drivers and their view of traffic signals. Due to the proximity of the Site to the railway line running to and from London Bridge Mainline Station, an assessment has been undertaken from these viewpoints.

Solar Glare Technical Assessment

- 13.72 The potential for reflected solar glare or dazzle from glazed or reflective façades from the Development has been assessed using specialist lighting software. The assessment shows the path of the sun for the entire year around the Development. From this, two computer generated angular images have been produced for each selected viewpoint, indicating the area which sees the reflection of the sunpath at any point during the year. A modified diagram portraying a standardised extent of human vision is then overlaid onto the image.
- 13.73 The assessment has been undertaken on the basis that the fovea centralis (also generally known as the fovea) is a part of the eye, located in the centre of the macula region of the retina. The fovea is responsible for sharp central vision (also called foveal vision), which is necessary in humans for reading, watching television, driving, and any activity where visual detail is of primary importance. The macula corresponds to the central 13° of the visual field; the fovea to the central 3°.
- 13.74 **Figure 13.4** highlights the degrees of vision corresponding to the foveal view, with a red circle of 3° of angle in order to identify the area most sensitive to reflected solar glare. Another red circle represents the incidence of the 30° radius of our typical field of view in order to identify a secondary area of sensitivity to potential reflected glare instances.
- 13.75 The degrees of vision provide a reference from which significant effects can be identified. At 3°, the potential for the reflected glare to cause a hazard is high and mitigation would be required. Between 3° and 30°, there is the potential that there could be an issue and mitigation may be necessary.
- 13.76 As stated in the Commission Internationale de L'Eclairage guidance CIE 146:2002, occurrences at angles beyond 30° would be of little significance in most situations, but may be relevant in exceptional circumstances. When seated in a driving seat of a typical car, for example, the limits of the windscreen would generally obstruct the driver's view at angles beyond 30° from the line of sight. Therefore, the risk of reflective solar glare causing a hazard is reduced and, as such, mitigation would make only a minor difference.
- 13.77 The methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year and the location of this occurrence in respect of an individual's line of sight. It is also to be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account.

Light Pollution

- 13.78 Light pollution is defined as any light emitting from artificial sources into spaces where it is unwanted, such as spillage of light from office or commercial buildings onto residential accommodation, where this would cause nuisance to the occupants. The ILP Guidance Notes¹ provide suggested lighting level values to ascertain the acceptability of lighting levels of light pollution.

- 13.79 It should be noted that artificial light is not always perceived as being negative, particularly in areas of high crime where good street lighting and light into street environments is seen as a positive attribute. Adverse effects caused as a result of electric lighting include the intrusion of light into sensitive locations such as adjacent residential accommodation, areas of special night-time interest, or needless spillage into the night sky.
- 13.80 It should also be noted that the ILP Guidance relates and refers to external luminaires. However, commercial buildings with large areas of glazing and possible night-time usage can sometimes cause light intrusion from their internal luminaires. For this reason, quantitative light pollution assessments can be undertaken in relation to these internal luminaires.
- 13.81 Potential light pollution effects of a new development are typically assessed in relation to four specific criteria:
- Sky Glow is the brightening of the night sky over our towns, cities and countryside. It can be quantified by measuring the Upward Light Ratio (ULR), which is the maximum permitted percentage (%) of luminaire flux for the total installation that goes directly into the sky;
 - Light Intrusion is the spilling of light beyond the boundary of a proposed development. It is assessed as vertical illuminance in lux (Ev) measured flat at the centre of the sensitive receptor;
 - Luminaire Intensity is the uncomfortable brightness of a light source when viewed against a dark background. It is applied to each source visible from a sensitive receptor and is measured as source intensity (I) (kcd); and
 - Building Luminance which can cause an increase in the brightness of a general area and is measured in cd per metre squared (L) as an average over the building facade caused only by external lighting.

Light Intrusion Methodology

- 13.82 Light pollution is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of the proposed Development. Therefore, the assessment considers the effect of the proposed Development in absolute terms, by reference to the relevant guidance levels.
- 13.83 The assessment has been undertaken by preparing a computer generated 3D model of the Proposed Development and using specialist lighting simulation software. The light fittings used for this lighting simulation represent typical recessed office luminaires regularly spaced on the proposed office ceilings within the proposed commercial building in order to achieve an average illuminance of 500 lux across the working plane. This assessment assumes that all luminaires are switched on at once and no blinds or shading devices are deployed for the purpose of the light pollution assessment. For this reason, it should be considered a worst-case scenario.
- 13.84 Table 13.3 below sets out the environmental zones as per the ILP Guidance which have been applied in this assessment.

Table 13.3 ILP Light Pollution Criteria for Environmental Zones

Environmental Zone	Sky Glow ULR (Max %) (1)	Light Intrusion (into windows) Ev (Lux) (2)		Luminaire Intensity (candelas) (3)		Building Luminance Pre-curfew (4)
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average L[cd/m ²]
E0 – Dark areas (e.g. UNESCO Starlight Reserves, IDA Dark Sky Parks)	0	0	0	0	0	0
E1- Intrinsically dark areas (e.g. National Parks, areas of outstanding natural beauty)	0	2	0 (1*)	2,500	0	0
E2- Low district brightness (e.g. rural or small village locations)	2.5	5	1	7,500	500	5
E3- Medium district brightness (e.g. small town centres or urban locations)	5.0	10	2	10,000	1,000	10
E4- High district brightness (e.g. town/city centres with high levels of night time activity)	15.0	25	5	25,000	2,500	25

Notes:

ULR = Upward Light Ratio of the Installation is the maximum permitted percentage of luminaire flux for the total installation that goes directly into the sky

Ev = Vertical Illuminance in Lux and is measure flat on the glazing at the centre of the window

I = Light Intensity in Cd

L = Luminance in Cd/m²

Curfew = The time after which stricter requirements (for the control of obtrusive light) will apply; often a condition of use of lighting applied by the planning authority. If not otherwise stated – 23.00 hrs is suggested.

* = From Public road lighting installations only.

- 13.85 With reference to **Table 13.3**, taken from the ILP guidance, the Site is classified as environmental zone E4. This zone allows for a maximum pre-curfew light intrusion level of 25 lux and a maximum post-curfew light intrusion level of 5 lux.

Significance Criteria

Effect Significance Terminology Overview

- 13.86 In terms of sensitivity, surrounding properties are considered highly sensitive to daylight and sunlight levels, and specifically habitable rooms within the properties such as living rooms, kitchens and bedrooms, in accordance with the BRE Guidelines. All existing residential receptors, assessed within this chapter are considered highly sensitive due to the expectation of natural light

and given equal weighting, and therefore each individual receptor is not assigned a level of sensitivity as per the usual EIA methodology i.e. high, medium, low or very low. However, buildings with transient occupants such as student accommodation, educational facilities and hospitals are considered lower sensitivity as they are not permanent residences and are transient in nature.

- 13.87 For transient overshadowing, all public areas of open space such as parks, squares and private gardens in proximity to the Site are considered highly sensitive and are considered within the assessment.
- 13.88 The key terminology to be used to describe the magnitude of effects is as follows and is further described in the below sections of this chapter:
- Major;
 - Moderate;
 - Minor; and
 - Insignificant.
- 13.89 The nature of the effects may be either adverse (negative) or beneficial (positive).
- 13.90 Following the classification of an effect using this methodology, a clear statement is then made as to whether the effect is significant or not significant. As a general rule, in relation to sunlight, daylight, overshadowing and solar glare the following criteria is applied:
- 'Minor', 'Moderate' or 'Major' effects are deemed to be 'significant';
 - 'Insignificant' effects are considered to be 'not significant'.

Evaluating Effects and Significance – Daylight, Sunlight and Overshadowing

Daylight and Sunlight

- 13.91 For daylight and sunlight, the BRE Guidelines outline the approach within the accompanying Appendix I, in terms of assigning criteria to assess the effects:
- Section 3 of Appendix I states: “*Adverse impacts occur when there is a significant decrease in the amount of skylight and sunlight reaching an existing building where it is required, or in the amount of sunlight reaching an open space... The assessment of impact will depend on a combination of factors, and there is no simple rule of thumb that can be applied.*”
 - Paragraph 5 of Appendix I states: “*Where the loss of skylight or sunlight fully meets the guidelines, the impact is assessed as negligible or minor adverse. Where the loss of light is well within the guidelines, or only a small number of windows or limited area of open space lose light (within the guidelines), a classification of negligible impact is more appropriate. Where the loss of light is only just within the guidelines and a larger number of windows or open space are affected, a minor adverse impact would be more appropriate, especially if there is a particularly strong requirement for daylight and sunlight in the affected building or open space.*”
 - Paragraph 6 of Appendix I states: “*Where the loss of skylight or sunlight does not meet the guidelines in this book, the impact is assessed as minor, moderate or long-term, local, adverse of major significance. Factors tending towards a minor adverse impact include:*

- Only a small number of windows or limited area of open space are affected;
- The loss of light is only marginally outside the guidelines;
- An affected room has other sources of skylight or sunlight; and
- The affected building or open space only has a low level of requirement for skylight or sunlight.”

13.92 The classification of major adverse is documented within Paragraph 7 of the BRE Guidelines:

“Factors tending towards a major adverse impact include:

- *a large number of windows or large area of open space are affected;*
- *the loss of light is substantially outside the guidelines;*
- *all the windows in a particular property are affected; and*
- *the affected indoor or outdoor spaces have a particular strong requirement for skylight or sunlight, e.g. a living room in a dwelling or a children’s playground”.*

13.93 Where the BRE Guidelines are met, the effects would be considered insignificant.

13.94 With regard to the BRE Guidelines, professional judgement has been used to determine whether the potential effects would result in adverse or beneficial effects. The initial numerical criteria for determining the category of effect is based on percentage alterations, as follows:

- 0 – 19.9% alteration = Insignificant;
- 20 - 29.9% alteration = Minor;
- 30 - 39.9% alteration = Moderate; and
- Greater than 40% alteration = Major.

13.95 For instances where existing VSC, NSL and APSH levels within a property are low, any alteration may result in a disproportionate percentage change, whereby the actual change in daylight or sunlight within the property experienced by the occupant may not be as noticeable as the percentage change would suggest. This is one example of when professional judgement is taken into account.

13.96 Therefore, when assigning an overall significance per property, consideration has been given to the proportion of rooms / windows affected, as well as the percentage alterations, absolute changes, and any other relevant factors, such as there may be mitigating factors such as balconies, overhangs or design features which may also affect the determination of assigning the criteria.

13.97 Where room uses are unknown, all rooms assessed within the property or building are considered habitable to give the worst-case scenario for potential daylight and sunlight effects caused by the Development.

13.98 Where the scale of VSC levels and NSL levels within a property differ, professional judgement has also been used to determine an overall significance. In addition, if the scale of total APSH and Winter PSH differ greatly, professional judgement has also been used to determine the significance of the effect. This has been based on the factors previously stated.

Overshadowing

Transient Overshadowing

- 13.99 The BRE Guidelines do not include criteria for the significance of transitory overshadowing other than to identify the different times of the day and year when shadow would be cast over a surrounding area.
- 13.100 The assessment of potential effects as a result of transient overshadowing is therefore based on professional judgement, taking into consideration the conditions of the existing Site and surrounding area, and comparing these conditions against the effect of the transient overshadowing arising from the Development.

Sun Hours on Ground

- 13.101 It is suggested in the BRE guidelines that for an area to appear adequately sunlit throughout the year, at least half (50%) of any assessment area should see direct sunlight for at least two hours on the 21st March. If, as a result of new development, an existing assessment area will not meet BRE guidelines and the area which can receive two hours of direct sunlight on the 21st March is reduced to less than 0.8 times its former area, then the loss of sunlight is likely to be noticeable.
- 13.102 Where the results show compliance with the BRE guidelines criteria, the occupants are unlikely to experience any noticeable change to their sunlight amenity levels. For the purposes of this assessment, such an effect would be considered insignificant. Should the relevant criteria not be achieved, a judgment has to be made as to the significance of the effect based on the level of loss, retained sunlight levels and the relevant baseline scenario.
- 13.103 The table below sets out the numerical criteria adopted in relation to the sun on ground assessment.

Table 13.4 Sun on ground Significance Criteria

Significance	Numerical criteria on 21 st March
Insignificant	Over 50% of the amenity area will receive 2 hours of sunlight or less than 20% alteration in area which receives 2 hours of direct sunlight.
Minor adverse	20-29.9% reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).
Moderate adverse	30-39.9% reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).
Major adverse	40%+ reduction in the area which receives 2 hours of direct sunlight (and below 50% retained area).

Internal Overshadowing Assessment

- 13.104 The purpose of the internal overshadowing assessment is to ascertain whether the proposed Development would provide associated amenity space considered acceptable in terms of overshadowing. It is not considered appropriate to ascribe significance as there is no 'baseline' against which the internal overshadowing conditions can be considered and assessed. Relevant

consideration has however been given as to whether good levels of sunlight can be achieved within the new amenity areas created by the proposed Development, using the assessment criteria as set out in the BRE criteria.

Solar Glare

- 13.105 There are no quantitative criteria within the BRE Guidelines or elsewhere regarding acceptable levels of solar glare. Generally, however, solar reflections at high altitudes are less likely to cause nuisance or distraction as one has to look upwards to see it.
- 13.106 Professional judgement has therefore been applied to assign the significance of solar glare arising from the proposed Development and to determine the criteria for assessing the significance of solar glare set out in **Table 13.5**.
- 13.107 Multiple viewpoints may be chosen for each of the traffic lanes, train line or signals affected. In terms of significance criteria however, professional judgement has been used to determine the effect at the location rather than the individual perspectives at a signal traffic junction. Factors that could influence the significance of effect may include:
- sunlight availability probability;
 - area of façade off which reflections are visible;
 - period of time reflections are visible;
 - angle at which reflections are visible from line of sight;
 - views of the development being obscured for example by trees; and
 - the time of day at which the solar reflection will occur for example during peak traffic times.
- 13.108 Initially, the following guide will be used to ascertain the possible significance for each view and the factors listed above will then be taken into consideration to determine the overall significance for the designated viewpoint.

Table 13.5 Criteria Used for Determining the Effect of Solar Glare

Significance guidance	Possible factors
Insignificant	No reflections are visible or if visible all occur at angles greater than 30° from the driver's line of sight and so, as stated by the CIE, will be of "little significance"
Minor	Solar reflections are visible within 30° to 10° or between 10° to 5° of the driver's line of sight for a short period of time
Moderate	Solar reflections are visible within 10° and 5° of the driver's line of sight occurring for a long period of time.
Major	Solar reflections are visible within 5° of a driver's line of sight.
Note – mitigating factors such as alternative and unaffected signals/traffic lights and car visor angle may result in the assignment of significance which differs from the above.	

Light Pollution

- 13.109 The ILP Guidance Notes do not provide details on assigning of significance of effects for light pollution, therefore this is based on professional judgement considering the extent of the residential façade adversely affected as well as the extent to which the thresholds set out in the guidance are exceeded. Table 13.6 highlights the criteria used to assign a specific significance.

Table 13.6 Criteria Used for Determining the Effect of Light Pollution

Significance	Description
Insignificant	A small alteration from the existing scenario which is unlikely to be noticeable to the receptor. This may involve a small number of technical infringements of the numerical level suggested in the appropriate guidelines which should also be viewed in the context of the urban character of the area.
Minor	An alteration from the existing scenario which may be marginally noticeable to the sensitive receptor. This may include a number of marginal infringements of the numerical level suggested in the appropriate guidelines which should be viewed in the context of the urban character of the area.
Moderate	An alteration from the existing scenario which may cause a moderate noticeable change to the sensitive receptor. This may consist of a large proportion of marginal infringements of the numerical values suggested in the relevant guidelines and/or a small percentage of significant infringements.
Major	An alteration from the existing scenario which may cause a major noticeable change to the sensitive receptor. This may consist of a large proportion of significant infringements of the numerical values suggested within the relevant guidelines.

Assumptions and Limitations

- 13.110 Where actual room layouts were available, these have been considered when modelling the internal layouts of surrounding properties. Where layout information was not available assumptions have been made as to the use and internal configuration of the rooms (from external observations) behind the fenestration observed. In such cases a standard 4.2m (14ft) room depth has been assumed, unless the building form dictated otherwise. This is common practice where access to buildings for surveying is unavailable. Obtaining these room layouts enables precise evaluation of the diffuse levels of daylight within each of the rooms via the NSL.
- 13.111 Floor levels have been assumed for surrounding properties where access has not been obtained. With the working plane located 850mm above the finished floor level, this has the potential to affect the assessment of NSL.
- 13.112 For solar glare, although great care is taken in identifying the most likely sensitive viewpoints, this does not guarantee that there are no additional sensitive locations where reflected solar glare could present a particular risk. This assessment is based on the assumption that in an urban environment moving traffic represents the biggest risk factor and so viewpoints and focus points are selected accordingly. For practical reasons the area of assessment is limited to the area

surrounding the proposed Development as viewpoints within this area are the most sensitive in terms of Solar Glare. At greater distances, the view of the Development in a driver's line of sight would likely be partially obscured by surrounding schemes and only the upper portion of the building would be visible, which would typically be located above the driver's visor cut-off line. As such, the occurrence of reflected solar glare at greater distances is not the subject of this assessment

- 13.113 In addition, the methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year, and the location of this occurrence in respect of an individual's line of sight. It is also be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account.

Baseline Conditions

Existing Baseline

- 13.114 The study area comprises an urban area with buildings of multiple tenures and scales ranging from three storey buildings to the larger buildings of the News Building, The Shard and Guy's Hospital in close proximity to the Site to the north, north-east and east respectively.
- 13.115 The existing baseline is shown in Drawings 8684/01/01/001 in **Appendix 13.1**.

Existing Daylight and Sunlight to Surrounding Sensitive Receptors

- 13.116 The baseline daylight and sunlight conditions for the 18 identified surrounding sensitive receptors have been assessed, as summarised in Table 13.7.

Table 13.7 Summary of Baseline Daylight and Sunlight Levels

Address	Total No. Windows that meet VSC criteria (>27%)		Total No. of Rooms that receive NSL in excess of 80%		Total No. of Rooms that meet APSH criteria	
	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria
6 London Bridge Street	12	0	12	3	12	4
43 Borough High Street	9	3	8	7	8	7
51 Borough High Street	2	1	2	2	2	2
53-55 Borough High Street	5	2	4	4	4	4
57 Borough High Street	3	0	3	3	3	2
59-61 Borough High Street	17	11	8	8	8	7
63a Borough High Street	20	1	15	6	5	2
3 Kings Head Yard	8	0	3	3	1	1
The Old Kings Head	23	0	8	3	2	1
22 Southwark St	28	14	24	17	12	12

Address	Total No. Windows that meet VSC criteria (>27%)		Total No. of Rooms that receive NSL in excess of 80%		Total No. of Rooms that meet APSH criteria	
	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria	Total Assessed	Total that meet criteria
St Thomas Church	8	4	4	4	4	4
Iris Brook House Talbot Yard	71	11	61	37	19	6
Orchard Lisle House - Talbot Yard	131	43	110	67	0	0
Guys Campus (Tower Wing)	1083	78	240	235	23	0
Guys Campus (Southwark Wing)	103	25	29	20	5	5
Bunch of Grapes Pub	3	3	3	0	3	3
Chaucer House - White Hart Yard	82	44	20	20	0	0
Shard Place	519	412	221	201	144	113
Total	2127	652	775	640	255	173

- 13.117 Of the 18 properties considered as sensitive receptors, a total of 2,127 windows serving 775 rooms were assessed for daylight and 255 rooms were assessed for sunlight.
- 13.118 For daylight in the baseline condition, 652 of the 2,127 (31%) windows assessed for VSC and 640 of the 775 (83%) rooms assessed for NSL would meet BRE criteria for daylight of 27% VSC and 80% NSL. For sunlight, 173 of the 255 (68%) rooms assessed meet BRE criteria of 25% Total APSH and 5% Winter APSH.
- 13.119 Low existing daylight and sunlight levels can be attributed to the dense urban location and architectural features such as balconies, large roof overhangs and recessed windows. These reasons may reduce a property's daylight availability, resulting in low existing daylight and sunlight levels. Owing to these low existing levels, any development on the Site would lead to disproportionate adverse effects.

Existing Overshadowing to Sensitive Surrounding Amenity Areas

- 13.120 The existing Transient Overshadowing images can be seen within **Appendix 13.4**.
- 13.121 Due to the relative lack of neighbouring amenity areas, the existing overshadowing is considered low. The amenity areas associated with Southwark Cathedral are largely only affected in early mornings and late evenings in the baseline scenario.

Internal Overshadowing Assessment

- 13.122 The purpose of the internal overshadowing assessment is to ascertain whether the proposed Development would provide associated amenity space considered acceptable in terms of overshadowing. As amenity areas associated with the Development are new there is no baseline against which the internal overshadowing conditions can be considered and assessed. Relevant consideration has however been given as to whether good levels of sunlight can be achieved

within the new amenity area created by the Proposed Development, using the assessment criteria as set out in the BRE criteria.

Assessment of Likely Significant Effects

The Works

- 13.123 The likely effects in relation to the daylight and sunlight amenity and overshadowing for the surrounding properties and amenity areas would vary throughout the demolition and construction works, depending on the level of obstruction caused. The effects would almost certainly be less than that of the completed Development, given that the extent of permanent massing would increase throughout the construction stage, until the buildings are complete.
- 13.124 The effects to daylight, sunlight and overshadowing during demolition would be beneficial until the point of construction. As construction works would steadily increase in magnitude as the superstructure is built and then clad. Those effects that are perceptible, as the superstructure and cladding progress, would be similar to those once the Development is complete and operational, as presented below. It is therefore considered that the completed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing effects.
- 13.125 During the Works, a number of tall cranes are likely to be present on-site, however their size and temporary presence would lead to generally imperceptible effects of a temporary nature. As such, the overall effect would range from being **insignificant** at the start of the works to effects ranging from **insignificant to long-term, permanent, adverse of major significance**, once the Development is complete, as set out in the assessment of the complete and operational Development below.

Completed and Operational Development

Daylight

- 13.126 The full daylight assessment for the Development can be found within **Appendix 13.2** and is summarised in Table 13.8.
- 13.127 In terms of daylight and sunlight, measures including massing alterations were implemented during the design process to minimise the impacts on daylight to surrounding sensitive receptors as much as possible while still ensuring the provision of a viable scheme. These design interventions are included within the assessment, and constitute iterative design as opposed to mitigation measures.
- 13.128 Overall, of the 2,127 windows assessed for VSC 1,753 (82%) would meet BRE criteria. Of the 775 rooms assessed for NSL, 643 (83%) would meet BRE criteria.
- 13.129 The three properties highlighted in grey in Table 13.8 would experience no or little alteration (below 20%), and the effect on daylight to these properties would therefore be insignificant.
- 13.130 The remaining affected properties are discussed in detail in the following paragraphs.

Table 13.8 Effects to VSC and NSL to Surrounding Sensitive Receptors

Address	VSC							NSL				
	Total No. Of Windows	No. Windows That Meet BRE Criteria	Below BRE Guidelines				Total No. Of Rooms	No. Rooms That Meet The 0.8 Times Former Value Criteria	Below BRE Guidelines			
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	Total
6 London Bridge Street	12	3	5	4	0	9	12	12	0	0	0	0
43 Borough High Street	9	2	6	1	0	7	8	5	3	0	0	3
51 Borough High Street	2	0	2	0	0	2	2	0	0	1	1	2
53-55 Borough High Street	5	1	4	0	0	4	4	4	0	0	0	0
57 Borough High Street	3	0	2	1	0	3	3	2	1	0	0	1
59-61 Borough High Street	17	16	1	0	0	1	8	8	0	0	0	0
63a Borough High Street	20	9	7	2	2	11	15	12	0	1	2	3
3 Kings Head Yard	8	8	0	0	0	0	3	3	0	0	0	0
The Old Kings Head	23	21	0	2	0	2	8	8	0	0	0	0
22 Southwark St	28	28	0	0	0	0	24	24	0	0	0	0
St Thomas Church	8	6	0	0	2	2	4	4	0	0	0	0
Iris Brook House Talbot Yard	71	19	3	34	15	52	61	30	11	9	11	31
Orchard Lisle House - Talbot Yard	131	6	36	2	87	125	110	38	1	2	69	72
Guys Campus (Tower Wing)	1083	1080	2	0	1	3	240	240	0	0	0	0
Guys Campus (Southwark Wing)	103	102	1	0	0	1	29	29	0	0	0	0
Bunch of Grapes Pub	3	3	0	0	0	0	3	3	0	0	0	0
Chaucer House - White Hart Yard	82	37	19	20	6	45	20	20	0	0	0	0
Shard Place	519	412	39	41	27	107	221	201	11	0	9	20
Total	2127	1753	127	107	140	374	775	643	27	13	92	132

6 London Bridge Street (Residential)

- 13.131 A total of 12 windows serving 12 rooms were assessed for daylight within this building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.
- 13.132 For VSC, three of the 12 (25%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.133 Of the affected windows, five would experience an alteration in VSC levels of 20-29.9 % which is considered a Minor Adverse effect. The remaining four affected windows would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. It should be noted that three of these affected windows (W1/F01, W1/F02 and W1/F03) have low existing VSC values of 5.1%, 7.6% and 11% respectively (against a BRE target of 27%) meaning the percentage losses are exaggerated. The actual loss in VSC to these windows ranges between

1.5% and 2.5%. The remaining affected window W1/F04, which is located further up the building, will enjoy an existing VSC of 18.9% and experience a reduction of 32.8% of the total VSC.

13.134 For NSL, all 12 rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.

13.135 Overall and based on professional judgement, the effect to daylight within this building would be **long-term, local, adverse of moderate significance**.

63a Borough High Street (Residential)

13.136 A total of 20 windows serving 15 rooms were assessed for daylight within this building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.

13.137 For VSC, nine of the 20 (45%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.

13.138 Of the 11 affected windows, seven would experience an alteration in VSC levels of 20-29.9% which is considered a Minor Adverse effect and two affected windows would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The two windows experiencing a moderate adverse effect (W1/F01 and W4/F02) have low existing VSC levels of 10.7% and 3% in the existing scenario meaning the actual change has the ability to become exaggerated in percentage terms. The windows will undergo an absolute loss of 3.3% and 0.9% respectively. The remaining two windows, W2/F01 and W2/F02, would experience an alteration in excess of 40% which is considered a Major Adverse effect, however, similarly they both have low existing VSC values of 5.4% and 6.8% respectively, and the absolute loss to these levels would be 3.1% in both instances.

13.139 For NSL, 12 of the 15 rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.

13.140 Of the three affected rooms, one would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining two rooms would experience an effect in excess of 40% which is considered a Major Adverse effect.

13.141 It should also be noted that this building is heavily obstructed by 59-61 Borough High Street, which largely results in low existing levels of light.

13.142 Overall and based on professional judgement, the effect to daylight within this building would be **long-term, local, adverse of moderate significance**.

53-55 Borough High Street and 57 Borough High Street (Two Buildings - Residential)

13.143 A total of se windows serving seven rooms were assessed for daylight within these buildings. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.

13.144 For VSC, one of the eight windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.

- 13.145 Of the affected windows, six would experience an alteration in VSC levels of 20-29.9 % which is considered a Minor Adverse effect and one would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect.
- 13.146 For NSL, six of the seven of the rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.147 The one affected room would experience an alteration between 20-29.9% which is considered a Minor Adverse effect.
- 13.148 Overall and based on professional judgement, the effect to daylight within these buildings would be **long-term, local, adverse of minor significance**.

59-61 Borough High Street (Residential)

- 13.149 A total of 17 windows serving eight rooms were assessed for daylight within these buildings. GIA were able to obtain floor plans for this property and have incorporated them within the 3D model to allow for more accurate results.
- 13.150 For VSC, 16 of the 17 windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.151 The one affected window (W4/F01) serves a bedroom and would experience an alteration in VSC levels of 21.5 % which is considered a Minor Adverse effect.
- 13.152 For NSL, all eight rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.153 Overall and based on professional judgement, the effect to daylight within these buildings would be **Insignificant**.

The Old King's Head (Residential Element)

- 13.154 A total of 23 windows serving eight rooms were assessed for daylight within these buildings. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology. Whilst this is a mainly commercial building, it has not been possible to determine precisely where the residential element is located, therefore, all windows/ rooms within the building have been assessed.
- 13.155 For VSC, 21 of the 23 (93%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect. It should be noted that 19 of these 21 windows would experience improvements in VSC of between 1% and 43% VSC.
- 13.156 The two adversely affected windows, W19/F01 and W17/F02, would experience an alteration in VSC levels of 34% and 34.4% respectively, which is considered a Moderate Adverse effect.
- 13.157 For NSL, all eight rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.158 Overall and based on professional judgement, the effect to daylight within these buildings would be **Insignificant**.

St Thomas Church (Residential Element)

- 13.159 A total of eight windows serving four rooms were assessed for daylight within these buildings. GIA were able to obtain floor plans for this property and have incorporated them within the 3D model to allow for more accurate results.
- 13.160 For VSC, six of the eight windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.161 The two affected window would experience an alteration in VSC levels in excess of 40% which is considered a Major Adverse effect, however, these rooms are within the steeple of the former church building and each room is served by four windows facing in different directions
- 13.162 Although both affected windows would experience a Major Adverse effect, it should be noted that both windows retain levels of VSC of 15% and are accompanied by unaffected windows serving the same room.
- 13.163 For NSL, all four rooms fully comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.164 Overall and based on professional judgement, the effect to daylight within this building would be **Insignificant**.

Iris Brook House - Talbot Yard (Student Accommodation)

- 13.165 A total of 71 windows serving 61 rooms were assessed for daylight within this student accommodation building. GIA were able to obtain floor plans for this property and have incorporated them within the 3D model to allow for more accurate results.
- 13.166 For VSC, 11 of the 71 (37%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.167 Of the affected windows, 22 would experience an alteration in VSC levels of between 30-39.9% which is considered a Moderate Adverse effect. The remaining eight windows would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.168 For NSL, 25 out of 48 (52%) of the rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.169 Of the affected rooms, nine affected rooms would experience an alteration between 20-29.9% which is considered a Minor Adverse effect and nine would experience an alteration of between 30-39.9% which is considered a Moderate Adverse effect. The remaining five rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.170 Overall, based on professional judgement, and due to the temporary nature of student accommodation, the effect to daylight within these buildings would be **long-term, local, adverse of moderate significance**.

Orchard Lisle House – Talbot Yard (Student Accommodation)

- 13.171 A total of 131 windows serving 110 rooms were assessed for daylight within this student accommodation building. GIA were able to obtain floor plans for this property and have incorporated them within the 3D model to allow for more accurate results.

- 13.172 For VSC, six of the 131 (5%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.173 Of the affected windows, 36 would experience an alteration in VSC levels of 20-29.9 % which is considered a Minor Adverse effect and two would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining 87 windows would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.174 For NSL, 38 of the 110 (35%) of the rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.175 Of the affected rooms, one affected room would experience an alteration between 20-29.9% which is considered a Minor Adverse effect and two rooms would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining 69 rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.176 Overall, based on professional judgement, and due to the temporary nature and resulting lower sensitivity of student accommodation, the effect to daylight within these buildings would be **long-term, local, adverse of moderate significance**.

Guy's Campus – Tower Wing (Hospital)

- 13.177 A total of 1,083 windows serving 240 rooms were assessed for daylight within this hospital building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.
- 13.178 For VSC, 1,080 of the 1,083 (99%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.
- 13.179 Of the affected windows, two (W9/F00 and E11/F04) would experience an alteration in VSC levels of 26 and 20.3% respectively, which is considered a Minor Adverse effect and one would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.180 It should be noted that the window that would experience a Major Adverse effect has a very low existing VSC value of 0.2%. Therefore, any alteration would result in a disproportionate percentage change, that in reality, is unlikely to be noticeable.
- 13.181 For NSL, all 240 of the rooms comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.182 Overall, based on professional judgement, and due to the temporary nature and resulting lower sensitive of a hospital, the effect to daylight within these buildings would be **Insignificant**.

Guy's Campus – Southwark Wing (Hospital)

- 13.183 A total of 103 windows serving 29 rooms were assessed for daylight within this hospital building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.
- 13.184 For VSC, 102 of the 103 (99%) windows assessed would meet BRE Guideline criteria which would represent an Insignificant effect.

- 13.185 The affected window, W9/F04, would experience an alteration in VSC levels of 24.8 % which is considered a Minor Adverse effect.
- 13.186 For NSL, all 29 of the rooms fully comply with BRE Guideline criteria and are therefore considered to experience an Insignificant effect.
- 13.187 Overall, based on professional judgement, and due to the temporary nature and resulting lower sensitivity of student accommodation, the effect to daylight within these buildings would be **Insignificant**.

43 Borough High Street (Residential)

- 13.188 A total of nine windows serving eight rooms were assessed for daylight within this residential building. GIA were able to obtain floor plans for this property and have incorporated them within the 3D model to allow for more accurate results.
- 13.189 For VSC, two of the nine windows assessed would meet BRE Guideline criteria.
- 13.190 Of the affected windows, six would experience an alteration in VSC levels of between 20-29.9% which is considered Minor Adverse effect, and the remaining window would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect.
- 13.191 For NSL, five of the eight rooms fully comply with BRE Guideline criteria.
- 13.192 Of the affected rooms, all three would experience an alteration between 20-29.9 % which is considered a Minor Adverse effect.
- 13.193 It is important to note that this property is recessed between two buildings on either side, creating flank walls which would limit the amount of daylight available from oblique angles.
- 13.194 Overall, based on professional judgement, the effect to daylight within these buildings would be **long-term, local, adverse of minor significance**.

51 Borough High Street (Residential)

- 13.195 A total of two windows serving two rooms were assessed for daylight within this residential building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.
- 13.196 For VSC, none of the windows assessed would meet BRE Guideline criteria.
- 13.197 The affected windows, W1/F04 and W2/F04, would experience an alteration in VSC levels of 25% and 28.4% respectively, which is considered a Minor Adverse effect. Furthermore, both windows retain in excess of 18% VSC.
- 13.198 For NSL, none of the rooms fully comply with BRE Guideline criteria.
- 13.199 Of the affected rooms, one (R1/F04) would experience an alteration of 34% which is considered a Moderate Adverse effect. The remaining room would experience an alteration of 42% which is considered a Major Adverse effect.
- 13.200 Overall, based on professional judgement, the effect to daylight within these buildings would be **long-term, local, adverse of minor significance**.

Chaucer House (London School of Commerce - Educational)

- 13.201 A total of 82 windows serving 20 rooms were assessed for daylight within this student accommodation building. GIA were unable to obtain floor plans for this property and have therefore made reasonable assumptions as to their dimensions, which is relevant when considering the NSL methodology.
- 13.202 For VSC, 37 of the 82 (45%) windows assessed would meet BRE Guideline criteria.
- 13.203 Of the affected windows, 19 would experience an alteration between 20-29.9 % which is considered a Minor Adverse effect and 20 would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining six windows would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.204 For NSL, all 20 rooms fully comply with BRE Guideline criteria and are considered to experience an Insignificant effect.
- 13.205 It is important to note that these are windows and rooms associated with the London School of Commerce and are not residential. The use of the rooms would be transient and likely to rely on artificial lighting as is the case with most educational buildings and would have a lower requirement for daylight. Therefore, due to the educational use, this building has a lower sensitivity to daylight.
- 13.206 Overall, based on professional judgement and the lower sensitivity to daylight, the effect to daylight within these buildings would be **long-term, local, adverse of minor significance**.

Shard Place (Residential Element)

- 13.207 A total of 519 windows serving 221 rooms were assessed for daylight within this part retail part residential building.
- 13.208 For VSC, 412 of the 519 (79%) windows assessed would meet BRE Guideline criteria.
- 13.209 Of the affected windows, 39 would experience an alteration between 20-29.9 % which is considered a Minor Adverse effect and 41 would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining 27 windows would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.210 Of the 27 major adverse impacts recorded, 10 will be localised to bedrooms, which are considered to be less sensitive by virtue of their use. The remaining 17 major adverse impacts will all be recorded within LKDs which pass the NSL methodology, due to the presence of multiple additional windows serving the same room.
- 13.211 For NSL, 201 of the 221 rooms fully comply with BRE Guideline criteria.
- 13.212 Of the affected rooms, 11 would experience an alteration between 20-29.9 % which is considered a Minor Adverse effect. The remaining nine rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect, however, all 20 rooms serve bedrooms, which are considered to be less sensitive.
- 13.213 Overall, based on professional judgement, the effect to daylight within these buildings would be **long-term, local, adverse of moderate significance**.

Sunlight

- 13.214 The full sunlight assessment can be found in **Appendix 13.2** of this ES and the summary results are presented in **Table 13.9**.
- 13.215 Of the 255 rooms assessed for sunlight, 216 (85%) would meet the BRE criteria for both total and Winter PSH and are therefore considered an Insignificant effect.
- 13.216 The 14 buildings highlighted in grey in **Table 13.9** experience little or no change in sunlight levels with the completed Development in place and are therefore considered an insignificant effect.
- 13.217 The remaining affected properties are discussed in detail following **Table 13.9**.

Table 13.9 Effects to APSH to Surrounding Sensitive Receptors

Address	Total No. of Rooms	No. Rooms that meet BRE criteria	Total APSH			Winter APSH		
			Below BRE Guidelines			Below BRE Guidelines		
			20-29.9% Reduction	30-39.9% Reduction	>40% Reduction	20-29.9% Reduction	30-39.9% Reduction	>40% Reduction
6 London Bridge Street	12	4	3	1	3	0	0	2
63a Borough High Street	5	5	0	0	0	0	0	0
53-55 Borough High Street	4	4	0	0	0	0	0	0
57 Borough High Street	3	3	0	0	0	0	0	0
59-61 Borough High Street	8	8	0	0	0	0	0	0
3 Kings Head Yard	1	1	0	0	0	0	0	0
The Old Kings Head Pub	2	2	0	0	0	0	0	0
22 Southwark St	12	12	0	0	0	0	0	0
St Thomas Church	4	4	0	0	0	0	0	0
Iris Brook House - Talbot Yard	19	19	0	0	0	0	0	0
Guys Campus (Tower Wing)	23	23	0	0	0	0	0	0
Guys Campus (Southwark Wing)	5	5	0	0	0	0	0	0
Bunch Of Grapes Pub, 2 Southwark Street	3	3	0	0	0	0	0	0
43 Borough High Street	8	8	0	0	0	0	0	0
51 Borough High Street	2	2	0	0	0	0	0	0
Shard Place	144	113	4	16	11	0	0	12
TOTAL	255	216	7	17	14	0	1	14

6 London Bridge Street (Residential)

- 13.218 A total of 12 rooms were assessed for sunlight within this building.
- 13.219 Four (33%) of the 12 rooms assessed would meet BRE criteria for both total and winter PSH, which is therefore considered to equate to an Insignificant effect.
- 13.220 Of the affected rooms for winter PSH, two would experience an alteration in excess of 40% which is considered a Major Adverse effect.

- 13.221 For total APSH, three rooms would experience alterations between 20-29.9% which is considered a Minor Adverse effect, and one would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining three rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.222 Overall, based on professional judgment, the effect to these buildings is considered to be **long-term, local, adverse of moderate significance**.

Shard Place (Residential Element)

- 13.223 A total of 144 rooms were assessed for sunlight within this building.
- 13.224 113 of the 144 (78%) rooms assessed would meet BRE criteria for both total and winter PSH.
- 13.225 Of the affected rooms for winter PSH, 12 would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.226 For total APSH, four rooms would experience alterations between 20-29.9% which is considered a Minor Adverse effect, and 16 would experience an alteration between 30-39.9% which is considered a Moderate Adverse effect. The remaining 11 rooms would experience an alteration in excess of 40% which is considered a Major Adverse effect.
- 13.227 Overall, based on professional judgment, the effect to these buildings is considered to be **long-term, local, adverse of moderate significance**.

Overshadowing

- 13.228 Full details of the Transient Overshadowing assessment can be found within **Appendix 13.3** and the results are summarised below.
- 13.229 The commentary below should be read in conjunction with the Transient Overshadowing and Sun Hours on Ground images presented within the full assessment provided in **Appendix 13.3**.
- 13.230 The Transient Overshadowing assessment has been used to identify any area of public or private amenity space which may be significantly affected by the Development. The areas affected are discussed below.

Public & Communal Amenity

Amenity space associated with Southwark Cathedral

21 March (equinox)

- 13.231 There is the potential for slight additional shadow on the southern section of cathedral amenity areas for one hour from 11:00 GMT on the 21 March up to 12:00 GMT. The additional shadow from the Development would not affect the amenity areas to the north of the Cathedral.
- 13.232 It should be noted that on March 21st, from 12:00 GMT onwards, the cathedral's amenity areas would be not be affected by any shadow and would experience approximately six hours of direct sunlight.

21 June (summer solstice)

13.233 This area would not be affected by the Development at this time of year.

21 December (winter solstice)

13.234 This area would not be affected by the Development at this time of year.

13.235 Overall, the effect from overshadowing as a result of the proposed Development is considered **Insignificant**.

Amenity space associated with Guy's Hospital Courtyard

21 March (equinox), 21 June (summer solstice) and 21 December (winter solstice)

13.236 This area would not be affected by the Development at any point throughout the year.

13.237 Overall, the effect from overshadowing as a result of the Development is considered **Insignificant**.

The Place Terrace (News Building)

21 March (equinox)

13.238 There is the potential for slight additional shadow on the western section of The Place Terrace area between 13:00 GMT on the 21 March up to approximately 15:30 GMT.

21 June (summer solstice)

13.239 This area would not be affected by the Development at this time of year.

21 December (winter solstice)

13.240 This area would not be affected by the Development at this time of year.

13.241 Overall, the effect from overshadowing as a result of the proposed Development is considered **Insignificant**.

Sun Hours on Ground

13.242 For Southwark Cathedral and Guy's Hospital Courtyard, both amenity areas see no alterations in sun hours on ground and are fully in line with BRE Guidelines. The effect of overshadowing is considered insignificant for both areas.

13.243 In addition, the sun hours on ground assessment shows that The Place Terrace is also fully BRE compliant with the Development in Place. The Place Terrace would experience a 1% reduction and would therefore experience 2 or more hours of sunlight on 99% of its area. The effect of overshadowing is considered **Insignificant** for The Place Terrace.

London Bridge Station Public Plaza

13.244 The London Bridge Station Public Plaza amenity area would only experience a 3% reduction in sun hours on ground and the effect is therefore considered **Insignificant**.

The News Building Public Plaza

- 13.245 The News Building Public Plaza would experience a reduction in sunlight from 22% to 11%. Although there is a reduction to the sunlight that this amenity area would receive on March 21st, it should be noted that this area has a low existing level of sun hours on ground. In addition, by the 5th April, 50% of the area would receive direct sunlight.
- 13.246 As this amenity area would be BRE compliant only 15 days after March 21st, the effect to this amenity area is considered **Insignificant**.

Communal areas within Shard Place - Ground Floor, 16th Floor and Roof Level.

- 13.247 The communal areas associated with Shard Place are fully BRE compliant and therefore the effect to these amenity areas are considered **Insignificant**.

Front Open Space at 9 Thomas Street

- 13.248 The area to the front of 9 Thomas Street experience a reduction in sunlight with the Development in place, however, the area would remain BRE compliant. Due to the BRE compliance of this amenity area, the effect is considered **Insignificant**.

Overshadowing within the Site

- 13.249 In addition to amenity areas external to the Site, an assessment was conducted to assess the sunlight availability for the proposed amenity areas within the Site.
- 13.250 The main amenity area associated with the Development is fully BRE compliant, and would receive sunlight on 78% of its area for approximately three to four hours.
- 13.251 In addition, the circulation space to the North of the Development including the St Thomas Entrance and East Courtyard would not meet the BRE recommendations, as this section of amenity within the Site would receive 2 hours of sunlight on 3% of its area.

Solar Glare

- 13.252 The full solar glare assessment is provided at **Appendix 13.4**.
- 13.253 The assessment has been undertaken from signalised road junctions, pedestrian crossings and railway tracks near to the Site which are considered sensitive in terms of solar glare (noted by the road name reference BH_1, ST_1, etc.). The receptor locations are shown in **Figure 13.5**. A total of 27 locations have been assessed in terms of solar glare.
- 13.254 All solar glare assessments consider a worst-case scenario, assuming clear sky conditions.
- 13.255 In accordance with the solar glare significance criteria presented in paragraphs 13.72 - 13.77, solar reflections occurring at angles greater than 30° from the driver's line of sight will not affect the driver's responsiveness and therefore can be considered insignificant. In addition, viewpoints where the portion of the façade of the Development visible is very small and the distance is greater than 15° of a driver's line of sight are also considered insignificant. The list of the locations from where this applies, and therefore the Development is considered to have an **insignificant** effect are the eight listed below:
- BH_1;

- BH_2;
- BH_4;
- BH_5;
- BH_6;
- LB_1;
- CR; and
- TLB_E_2.

13.256 The number of locations to be considered further is therefore reduced to 19 locations.

13.257 Of the remaining 19 locations, 15 are considered to have a **long term, local, adverse effect of minor significance**. This is because solar reflections occur within 30° to 10° or between 10° to 5° of the driver's line of sight for a short period of time. In addition, the minor adverse significance is due to mitigating factors such as reflections occurring from a small section of façade, potential reflections occurring over a short period of time, unaffected traffic signals and being able to deploy a car visor which would shield the majority of reflections. The junctions considered Minor Adverse are listed below:

- US;
- SW_1;
- SW_3;
- SS;
- LB_2;
- LB_3;
- ST_1;
- ST_3;
- ST_4;
- TLB_E_1_A;
- TLB_E_1_B;
- TLB_N_1_A;
- TLB_N_1_C;
- TLB_W_1_A; and
- TLB_W_1_B.

13.258 The remaining four locations assessed are discussed in further detail in subsequent paragraphs.

Borough High Street BH_3 (Northbound)

13.259 From viewpoint BH_3 instances of solar reflection may be visible on the façade of the Development from 5° to 8° of a driver's line of sight. The reflections closest to the driver's line of sight would occur between 11:00 to 12:00 GMT from mid-November to mid-January.

13.260 Although the solar reflections from this viewpoint BH_3 occur from 5° of a driver's line of sight at times, all solar reflections would occur above the driver's visor cut-off line.

- 13.261 It should be noted that as solar reflections would occur during the winter months, the probability of clear skies and direct sunlight hitting the façade during the one hour, is 30%.
- 13.262 Overall, owing to the brief periods of solar reflections potentially occurring and the low probability of direct sunlight, the effect of solar glare at this junction is considered to be **long term, local, adverse effect of minor significance**.

Southwark Street SW_2 (Eastbound)

- 13.263 From viewpoint SW_2 instances of solar reflection may be visible on the façade of the Development from 4° to 16° of a driver's line of sight. The reflections closest to the driver's line of sight would occur between 18:00 to 19:00 GMT from mid-March to mid-September and Mid-October to Mid-February.
- 13.264 Although the solar reflections from this viewpoint SW_2 occur from 4° of a driver's line of sight at times, the largest sections of solar reflections would occur above the driver's visor cut-off line. Any potential solar reflections occurring below the driver's visor cut off line occur on very small sections of the façade resulting in reflections lasting short periods of time and only between 18:00 and 19:00 GMT.
- 13.265 The potential solar reflections above the driver's visor cut off line would occur between 9:00 and 11:00 and 18:00 to 19:00 GMT.
- 13.266 Overall, owing to the brief periods of solar reflections potentially occurring below the driver's visor cut off line, the effect of solar glare at this junction is considered to be **long term, local, adverse effect of moderate significance**.

London Bridge Station – Track North view 2 TLB_N_1

- 13.267 From viewpoint TLB_N_1 instances of solar reflection may be visible on the façade of the Development from 5° to 13° of a train driver's line of sight. Potential reflections would occur between 18:00 to 20:00 GMT from mid-April to mid-August.
- 13.268 It should be noted that from this viewpoint, there are no signals directly in front of the Developments facade, and therefore the effect is considered lower. This is because any obstruction would not prevent the driver from seeing signal changes.
- 13.269 Furthermore, solar reflections are by definition less intense when compared to the direct view of the sun. For this viewpoint the driver is travelling south-east and therefore may expect to have a direct view of the sun in the sky. Without the building in place, the driver would have direct view of the sun in the early morning throughout most of the year and therefore the building would be shading the direct view of the sun for a portion of the day.
- 13.270 Overall, based on professional judgement, the effect of solar glare at this section of track is considered to be **long term, local, adverse effect of moderate significance**.

London Bridge Station – Track West view 1 TLB_W_1

- 13.271 From viewpoint TLB_W_1 instances of solar reflection may be visible on the façade of the Development from 3° to 16° of a train driver's line of sight. Potential reflections would occur

between 10:00 to 11:00 and 18:00 to 20:00 GMT from mid-February to mid-April and Mid-August to Mid-October, and Mid-November to Mid-January.

- 13.272 Although the solar reflections from viewpoint TLB_W_1 occur from 3° of a train driver's line of sight at times, the largest sections of solar reflections would occur at the top levels of the proposed building. Any potential solar reflections occurring on the lower portion of the building would be very small and last only for a short periods of time and between 18:00 and 19:00 GMT.
- 13.273 Overall, based on professional judgement, the effect of solar glare at this junction is considered to be **long term, local, adverse effect of minor significance**.

Overshadowing internal to the proposed Development

- 13.274 The full Sun Hours on Ground assessment can be seen in **Appendix 13.3**.
- 13.275 The assessment indicates that the Main Courtyard associated with the proposed Development would receive two or more hours of direct sunlight on 78% of its areas on March 21st. The new amenity area is therefore fully BRE compliant.

Light Pollution

- 13.276 Both light pollution assessments can be found in **Appendix 13.5** and are discussed in detail below.

Light Intrusion

- 13.277 The most sensitive receptors for light intrusion are considered to be residential buildings, highlighted in the map presented in **Figure 13.1**.
- 13.278 The residential receptors assessed due to their close proximity to the proposed Development are as follows:
- Bunch of Grapes Pub (Residential element);
 - St Thomas Church;
 - 3 Kings Head Yard;
 - The Old King's Head Pub (Residential element);
 - 43, 51, 53-55, 57, 59-61 and 63a Borough High Street;
 - Orchard Lisle House; and
 - Shard Place.
- 13.279 The results of the assessment indicate that pre-curfew (before 11pm), the levels of light trespass would be very limited and well within the 25 lux level suggested by the ILP for a city centre location for the residential buildings assessed.
- 13.280 The assessment also indicates that post-curfew (after 11pm), the levels of light trespass would be well below the 5 lux level suggested by the ILP for a city centre location for the property assessed. As such, the effect of light pollution for all sensitive receptors assessed (pre and post curfew) is considered **Insignificant**.

- 13.281 The exception to the above is for St Thomas Church, which meets the ILP Guidance pre-curfew, but breaches post-curfew. However, the assessment uses the worst-case scenario of 500 lux. When the assessment adopts a post-curfew illuminance of 300 lux, the effects are also reduced to **Insignificant**. This is also a result of the inclusion of occupancy sensors and reduces post-curfew illuminance output.
- 13.282 The adoption of a maximum post-curfew illuminance of 300 lux, is a condition in order for effects to remain Insignificant.

Mitigation Measures and Likely Residual Effects

Table 13.10 summarises the likely significant effects, mitigation measures and likely residual effects identified within this chapter.

Table 13.10 Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects

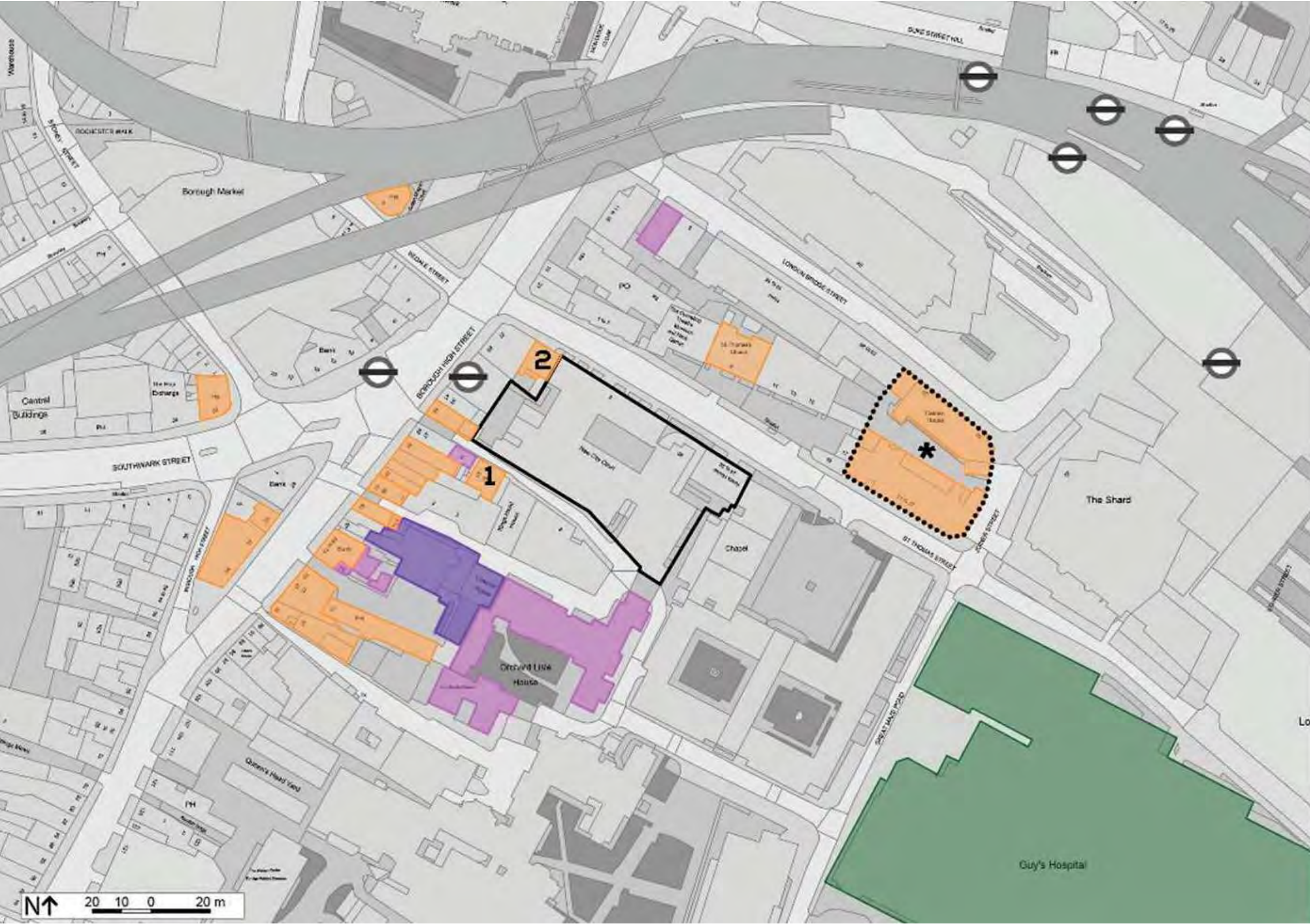
Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
The Works			
Daylight, sunlight and overshadowing effects during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Solar glare effects during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Daylight, sunlight and overshadowing during construction.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.	None proposed.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.
Solar glare during construction.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.	None proposed.	Effects would gradually change from beneficial to those expected once the Development is complete and operational.
Light pollution during demolition.	Temporary, beneficial effects considered likely during demolition.	None proposed.	Temporary, beneficial effects considered likely during demolition.
Completed and Operational Development			
Daylight	Long term, local, Insignificant to 8 properties, minor adverse to 5 properties, moderate adverse to 5 properties.	None proposed.	Long term, local, Insignificant to 8 properties, minor adverse to 5 properties, moderate adverse to 5 properties.

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
Sunlight	Long term, local, Insignificant to 14 properties, moderate adverse to 2 properties.	None proposed.	Long term, local, Insignificant to 14 properties, moderate adverse to 2 properties.
Overshadowing	Insignificant to all amenity areas.	None proposed.	Insignificant to all amenity areas.
Solar Glare	Long term, local, insignificant to 8 locations, minor adverse to 17 locations, moderate adverse to 2 locations.	None proposed	Long term, local, insignificant to 8 locations, minor adverse to 17 locations, moderate adverse to 2 locations.
Light Pollution	Insignificant to all properties.	None proposed.	Insignificant to all properties.

13.283 As part of the design process, the massing and façade details of the Development were informed by the potential daylight and sunlight effects. However, owing to the scale of the Development in comparison to the existing buildings, its close proximity and low existing daylight and sunlight levels, changes in conditions would be unavoidable.

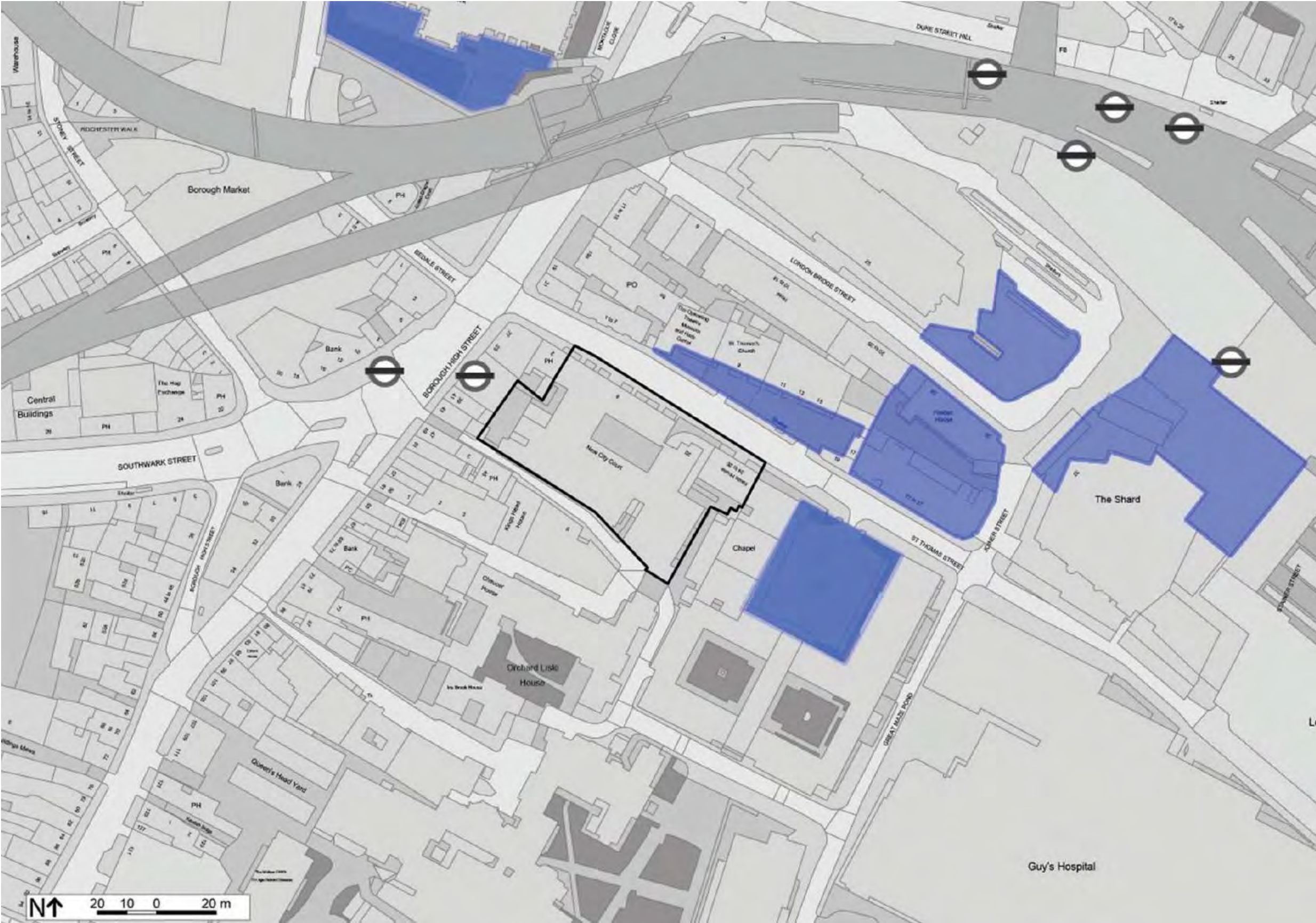
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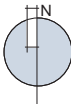


- Site
- Commercial
- Residential
- Mixed Use (Commercial for lower floors with residential above)
- Educational
- Subject to redevelopment

Project Details	WIE11375-102: New City Court
Figure Title	Figure 13.1: Receptors Included in Daylight and Sunlight Assessment
Figure Ref	WIE11375-102_GR_DSO_13.1A
Date	2019
File Location	\\s-incs\wie\projects\wie11375\102\graphics\dsol\issued figures



- Site Boundary
- Amenity Area



Project Details	WIE11375-102: New City Court
Figure Title	Figure 13.2: Amenity Areas Included in Overshadowing Assessment
Figure Ref	WIE11375-102_GR_DSO_13.2A
Date	2019
File Location	\\s-incs\wie\projects\wie11375\102\graphics\dsol\issued figures
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Appendix 13.2

Daylight and Sunlight

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

6 LONDON BRIDGE STREET																		
F01	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F01	5.1	3.3	1.8	35.3%	26.1	26	0.0	0.4%	7	0	1	0	85.7%	0.0%
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F01	8.8	7.3	1.5	17.0%	9.6	9.6	0.0	0.1%	20	3	15	3	25.0%	0.0%
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F01	9.9	8.4	1.5	15.2%	18.2	18.2	0.0	0.0%	20	3	15	3	25.0%	0.0%
F02	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F02	7.6	4.6	3	39.5%	47.9	47.8	0.0	0.3%	13	0	5	0	61.5%	0.0%
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F02	11.7	9.3	2.4	20.5%	32.8	32.8	0.0	0.2%	28	3	19	3	32.1%	0.0%
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F02	12.8	10.5	2.3	18.0%	36	36	0.0	0.0%	27	3	19	3	29.6%	0.0%
F03	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F03	11	6.7	4.3	39.1%	51.5	51.4	0.0	0.3%	22	3	11	0	50.0%	100.0%
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F03	16.6	12.7	3.9	23.5%	50.4	50.3	0.0	0.3%	38	5	27	4	28.9%	20.0%
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F03	17.7	13.9	3.8	21.5%	50.7	50.6	0.0	0.2%	38	3	28	3	26.3%	0.0%
F04	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F04	18.9	12.7	6.2	32.8%	90.2	89.6	0.1	0.6%	41	9	27	3	34.1%	66.7%
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F04	24.3	18.2	6.1	25.1%	80.7	80.3	0.1	0.6%	52	11	38	6	26.9%	45.5%
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F04	25	19	6	24.0%	81	80.5	0.1	0.7%	54	10	40	5	25.9%	50.0%

63A BOROUGH HIGH STREET																		
F01	R1	RESIDENTIAL	RESIDENTIAL	W1/F01	10.7	7.4	3.3	30.8%	84.3	80.3	0.2	4.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	RESIDENTIAL	W2/F01	5.4	2.3	3.1	57.4%	26.5	2.6	3.0	90.2%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W3/F01	2.8	2	0.8	28.6%										
	R3	RESIDENTIAL	RESIDENTIAL	W4/F01	2.1	1.5	0.6	28.6%	4.3	4.3	0.0	0.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	RESIDENTIAL	W5/F01	6.3	6	0.3	4.8%	55.6	52.7	0.2	5.2%	8	0	8	0	0.0%	0.0%
F02	R1	RESIDENTIAL	RESIDENTIAL	W1/F02	12.8	9.3	3.5	27.3%	86.4	82.3	0.2	4.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	RESIDENTIAL	W2/F02	6.8	3.7	3.1	45.6%	30.9	8.5	2.8	72.6%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W3/F02	4.2	3.1	1.1	26.2%										
	R3	RESIDENTIAL	RESIDENTIAL	W4/F02	3	2.1	0.9	30.0%	10.3	9	0.1	11.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	RESIDENTIAL	W5/F02	7.7	6.9	0.8	10.4%	58	54	0.2	6.9%	8	0	8	0	0.0%	0.0%
F03	R1	RESIDENTIAL	RESIDENTIAL	W1/F03	11.6	8.2	3.4	29.3%	52.9	33.3	2.4	37.0%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W2/F03	9	7	2	22.2%										
	R2	RESIDENTIAL	RESIDENTIAL	W3/F03	6.3	4.5	1.8	28.6%	28	27.5	0.0	1.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	RESIDENTIAL	W4/F03	12.1	10.3	1.8	14.9%	66.8	56.3	0.6	15.7%	15	0	13	0	13.3%	0.0%
F04	R1	RESIDENTIAL	RESIDENTIAL	W1/F04	26.2	21.6	4.6	17.6%	94.3	82.4	0.8	12.6%	41	5	39	5	4.9%	0.0%
	R2	RESIDENTIAL	RESIDENTIAL	W2/F04	24.1	20.2	3.9	16.2%	95.9	90.8	0.6	5.3%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W3/F04	22.6	18.9	3.7	16.4%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

63A BOROUGH HIGH STREET (CONTINUED)

	R3	RESIDENTIAL	RESIDENTIAL	W4/F04	20	16.6	3.4	17.0%	95.8	84.9	0.5	11.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	RESIDENTIAL	W5/F04	22.2	19.1	3.1	14.0%	99.4	99.3	0.0	0.1%	69	10	65	10	5.8%	0.0%
			RESIDENTIAL	W6/F04	34.3	34.3	0	0.0%										

53-55 BOROUGH HIGH STREET

F01	R1	RESIDENTIAL	LKD	W1/F01	23.9	18.6	5.3	22.2%	83.2	76.9	1.0	7.6%	49	16	46	16	6.1%	0.0%
			LKD	W2/F01 / INC (2)	15.5	15.5	0	0.0%										
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	26.9	20.4	6.5	24.2%	86.6	74.7	1.4	13.7%	54	21	50	21	7.4%	0.0%
F03	R1	RESIDENTIAL	BEDROOM	W1/F03	28.6	21.5	7.1	24.8%	88	75.3	1.3	14.5%	55	21	50	21	9.1%	0.0%
	R2	RESIDENTIAL	BEDROOM	W2/F03	28.3	22.5	5.8	20.5%	96.9	94	0.2	3.0%	48	12	43	12	10.4%	0.0%

57 BOROUGH HIGH STREET

F01	R1	RESIDENTIAL	RESIDENTIAL	W1/F01	12.8	8.5	4.3	33.6%	81.5	67	1.9	17.8%	14	1	11	1	21.4%	0.0%
F02	R1	RESIDENTIAL	RESIDENTIAL	W1/F02	23.4	18.3	5.1	21.8%	87.4	69	2.5	21.1%	35	8	32	8	8.6%	0.0%
F03	R1	RESIDENTIAL	RESIDENTIAL	W1/F03	26.4	21.1	5.3	20.1%	94.4	88.1	0.8	6.7%	39	12	34	12	12.8%	0.0%

59-61 BOROUGH HIGH STREET

F01	R1	RESIDENTIAL	LKD	W1/F01	28.3	28.3	0	0.0%	99.3	99.3	0.0	0.0%	32	5	32	5	0.0%	0.0%
			LKD	W2/F01	27.8	27.8	0	0.0%										
			LKD	W3/F01	6.7	6.7	0	0.0%										
	R2	RESIDENTIAL	BEDROOM	W4/F01	20.5	16.1	4.4	21.5%	95.2	79.9	1.4	16.1%	37	3	34	3	8.1%	0.0%
F02	R1	RESIDENTIAL	LKD	W1/F02	30.5	30.5	0	0.0%	99.6	99.6	0.0	0.0%	39	6	39	6	0.0%	0.0%
			LKD	W2/F02	30	30	0	0.0%										
			LKD	W3/F02	9.4	9.4	0	0.0%										
	R2	RESIDENTIAL	BEDROOM	W4/F02	25.6	20.7	4.9	19.1%	98.7	90.5	0.7	8.3%	46	9	42	9	8.7%	0.0%
F03	R1	RESIDENTIAL	LKD	W1/F03	32.7	32.7	0	0.0%	99.6	99.6	0.0	0.0%	53	8	53	8	0.0%	0.0%
			LKD	W2/F03	32.4	32.4	0	0.0%										
			LKD	W3/F03	14.3	14.3	0	0.0%										
	R2	RESIDENTIAL	BEDROOM	W4/F03	29.1	24.1	5	17.2%	98.7	90.5	0.7	8.3%	57	20	53	20	7.0%	0.0%
F04	R2	RESIDENTIAL	BEDROOM	W2/F04	30.7	25.6	5.1	16.6%	98	88.3	0.9	9.8%	58	21	54	21	6.9%	0.0%
F05	R1	RESIDENTIAL	BEDROOM	W1/F05	36.4	36.4	0	0.0%	98.1	98.1	0.0	0.0%	90	27	85	27	5.6%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

59-61 BOROUGH HIGH STREET (CONTINUED)

			BEDROOM	W2/F05	36.4	36.4	0	0.0%										
			BEDROOM	W3/F05	26	21.5	4.5	17.3%										
			BEDROOM	W4/F05 / HZ (2)	97.2	91.4	5.8	6.0%										

3 KINGS HEAD YARD

F02	R1	RESIDENTIAL	LIVING ROOM	W1/F02	17.5	18.1	-0.6	-3.4%	96.1	95.9	0.0	0.1%	49	15	43	14	12.2%	6.7%
			LIVING ROOM	W2/F02	17.2	16.9	0.3	1.7%										
			LIVING ROOM	W3/F02	16	15.1	0.9	5.6%										
			LIVING ROOM	W5/F02	22.3	22.3	0	0.0%										
			LIVING ROOM	W6/F02	20	20	0	0.0%										
F03	R2	RESIDENTIAL	BEDROOM	W2/F03	21.9	20.4	1.5	6.8%	83.9	84.2	0.0	-0.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	BEDROOM	W3/F03	20.7	18.7	2	9.7%	94.6	92.7	0.2	2.1%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W4/F03	17.7	15.6	2.1	11.9%										

THE OLD KINGS HEAD PH

F01	R2	RESIDENTIAL	RESIDENTIAL	W19/F01	9.4	6.2	3.2	34.0%	59.5	54.6	0.5	8.2%	21	5	21	5	0.0%	0.0%
F02	R1	RESIDENTIAL	RESIDENTIAL	W1/F02	20.7	20.9	-0.2	-1.0%	99.1	98.9	0.0	0.2%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W2/F02	20.5	21.2	-0.7	-3.4%										
			RESIDENTIAL	W3/F02	19.7	21.3	-1.6	-8.1%										
			RESIDENTIAL	W4/F02	20.6	20.9	-0.3	-1.5%										
			RESIDENTIAL	W6/F02	19.6	21	-1.4	-7.1%										
			RESIDENTIAL	W5/F02	20.3	21	-0.7	-3.4%										
	R2	RESIDENTIAL	RESIDENTIAL	W7/F02	16.6	20.9	-4.3	-25.9%	71.7	96.4	-3.3	-34.4%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W8/F02	14.4	19.4	-5	-34.7%										
			RESIDENTIAL	W9/F02	16.4	20.7	-4.3	-26.2%										
			RESIDENTIAL	W10/F02	13.3	17.9	-4.6	-34.6%										
	R3	RESIDENTIAL	RESIDENTIAL	W11/F02	15.1	20.2	-5.1	-33.8%	51.9	97.8	-5.8	-88.4%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W12/F02	15	20.5	-5.5	-36.7%										
			RESIDENTIAL	W13/F02	14.2	20.4	-6.2	-43.7%										
			RESIDENTIAL	W14/F02	15	20	-5	-33.3%										

THE OLD KINGS HEAD PH (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			RESIDENTIAL	W15/F02	14.8	20.1	-5.3	-35.8%										
			RESIDENTIAL	W16/F02	14.2	19.9	-5.7	-40.1%										
	R4	RESIDENTIAL	RESIDENTIAL	W17/F02	24.7	16.2	8.5	34.4%	100	98.4	0.2	1.6%	50	17	46	17	8.0%	0.0%
F03	R1	RESIDENTIAL	RESIDENTIAL	W1/F03	25.9	24.2	1.7	6.6%	70.4	76.3	-0.8	-8.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	RESIDENTIAL	W2/F03	22.9	23	-0.1	-0.4%	87.1	97.6	-1.5	-12.0%	N/A	N/A	N/A	N/A	N/A	N/A
			RESIDENTIAL	W3/F03	23.1	23.5	-0.4	-1.7%										
			RESIDENTIAL	W4/F03	21.6	23.3	-1.7	-7.9%										
	R3	RESIDENTIAL	RESIDENTIAL	W5/F03	20.6	22.6	-2	-9.7%	24.8	65.9	-5.4	-165.7%	N/A	N/A	N/A	N/A	N/A	N/A

22 SOUTHWARK ST																		
F01	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F01	17.2	15.2	2	11.6%	38.8	32.8	0.6	15.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F01	18	15.9	2.1	11.7%	47.7	43.9	0.5	7.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F01	19.5	17.3	2.2	11.3%	90.5	84.5	0.6	6.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	UNKNOWN-RESI	W4/F01	21.9	19.5	2.4	11.0%	99.5	95.8	0.5	3.7%	56	13	53	13	5.4%	0.0%
			UNKNOWN-RESI	W5/F01	24.3	22.5	1.8	7.4%										
	R5	RESIDENTIAL	UNKNOWN-RESI	W6/F01	25	24	1	4.0%	81.8	81.1	0.1	0.9%	66	16	63	16	4.5%	0.0%
	R6	RESIDENTIAL	UNKNOWN-RESI	W7/F01	25.2	24.3	0.9	3.6%	82.5	81.6	0.1	1.1%	66	15	63	15	4.5%	0.0%
F02	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F02	21.2	19.1	2.1	9.9%	45.1	41.4	0.4	8.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F02	21.9	19.8	2.1	9.6%	54.1	50.6	0.4	6.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F02	23.5	21.2	2.3	9.8%	92.6	86	0.7	7.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	UNKNOWN-RESI	W4/F02	25.2	22.7	2.5	9.9%	100	98.2	0.2	1.8%	61	18	58	18	4.9%	0.0%
			UNKNOWN-RESI	W5/F02	27.3	25.5	1.8	6.6%										
	R5	RESIDENTIAL	UNKNOWN-RESI	W6/F02	28.1	27.1	1	3.6%	91.9	91.2	0.1	0.8%	67	17	64	17	4.5%	0.0%
	R6	RESIDENTIAL	UNKNOWN-RESI	W7/F02	28.2	27.3	0.9	3.2%	92.3	91.5	0.1	0.9%	69	16	65	16	5.8%	0.0%
F03	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F03	24.4	22.3	2.1	8.6%	69.6	69.6	0.0	0.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F03	24.7	22.5	2.2	8.9%	79.2	76.8	0.3	3.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F03	25.7	23.5	2.2	8.6%	97.5	91.8	0.6	5.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	UNKNOWN-RESI	W4/F03	27.5	25.1	2.4	8.7%	100	100	0.0	0.0%	64	22	61	22	4.7%	0.0%
			UNKNOWN-RESI	W5/F03	29.2	27.3	1.9	6.5%										
	R5	RESIDENTIAL	UNKNOWN-RESI	W6/F03	29.3	28.3	1	3.4%	98.2	97.6	0.1	0.6%	75	25	72	25	4.0%	0.0%
	R6	RESIDENTIAL	UNKNOWN-RESI	W7/F03	29.5	28.5	1	3.4%	97.6	96.6	0.1	1.0%	78	25	74	25	5.1%	0.0%

22 SOUTHWARK ST (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
F04	R1	RESIDENTIAL	UNKNOWN-RESI	W1/F04	31.9	29.7	2.2	6.9%	78	75.2	0.3	3.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	RESIDENTIAL	UNKNOWN-RESI	W2/F04	31.2	29	2.2	7.1%	86.3	82	0.5	4.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	RESIDENTIAL	UNKNOWN-RESI	W3/F04	31.3	29	2.3	7.3%	85.6	78.4	0.7	8.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	RESIDENTIAL	UNKNOWN-RESI	W4/F04	31.1	28.7	2.4	7.7%	99.8	99.8	0.0	0.0%	67	24	64	24	4.5%	0.0%
			UNKNOWN-RESI	W5/F04	32.6	30.8	1.8	5.5%										
	R5	RESIDENTIAL	UNKNOWN-RESI	W6/F04	34	33	1	2.9%	89.1	89.1	0.0	0.0%	78	25	75	25	3.8%	0.0%
	R6	RESIDENTIAL	UNKNOWN-RESI	W7/F04	33.8	32.9	0.9	2.7%	87.1	87.1	0.0	0.0%	78	25	75	25	3.8%	0.0%

ST THOMAS CHURCH

F02	R1	RESIDENTIAL	KITCHEN-RESI	W1/F02 (dup.)	31.6	30.7	0.9	2.8%	100	100	0.0	0.0%	82	25	52	11	36.6%	56.0%
			KITCHEN-RESI	W2/F02 (dup.)	35.5	15.2	20.3	57.2%										
			KITCHEN-RESI	W3/F02 (dup.)	22	18.2	3.8	17.3%										
			KITCHEN-RESI	W4/F02 (dup.)	12	12	0	0.0%										
F03	R1	RESIDENTIAL	LIVING ROOM	W1/F02	31.6	30.7	0.9	2.8%	99.1	99.1	0.0	0.0%	82	25	52	11	36.6%	56.0%
			LIVING ROOM	W2/F02	35.5	15.2	20.3	57.2%										
			LIVING ROOM	W3/F02	22	18.2	3.8	17.3%										
			LIVING ROOM	W4/F02	12	12	0	0.0%										
F04	R1	RESIDENTIAL	LIVING ROOM	W1/F04 (dup.)	37.8	36.8	1	2.6%	100	100	0.0	0.0%	83	26	52	11	37.3%	57.7%
			LIVING ROOM	W2/F04 (dup.)	36.9	15.1	21.8	59.1%										
			LIVING ROOM	W3/F04 (dup.)	22.9	19.1	3.8	16.6%										
			LIVING ROOM	W4/F04 (dup.)	22.8	22.8	0	0.0%										
F05	R1	RESIDENTIAL	BEDROOM	W1/F04	37.8	36.8	1	2.6%	100	100	0.0	0.0%	83	26	52	11	37.3%	57.7%
			BEDROOM	W2/F04	36.9	15.1	21.8	59.1%										
			BEDROOM	W3/F04	22.9	19.1	3.8	16.6%										
			BEDROOM	W4/F04	22.8	22.8	0	0.0%										

IRIS BROOK HOUSE TALBOT YARD

F00	R1	NONCOMMERCIAL	ENTRANCE	W1/F00	9.1	8.7	0.4	4.4%	95.4	92.9	0.1	2.7%	3	0	3	0	0.0%	0.0%
			ENTRANCE	W2/F00	15.6	11	4.6	29.5%										
	R2	NONCOMMERCIAL	LOBBY	W3/F00	13.7	9.7	4	29.2%	58.3	47.2	0.9	19.0%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W4/F00	14.7	10.3	4.4	29.9%										

IRIS BROOK HOUSE TALBOT YARD (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			LOBBY	W5/F00	13.5	8.8	4.7	34.8%										
	R3	NONCOMMERCIAL	STUDIO	W6/F00	14	9.5	4.5	32.1%	54.5	45.5	1.1	16.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W7/F00	13.5	9.2	4.3	31.9%	61.6	51.5	1.0	16.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W8/F00	12.4	8.1	4.3	34.7%	62.2	50	1.2	19.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W9/F00	11	6.7	4.3	39.1%	62.9	47.2	1.6	25.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STUDIO	W10/F00	4.5	1	3.5	77.8%	51.2	12.7	4.0	75.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STAIRWELL	W11/F00	5.1	2.5	2.6	51.0%	49.6	28.3	1.7	42.9%	N/A	N/A	N/A	N/A	N/A	N/A
			STAIRWELL	W12/F00	5.3	2.6	2.7	50.9%										
			STAIRWELL	W13/F00	5.3	2.4	2.9	54.7%										
	R9	NONCOMMERCIAL	STUDIO	W14/F00	12.3	11.5	0.8	6.5%	90.7	89.4	0.1	1.4%	11	0	11	0	0.0%	0.0%
	R10	NONCOMMERCIAL	STUDIO	W15/F00	13.8	13.2	0.6	4.3%	90.4	89.3	0.1	1.2%	15	1	15	1	0.0%	0.0%
	R11 (3)	NONCOMMERCIAL	STUDIO	W16/F00	14.5	14.1	0.4	2.8%	84.6	84	0.1	0.7%	21	1	21	1	0.0%	0.0%
F01	R1	NONCOMMERCIAL	LOBBY	W1/F01	19	13	6	31.6%	77.4	69.9	0.9	9.8%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W2/F01	18.5	12.6	5.9	31.9%										
	R2	NONCOMMERCIAL	STUDIO	W3/F01	16.9	11.1	5.8	34.3%	49.7	43	0.8	13.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W4/F01	16.6	11	5.6	33.7%	56.9	49.3	0.7	13.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W5/F01	15.3	9.6	5.7	37.3%	57	47.5	1.0	16.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W6/F01	13.5	7.8	5.7	42.2%	57.4	44.1	1.3	23.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F01	5.8	1.3	4.5	77.6%	46.2	9	3.8	80.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STAIRWELL	W8/F01	6.1	2.9	3.2	52.5%	47.4	22.5	2.0	52.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F01	14	12.9	1.1	7.9%	91.6	90.1	0.1	1.6%	12	0	12	0	0.0%	0.0%
	R9	NONCOMMERCIAL	STUDIO	W10/F01	15.9	14.9	1	6.3%	90.8	89.4	0.1	1.6%	22	1	22	1	0.0%	0.0%
	R10 (3)	NONCOMMERCIAL	STUDIO	W11/F01	16.8	16.1	0.7	4.2%	90.6	90.2	0.1	0.5%	27	1	27	1	0.0%	0.0%
F02	R1	NONCOMMERCIAL	LOBBY	W1/F02	22.2	14.8	7.4	33.3%	86.4	72.1	1.7	16.6%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W2/F02	21.7	14.4	7.3	33.6%										
	R2	NONCOMMERCIAL	STUDIO	W3/F02	19.8	12.5	7.3	36.9%	63.7	48.6	1.9	23.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W4/F02	19.9	12.8	7.1	35.7%	71.7	56.8	1.5	20.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W5/F02	18.4	11.4	7	38.0%	72.7	54	1.9	25.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W6/F02	16.3	9.2	7.1	43.6%	73.1	49.6	2.4	32.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F02	7.4	1.8	5.6	75.7%	60.7	11.3	5.1	81.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STAIRWELL	W8/F02	7.1	3.3	3.8	53.5%	60.4	22.8	3.0	62.2%	N/A	N/A	N/A	N/A	N/A	N/A

IRIS BROOK HOUSE TALBOT YARD (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R8	NONCOMMERCIAL	STUDIO	W9/F02	16	14.6	1.4	8.8%	92.8	91.3	0.1	1.6%	16	0	16	0	0.0%	0.0%
	R9	NONCOMMERCIAL	STUDIO	W10/F02	18.4	17.1	1.3	7.1%	92.2	90.6	0.2	1.7%	26	1	26	1	0.0%	0.0%
	R10 (3)	NONCOMMERCIAL	STUDIO	W11/F02	19.5	18.4	1.1	5.6%	95	94.6	0.1	0.5%	32	3	32	3	0.0%	0.0%
F03	R1	NONCOMMERCIAL	LOBBY	W1/F03	25.4	16.7	8.7	34.3%	95.8	72.4	2.8	24.4%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W2/F03	24.9	16.2	8.7	34.9%										
	R2	NONCOMMERCIAL	STUDIO	W3/F03	22.6	14	8.6	38.1%	81.6	52.1	3.7	36.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W4/F03	23.7	15.1	8.6	36.3%	96.6	64.6	3.2	33.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W5/F03	22.3	13.7	8.6	38.6%	96.3	61.4	3.5	36.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W6/F03	20	11.4	8.6	43.0%	95.6	58.7	3.7	38.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F03	9.6	3	6.6	68.8%	73.8	18.2	5.7	75.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STAIRWELL	W8/F03	8.3	4	4.3	51.8%	64.6	25	3.2	61.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F03	18.6	16.8	1.8	9.7%	93.4	91.9	0.1	1.6%	26	1	26	1	0.0%	0.0%
	R9	NONCOMMERCIAL	STUDIO	W10/F03	21.3	19.5	1.8	8.5%	92.6	91	0.2	1.7%	32	2	32	2	0.0%	0.0%
	R10 (3)	NONCOMMERCIAL	STUDIO	W11/F03	22.6	21	1.6	7.1%	97.9	97.4	0.1	0.4%	37	5	37	5	0.0%	0.0%
F04	R1	NONCOMMERCIAL	LOBBY	W1/F04	27.6	18.1	9.5	34.4%	97	72.8	2.9	25.0%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W2/F04	27.2	17.8	9.4	34.6%										
	R2	NONCOMMERCIAL	STUDIO	W3/F04	24.4	15	9.4	38.5%	87.6	54.8	4.1	37.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W4/F04	26.7	17.3	9.4	35.2%	97.9	65.5	3.2	33.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W5/F04	25.6	16.3	9.3	36.3%	97.8	64.3	3.4	34.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W6/F04	23.6	14.4	9.2	39.0%	97.2	63.6	3.4	34.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F04	13.2	6.1	7.1	53.8%	89.4	42.8	4.8	52.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STAIRWELL	W8/F04	10.7	5.5	5.2	48.6%	71.3	33.7	3.0	52.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F04	21.9	20	1.9	8.7%	93.6	92	0.1	1.6%	31	3	31	3	0.0%	0.0%
	R9	NONCOMMERCIAL	STUDIO	W10/F04	24.3	22.3	2	8.2%	92.8	91.2	0.2	1.7%	39	8	39	8	0.0%	0.0%
	R10 (3)	NONCOMMERCIAL	STUDIO	W11/F04	25.4	23.3	2.1	8.3%	98.8	98.4	0.1	0.4%	42	12	42	12	0.0%	0.0%
F05	R1	NONCOMMERCIAL	LOBBY	W1/F05	30.1	20.1	10	33.2%	93.4	76.2	2.0	18.4%	N/A	N/A	N/A	N/A	N/A	N/A
			LOBBY	W2/F05	29.9	20.1	9.8	32.8%										
	R2	NONCOMMERCIAL	STUDIO	W3/F05	27.6	17.8	9.8	35.5%	80.7	59.5	2.6	26.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W4/F05	30	20.2	9.8	32.7%	93.4	74.9	1.8	19.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W5/F05	29.8	20.1	9.7	32.6%	93.1	67.9	2.5	27.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W6/F05	29	19.5	9.5	32.8%	90.8	66.5	2.5	26.8%	N/A	N/A	N/A	N/A	N/A	N/A

IRIS BROOK HOUSE TALBOT YARD (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R6	NONCOMMERCIAL	STUDIO	W7/F05	23.2	14.8	8.4	36.2%	97.1	75.4	2.2	22.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STAIRWELL	W8/F05	21.3	13.4	7.9	37.1%	68.6	33.2	2.9	51.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F05	27.3	25.2	2.1	7.7%	97.7	96.5	0.1	1.2%	48	16	48	16	0.0%	0.0%
	R9	NONCOMMERCIAL	STUDIO	W10/F05	28.1	25.9	2.2	7.8%	97.6	96.6	0.1	0.9%	53	19	53	19	0.0%	0.0%
	R10 (3)	NONCOMMERCIAL	STUDIO	W11/F05	28.4	26	2.4	8.5%	94.1	93.6	0.1	0.6%	52	19	52	19	0.0%	0.0%

ORCHARD LISLE HOUSE - TALBOT YARD

F00	R1	NONCOMMERCIAL	STUDIO	W1/F00	15.1	10.4	4.7	31.1%	78.6	75.8	0.3	3.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F00	16.3	11.9	4.4	27.0%	92.7	92.3	0.0	0.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F00	16.4	12.2	4.2	25.6%	94.1	92.6	0.1	1.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	HALLWAY	W4/F00	15.9	11.9	4	25.2%	66.3	57.3	1.6	13.5%	N/A	N/A	N/A	N/A	N/A	N/A
			HALLWAY	W5/F00	14.7	10.8	3.9	26.5%										
	R5	NONCOMMERCIAL	STUDIO	W6/F00	12.9	3.4	9.5	73.6%	76.9	11	7.5	85.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F00	14.3	4.1	10.2	71.3%	78.8	17	5.8	78.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STUDIO	W8/F00	15.9	5.2	10.7	67.3%	91.7	21.8	6.6	76.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F00	16.7	6.2	10.5	62.9%	86.1	20.9	6.1	75.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W10/F00	16.2	6.1	10.1	62.3%	77.9	22.5	5.3	71.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	BIN STORE	W11/F00	9.8	2	7.8	79.6%	89.2	15.2	5.2	82.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R11	NONCOMMERCIAL	UNKNOWN	W12/F00	15	6.7	8.3	55.3%	95.4	33.3	2.3	65.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R12 (3)	NONCOMMERCIAL	ENTRANCE	W13/F00	0.4	0.4	0	0.0%	8.9	6.8	0.2	23.7%	N/A	N/A	N/A	N/A	N/A	N/A
			ENTRANCE	W14/F00	0.9	0.5	0.4	44.4%										
	R13	NONCOMMERCIAL	STUDIO	W15/F00	14.9	7	7.9	53.0%	43.9	14.6	3.1	66.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R14	NONCOMMERCIAL	STUDIO	W16/F00	14.8	7.3	7.5	50.7%	58.5	28.2	2.9	51.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R15	NONCOMMERCIAL	STUDIO	W17/F00	14.7	7.5	7.2	49.0%	55	27.8	2.7	49.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W18/F00	14.6	7.9	6.7	45.9%	50.9	24.9	2.7	51.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W19/F00	14.8	8.5	6.3	42.6%	47.1	40.7	1.2	13.6%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W20/F00	15.3	9.2	6.1	39.9%										
F01	R1	NONCOMMERCIAL	STUDIO	W1/F01	20	14.2	5.8	29.0%	76.8	74.3	0.3	3.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F01	21.4	15.9	5.5	25.7%	96	95.7	0.0	0.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F01	21	15.8	5.2	24.8%	93.1	91.6	0.1	1.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	HALLWAY	W4/F01	19.8	14.7	5.1	25.8%	66.8	58	1.6	13.2%	N/A	N/A	N/A	N/A	N/A	N/A

ORCHARD LISLE HOUSE - TALBOT YARD (CONTINUED)

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			HALLWAY	W5/F01	17.5	12.6	4.9	28.0%										
	R5	NONCOMMERCIAL	STUDIO	W6/F01	15.9	4.1	11.8	74.2%	73.3	12.6	7.0	82.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R6	NONCOMMERCIAL	STUDIO	W7/F01	18.1	5.2	12.9	71.3%	70.8	17.2	5.0	75.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R7	NONCOMMERCIAL	STUDIO	W8/F01	19.5	6.3	13.2	67.7%	87.4	24.5	5.9	72.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W9/F01	20.7	7.4	13.3	64.3%	78.5	23.7	5.1	69.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W10/F01	20.7	7.3	13.4	64.7%	78.7	25.5	5.3	67.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	UNKNOWN	W11/F01	12.7	2.1	10.6	83.5%	80	1.7	1.5	97.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R11 (3)	NONCOMMERCIAL	UNKNOWN	W12/F01	20.9	8.1	12.8	61.2%	46.9	9	4.1	80.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	NONCOMMERCIAL	LANDING	W13/F01	20.9	8.5	12.4	59.3%	48.5	33.4	2.5	31.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LANDING	W14/F01	20.8	8.7	12.1	58.2%										
	R13	NONCOMMERCIAL	STUDIO	W15/F01	20.6	8.9	11.7	56.8%	63.3	15.8	5.0	75.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R14	NONCOMMERCIAL	STUDIO	W16/F01	20.6	9.3	11.3	54.9%	74.9	30.1	4.3	59.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R15	NONCOMMERCIAL	STUDIO	W17/F01	20.6	9.7	10.9	52.9%	71.4	32.6	3.9	54.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W18/F01	20.7	10.2	10.5	50.7%	69.8	31.9	3.9	54.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W19/F01	21	11	10	47.6%	66.7	56	2.1	16.0%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W20/F01	21.4	11.7	9.7	45.3%										
F02	R1	NONCOMMERCIAL	STUDIO	W1/F02	25.9	21	4.9	18.9%	97.3	95.8	0.2	1.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F02	27.1	20.8	6.3	23.2%	97.8	96.8	0.1	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F02	26.7	20	6.7	25.1%	97.7	97.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W4/F02	24.6	17.9	6.7	27.2%	97.7	94.6	0.3	3.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W5/F02	26.5	20.1	6.4	24.2%	97.8	96	0.3	1.8%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W6/F02	25.3	19.2	6.1	24.1%										
	R6	NONCOMMERCIAL	HALLWAY	W7/F02	23.1	17.3	5.8	25.1%	67.7	59.1	1.5	12.6%	N/A	N/A	N/A	N/A	N/A	N/A
			HALLWAY	W8/F02	19.7	14.1	5.6	28.4%										
	R7	NONCOMMERCIAL	STUDIO	W9/F02	17.9	4.7	13.2	73.7%	74.8	14.2	6.9	81.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W10/F02	21	6.5	14.5	69.0%	70.9	20.1	4.8	71.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W11/F02	22	7.2	14.8	67.3%	87.6	25.2	5.9	71.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	STUDIO	W12/F02	23.4	8.4	15	64.1%	84.6	24.2	5.6	71.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R11	NONCOMMERCIAL	STUDIO	W13/F02	23.4	8.2	15.2	65.0%	82.9	25.6	5.7	69.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	NONCOMMERCIAL	UNKNOWN	W14/F02	13.7	2.2	11.5	83.9%	80.6	3.2	1.5	96.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R13 (3)	NONCOMMERCIAL	UNKNOWN	W15/F02	24.1	9.2	14.9	61.8%	67	11.3	6.0	83.2%	N/A	N/A	N/A	N/A	N/A	N/A
ORCHARD LISLE HOUSE - TALBOT YARD (CONTINUED)																		

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R14	NONCOMMERCIAL	LANDING	W16/F02	24.3	9.6	14.7	60.5%	62.4	35.6	4.4	42.9%	N/A	N/A	N/A	N/A	N/A	N/A
			LANDING	W17/F02	24.4	9.9	14.5	59.4%										
	R15	NONCOMMERCIAL	STUDIO	W18/F02	24.5	10.2	14.3	58.4%	71.6	16.9	5.8	76.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W19/F02	24.9	10.9	14	56.2%	86.3	30.3	5.4	64.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W20/F02	25.4	11.6	13.8	54.3%	86.1	32.7	5.4	62.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R18	NONCOMMERCIAL	STUDIO	W21/F02	25.8	12.4	13.4	51.9%	86.6	33.8	5.4	61.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R19	NONCOMMERCIAL	STUDIO	W22/F02	26.1	13.2	12.9	49.4%	96.5	78.5	3.5	18.6%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W23/F02	26.2	13.9	12.3	46.9%										
F03	R1	NONCOMMERCIAL	STUDIO	W1/F03	29.7	23.4	6.3	21.2%	97.8	96.1	0.3	1.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F03	31.1	23.5	7.6	24.4%	97.8	96.8	0.1	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F03	30.5	22.8	7.7	25.2%	97.7	97.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W4/F03	27.9	20.3	7.6	27.2%	97.7	94.6	0.3	3.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W5/F03	30.4	23.4	7	23.0%	98.1	96.6	0.2	1.5%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W6/F03	28.8	22.2	6.6	22.9%										
	R6	NONCOMMERCIAL	HALLWAY	W7/F03	26.1	19.9	6.2	23.8%	67.9	59.6	1.5	12.2%	N/A	N/A	N/A	N/A	N/A	N/A
			HALLWAY	W8/F03	21.5	15.7	5.8	27.0%										
	R7	NONCOMMERCIAL	STUDIO	W9/F03	19.9	5.6	14.3	71.9%	79.5	19.8	6.8	75.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W10/F03	23.6	8.2	15.4	65.3%	76.6	26.9	4.7	64.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W11/F03	23.4	7.9	15.5	66.2%	89.1	25.3	6.0	71.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	STUDIO	W12/F03	25	9.1	15.9	63.6%	86.2	24.4	5.8	71.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R11	NONCOMMERCIAL	STUDIO	W13/F03	25.1	9	16.1	64.1%	84.9	26.4	5.8	68.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	NONCOMMERCIAL	UNKNOWN	W14/F03	14	2.3	11.7	83.6%	80.5	3	1.5	96.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R13 (3)	NONCOMMERCIAL	UNKNOWN	W15/F03	24.4	8.3	16.1	66.0%	79.9	11.3	7.3	85.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R14	NONCOMMERCIAL	LANDING	W16/F03	25.2	9.2	16	63.5%	82.6	37.3	7.4	54.9%	N/A	N/A	N/A	N/A	N/A	N/A
			LANDING	W17/F03	25.4	9.4	16	63.0%										
	R15	NONCOMMERCIAL	STUDIO	W18/F03	25	9.4	15.6	62.4%	77.7	17.3	6.4	77.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W19/F03	26.1	10.7	15.4	59.0%	89.6	31.8	5.6	64.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W20/F03	26.3	11.4	14.9	56.7%	90	35.2	5.5	60.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R18	NONCOMMERCIAL	STUDIO	W21/F03	26.5	12.3	14.2	53.6%	89.6	36.4	5.5	59.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R19	NONCOMMERCIAL	STUDIO	W22/F03	26.6	13.4	13.2	49.6%	97.6	79.7	3.5	18.4%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W23/F03	25.8	13.4	12.4	48.1%										

ORCHARD LISLE HOUSE - TALBOT YARD (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
F04	R1	NONCOMMERCIAL	STUDIO	W1/F04	33.3	24.6	8.7	26.1%	97.9	96.1	0.3	1.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F04	34	25	9	26.5%	97.8	96.8	0.1	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F04	32.7	24.3	8.4	25.7%	97.7	97.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W4/F04	29.4	21.3	8.1	27.6%	97.7	94.6	0.3	3.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W5/F04	33.2	25.9	7.3	22.0%	98.2	97	0.2	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W6/F04	31.9	25.1	6.8	21.3%										
	R6	NONCOMMERCIAL	HALLWAY	W7/F04	29.4	23	6.4	21.8%	68.2	60.1	1.4	11.9%	N/A	N/A	N/A	N/A	N/A	N/A
			HALLWAY	W8/F04	23.9	17.9	6	25.1%										
	R7	NONCOMMERCIAL	STUDIO	W9/F04	22.8	7.3	15.5	68.0%	82.9	30.1	6.0	63.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	NONCOMMERCIAL	STUDIO	W10/F04	25.7	9.7	16	62.3%	81.4	34.6	4.4	57.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W11/F04	24.2	8	16.2	66.9%	90.5	25.1	6.2	72.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	STUDIO	W12/F04	26.1	9.6	16.5	63.2%	88.2	24.5	5.9	72.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R11	NONCOMMERCIAL	STUDIO	W13/F04	26.5	9.8	16.7	63.0%	86.9	26.6	6.0	69.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	NONCOMMERCIAL	UNKNOWN	W14/F04	15.5	2.5	13	83.9%	85.2	2.8	1.6	96.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R13 (3)	NONCOMMERCIAL	UNKNOWN	W15/F04	27.5	10.6	16.9	61.5%	78.8	11.1	7.2	85.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R14	NONCOMMERCIAL	LANDING	W16/F04	24.1	7.7	16.4	68.0%	5.3	1.1	0.7	79.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R15	NONCOMMERCIAL	STUDIO	W17/F04	28.1	11.7	16.4	58.4%	72.5	14.9	6.1	79.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W18/F04	28.6	12.5	16.1	56.3%	86	29	5.5	66.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W19/F04	28.8	13.3	15.5	53.8%	86.3	34.5	5.2	60.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R18	NONCOMMERCIAL	STUDIO	W20/F04	29	14.2	14.8	51.0%	86.3	36.1	5.1	58.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R19	NONCOMMERCIAL	STUDIO	W21/F04	29.2	15.3	13.9	47.6%	97.4	78.7	3.6	19.2%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W22/F04	29	16	13	44.8%										
F05	R1	NONCOMMERCIAL	STUDIO	W1/F05	36.9	26.2	10.7	29.0%	95.3	93	0.4	2.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R2	NONCOMMERCIAL	STUDIO	W2/F05	37	26.9	10.1	27.3%	98.1	92.7	0.5	5.5%	N/A	N/A	N/A	N/A	N/A	N/A
	R3	NONCOMMERCIAL	STUDIO	W3/F05	36.7	27.2	9.5	25.9%	98.1	93.2	0.4	5.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R4	NONCOMMERCIAL	STUDIO	W4/F05	33.1	24.2	8.9	26.9%	97.8	92	0.5	5.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R5	NONCOMMERCIAL	STUDIO	W5/F05	36.8	28.9	7.9	21.5%	97.2	96.7	0.1	0.5%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W6/F05	36.3	28.9	7.4	20.4%										
	R6	NONCOMMERCIAL	HALLWAY	W7/F05	35.3	28.3	7	19.8%	68.8	60.6	1.5	11.9%	N/A	N/A	N/A	N/A	N/A	N/A
			HALLWAY	W8/F05	31.7	25.2	6.5	20.5%										
	R7	NONCOMMERCIAL	STUDIO	W9/F05	27.3	11.1	16.2	59.3%	79.9	35.3	5.1	55.8%	N/A	N/A	N/A	N/A	N/A	N/A

ORCHARD LISLE HOUSE - TALBOT YARD (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R8	NONCOMMERCIAL	STUDIO	W10/F05	28	11.3	16.7	59.6%	76.4	42.7	3.1	44.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R9	NONCOMMERCIAL	STUDIO	W11/F05	27	10.3	16.7	61.9%	91.1	34.7	5.3	61.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R10	NONCOMMERCIAL	STUDIO	W12/F05	28.4	11.3	17.1	60.2%	89.2	35.2	5.0	60.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R11	NONCOMMERCIAL	STUDIO	W13/F05	28.8	11.5	17.3	60.1%	85.6	27.5	5.5	67.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	NONCOMMERCIAL	UNKNOWN	W14/F05	22.4	5.4	17	75.9%	91.4	13.8	1.5	84.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R13 (3)	NONCOMMERCIAL	UNKNOWN	W15/F05	29.1	11.5	17.6	60.5%	80.2	19	7.4	76.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R14	NONCOMMERCIAL	LANDING	W16/F05	29.3	11.8	17.5	59.7%	84.4	40.3	6.2	52.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LANDING	W17/F05	29.4	12.1	17.3	58.8%										
	R15	NONCOMMERCIAL	STUDIO	W18/F05	29.6	12.6	17	57.4%	79.5	24.5	5.8	69.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	NONCOMMERCIAL	STUDIO	W19/F05	29.8	13.2	16.6	55.7%	87	42.1	4.3	51.6%	N/A	N/A	N/A	N/A	N/A	N/A
	R17	NONCOMMERCIAL	STUDIO	W20/F05	30	14.2	15.8	52.7%	91.3	58.7	3.3	35.7%	N/A	N/A	N/A	N/A	N/A	N/A
	R18	NONCOMMERCIAL	STUDIO	W21/F05	30.1	14.9	15.2	50.5%	90	45	4.6	50.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R19	NONCOMMERCIAL	STUDIO	W22/F05	30.4	16	14.4	47.4%	96.7	85.8	2.1	11.3%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO	W23/F05	30.5	16.9	13.6	44.6%										

GUYS CAMPUS (TOWER WING)																		
F00	R1 (3)	COMMERCIAL	UNKNOWN-COMM	W1/F00	15.6	15.1	0.5	3.2%	61.8	58.7	1.1	5.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F00	16.6	15.7	0.9	5.4%										
			UNKNOWN-COMM	W3/F00	17.4	16.2	1.2	6.9%										
			UNKNOWN-COMM	W4/F00	18.3	16.7	1.6	8.7%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W5/F00	19.8	17.7	2.1	10.6%	56.6	52.3	0.9	7.5%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W6/F00	20.6	18.3	2.3	11.2%										
	R3	COMMERCIAL	UNKNOWN-COMM	W7/F00	0.2	0.2	0	0.0%	62.4	62.1	0.1	0.5%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F00	0.2	0	0.2	100.0%										
			UNKNOWN-COMM	W9/F00	6.1	4.5	1.6	26.2%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F00	0	0	0	-	55.7	55.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F00	3.2	2.6	0.6	18.8%										
			UNKNOWN-COMM	W12/F00	7.9	7.3	0.6	7.6%										
			UNKNOWN-COMM	W13/F00	8.6	8	0.6	7.0%										
			UNKNOWN-COMM	W15/F00	7.9	7.3	0.6	7.6%										
			UNKNOWN-COMM	W14/F00	8.6	8	0.6	7.0%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R5	COMMERCIAL	UNKNOWN-COMM	W16/F00	9.5	8.9	0.6	6.3%	64	63.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W17/F00	14.8	13.5	1.3	8.8%										
			UNKNOWN-COMM	W18/F00	15.5	14.1	1.4	9.0%										
			UNKNOWN-COMM	W20/F00	14.3	13.2	1.1	7.7%										
			UNKNOWN-COMM	W21/F00	18.2	16.9	1.3	7.1%										
			UNKNOWN-COMM	W22/F00	17.7	16.5	1.2	6.8%										
			UNKNOWN-COMM	W19/F00	14.2	13	1.2	8.5%										
F01	R1 (3)	COMMERCIAL	UNKNOWN-COMM	W1/F01	17.5	16.9	0.6	3.4%	94.7	90.1	1.6	4.8%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F01	18.7	17.6	1.1	5.9%										
			UNKNOWN-COMM	W3/F01	19.9	18.3	1.6	8.0%										
			UNKNOWN-COMM	W4/F01	21	19	2	9.5%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W5/F01	22.9	20.3	2.6	11.4%	94.7	90.8	0.7	4.1%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W6/F01	23.8	21.1	2.7	11.3%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F01	24.8	22.1	2.7	10.9%	90.2	84.4	0.9	6.4%	N/A	N/A	N/A	N/A	N/A	N/A
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W8/F01	27.2	24.6	2.6	9.6%	97.1	95.8	0.4	1.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F01	28.5	25.8	2.7	9.5%	96.7	95.5	0.3	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F01	28.7	26.1	2.6	9.1%	96.9	95.9	0.3	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W11/F01	25.1	22.6	2.5	10.0%	93.1	92	0.4	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
F02	R1 (3)	COMMERCIAL	UNKNOWN-COMM	W1/F02	19.7	18.9	0.8	4.1%	99.5	96.6	1.0	3.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F02	21.4	19.9	1.5	7.0%										
			UNKNOWN-COMM	W3/F02	22.9	20.8	2.1	9.2%										
			UNKNOWN-COMM	W4/F02	24.3	21.8	2.5	10.3%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W5/F02	26.6	23.6	3	11.3%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W6/F02	27.7	24.5	3.2	11.6%										
			UNKNOWN-COMM	W7/F02	28.6	25.4	3.2	11.2%										
			UNKNOWN-COMM	W8/F02	29.3	26.3	3	10.2%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F02	30.4	27.3	3.1	10.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F02	30.8	27.7	3.1	10.1%										
			UNKNOWN-COMM	W11/F02	31.1	28.1	3	9.6%										
			UNKNOWN-COMM	W12/F02	31.4	28.4	3	9.6%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F02	31.9	28.8	3.1	9.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W14/F02	32.1	29	3.1	9.7%										
			UNKNOWN-COMM	W15/F02	32.2	29.2	3	9.3%										
			UNKNOWN-COMM	W16/F02	32.3	29.3	3	9.3%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F02	32.5	29.5	3	9.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F02	32.6	29.6	3	9.2%										
			UNKNOWN-COMM	W19/F02	32.6	29.7	2.9	8.9%										
			UNKNOWN-COMM	W20/F02	32.6	29.7	2.9	8.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F02	32.6	29.7	2.9	8.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F02	32.7	29.8	2.9	8.9%										
			UNKNOWN-COMM	W23/F02	32.6	29.7	2.9	8.9%										
			UNKNOWN-COMM	W24/F02	32.6	29.8	2.8	8.6%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F02	32.6	29.8	2.8	8.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F02	32.6	29.8	2.8	8.6%										
			UNKNOWN-COMM	W27/F02	32.6	29.7	2.9	8.9%										
			UNKNOWN-COMM	W28/F02	32.6	29.7	2.9	8.9%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F02	32.5	29.7	2.8	8.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F02	32.5	29.7	2.8	8.6%										
			UNKNOWN-COMM	W31/F02	32.5	29.7	2.8	8.6%										
			UNKNOWN-COMM	W32/F02	32.5	29.7	2.8	8.6%										
	R9 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F02	32.4	29.6	2.8	8.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F02	32.3	29.5	2.8	8.7%										
			UNKNOWN-COMM	W35/F02	32.2	29.4	2.8	8.7%										
F03	R1 (3)	COMMERCIAL	UNKNOWN-COMM	W1/F03	22.8	21.7	1.1	4.8%	99.5	97.8	0.6	1.8%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F03	25.1	22.9	2.2	8.8%										
			UNKNOWN-COMM	W3/F03	27.1	24.4	2.7	10.0%										
			UNKNOWN-COMM	W4/F03	28.7	25.7	3	10.5%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W5/F03	31.1	27.7	3.4	10.9%	99.8	99.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W6/F03	31.8	28.4	3.4	10.7%										
			UNKNOWN-COMM	W7/F03	32.3	28.9	3.4	10.5%										
			UNKNOWN-COMM	W8/F03	32.8	29.4	3.4	10.4%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F03	33.4	30	3.4	10.2%	99.8	99.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W10/F03	33.6	30.3	3.3	9.8%										
			UNKNOWN-COMM	W11/F03	33.8	30.5	3.3	9.8%										
			UNKNOWN-COMM	W12/F03	34	30.7	3.3	9.7%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F03	34.3	31	3.3	9.6%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F03	34.4	31.1	3.3	9.6%										
			UNKNOWN-COMM	W15/F03	34.5	31.2	3.3	9.6%										
			UNKNOWN-COMM	W16/F03	34.6	31.3	3.3	9.5%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F03	34.7	31.4	3.3	9.5%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F03	34.7	31.5	3.2	9.2%										
			UNKNOWN-COMM	W19/F03	34.7	31.6	3.1	8.9%										
			UNKNOWN-COMM	W20/F03	34.7	31.6	3.1	8.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F03	34.8	31.6	3.2	9.2%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F03	34.8	31.6	3.2	9.2%										
			UNKNOWN-COMM	W23/F03	34.7	31.6	3.1	8.9%										
			UNKNOWN-COMM	W24/F03	34.8	31.7	3.1	8.9%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F03	34.7	31.7	3	8.6%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F03	34.7	31.7	3	8.6%										
			UNKNOWN-COMM	W27/F03	34.7	31.6	3.1	8.9%										
			UNKNOWN-COMM	W28/F03	34.7	31.6	3.1	8.9%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F03	34.6	31.6	3	8.7%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F03	34.6	31.6	3	8.7%										
			UNKNOWN-COMM	W31/F03	34.6	31.5	3.1	9.0%										
			UNKNOWN-COMM	W32/F03	34.6	31.5	3.1	9.0%										
	R9 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F03	34.5	31.5	3	8.7%	99.7	99.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F03	34.4	31.4	3	8.7%										
			UNKNOWN-COMM	W35/F03	34.3	31.4	2.9	8.5%										
F04	R1	COMMERCIAL	UNKNOWN-COMM	W1/F04	0	0	0	-	99.6	99.4	0.1	0.2%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F04	0	0	0	-										
			UNKNOWN-COMM	W3/F04	0	0	0	-										
			UNKNOWN-COMM	W4/F04	0	0	0	-										
			UNKNOWN-COMM	W5/F04	0	0	0	-										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W6/F04	6.6	5.3	1.3	19.7%										
			UNKNOWN-COMM	W7/F04	7	5.6	1.4	20.0%										
			UNKNOWN-COMM	W8/F04	7.2	5.8	1.4	19.4%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F04	7.5	6	1.5	20.0%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F04	7.7	6.2	1.5	19.5%										
			UNKNOWN-COMM	W11/F04	7.9	6.3	1.6	20.3%										
			UNKNOWN-COMM	W12/F04	8	6.5	1.5	18.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F04	8.1	6.6	1.5	18.5%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F04	8.2	6.7	1.5	18.3%										
			UNKNOWN-COMM	W15/F04	8.2	6.8	1.4	17.1%										
			UNKNOWN-COMM	W16/F04	8.3	6.8	1.5	18.1%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F04	8.3	6.8	1.5	18.1%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F04	8.3	6.9	1.4	16.9%										
			UNKNOWN-COMM	W19/F04	8.3	6.9	1.4	16.9%										
			UNKNOWN-COMM	W20/F04	8.3	6.9	1.4	16.9%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F04	8.3	6.9	1.4	16.9%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F04	8.3	6.9	1.4	16.9%										
			UNKNOWN-COMM	W23/F04	8.3	6.9	1.4	16.9%										
			UNKNOWN-COMM	W24/F04	8.3	6.9	1.4	16.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F04	8.3	6.9	1.4	16.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F04	8.3	6.9	1.4	16.9%										
			UNKNOWN-COMM	W27/F04	8.2	6.9	1.3	15.9%										
			UNKNOWN-COMM	W28/F04	8.2	6.9	1.3	15.9%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F04	8.2	6.8	1.4	17.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F04	8.2	6.8	1.4	17.1%										
			UNKNOWN-COMM	W31/F04	8.1	6.8	1.3	16.0%										
			UNKNOWN-COMM	W32/F04	8.1	6.8	1.3	16.0%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F04	8.1	6.7	1.4	17.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F04	8	6.7	1.3	16.2%										
			UNKNOWN-COMM	W35/F04	8	6.7	1.3	16.2%										
			UNKNOWN-COMM	W36/F04	8	6.6	1.4	17.5%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F04	7.9	6.6	1.3	16.5%	99.9	99.9	0.0	0.0%	8	4	8	4	0.0%	0.0%
			UNKNOWN-COMM	W38/F04	7.9	6.6	1.3	16.5%										
			UNKNOWN-COMM	W39/F04	7.9	6.6	1.3	16.5%										
			UNKNOWN-COMM	W40/F04	3.4	3.4	0	0.0%										
			UNKNOWN-COMM	W41/F04	3.4	3.4	0	0.0%										
			UNKNOWN-COMM	W42/F04	3.3	3.3	0	0.0%										
			UNKNOWN-COMM	W43/F04	3.2	3.2	0	0.0%										
			UNKNOWN-COMM	W44/F04	3.1	3.1	0	0.0%										
F05	R1	COMMERCIAL	UNKNOWN-COMM	W1/F05	0.5	0.5	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F05	0.6	0.6	0	0.0%										
			UNKNOWN-COMM	W3/F05	0.7	0.7	0	0.0%										
			UNKNOWN-COMM	W4/F05	0.8	0.8	0	0.0%										
			UNKNOWN-COMM	W5/F05	1	0.9	0.1	10.0%										
			UNKNOWN-COMM	W6/F05	10.7	8.7	2	18.7%										
			UNKNOWN-COMM	W7/F05	10.8	8.8	2	18.5%										
			UNKNOWN-COMM	W8/F05	10.9	8.9	2	18.3%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F05	11	9	2	18.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F05	11	9.1	1.9	17.3%										
			UNKNOWN-COMM	W11/F05	11.1	9.1	2	18.0%										
			UNKNOWN-COMM	W12/F05	11.1	9.2	1.9	17.1%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F05	11.2	9.3	1.9	17.0%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F05	11.2	9.3	1.9	17.0%										
			UNKNOWN-COMM	W15/F05	11.2	9.3	1.9	17.0%										
			UNKNOWN-COMM	W16/F05	11.2	9.3	1.9	17.0%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F05	11.3	9.4	1.9	16.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F05	11.3	9.4	1.9	16.8%										
			UNKNOWN-COMM	W19/F05	11.3	9.4	1.9	16.8%										
			UNKNOWN-COMM	W20/F05	11.3	9.4	1.9	16.8%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F05	11.3	9.5	1.8	15.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F05	11.3	9.5	1.8	15.9%										
			UNKNOWN-COMM	W23/F05	11.4	9.5	1.9	16.7%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W24/F05	11.4	9.6	1.8	15.8%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F05	11.4	9.6	1.8	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W27/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W28/F05	11.4	9.6	1.8	15.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F05	11.4	9.6	1.8	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W31/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W32/F05	11.4	9.6	1.8	15.8%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F05	11.4	9.6	1.8	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W35/F05	11.4	9.6	1.8	15.8%										
			UNKNOWN-COMM	W36/F05	11.4	9.6	1.8	15.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F05	11.3	9.6	1.7	15.0%	100	100	0.0	0.0%	16	9	16	9	0.0%	0.0%
			UNKNOWN-COMM	W38/F05	11.3	9.6	1.7	15.0%										
			UNKNOWN-COMM	W39/F05	11.4	9.7	1.7	14.9%										
			UNKNOWN-COMM	W40/F05	7	7	0	0.0%										
			UNKNOWN-COMM	W41/F05	6.9	6.9	0	0.0%										
			UNKNOWN-COMM	W42/F05	6.8	6.8	0	0.0%										
			UNKNOWN-COMM	W43/F05	6.6	6.6	0	0.0%										
			UNKNOWN-COMM	W44/F05	6.5	6.5	0	0.0%										
F06	R1	COMMERCIAL	UNKNOWN-COMM	W1/F06	2	2	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F06	2.1	2.1	0	0.0%										
			UNKNOWN-COMM	W3/F06	2.2	2.1	0.1	4.5%										
			UNKNOWN-COMM	W4/F06	2.2	2.2	0	0.0%										
			UNKNOWN-COMM	W5/F06	2.4	2.3	0.1	4.2%										
			UNKNOWN-COMM	W6/F06	11.3	9.3	2	17.7%										
			UNKNOWN-COMM	W7/F06	11.3	9.3	2	17.7%										
			UNKNOWN-COMM	W8/F06	11.4	9.4	2	17.5%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F06	11.4	9.5	1.9	16.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F06	11.5	9.5	2	17.4%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W11/F06	11.5	9.6	1.9	16.5%										
			UNKNOWN-COMM	W12/F06	11.5	9.6	1.9	16.5%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F06	11.6	9.7	1.9	16.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F06	11.6	9.7	1.9	16.4%										
			UNKNOWN-COMM	W15/F06	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W16/F06	11.7	9.8	1.9	16.2%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F06	11.7	9.8	1.9	16.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F06	11.7	9.8	1.9	16.2%										
			UNKNOWN-COMM	W19/F06	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W20/F06	11.8	9.9	1.9	16.1%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F06	11.8	10	1.8	15.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F06	11.8	10	1.8	15.3%										
			UNKNOWN-COMM	W23/F06	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W24/F06	11.9	10.1	1.8	15.1%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F06	11.9	10.1	1.8	15.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F06	11.9	10.1	1.8	15.1%										
			UNKNOWN-COMM	W27/F06	11.9	10.1	1.8	15.1%										
			UNKNOWN-COMM	W28/F06	11.9	10.2	1.7	14.3%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F06	12	10.2	1.8	15.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F06	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W31/F06	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W32/F06	12	10.3	1.7	14.2%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F06	12	10.3	1.7	14.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F06	12	10.3	1.7	14.2%										
			UNKNOWN-COMM	W35/F06	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W36/F06	12.1	10.3	1.8	14.9%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F06	12.1	10.4	1.7	14.0%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F06	12.1	10.4	1.7	14.0%										
			UNKNOWN-COMM	W39/F06	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W44/F06	9.4	9.4	0	0.0%										
			UNKNOWN-COMM	W45/F06	9.3	9.3	0	0.0%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W46/F06	9.2	9.2	0	0.0%										
			UNKNOWN-COMM	W47/F06	9.1	9.1	0	0.0%										
			UNKNOWN-COMM	W48/F06	9	9	0	0.0%										
F07	R1	COMMERCIAL	UNKNOWN-COMM	W1/F07	3.2	3.1	0.1	3.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F07	3.1	3.1	0	0.0%										
			UNKNOWN-COMM	W3/F07	3.1	3.1	0	0.0%										
			UNKNOWN-COMM	W4/F07	3.1	3	0.1	3.2%										
			UNKNOWN-COMM	W5/F07	3.2	3.1	0.1	3.1%										
			UNKNOWN-COMM	W6/F07	11.4	9.4	2	17.5%										
			UNKNOWN-COMM	W7/F07	11.4	9.4	2	17.5%										
			UNKNOWN-COMM	W8/F07	11.5	9.5	2	17.4%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F07	11.5	9.5	2	17.4%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F07	11.5	9.6	1.9	16.5%										
			UNKNOWN-COMM	W11/F07	11.6	9.6	2	17.2%										
			UNKNOWN-COMM	W12/F07	11.6	9.7	1.9	16.4%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F07	11.7	9.7	2	17.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F07	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W15/F07	11.7	9.8	1.9	16.2%										
			UNKNOWN-COMM	W16/F07	11.7	9.8	1.9	16.2%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F07	11.8	9.9	1.9	16.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F07	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W19/F07	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W20/F07	11.8	10	1.8	15.3%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F07	11.9	10	1.9	16.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F07	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W23/F07	11.9	10.1	1.8	15.1%										
			UNKNOWN-COMM	W24/F07	11.9	10.1	1.8	15.1%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F07	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F07	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W27/F07	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W28/F07	12	10.2	1.8	15.0%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F07	12	10.2	1.8	15.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F07	12	10.3	1.7	14.2%										
			UNKNOWN-COMM	W31/F07	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W32/F07	12.1	10.3	1.8	14.9%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F07	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F07	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W35/F07	12.1	10.4	1.7	14.0%										
			UNKNOWN-COMM	W36/F07	12.1	10.4	1.7	14.0%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F07	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F07	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W39/F07	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W44/F07	10.6	10.6	0	0.0%										
			UNKNOWN-COMM	W45/F07	10.5	10.5	0	0.0%										
			UNKNOWN-COMM	W46/F07	10.5	10.5	0	0.0%										
			UNKNOWN-COMM	W47/F07	10.4	10.4	0	0.0%										
			UNKNOWN-COMM	W48/F07	10.3	10.3	0	0.0%										
F08	R1	COMMERCIAL	UNKNOWN-COMM	W1/F08	3.2	3.2	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F08	3.2	3.2	0	0.0%										
			UNKNOWN-COMM	W3/F08	3.2	3.1	0.1	3.1%										
			UNKNOWN-COMM	W4/F08	3.2	3.1	0.1	3.1%										
			UNKNOWN-COMM	W5/F08	3.2	3.2	0	0.0%										
			UNKNOWN-COMM	W6/F08	11.4	9.4	2	17.5%										
			UNKNOWN-COMM	W7/F08	11.5	9.5	2	17.4%										
			UNKNOWN-COMM	W8/F08	11.5	9.5	2	17.4%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F08	11.6	9.6	2	17.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F08	11.6	9.6	2	17.2%										
			UNKNOWN-COMM	W11/F08	11.6	9.7	1.9	16.4%										
			UNKNOWN-COMM	W12/F08	11.7	9.7	2	17.1%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F08	11.7	9.8	1.9	16.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F08	11.7	9.8	1.9	16.2%										
			UNKNOWN-COMM	W15/F08	11.8	9.9	1.9	16.1%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W16/F08	11.8	9.9	1.9	16.1%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F08	11.8	9.9	1.9	16.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F08	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W19/F08	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W20/F08	11.9	10	1.9	16.0%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F08	11.9	10.1	1.8	15.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F08	11.9	10.1	1.8	15.1%										
			UNKNOWN-COMM	W23/F08	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W24/F08	12	10.2	1.8	15.0%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F08	12	10.2	1.8	15.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F08	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W27/F08	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W28/F08	12	10.3	1.7	14.2%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F08	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F08	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W31/F08	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W32/F08	12.1	10.3	1.8	14.9%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F08	12.1	10.4	1.7	14.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F08	12.1	10.4	1.7	14.0%										
			UNKNOWN-COMM	W35/F08	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W36/F08	12.2	10.4	1.8	14.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F08	12.2	10.5	1.7	13.9%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F08	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W39/F08	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W44/F08	11.7	11.7	0	0.0%										
			UNKNOWN-COMM	W45/F08	11.7	11.7	0	0.0%										
			UNKNOWN-COMM	W46/F08	11.6	11.6	0	0.0%										
			UNKNOWN-COMM	W47/F08	11.6	11.6	0	0.0%										
			UNKNOWN-COMM	W48/F08	11.5	11.5	0	0.0%										
F09	R1	COMMERCIAL	UNKNOWN-COMM	W1/F09	3.3	3.3	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F09	3.3	3.2	0.1	3.0%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W3/F09	3.2	3.2	0	0.0%										
			UNKNOWN-COMM	W4/F09	3.2	3.2	0	0.0%										
			UNKNOWN-COMM	W5/F09	3.3	3.2	0.1	3.0%										
			UNKNOWN-COMM	W6/F09	11.5	9.5	2	17.4%										
			UNKNOWN-COMM	W7/F09	11.6	9.5	2.1	18.1%										
			UNKNOWN-COMM	W8/F09	11.6	9.6	2	17.2%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F09	11.6	9.6	2	17.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F09	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W11/F09	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W12/F09	11.7	9.8	1.9	16.2%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F09	11.8	9.8	2	16.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F09	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W15/F09	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W16/F09	11.9	9.9	2	16.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F09	11.9	10	1.9	16.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F09	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W19/F09	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W20/F09	11.9	10.1	1.8	15.1%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F09	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F09	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W23/F09	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W24/F09	12	10.2	1.8	15.0%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F09	12	10.2	1.8	15.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F09	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W27/F09	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W28/F09	12.1	10.3	1.8	14.9%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F09	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F09	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W31/F09	12.1	10.4	1.7	14.0%										
			UNKNOWN-COMM	W32/F09	12.2	10.4	1.8	14.8%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F09	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W34/F09	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W35/F09	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W36/F09	12.2	10.5	1.7	13.9%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F09	12.2	10.5	1.7	13.9%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F09	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W39/F09	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W44/F09	12.4	12.4	0	0.0%										
			UNKNOWN-COMM	W45/F09	12.4	12.4	0	0.0%										
			UNKNOWN-COMM	W46/F09	12.3	12.3	0	0.0%										
			UNKNOWN-COMM	W47/F09	12.3	12.3	0	0.0%										
			UNKNOWN-COMM	W48/F09	12.3	12.3	0	0.0%										
F10	R1	COMMERCIAL	UNKNOWN-COMM	W1/F10	3.4	3.4	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F10	3.3	3.3	0	0.0%										
			UNKNOWN-COMM	W3/F10	3.3	3.3	0	0.0%										
			UNKNOWN-COMM	W4/F10	3.3	3.3	0	0.0%										
			UNKNOWN-COMM	W5/F10	3.4	3.3	0.1	2.9%										
			UNKNOWN-COMM	W6/F10	11.6	9.6	2	17.2%										
			UNKNOWN-COMM	W7/F10	11.6	9.6	2	17.2%										
			UNKNOWN-COMM	W8/F10	11.6	9.6	2	17.2%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F10	11.7	9.7	2	17.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F10	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W11/F10	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W12/F10	11.8	9.8	2	16.9%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F10	11.8	9.9	1.9	16.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F10	11.8	9.9	1.9	16.1%										
			UNKNOWN-COMM	W15/F10	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W16/F10	11.9	10	1.9	16.0%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F10	11.9	10	1.9	16.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F10	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W19/F10	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W20/F10	12	10.1	1.9	15.8%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F10	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F10	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W23/F10	12	10.2	1.8	15.0%										
			UNKNOWN-COMM	W24/F10	12.1	10.2	1.9	15.7%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F10	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F10	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W27/F10	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W28/F10	12.1	10.3	1.8	14.9%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F10	12.1	10.4	1.7	14.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F10	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W31/F10	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W32/F10	12.2	10.4	1.8	14.8%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F10	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F10	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W35/F10	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W36/F10	12.2	10.5	1.7	13.9%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F10	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F10	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W39/F10	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W44/F10	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F10	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F10	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F10	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F10	12.4	12.4	0	0.0%										
F11	R1	COMMERCIAL	UNKNOWN-COMM	W1/F11	3.5	3.5	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F11	3.4	3.4	0	0.0%										
			UNKNOWN-COMM	W3/F11	3.4	3.4	0	0.0%										
			UNKNOWN-COMM	W4/F11	3.4	3.4	0	0.0%										
			UNKNOWN-COMM	W5/F11	3.5	3.4	0.1	2.9%										
			UNKNOWN-COMM	W6/F11	11.6	9.6	2	17.2%										
			UNKNOWN-COMM	W7/F11	11.7	9.6	2.1	17.9%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W8/F11	11.7	9.7	2	17.1%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F11	11.7	9.7	2	17.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F11	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W11/F11	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W12/F11	11.8	9.9	1.9	16.1%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F11	11.9	9.9	2	16.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F11	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W15/F11	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W16/F11	11.9	10	1.9	16.0%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F11	12	10	2	16.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F11	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W19/F11	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W20/F11	12	10.1	1.9	15.8%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F11	12	10.2	1.8	15.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F11	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W23/F11	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W24/F11	12.1	10.3	1.8	14.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F11	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F11	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W27/F11	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W28/F11	12.2	10.4	1.8	14.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F11	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F11	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W31/F11	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W32/F11	12.2	10.4	1.8	14.8%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F11	12.2	10.5	1.7	13.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F11	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W35/F11	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W36/F11	12.3	10.5	1.8	14.6%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F11	12.3	10.6	1.7	13.8%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F11	12.3	10.6	1.7	13.8%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W39/F11	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W44/F11	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F11	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F11	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F11	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F11	12.4	12.4	0	0.0%										
F12	R1	COMMERCIAL	UNKNOWN-COMM	W1/F12	3.8	3.7	0.1	2.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F12	3.7	3.7	0	0.0%										
			UNKNOWN-COMM	W3/F12	3.7	3.7	0	0.0%										
			UNKNOWN-COMM	W4/F12	3.7	3.6	0.1	2.7%										
			UNKNOWN-COMM	W5/F12	3.8	3.7	0.1	2.6%										
			UNKNOWN-COMM	W6/F12	11.7	9.6	2.1	17.9%										
			UNKNOWN-COMM	W7/F12	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W8/F12	11.7	9.7	2	17.1%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F12	11.8	9.8	2	16.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F12	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W11/F12	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W12/F12	11.9	9.9	2	16.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F12	11.9	9.9	2	16.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F12	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W15/F12	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W16/F12	12	10	2	16.7%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F12	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F12	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W19/F12	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W20/F12	12.1	10.2	1.9	15.7%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F12	12.1	10.2	1.9	15.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F12	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W23/F12	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W24/F12	12.1	10.3	1.8	14.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F12	12.2	10.3	1.9	15.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W26/F12	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W27/F12	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W28/F12	12.2	10.4	1.8	14.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F12	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F12	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W31/F12	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W32/F12	12.3	10.5	1.8	14.6%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F12	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F12	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W35/F12	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W36/F12	12.3	10.6	1.7	13.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F12	12.3	10.6	1.7	13.8%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F12	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W39/F12	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W44/F12	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F12	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F12	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F12	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F12	12.4	12.4	0	0.0%										
F13	R1	COMMERCIAL	UNKNOWN-COMM	W1/F13	4.1	4	0.1	2.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F13	4	4	0	0.0%										
			UNKNOWN-COMM	W3/F13	4	3.9	0.1	2.5%										
			UNKNOWN-COMM	W4/F13	4	3.9	0.1	2.5%										
			UNKNOWN-COMM	W5/F13	4	4	0	0.0%										
			UNKNOWN-COMM	W6/F13	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W7/F13	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W8/F13	11.8	9.8	2	16.9%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F13	11.8	9.8	2	16.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F13	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W11/F13	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W12/F13	11.9	9.9	2	16.8%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F13	11.9	10	1.9	16.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F13	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W15/F13	12	10	2	16.7%										
			UNKNOWN-COMM	W16/F13	12	10.1	1.9	15.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F13	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F13	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W19/F13	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W20/F13	12.1	10.2	1.9	15.7%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F13	12.1	10.2	1.9	15.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F13	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W23/F13	12.1	10.3	1.8	14.9%										
			UNKNOWN-COMM	W24/F13	12.2	10.3	1.9	15.6%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F13	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F13	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W27/F13	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W28/F13	12.2	10.4	1.8	14.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F13	12.2	10.5	1.7	13.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F13	12.2	10.5	1.7	13.9%										
			UNKNOWN-COMM	W31/F13	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W32/F13	12.3	10.5	1.8	14.6%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F13	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F13	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W35/F13	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W36/F13	12.3	10.6	1.7	13.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F13	12.4	10.6	1.8	14.5%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F13	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W39/F13	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W44/F13	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F13	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F13	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F13	12.5	12.5	0	0.0%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W48/F13	12.4	12.4	0	0.0%										
F14	R1	COMMERCIAL	UNKNOWN-COMM	W1/F14	4.4	4.4	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F14	4.3	4.3	0	0.0%										
			UNKNOWN-COMM	W3/F14	4.3	4.3	0	0.0%										
			UNKNOWN-COMM	W4/F14	4.3	4.2	0.1	2.3%										
			UNKNOWN-COMM	W5/F14	4.4	4.3	0.1	2.3%										
			UNKNOWN-COMM	W6/F14	11.7	9.7	2	17.1%										
			UNKNOWN-COMM	W7/F14	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W8/F14	11.8	9.8	2	16.9%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F14	11.8	9.8	2	16.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F14	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W11/F14	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W12/F14	11.9	9.9	2	16.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F14	12	10	2	16.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F14	12	10	2	16.7%										
			UNKNOWN-COMM	W15/F14	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W16/F14	12	10.1	1.9	15.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F14	12.1	10.1	2	16.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F14	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W19/F14	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W20/F14	12.1	10.2	1.9	15.7%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F14	12.1	10.3	1.8	14.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F14	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W23/F14	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W24/F14	12.2	10.4	1.8	14.8%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F14	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F14	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W27/F14	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W28/F14	12.3	10.5	1.8	14.6%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F14	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F14	12.3	10.5	1.8	14.6%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W31/F14	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W32/F14	12.3	10.5	1.8	14.6%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F14	12.3	10.6	1.7	13.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F14	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W35/F14	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W36/F14	12.4	10.6	1.8	14.5%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F14	12.4	10.7	1.7	13.7%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F14	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W39/F14	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W44/F14	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F14	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F14	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F14	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F14	12.4	12.4	0	0.0%										
F15	R1	COMMERCIAL	UNKNOWN-COMM	W1/F15	4.8	4.8	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F15	4.8	4.7	0.1	2.1%										
			UNKNOWN-COMM	W3/F15	4.7	4.7	0	0.0%										
			UNKNOWN-COMM	W4/F15	4.7	4.7	0	0.0%										
			UNKNOWN-COMM	W5/F15	4.8	4.7	0.1	2.1%										
			UNKNOWN-COMM	W6/F15	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W7/F15	11.8	9.8	2	16.9%										
			UNKNOWN-COMM	W8/F15	11.9	9.8	2.1	17.6%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F15	11.9	9.9	2	16.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F15	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W11/F15	11.9	10	1.9	16.0%										
			UNKNOWN-COMM	W12/F15	12	10	2	16.7%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F15	12	10.1	1.9	15.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F15	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W15/F15	12	10.1	1.9	15.8%										
			UNKNOWN-COMM	W16/F15	12.1	10.1	2	16.5%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F15	12.1	10.2	1.9	15.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W18/F15	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W19/F15	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W20/F15	12.2	10.3	1.9	15.6%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F15	12.2	10.3	1.9	15.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F15	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W23/F15	12.2	10.4	1.8	14.8%										
			UNKNOWN-COMM	W24/F15	12.2	10.4	1.8	14.8%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F15	12.3	10.4	1.9	15.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F15	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W27/F15	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W28/F15	12.3	10.5	1.8	14.6%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F15	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F15	12.3	10.6	1.7	13.8%										
			UNKNOWN-COMM	W31/F15	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W32/F15	12.4	10.6	1.8	14.5%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F15	12.4	10.6	1.8	14.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F15	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W35/F15	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W36/F15	12.4	10.7	1.7	13.7%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F15	12.4	10.7	1.7	13.7%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F15	12.5	10.7	1.8	14.4%										
			UNKNOWN-COMM	W39/F15	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W44/F15	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F15	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F15	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F15	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F15	12.4	12.4	0	0.0%										
F16	R1	COMMERCIAL	UNKNOWN-COMM	W1/F16	5.2	5.2	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F16	5.2	5.2	0	0.0%										
			UNKNOWN-COMM	W3/F16	5.2	5.1	0.1	1.9%										
			UNKNOWN-COMM	W4/F16	5.2	5.1	0.1	1.9%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W5/F16	5.2	5.2	0	0.0%										
			UNKNOWN-COMM	W6/F16	11.9	9.8	2.1	17.6%										
			UNKNOWN-COMM	W7/F16	11.9	9.9	2	16.8%										
			UNKNOWN-COMM	W8/F16	11.9	9.9	2	16.8%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F16	12	10	2	16.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F16	12	10	2	16.7%										
			UNKNOWN-COMM	W11/F16	12	10	2	16.7%										
			UNKNOWN-COMM	W12/F16	12	10.1	1.9	15.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F16	12.1	10.1	2	16.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F16	12.1	10.1	2	16.5%										
			UNKNOWN-COMM	W15/F16	12.1	10.2	1.9	15.7%										
			UNKNOWN-COMM	W16/F16	12.1	10.2	1.9	15.7%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F16	12.2	10.2	2	16.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F16	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W19/F16	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W20/F16	12.2	10.3	1.9	15.6%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F16	12.2	10.4	1.8	14.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F16	12.3	10.4	1.9	15.4%										
			UNKNOWN-COMM	W23/F16	12.3	10.4	1.9	15.4%										
			UNKNOWN-COMM	W24/F16	12.3	10.5	1.8	14.6%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F16	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F16	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W27/F16	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W28/F16	12.4	10.6	1.8	14.5%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F16	12.4	10.6	1.8	14.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F16	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W31/F16	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W32/F16	12.4	10.6	1.8	14.5%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F16	12.4	10.7	1.7	13.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F16	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W35/F16	12.5	10.7	1.8	14.4%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W36/F16	12.5	10.7	1.8	14.4%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F16	12.5	10.8	1.7	13.6%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F16	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W39/F16	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W44/F16	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F16	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F16	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F16	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F16	12.4	12.4	0	0.0%										
F17	R1	COMMERCIAL	UNKNOWN-COMM	W1/F17	6.5	6.5	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F17	6.5	6.5	0	0.0%										
			UNKNOWN-COMM	W3/F17	6.5	6.4	0.1	1.5%										
			UNKNOWN-COMM	W4/F17	6.5	6.4	0.1	1.5%										
			UNKNOWN-COMM	W5/F17	6.6	6.5	0.1	1.5%										
			UNKNOWN-COMM	W6/F17	12	10	2	16.7%										
			UNKNOWN-COMM	W7/F17	12	10	2	16.7%										
			UNKNOWN-COMM	W8/F17	12	10	2	16.7%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F17	12.1	10.1	2	16.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F17	12.1	10.1	2	16.5%										
			UNKNOWN-COMM	W11/F17	12.1	10.1	2	16.5%										
			UNKNOWN-COMM	W12/F17	12.1	10.2	1.9	15.7%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F17	12.2	10.2	2	16.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F17	12.2	10.2	2	16.4%										
			UNKNOWN-COMM	W15/F17	12.2	10.3	1.9	15.6%										
			UNKNOWN-COMM	W16/F17	12.2	10.3	1.9	15.6%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F17	12.2	10.3	1.9	15.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F17	12.3	10.4	1.9	15.4%										
			UNKNOWN-COMM	W19/F17	12.3	10.4	1.9	15.4%										
			UNKNOWN-COMM	W20/F17	12.3	10.4	1.9	15.4%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F17	12.3	10.5	1.8	14.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F17	12.3	10.5	1.8	14.6%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W23/F17	12.4	10.5	1.9	15.3%										
			UNKNOWN-COMM	W24/F17	12.4	10.5	1.9	15.3%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F17	12.4	10.6	1.8	14.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F17	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W27/F17	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W28/F17	12.4	10.6	1.8	14.5%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F17	12.4	10.7	1.7	13.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F17	12.5	10.7	1.8	14.4%										
			UNKNOWN-COMM	W31/F17	12.5	10.7	1.8	14.4%										
			UNKNOWN-COMM	W32/F17	12.5	10.7	1.8	14.4%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F17	12.5	10.8	1.7	13.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F17	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W35/F17	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W36/F17	12.5	10.8	1.7	13.6%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F17	12.5	10.8	1.7	13.6%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F17	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W39/F17	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W44/F17	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F17	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F17	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W47/F17	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W48/F17	12.4	12.4	0	0.0%										
F18	R1	COMMERCIAL	UNKNOWN-COMM	W1/F18	6.3	6.3	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F18	6.3	6.3	0	0.0%										
			UNKNOWN-COMM	W3/F18	6.3	6.2	0.1	1.6%										
			UNKNOWN-COMM	W4/F18	6.3	6.3	0	0.0%										
			UNKNOWN-COMM	W5/F18	6.4	6.3	0.1	1.6%										
			UNKNOWN-COMM	W6/F18	12.3	10.5	1.8	14.6%										
			UNKNOWN-COMM	W7/F18	12.4	10.5	1.9	15.3%										
			UNKNOWN-COMM	W8/F18	12.4	10.6	1.8	14.5%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F18	12.4	10.6	1.8	14.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W10/F18	12.4	10.6	1.8	14.5%										
			UNKNOWN-COMM	W11/F18	12.4	10.7	1.7	13.7%										
			UNKNOWN-COMM	W12/F18	12.4	10.7	1.7	13.7%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F18	12.5	10.7	1.8	14.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F18	12.5	10.7	1.8	14.4%										
			UNKNOWN-COMM	W15/F18	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W16/F18	12.5	10.8	1.7	13.6%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F18	12.5	10.8	1.7	13.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F18	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W19/F18	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W20/F18	12.6	10.9	1.7	13.5%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F18	12.6	10.9	1.7	13.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F18	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W23/F18	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W24/F18	12.6	11	1.6	12.7%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F18	12.6	11	1.6	12.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F18	12.6	11	1.6	12.7%										
			UNKNOWN-COMM	W27/F18	12.6	11	1.6	12.7%										
			UNKNOWN-COMM	W28/F18	12.6	11	1.6	12.7%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F18	12.7	11.1	1.6	12.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F18	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W31/F18	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W32/F18	12.7	11.1	1.6	12.6%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F18	12.7	11.1	1.6	12.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F18	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W35/F18	12.7	11.2	1.5	11.8%										
			UNKNOWN-COMM	W36/F18	12.7	11.2	1.5	11.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F18	12.7	11.2	1.5	11.8%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F18	12.7	11.2	1.5	11.8%										
			UNKNOWN-COMM	W39/F18	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W42/F18	12.5	12.5	0	0.0%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W43/F18	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F18	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F18	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F18	12.4	12.4	0	0.0%										
F19	R1	COMMERCIAL	UNKNOWN-COMM	W1/F19	6.5	6.5	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F19	6.5	6.5	0	0.0%										
			UNKNOWN-COMM	W3/F19	6.5	6.5	0	0.0%										
			UNKNOWN-COMM	W4/F19	6.6	6.5	0.1	1.5%										
			UNKNOWN-COMM	W5/F19	6.7	6.6	0.1	1.5%										
			UNKNOWN-COMM	W6/F19	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W7/F19	12.5	10.8	1.7	13.6%										
			UNKNOWN-COMM	W8/F19	12.5	10.8	1.7	13.6%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F19	12.5	10.9	1.6	12.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F19	12.5	10.9	1.6	12.8%										
			UNKNOWN-COMM	W11/F19	12.6	10.9	1.7	13.5%										
			UNKNOWN-COMM	W12/F19	12.6	10.9	1.7	13.5%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F19	12.6	11	1.6	12.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F19	12.6	11	1.6	12.7%										
			UNKNOWN-COMM	W15/F19	12.6	11	1.6	12.7%										
			UNKNOWN-COMM	W16/F19	12.6	11	1.6	12.7%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F19	12.6	11	1.6	12.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F19	12.6	11	1.6	12.7%										
			UNKNOWN-COMM	W19/F19	12.6	11.1	1.5	11.9%										
			UNKNOWN-COMM	W20/F19	12.7	11.1	1.6	12.6%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F19	12.7	11.1	1.6	12.6%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F19	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W23/F19	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W24/F19	12.7	11.2	1.5	11.8%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F19	12.7	11.2	1.5	11.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F19	12.7	11.2	1.5	11.8%										
			UNKNOWN-COMM	W27/F19	12.7	11.2	1.5	11.8%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W28/F19	12.7	11.2	1.5	11.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F19	12.7	11.2	1.5	11.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F19	12.7	11.3	1.4	11.0%										
			UNKNOWN-COMM	W31/F19	12.7	11.3	1.4	11.0%										
			UNKNOWN-COMM	W32/F19	12.7	11.3	1.4	11.0%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F19	12.7	11.3	1.4	11.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F19	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W35/F19	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W36/F19	12.8	11.3	1.5	11.7%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F19	12.8	11.4	1.4	10.9%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F19	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W39/F19	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W42/F19	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F19	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F19	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F19	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F19	12.4	12.4	0	0.0%										
F20	R1	COMMERCIAL	UNKNOWN-COMM	W1/F20	6.8	6.8	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F20	6.8	6.8	0	0.0%										
			UNKNOWN-COMM	W3/F20	6.8	6.8	0	0.0%										
			UNKNOWN-COMM	W4/F20	6.8	6.8	0	0.0%										
			UNKNOWN-COMM	W5/F20	6.9	6.8	0.1	1.4%										
			UNKNOWN-COMM	W6/F20	12.6	11.1	1.5	11.9%										
			UNKNOWN-COMM	W7/F20	12.6	11.1	1.5	11.9%										
			UNKNOWN-COMM	W8/F20	12.6	11.1	1.5	11.9%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F20	12.6	11.1	1.5	11.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F20	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W11/F20	12.7	11.1	1.6	12.6%										
			UNKNOWN-COMM	W12/F20	12.7	11.2	1.5	11.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F20	12.7	11.2	1.5	11.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F20	12.7	11.2	1.5	11.8%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W15/F20	12.7	11.2	1.5	11.8%										
			UNKNOWN-COMM	W16/F20	12.7	11.2	1.5	11.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F20	12.7	11.2	1.5	11.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F20	12.7	11.3	1.4	11.0%										
			UNKNOWN-COMM	W19/F20	12.7	11.3	1.4	11.0%										
			UNKNOWN-COMM	W20/F20	12.7	11.3	1.4	11.0%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F20	12.7	11.3	1.4	11.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F20	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W23/F20	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W24/F20	12.8	11.4	1.4	10.9%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F20	12.8	11.4	1.4	10.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F20	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W27/F20	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W28/F20	12.8	11.4	1.4	10.9%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F20	12.8	11.4	1.4	10.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F20	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W31/F20	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W32/F20	12.8	11.5	1.3	10.2%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F20	12.8	11.5	1.3	10.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F20	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W35/F20	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W36/F20	12.8	11.5	1.3	10.2%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F20	12.8	11.5	1.3	10.2%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F20	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W39/F20	12.9	11.6	1.3	10.1%										
			UNKNOWN-COMM	W42/F20	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F20	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F20	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F20	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F20	12.4	12.4	0	0.0%										
F21	R1	COMMERCIAL	UNKNOWN-COMM	W1/F21	7	7	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W2/F21	7	7	0	0.0%										
			UNKNOWN-COMM	W3/F21	7	7	0	0.0%										
			UNKNOWN-COMM	W4/F21	7.1	7	0.1	1.4%										
			UNKNOWN-COMM	W5/F21	7.2	7.1	0.1	1.4%										
			UNKNOWN-COMM	W6/F21	12.7	11.3	1.4	11.0%										
			UNKNOWN-COMM	W7/F21	12.8	11.3	1.5	11.7%										
			UNKNOWN-COMM	W8/F21	12.8	11.3	1.5	11.7%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F21	12.8	11.4	1.4	10.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F21	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W11/F21	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W12/F21	12.8	11.4	1.4	10.9%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F21	12.8	11.4	1.4	10.9%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F21	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W15/F21	12.8	11.4	1.4	10.9%										
			UNKNOWN-COMM	W16/F21	12.8	11.4	1.4	10.9%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F21	12.8	11.5	1.3	10.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F21	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W19/F21	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W20/F21	12.8	11.5	1.3	10.2%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F21	12.8	11.5	1.3	10.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F21	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W23/F21	12.8	11.5	1.3	10.2%										
			UNKNOWN-COMM	W24/F21	12.8	11.6	1.2	9.4%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F21	12.8	11.6	1.2	9.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F21	12.9	11.6	1.3	10.1%										
			UNKNOWN-COMM	W27/F21	12.9	11.6	1.3	10.1%										
			UNKNOWN-COMM	W28/F21	12.9	11.6	1.3	10.1%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F21	12.9	11.6	1.3	10.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F21	12.9	11.6	1.3	10.1%										
			UNKNOWN-COMM	W31/F21	12.9	11.6	1.3	10.1%										
			UNKNOWN-COMM	W32/F21	12.9	11.6	1.3	10.1%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F21	12.9	11.6	1.3	10.1%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F21	12.9	11.7	1.2	9.3%										
			UNKNOWN-COMM	W35/F21	12.9	11.7	1.2	9.3%										
			UNKNOWN-COMM	W36/F21	12.9	11.7	1.2	9.3%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F21	12.9	11.7	1.2	9.3%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F21	12.9	11.7	1.2	9.3%										
			UNKNOWN-COMM	W39/F21	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W42/F21	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F21	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F21	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F21	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F21	12.4	12.4	0	0.0%										
F22	R1	COMMERCIAL	UNKNOWN-COMM	W1/F22	7.4	7.3	0.1	1.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F22	7.4	7.3	0.1	1.4%										
			UNKNOWN-COMM	W3/F22	7.4	7.4	0	0.0%										
			UNKNOWN-COMM	W4/F22	7.4	7.4	0	0.0%										
			UNKNOWN-COMM	W5/F22	7.5	7.4	0.1	1.3%										
			UNKNOWN-COMM	W6/F22	12.9	11.7	1.2	9.3%										
			UNKNOWN-COMM	W7/F22	12.9	11.7	1.2	9.3%										
			UNKNOWN-COMM	W8/F22	12.9	11.7	1.2	9.3%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F22	12.9	11.8	1.1	8.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F22	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W11/F22	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W12/F22	12.9	11.8	1.1	8.5%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F22	12.9	11.8	1.1	8.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F22	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W15/F22	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W16/F22	12.9	11.8	1.1	8.5%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F22	12.9	11.8	1.1	8.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F22	12.9	11.8	1.1	8.5%										
			UNKNOWN-COMM	W19/F22	12.9	11.8	1.1	8.5%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W20/F22	12.9	11.8	1.1	8.5%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F22	12.9	11.8	1.1	8.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W23/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W24/F22	12.9	11.9	1	7.8%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F22	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W27/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W28/F22	12.9	11.9	1	7.8%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F22	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W31/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W32/F22	12.9	11.9	1	7.8%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F22	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W35/F22	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W36/F22	12.9	11.9	1	7.8%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F22	12.9	12	0.9	7.0%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F22	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W39/F22	13	12	1	7.7%										
			UNKNOWN-COMM	W42/F22	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F22	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F22	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F22	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F22	12.4	12.4	0	0.0%										
F23	R1	COMMERCIAL	UNKNOWN-COMM	W1/F23	7.4	7.4	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F23	7.4	7.4	0	0.0%										
			UNKNOWN-COMM	W3/F23	7.5	7.4	0.1	1.3%										
			UNKNOWN-COMM	W4/F23	7.5	7.5	0	0.0%										
			UNKNOWN-COMM	W5/F23	7.6	7.5	0.1	1.3%										
			UNKNOWN-COMM	W6/F23	12.9	11.9	1	7.8%										
GUYS CAMPUS (TOWER WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W7/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W8/F23	12.9	11.9	1	7.8%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F23	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W11/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W12/F23	12.9	11.9	1	7.8%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F23	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W15/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W16/F23	12.9	11.9	1	7.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F23	12.9	11.9	1	7.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W19/F23	12.9	11.9	1	7.8%										
			UNKNOWN-COMM	W20/F23	12.9	12	0.9	7.0%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F23	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W23/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W24/F23	12.9	12	0.9	7.0%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F23	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W27/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W28/F23	12.9	12	0.9	7.0%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F23	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W31/F23	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W32/F23	12.9	12	0.9	7.0%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F23	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F23	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W35/F23	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W36/F23	12.9	12.1	0.8	6.2%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F23	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W38/F23	13	12.1	0.9	6.9%										
			UNKNOWN-COMM	W39/F23	13	12.1	0.9	6.9%										
			UNKNOWN-COMM	W42/F23	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F23	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F23	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F23	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F23	12.4	12.4	0	0.0%										
F24	R1	COMMERCIAL	UNKNOWN-COMM	W1/F24	7.5	7.5	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F24	7.5	7.5	0	0.0%										
			UNKNOWN-COMM	W3/F24	7.5	7.5	0	0.0%										
			UNKNOWN-COMM	W4/F24	7.6	7.5	0.1	1.3%										
			UNKNOWN-COMM	W5/F24	7.7	7.6	0.1	1.3%										
			UNKNOWN-COMM	W6/F24	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W7/F24	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W8/F24	12.9	12	0.9	7.0%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F24	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F24	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W11/F24	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W12/F24	12.9	12	0.9	7.0%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F24	12.9	12	0.9	7.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F24	12.9	12	0.9	7.0%										
			UNKNOWN-COMM	W15/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W16/F24	12.9	12.1	0.8	6.2%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F24	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W19/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W20/F24	12.9	12.1	0.8	6.2%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F24	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W23/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W24/F24	12.9	12.1	0.8	6.2%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F24	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W27/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W28/F24	12.9	12.1	0.8	6.2%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F24	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W31/F24	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W32/F24	12.9	12.2	0.7	5.4%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F24	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F24	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W35/F24	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W36/F24	12.9	12.2	0.7	5.4%										
	R9	COMMERCIAL	UNKNOWN-COMM	W37/F24	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	20	13	20	13	0.0%	0.0%
			UNKNOWN-COMM	W38/F24	13	12.2	0.8	6.2%										
			UNKNOWN-COMM	W39/F24	13	12.3	0.7	5.4%										
			UNKNOWN-COMM	W42/F24	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F24	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F24	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F24	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F24	12.4	12.4	0	0.0%										
F25	R1	COMMERCIAL	UNKNOWN-COMM	W1/F25 (dup.)	7.6	7.6	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F25 (dup.)	7.6	7.6	0	0.0%										
			UNKNOWN-COMM	W3/F25 (dup.)	7.6	7.6	0	0.0%										
			UNKNOWN-COMM	W4/F25 (dup.)	7.7	7.6	0.1	1.3%										
			UNKNOWN-COMM	W5/F25 (dup.)	7.8	7.7	0.1	1.3%										
			UNKNOWN-COMM	W6/F25 (dup.)	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W7/F25 (dup.)	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W8/F25 (dup.)	12.9	12.1	0.8	6.2%										
	R2	COMMERCIAL	UNKNOWN-COMM	W1/F25	7.6	7.6	0	0.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F25	7.6	7.6	0	0.0%										
			UNKNOWN-COMM	W3/F25	7.6	7.6	0	0.0%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W4/F25	7.7	7.6	0.1	1.3%										
			UNKNOWN-COMM	W5/F25	7.8	7.7	0.1	1.3%										
			UNKNOWN-COMM	W6/F25	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W7/F25	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W8/F25	12.9	12.1	0.8	6.2%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F25 (dup.)	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F25 (dup.)	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W11/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W12/F25 (dup.)	12.9	12.2	0.7	5.4%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F25	12.9	12.1	0.8	6.2%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F25	12.9	12.1	0.8	6.2%										
			UNKNOWN-COMM	W11/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W12/F25	12.9	12.2	0.7	5.4%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F25 (dup.)	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W15/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W16/F25 (dup.)	12.9	12.2	0.7	5.4%										
	R6 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F25	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W15/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W16/F25	12.9	12.2	0.7	5.4%										
	R7 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F25 (dup.)	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W19/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W20/F25 (dup.)	12.9	12.2	0.7	5.4%										
	R8 (3)	COMMERCIAL	UNKNOWN-COMM	W17/F25	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W18/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W19/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W20/F25	12.9	12.2	0.7	5.4%										
	R9 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F25 (dup.)	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F25 (dup.)	12.9	12.2	0.7	5.4%										

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W23/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W24/F25 (dup.)	12.9	12.2	0.7	5.4%										
	R10 (3)	COMMERCIAL	UNKNOWN-COMM	W21/F25	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W22/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W23/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W24/F25	12.9	12.2	0.7	5.4%										
	R11 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F25 (dup.)	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W27/F25 (dup.)	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W28/F25 (dup.)	12.9	12.2	0.7	5.4%										
	R12 (3)	COMMERCIAL	UNKNOWN-COMM	W25/F25	12.9	12.2	0.7	5.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W26/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W27/F25	12.9	12.2	0.7	5.4%										
			UNKNOWN-COMM	W28/F25	12.9	12.2	0.7	5.4%										
	R13 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F25 (dup.)	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F25 (dup.)	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W31/F25 (dup.)	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W32/F25 (dup.)	12.9	12.3	0.6	4.7%										
	R14 (3)	COMMERCIAL	UNKNOWN-COMM	W29/F25	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W30/F25	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W31/F25	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W32/F25	12.9	12.3	0.6	4.7%										
	R15 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F25 (dup.)	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F25 (dup.)	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W35/F25 (dup.)	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W36/F25 (dup.)	12.9	12.3	0.6	4.7%										
	R16 (3)	COMMERCIAL	UNKNOWN-COMM	W33/F25	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W34/F25	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W35/F25	12.9	12.3	0.6	4.7%										
			UNKNOWN-COMM	W36/F25	12.9	12.3	0.6	4.7%										
	R17	COMMERCIAL	UNKNOWN-COMM	W37/F25 (dup.)	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	23	16	23	16	0.0%	0.0%

GUYS CAMPUS (TOWER WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W38/F25 (dup.)	13	12.3	0.7	5.4%										
			UNKNOWN-COMM	W39/F25 (dup.)	13	12.4	0.6	4.6%										
			UNKNOWN-COMM	W42/F25 (dup.)	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F25 (dup.)	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F25 (dup.)	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F25 (dup.)	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F25 (dup.)	15.2	15.2	0	0.0%										
	R18	COMMERCIAL	UNKNOWN-COMM	W37/F25	12.9	12.3	0.6	4.7%	100	100	0.0	0.0%	23	16	23	16	0.0%	0.0%
			UNKNOWN-COMM	W38/F25	13	12.3	0.7	5.4%										
			UNKNOWN-COMM	W39/F25	13	12.4	0.6	4.6%										
			UNKNOWN-COMM	W42/F25	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W43/F25	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W44/F25	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W45/F25	12.5	12.5	0	0.0%										
			UNKNOWN-COMM	W46/F25	15.2	15.2	0	0.0%										
F26	R1 (3)	COMMERCIAL	UNKNOWN-COMM	W1/F26	34.4	33.8	0.6	1.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W3/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W4/F26	34.4	33.8	0.6	1.7%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W5/F26	34.4	33.8	0.6	1.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W6/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W7/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W8/F26	34.4	33.8	0.6	1.7%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W9/F26	34.4	33.8	0.6	1.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W10/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W11/F26	34.4	33.8	0.6	1.7%										
			UNKNOWN-COMM	W12/F26	34.4	33.9	0.5	1.5%										

GUYS CAMPUS (SOUTHWARK WING)																		
F00	R1	COMMERCIAL	UNKNOWN-COMM	W1/F00	7.5	7.5	0	0.0%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F00	7.6	7.6	0	0.0%										
GUYS CAMPUS (SOUTHWARK WING) (CONTINUED)																		

(1) KITCHEN SMALLER THAN 13m2
(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W3/F00	7.7	7.7	0	0.0%										
			UNKNOWN-COMM	W4/F00	10.9	10.3	0.6	5.5%										
			UNKNOWN-COMM	W5/F00	10.5	10	0.5	4.8%										
			UNKNOWN-COMM	W6/F00	10.6	10.1	0.5	4.7%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F00	10.8	10.3	0.5	4.6%	25.6	25.5	0.0	0.5%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F00	11	10.4	0.6	5.5%										
			UNKNOWN-COMM	W9/F00	11	10.5	0.5	4.5%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F00	11.2	10.7	0.5	4.5%	25.5	25.4	0.0	0.3%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F00	11.3	10.8	0.5	4.4%										
			UNKNOWN-COMM	W12/F00	11.1	10.5	0.6	5.4%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F00	11.3	10.8	0.5	4.4%	24.2	24	0.0	0.7%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F00	11.4	10.9	0.5	4.4%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W15/F00	11.5	11	0.5	4.3%	22.1	21.9	0.1	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W16/F00	11.5	11	0.5	4.3%										
	R6	COMMERCIAL	UNKNOWN-COMM	W17/F00	11.6	11.1	0.5	4.3%	98.7	98.7	0.0	0.0%	32	8	32	8	0.0%	0.0%
			UNKNOWN-COMM	W18/F00	11.7	11.3	0.4	3.4%										
			UNKNOWN-COMM	W19/F00	18.1	18.1	0	0.0%										
			UNKNOWN-COMM	W20/F00	18.3	18.3	0	0.0%										
			UNKNOWN-COMM	W21/F00	18.4	18.4	0	0.0%										
F01	R1	COMMERCIAL	UNKNOWN-COMM	W1/F01	8.1	8.1	0	0.0%	99.2	99.1	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F01	8.3	8.3	0	0.0%										
			UNKNOWN-COMM	W3/F01	8.4	8.4	0	0.0%										
			UNKNOWN-COMM	W4/F01	15.7	14.2	1.5	9.6%										
			UNKNOWN-COMM	W5/F01	15.5	14.1	1.4	9.0%										
			UNKNOWN-COMM	W6/F01	15.7	14.2	1.5	9.6%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F01	16	14.5	1.5	9.4%	40.9	40.7	0.1	0.7%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F01	16.3	14.8	1.5	9.2%										
			UNKNOWN-COMM	W9/F01	16.4	14.9	1.5	9.1%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F01	16.7	15.2	1.5	9.0%	40.9	40.6	0.1	0.5%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F01	16.9	15.4	1.5	8.9%										
			UNKNOWN-COMM	W12/F01	16.7	15.2	1.5	9.0%										

GUYS CAMPUS (SOUTHWARK WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F01	17.2	15.7	1.5	8.7%	38.2	37.9	0.1	0.6%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F01	17.3	15.8	1.5	8.7%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W15/F01	17.4	15.9	1.5	8.6%	40.3	39.9	0.1	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W16/F01	17.4	15.9	1.5	8.6%										
	R6	COMMERCIAL	UNKNOWN-COMM	W17/F01	17.7	16.3	1.4	7.9%	98.9	98.9	0.0	0.0%	40	11	40	11	0.0%	0.0%
			UNKNOWN-COMM	W18/F01	17.8	16.4	1.4	7.9%										
			UNKNOWN-COMM	W19/F01	21	20.9	0.1	0.5%										
			UNKNOWN-COMM	W20/F01	21.1	21.1	0	0.0%										
			UNKNOWN-COMM	W21/F01	21.1	21.1	0	0.0%										
F02	R1	COMMERCIAL	UNKNOWN-COMM	W1/F02	7.8	7.8	0	0.0%	99.1	99.1	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F02	8	8	0	0.0%										
			UNKNOWN-COMM	W3/F02	8.2	8.2	0	0.0%										
			UNKNOWN-COMM	W4/F02	21.4	18.3	3.1	14.5%										
			UNKNOWN-COMM	W5/F02	21.5	18.4	3.1	14.4%										
			UNKNOWN-COMM	W6/F02	21.7	18.6	3.1	14.3%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F02	22.2	19.1	3.1	14.0%	84.6	83.5	0.4	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F02	22.5	19.5	3	13.3%										
			UNKNOWN-COMM	W9/F02	22.7	19.7	3	13.2%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F02	23.2	20.2	3	12.9%	84.5	83.6	0.4	1.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F02	23.4	20.4	3	12.8%										
			UNKNOWN-COMM	W12/F02	23.5	20.5	3	12.8%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F02	24.9	21.9	3	12.0%	71.2	66.2	1.4	7.1%	N/A	N/A	N/A	N/A	N/A	N/A
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W14/F02	25.1	22.1	3	12.0%	80.6	79.5	0.4	1.5%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W15/F02	25.2	22.1	3.1	12.3%										
	R6	COMMERCIAL	UNKNOWN-COMM	W16/F02	25.8	22.8	3	11.6%	98.9	98.9	0.0	0.0%	44	13	44	13	0.0%	0.0%
			UNKNOWN-COMM	W17/F02	23.9	23.8	0.1	0.4%										
			UNKNOWN-COMM	W18/F02	23.7	23.7	0	0.0%										
			UNKNOWN-COMM	W19/F02	23.5	23.4	0.1	0.4%										
F03	R1	COMMERCIAL	UNKNOWN-COMM	W1/F03	7.5	7.5	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F03	8	8	0	0.0%										
			UNKNOWN-COMM	W3/F03	7.9	7.9	0	0.0%										

GUYS CAMPUS (SOUTHWARK WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W4/F03	27.1	22.3	4.8	17.7%										
			UNKNOWN-COMM	W5/F03	27.7	22.9	4.8	17.3%										
			UNKNOWN-COMM	W6/F03	27.8	23	4.8	17.3%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F03	28.6	23.9	4.7	16.4%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F03	29.1	24.4	4.7	16.2%										
			UNKNOWN-COMM	W9/F03	29.3	24.7	4.6	15.7%										
	R3 (3)	COMMERCIAL	UNKNOWN-COMM	W10/F03	29.9	25.2	4.7	15.7%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F03	30.1	25.4	4.7	15.6%										
			UNKNOWN-COMM	W12/F03	28.2	23.5	4.7	16.7%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W13/F03	33	28.2	4.8	14.5%	99.7	99.7	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W14/F03	33.1	28.4	4.7	14.2%										
	R5 (3)	COMMERCIAL	UNKNOWN-COMM	W15/F03	32.9	28.1	4.8	14.6%	99.6	99.6	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W16/F03	33	28.2	4.8	14.5%										
	R6	COMMERCIAL	UNKNOWN-COMM	W17/F03	33.7	29	4.7	13.9%	99.5	99.5	0.0	0.0%	50	15	49	15	2.0%	0.0%
			UNKNOWN-COMM	W18/F03	33.8	29.1	4.7	13.9%										
			UNKNOWN-COMM	W19/F03	26.3	26.3	0	0.0%										
			UNKNOWN-COMM	W20/F03	25.8	25.8	0	0.0%										
			UNKNOWN-COMM	W21/F03	25.3	25.3	0	0.0%										
F04	R1	COMMERCIAL	UNKNOWN-COMM	W1/F04	7.7	7.7	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W2/F04	8.2	8.2	0	0.0%										
			UNKNOWN-COMM	W3/F04	8.5	8.5	0	0.0%										
			UNKNOWN-COMM	W4/F04	28.6	24.1	4.5	15.7%										
			UNKNOWN-COMM	W5/F04	28.7	24.2	4.5	15.7%										
			UNKNOWN-COMM	W6/F04	28.5	24.1	4.4	15.4%										
	R2 (3)	COMMERCIAL	UNKNOWN-COMM	W7/F04	27.4	22.9	4.5	16.4%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W8/F04	24.4	20	4.4	18.0%										
			UNKNOWN-COMM	W9/F04	16.1	12.1	4	24.8%										
	R3	COMMERCIAL	UNKNOWN-COMM	W10/F04	9.7	9.6	0.1	1.0%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W11/F04	11	11	0	0.0%										
			UNKNOWN-COMM	W12/F04	11.7	11.7	0	0.0%										
			UNKNOWN-COMM	W13/F04	32.7	27.8	4.9	15.0%										

GUYS CAMPUS (SOUTHWARK WING) (CONTINUED)

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			UNKNOWN-COMM	W14/F04	32.9	27.9	5	15.2%										
	R4 (3)	COMMERCIAL	UNKNOWN-COMM	W15/F04	31.6	26.7	4.9	15.5%	99.1	99.1	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			UNKNOWN-COMM	W16/F04	31.9	27	4.9	15.4%										
	R5	COMMERCIAL	UNKNOWN-COMM	W17/F04	33.5	28.6	4.9	14.6%	99.5	99.5	0.0	0.0%	50	15	49	15	2.0%	0.0%
			UNKNOWN-COMM	W18/F04	33.6	28.7	4.9	14.6%										
			UNKNOWN-COMM	W19/F04	26.4	26.4	0	0.0%										
			UNKNOWN-COMM	W20/F04	25.8	25.8	0	0.0%										
			UNKNOWN-COMM	W21/F04	25.3	25.3	0	0.0%										

2 ST THOMAS STREET																		
F03	R1	RESIDENTIAL	UNKNOWN	W1/F03	28	24.9	3.1	11.1%	72.9	80.7	-1.0	-10.6%	61	16	44	14	27.9%	12.5%
	R2	RESIDENTIAL	UNKNOWN	W2/F03	28.9	26	2.9	10.0%	69.7	80.7	-1.4	-15.7%	63	15	46	13	27.0%	13.3%
	R3	RESIDENTIAL	UNKNOWN	W3/F03	27.7	25.4	2.3	8.3%	40	66.7	-2.5	-66.8%	62	13	46	14	25.8%	-7.7%

51 BOROUGH HIGH STREET																		
F04	R1	RESIDENTIAL	RESIDENTIAL	W1/F04	29.2	21.9	7.3	25.0%	80.4	53	3.0	34.0%	57	22	50	21	12.3%	4.5%
	R2	RESIDENTIAL	RESIDENTIAL	W2/F04	26.1	18.7	7.4	28.4%	87.1	49.8	4.1	42.8%	58	22	49	20	15.5%	9.1%

CHAUCER HOUSE - WHITE HART YARD																		
F01	R1	COMMERCIAL	OFFICE	W1/F01	21.6	12.8	8.8	40.7%	98.1	92.1	0.9	6.1%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W2/F01	22.5	13.7	8.8	39.1%										
	R2 (3)	COMMERCIAL	OFFICE	W3/F01	23	14.2	8.8	38.3%	91.3	97.2	-2.6	-6.4%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W4/F01	23.3	14.7	8.6	36.9%										
			OFFICE	W5/F01	23.7	15.3	8.4	35.4%										
			OFFICE	W6/F01	24	15.9	8.1	33.7%										
			OFFICE	W7/F01	24.3	16.5	7.8	32.1%										

CHAUCER HOUSE - WHITE HART YARD (CONTINUED)																		
	R3 (3)	COMMERCIAL	OFFICE	W8/F01	24.3	16.9	7.4	30.5%	93.2	100	-3.0	-7.3%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W9/F01	23.8	16.7	7.1	29.8%										
			OFFICE	W10/F01	22.6	15.7	6.9	30.5%										
			OFFICE	W11/F01	20.1	13.3	6.8	33.8%										
			OFFICE	W12/F01	14.9	8.2	6.7	45.0%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
	R4 (3)	COMMERCIAL	OFFICE	W13/F01	2.3	2.2	0.1	4.3%	83.1	83.1	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W14/F01	2.4	2.2	0.2	8.3%										
			OFFICE	W15/F01	2.5	2.3	0.2	8.0%										
			OFFICE	W16/F01	2.6	2.3	0.3	11.5%										
	R5 (3)	COMMERCIAL	OFFICE	W17/F01	2.5	2.3	0.2	8.0%	96.2	96.2	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W18/F01	2.4	2.4	0	0.0%										
			OFFICE	W19/F01	2.6	2.4	0.2	7.7%										
			OFFICE	W20/F01	2.6	2.4	0.2	7.7%										
	R6 (3)	COMMERCIAL	OFFICE	W21/F01	2.5	2.3	0.2	8.0%	96.8	96.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W22/F01	2.4	2.2	0.2	8.3%										
			OFFICE	W23/F01	1.9	1.9	0	0.0%										
			OFFICE	W24/F01	1.9	1.7	0.2	10.5%										
F02	R1	COMMERCIAL	OFFICE	W1/F02	26.5	15.2	11.3	42.6%	99.8	96.6	0.5	3.3%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W2/F02	27	16.1	10.9	40.4%										
	R2 (3)	COMMERCIAL	OFFICE	W3/F02	27.2	16.8	10.4	38.2%	98	99.7	-0.4	-1.7%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W4/F02	27.3	17.3	10	36.6%										
			OFFICE	W5/F02	27.4	18	9.4	34.3%										
	R3 (3)	COMMERCIAL	OFFICE	W6/F02	27.5	18.6	8.9	32.4%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W7/F02	27.5	19.2	8.3	30.2%										
			OFFICE	W8/F02	27.3	19.4	7.9	28.9%										
			OFFICE	W9/F02	26.8	19.2	7.6	28.4%										
			OFFICE	W10/F02	25.7	18.3	7.4	28.8%										
			OFFICE	W11/F02	23	15.8	7.2	31.3%										
			OFFICE	W12/F02	16.7	9.6	7.1	42.5%										
	R4 (3)	COMMERCIAL	OFFICE	W13/F02	27.5	20.6	6.9	25.1%	99.8	99.9	0.0	-0.1%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W14/F02	27.6	21	6.6	23.9%										
CHAUCER HOUSE - WHITE HART YARD (CONTINUED)																		
			OFFICE	W15/F02	27.6	21.3	6.3	22.8%										
			OFFICE	W16/F02	27.6	21.4	6.2	22.5%										
	R5 (3)	COMMERCIAL	OFFICE	W17/F02	27.5	21.6	5.9	21.5%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W18/F02	27.3	21.6	5.7	20.9%										
			OFFICE	W19/F02	27.1	21.6	5.5	20.3%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			OFFICE	W20/F02	26.8	21.5	5.3	19.8%										
	R6 (3)	COMMERCIAL	OFFICE	W21/F02	26.3	21.3	5	19.0%	99.9	99.9	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W22/F02	25.7	20.8	4.9	19.1%										
			OFFICE	W23/F02	24.7	20.1	4.6	18.6%										
			OFFICE	W24/F02	23.4	19	4.4	18.8%										
	R7 (3)	COMMERCIAL	OFFICE	W25/F02	21.7	17.4	4.3	19.8%	99	99	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W26/F02	19.5	15.3	4.2	21.5%										
			OFFICE	W27/F02	16.9	12.9	4	23.7%										
F03	R1	COMMERCIAL	OFFICE	W1/F03	28.1	16.7	11.4	40.6%	99.8	97.1	0.4	2.7%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W2/F03	28.9	18	10.9	37.7%										
	R2 (3)	COMMERCIAL	OFFICE	W3/F03	29.2	18.8	10.4	35.6%	99.8	99.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W4/F03	29.3	19.4	9.9	33.8%										
			OFFICE	W5/F03	29.4	20	9.4	32.0%										
	R3 (3)	COMMERCIAL	OFFICE	W6/F03	29.5	20.7	8.8	29.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W7/F03	29.6	21.1	8.5	28.7%										
			OFFICE	W8/F03	29.7	21.4	8.3	27.9%										
			OFFICE	W9/F03	29.7	21.7	8	26.9%										
			OFFICE	W10/F03	29.6	21.8	7.8	26.4%										
			OFFICE	W11/F03	28.5	20.9	7.6	26.7%										
			OFFICE	W12/F03	21.9	14.6	7.3	33.3%										
	R4 (3)	COMMERCIAL	OFFICE	W13/F03 / INC (2)	69	57.4	11.6	16.8%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W14/F03 / INC (2)	69.1	57.9	11.2	16.2%										
			OFFICE	W15/F03 / INC (2)	69.2	58.2	11	15.9%										
			OFFICE	W16/F03 / INC (2)	69.2	58.5	10.7	15.5%										
			OFFICE	W17/F03 / INC (2)	69.2	58.7	10.5	15.2%										
	R5 (3)	COMMERCIAL	OFFICE	W18/F03 / INC (2)	69.2	59	10.2	14.7%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
CHAUCER HOUSE - WHITE HART YARD (CONTINUED)																		
			OFFICE	W19/F03 / INC (2)	69.1	59.2	9.9	14.3%										
			OFFICE	W20/F03 / INC (2)	69	59.4	9.6	13.9%										
			OFFICE	W21/F03 / INC (2)	68.9	59.5	9.4	13.6%										
			OFFICE	W22/F03 / INC (2)	68.7	59.5	9.2	13.4%										
	R6 (3)	COMMERCIAL	OFFICE	W23/F03 / INC (2)	68.4	59.5	8.9	13.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
			OFFICE	W24/F03 / INC (2	68.1	59.5	8.6	12.6%										
			OFFICE	W25/F03 / INC (2	67.7	59.3	8.4	12.4%										
			OFFICE	W26/F03 / INC (2	67.1	58.9	8.2	12.2%										
			OFFICE	W27/F03 / INC (2)	66.3	58.3	8	12.1%										
	R7 (3)	COMMERCIAL	OFFICE	W28/F03 / INC (2	65.2	57.4	7.8	12.0%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			OFFICE	W29/F03 / INC (2	63.6	56	7.6	11.9%										
			OFFICE	W30/F03 / INC (2	60.9	53.6	7.3	12.0%										
			OFFICE	W31/F03 / INC (2)	57.4	50.2	7.2	12.5%										

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY	ROOM	WINDOW	EX.	PR.	LOSS	LOSS	EX.	PR.	LOSS	LOSS	EX.		PR.		LOSS %	
		TYPE	USE		%	%		%	%	%	SQM	%	ANNUAL	WINTER	ANNUAL	WINTER	ANNUAL	WINTER
43 BOROUGH HIGH STREET																		
F00	R1	RESIDENTIAL	UNKNOWN	W1/F00	4.6	7.4	-2.8	-60.9%	45.1	43	0.2	4.7%	8	0	11	0	-37.5%	0.0%
F01	R1	RESIDENTIAL	BEDROOM	W1/F01	17.3	12	5.3	30.6%	98.9	92.2	0.5	6.8%	37	5	32	5	13.5%	0.0%
	R2	RESIDENTIAL	BEDROOM	W2/F01	20.2	16.3	3.9	19.3%	93.6	69.6	2.9	25.7%	42	11	40	11	4.8%	0.0%
F02	R1	RESIDENTIAL	BEDROOM	W1/F02	22.8	16.6	6.2	27.2%	98.2	85	1.0	13.4%	52	19	45	18	13.5%	5.3%
	R2 (3)	RESIDENTIAL	BEDROOM	W2/F02	25.7	20.5	5.2	20.2%	92.3	73.7	2.8	20.2%	51	17	46	17	9.8%	0.0%
F03	R1	RESIDENTIAL	BEDROOM	W1/F03	26.9	19.9	7	26.0%	98.3	85.1	1.0	13.4%	57	21	47	19	17.5%	9.5%
	R2 (3)	RESIDENTIAL	BEDROOM	W2/F03	28.7	22.4	6.3	22.0%	92.1	68.5	3.5	25.7%	54	20	48	20	11.1%	0.0%
F04	R2	RESIDENTIAL	BEDROOM	W2/F04	29.9	22.8	7.1	23.7%	94.9	87.7	0.8	7.6%	59	21	48	19	18.6%	9.5%
			BEDROOM	W3/F04	29.9	22.8	7.1	23.7%										

(1) KITCHEN SMALLER THAN 13m2
(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE																		
F05	R6	RESIDENTIAL	LKD	W26/F05	7.4	7.4	0	0.0%	95	95	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W27/F05	29.3	23.4	5.9	20.1%										
	R7 (3)	RESIDENTIAL	BEDROOM	W29/F05	30.1	23.9	6.2	20.6%	98.4	97.2	0.2	1.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W31/F05	31.1	24.5	6.6	21.2%	91	90.1	0.3	0.9%	32	7	21	5	34.4%	28.6%
			LKD	W34/F05	31.5	24.7	6.8	21.6%										
			LKD	W50/F05	13.1	7.4	5.7	43.5%										
	R9 (3)	RESIDENTIAL	LKD	W35/F05	11.8	7.8	4	33.9%	89.4	87.5	0.8	2.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W38/F05	9.4	6.7	2.7	28.7%										
	R10	RESIDENTIAL	BEDROOM	W39/F05	9	8.7	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W42/F05	11.1	11.1	0	0.0%										
	R11 (3)	RESIDENTIAL	STUDIO-APT	W44/F05	37.5	27.2	10.3	27.5%	98.9	96.7	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	LKD	W55/F05	13.9	10.8	3.1	22.3%	98.5	98.5	0.0	0.0%	70	20	62	20	11.4%	0.0%
			LKD	W60/F05	33.6	30.1	3.5	10.4%										
			LKD	W62/F05	33.5	30.1	3.4	10.1%										
			LKD	W58/F05	33.8	30	3.8	11.2%										
			LKD	W56/F05	14.7	6.7	8	54.4%										
	R13 (3)	RESIDENTIAL	LKD	W64/F05	33.3	30.1	3.2	9.6%	93.9	91.8	0.6	2.3%	69	20	62	20	10.1%	0.0%
	R14	RESIDENTIAL	BEDROOM	W66/F05	32.9	30.1	2.8	8.5%	96.7	96.7	0.0	0.0%	67	19	60	19	10.4%	0.0%
	R15	RESIDENTIAL	LKD	W69/F05	32.6	30	2.6	8.0%	99.1	99.1	0.0	0.0%	68	19	62	19	8.8%	0.0%
			LKD	W71/F05	32.4	30	2.4	7.4%										
			LKD	W73/F05	32.3	29.9	2.4	7.4%										
			LKD	W74/F05	8.2	8.2	0	0.0%										
			LKD	W76/F05	6	6	0	0.0%										
	R23	RESIDENTIAL	BEDROOM	W10/F05	24.6	20.3	4.3	17.5%	99.5	99.5	0.0	0.0%	49	15	40	15	18.4%	0.0%
			BEDROOM	W46/F05	37.6	27.4	10.2	27.1%										
			BEDROOM	W48/F05	37.7	27.4	10.3	27.3%										
	R25	RESIDENTIAL	BEDROOM	W53/F05	6.8	1.8	5	73.5%	60.2	24.5	4.4	59.3%	15	2	4	0	73.3%	100.0%
F06	R6	RESIDENTIAL	STUDIO-APT	W13/F06	7.9	7.9	0	0.0%	95	95	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO-APT	W14/F06	30.1	24.3	5.8	19.3%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F06	30.8	24.7	6.1	19.8%	98.4	97.5	0.1	0.9%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F06	31.8	25.2	6.6	20.8%	91.3	90.4	0.3	0.9%	32	7	21	5	34.4%	28.6%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			LKD	W17/F06	32.1	25.4	6.7	20.9%										
			LKD	W25/F06	13.1	7.5	5.6	42.7%										
	R9 (3)	RESIDENTIAL	LKD	W18/F06	11.8	7.8	4	33.9%	89.4	87.5	0.8	2.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F06	9.4	6.8	2.6	27.7%										
	R10	RESIDENTIAL	BEDROOM	W20/F06	9.1	8.8	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F06	11.3	11.3	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F06	37.8	27.6	10.2	27.0%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F06	37.9	27.7	10.2	26.9%	99.5	99.5	0.0	0.0%	49	15	40	15	18.4%	0.0%
			BEDROOM	W24/F06	38	27.8	10.2	26.8%										
			BEDROOM	W26/F06	24.8	20.5	4.3	17.3%										
	R13	RESIDENTIAL	LKD	W28/F06	14	10.9	3.1	22.1%	89.6	89.6	0.0	0.0%	70	20	62	20	11.4%	0.0%
			LKD	W29/F06	14.7	6.7	8	54.4%										
			LKD	W30/F06	34.1	30.3	3.8	11.1%										
			LKD	W31/F06	33.9	30.4	3.5	10.3%										
			LKD	W32/F06	33.8	30.4	3.4	10.1%										
	R14 (3)	RESIDENTIAL	LKD	W33/F06	33.6	30.4	3.2	9.5%	93.9	91.8	0.6	2.3%	69	20	62	20	10.1%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F06	33.2	30.4	2.8	8.4%	96.9	96.9	0.0	0.0%	67	19	60	19	10.4%	0.0%
	R16	RESIDENTIAL	LKD	W35/F06	32.9	30.4	2.5	7.6%	99	99	0.0	0.0%	69	20	63	20	8.7%	0.0%
			LKD	W36/F06	32.8	30.4	2.4	7.3%										
			LKD	W37/F06	32.6	30.3	2.3	7.1%										
			LKD	W38/F06	8.4	8.4	0	0.0%										
			LKD	W39/F06	6.2	6.2	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F06	6.8	1.9	4.9	72.1%	60.7	25.8	4.3	57.5%	15	2	4	0	73.3%	100.0%
F07	R6	RESIDENTIAL	STUDIO-APT	W13/F07	8.5	8.5	0	0.0%	95	95	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			STUDIO-APT	W14/F07	30.6	24.9	5.7	18.6%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F07	31.4	25.3	6.1	19.4%	98.5	97.7	0.1	0.8%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F07	32.3	25.8	6.5	20.1%	91.7	90.8	0.3	0.9%	32	7	21	5	34.4%	28.6%
			LKD	W17/F07	32.6	25.9	6.7	20.6%										
			LKD	W25/F07	13.2	7.6	5.6	42.4%										
	R9 (3)	RESIDENTIAL	LKD	W18/F07	11.9	7.9	4	33.6%	89.4	87.4	0.8	2.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F07	9.5	6.8	2.7	28.4%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
	R10	RESIDENTIAL	BEDROOM	W20/F07	9.2	8.9	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F07	11.4	11.4	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F07	38	27.9	10.1	26.6%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F07	38.2	28	10.2	26.7%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F07	38.2	28.1	10.1	26.4%										
			BEDROOM	W26/F07	24.8	20.5	4.3	17.3%										
	R13	RESIDENTIAL	LKD	W28/F07	13.9	10.9	3	21.6%	89.6	89.6	0.0	0.0%	71	20	63	20	11.3%	0.0%
			LKD	W29/F07	14.7	6.8	7.9	53.7%										
			LKD	W30/F07	34.3	30.6	3.7	10.8%										
			LKD	W31/F07	34.2	30.7	3.5	10.2%										
			LKD	W32/F07	34.1	30.7	3.4	10.0%										
	R14 (3)	RESIDENTIAL	LKD	W33/F07	33.9	30.7	3.2	9.4%	93.9	91.8	0.6	2.3%	69	20	62	20	10.1%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F07	33.5	30.7	2.8	8.4%	97	97	0.0	0.0%	68	19	61	19	10.3%	0.0%
	R16	RESIDENTIAL	LKD	W35/F07	33.2	30.7	2.5	7.5%	99	99	0.0	0.0%	69	20	63	20	8.7%	0.0%
			LKD	W36/F07	33.1	30.7	2.4	7.3%										
			LKD	W37/F07	32.9	30.6	2.3	7.0%										
			LKD	W38/F07	8.7	8.7	0	0.0%										
			LKD	W39/F07	6.3	6.3	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F07	6.9	2	4.9	71.0%	61	27.4	4.1	55.2%	15	2	4	0	73.3%	100.0%
F08	R6	RESIDENTIAL	BEDROOM	W13/F08	9.1	9.1	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F08	31.1	25.4	5.7	18.3%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F08	31.8	25.8	6	18.9%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F08	32.7	26.2	6.5	19.9%	92	91.3	0.2	0.8%	32	7	21	5	34.4%	28.6%
			LKD	W17/F08	33	26.4	6.6	20.0%										
			LKD	W25/F08	13.2	7.7	5.5	41.7%										
	R9 (3)	RESIDENTIAL	LKD	W18/F08	11.9	7.9	4	33.6%	89.4	87.4	0.8	2.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F08	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F08	9.2	8.9	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F08	11.4	11.4	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F08	38.1	28.1	10	26.2%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F08	38.3	28.2	10.1	26.4%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			BEDROOM	W24/F08	38.3	28.2	10.1	26.4%										
			BEDROOM	W26/F08	24.8	20.6	4.2	16.9%										
	R13	RESIDENTIAL	LKD	W28/F08	13.9	10.9	3	21.6%	89.6	89.6	0.0	0.0%	72	20	64	20	11.1%	0.0%
			LKD	W29/F08	14.7	6.8	7.9	53.7%										
			LKD	W30/F08	34.5	30.8	3.7	10.7%										
			LKD	W31/F08	34.4	30.9	3.5	10.2%										
			LKD	W32/F08	34.3	31	3.3	9.6%										
	R14 (3)	RESIDENTIAL	LKD	W33/F08	34.1	31	3.1	9.1%	94	91.9	0.6	2.2%	69	20	62	20	10.1%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F08	33.7	31	2.7	8.0%	97.2	97.2	0.0	0.0%	68	19	61	19	10.3%	0.0%
	R16	RESIDENTIAL	LKD	W35/F08	33.4	31	2.4	7.2%	98.9	98.9	0.0	0.0%	69	20	63	20	8.7%	0.0%
			LKD	W36/F08	33.3	30.9	2.4	7.2%										
			LKD	W37/F08	33.2	30.9	2.3	6.9%										
			LKD	W38/F08	8.8	8.8	0	0.0%										
			LKD	W39/F08	6.4	6.4	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F08	6.9	2.1	4.8	69.6%	61.4	28.6	3.9	53.5%	15	2	4	0	73.3%	100.0%
F09	R6	RESIDENTIAL	BEDROOM	W13/F09	9.8	9.8	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F09	31.5	25.9	5.6	17.8%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F09	32.2	26.3	5.9	18.3%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F09	33.1	26.7	6.4	19.3%	92.6	91.9	0.2	0.7%	32	7	21	5	34.4%	28.6%
			LKD	W17/F09	33.4	26.8	6.6	19.8%										
			LKD	W25/F09	13.3	7.8	5.5	41.4%										
	R9 (3)	RESIDENTIAL	LKD	W18/F09	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.2%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F09	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F09	9.2	8.9	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F09	11.5	11.5	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F09	38.3	28.3	10	26.1%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F09	38.4	28.4	10	26.0%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F09	38.4	28.4	10	26.0%										
			BEDROOM	W26/F09	24.9	20.7	4.2	16.9%										
	R13	RESIDENTIAL	LKD	W28/F09	13.9	10.9	3	21.6%	89.6	89.6	0.0	0.0%	72	20	64	20	11.1%	0.0%
			LKD	W29/F09	14.7	6.9	7.8	53.1%										

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(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			LKD	W30/F09	34.7	31.1	3.6	10.4%										
			LKD	W31/F09	34.6	31.1	3.5	10.1%										
			LKD	W32/F09	34.5	31.2	3.3	9.6%										
	R14 (3)	RESIDENTIAL	LKD	W33/F09	34.3	31.2	3.1	9.0%	94	92	0.6	2.2%	69	20	62	20	10.1%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F09	33.9	31.2	2.7	8.0%	97.5	97.5	0.0	0.0%	68	19	61	19	10.3%	0.0%
	R16	RESIDENTIAL	LKD	W35/F09	33.6	31.2	2.4	7.1%	98.9	98.9	0.0	0.0%	69	19	63	19	8.7%	0.0%
			LKD	W36/F09	33.5	31.2	2.3	6.9%										
			LKD	W37/F09	33.4	31.1	2.3	6.9%										
			LKD	W38/F09	9	9	0	0.0%										
			LKD	W39/F09	6.6	6.6	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F09	7	2.2	4.8	68.6%	61.9	29.8	3.8	51.9%	15	2	4	0	73.3%	100.0%
F10	R6	RESIDENTIAL	BEDROOM	W13/F10	10.6	10.6	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F10	32	26.5	5.5	17.2%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F10	32.7	26.8	5.9	18.0%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F10	33.6	27.2	6.4	19.0%	93	92.3	0.2	0.7%	32	7	21	5	34.4%	28.6%
			LKD	W17/F10	33.8	27.3	6.5	19.2%										
			LKD	W25/F10	13.4	8	5.4	40.3%										
	R9 (3)	RESIDENTIAL	LKD	W18/F10	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F10	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F10	9.2	8.9	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F10	11.5	11.5	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F10	38.4	28.5	9.9	25.8%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F10	38.5	28.6	9.9	25.7%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F10	38.5	28.6	9.9	25.7%										
			BEDROOM	W26/F10	24.9	20.7	4.2	16.9%										
	R13	RESIDENTIAL	LKD	W28/F10	14	11	3	21.4%	89.6	89.6	0.0	0.0%	73	20	65	20	11.0%	0.0%
			LKD	W29/F10	14.7	7	7.7	52.4%										
			LKD	W30/F10	34.9	31.3	3.6	10.3%										
			LKD	W31/F10	34.8	31.3	3.5	10.1%										
			LKD	W32/F10	34.7	31.4	3.3	9.5%										
	R14 (3)	RESIDENTIAL	LKD	W33/F10	34.4	31.4	3	8.7%	94	92	0.5	2.1%	70	20	63	20	10.0%	0.0%

(1) KITCHEN SMALLER THAN 13m2

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(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
SHARD PLACE (CONTINUED)																		
	R15	RESIDENTIAL	BEDROOM	W34/F10	34.1	31.4	2.7	7.9%	97.9	97.9	0.0	0.0%	68	19	61	19	10.3%	0.0%
	R16	RESIDENTIAL	LKD	W35/F10	33.8	31.4	2.4	7.1%	98.9	98.9	0.0	0.0%	69	19	63	19	8.7%	0.0%
			LKD	W36/F10	33.7	31.4	2.3	6.8%										
			LKD	W37/F10	33.5	31.3	2.2	6.6%										
			LKD	W38/F10	9.1	9.1	0	0.0%										
			LKD	W39/F10	6.8	6.8	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F10	7.1	2.3	4.8	67.6%	62.7	31	3.7	50.5%	15	2	4	0	73.3%	100.0%
F11	R6	RESIDENTIAL	BEDROOM	W13/F11	11.5	11.5	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F11	32.5	27.1	5.4	16.6%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F11	33.2	27.4	5.8	17.5%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F11	34	27.8	6.2	18.2%	93.2	92.6	0.2	0.7%	32	7	21	5	34.4%	28.6%
			LKD	W17/F11	34.3	27.9	6.4	18.7%										
			LKD	W25/F11	13.6	8.3	5.3	39.0%										
	R9 (3)	RESIDENTIAL	LKD	W18/F11	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F11	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F11	9.2	8.9	0.3	3.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F11	11.5	11.5	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F11	38.5	28.8	9.7	25.2%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F11	38.6	28.8	9.8	25.4%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F11	38.6	28.8	9.8	25.4%										
			BEDROOM	W26/F11	24.9	20.8	4.1	16.5%										
	R13	RESIDENTIAL	LKD	W28/F11	14	11	3	21.4%	89.6	89.6	0.0	0.0%	73	20	65	20	11.0%	0.0%
			LKD	W29/F11	14.7	7.1	7.6	51.7%										
			LKD	W30/F11	35	31.4	3.6	10.3%										
			LKD	W31/F11	34.9	31.5	3.4	9.7%										
			LKD	W32/F11	34.8	31.6	3.2	9.2%										
	R14 (3)	RESIDENTIAL	LKD	W33/F11	34.6	31.6	3	8.7%	94	92.1	0.5	2.1%	71	20	64	20	9.9%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F11	34.2	31.6	2.6	7.6%	98.2	98.2	0.0	0.0%	68	19	61	19	10.3%	0.0%
	R16	RESIDENTIAL	LKD	W35/F11	33.9	31.6	2.3	6.8%	98.9	98.9	0.0	0.0%	70	20	64	20	8.6%	0.0%
			LKD	W36/F11	33.8	31.5	2.3	6.8%										
			LKD	W37/F11	33.7	31.5	2.2	6.5%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)

			LKD	W38/F11	9.2	9.2	0	0.0%										
			LKD	W39/F11	6.9	6.9	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F11	7.3	2.6	4.7	64.4%	64	32.9	3.7	48.6%	15	2	4	0	73.3%	100.0%
F12	R6	RESIDENTIAL	BEDROOM	W13/F12	12.4	12.4	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F12	33.1	27.7	5.4	16.3%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F12	33.7	28	5.7	16.9%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F12	34.5	28.3	6.2	18.0%	93.3	92.7	0.2	0.6%	32	7	21	5	34.4%	28.6%
			LKD	W17/F12	34.7	28.4	6.3	18.2%										
			LKD	W25/F12	14	8.8	5.2	37.1%										
	R9 (3)	RESIDENTIAL	LKD	W18/F12	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F12	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F12	9.3	8.9	0.4	4.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F12	11.6	11.6	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F12	38.6	29	9.6	24.9%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F12	38.7	29	9.7	25.1%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F12	38.7	29	9.7	25.1%										
			BEDROOM	W26/F12	24.9	20.9	4	16.1%										
	R13	RESIDENTIAL	LKD	W28/F12	14	11.1	2.9	20.7%	89.6	89.6	0.0	0.0%	73	20	65	20	11.0%	0.0%
			LKD	W29/F12	14.7	7.2	7.5	51.0%										
			LKD	W30/F12	35.1	31.6	3.5	10.0%										
			LKD	W31/F12	35	31.7	3.3	9.4%										
			LKD	W32/F12	34.9	31.7	3.2	9.2%										
	R14 (3)	RESIDENTIAL	LKD	W33/F12	34.7	31.8	2.9	8.4%	94	92.1	0.5	2.0%	72	20	65	20	9.7%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F12	34.4	31.8	2.6	7.6%	98.2	98.2	0.0	0.0%	70	19	63	19	10.0%	0.0%
	R16	RESIDENTIAL	LKD	W35/F12	34.1	31.8	2.3	6.7%	98.9	98.9	0.0	0.0%	71	20	65	20	8.5%	0.0%
			LKD	W36/F12	34	31.7	2.3	6.8%										
			LKD	W37/F12	33.8	31.7	2.1	6.2%										
			LKD	W38/F12	9.3	9.3	0	0.0%										
			LKD	W39/F12	7.1	7.1	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F12	7.6	3	4.6	60.5%	66	35.2	3.6	46.7%	15	2	4	0	73.3%	100.0%
F13	R6	RESIDENTIAL	BEDROOM	W13/F13	13.5	13.5	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER
SHARD PLACE (CONTINUED)																		
			BEDROOM	W14/F13	33.7	28.4	5.3	15.7%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F13	34.3	28.7	5.6	16.3%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F13	35	28.9	6.1	17.4%	93.4	92.8	0.2	0.6%	34	7	23	5	32.4%	28.6%
			LKD	W17/F13	35.2	29	6.2	17.6%										
			LKD	W25/F13	14.8	9.6	5.2	35.1%										
	R9 (3)	RESIDENTIAL	LKD	W18/F13	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F13	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F13	9.3	8.9	0.4	4.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F13	11.7	11.7	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F13	38.7	29.2	9.5	24.5%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F13	38.8	29.2	9.6	24.7%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F13	38.8	29.3	9.5	24.5%										
			BEDROOM	W26/F13	25	20.9	4.1	16.4%										
	R13	RESIDENTIAL	LKD	W28/F13	14	11.2	2.8	20.0%	89.6	89.6	0.0	0.0%	74	21	66	21	10.8%	0.0%
			LKD	W29/F13	14.8	7.4	7.4	50.0%										
			LKD	W30/F13	35.3	31.8	3.5	9.9%										
			LKD	W31/F13	35.2	31.9	3.3	9.4%										
			LKD	W32/F13	35.1	31.9	3.2	9.1%										
	R14 (3)	RESIDENTIAL	LKD	W33/F13	34.9	32	2.9	8.3%	94	92.2	0.5	1.9%	72	20	65	20	9.7%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F13	34.5	32	2.5	7.2%	98.2	98.2	0.0	0.0%	71	19	64	19	9.9%	0.0%
	R16	RESIDENTIAL	LKD	W35/F13	34.2	32	2.2	6.4%	98.9	98.9	0.0	0.0%	72	20	66	20	8.3%	0.0%
			LKD	W36/F13	34.1	31.9	2.2	6.5%										
			LKD	W37/F13	34	31.9	2.1	6.2%										
			LKD	W38/F13	9.4	9.4	0	0.0%										
			LKD	W39/F13	7.2	7.2	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F13	8.3	3.7	4.6	55.4%	71.1	42	3.4	41.0%	15	2	4	0	73.3%	100.0%
F14	R6	RESIDENTIAL	BEDROOM	W13/F14	14.8	14.8	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F14	34.3	29.1	5.2	15.2%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F14	34.8	29.3	5.5	15.8%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F14	35.5	29.5	6	16.9%	93.4	92.8	0.2	0.6%	37	7	26	5	29.7%	28.6%
			LKD	W17/F14	35.7	29.6	6.1	17.1%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
			LKD	W25/F14	16.4	11.4	5	30.5%										
	R9 (3)	RESIDENTIAL	LKD	W18/F14	11.9	8	3.9	32.8%	89.4	87.4	0.8	2.3%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F14	9.5	6.8	2.7	28.4%										
	R10	RESIDENTIAL	BEDROOM	W20/F14	9.3	8.9	0.4	4.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W21/F14	11.9	11.9	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F14	38.8	29.5	9.3	24.0%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F14	38.9	29.5	9.4	24.2%	99.5	99.5	0.0	0.0%	49	15	39	15	20.4%	0.0%
			BEDROOM	W24/F14	38.9	29.5	9.4	24.2%										
			BEDROOM	W26/F14	24.9	21	3.9	15.7%										
	R13	RESIDENTIAL	LKD	W28/F14	13.9	11	2.9	20.9%	89.6	89.6	0.0	0.0%	74	21	66	21	10.8%	0.0%
			LKD	W29/F14	15.1	7.8	7.3	48.3%										
			LKD	W30/F14	35.4	32	3.4	9.6%										
			LKD	W31/F14	35.3	32.1	3.2	9.1%										
			LKD	W32/F14	35.2	32.1	3.1	8.8%										
	R14 (3)	RESIDENTIAL	LKD	W33/F14	35	32.2	2.8	8.0%	95.5	93.4	0.6	2.1%	72	20	65	20	9.7%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F14	34.7	32.2	2.5	7.2%	99.5	99.5	0.0	0.0%	71	19	64	19	9.9%	0.0%
	R16	RESIDENTIAL	LKD	W35/F14	34.4	32.2	2.2	6.4%	99.7	99.7	0.0	0.0%	73	20	67	20	8.2%	0.0%
			LKD	W36/F14	34.3	32.1	2.2	6.4%										
			LKD	W37/F14	34.2	32.1	2.1	6.1%										
			LKD	W38/F14	9.6	9.6	0	0.0%										
			LKD	W39/F14	7.1	7.1	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F14	9.5	5	4.5	47.4%	84.2	60.1	2.8	28.5%	18	2	7	0	61.1%	100.0%
F15	R6	RESIDENTIAL	BEDROOM	W13/F15	16.1	16.1	0	0.0%	99.3	99.3	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W14/F15	35	29.9	5.1	14.6%										
	R7 (3)	RESIDENTIAL	BEDROOM	W15/F15	35.4	30	5.4	15.3%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W16/F15	36	30.2	5.8	16.1%	93.5	93	0.2	0.5%	43	8	32	6	25.6%	25.0%
			LKD	W17/F15	36.2	30.2	6	16.6%										
			LKD	W25/F15	19.8	14.8	5	25.3%										
	R9 (3)	RESIDENTIAL	LKD	W18/F15	12	8	4	33.3%	89.8	87.4	0.9	2.6%	N/A	N/A	N/A	N/A	N/A	N/A
			LKD	W19/F15	9.6	6.8	2.8	29.2%										
	R10	RESIDENTIAL	BEDROOM	W20/F15	9.3	8.9	0.4	4.3%	100	100	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			BEDROOM	W21/F15	12.5	12.5	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W22/F15	39	29.7	9.3	23.8%	97.6	93.5	0.6	4.2%	N/A	N/A	N/A	N/A	N/A	N/A
	R12	RESIDENTIAL	BEDROOM	W23/F15	39	29.7	9.3	23.8%	99.5	99.5	0.0	0.0%	48	15	38	15	20.8%	0.0%
			BEDROOM	W24/F15	39	29.7	9.3	23.8%										
			BEDROOM	W26/F15	25.5	21.6	3.9	15.3%										
	R13	RESIDENTIAL	LKD	W28/F15	9.4	7	2.4	25.5%	89.5	89.5	0.0	0.0%	75	21	67	21	10.7%	0.0%
			LKD	W29/F15	16	8.8	7.2	45.0%										
			LKD	W30/F15	35.6	32.2	3.4	9.6%										
			LKD	W31/F15	35.5	32.3	3.2	9.0%										
			LKD	W32/F15	35.4	32.3	3.1	8.8%										
	R14 (3)	RESIDENTIAL	LKD	W33/F15	35.2	32.4	2.8	8.0%	95.4	92.8	0.7	2.7%	74	21	67	21	9.5%	0.0%
	R15	RESIDENTIAL	BEDROOM	W34/F15	34.8	32.4	2.4	6.9%	99.5	99.5	0.0	0.0%	72	19	65	19	9.7%	0.0%
	R16	RESIDENTIAL	LKD	W35/F15	34.6	32.4	2.2	6.4%	99.7	99.7	0.0	0.0%	72	19	66	19	8.3%	0.0%
			LKD	W36/F15	34.5	32.4	2.1	6.1%										
			LKD	W37/F15	34.3	32.3	2	5.8%										
			LKD	W38/F15	10	10	0	0.0%										
			LKD	W39/F15	4.2	4.2	0	0.0%										
	R25	RESIDENTIAL	BEDROOM	W27/F15	11.9	7.5	4.4	37.0%	96.1	74.6	2.5	22.3%	25	2	14	0	44.0%	100.0%
F16	R6	RESIDENTIAL	BEDROOM	W17/F16	17.6	17.6	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F16	35.6	30.7	4.9	13.8%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F16	36.1	30.8	5.3	14.7%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F16	36.6	30.9	5.7	15.6%	96.4	96.1	0.1	0.3%	50	15	39	13	22.0%	13.3%
			LKD	W21/F16	36.8	30.9	5.9	16.0%										
			LKD	W26/F16	25.4	20.5	4.9	19.3%										
	R14	RESIDENTIAL	BEDROOM	W27/F16	16.1	11.6	4.5	28.0%	87.2	62.4	3.5	28.4%	29	5	18	3	37.9%	40.0%
F17	R6	RESIDENTIAL	BEDROOM	W17/F17	19.2	19.2	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F17	36.3	31.5	4.8	13.2%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F17	36.7	31.5	5.2	14.2%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F17	37.1	31.5	5.6	15.1%	96.5	96.2	0.1	0.3%	50	15	39	13	22.0%	13.3%
			LKD	W21/F17	37.3	31.5	5.8	15.5%										
			LKD	W26/F17	28	23.2	4.8	17.1%										

(1) KITCHEN SMALLER THAN 13m2
(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)
(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
	R14	RESIDENTIAL	BEDROOM	W27/F17	18.1	13.8	4.3	23.8%	87.4	62.9	3.5	28.0%	31	7	20	5	35.5%	28.6%
F18	R6	RESIDENTIAL	BEDROOM	W26/F18	20.8	20.8	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W28/F18	37	32.2	4.8	13.0%										
	R7 (3)	RESIDENTIAL	BEDROOM	W30/F18	37.3	32.2	5.1	13.7%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W32/F18	37.6	32.1	5.5	14.6%	96.5	96.2	0.1	0.3%	50	15	39	13	22.0%	13.3%
			LKD	W33/F18	37.7	32.1	5.6	14.9%										
			LKD	W44/F18	28.1	23.4	4.7	16.7%										
	R9	RESIDENTIAL	LKD	W35/F18	14.4	9.5	4.9	34.0%	92.6	92.6	0.0	0.0%	73	22	65	21	11.0%	4.5%
			LKD	W37/F18	13.2	8.2	5	37.9%										
			LKD	W39/F18	15.7	10.4	5.3	33.8%										
			LKD	W41/F18	18.3	16.3	2	10.9%										
			LKD	W47/F18	36	32.2	3.8	10.6%										
			LKD	W49/F18	35.9	32.3	3.6	10.0%										
			LKD	W77/F18	35.6	32.1	3.5	9.8%										
	R10	RESIDENTIAL	BEDROOM	W53/F18	35.5	32.5	3	8.5%	96.3	95.6	0.1	0.7%	70	21	63	21	10.0%	0.0%
	R11	RESIDENTIAL	BEDROOM	W55/F18	35.1	32.5	2.6	7.4%	96.4	96.4	0.0	0.0%	70	21	63	21	10.0%	0.0%
	R12	RESIDENTIAL	LKD	W57/F18	34.9	32.4	2.5	7.2%	85.6	85.6	0.0	0.0%	69	21	62	21	10.1%	0.0%
			LKD	W59/F18	34.7	32.4	2.3	6.6%										
			LKD	W68/F18	2	2	0	0.0%										
			LKD	W70/F18	3.8	3.8	0	0.0%										
			LKD	W71/F18	2.9	2.9	0	0.0%										
			LKD	W74/F18	3.4	3.4	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F18	18.1	13.9	4.2	23.2%	87.4	63.6	3.4	27.2%	31	7	20	5	35.5%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F18	35.7	32.3	3.4	9.5%	80.2	74.4	0.7	7.2%	71	21	62	20	12.7%	4.8%
F19	R6	RESIDENTIAL	BEDROOM	W17/F19	22.5	22.5	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F19	37.6	33	4.6	12.2%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F19	37.8	32.9	4.9	13.0%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F19	38.1	32.7	5.4	14.2%	96.5	96.3	0.1	0.2%	50	15	40	13	20.0%	13.3%
			LKD	W21/F19	38.2	32.7	5.5	14.4%										
			LKD	W26/F19	28.1	23.5	4.6	16.4%										
	R9	RESIDENTIAL	LKD	W22/F19	14.4	9.5	4.9	34.0%	92.6	92.6	0.0	0.0%	74	23	66	22	10.8%	4.3%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			LKD	W23/F19	13.2	8.2	5	37.9%										
			LKD	W24/F19	15.7	10.4	5.3	33.8%										
			LKD	W25/F19	18.3	16.4	1.9	10.4%										
			LKD	W29/F19	36.1	32.5	3.6	10.0%										
			LKD	W30/F19	36	32.5	3.5	9.7%										
			LKD	W77/F19	35.8	32.4	3.4	9.5%										
	R10	RESIDENTIAL	BEDROOM	W32/F19	35.6	32.7	2.9	8.1%	96.3	95.8	0.0	0.5%	71	22	64	22	9.9%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F19	35.3	32.8	2.5	7.1%	96.4	96.4	0.0	0.0%	71	22	64	22	9.9%	0.0%
	R12	RESIDENTIAL	LKD	W34/F19	35.1	32.7	2.4	6.8%	85.8	85.8	0.0	0.0%	70	22	63	22	10.0%	0.0%
			LKD	W35/F19	34.9	32.7	2.2	6.3%										
			LKD	W39/F19	2.1	2.1	0	0.0%										
			LKD	W40/F19	4	4	0	0.0%										
			LKD	W41/F19	3	3	0	0.0%										
			LKD	W42/F19	3.6	3.6	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F19	18.1	14	4.1	22.7%	87.4	64.2	3.3	26.5%	31	7	21	5	32.3%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F19	35.9	32.6	3.3	9.2%	80.2	74.8	0.7	6.8%	72	22	63	21	12.5%	4.5%
F20	R6	RESIDENTIAL	BEDROOM	W17/F20	24.1	24.1	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F20	38.2	33.7	4.5	11.8%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F20	38.4	33.6	4.8	12.5%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F20	38.5	33.3	5.2	13.5%	96.5	96.5	0.0	0.0%	50	15	41	13	18.0%	13.3%
			LKD	W21/F20	38.6	33.3	5.3	13.7%										
			LKD	W26/F20	28.1	23.7	4.4	15.7%										
	R9	RESIDENTIAL	LKD	W22/F20	14.4	9.5	4.9	34.0%	92.6	92.6	0.0	0.0%	74	23	66	22	10.8%	4.3%
			LKD	W23/F20	13.2	8.2	5	37.9%										
			LKD	W24/F20	15.7	10.4	5.3	33.8%										
			LKD	W25/F20	18.3	16.5	1.8	9.8%										
			LKD	W29/F20	36.3	32.7	3.6	9.9%										
			LKD	W30/F20	36.2	32.8	3.4	9.4%										
			LKD	W77/F20	35.9	32.6	3.3	9.2%										
	R10	RESIDENTIAL	BEDROOM	W32/F20	35.8	33	2.8	7.8%	96.3	96.1	0.0	0.2%	71	22	64	22	9.9%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F20	35.5	33	2.5	7.0%	96.4	96.4	0.0	0.0%	72	23	65	23	9.7%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
	R12	RESIDENTIAL	LKD	W34/F20	35.3	33	2.3	6.5%	86	86	0.0	0.0%	71	22	64	22	9.9%	0.0%
			LKD	W35/F20	35.1	33	2.1	6.0%										
			LKD	W39/F20	2.3	2.3	0	0.0%										
			LKD	W40/F20	4.2	4.2	0	0.0%										
			LKD	W41/F20	3.1	3.1	0	0.0%										
			LKD	W42/F20	3.7	3.7	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F20	18.2	14.1	4.1	22.5%	87.4	64.7	3.2	25.9%	31	7	21	5	32.3%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F20	36.1	32.8	3.3	9.1%	80.2	75.3	0.6	6.1%	72	22	63	21	12.5%	4.5%
F21	R6	RESIDENTIAL	BEDROOM	W17/F21	25.7	25.7	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F21	38.8	34.5	4.3	11.1%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F21	38.9	34.3	4.6	11.8%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F21	39	33.9	5.1	13.1%	96.5	96.5	0.0	0.0%	50	15	42	13	16.0%	13.3%
			LKD	W21/F21	39	33.8	5.2	13.3%										
			LKD	W26/F21	28.2	23.9	4.3	15.2%										
	R9	RESIDENTIAL	LKD	W22/F21	14.4	9.5	4.9	34.0%	92.6	92.6	0.0	0.0%	74	23	67	22	9.5%	4.3%
			LKD	W23/F21	13.2	8.3	4.9	37.1%										
			LKD	W24/F21	15.7	10.5	5.2	33.1%										
			LKD	W25/F21	18.3	16.5	1.8	9.8%										
			LKD	W29/F21	36.4	33	3.4	9.3%										
			LKD	W30/F21	36.4	33.1	3.3	9.1%										
			LKD	W77/F21	36.1	32.9	3.2	8.9%										
	R10	RESIDENTIAL	BEDROOM	W32/F21	36	33.3	2.7	7.5%	96.3	96.2	0.0	0.1%	72	22	65	22	9.7%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F21	35.7	33.3	2.4	6.7%	96.4	96.4	0.0	0.0%	72	23	65	23	9.7%	0.0%
	R12	RESIDENTIAL	LKD	W34/F21	35.5	33.3	2.2	6.2%	86.2	86.2	0.0	0.0%	72	23	65	23	9.7%	0.0%
			LKD	W35/F21	35.4	33.3	2.1	5.9%										
			LKD	W39/F21	2.5	2.5	0	0.0%										
			LKD	W40/F21	4.3	4.3	0	0.0%										
			LKD	W41/F21	3.2	3.2	0	0.0%										
			LKD	W42/F21	3.8	3.8	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F21	18.2	14.2	4	22.0%	87.4	65.5	3.1	25.1%	31	7	21	5	32.3%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F21	36.2	33.1	3.1	8.6%	80.2	76.2	0.5	5.0%	72	22	64	21	11.1%	4.5%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
F22	R6	RESIDENTIAL	BEDROOM	W17/F22	27.2	27.2	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F22	39.3	35.1	4.2	10.7%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F22	39.3	34.9	4.4	11.2%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F22	39.4	34.5	4.9	12.4%	96.5	96.5	0.0	0.0%	50	15	42	13	16.0%	13.3%
			LKD	W21/F22	39.4	34.4	5	12.7%										
			LKD	W26/F22	28.2	24.1	4.1	14.5%										
	R9	RESIDENTIAL	LKD	W22/F22	14.4	9.6	4.8	33.3%	92.6	92.6	0.0	0.0%	75	24	68	23	9.3%	4.2%
			LKD	W23/F22	13.2	8.3	4.9	37.1%										
			LKD	W24/F22	15.7	10.5	5.2	33.1%										
			LKD	W25/F22	18.4	16.6	1.8	9.8%										
			LKD	W29/F22	36.6	33.3	3.3	9.0%										
			LKD	W30/F22	36.5	33.4	3.1	8.5%										
			LKD	W77/F22	36.3	33.2	3.1	8.5%										
	R10	RESIDENTIAL	BEDROOM	W32/F22	36.2	33.6	2.6	7.2%	96.3	96.2	0.0	0.1%	72	22	65	22	9.7%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F22	35.9	33.6	2.3	6.4%	96.4	96.4	0.0	0.0%	72	23	65	23	9.7%	0.0%
	R12	RESIDENTIAL	LKD	W34/F22	35.7	33.6	2.1	5.9%	86.4	86.4	0.0	0.0%	72	23	65	23	9.7%	0.0%
			LKD	W35/F22	35.6	33.6	2	5.6%										
			LKD	W39/F22	2.7	2.7	0	0.0%										
			LKD	W40/F22	4.5	4.5	0	0.0%										
			LKD	W41/F22	3.3	3.3	0	0.0%										
			LKD	W42/F22	4	4	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F22	18.2	14.4	3.8	20.9%	87.4	66.7	2.9	23.7%	31	7	21	5	32.3%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F22	36.4	33.4	3	8.2%	80.2	76.8	0.4	4.2%	73	23	65	22	11.0%	4.3%
F23	R6	RESIDENTIAL	BEDROOM	W17/F23	28	28	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F23	39.6	35.6	4	10.1%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F23	39.6	35.3	4.3	10.9%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F23	39.6	34.9	4.7	11.9%	96.5	96.5	0.0	0.0%	50	15	42	13	16.0%	13.3%
			LKD	W21/F23	39.6	34.8	4.8	12.1%										
			LKD	W26/F23	28.4	24.4	4	14.1%										
	R9	RESIDENTIAL	LKD	W22/F23	14.4	9.7	4.7	32.6%	92.6	92.6	0.0	0.0%	76	25	70	25	7.9%	0.0%
			LKD	W23/F23	13.2	8.3	4.9	37.1%										

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			LKD	W24/F23	15.7	10.6	5.1	32.5%										
			LKD	W25/F23	18.4	16.7	1.7	9.2%										
			LKD	W29/F23	36.8	33.6	3.2	8.7%										
			LKD	W30/F23	36.7	33.7	3	8.2%										
			LKD	W77/F23	36.5	33.5	3	8.2%										
	R10	RESIDENTIAL	BEDROOM	W32/F23	36.4	33.9	2.5	6.9%	96.3	96.2	0.0	0.1%	73	23	66	23	9.6%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F23	36.1	34	2.1	5.8%	96.4	96.4	0.0	0.0%	72	23	65	23	9.7%	0.0%
	R12	RESIDENTIAL	LKD	W34/F23	36	33.9	2.1	5.8%	86.6	86.6	0.0	0.0%	72	23	65	23	9.7%	0.0%
			LKD	W35/F23	35.8	33.9	1.9	5.3%										
			LKD	W39/F23	2.8	2.8	0	0.0%										
			LKD	W40/F23	4.7	4.7	0	0.0%										
			LKD	W41/F23	3.5	3.5	0	0.0%										
			LKD	W42/F23	4.1	4.1	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F23	18.2	14.6	3.6	19.8%	87.4	68	2.8	22.2%	31	7	22	5	29.0%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F23	36.6	33.7	2.9	7.9%	80.2	77.7	0.3	3.2%	73	23	65	22	11.0%	4.3%
F24	R6	RESIDENTIAL	BEDROOM	W17/F24	28.2	28.2	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F24	39.6	35.7	3.9	9.8%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F24	39.6	35.5	4.1	10.4%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F24	39.6	35.1	4.5	11.4%	96.5	96.5	0.0	0.0%	50	15	44	13	12.0%	13.3%
			LKD	W21/F24	39.6	35	4.6	11.6%										
			LKD	W26/F24	28.8	25	3.8	13.2%										
	R9	RESIDENTIAL	LKD	W22/F24	14.6	9.9	4.7	32.2%	92.6	92.6	0.0	0.0%	76	25	69	24	9.2%	4.0%
			LKD	W23/F24	13.2	8.4	4.8	36.4%										
			LKD	W24/F24	15.7	10.7	5	31.8%										
			LKD	W25/F24	18.4	16.8	1.6	8.7%										
			LKD	W29/F24	36.9	33.9	3	8.1%										
			LKD	W30/F24	36.9	34	2.9	7.9%										
			LKD	W77/F24	36.6	33.8	2.8	7.7%										
	R10	RESIDENTIAL	BEDROOM	W32/F24	36.6	34.2	2.4	6.6%	96.3	96.2	0.0	0.0%	73	23	66	23	9.6%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F24	36.3	34.3	2	5.5%	96.4	96.4	0.0	0.0%	73	24	66	24	9.6%	0.0%
	R12	RESIDENTIAL	LKD	W34/F24	36.2	34.3	1.9	5.2%	86.8	86.8	0.0	0.0%	73	24	67	24	8.2%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

					VSC (WINDOW)				NSL				APSH (ROOM)					
FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	SQM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER	
SHARD PLACE (CONTINUED)																		
			LKD	W35/F24	36	34.2	1.8	5.0%										
			LKD	W39/F24	3	3	0	0.0%										
			LKD	W40/F24	4.8	4.8	0	0.0%										
			LKD	W41/F24	3.6	3.6	0	0.0%										
			LKD	W42/F24	4.3	4.3	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F24	18.2	14.7	3.5	19.2%	87.5	69.2	2.6	20.9%	31	7	22	5	29.0%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F24	36.8	34	2.8	7.6%	80.2	78.5	0.2	2.1%	73	23	65	22	11.0%	4.3%
F25	R6	RESIDENTIAL	BEDROOM	W17/F25	29	29	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F25	39.6	35.9	3.7	9.3%										
	R7 (3)	RESIDENTIAL	BEDROOM	W19/F25	39.6	35.7	3.9	9.8%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R8	RESIDENTIAL	LKD	W20/F25	39.6	35.3	4.3	10.9%	96.5	96.5	0.0	0.0%	54	15	48	13	11.1%	13.3%
			LKD	W21/F25	39.6	35.2	4.4	11.1%										
			LKD	W26/F25	29.7	26.1	3.6	12.1%										
	R9	RESIDENTIAL	LKD	W22/F25	14.8	10.2	4.6	31.1%	92.6	92.6	0.0	0.0%	77	25	71	24	7.8%	4.0%
			LKD	W23/F25	13.2	8.5	4.7	35.6%										
			LKD	W24/F25	15.7	10.8	4.9	31.2%										
			LKD	W25/F25	18.4	16.9	1.5	8.2%										
			LKD	W29/F25	37.1	34.2	2.9	7.8%										
			LKD	W30/F25	37.1	34.3	2.8	7.5%										
			LKD	W77/F25	36.8	34.1	2.7	7.3%										
	R10	RESIDENTIAL	BEDROOM	W32/F25	36.8	34.5	2.3	6.2%	96.3	96.2	0.0	0.0%	74	24	67	24	9.5%	0.0%
	R11	RESIDENTIAL	BEDROOM	W33/F25	36.6	34.6	2	5.5%	96.4	96.4	0.0	0.0%	73	24	67	24	8.2%	0.0%
	R12	RESIDENTIAL	LKD	W34/F25	36.4	34.6	1.8	4.9%	87	87	0.0	0.0%	74	25	69	25	6.8%	0.0%
			LKD	W35/F25	36.3	34.6	1.7	4.7%										
			LKD	W39/F25	3.1	3.1	0	0.0%										
			LKD	W40/F25	5	5	0	0.0%										
			LKD	W41/F25	3.7	3.7	0	0.0%										
			LKD	W42/F25	4.6	4.6	0	0.0%										
	R17	RESIDENTIAL	BEDROOM	W27/F25	18.3	15	3.3	18.0%	87.6	71.2	2.3	18.8%	31	7	23	5	25.8%	28.6%
	R18	RESIDENTIAL	BEDROOM	W31/F25	37	34.3	2.7	7.3%	80.2	79.2	0.1	1.3%	74	24	66	23	10.8%	4.2%
F26	R10	RESIDENTIAL	LKD	W34/F26	36.6	34.9	1.7	4.6%	87.3	87.3	0.0	0.0%	74	25	70	25	5.4%	0.0%

(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

FLOOR	ROOM	PROPERTY TYPE	ROOM USE	WINDOW	VSC (WINDOW)				NSL				APSH (ROOM)					
					EXISTING	PROPOSED	LOSS	LOSS	EXISTING	PROPOSED	LOSS	LOSS	EXISTING		PROPOSED		LOSS %	
					%	%		%	%	%	SOM	%	TOTAL	WINTER	TOTAL	WINTER	TOTAL	WINTER

SHARD PLACE (CONTINUED)																		
			LKD	W35/F26	36.5	34.9	1.6	4.4%										
			LKD	W39/F26	3.6	3.6	0	0.0%										
			LKD	W40/F26	5.8	5.8	0	0.0%										
			LKD	W41/F26	4.3	4.3	0	0.0%										
			LKD	W42/F26	4.9	4.9	0	0.0%										
	R11	RESIDENTIAL	BEDROOM	W33/F26	36.7	34.9	1.8	4.9%	96.4	96.4	0.0	0.0%	74	24	69	24	6.8%	0.0%
	R12	RESIDENTIAL	BEDROOM	W32/F26	37	34.8	2.2	5.9%	96.3	96.2	0.0	0.1%	74	24	68	24	8.1%	0.0%
	R13	RESIDENTIAL	LKD	W22/F26	15.9	11.3	4.6	28.9%	92.6	92.6	0.0	0.0%	78	25	73	24	6.4%	4.0%
			LKD	W23/F26	14	9.3	4.7	33.6%										
			LKD	W24/F26	16.6	11.8	4.8	28.9%										
			LKD	W25/F26	18.1	16.7	1.4	7.7%										
			LKD	W29/F26	37.3	34.5	2.8	7.5%										
			LKD	W30/F26	37.2	34.6	2.6	7.0%										
			LKD	W31/F26	37.1	34.6	2.5	6.7%										
			LKD	W77/F26	37	34.4	2.6	7.0%										
	R14	RESIDENTIAL	LKD	W20/F26	39.6	35.5	4.1	10.4%	98.2	98.2	0.0	0.0%	63	15	57	13	9.5%	13.3%
			LKD	W21/F26	39.6	35.4	4.2	10.6%										
			LKD	W26/F26	32	28.5	3.5	10.9%										
	R15 (3)	RESIDENTIAL	BEDROOM	W19/F26	39.6	35.9	3.7	9.3%	98.8	98.8	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
	R16	RESIDENTIAL	BEDROOM	W17/F26	31.1	31.1	0	0.0%	99.4	99.4	0.0	0.0%	N/A	N/A	N/A	N/A	N/A	N/A
			BEDROOM	W18/F26	39.6	36.1	3.5	8.8%										
	R17	RESIDENTIAL	BEDROOM	W27/F26	19.2	16.1	3.1	16.1%	87.7	71.5	2.3	18.5%	31	7	23	5	25.8%	28.6%
	R18	RESIDENTIAL	ASSUMED CIRC.	W31/F26	37.1	34.6	2.5	6.7%	81.8	80.3	0.2	1.9%	74	24	66	23	10.8%	4.2%

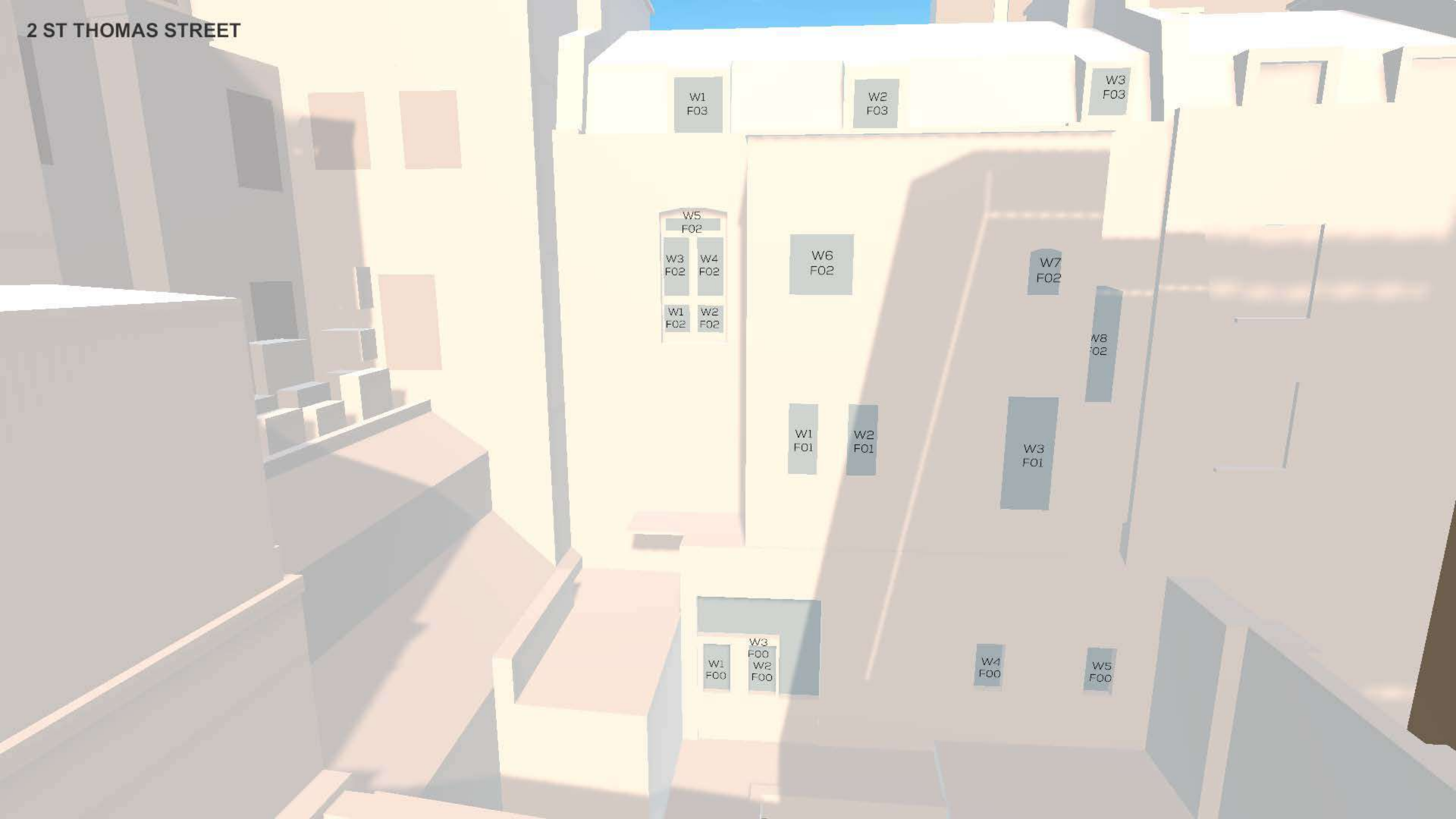
(1) KITCHEN SMALLER THAN 13m2

(2) INC\HZ = SKY COMPONENT (INCLINED\HORIZONTAL WINDOWS)

(3) SINGLE ASPECT ROOM DEEPER THAN 5m

Window Maps

2 ST THOMAS STREET



3 KINGS HEAD YARD

W1
F03

W2
F03

W3
F03

W4
F03

W1
F02

W2
F02

W3
F02

W4
F02

W1
F01

W1
F00

W2
F01

3 KINGS HEAD YARD

W5
F02

W6
F02

W4
F01

W3
F01

W1
F04

W2
F04

W3
F04

W1
F03

W2
F03

W3
F03

W1
F02

W2
F02

W3
F02

W1
F01

W2
F01

W3
F01



W5
F04

W4
F04

W3
F04

W2
F04

W1
F04

W5
F03

W4
F03

W3
F03

W2
F03

W1
F03

W5
F02

W4
F02

W3
F02

W2
F02

W1
F02

W5
F01

W4
F01

W3
F01

W2
F01

W1
F01

W5
F00

W9
F00

W7
F00
W6
F00
W8
F00
W5
F00

W4
F00

W3
F00

W2
F00

W1
F00



43 BOROUGH HIGH STREET



43 BOROUGH HIGH STREET







57 BOROUGH HIGH STREET

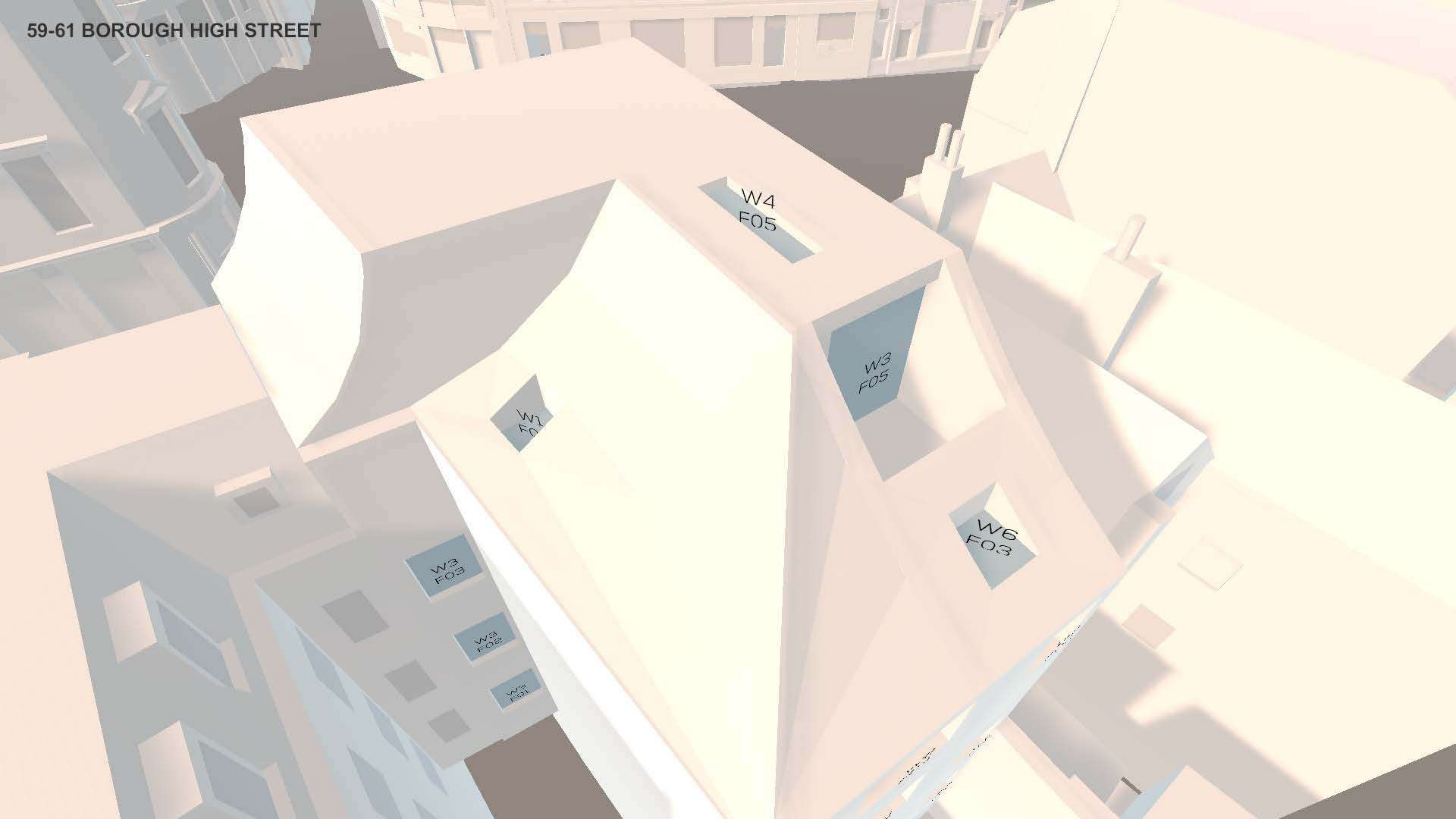
W1
F03

W1
F02

W1
F01



59-61 BOROUGH HIGH STREET



63A BOROUGH HIGH STREET

W1
F04

W2
F04

W3
F04

W4
F04

W5
F04

W1
F03

W2
F03

W3
F03

W4
F03

W1
F02

W2
F02

W3
F02

W4
F02

W5
F02

W1
F01

W2
F01

W3
F01

W4
F01

W5
F01



63A BOROUGH HIGH STREET

W0
F02

F02

W3
F02

W4
F02

W5
F02

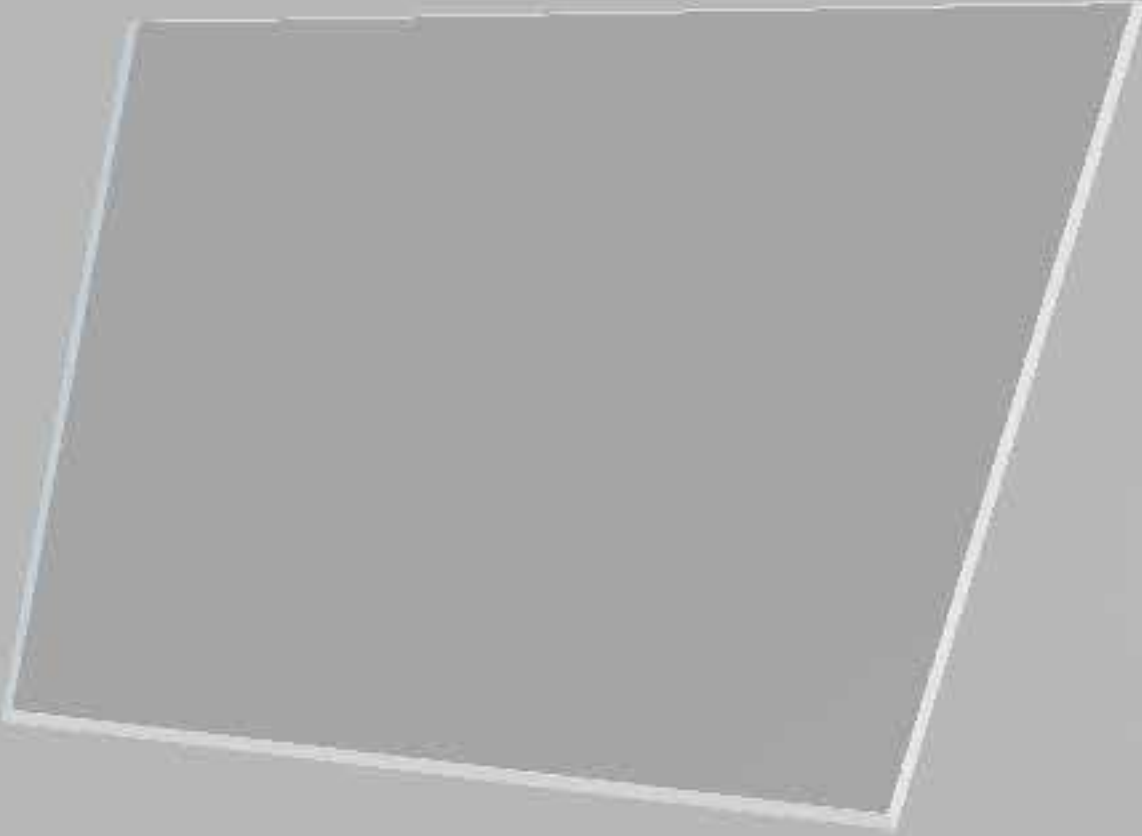
W1
F01

W2
F01

W3
F01

W4
F01

W5
F01



W2
F00

W1
F00

CHAUCER HOUSE - WHITE HART YARD

W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03

W13
F03

W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
F02	F02	F02	F02	F02	F02	F02	F02	F02	F02	F02	F02

W13
F02

W1	W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12
F01	F01	F01	F01	F01	F01	F01	F01	F01	F01	F01	F01

F01

F01

CHAUCER HOUSE - WHITE HART YARD

Level	Space ID	Space Type
Level 1 (Top)	W13	F03
	W14	F03
	W15	F03
	W16	F03
	W17	F03
	W18	F03
	W19	F03
	W20	F03
	W21	F03
	W22	F03
	W23	F03
	W24	F03
	W25	F03
	W26	F03
	W27	F03
	W28	F03
Level 2 (Middle)	W13	F02
	W14	F02
	W15	F02
	W16	F02
	W17	F02
	W18	F02
	W19	F02
	W20	F02
	W21	F02
	W22	F02
	W23	F02
	W24	F02
Level 3 (Bottom)	W13	F01
	W14	F01
	W15	F01
	W16	F01
	W17	F01
	W18	F01
	W19	F01
	W20	F01
	W21	F01
	W22	F01
	W23	F01
	W24	F01

W28
F03

W24
F02

W24
F01

CHAUCER HOUSE - WHITE HART YARD

W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27	W28	W29	W30	W31
F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03	F03

W16	W17	W18	W19	W20	W21	W22	W23	W24	W25	W26	W27
F02	F02	F02	F02	F02	F02	F02	F02	F02	F02	F02	F02

W15	W16
F01	F01

W18	W19	W20	W21	W22
F01	F01	F01	F01	F01

W23	W24
F01	F01

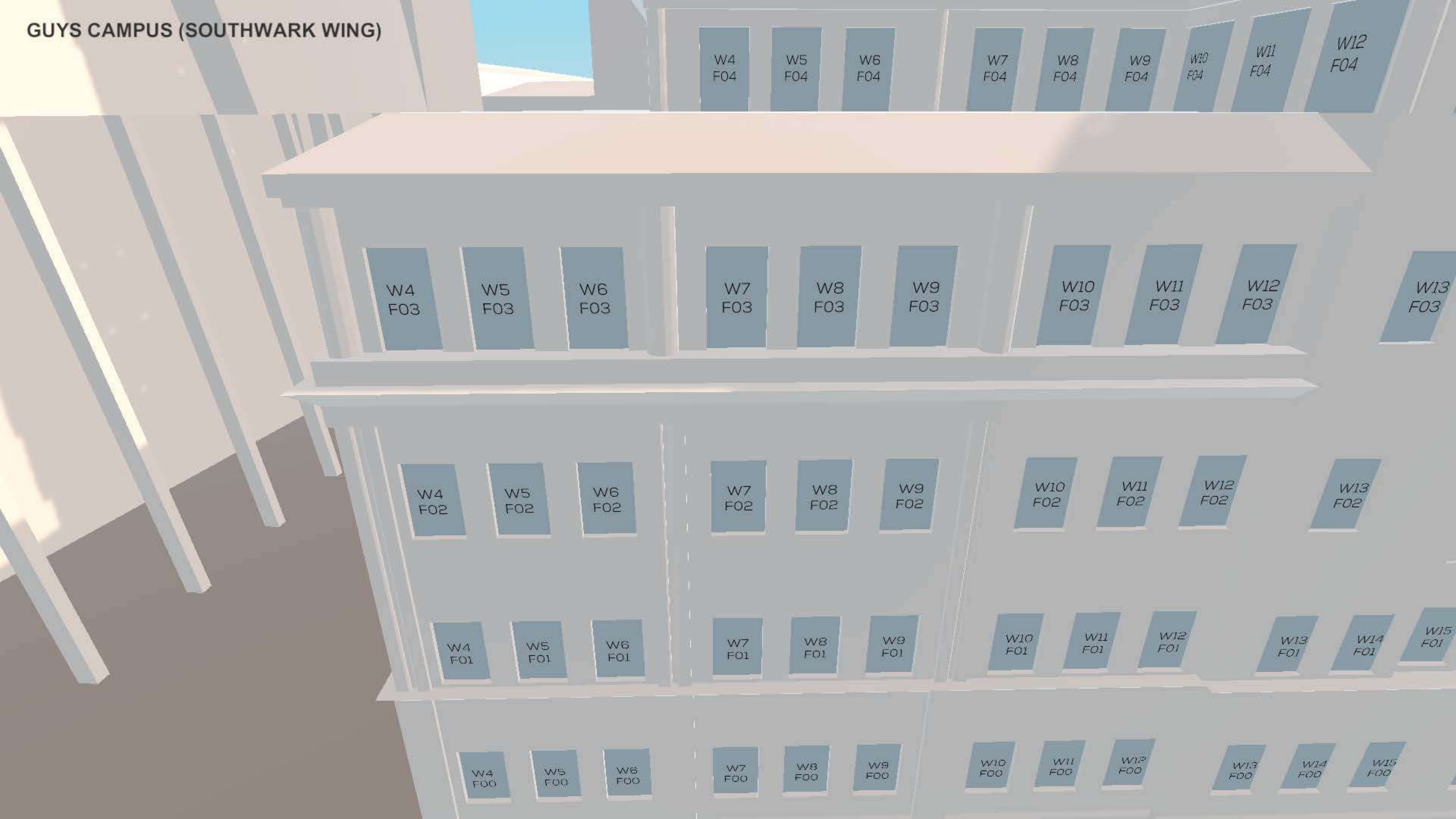
CHAUCER HOUSE - WHITE HART YARD



W1	W2	W3	W4	W5	W6	W7
F00	F00	F00	F00	F00	F00	F00

W5	W6	W7	W8	W9	W10
F00	F00	F00	F00	F00	F00

GUYS CAMPUS (SOUTHWARK WING)



GUYS CAMPUS (SOUTHWARK WING)

W4 F04	W5 F04	W6 F04	W7 F04	W13 F04	W14 F04	W15 F04	W16 F04	W17 F04	W18 F04
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W10 F03	W11 F03	W12 F03	W13 F03	W14 F03	W15 F03	W16 F03	W17 F03	W18 F03
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W9 F02	W10 F02	W11 F02	W12 F02	W13 F02	W14 F02	W15 F02	W16 F02
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W8 F01	W9 F01	W10 F01	W11 F01	W12 F01	W13 F01	W14 F01	W15 F01	W16 F01	W17 F01	W18 F01
-----------	-----------	------------	------------	------------	------------	------------	------------	------------	------------	------------

W7 F00	W8 F00	W9 F00	W10 F00	W11 F00	W12 F00	W13 F00	W14 F00	W15 F00	W16 F00	W17 F00	W18 F00
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GUYS CAMPUS (SOUTHWARK WING)



W19
F04

W20
F04

W21
F04

W19
F03

W20
F03

W21
F03

W17
F02

W18
F02

W19
F02

W19
F01

W20
F01

W21
F01

W19
F00

W20
F00

W21
F00

GUYS CAMPUS (TOWER WING)

W1 F09	W2 F09	W3 F09	W4 F09	W5 F09
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W1 F08	W2 F08	W3 F08	W4 F08	W5 F08
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W1 F07	W2 F07	W3 F07	W4 F07	W5 F07
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W1 F06	W2 F06	W3 F06	W4 F06	W5 F06
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W1 F05	W2 F05	W3 F05	W4 F05	W5 F05
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GUYS CAMPUS (TOWER WING)

W1	W2	W3	W4	W5
F14	F14	F14	F14	F14

W1	W2	W3	W4	W5
F13	F13	F13	F13	F13

W1	W2	W3	W4	W5
F12	F12	F12	F12	F12

W1	W2	W3	W4	W5
F11	F11	F11	F11	F11

W1	W2	W3	W4	W5
F10	F10	F10	F10	F10

GUYS CAMPUS (TOWER WING)

W1	W2	W3	W4	W5
F18	F18	F18	F18	F18

W1	W2	W3	W4	W5
F17	F17	F17	F17	F17

W1	W2	W3	W4	W5
F16	F16	F16	F16	F16

W1	W2	W3	W4	W5
F15	F15	F15	F15	F15

GUYS CAMPUS (TOWER WING)

W1 F21	W2 F21	W3 F21	W4 F21	W5 F21
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W1 F20	W2 F20	W3 F20	W4 F20	W5 F20
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W1 F19	W2 F19	W3 F19	W4 F19	W5 F19
-----------	-----------	-----------	-----------	-----------

W1 F18	W2 F18	W3 F18	W4 F18	W5 F18
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GUYS CAMPUS (TOWER WING)

W1 F25	W2 F25	W3 F25	W4 F25	W5 F25
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W1 F24	W2 F24	W3 F24	W4 F24	W5 F24
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W1 F23	W2 F23	W3 F23	W4 F23	W5 F23
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W1 F22	W2 F22	W3 F22	W4 F22	W5 F22
-----------	-----------	-----------	-----------	-----------

GUYS CAMPUS (TOWER WING)

W1 F03	W2 F03	W3 F03	W4 F03	W5 F03	W6 F03	W7 F03	W8 F03	W9 F03	W10 F03	W11 F03	W12 F03	W13 F03	W14 F03	W15 F03	W16 F03	W17 F03	W18 F03
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W1 F02	W2 F02	W3 F02	W4 F02	W5 F02	W6 F02	W7 F02	W8 F02	W9 F02	W10 F02	W11 F02	W12 F02	W13 F02	W14 F02	W15 F02	W16 F02	W17 F02	W18 F02	W19 F02
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W1 F01	W2 F01	W3 F01	W4 F01	W5 F01	W6 F01	W7 F01	W8 F01	W9 F01	W10 F01
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W1 F00	W2 F00	W3 F00	W4 F00	W5 F00	W6 F00
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GUYS CAMPUS (TOWER WING)

W17
F03

W18
F03

W19
F03

W20
F03

W21
F03

W22
F03

W23
F03

W24
F03

W25
F03

W26
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W27
F03

W28
F03

W29
F03

W30
F03

W31
F03

W17
F02

W18
F02

W19
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W20
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W24
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W25
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W26
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W27
F02

W28
F02

W29
F02

W30
F02

W31
F02

W10
F01

W11
F01

GUYS CAMPUS (TOWER WING)

	W23 F03	W24 F03		W25 F03	W26 F03	W27 F03	W28 F03		W29 F03	W30 F03	W31 F03	W32 F03		W33 F03	W34 F03	W35 F03
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2	W23 F02	W24 F02		W25 F02	W26 F02	W27 F02	W28 F02		W29 F02	W30 F02	W31 F02	W32 F02		W33 F02	W34 F02	W35 F02
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GUYS CAMPUS (TOWER WING)



W8
F01

W9
F01

W7
F00

W8
F00

W9
F00

W10
F00

W11
F00

W12
F00

W13
F00

W15
F00

W14
F00

W16
F00

W17
F00

W19
F00

W18
F00

W20
F00

GUYS CAMPUS (TOWER WING)

W8
F02

W9
F02

W10
E00

W11

W12
FO2

W13
F02

W14
F02

W15
E02W16
FO2

WV17
FUG

W-2	W-12
CO	FO

Wed
10/2

$$\frac{1}{100} = 0.01$$

W06
102

852
1310



1000

W7
E01W8
E01

WG

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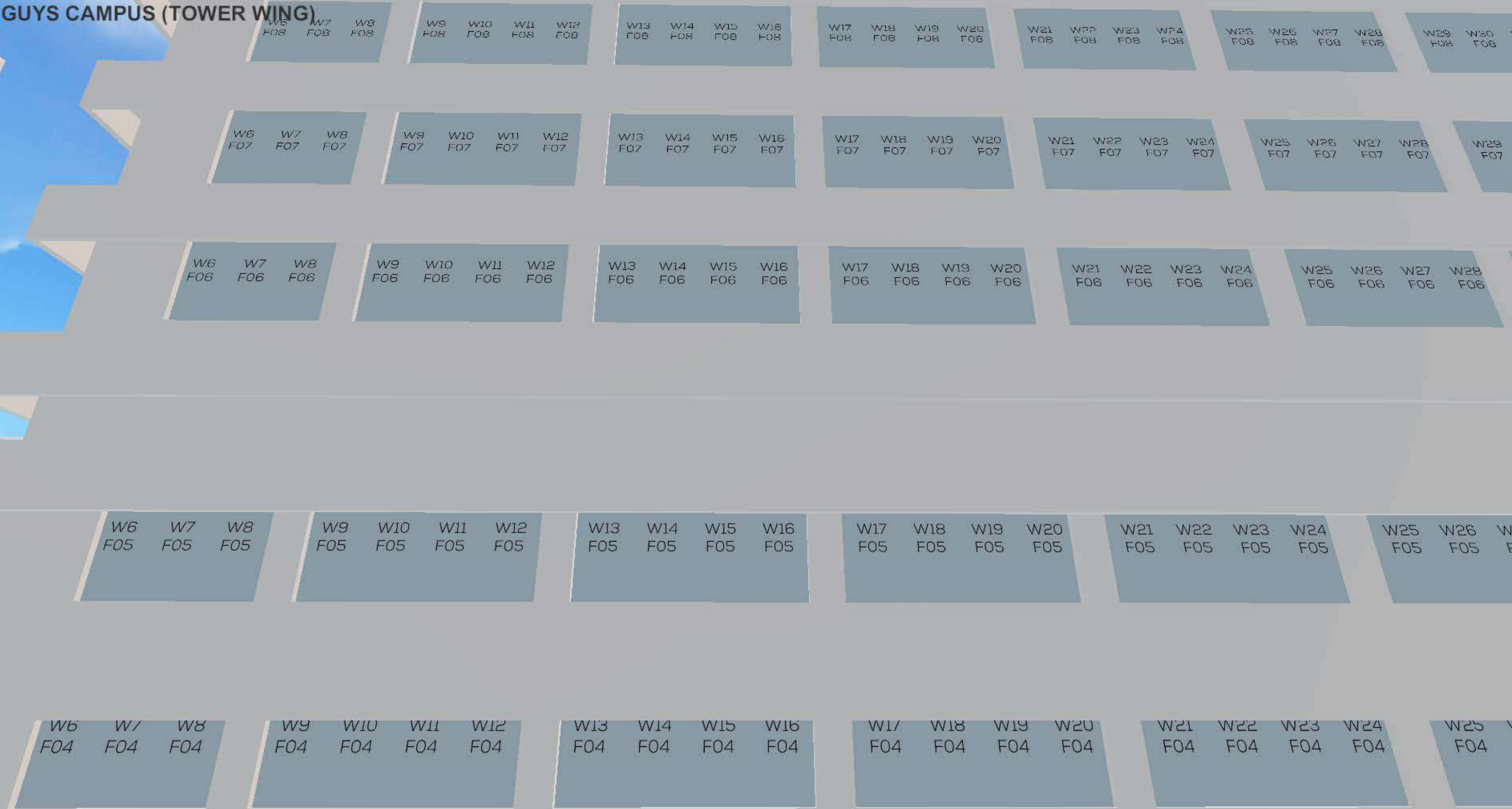
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GUYS CAMPUS (TOWER WING)



A 3D architectural rendering of a modern building facade. The building is light gray with a stepped, terraced design. The windows are arranged in a grid pattern, with some windows having labels like 'W17 F07' or 'W21 F07'. The background is a bright blue sky with white clouds.

GUYS CAMPUS (TOWER WING)

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GUYS CAMPUS (TOWER WING)

W18 F13	W19 F13	W20 F13	W21 F13	W22 F13	W23 F13	W24 F13	W25 F13	W26 F13	W27 F13	W28 F13	W29 F13	W30 F13	W31 F13	W32 F13	W33 F13	W34 F13	W35 F13	W36 F13	W37 F13	W38 F13	W39 F13
W19 F12	W20 F12	W21 F12	W22 F12	W23 F12	W24 F12	W25 F12	W26 F12	W27 F12	W28 F12	W29 F12	W30 F12	W31 F12	W32 F12	W33 F12	W34 F12	W35 F12	W36 F12	W37 F12	W38 F12	W39 F12	
W20 F11	W21 F11	W22 F11	W23 F11	W24 F11	W25 F11	W26 F11	W27 F11	W28 F11	W29 F11	W30 F11	W31 F11	W32 F11	W33 F11	W34 F11	W35 F11	W36 F11	W37 F11	W38 F11	W39 F11		
W21 F10	W22 F10	W23 F10	W24 F10	W25 F10	W26 F10	W27 F10	W28 F10	W29 F10	W30 F10	W31 F10	W32 F10	W33 F10	W34 F10	W35 F10	W36 F10	W37 F10	W38 F10	W39 F10			
W22 F09	W23 F09	W24 F09	W25 F09	W26 F09	W27 F09	W28 F09	W29 F09	W30 F09	W31 F09	W32 F09	W33 F09	W34 F09	W35 F09	W36 F09	W37 F09	W38 F09	W39 F09				

GUYS CAMPUS (TOWER WING)

W17	W18	W19	W20
F17	F17	F17	F17

W21	W22	W23	W24
F17	F17	F17	F17

W25	W26	W27	W28
F17	F17	F17	F17

W29	W30	W31	W32
F17	F17	F17	F17

W33	W34	W35	W36
F17	F17	F17	F17

W37	W38	W39
F17	F17	F17

W18	W19	W20
F16	F16	F16

W21	W22	W23	W24
F16	F16	F16	F16

W25	W26	W27	W28
F16	F16	F16	F16

W29	W30	W31	W32
F16	F16	F16	F16

W33	W34	W35	W36
F16	F16	F16	F16

W37	W38	W39
F16	F16	F16

W19	W20
F15	F15

W21	W22	W23	W24
F15	F15	F15	F15

W25	W26	W27	W28
F15	F15	F15	F15

W29	W30	W31	W32
F15	F15	F15	F15

W33	W34	W35	W36
F15	F15	F15	F15

W37	W38	W39
F15	F15	F15

W20
F14

W21	W22	W23	W24
F14	F14	F14	F14

W25	W26	W27	W28
F14	F14	F14	F14

W29	W30	W31	W32
F14	F14	F14	F14

W33	W34	W35	W36
F14	F14	F14	F14

W37	W38	W39
F14	F14	F14

GUYS CAMPUS (TOWER WING)

W6	W7	W8
F17	F17	F17

W9	W10	W11	W12
F17	F17	F17	F17

W13	W14	W15	W16
F17	F17	F17	F17

W17	W18	W19	W20
F17	F17	F17	F17

W21	W22	W23	W24
F17	F17	F17	F17

W25	W26	W27	W28
F17	F17	F17	F17

W6	W7	W8
F16	F16	F16

W9	W10	W11	W12
F16	F16	F16	F16

W13	W14	W15	W16
F16	F16	F16	F16

W17	W18	W19	W20
F16	F16	F16	F16

W21	W22	W23	W24
F16	F16	F16	F16

W25	W26	W27	W28
F16	F16	F16	F16

W6	W7	W8
F15	F15	F15

W9	W10	W11	W12
F15	F15	F15	F15

W13	W14	W15	W16
F15	F15	F15	F15

W17	W18	W19	W20
F15	F15	F15	F15

W21	W22	W23	W24
F15	F15	F15	F15

W25	W26	W27	W28
F15	F15	F15	F15

W6	W7	W8
F14	F14	F14

W9	W10	W11	W12
F14	F14	F14	F14

W13	W14	W15	W16
F14	F14	F14	F14

W17	W18	W19	W20
F14	F14	F14	F14

W21	W22	W23	W24
F14	F14	F14	F14

W25	W26	W27	W28
F14	F14	F14	F14

GUYS CAMPUS (TOWER WING)

W6	W7	W8
F21	F21	F21

W9	W10	W11	W12
F21	F21	F21	F21

W13	W14	W15	W16
F21	F21	F21	F21

W17	W18	W19	W20
F21	F21	F21	F21

W21	W22	W23	W24
F21	F21	F21	F21

W25	W26
F21	F21

W6	W7	W8
F20	F20	F20

W9	W10	W11	W12
F20	F20	F20	F20

W13	W14	W15	W16
F20	F20	F20	F20

W17	W18	W19	W20
F20	F20	F20	F20

W21	W22	W23	W24
F20	F20	F20	F20

W25	W26
F20	F20

W6	W7	W8
F19	F19	F19

W9	W10	W11	W12
F19	F19	F19	F19

W13	W14	W15	W16
F19	F19	F19	F19

W17	W18	W19	W20
F19	F19	F19	F19

W21	W22	W23	W24
F19	F19	F19	F19

W6	W7	W8
F18	F18	F18

W9	W10	W11	W12
F18	F18	F18	F18

W13	W14	W15	W16
F18	F18	F18	F18

W17	W18	W19	W20
F18	F18	F18	F18

W21	W22	W23
F18	F18	F18

GUYS CAMPUS (TOWER WING)

W19 F21	W20 F21	W21 F21	W22 F21	W23 F21	W24 F21	W25 F21	W26 F21	W27 F21	W28 F21	W29 F21	W30 F21	W31 F21	W32 F21	W33 F21	W34 F21	W35 F21	W36 F21	W37 F21	W38 F21	W39 F21
W20 F20	W21 F20	W22 F20	W23 F20	W24 F20	W25 F20	W26 F20	W27 F20	W28 F20	W29 F20	W30 F20	W31 F20	W32 F20	W33 F20	W34 F20	W35 F20	W36 F20	W37 F20	W38 F20	W39 F20	
W21 F19	W22 F19	W23 F19	W24 F19	W25 F19	W26 F19	W27 F19	W28 F19	W29 F19	W30 F19	W31 F19	W32 F19	W33 F19	W34 F19	W35 F19	W36 F19	W37 F19	W38 F19	W39 F19		
W22 F18	W23 F18	W24 F18	W25 F18	W26 F18	W27 F18	W28 F18	W29 F18	W30 F18	W31 F18	W32 F18	W33 F18	W34 F18	W35 F18	W36 F18	W37 F18	W38 F18	W39 F18			

GUYS CAMPUS (TOWER WING)

W1 F26	W2 F26	W3 F26
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W6 F25	W7 F25	W8 F25
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W9 F25	W10 F25	W11 F25	W12 F25
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W13 F25	W14 F25	W15 F25	W16 F25
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W17 F25	W18 F25	W19 F25	W20 F25
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W21 F25	W22 F25	W23 F25	W24 F25
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W25 F25	W26 F25
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W6 F24	W7 F24	W8 F24
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W9 F24	W10 F24	W11 F24	W12 F24
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W13 F24	W14 F24	W15 F24	W16 F24
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W17 F24	W18 F24	W19 F24	W20 F24
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W21 F24	W22 F24	W23 F24	W24 F24
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W25 F24

W6 F23	W7 F23	W8 F23
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W9 F23	W10 F23	W11 F23	W12 F23
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W13 F23	W14 F23	W15 F23	W16 F23
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W17 F23	W18 F23	W19 F23	W20 F23
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W21 F23	W22 F23	W23 F23	W24 F23
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W6 F22	W7 F22	W8 F22
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W9 F22	W10 F22	W11 F22	W12 F22
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W13 F22	W14 F22	W15 F22	W16 F22
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W17 F22	W18 F22	W19 F22	W20 F22
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W21 F22	W22 F22	W23 F22	W24 F22
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GUYS CAMPUS (TOWER WING)

W1	W2	W3	W4
F26	F26	F26	F26

W5	W6	W7	W8
F26	F26	F26	F26

W9	W10	W11	W12
F26	F26	F26	F26

W18	W19	W20
F25	F25	F25

W21	W22	W23	W24
F25	F25	F25	F25

W25	W26	W27	W28
F25	F25	F25	F25

W29	W30	W31	W32
F25	F25	F25	F25

W33	W34	W35	W36
F25	F25	F25	F25

W37	W38	W39
F25	F25	F25

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F24	F24	F24	F24

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F24	F24	F24	F24

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GUYS CAMPUS (TOWER WING)

W44	W45	W46	W47	W48
F08	F08	F08	F08	F08

W44	W45	W46	W47	W48
F07	F07	F07	F07	F07

W44	W45	W46	W47	W48
F06	F06	F06	F06	F06

W40	W41	W42	W43	W44
F05	F05	F05	F05	F05

W40	W41	W42	W43	W44
F04	F04	F04	F04	F04

GUYS CAMPUS (TOWER WING)

W44	W45	W46	W47	W48
F13	F13	F13	F13	F13

W44	W45	W46	W47	W48
F12	F12	F12	F12	F12

W44	W45	W46	W47	W48
F11	F11	F11	F11	F11

W44	W45	W46	W47	W48
F10	F10	F10	F10	F10

W44	W45	W46	W47	W48
F09	F09	F09	F09	F09

GUYS CAMPUS (TOWER WING)

W44	W45	W46	W47	W48
F17	F17	F17	F17	F17

W44	W45	W46	W47	W48
F16	F16	F16	F16	F16

W44	W45	W46	W47	W48
F15	F15	F15	F15	F15

W44	W45	W46	W47	W48
F14	F14	F14	F14	F14

W44	W45	W46	W47	W48
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GUYS CAMPUS (TOWER WING)

W42	W43	W44	W45	W46
F21	F21	F21	F21	F21

W42	W43	W44	W45	W46
F20	F20	F20	F20	F20

W42	W43	W44	W45	W46
F19	F19	F19	F19	F19

W42	W43	W44	W45	W46
F18	F18	F18	F18	F18

GUYS CAMPUS (TOWER WING)

W42	W43	W44	W45	W46
F25	F25	F25	F25	F25

W42	W43	W44	W45	W46
F24	F24	F24	F24	F24

W42	W43	W44	W45	W46
F23	F23	F23	F23	F23

W42	W43	W44	W45	W46
F22	F22	F22	F22	F22

IRIS BROOK HOUSE TALBOT YARD



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ORCHARD LISLE HOUSE - TALBOT YARD



ORCHARD LISLE HOUSE - TALBOT YARD



IRIS BROOK HOUSE TALBOT YARD

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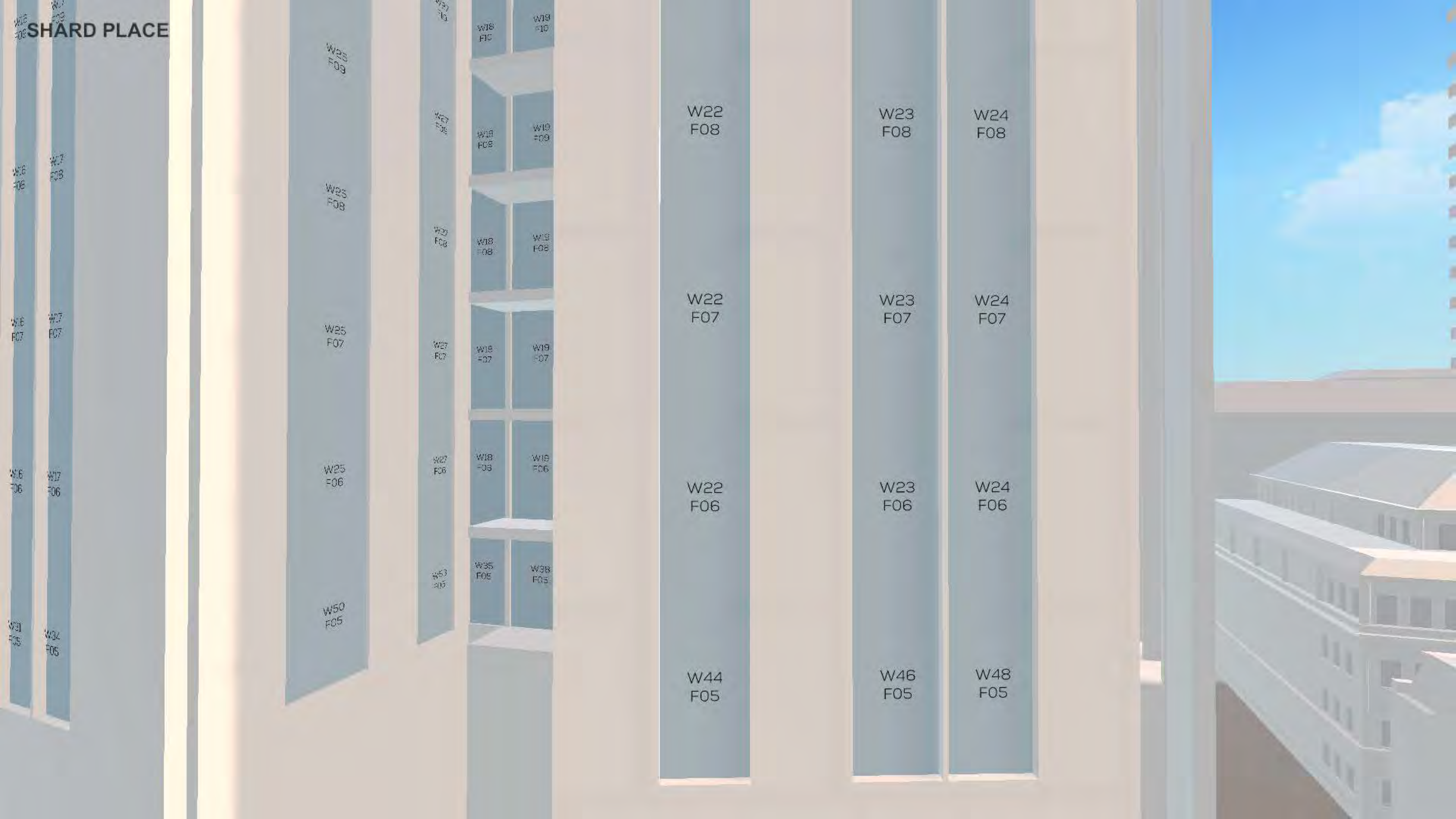
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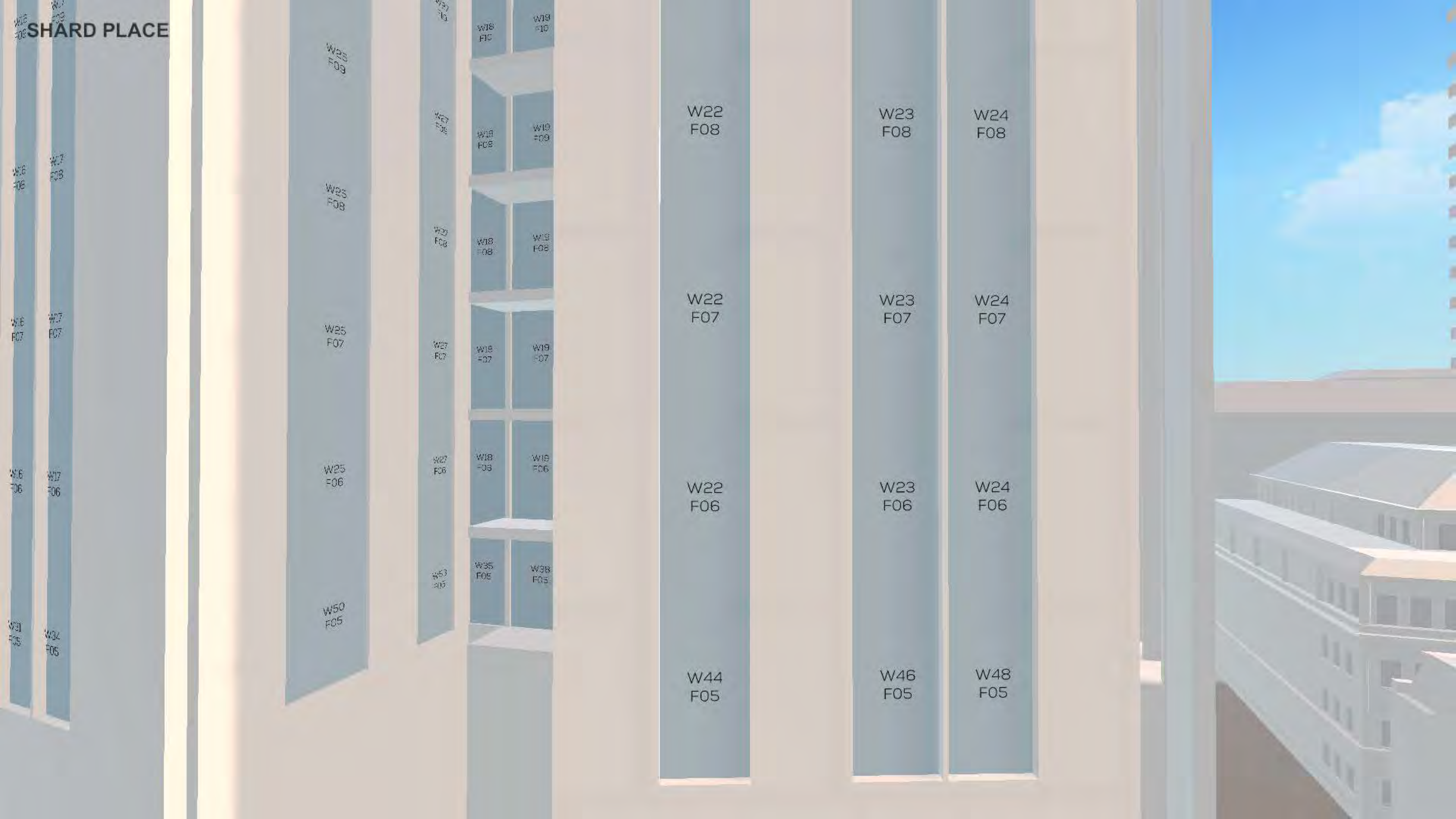
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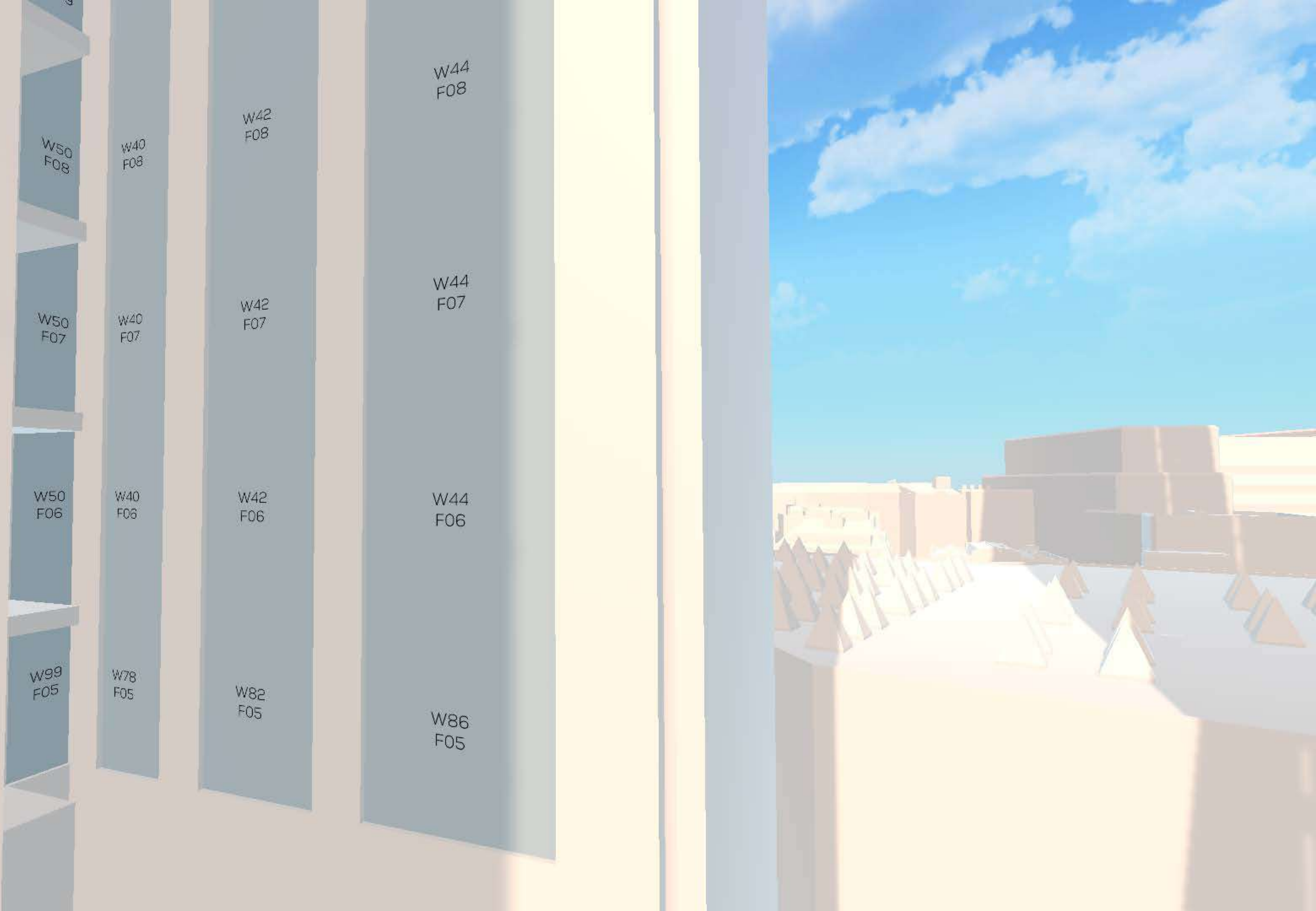
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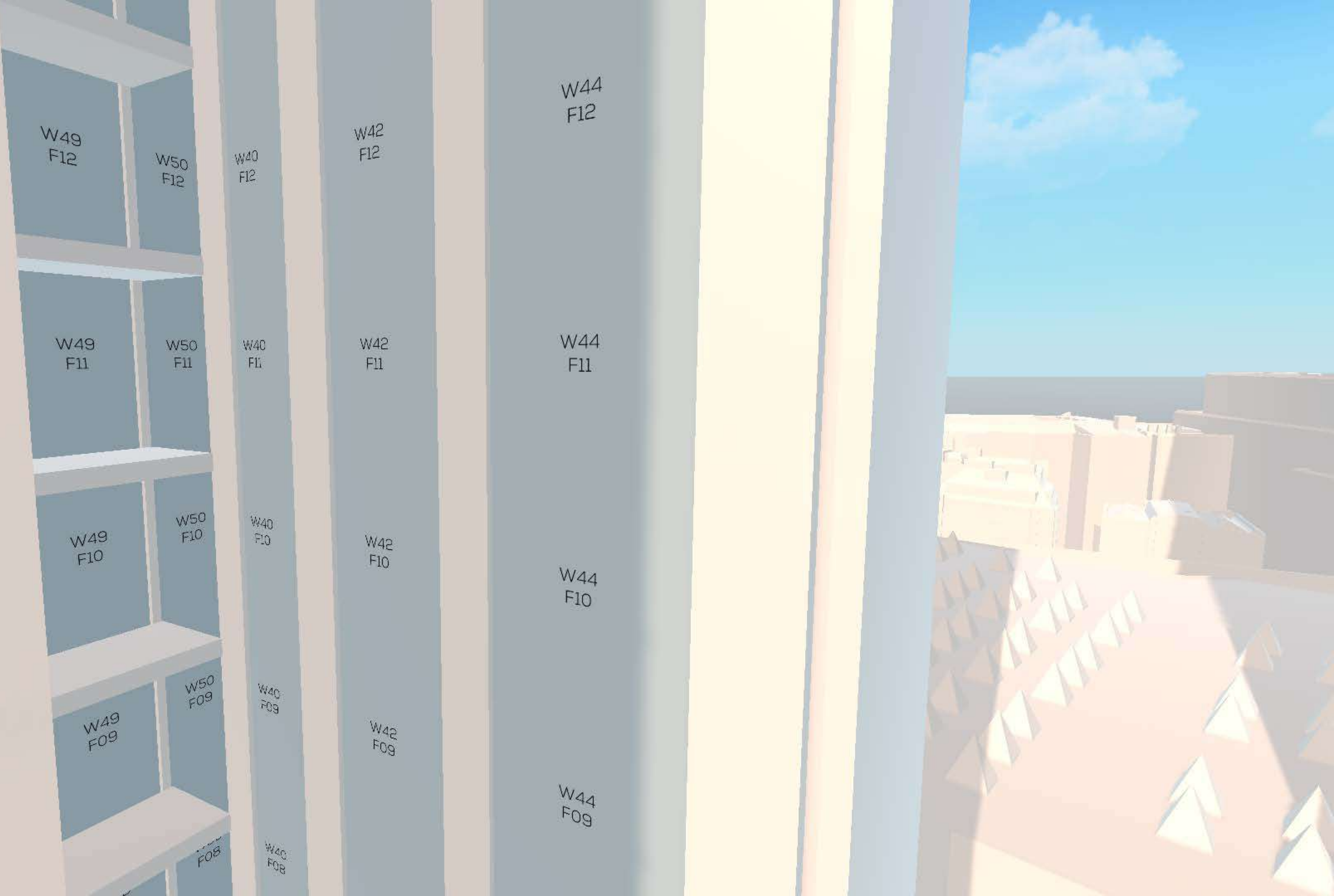
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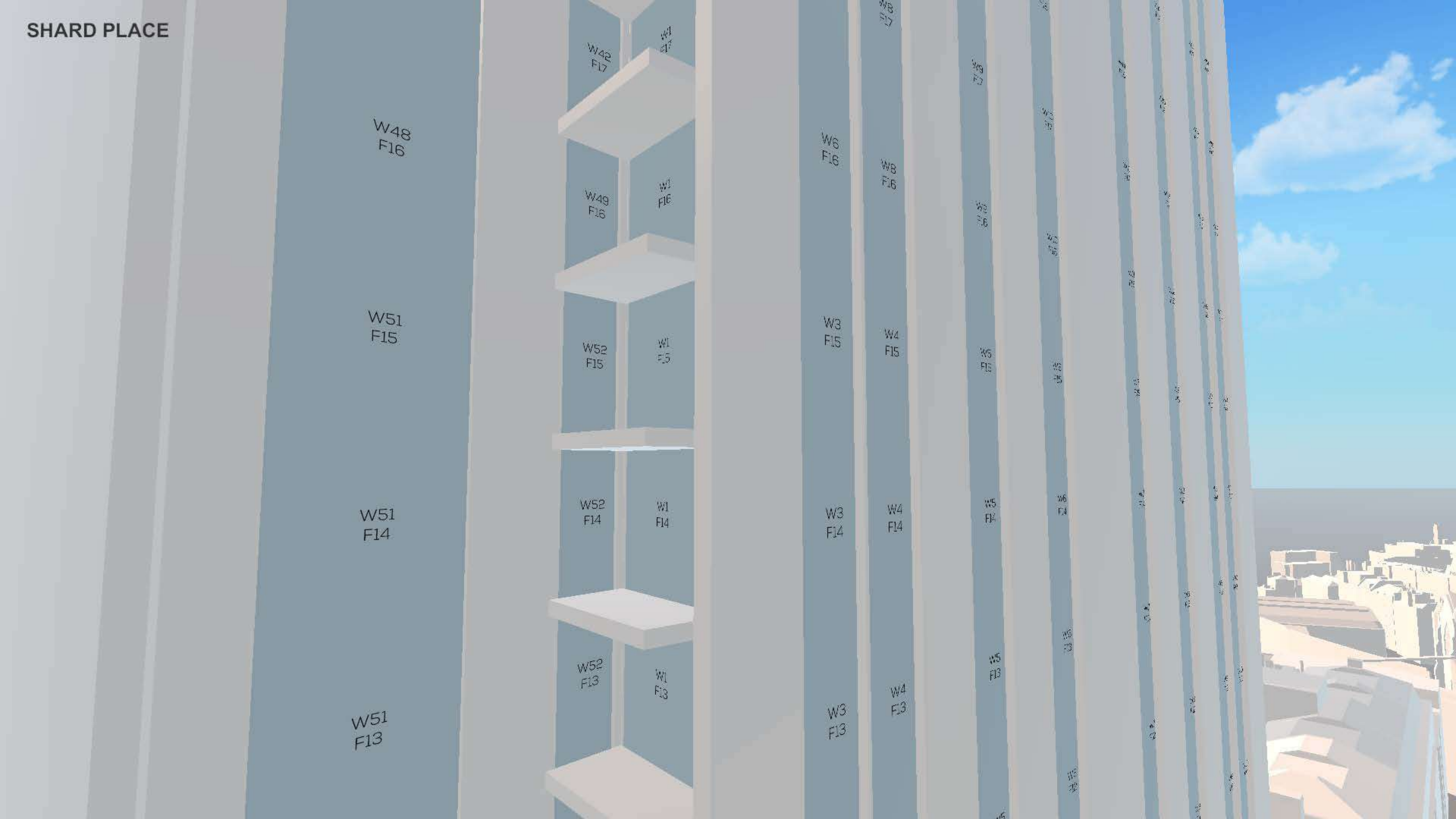
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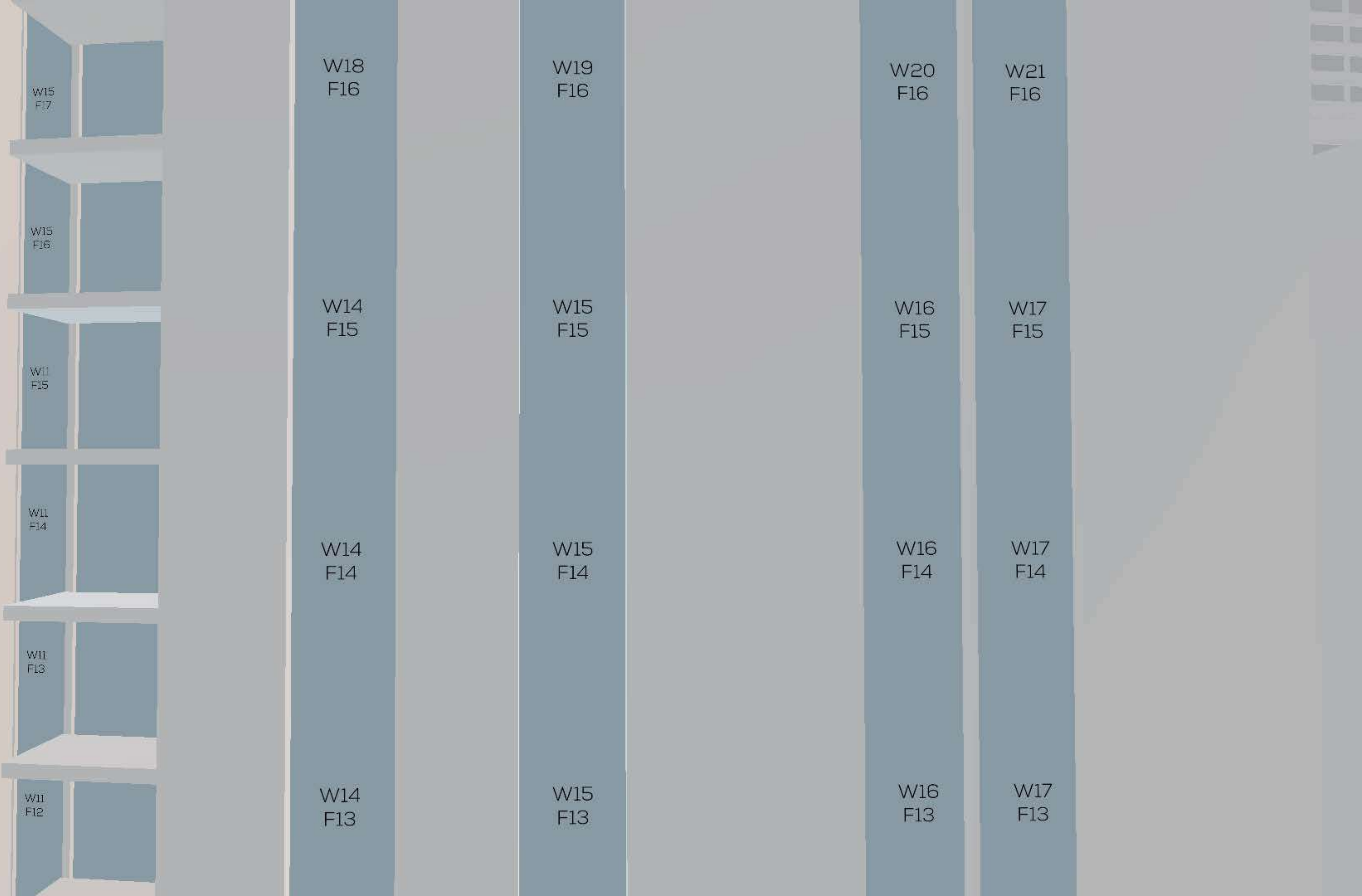
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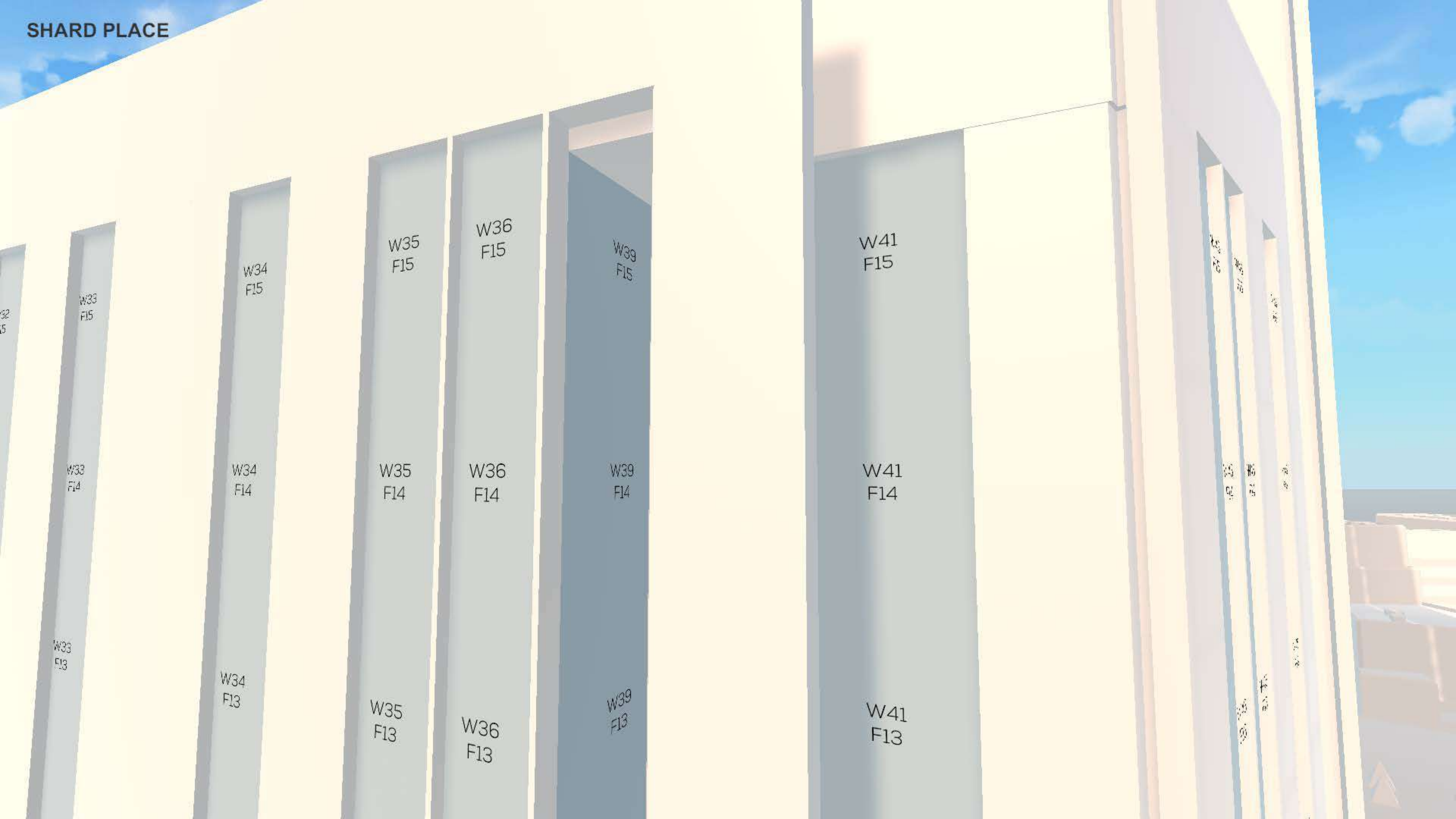
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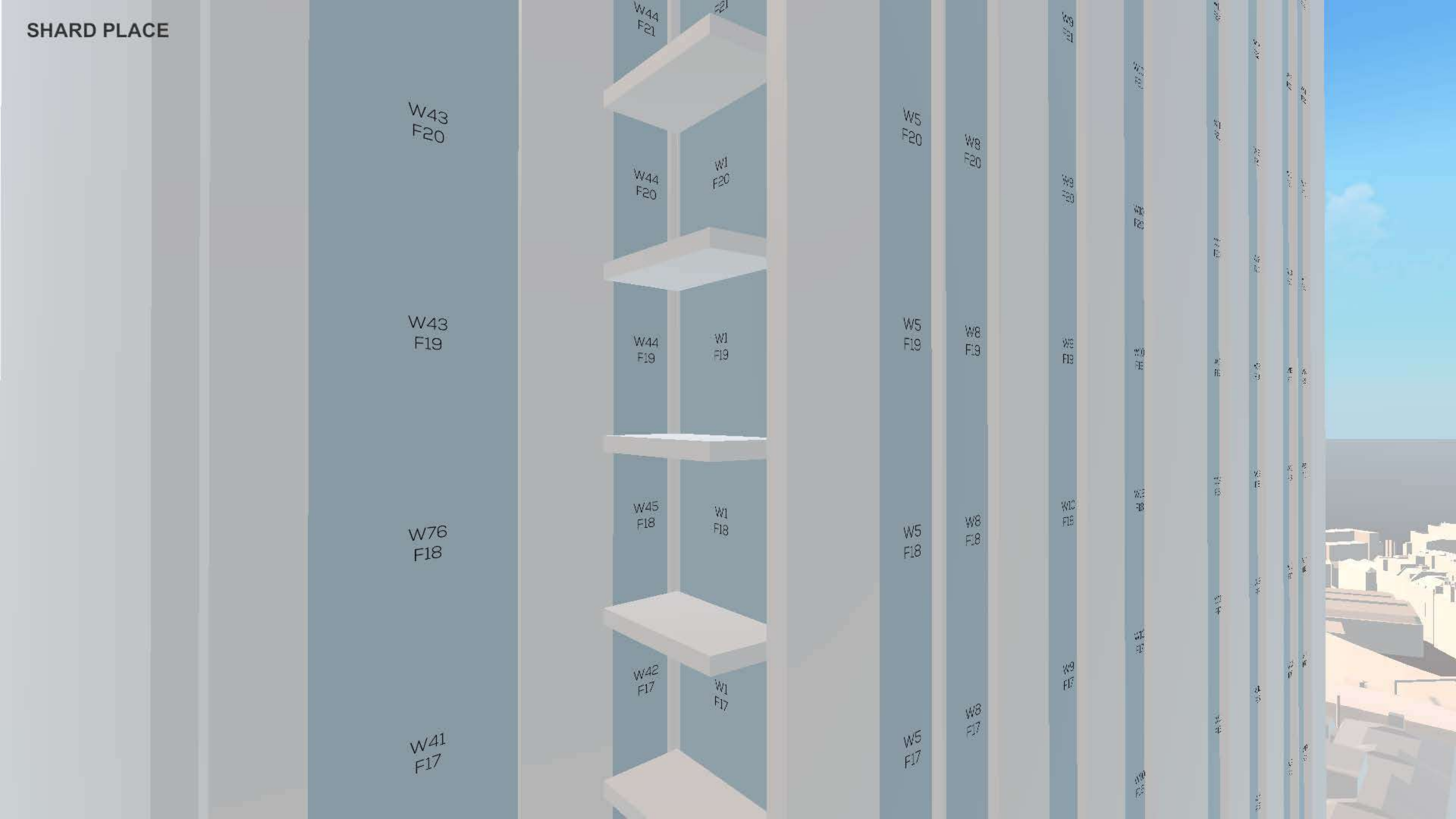
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SHARD PLACE

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SHARD PLACE

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SHARD PLACE

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SHARD PLACE



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SHARD PLACE

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SHARD PLACE

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SHARD PLACE



SHARD PLACE

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SHARD PLACE

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SHARD PLACE

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SHARD PLACE



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SHARD PLACE

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SHARD PLACE

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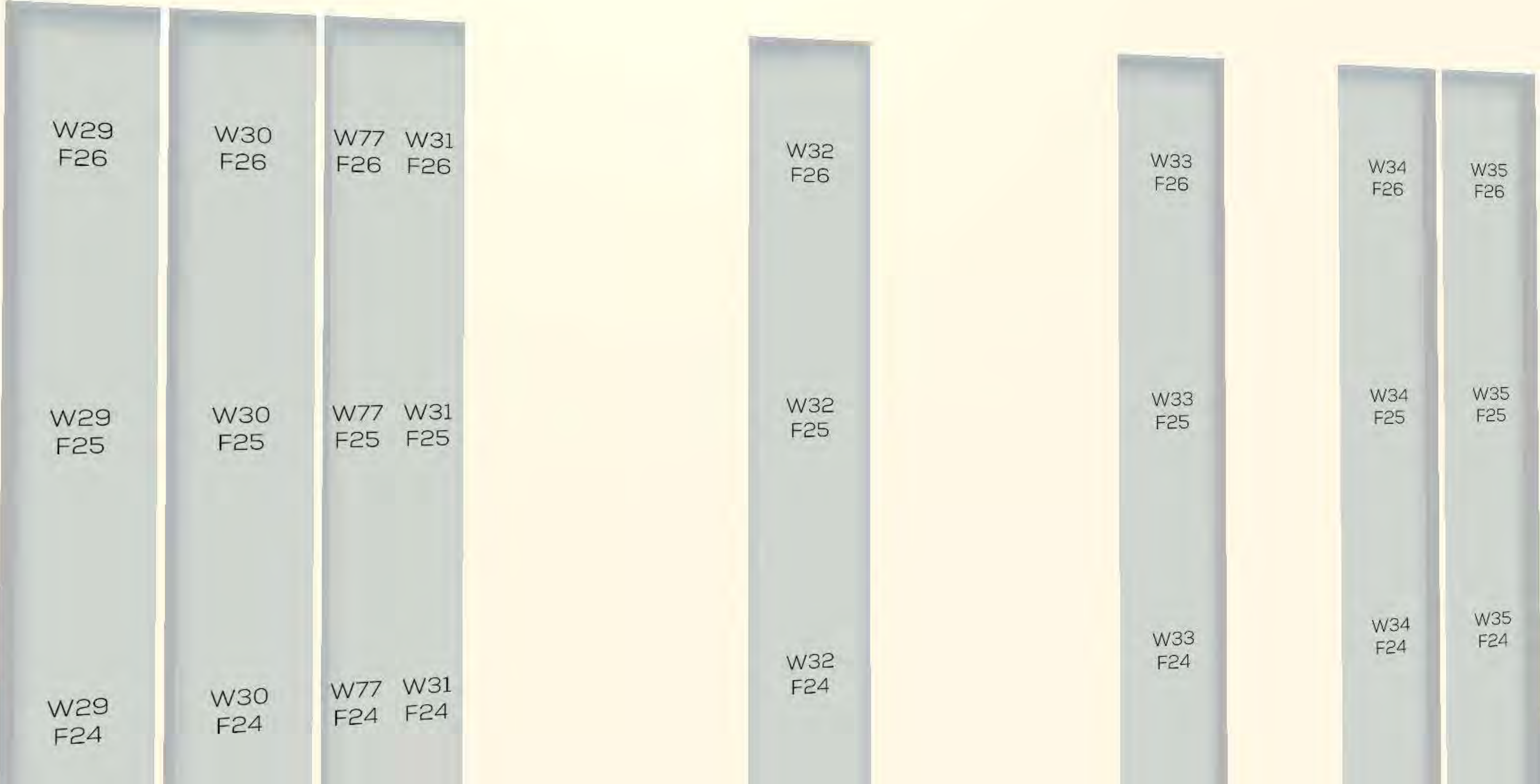
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SHARD PLACE



SHARD PLACE

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SHARD PLACE

W43 F26 R7	W5 W8 F26 F26 R8 R8	W9 F26 R5	W10 F26 R4	W11 F26 R3	W12 F26 R2	W13 W14 F26 F26 R1 R1	W15 F26 R0
W43 F25 R15	W5 W7 F25 F25 R16 R16	W9 F25 R1	W10 F25 R2	W11 F25 R3	W12 F25 R4	W13 W14 F25 F25 R5 R5	W15 F25 R6
W43 F24 R15	W5 W8 F24 F24 R15 R15	W9 F24 R1	W10 F24 R2	W11 F24 R3	W12 F24 R4	W13 W14 F24 F24 R5 R5	W15 F24 R6
W43 F23 R15	W5 W8 F23 F23 R16 R16	W9 F23 R1	W10 F23 R2	W11 F23 R3	W12 F23 R4	W13 W14 F23 F23 R5 R5	W15 F23 R6
W43 F22 R15	W5 W8 F22 F22 R16 R16	W9 F22 R1	W10 F22 R2	W11 F22 R3	W12 F22 R4	W13 W14 F22 F22 R5 R5	W15 F22 R6
W43 F21 R15	W5 W8 F21 F21 R16 R16	W9 F21 R1	W10 F21 R2	W11 F21 R3	W12 F21 R4	W13 W14 F21 F21 R5 R5	W15 F21 R6
W43 F20 R15	W5 W8 F20 F20 R16 R16	W9 F20 R1	W10 F20 R2	W11 F20 R3	W12 F20 R4	W13 W14 F20 F20 R5 R5	W15 F20 R6
W43 F19 R15	W5 W8 F19 F19 R16 R16	W9 F19 R1	W10 F19 R2	W11 F19 R3	W12 F19 R4	W13 W14 F19 F19 R5 R5	W15 F19 R6
W76 F18 R15	W5 W8 F18 F18 R16 R16	W9 F18 R1	W10 F18 R2	W11 F18 R3	W12 F18 R4	W13 W14 F18 F18 R5 R5	W15 F18 R6
W11 F17 R19	W5 W8 F17 F17 R13 R13	W9 F17 R1	W10 F17 R2	W11 F17 R3	W12 F17 R4	W13 W14 F17 F17 R5 R5	W15 F17 R6
W43 F16 R19	W5 W8 F16 F16 R13 R13	W9 F16 R1	W10 F16 R2	W11 F16 R3	W12 F16 R4	W13 W14 F16 F16 R5 R5	W15 F16 R6
W51 F15 R20	W3 W4 F15 F15 R24 R24	W5 F15 R1	W6 F15 R2	W7 F15 R3	W8 F15 R4	W9 W10 F15 F15 R5 R5	W11 F15 R6
W51 F14 R20	W3 W4 F14 F14 R24 R24	W5 F14 R1	W6 F14 R2	W7 F14 R3	W8 F14 R4	W9 W10 F14 F14 R5 R5	W11 F14 R6
W51 F13 R20	W3 W4 F13 F13 R24 R24	W5 F13 R1	W6 F13 R2	W7 F13 R3	W8 F13 R4	W9 W10 F13 F13 R5 R5	W11 F13 R6
W51 F12 R20	W3 W4 F12 F12 R24 R24	W5 F12 R1	W6 F12 R2	W7 F12 R3	W8 F12 R4	W9 W10 F12 F12 R5 R5	W11 F12 R6
W51 F11 R20	W3 W4 F11 F11 R24 R24	W5 F11 R1	W6 F11 R2	W7 F11 R3	W8 F11 R4	W9 W10 F11 F11 R5 R5	W11 F11 R6
W51 F10 R20	W3 W4 F10 F10 R24 R24	W5 F10 R1	W6 F10 R2	W7 F10 R3	W8 F10 R4	W9 W10 F10 F10 R5 R5	W11 F10 R6
W51 F09 R20	W3 W4 F09 F09 R24 R24	W5 F09 R1	W6 F09 R2	W7 F09 R3	W8 F09 R4	W9 W10 F09 F09 R5 R5	W11 F09 R6
W51 F08 R20	W3 W4 F08 F08 R24 R24	W5 F08 R1	W6 F08 R2	W7 F08 R3	W8 F08 R4	W9 W10 F08 F08 R5 R5	W11 F08 R6
W51 F07 R20	W3 W4 F07 F07 R24 R24	W5 F07 R1	W6 F07 R2	W7 F07 R3	W8 F07 R4	W9 W10 F07 F07 R5 R5	W11 F07 R6
W51 F06 R20	W3 W4 F06 F06 R24 R24	W5 F06 R1	W6 F06 R2	W7 F06 R3	W8 F06 R4	W9 W10 F06 F06 R5 R5	W11 F06 R6
W101 F05 R12	W5 W8 F05 F05 R24 R24	W9 F05 R1	W12 F05 R2	W14 F05 R3	W16 F05 R4	W18 W20 F05 F05 R5 R5	W19 F05 R6

SHARD PLACE



W43W45	W46
F15 F15	F15
R18 R18	R21
W43W45	W46
F14 F14	F14
R18 R18	R21
W43W45	W46
F13 F13	F13
R18 R18	R21
W43W45	W46
F12 F12	F12
R18 R18	R21
W43W45	W46
F11 F11	F11
R18 R18	R21
W43W45	W46
F10 F10	F10
R18 R18	R21
W43W45	W46
F09 F09	F09
R18 R18	R21
W43W45	W46
F08 F08	F08
R18 R18	R21
W43W45	W46
F07 F07	F07
R18 R18	R21
W43W45	W46
F06 F06	F06
R18 R18	R21
W8W88	W90
F05 F05	F05
R17 R17	R20

W39W40	W41W41
F26 F26	F26 F26
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W39W40	W41W41
F25 F25	F25 F25
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F23 F23	F23 F23
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W39W40	W41W41
F22 F22	F22 F22
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F18 F18	F18 F18
R16	R10

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F08	F08
R16	R10
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F07	F07
R16	R10
W1	W3
F06	F06
R16	R10
W1	W3
F05	F05
R16	R10

SHARD PLACE



SHARD PLACE



SHARD PLACE



SHARD PLACE



W26	F26 F26 E26	N31	F26	F26 F26	W37	W38
F26	R13 R13 W3	D12	R1	R10 R10	F26	F26
R1	N33 N33 W3	N36	N36	N34 N34	R1	R1
W28	F25 F25 E25	F25	F25	F23 F23	W37	W38
F25	R0 R0 W3	R10	R1	R12 R12	F25	F25
R0	N35 N35 W3	N32	N32	N34 N34	R1	R1
W39	F24 F24 E24	F24	F24	F24 F24	W37	W38
F24	R4 R4 W3	D10	R1	R10 R10	F24	F24
R4	N37 N37 W3	N36	N36	N34 N34	R1	R1
W36	F23 F23 E23	F23	F23	F23 F23	W37	W38
F23	R0 R0 W3	R10	R1	R12 R12	F23	F23
R0	N39 N39 W3	N32	N32	N34 N34	R1	R1
W35	F22 F22 E22	F22	F22	F22 F22	W37	W38
F22	R3 R3 W3	D10	R1	R12 R12	F22	F22
R3	N41 N41 W3	N36	N36	N34 N34	R1	R1
W36	F21 F21 E21	F21	F21	F21 F21	W37	W38
F21	R0 R0 W3	R10	R1	R12 R12	F21	F21
R0	N43 N43 W3	N32	N32	N34 N34	R1	R1
W34	F20 F20 E20	F20	F20	F20 F20	W37	W38
F20	R9 R9 W3	R10	R1	R12 R12	F20	F20
R9	N45 N45 W3	N36	N36	N34 N34	R1	R1
W33	F19 F19 E19	F19	F19	F19 F19	W37	W38
F19	R8 R8 W3	R10	R1	R12 R12	F19	F19
R8	N47 N47 W3	N32	N32	N34 N34	R1	R1
W32	F18 F18 E18	F18	F18	F18 F18	W37	W38
F18	R7 R7 W3	R10	R1	R12 R12	F18	F18
R7	N49 N49 W3	N36	N36	N34 N34	R1	R1
W31	F17 F17 E17	F17	F17	F17 F17	W37	W38
F17	R6 R6 W3	R10	R1	R12 R12	F17	F17
R6	N51 N51 W3	N32	N32	N34 N34	R1	R1
W30	F16 F16 E16	F16	F16	F16 F16	W37	W38
F16	R5 R5 W3	R10	R1	R12 R12	F16	F16
R5	N53 N53 W3	N36	N36	N34 N34	R1	R1
W29	F15 F15 E15	F15	F15	F15 F15	W37	W38
F15	R4 R4 W3	R10	R1	R12 R12	F15	F15
R4	N55 N55 W3	N32	N32	N34 N34	R1	R1
W28	F14 F14 E14	F14	F14	F14 F14	W37	W38
F14	R3 R3 W3	R10	R1	R12 R12	F14	F14
R3	N57 N57 W3	N36	N36	N34 N34	R1	R1
W27	F13 F13 E13	F13	F13	F13 F13	W37	W38
F13	R2 R2 W3	R10	R1	R12 R12	F13	F13
R2	N59 N59 W3	N32	N32	N34 N34	R1	R1
W26	F12 F12 E12	F12	F12	F12 F12	W37	W38
F12	R1 R1 W3	R10	R1	R12 R12	F12	F12
R1	N61 N61 W3	N36	N36	N34 N34	R1	R1
W25	F11 F11 E11	F11	F11	F11 F11	W37	W38
F11	R0 R0 W3	R10	R1	R12 R12	F11	F11
R0	N63 N63 W3	N32	N32	N34 N34	R1	R1
W24	F10 F10 E10	F10	F10	F10 F10	W37	W38
F10	R9 R9 W3	R10	R1	R12 R12	F10	F10
R9	N65 N65 W3	N36	N36	N34 N34	R1	R1
W23	F9 F9 E9	F9	F9	F9 F9	W37	W38
F9	R8 R8 W3	R10	R1	R12 R12	F9	F9
R8	N67 N67 W3	N32	N32	N34 N34	R1	R1
W22	F8 F8 E8	F8	F8	F8 F8	W37	W38
F8	R7 R7 W3	R10	R1	R12 R12	F8	F8
R7	N69 N69 W3	N36	N36	N34 N34	R1	R1
W21	F7 F7 E7	F7	F7	F7 F7	W37	W38
F7	R6 R6 W3	R10	R1	R12 R12	F7	F7
R6	N71 N71 W3	N32	N32	N34 N34	R1	R1
W20	F6 F6 E6	F6	F6	F6 F6	W37	W38
F6	R5 R5 W3	R10	R1	R12 R12	F6	F6
R5	N73 N73 W3	N36	N36	N34 N34	R1	R1
W19	F5 F5 E5	F5	F5	F5 F5	W37	W38
F5	R4 R4 W3	R10	R1	R12 R12	F5	F5
R4	N75 N75 W3	N32	N32	N34 N34	R1	R1
W18	F4 F4 E4	F4	F4	F4 F4	W37	W38
F4	R3 R3 W3	R10	R1	R12 R12	F4	F4
R3	N77 N77 W3	N36	N36	N34 N34	R1	R1
W17	F3 F3 E3	F3	F3	F3 F3	W37	W38
F3	R2 R2 W3	R10	R1	R12 R12	F3	F3
R2	N79 N79 W3	N32	N32	N34 N34	R1	R1
W16	F2 F2 E2	F2	F2	F2 F2	W37	W38
F2	R1 R1 W3	R10	R1	R12 R12	F2	F2
R1	N81 N81 W3	N36	N36	N34 N34	R1	R1
W15	F1 F1 E1	F1	F1	F1 F1	W37	W38
F1	R0 R0 W3	R10	R1	R12 R12	F1	F1
R0	N83 N83 W3	N32	N32	N34 N34	R1	R1
W14	F0 F0 E0	F0	F0	F0 F0	W37	W38
F0	R9 R9 W3	R10	R1	R12 R12	F0	F0
R9	N85 N85 W3	N36	N36	N34 N34	R1	R1
W13	F-1 F-1 E-1	F-1	F-1	F-1 F-1	W37	W38
F-1	R8 R8 W3	R10	R1	R12 R12	F-1	F-1
R8	N87 N87 W3	N32	N32	N34 N34	R1	R1
W12	F-2 F-2 E-2	F-2	F-2	F-2 F-2	W37	W38
F-2	R7 R7 W3	R10	R1	R12 R12	F-2	F-2
R7	N89 N89 W3	N36	N36	N34 N34	R1	R1
W11	F-3 F-3 E-3	F-3	F-3	F-3 F-3	W37	W38
F-3	R6 R6 W3	R10	R1	R12 R12	F-3	F-3
R6	N91 N91 W3	N32	N32	N34 N34	R1	R1
W10	F-4 F-4 E-4	F-4	F-4	F-4 F-4	W37	W38
F-4	R5 R5 W3	R10	R1	R12 R12	F-4	F-4
R5	N93 N93 W3	N36	N36	N34 N34	R1	R1
W9	F-5 F-5 E-5	F-5	F-5	F-5 F-5	W37	W38
F-5	R4 R4 W3	R10	R1	R12 R12	F-5	F-5
R4	N95 N95 W3	N32	N32	N34 N34	R1	R1
W8	F-6 F-6 E-6	F-6	F-6	F-6 F-6	W37	W38
F-6	R3 R3 W3	R10	R1	R12 R12	F-6	F-6
R3	N97 N97 W3	N36	N36	N34 N34	R1	R1
W7	F-7 F-7 E-7	F-7	F-7	F-7 F-7	W37	W38
F-7	R2 R2 W3	R10	R1	R12 R12	F-7	F-7
R2	N99 N99 W3	N32	N32	N34 N34	R1	R1
W6	F-8 F-8 E-8	F-8	F-8	F-8 F-8	W37	W38
F-8	R1 R1 W3	R10	R1	R12 R12	F-8	F-8
R1	N101 N101 W3	N36	N36	N34 N34	R1	R1
W5	F-9 F-9 E-9	F-9	F-9	F-9 F-9	W37	W38
F-9	R0 R0 W3	R10	R1	R12 R12	F-9	F-9
R0	N103 N103 W3	N32	N32	N34 N34	R1	R1
W4	F-10 F-10 E-10	F-10	F-10	F-10 F-10	W37	W38
F-10	R9 R9 W3	R10	R1	R12 R12	F-10	F-10
R9	N105 N105 W3	N36	N36	N34 N34	R1	R1
W3	F-11 F-11 E-11	F-11	F-11	F-11 F-11	W37	W38
F-11	R8 R8 W3	R10	R1	R12 R12	F-11	F-11
R8	N107 N107 W3	N32	N32	N34 N34	R1	R1
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F-12	R7 R7 W3	R10	R1	R12 R12	F-12	F-12
R7	N109 N109 W3	N36	N36	N34 N34	R1	R1
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F-13	R6 R6 W3	R10	R1	R12 R12	F-13	F-13
R6	N111 N111 W3	N32	N32	N34 N34	R1	R1

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F1	F13 F13	F13	F13	F13 F13 E26	8
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F1	F11 F11	F11	F11	F11 F11 E26	14
R1	R11 R11	R14	R15	R15 R15 W3	15
W6	W31 W31	N37	N34	N38 W30 F1	16
F1	F10 F10	F10	F10	F10 F10 E26	17
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W7	W31 W31	N38	N34	N38 W30 F1	19
F1	F09 F09	F09	F09	F09 F09 E26	20
R1	R09 R09	R14	R15	R15 R15 W3	21
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R1	F08 F08	R14	R15	R15 R15 W3	24
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W11	W31 W31	N42	N34	N38 W30 F1	31
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F1	F04 F04	F04	F04	F04 F04 E26	35
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F1	F02 F02	F02	F02	F02 F02 E26	41
R1	F02 F02	R14	R15	R15 R15 W3	42
W15	W31 W31	N46	N34	N38 W30 F1	43
F1	F01 F01	F01	F01	F01 F01 E26	44
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W16	W31 W31	N47	N34	N38 W30 F1	46
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W18	W31 W31	N49	N34	N38 W30 F1	52
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R1	F-2 F-2	R14	R15	R15 R15 W3	54
W19	W31 W31	N50	N34	N38 W30 F1	55
F1	F-3 F-3	F-3	F-3	F-3 F-3 E26	56
R1	F-3 F-3	R14	R15	R15 R15 W3	57
W20	W31 W31	N51	N34	N38 W30 F1	58
F1	F-4 F-4	F-4	F-4	F-4 F-4 E26	59
R1	F-4 F-4	R14	R15	R15 R15 W3	60
W21	W31 W31	N52	N34	N38 W30 F1	61
F1	F-5 F-5	F-5	F-5	F-5 F-5 E26	62
R1	F-5 F-5	R14	R15	R15 R15 W3	63
W22	W31 W31	N53	N34	N38 W30 F1	64
F1	F-6 F-6	F-6	F-6	F-6 F-6 E26	65
R1	F-6 F-6	R14	R15	R15 R15 W3	66
W23	W31 W31	N54	N34	N38 W30 F1	67
F1	F-7 F-7	F-7	F-7	F-7 F-7 E26	68
R1	F-7 F-7	R14	R15	R15 R15 W3	69
W24	W31 W31	N55	N34	N38 W30 F1	70
F1	F-8 F-8	F-8	F-8	F-8 F-8 E26	71
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W25	W31 W31	N56	N34	N38 W30 F1	73
F1	F-9 F-9	F-9	F-9	F-9 F-9 E26	74
R1	F-9 F-9	R14	R15	R15 R15 W3	75
W26	W31 W31	N57	N34	N38 W30 F1	76
F1	F-10 F-10	F-10	F-10	F-10 F-10 E26	77
R1	F-10 F-10	R14	R15	R15 R15 W3	78
W27	W31 W31	N58	N34	N38 W30 F1	79
F1	F-11 F-11	F-11	F-11	F-11 F-11 E26	80
R1	F-11 F-11	R14	R15	R15 R15 W3	81
W28	W31 W31	N59	N34	N38 W30 F1	82
F1	F-12 F-12	F-12	F-12	F-12 F-12 E26	83
R1	F-12 F-12	R14	R15	R15 R15 W3	84

SHARD PLACE



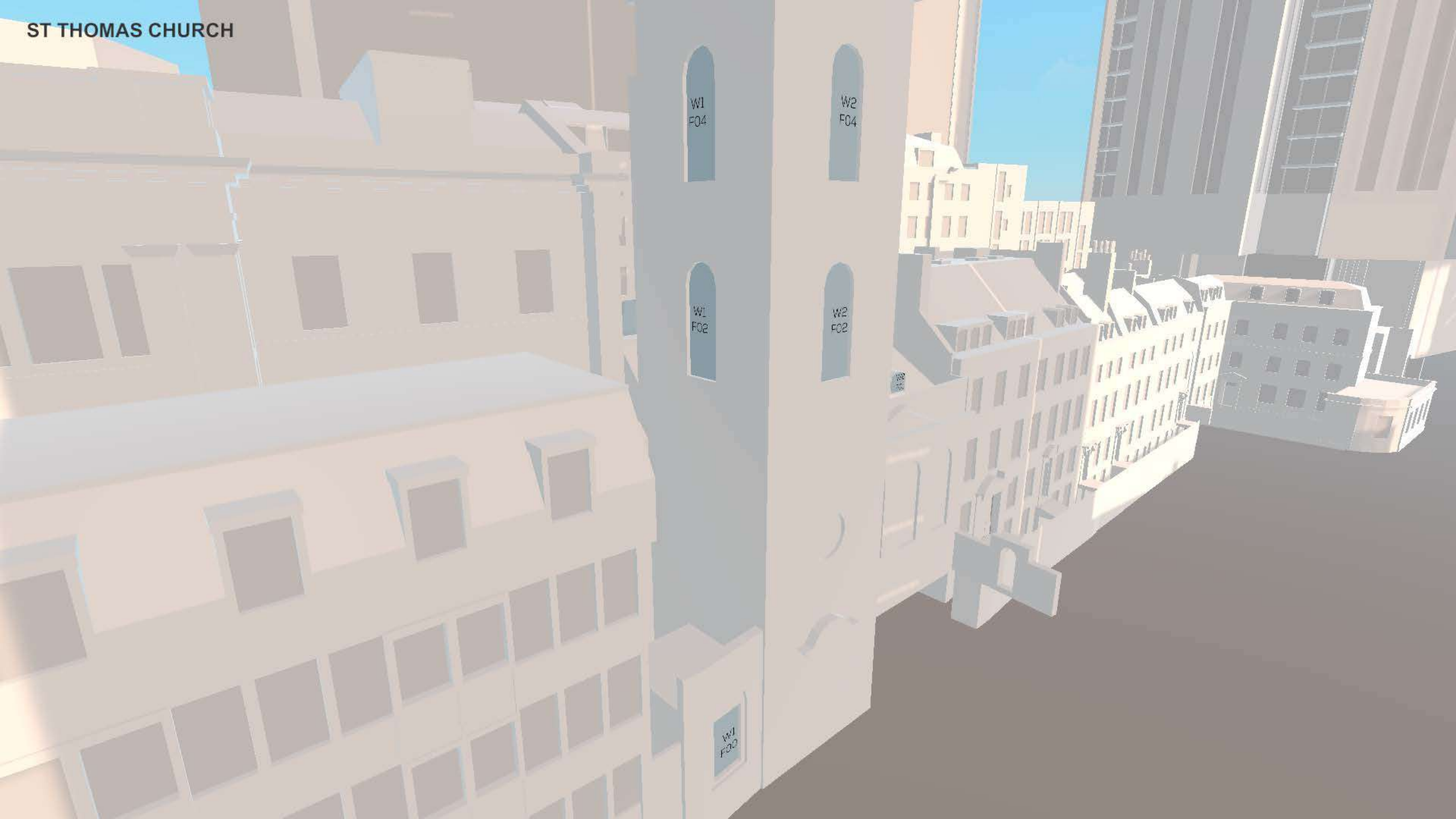
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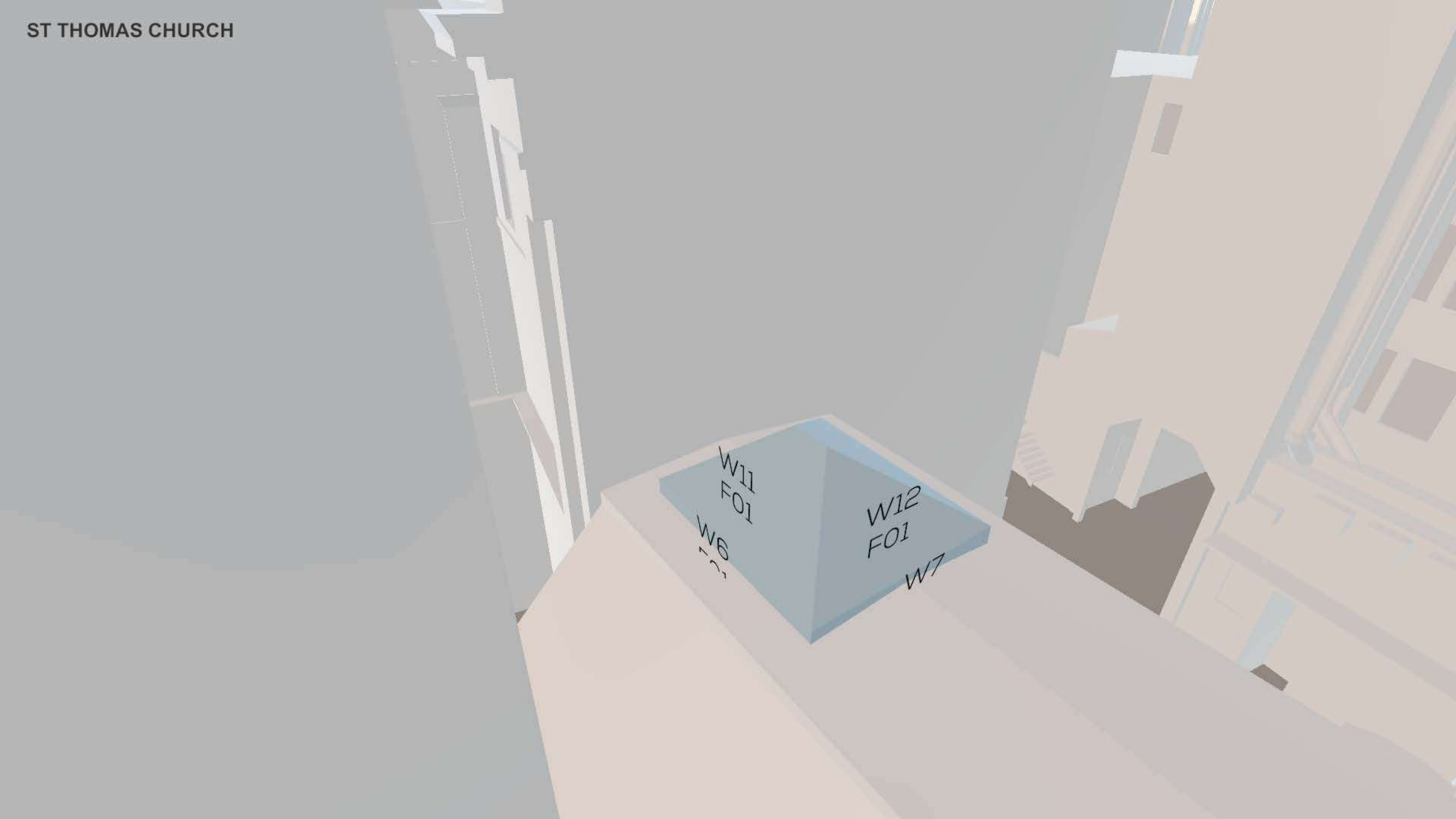
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ST THOMAS CHURCH

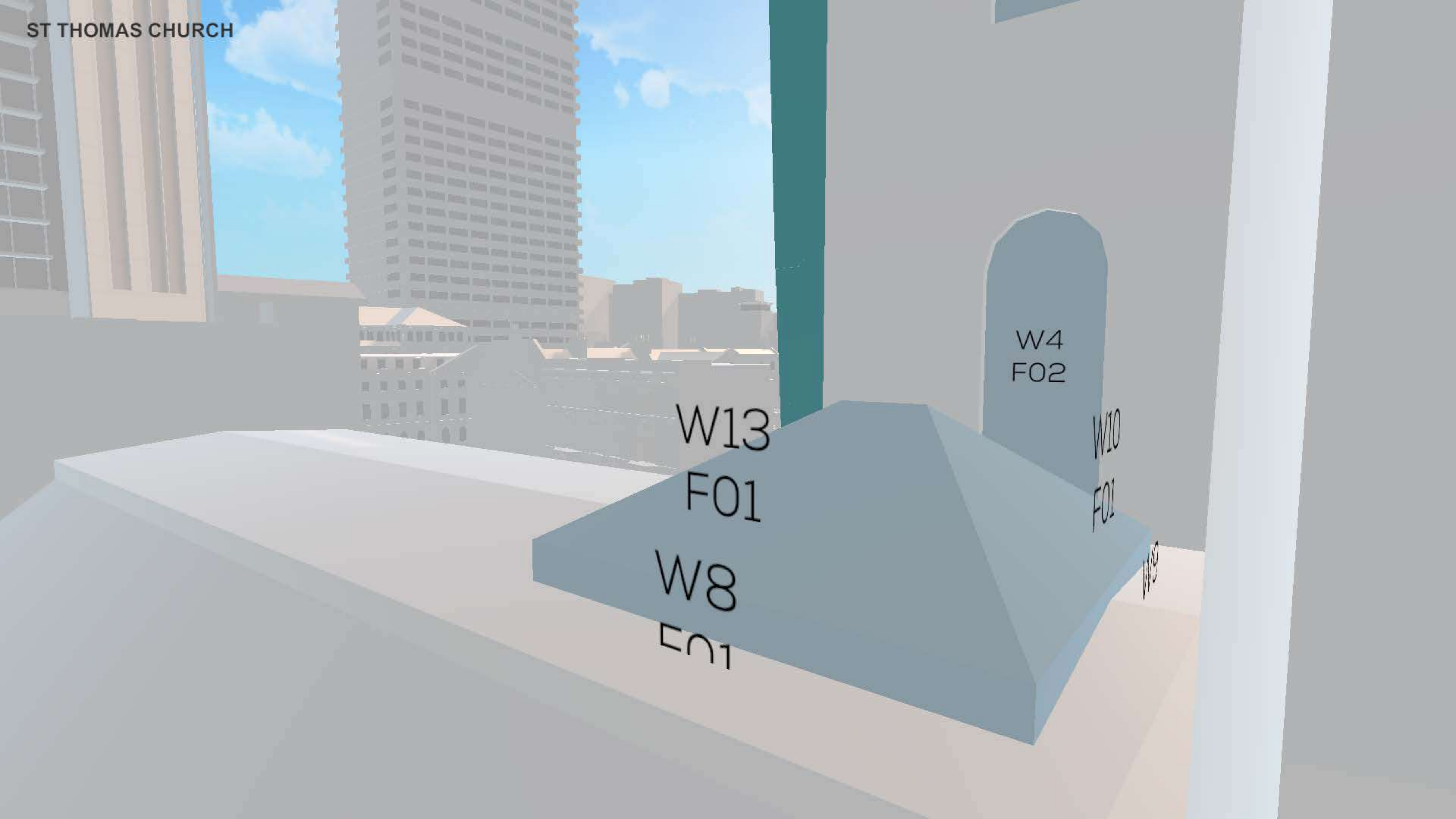


ST THOMAS CHURCH





ST THOMAS CHURCH



W4
F02

W13
F01

W10
F01

W8
F01

W8

THE OLD KINGS HEAD PH





W17
F02

W18
F02

W5
F03

W16 F02 W15 F02 W14 F02
W13 F02 W12 F02 W11 F02

W18 F01 W17 F01 W16 F01
W15 F01 W14 F01 W13 F01

W4 F03 W3 F03 W2 F03

W10 F02 W9 F02 W8 F02 W7 F02

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W9 F01 W8 F01 W7 F01

W1
F03

W6 F02 W5 F02 W4 F02
W3 F02 W2 F02 W1 F02

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W6
F00

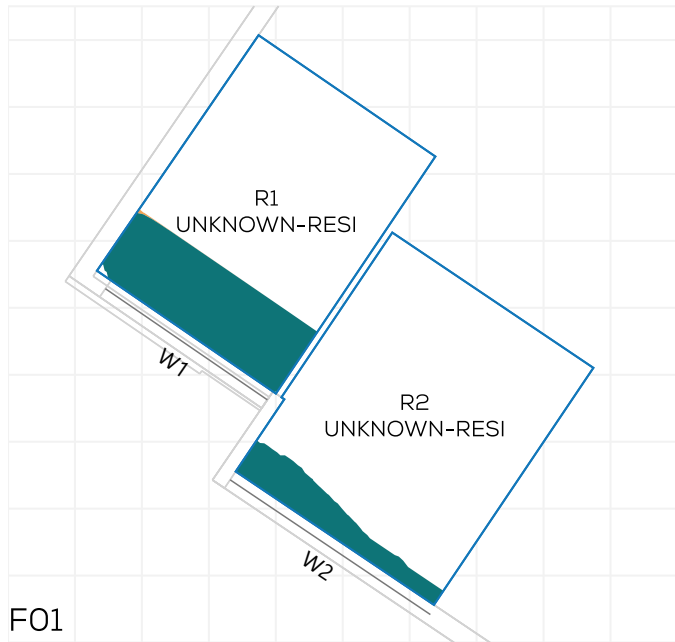
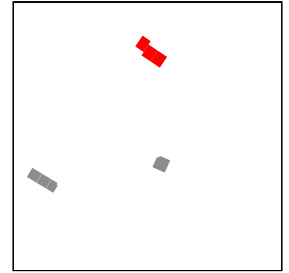
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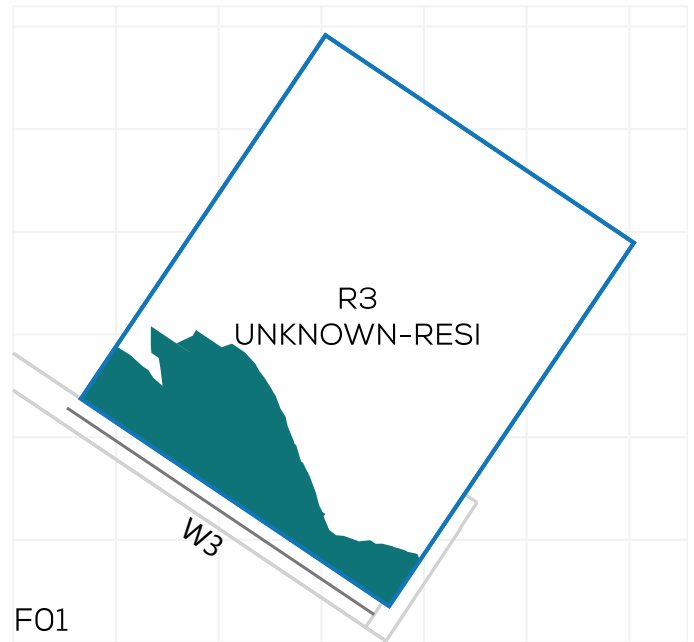
PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 6 LONDON BRIDGE STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD1

KEY:

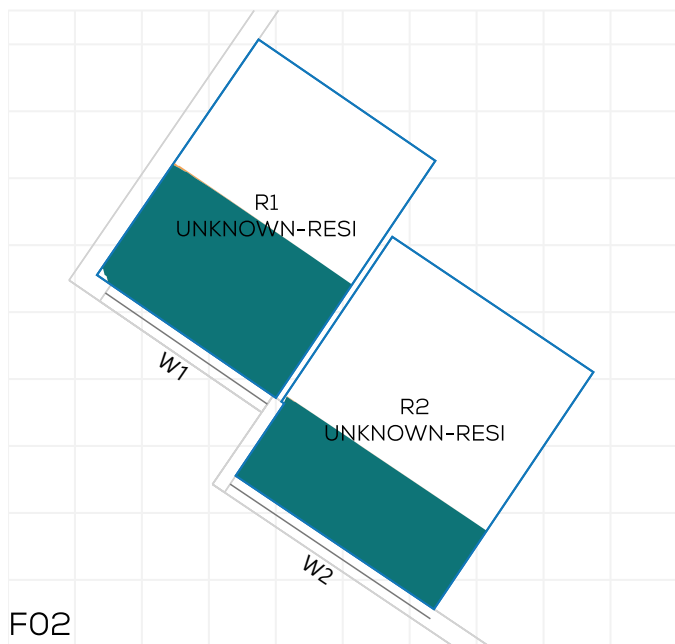
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



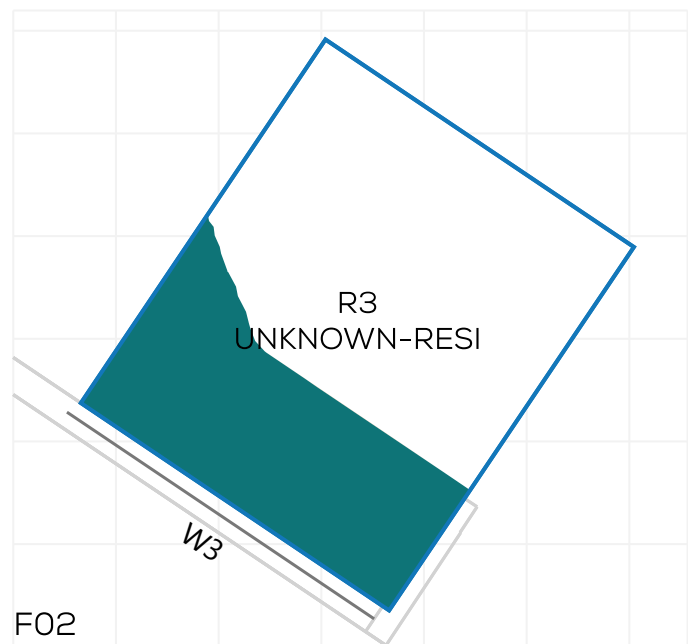
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F01



F02



F02

PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 6 LONDON BRIDGE STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD2

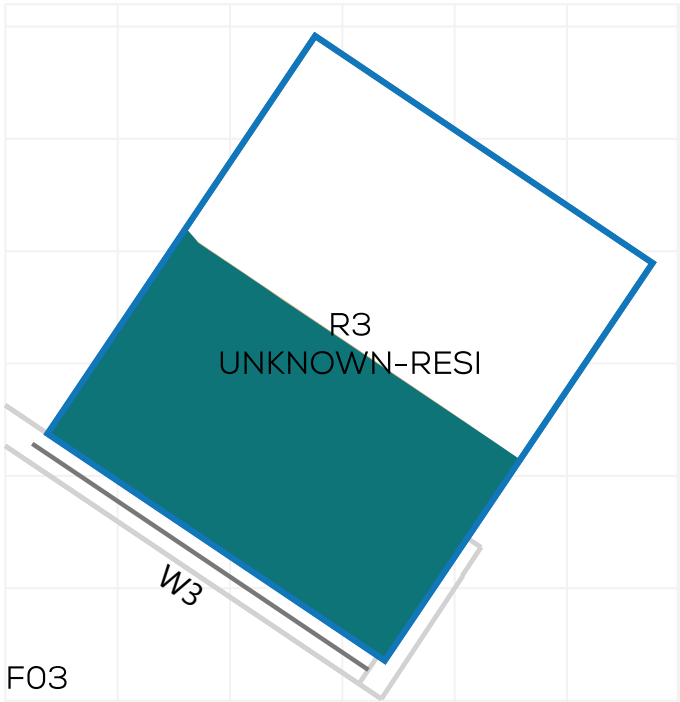
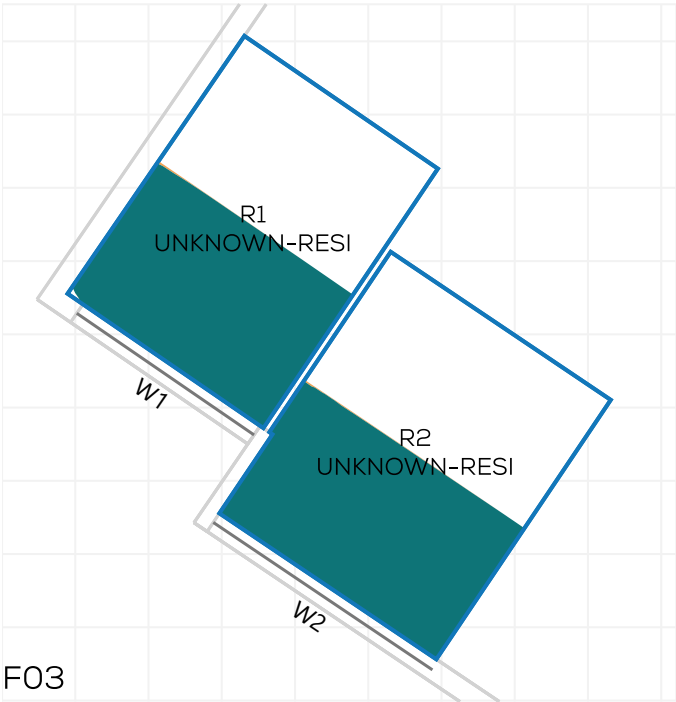
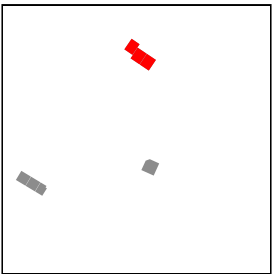
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GAIN

LOSS

MAINTAINED LIT AREA

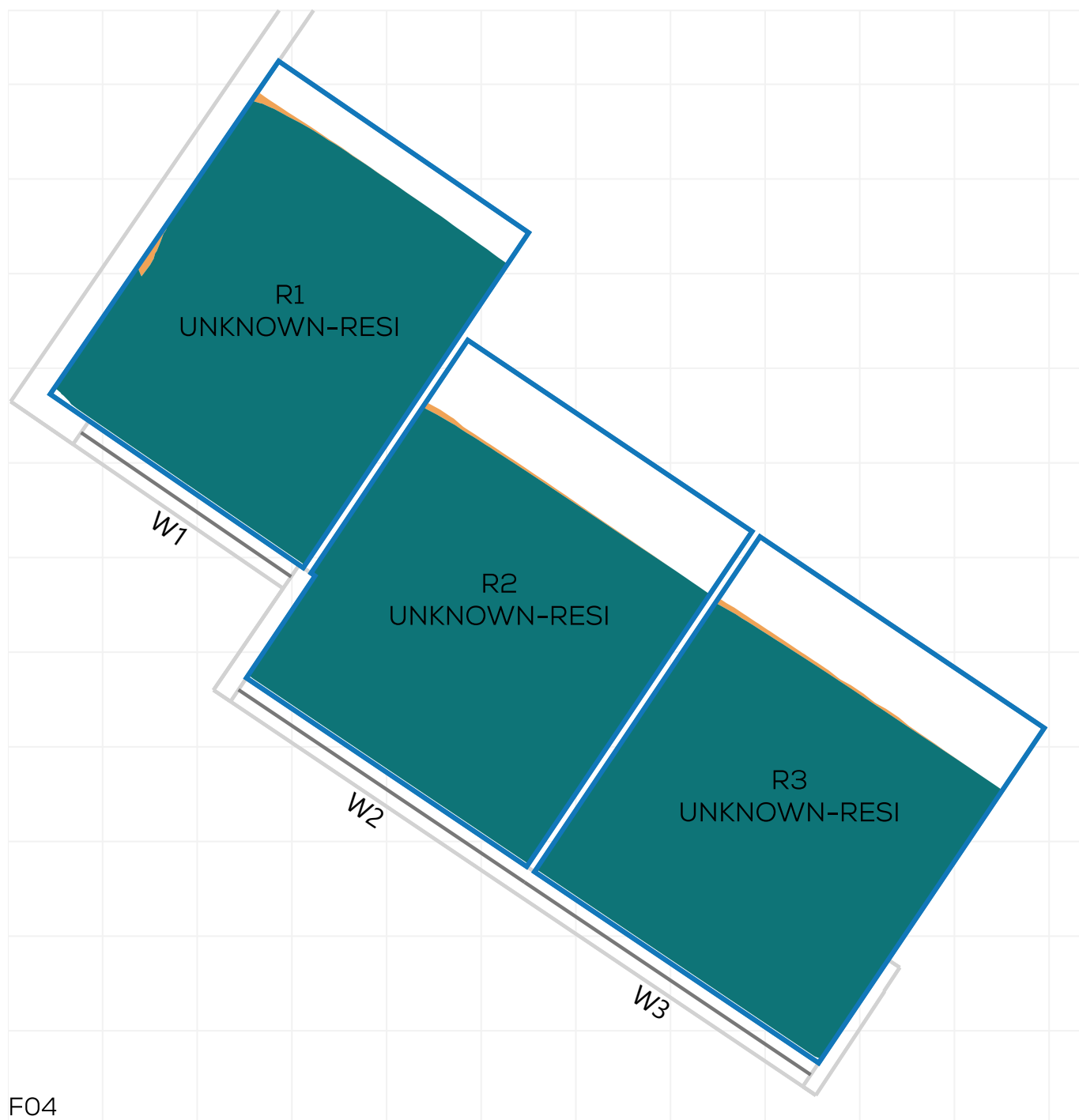
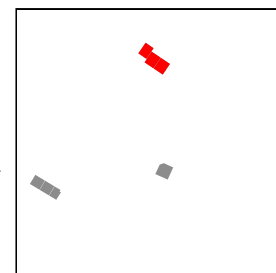
1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 6 LONDON BRIDGE STREET
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD3

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 6 LONDON BRIDGE STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD4

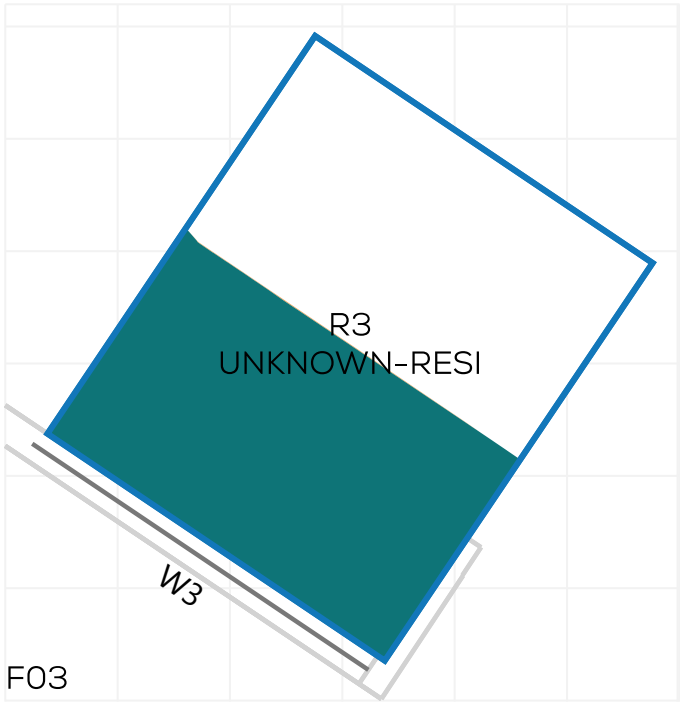
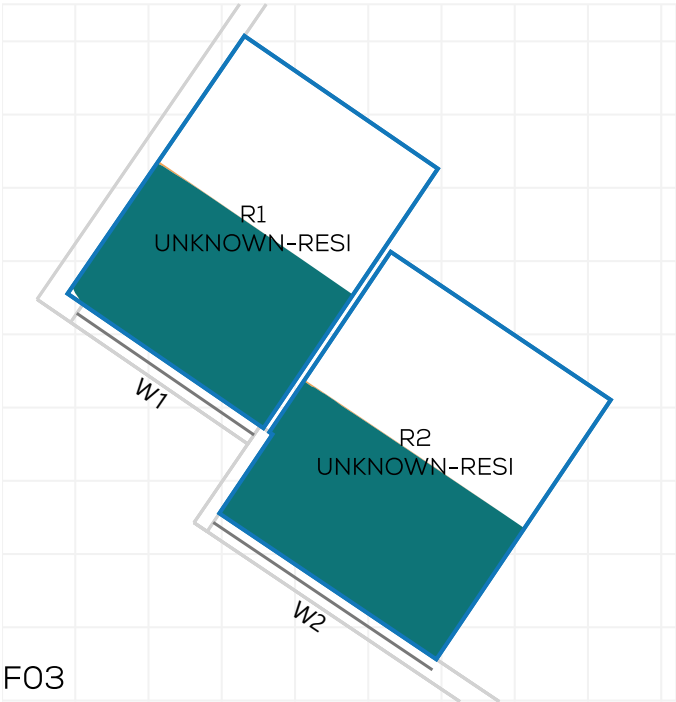
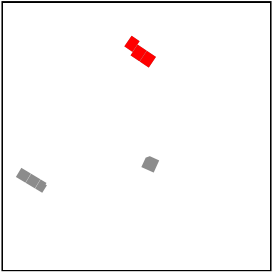
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GAIN

LOSS

MAINTAINED LIT AREA

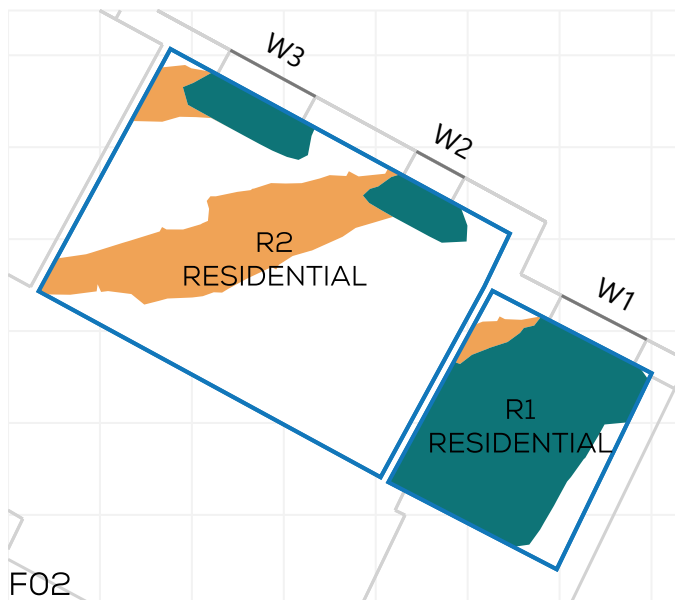
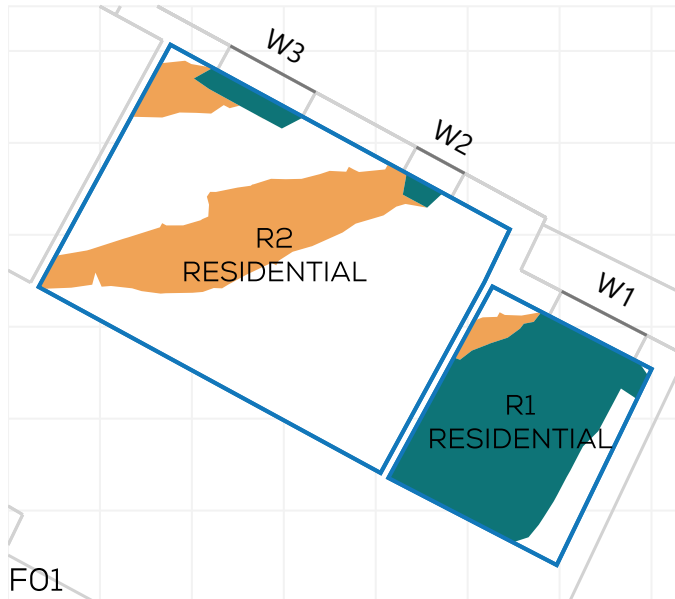
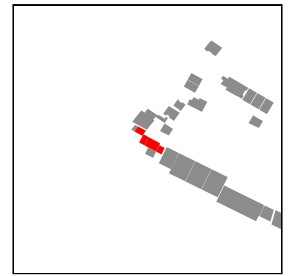
1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 63A BOROUGH HIGH STREET
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD5

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



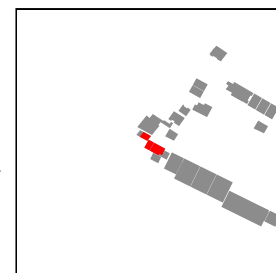
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 63A BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD6

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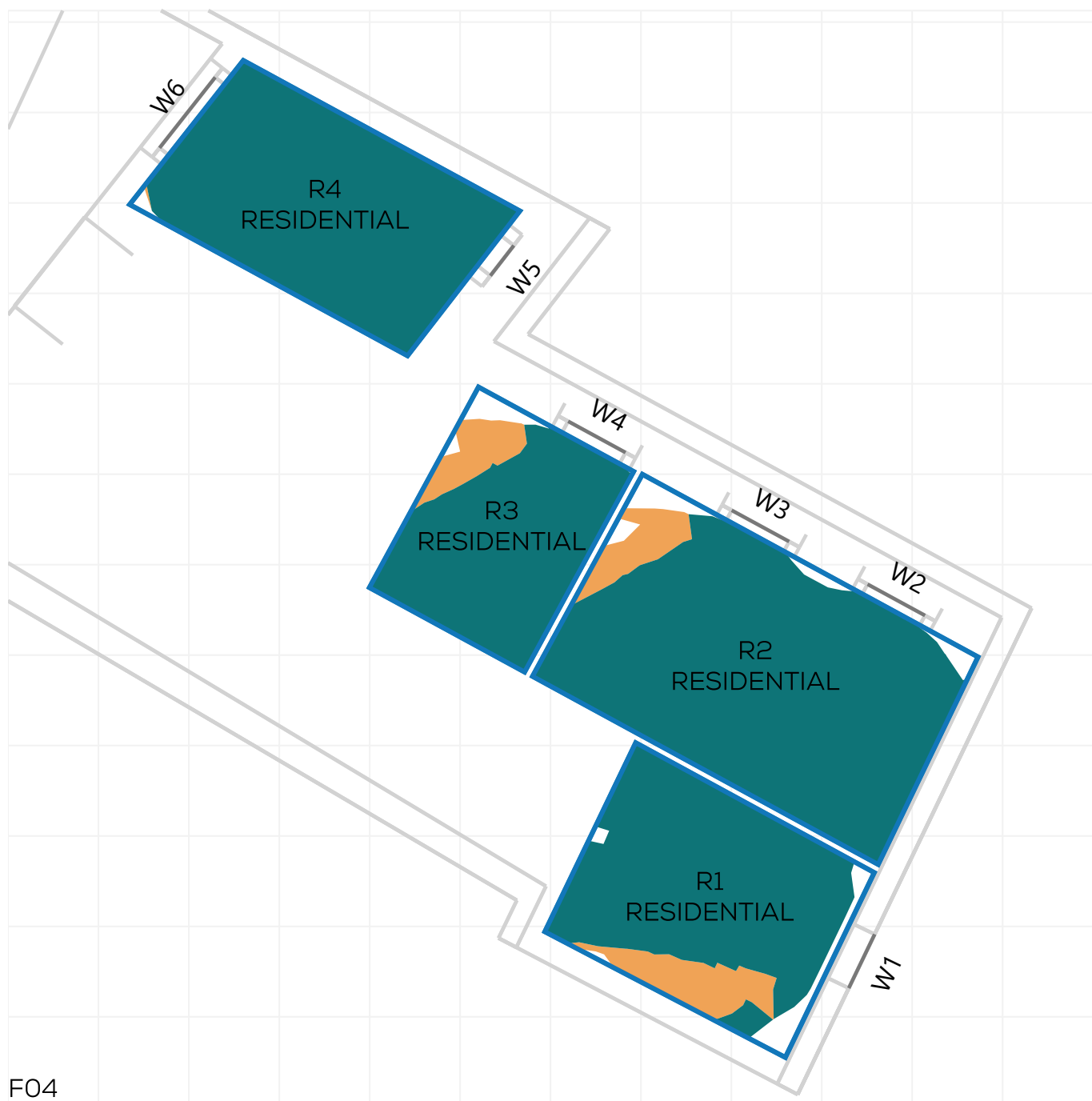
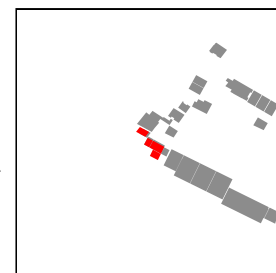
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 63A BOROUGH HIGH STREET
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD7

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



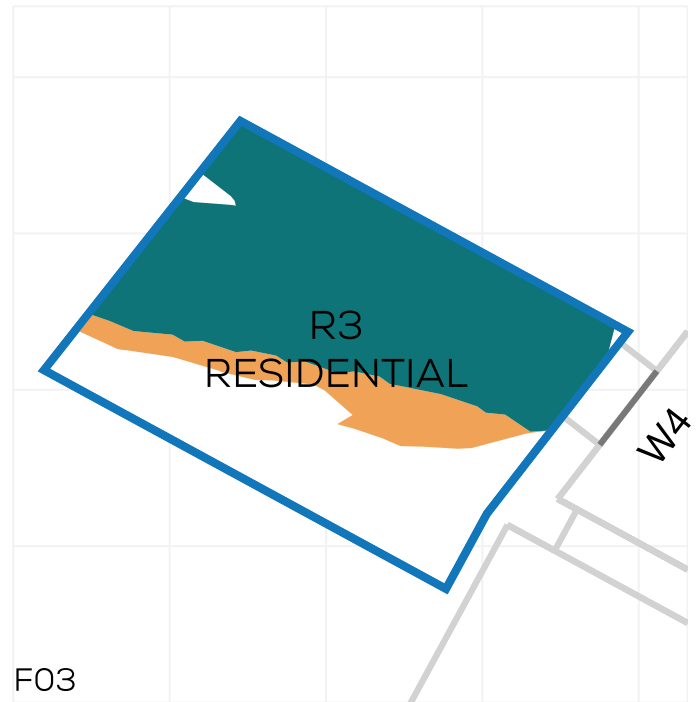
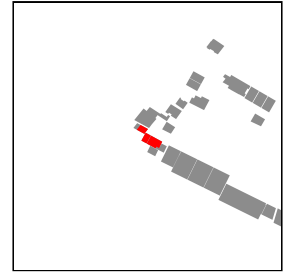
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PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 63A BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD8

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



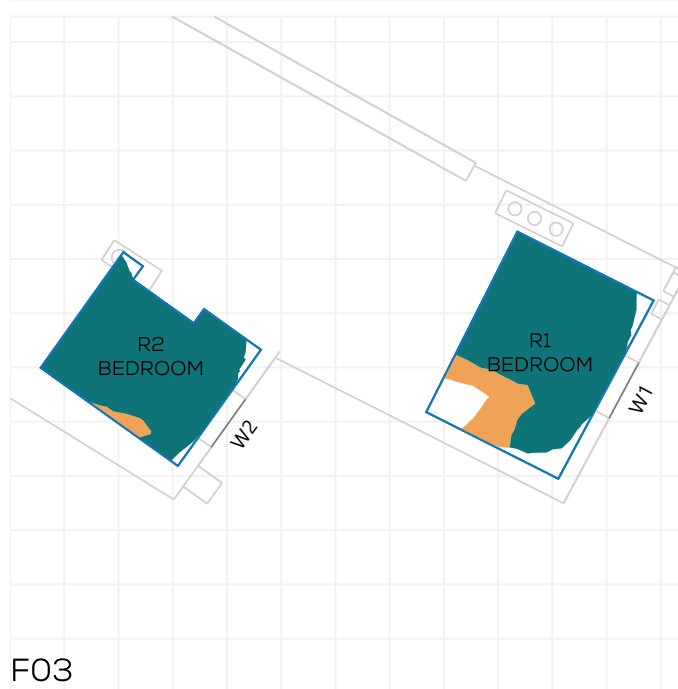
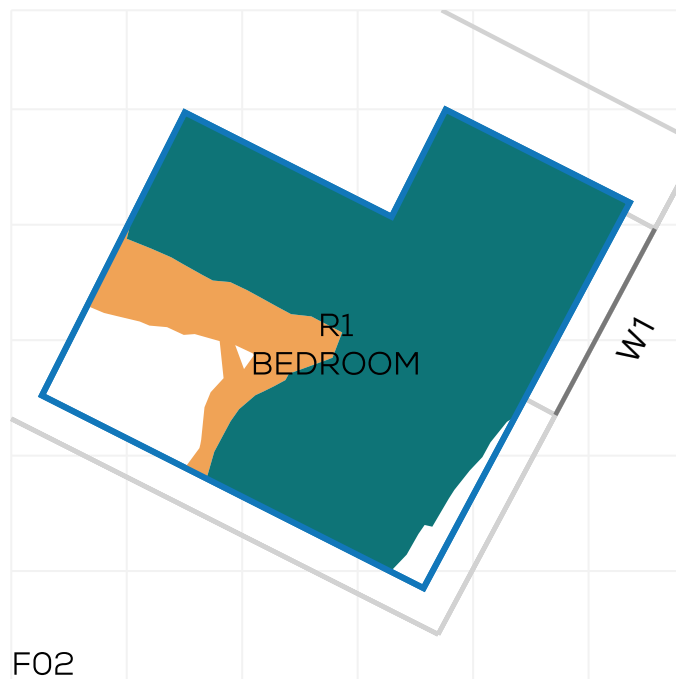
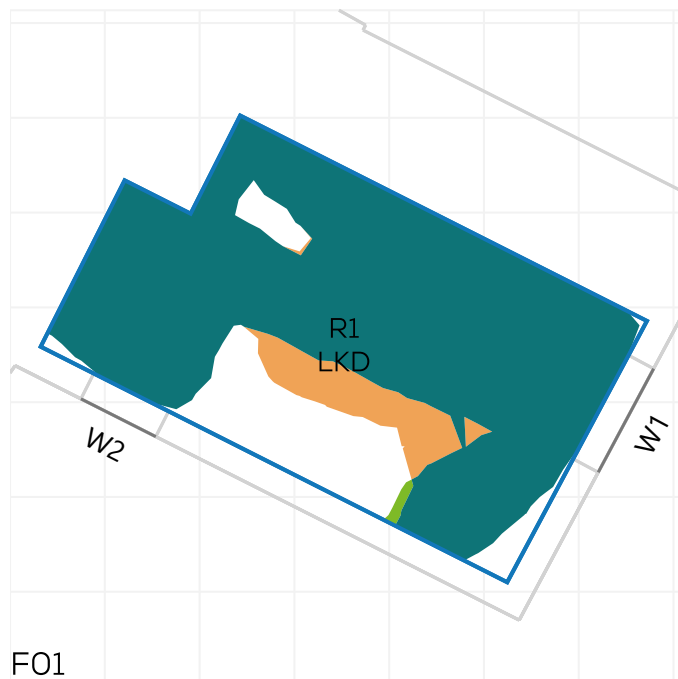
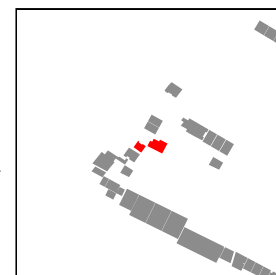
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 53-55 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD9

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



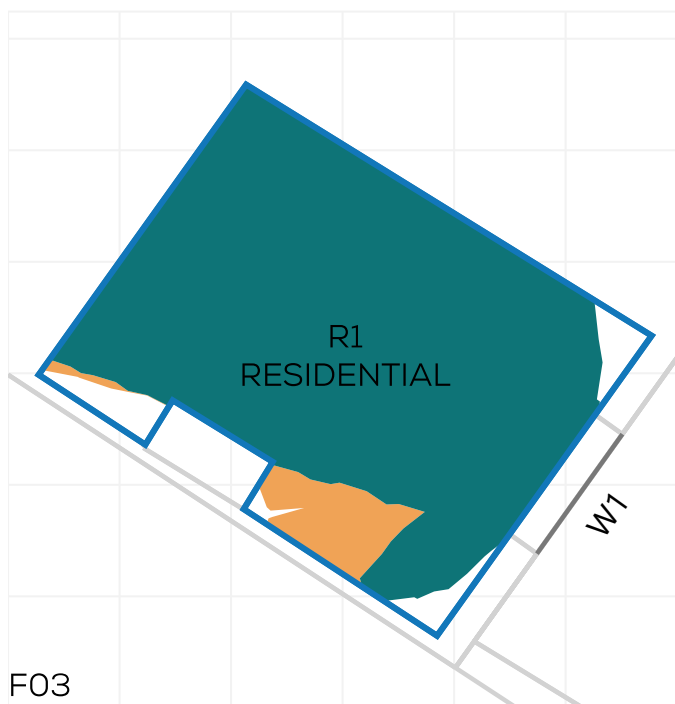
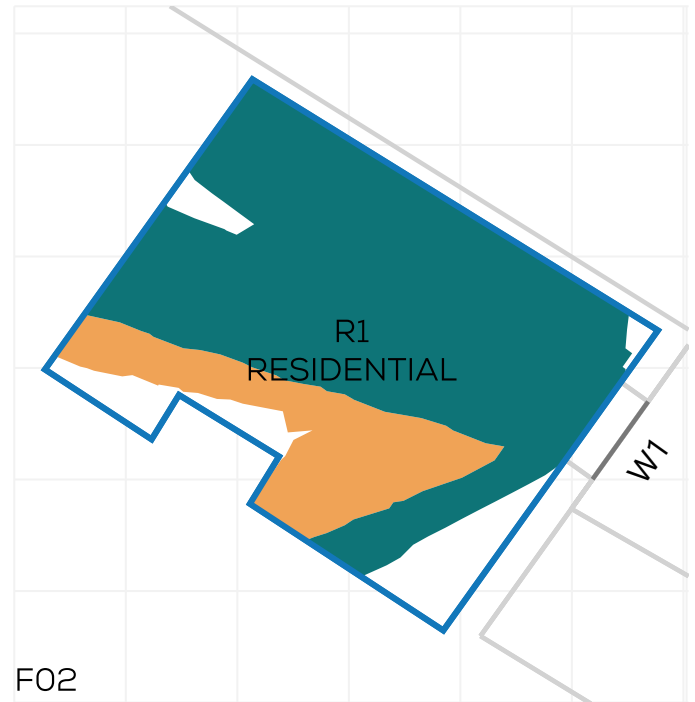
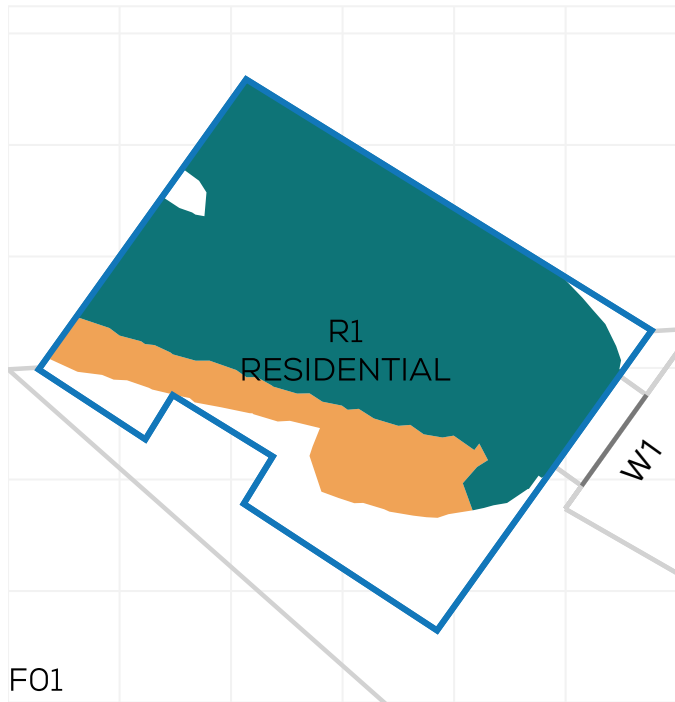
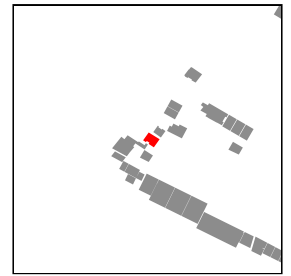
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 57 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD10

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



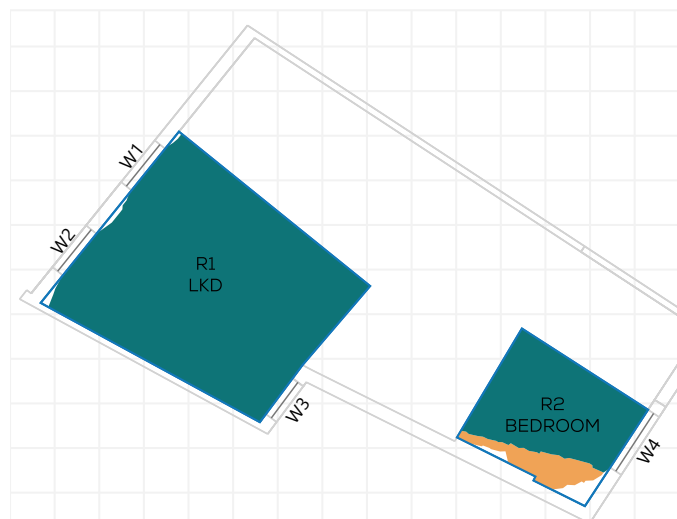
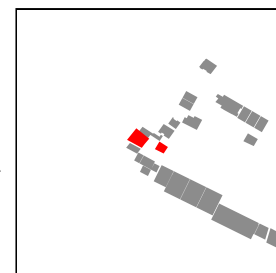
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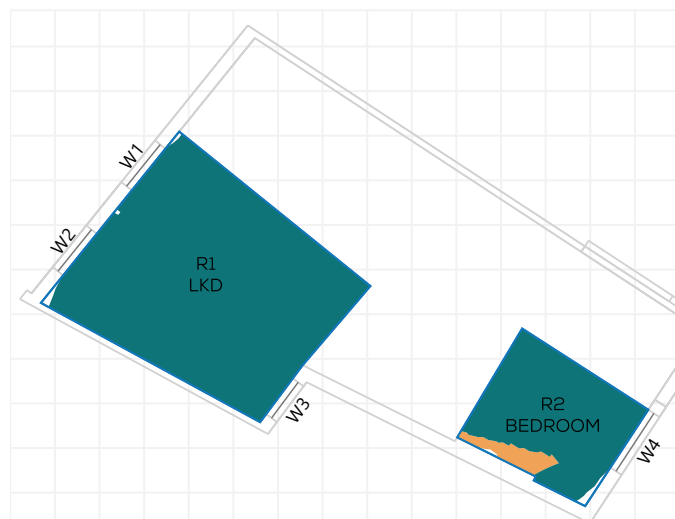
PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 59-61 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD11

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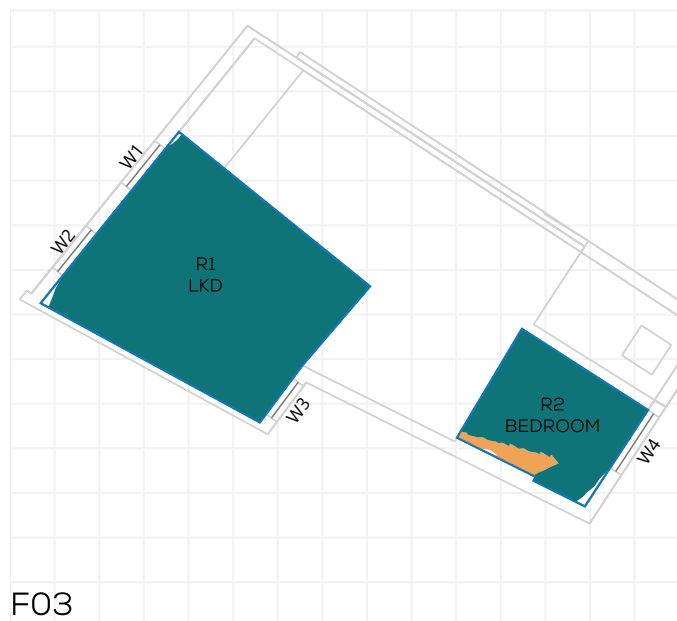
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



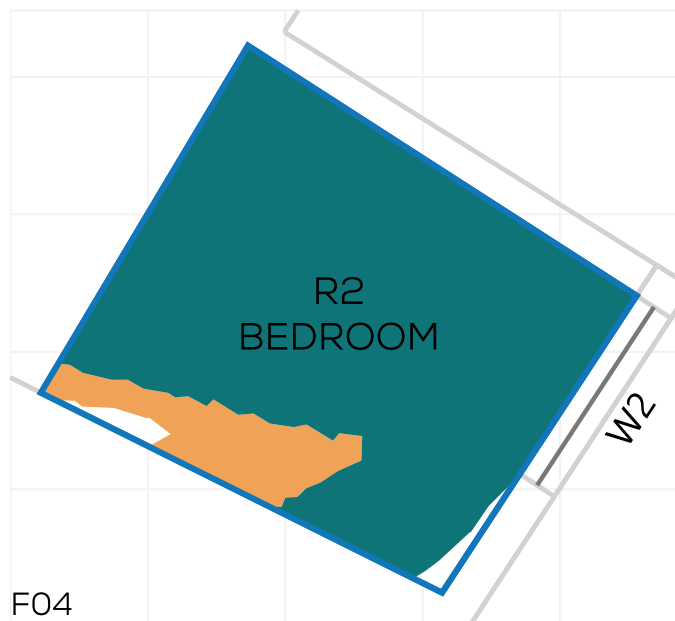
F01



F02



F03



F04

NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 59-61 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD12

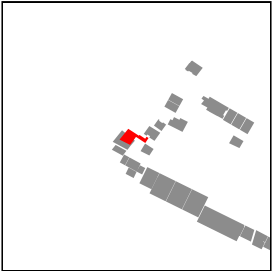
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



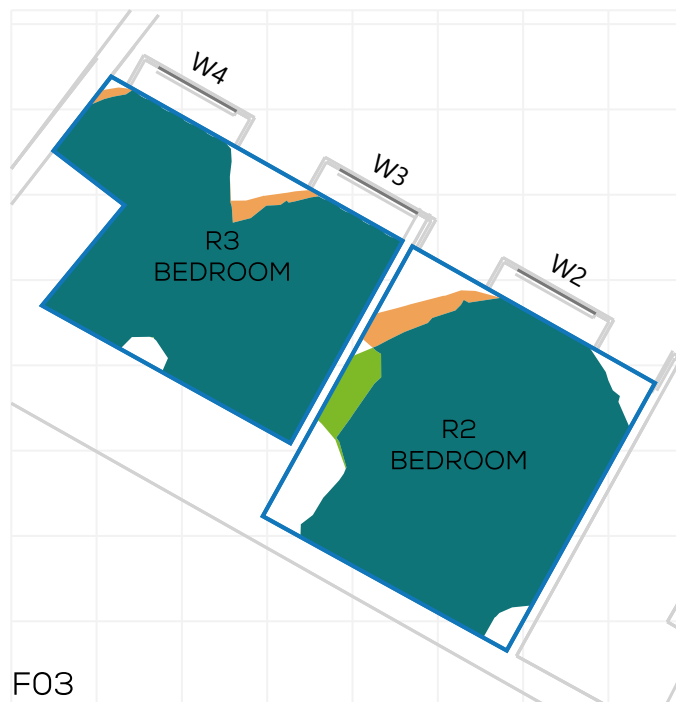
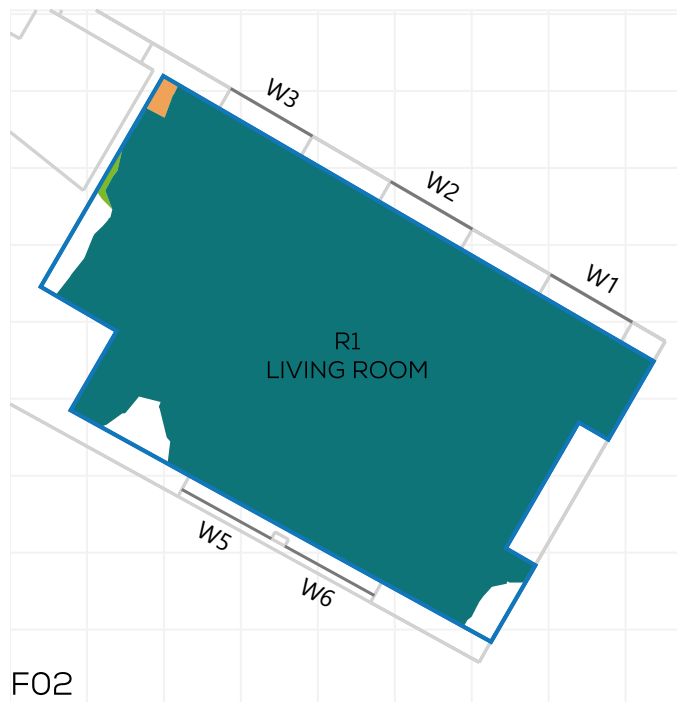
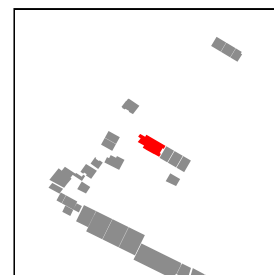
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 3 KINGS HEAD YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD13

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



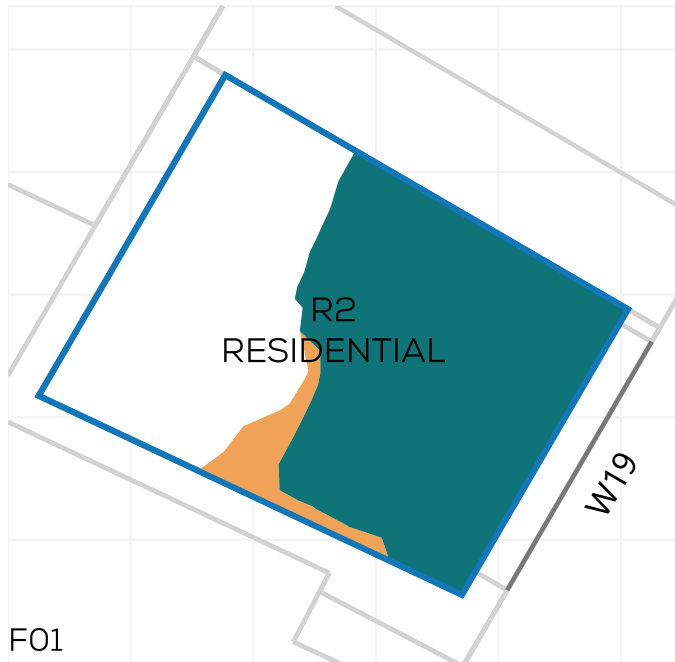
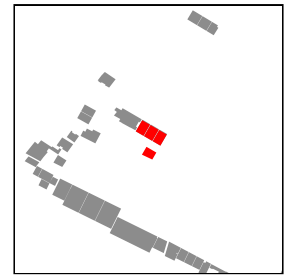
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: THE OLD KINGS HEAD PH
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD14

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



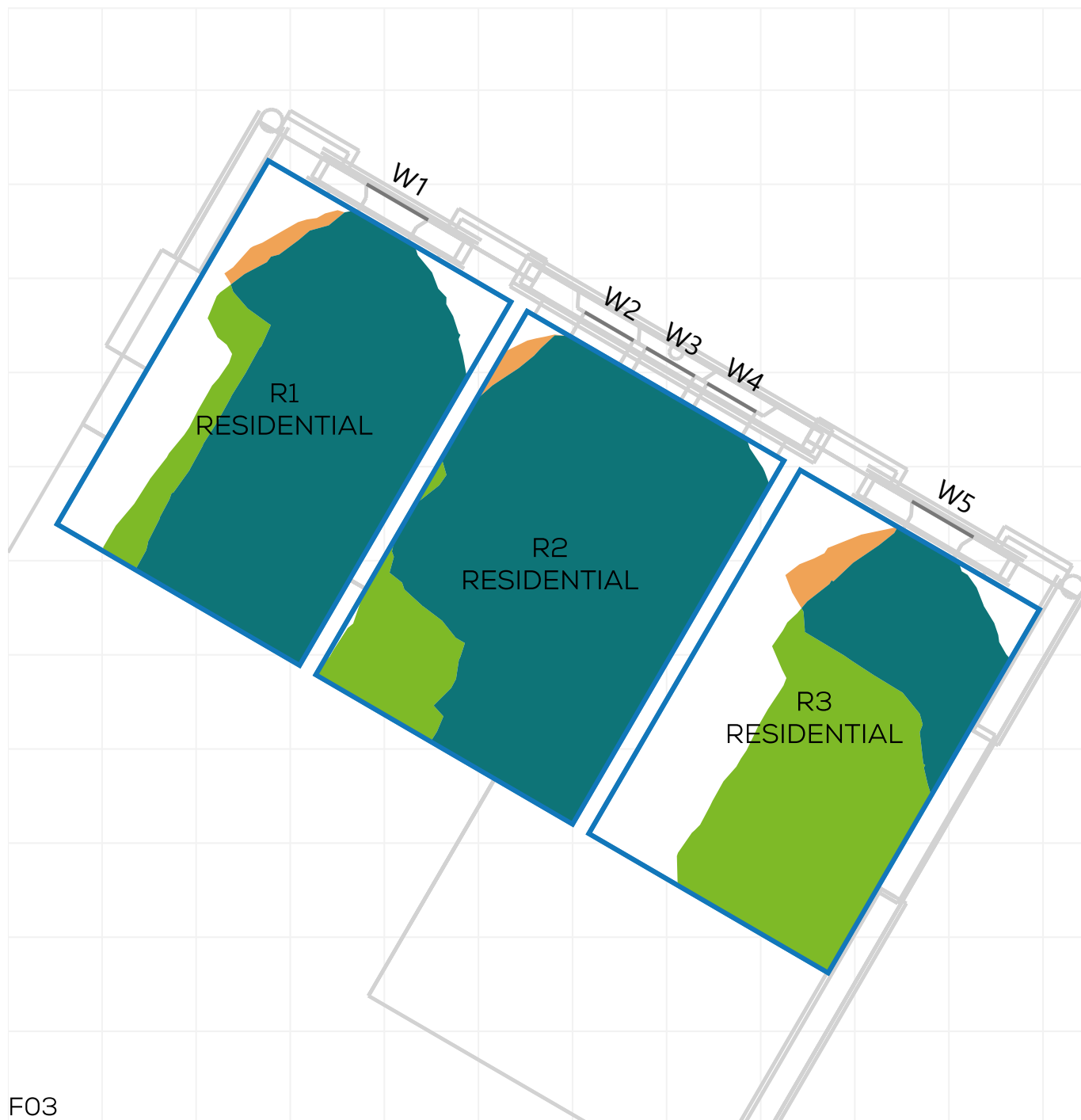
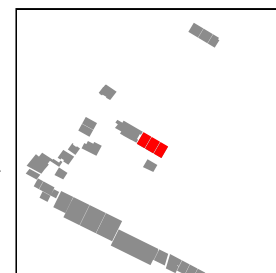
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: THE OLD KINGS HEAD PH
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD15

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



F03

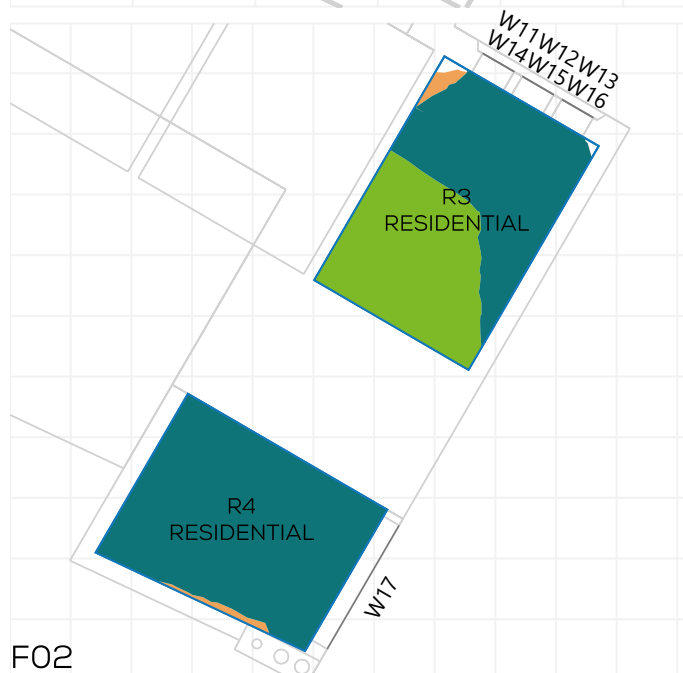
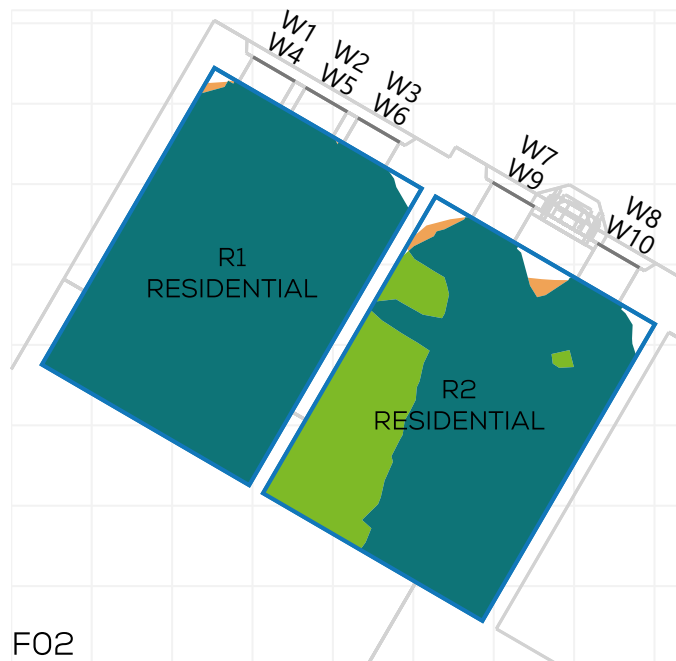
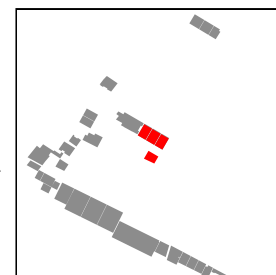
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: THE OLD KINGS HEAD PH
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD16

KEY:

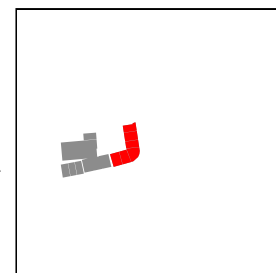
- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 22 SOUTHWARK ST
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD17

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

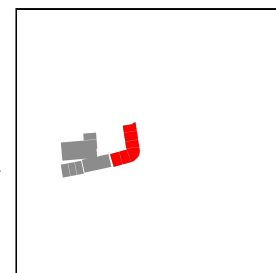


F01

PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 22 SOUTHWARK ST
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD18

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 22 SOUTHWARK ST
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD19

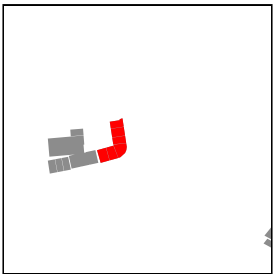
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



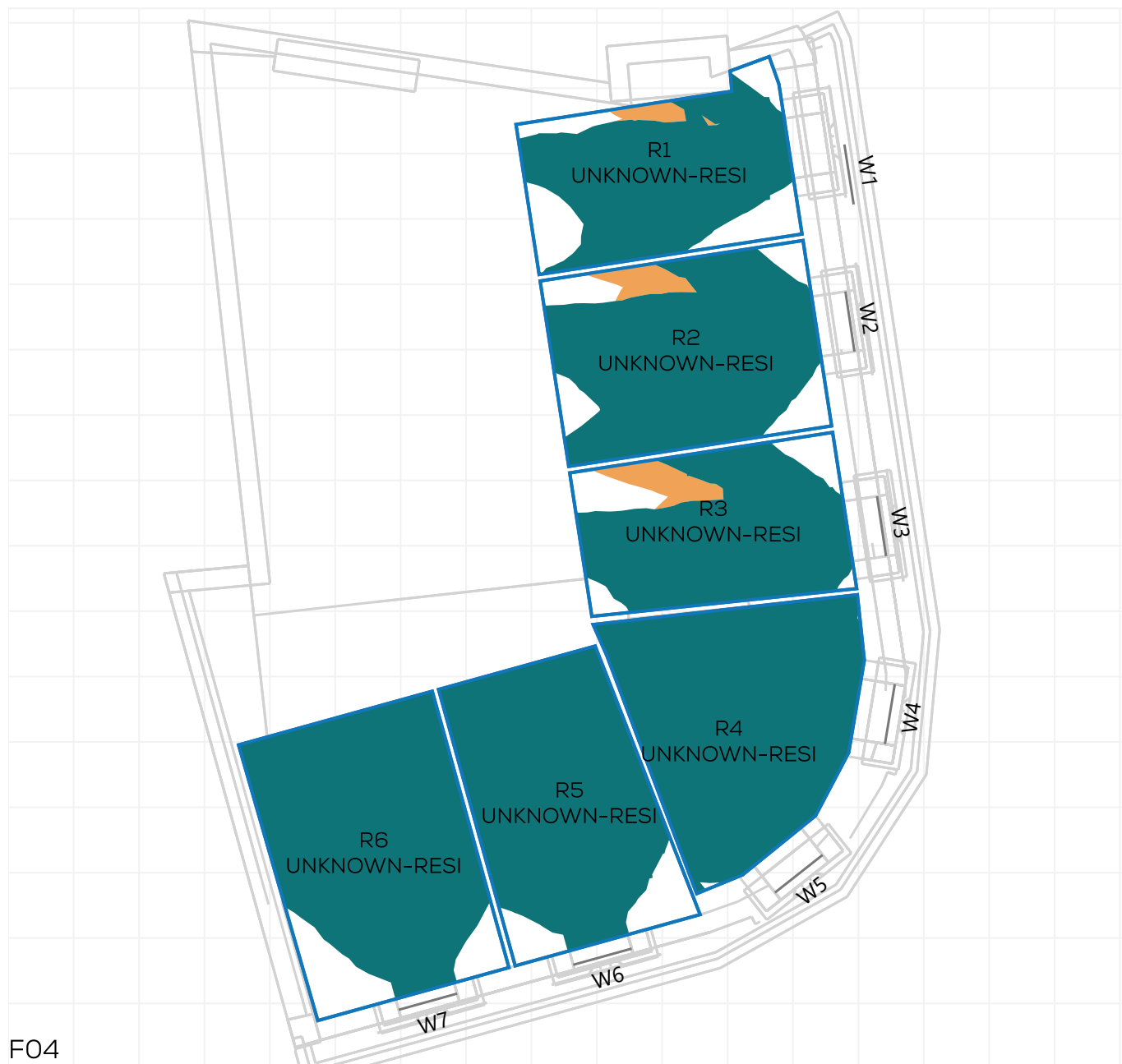
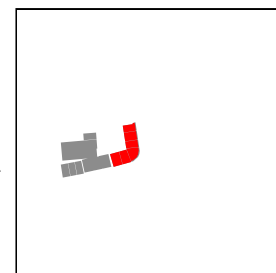
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 22 SOUTHWARK ST
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD20

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



F04

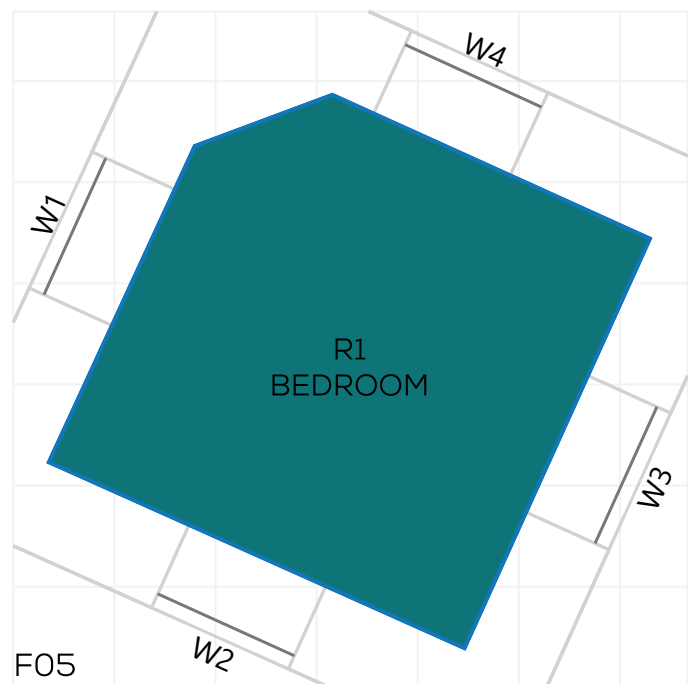
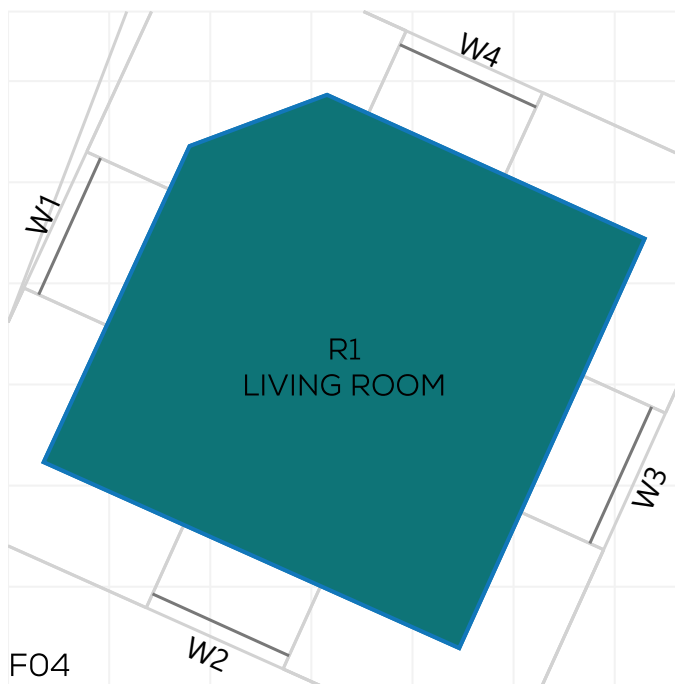
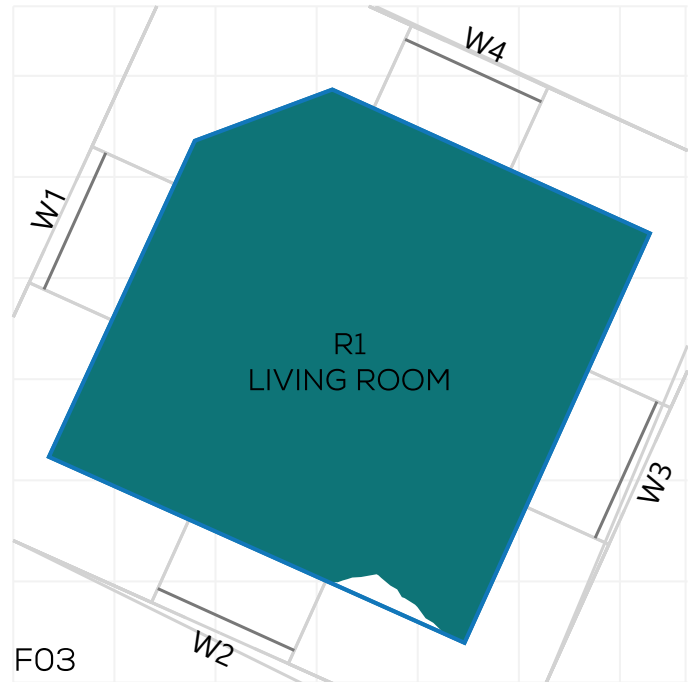
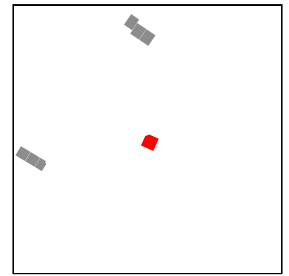
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ST THOMAS CHURCH
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD21

KEY:





- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

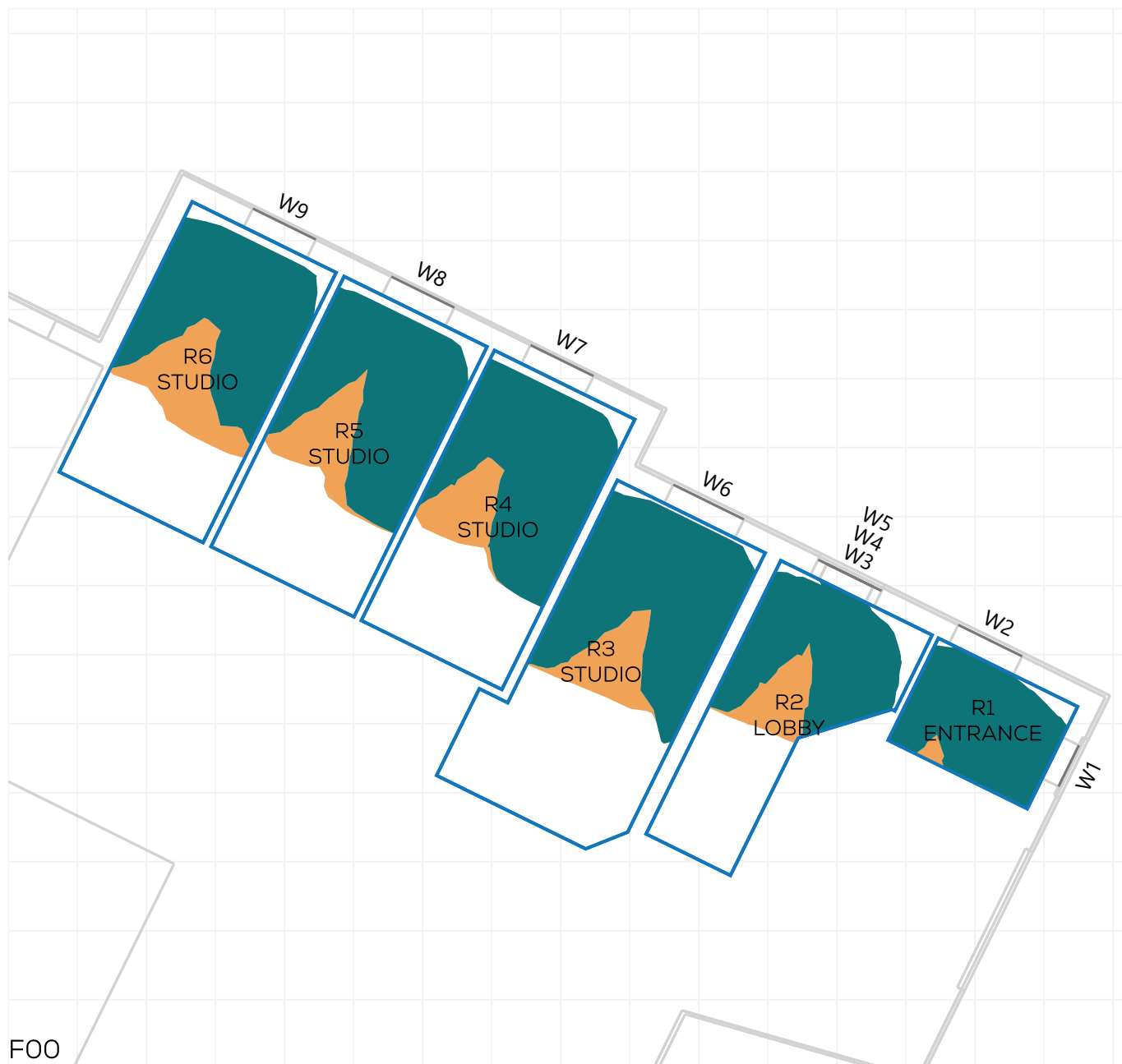


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD22

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



F00

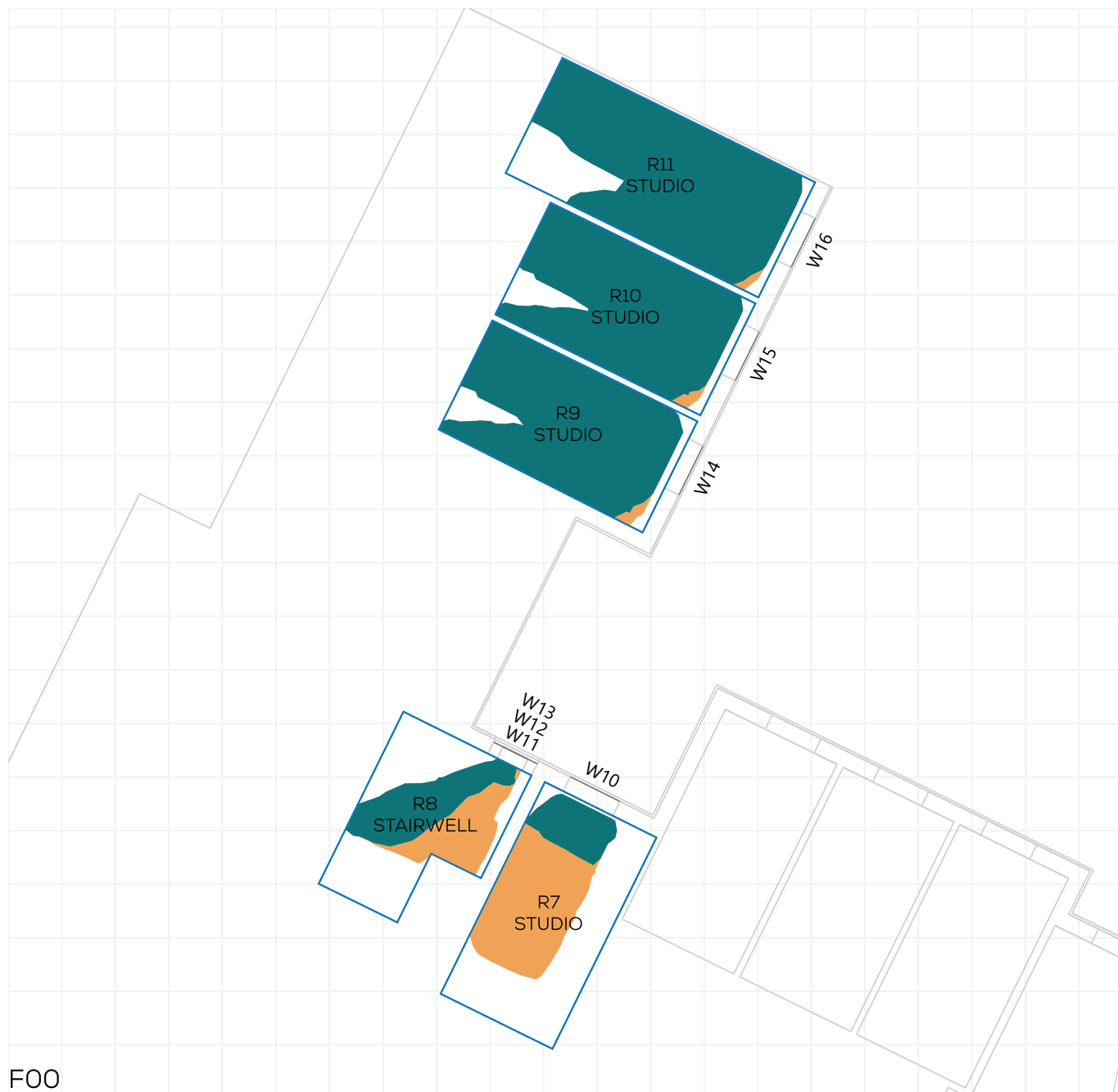
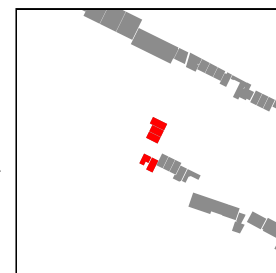
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD23

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



FOO

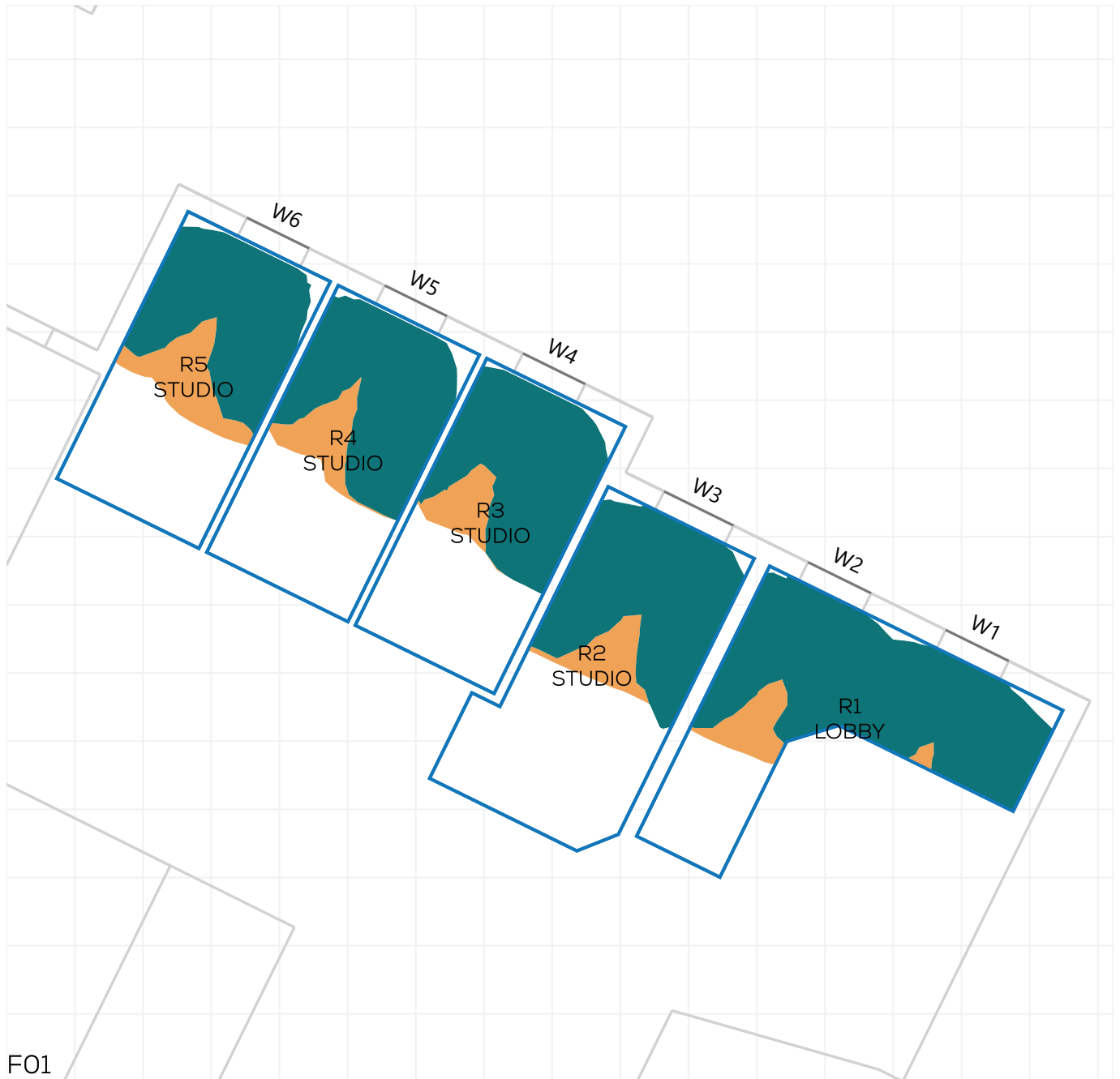
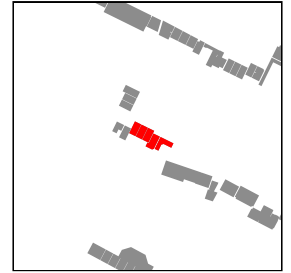
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD24





KEY:


- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

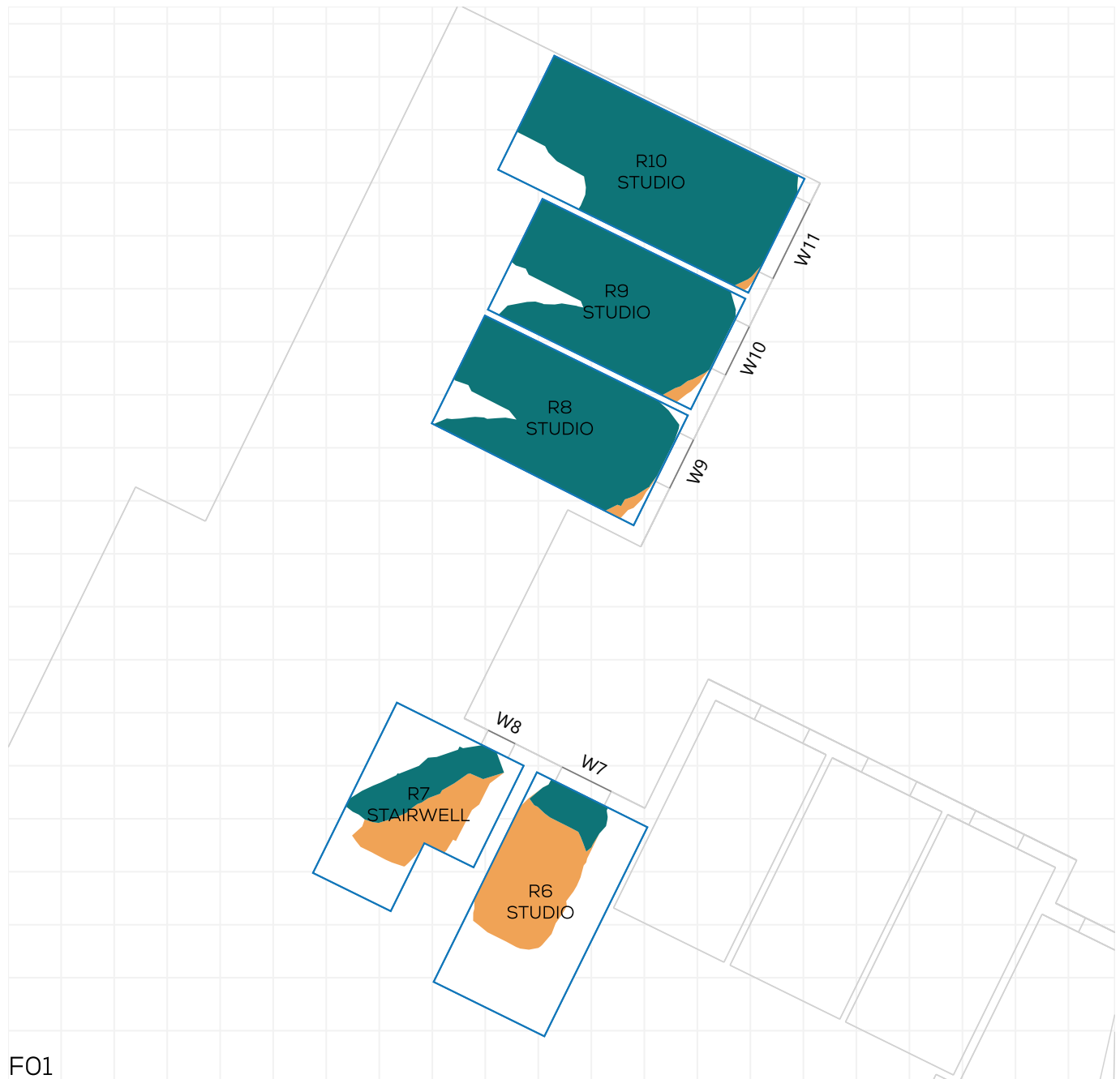
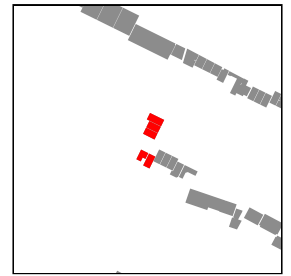


F01

KEY:

-  GAIN
-  LOSS
-  MAINTAINED LIT AREA
-  1 METRE GRID





F01

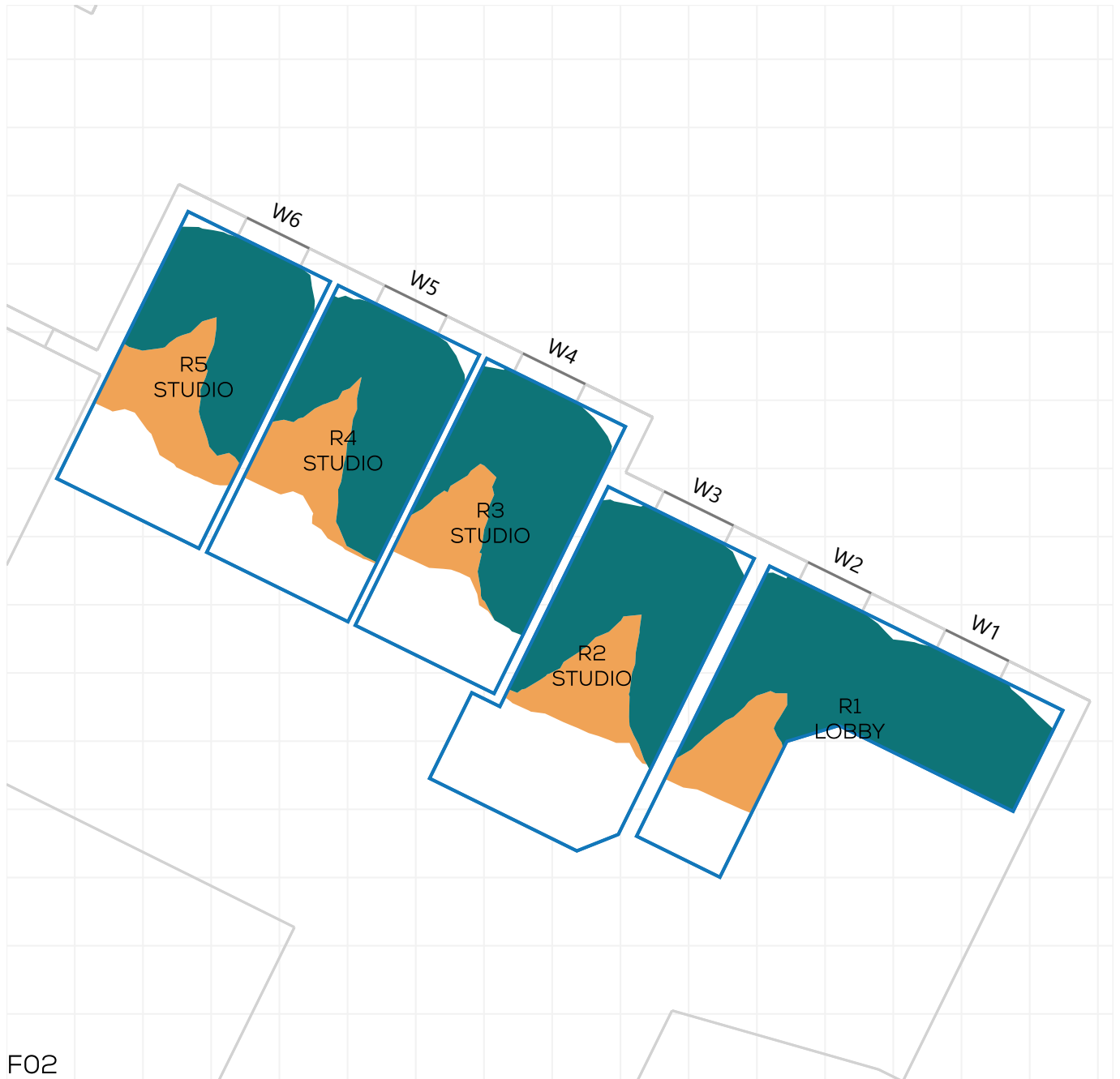
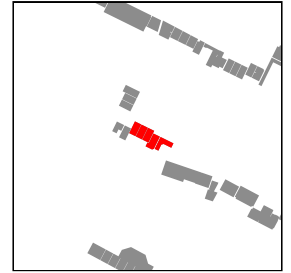
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD26

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



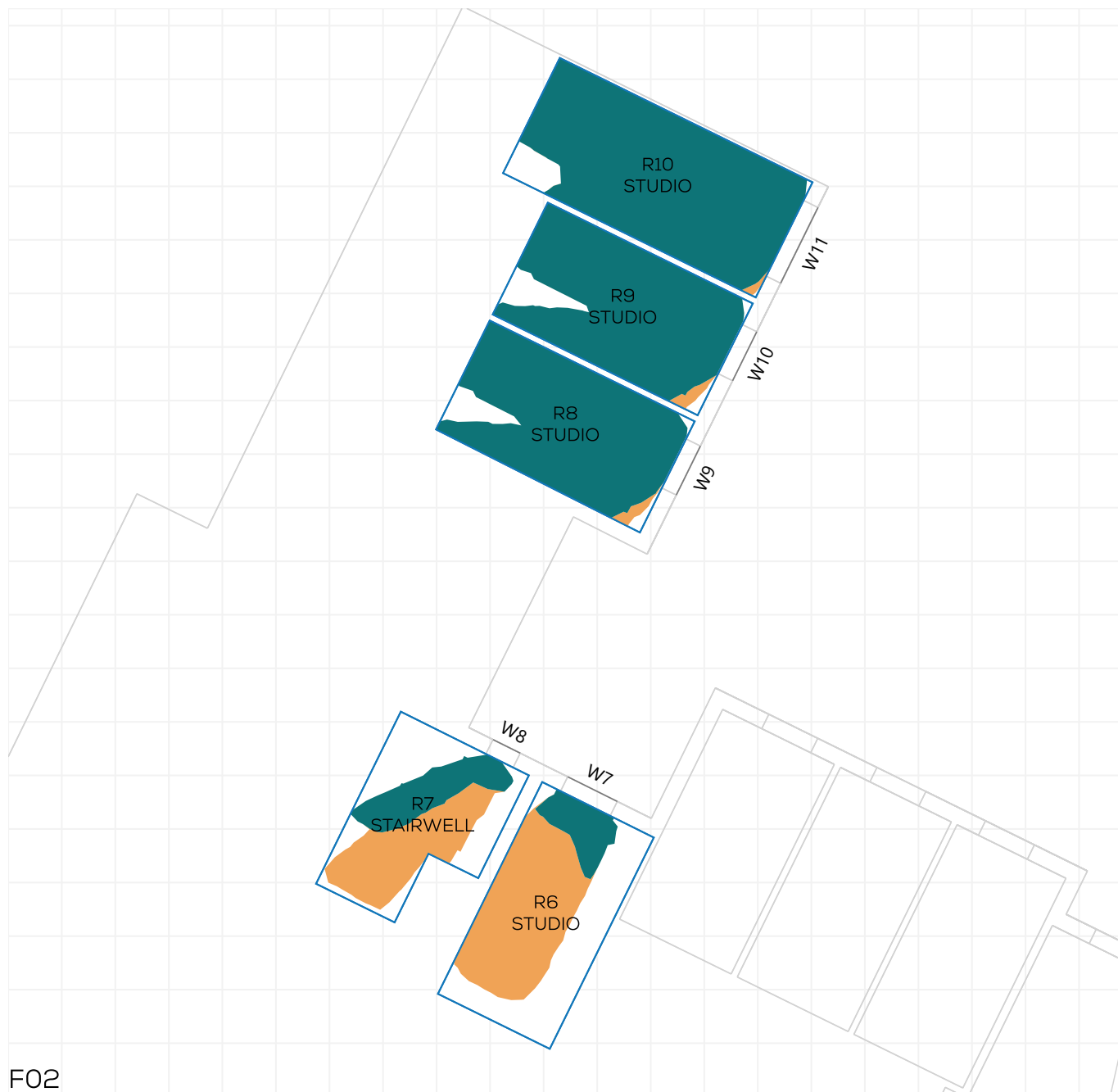
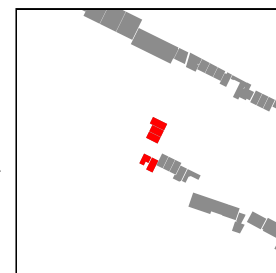
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD27

KEY:





- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

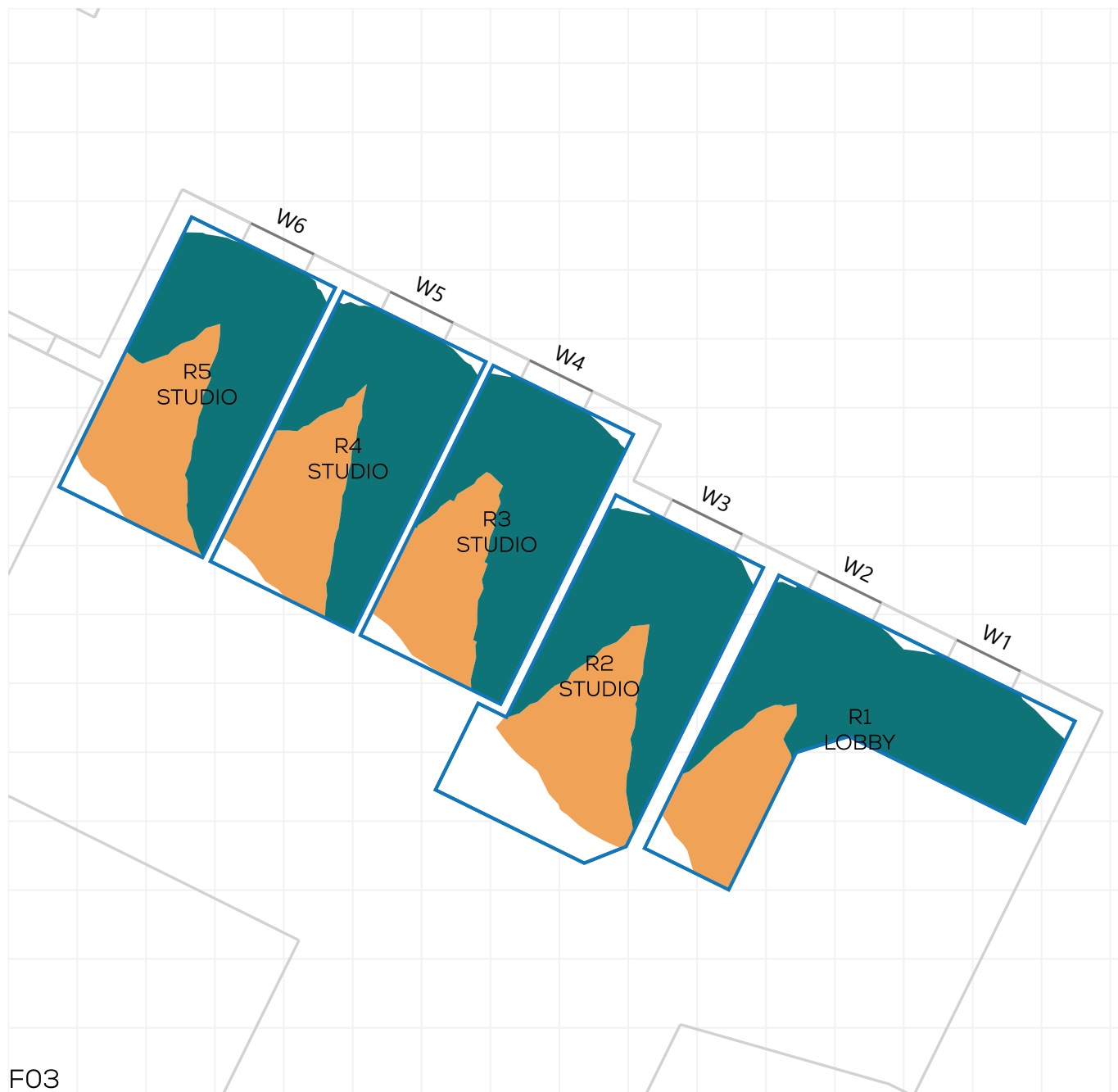


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD28

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD29

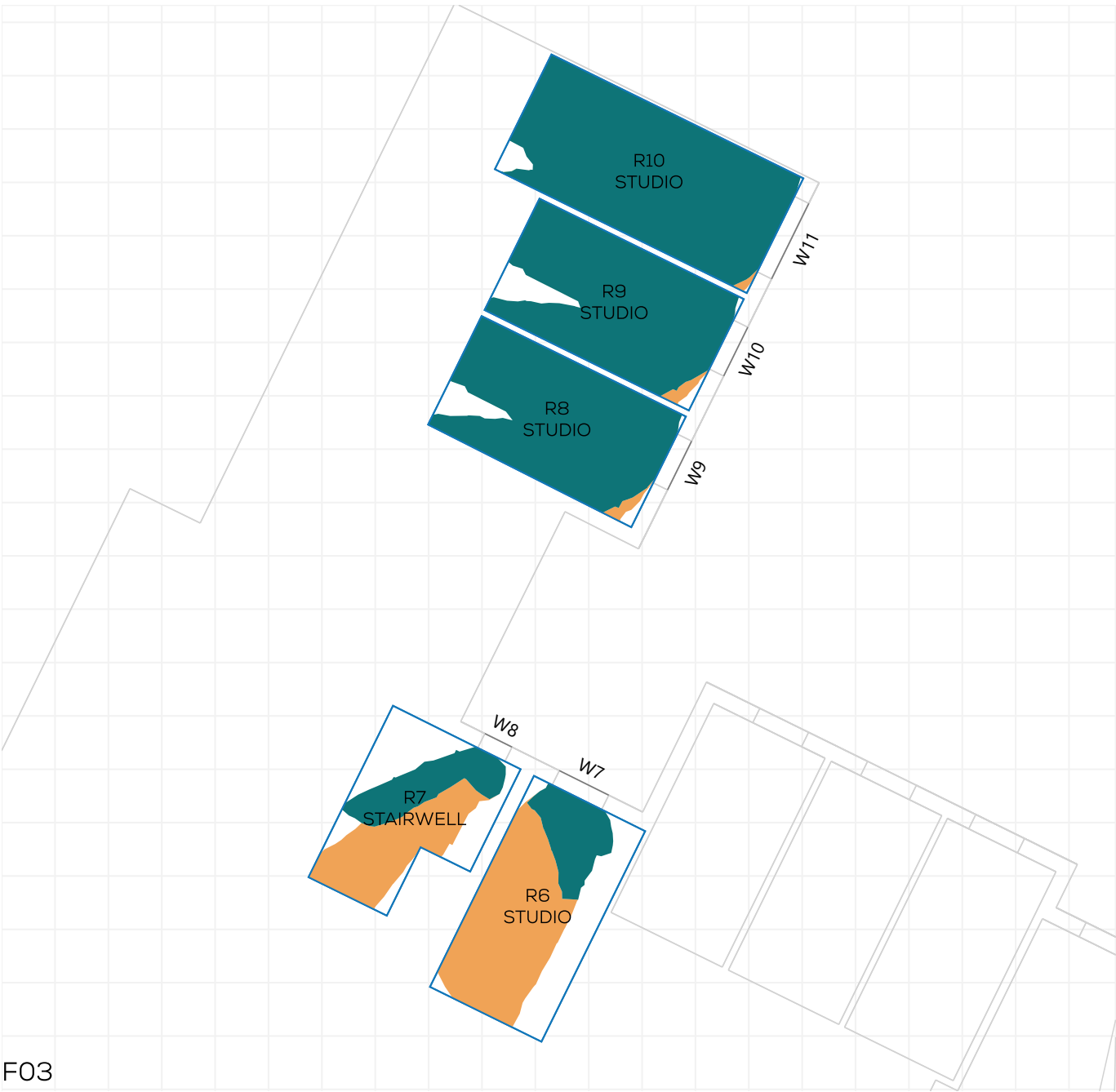
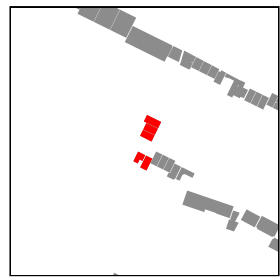
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID







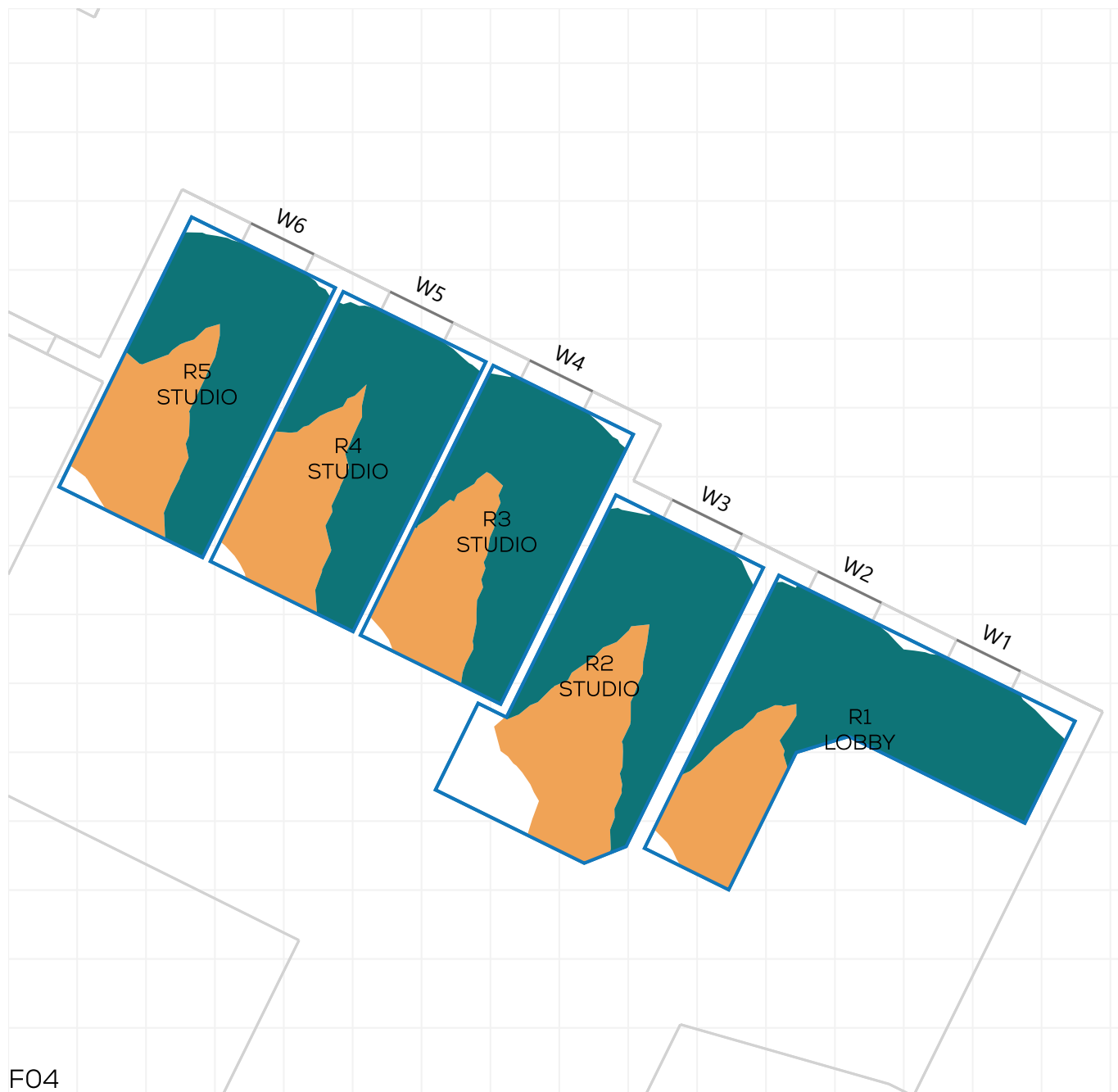
F03

NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD30

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD31

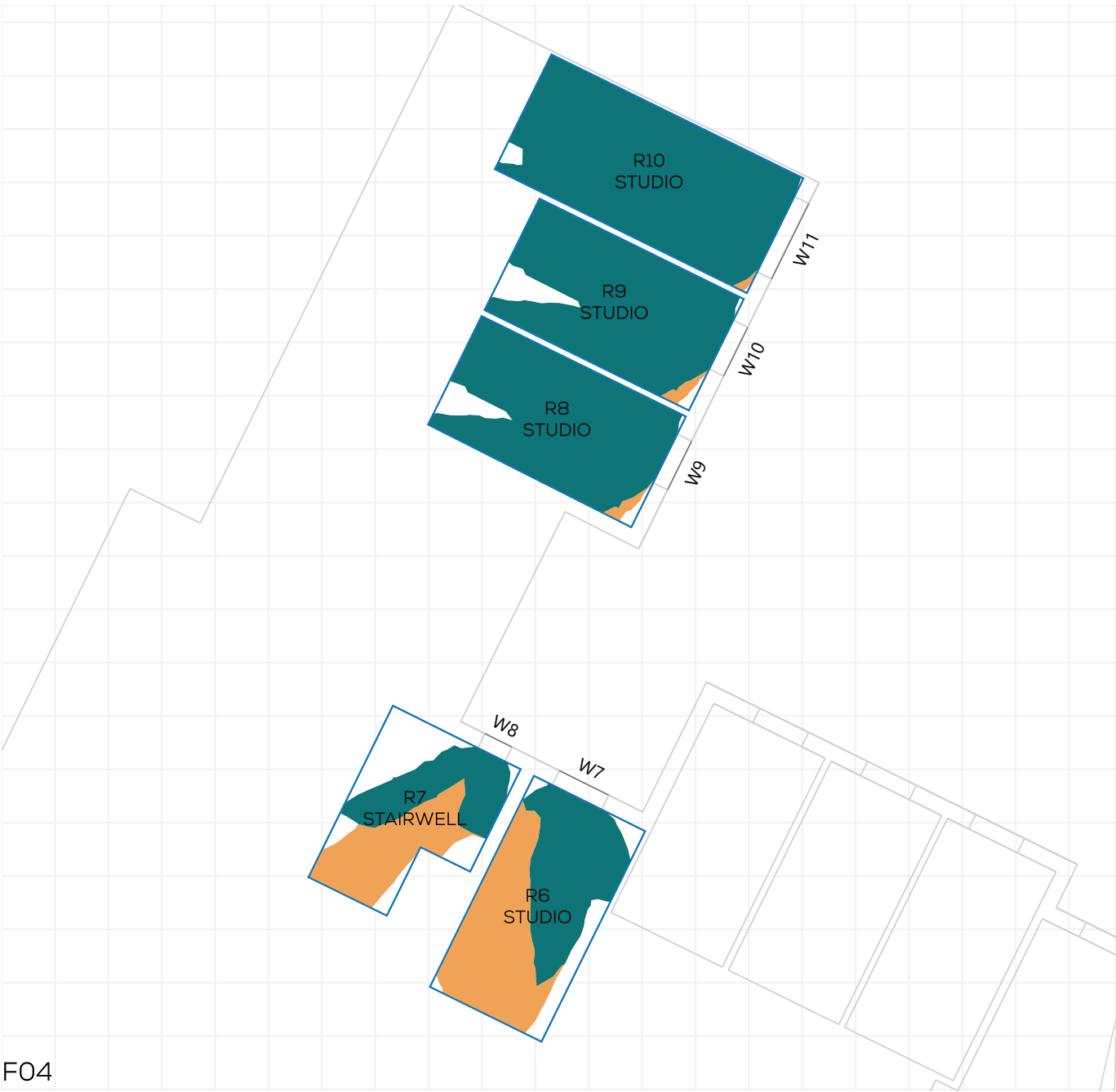
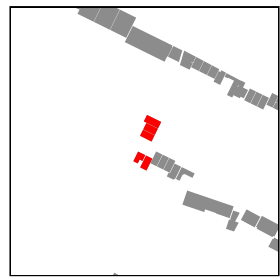
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID







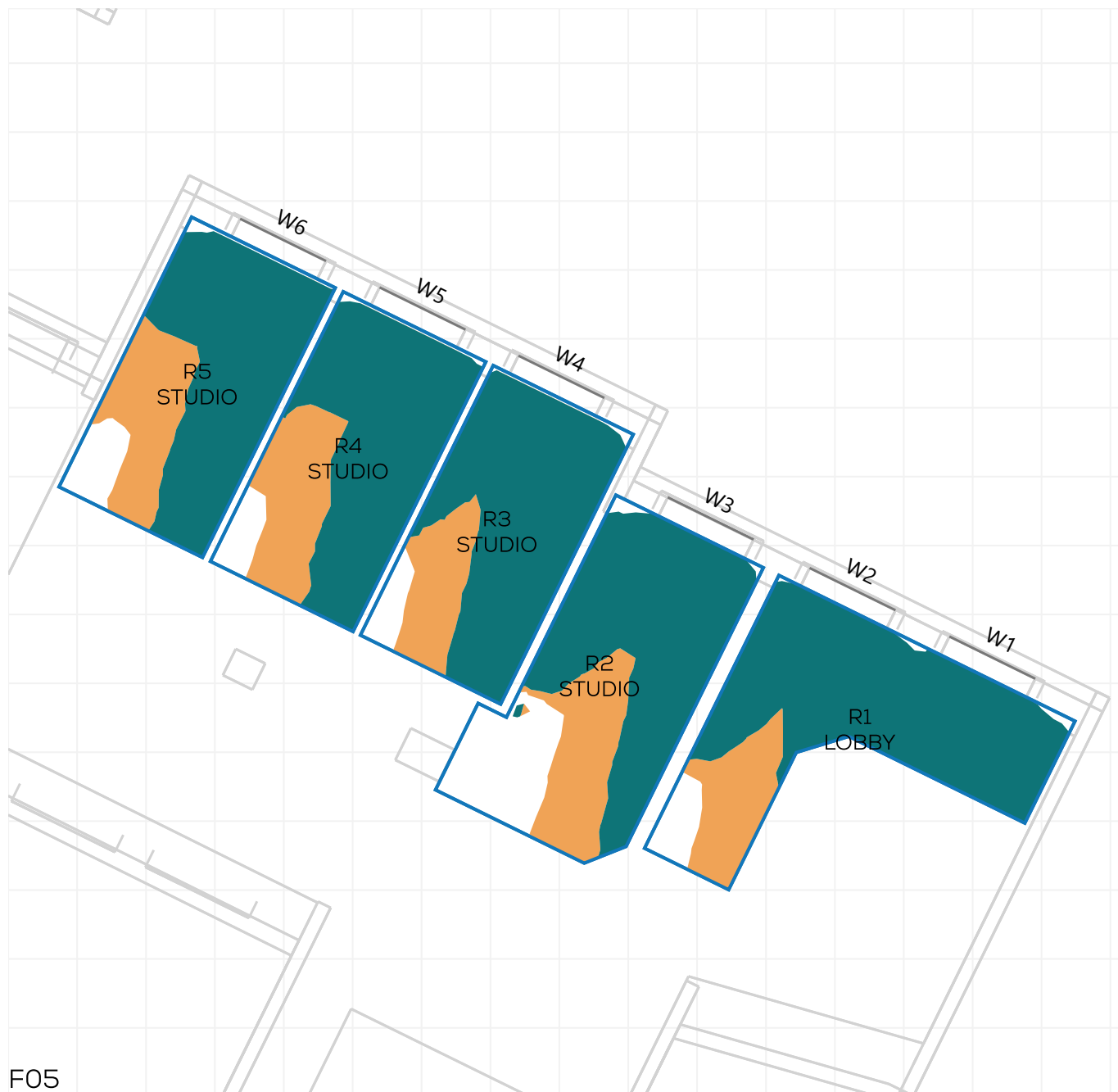
F04

NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD32

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



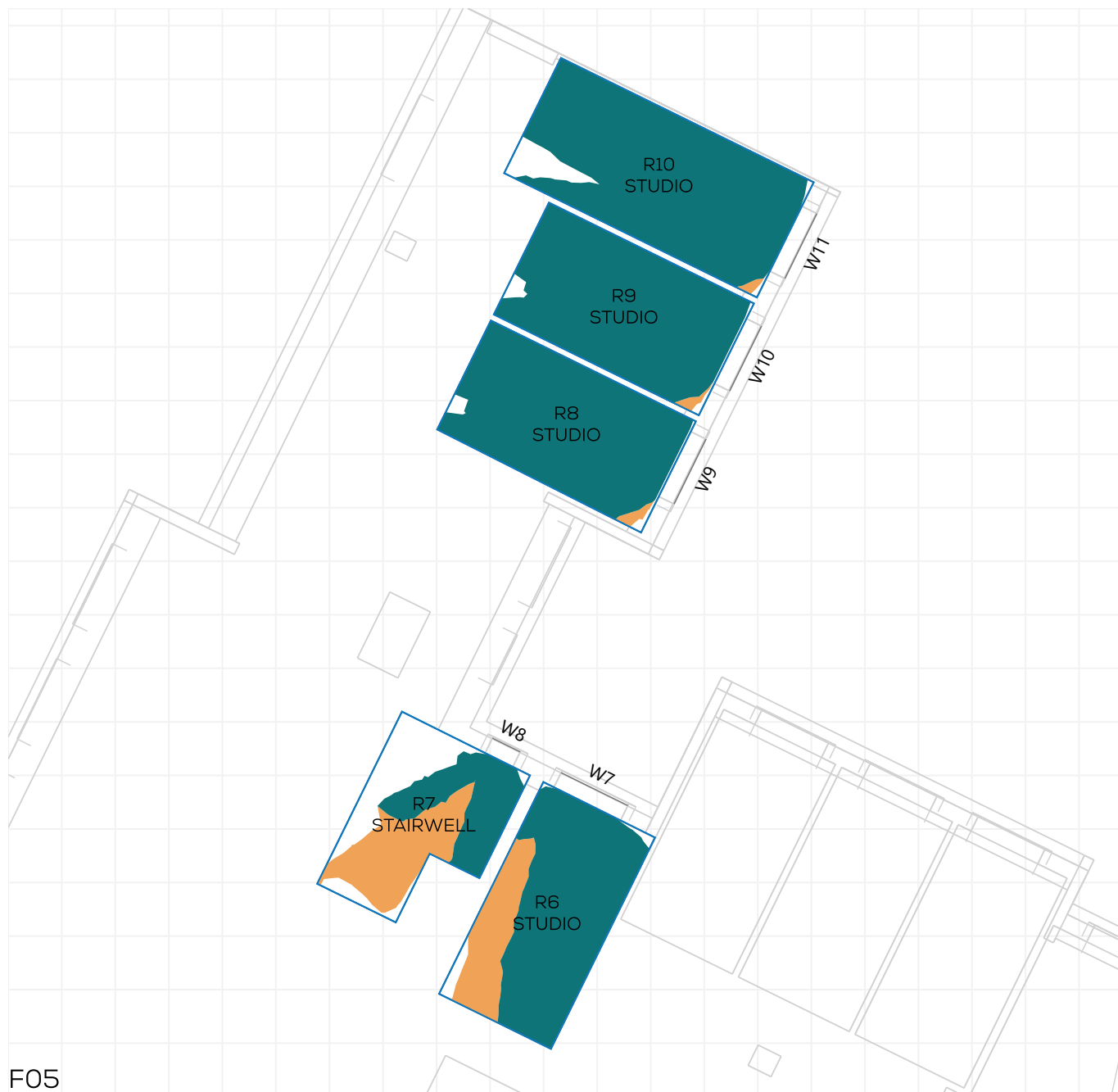
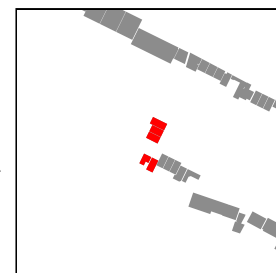
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: IRIS BROOK HOUSE TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD33

KEY:





- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

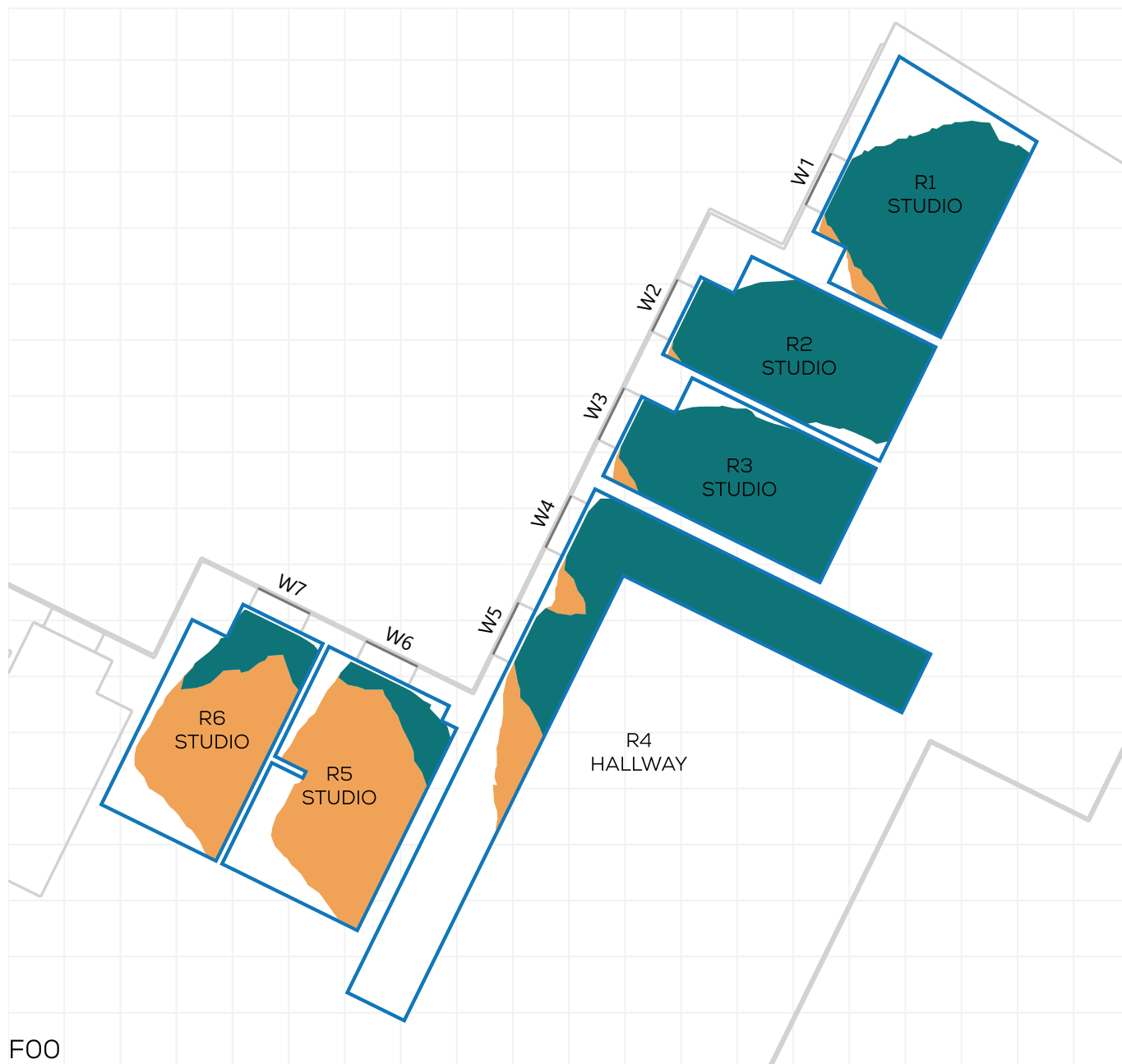
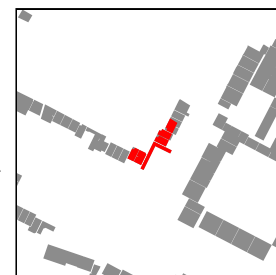


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD34

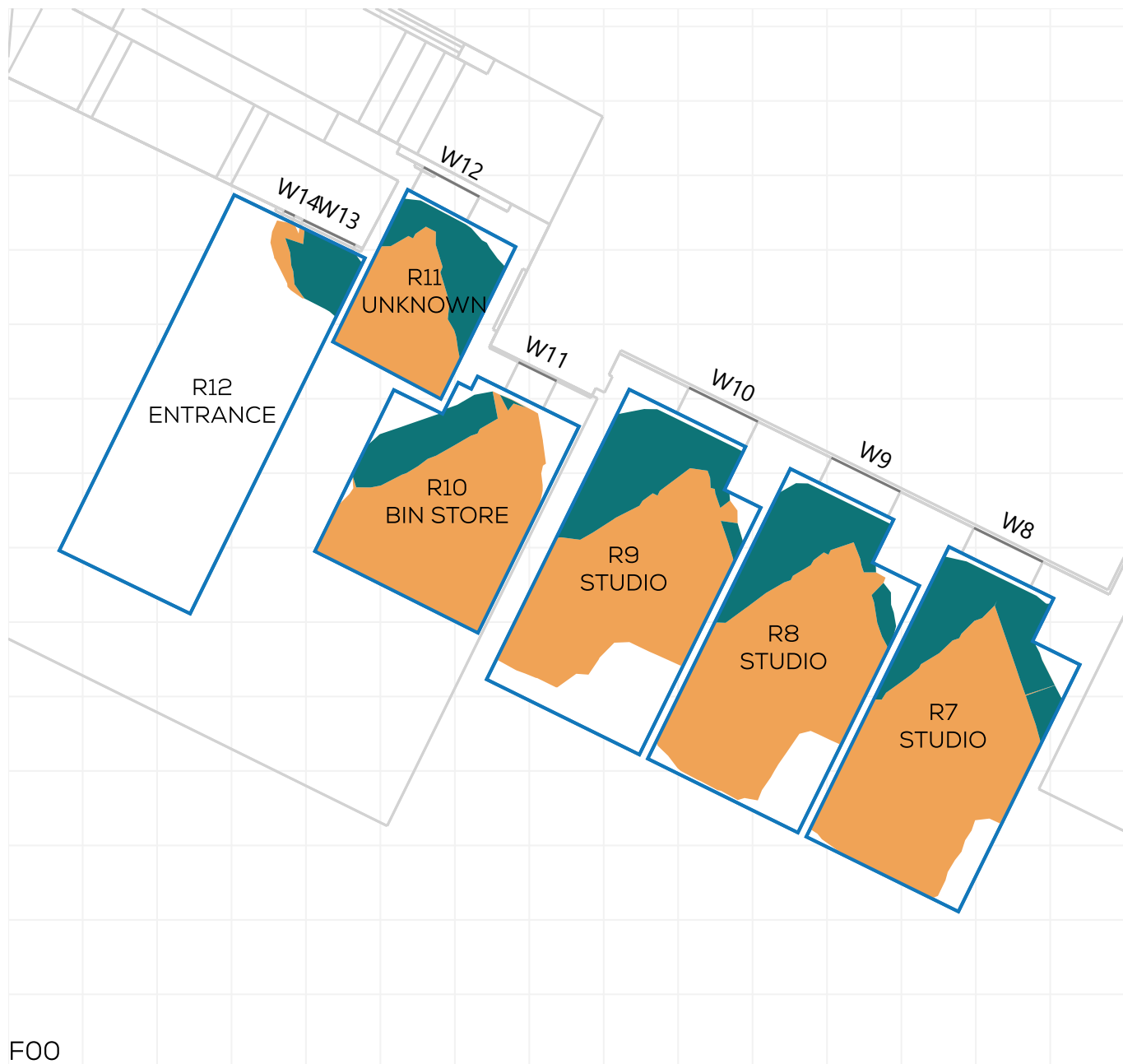
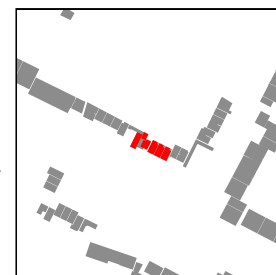
KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD35

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID







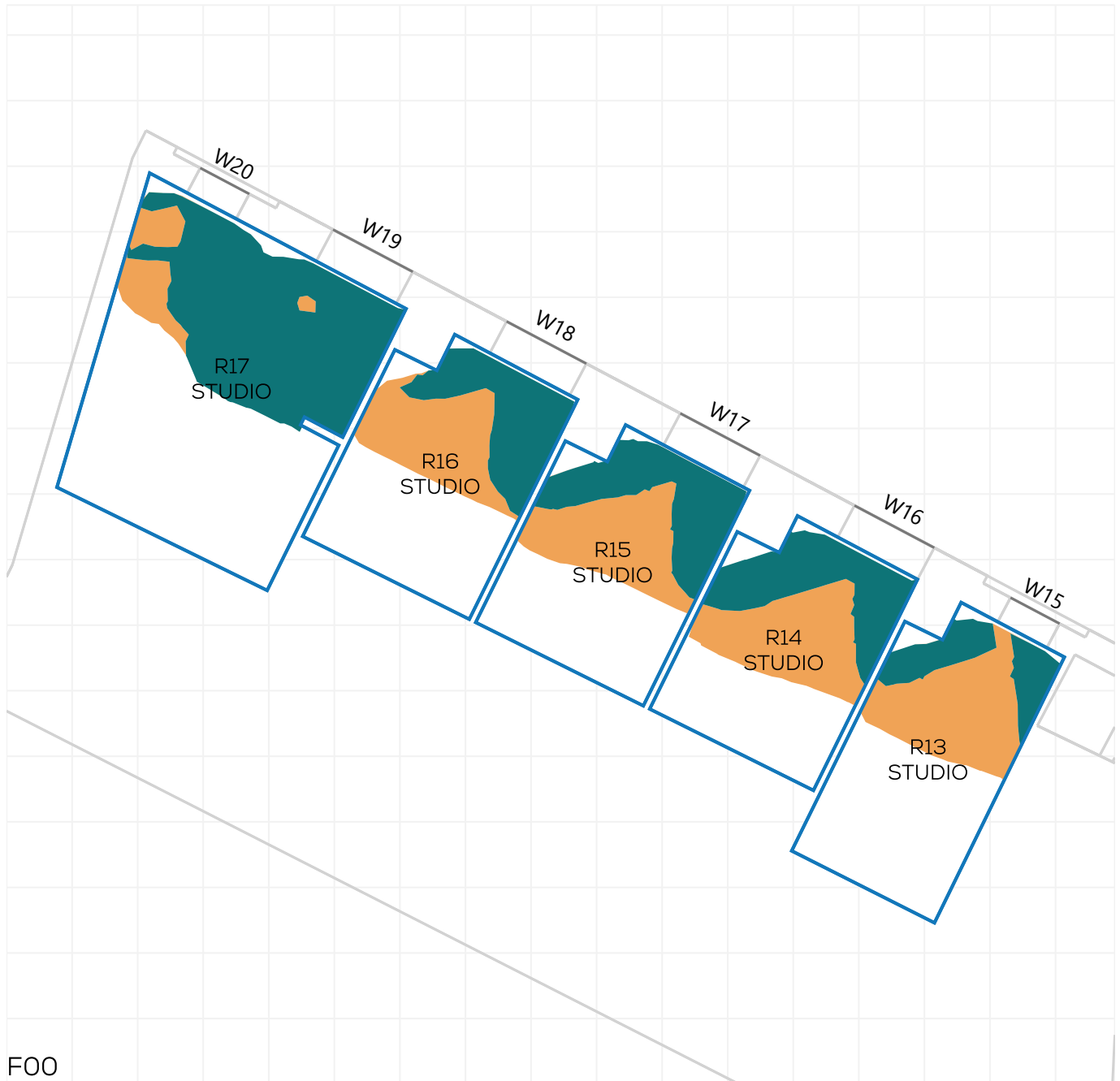
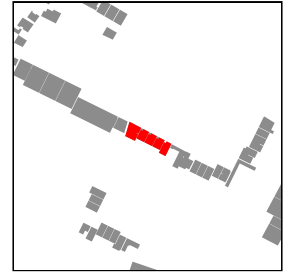
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NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD36





KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID

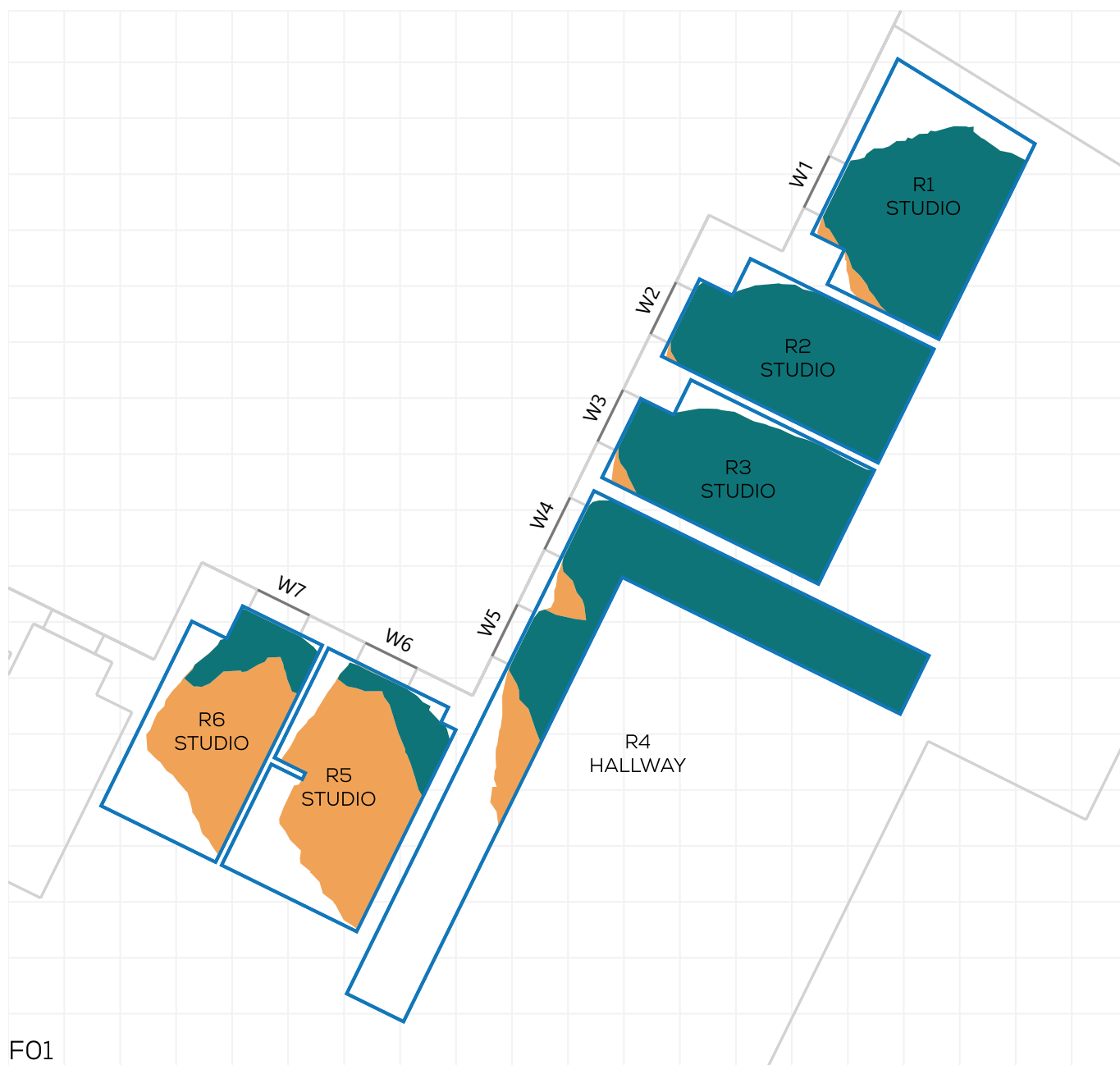
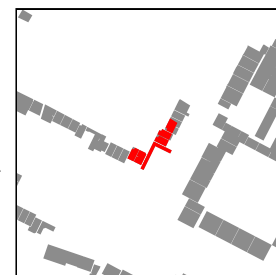


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD37

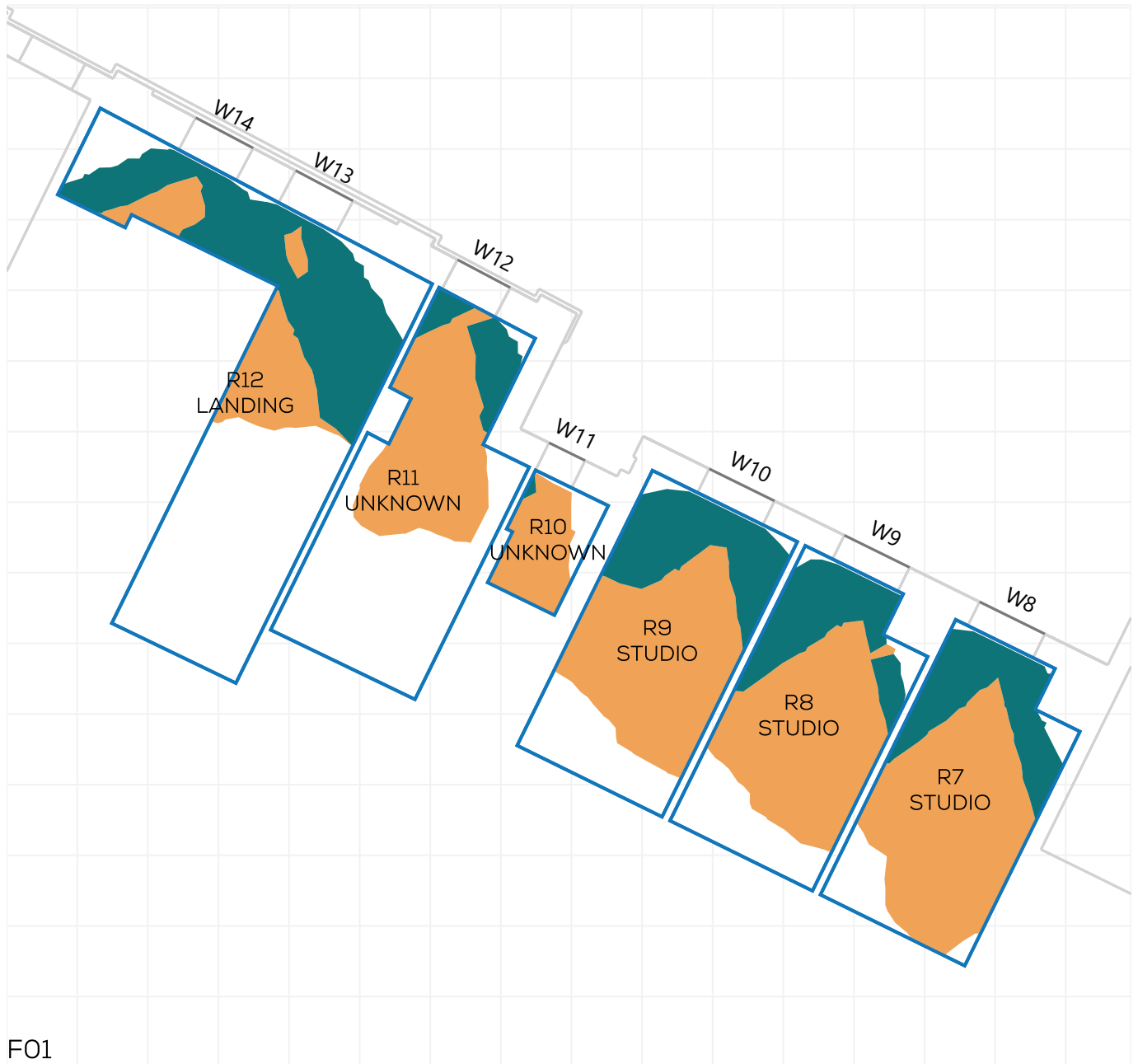
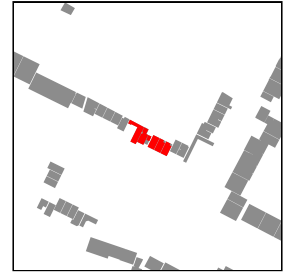
KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



F01

PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD38

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







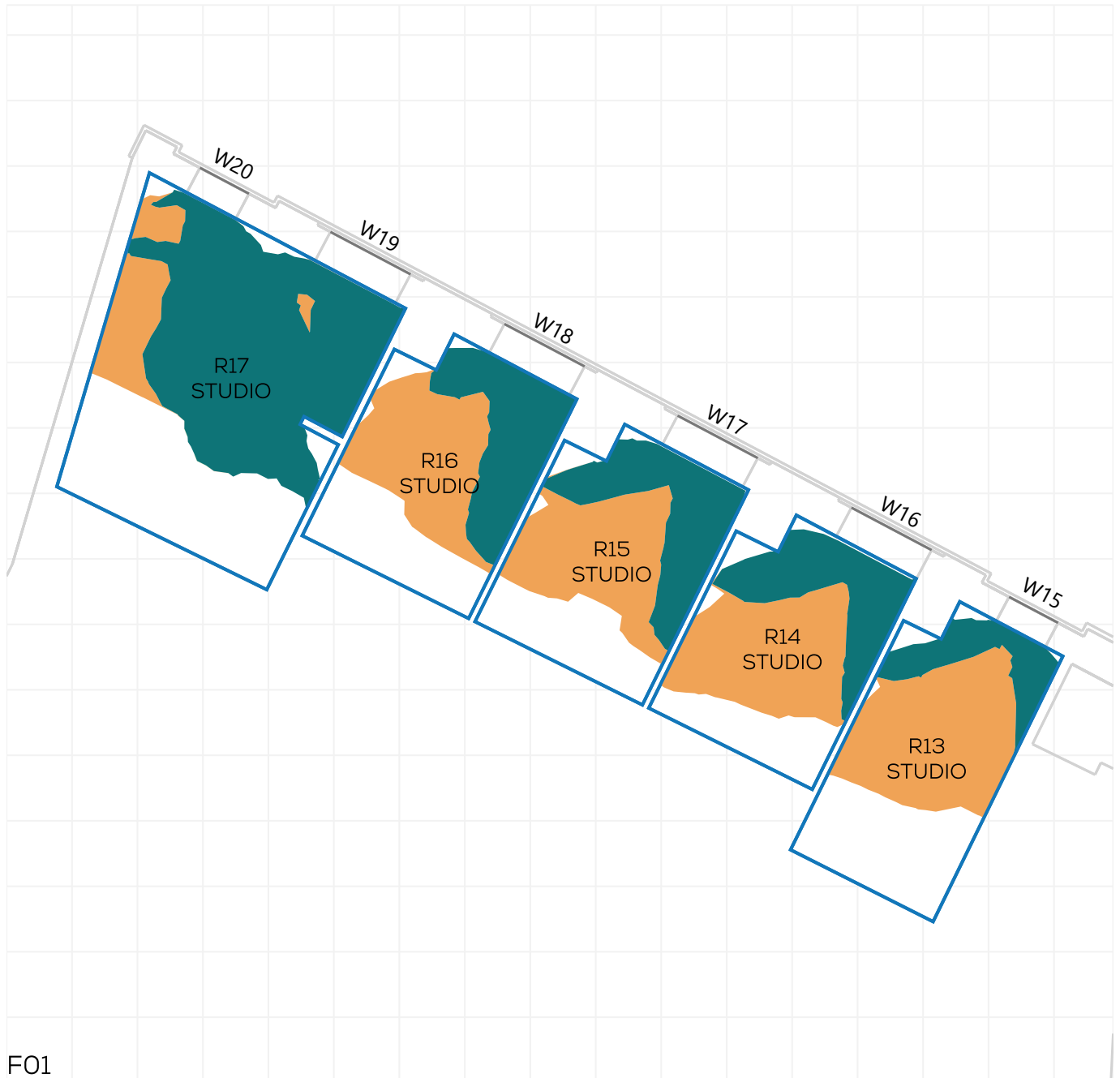
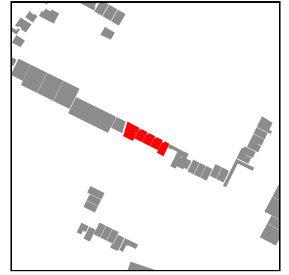
F01

NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD39

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







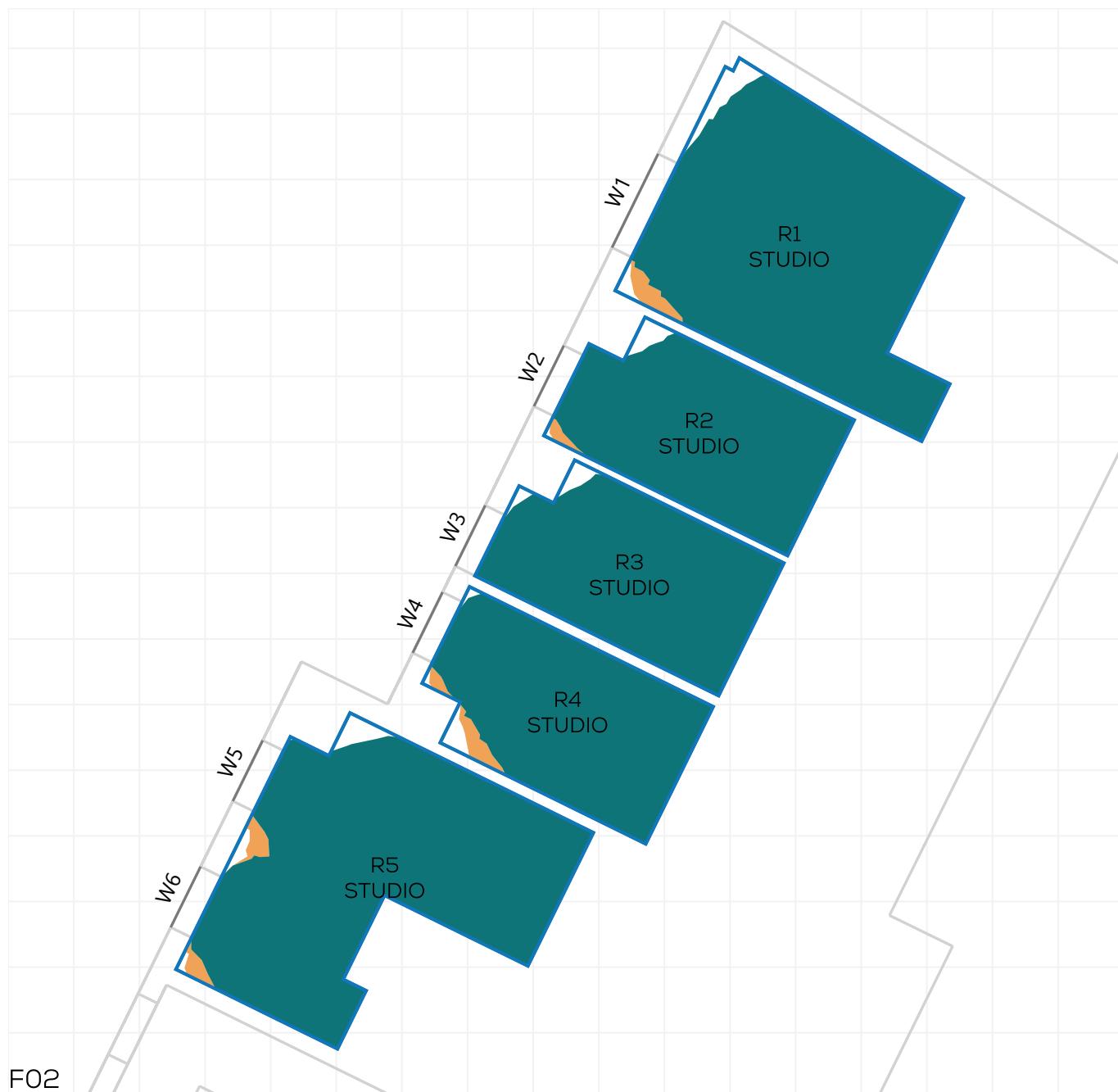
F01

NSL CONTOURS







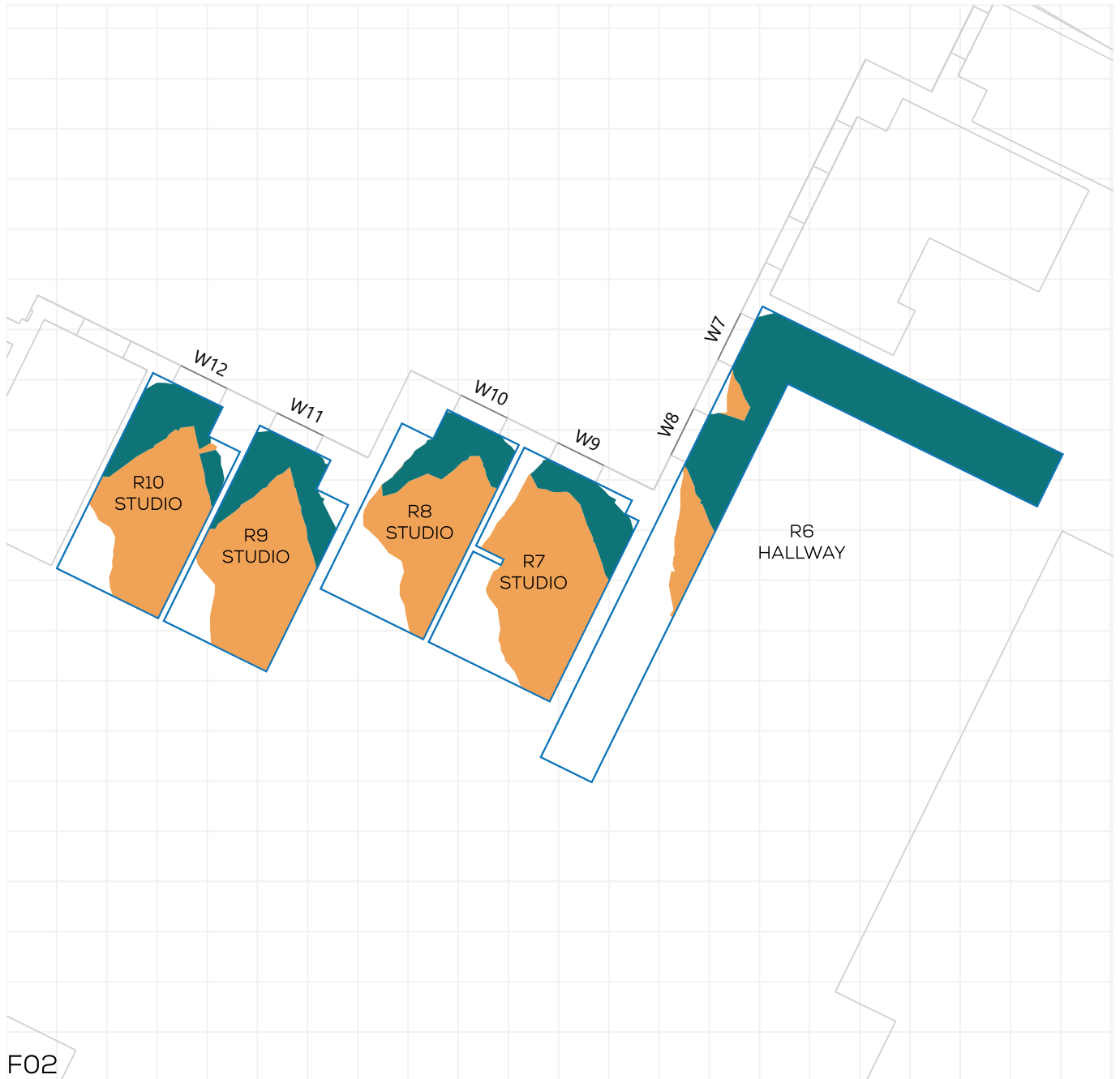
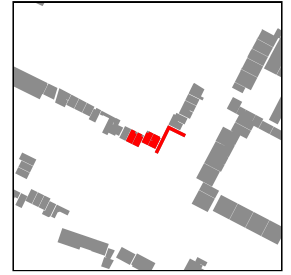
PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD40

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







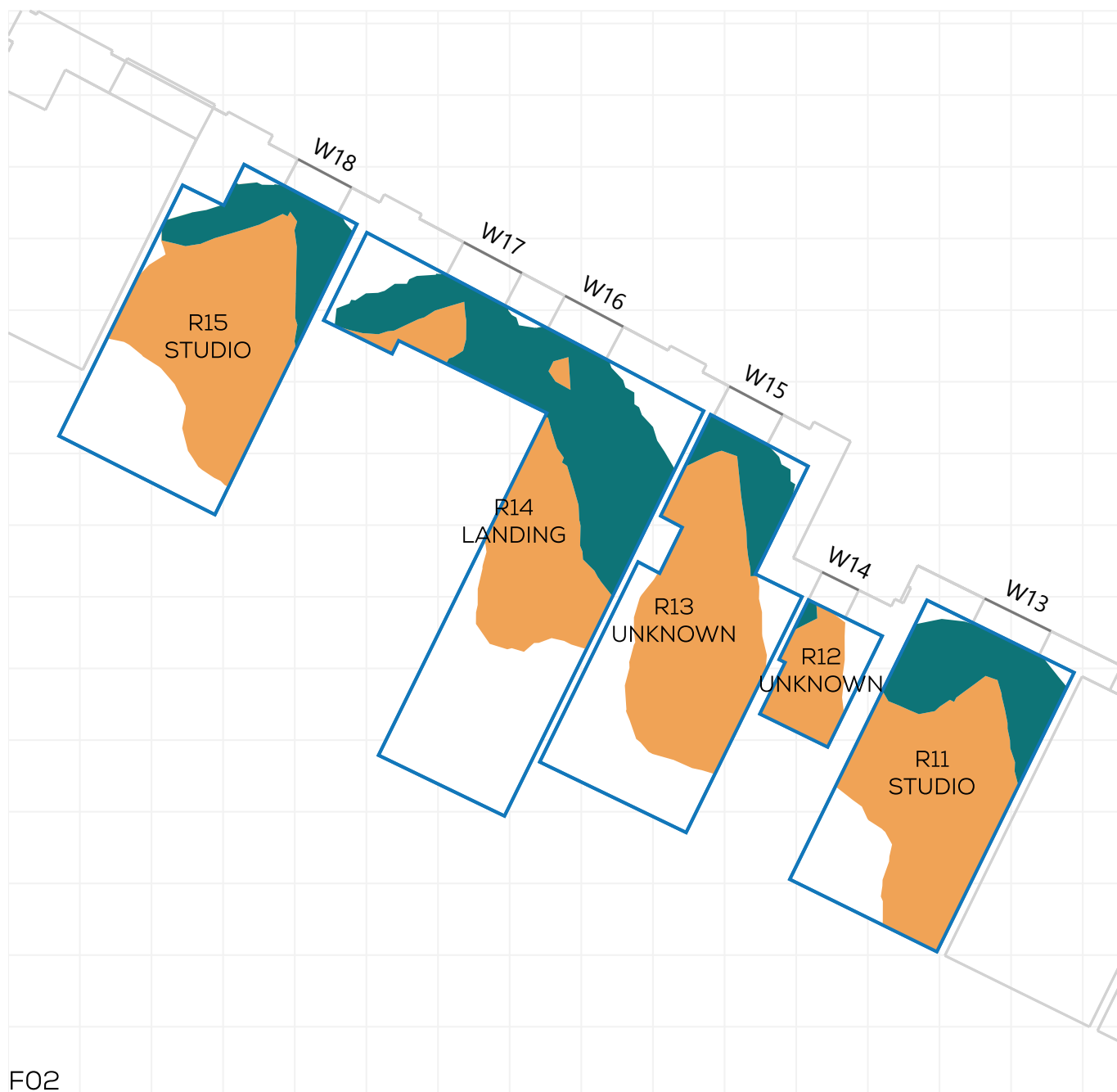
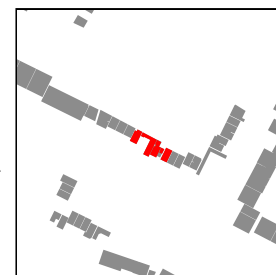
PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD41

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







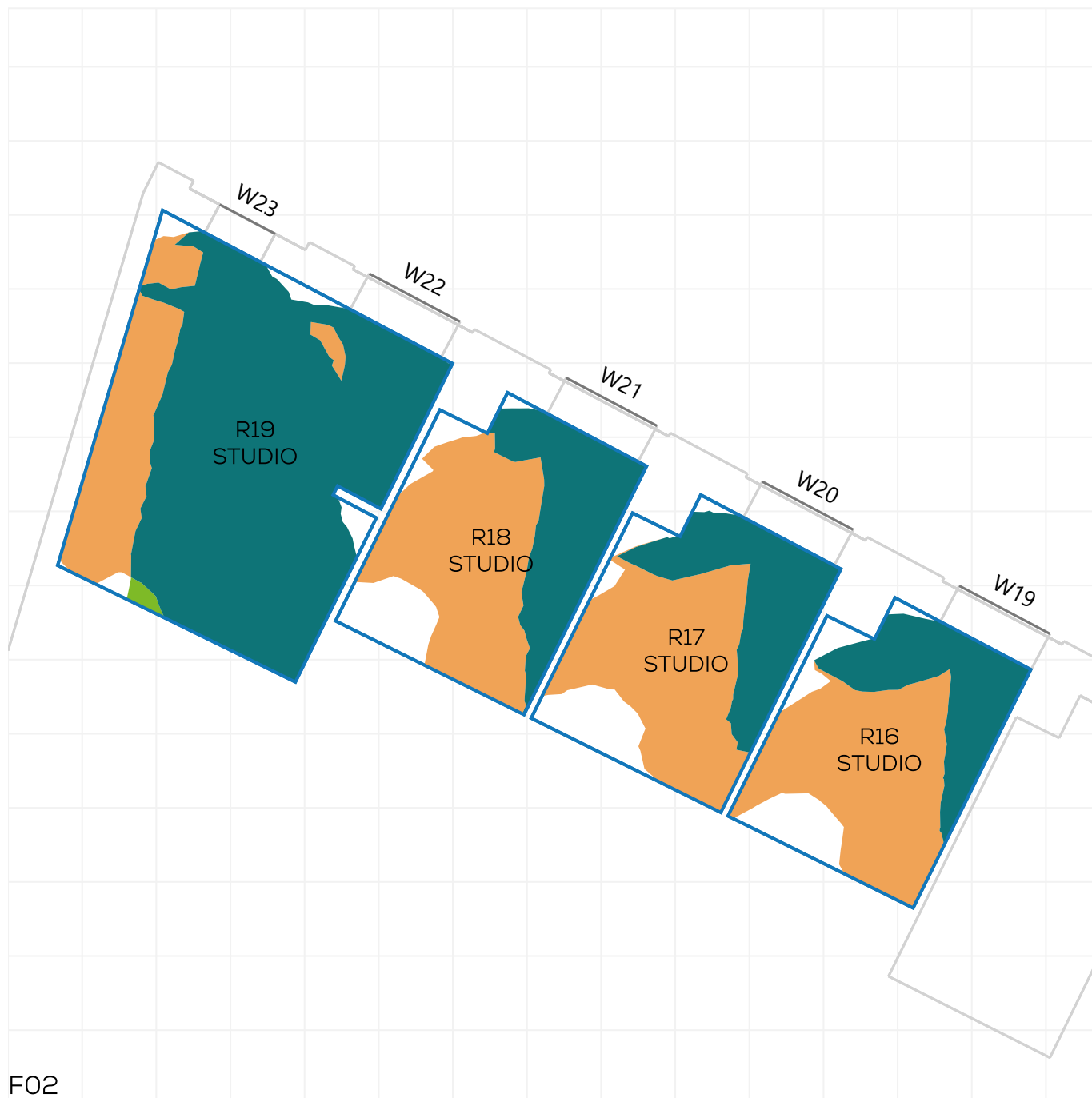
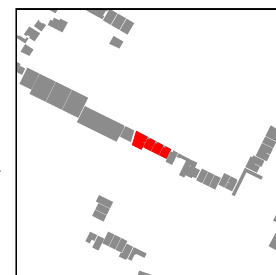
PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD42

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD43





KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID

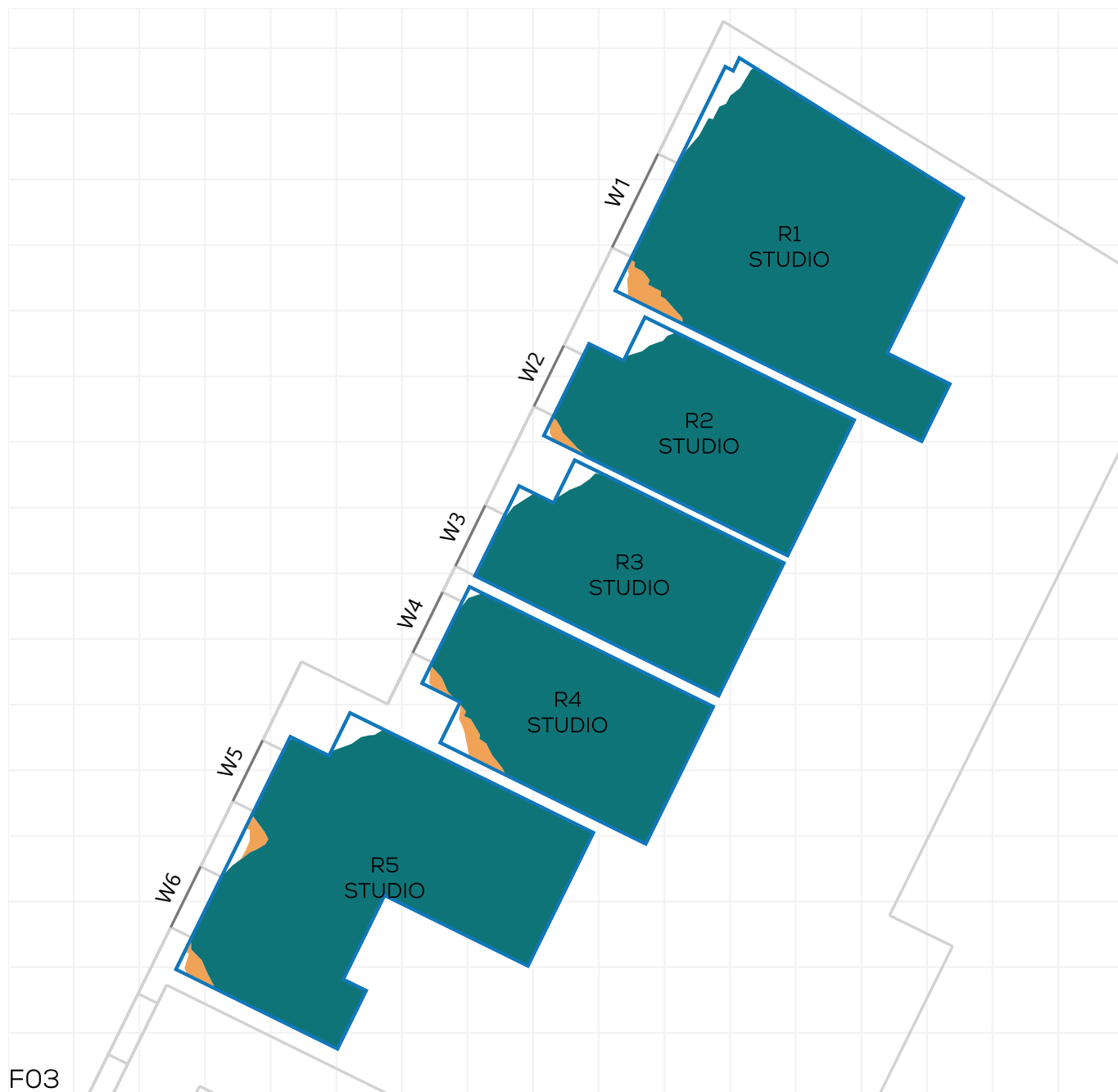


NSL CONTOURS







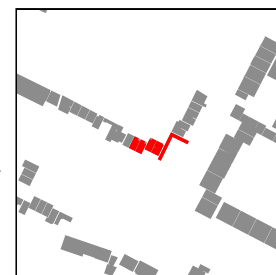
PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD44

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD45

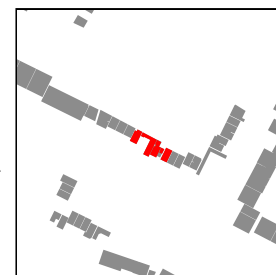
KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD46

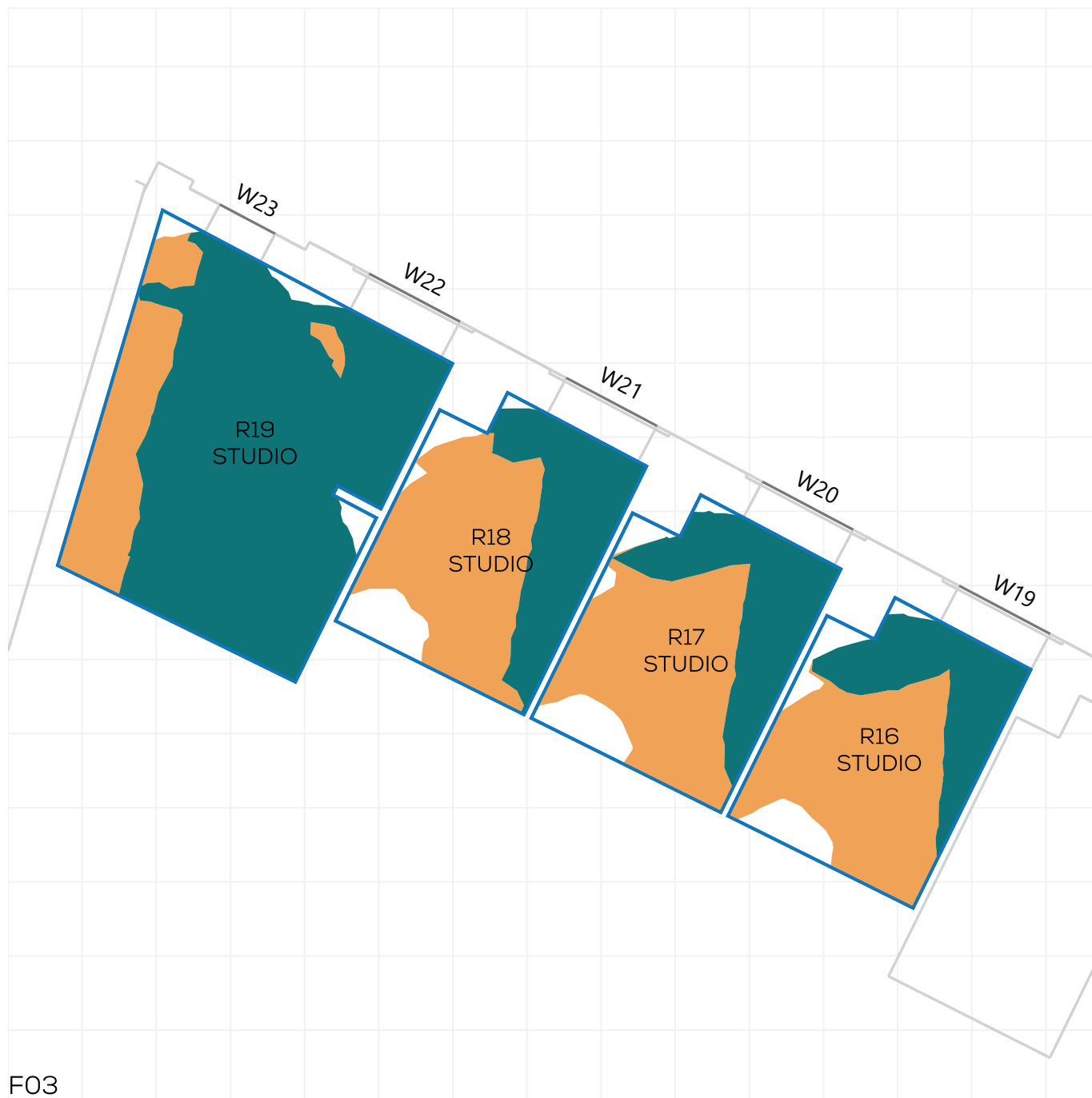
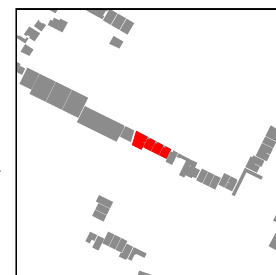
KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD47

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



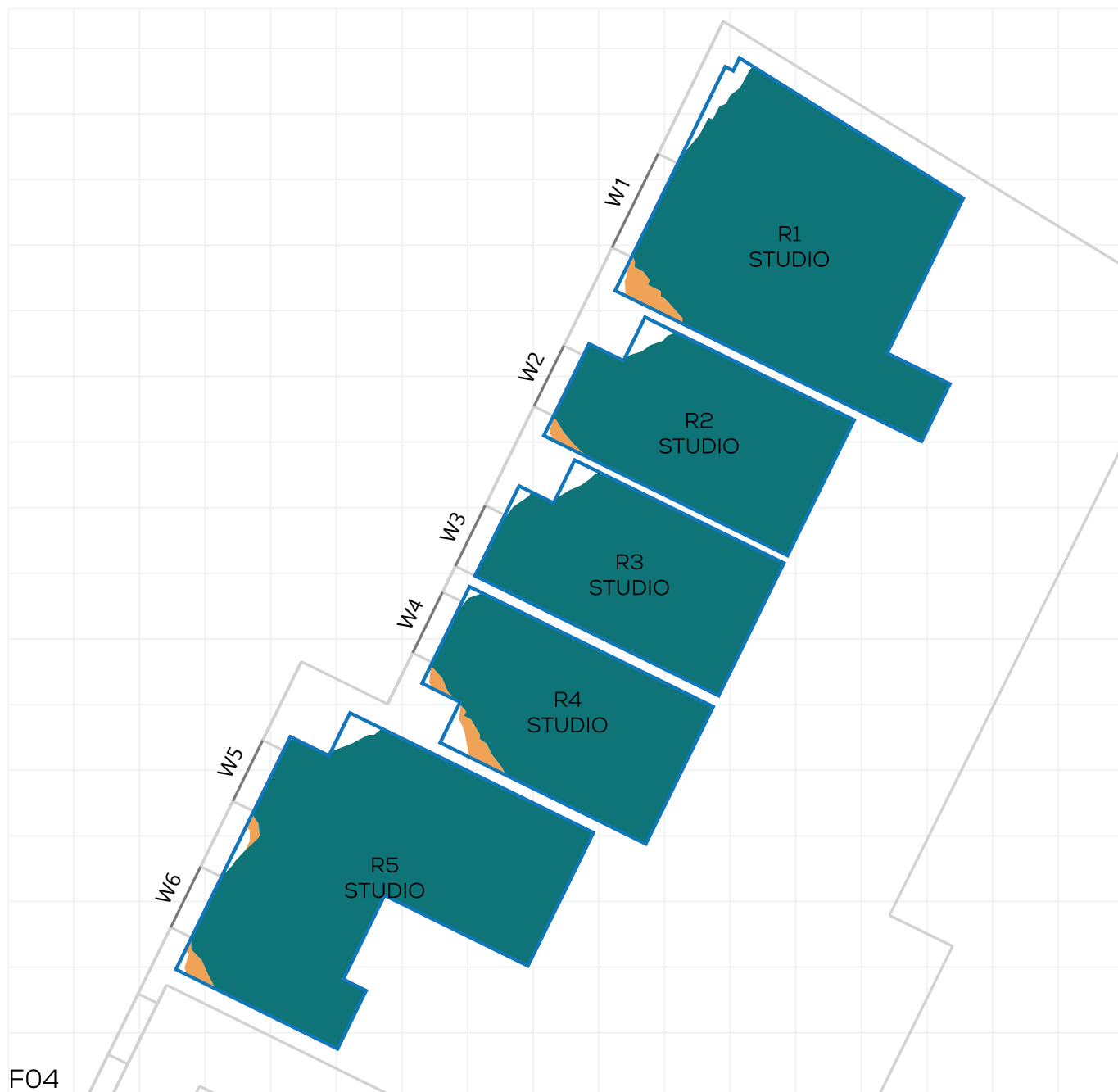
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD48

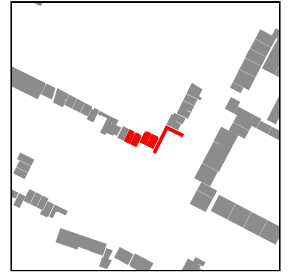
KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



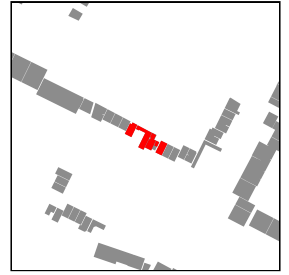
PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD49

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID







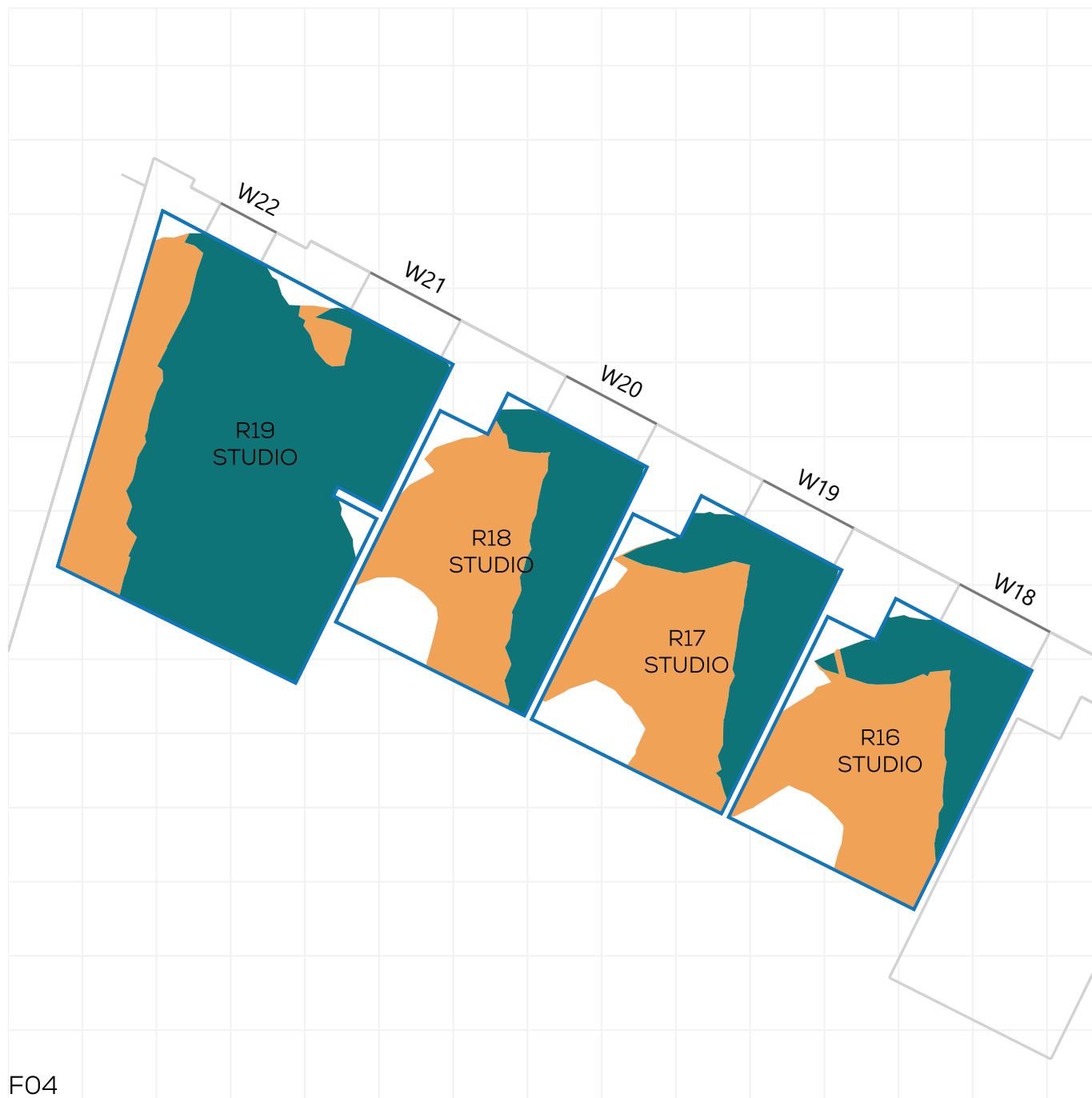
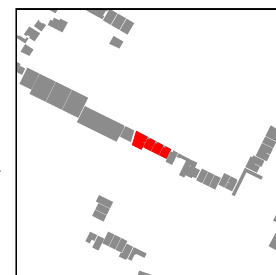
PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD50

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD51

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



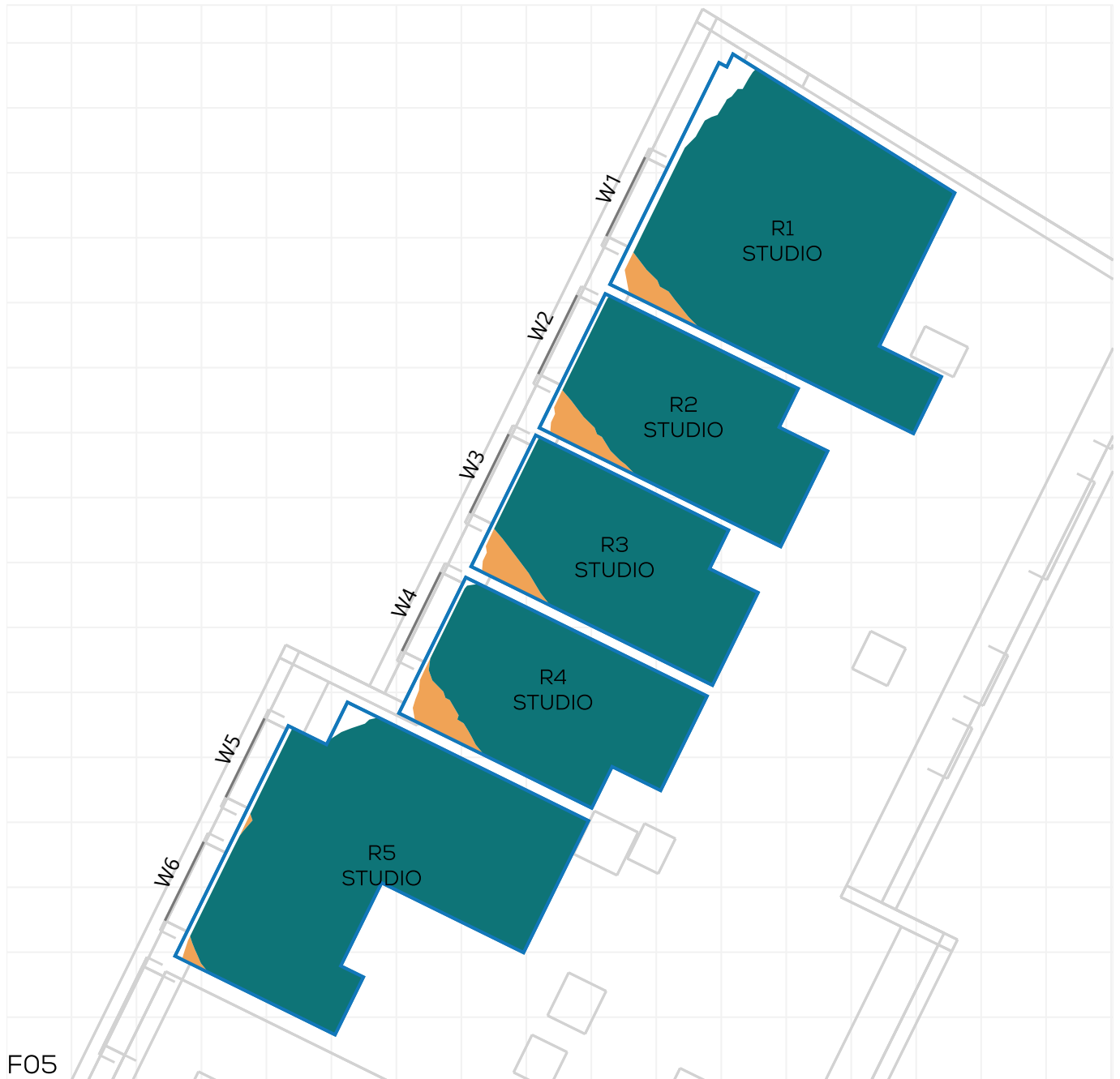
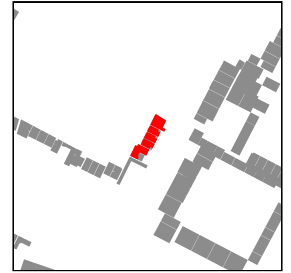
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD52

KEY:





- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

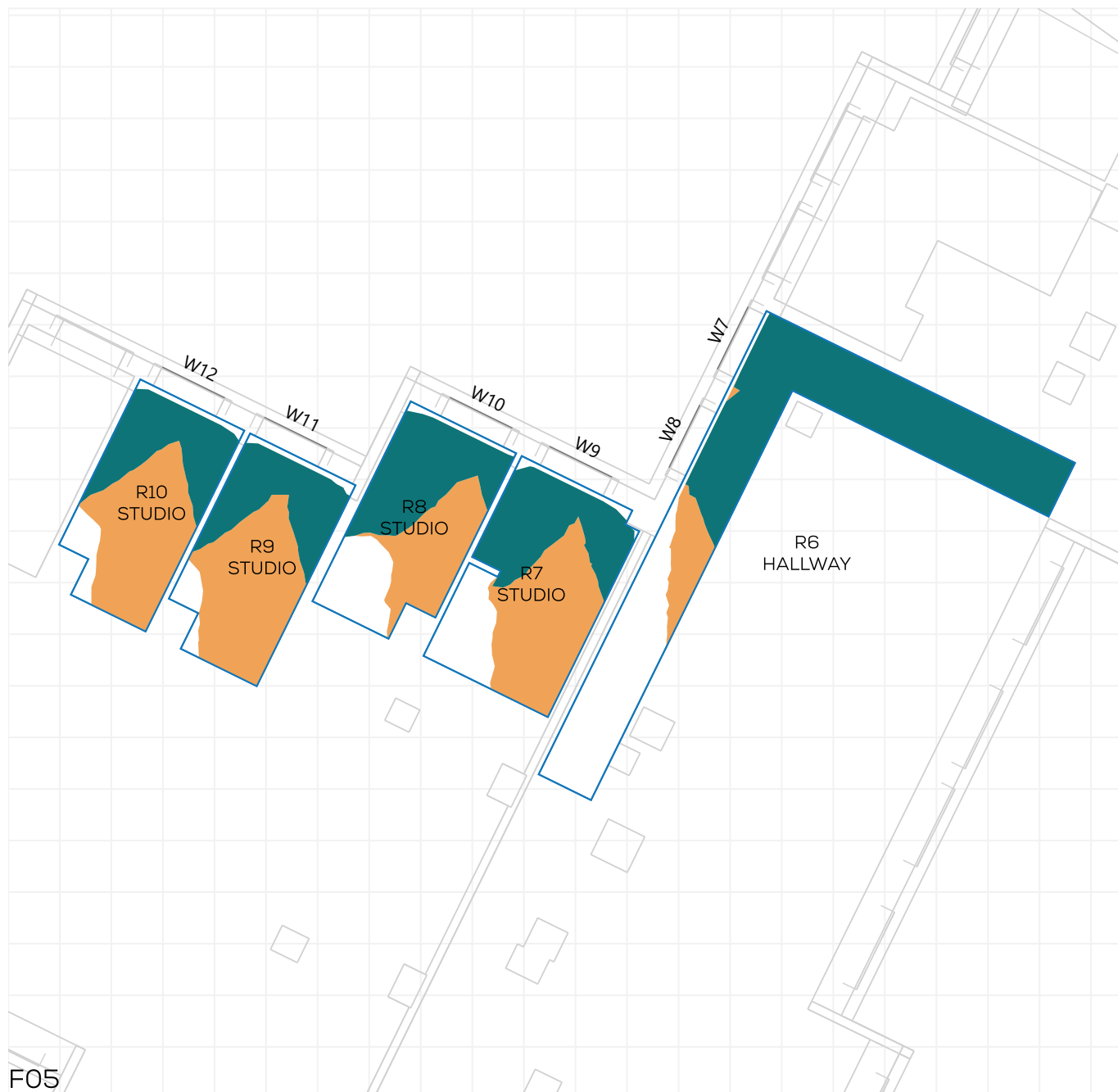
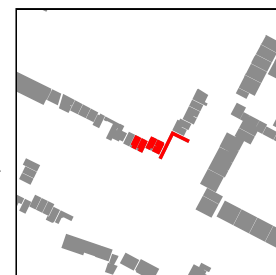


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD53

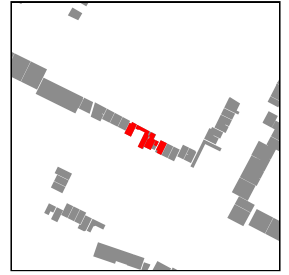
KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



F05

PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD54

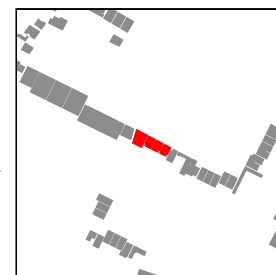
KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: ORCHARD LISLE HOUSE - TALBOT YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD55

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



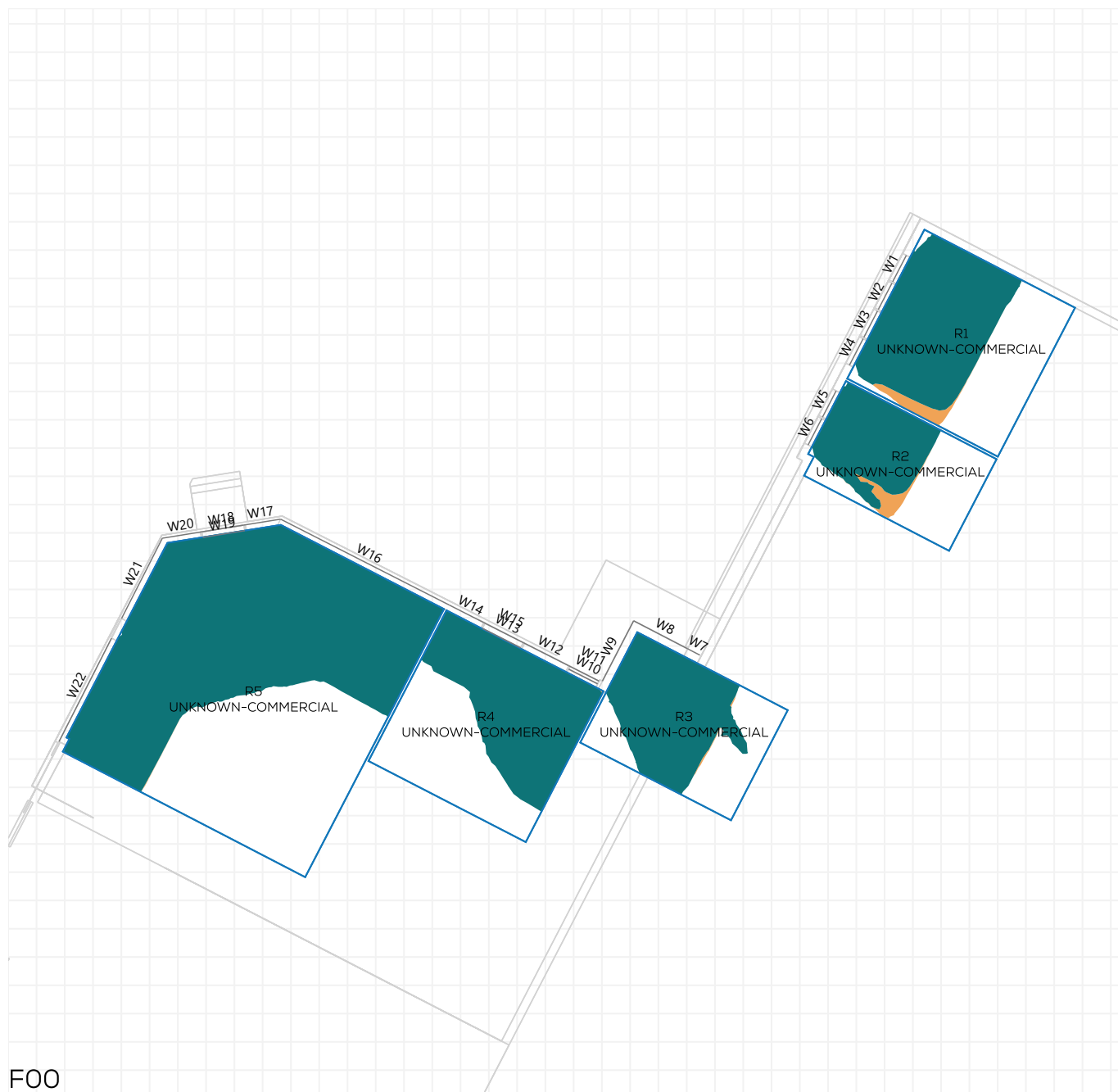
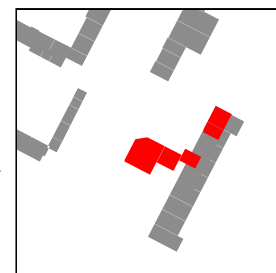
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD56

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



FOO

PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD57

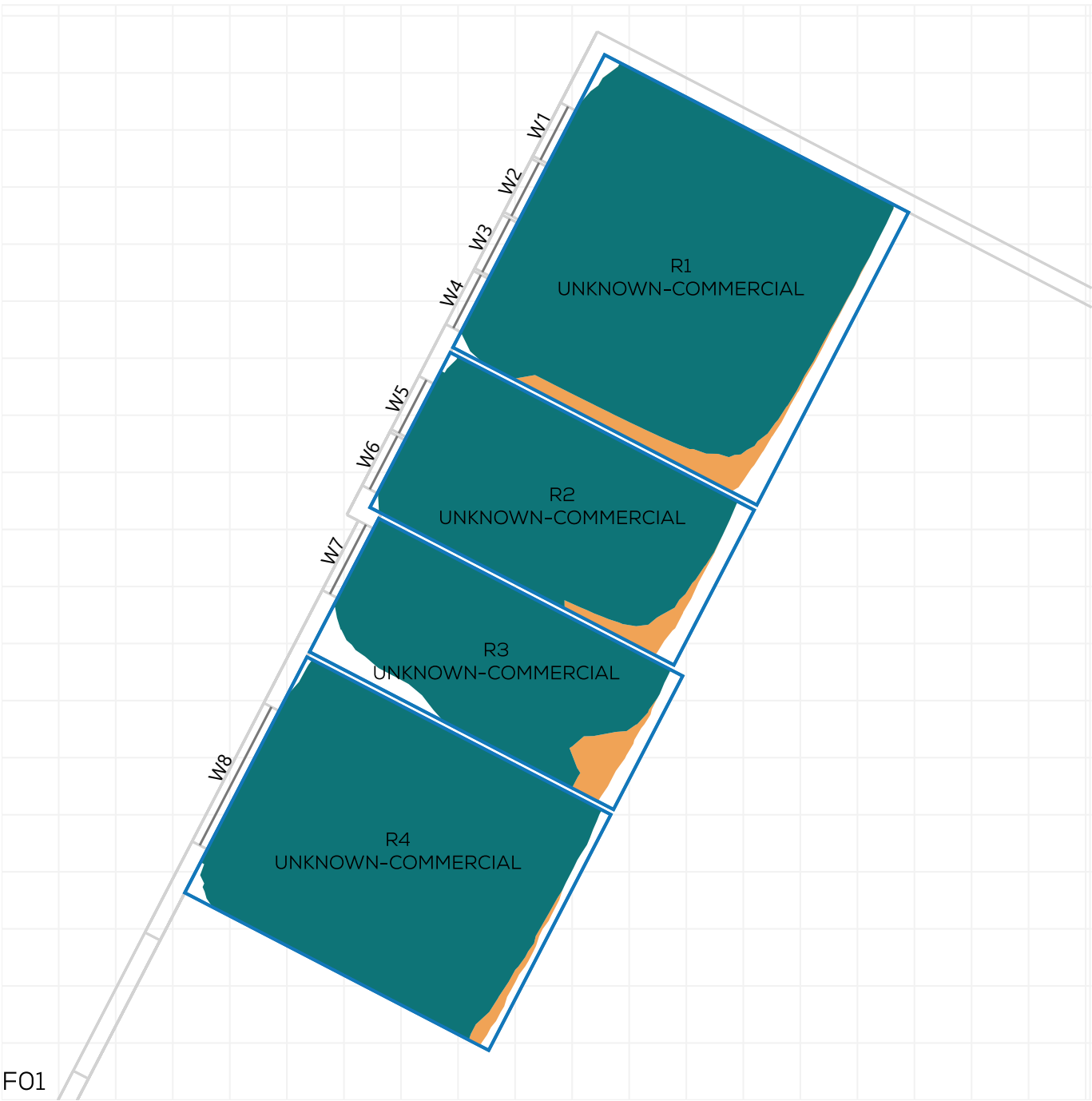
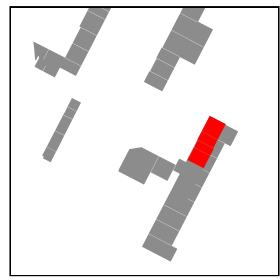
KEY:

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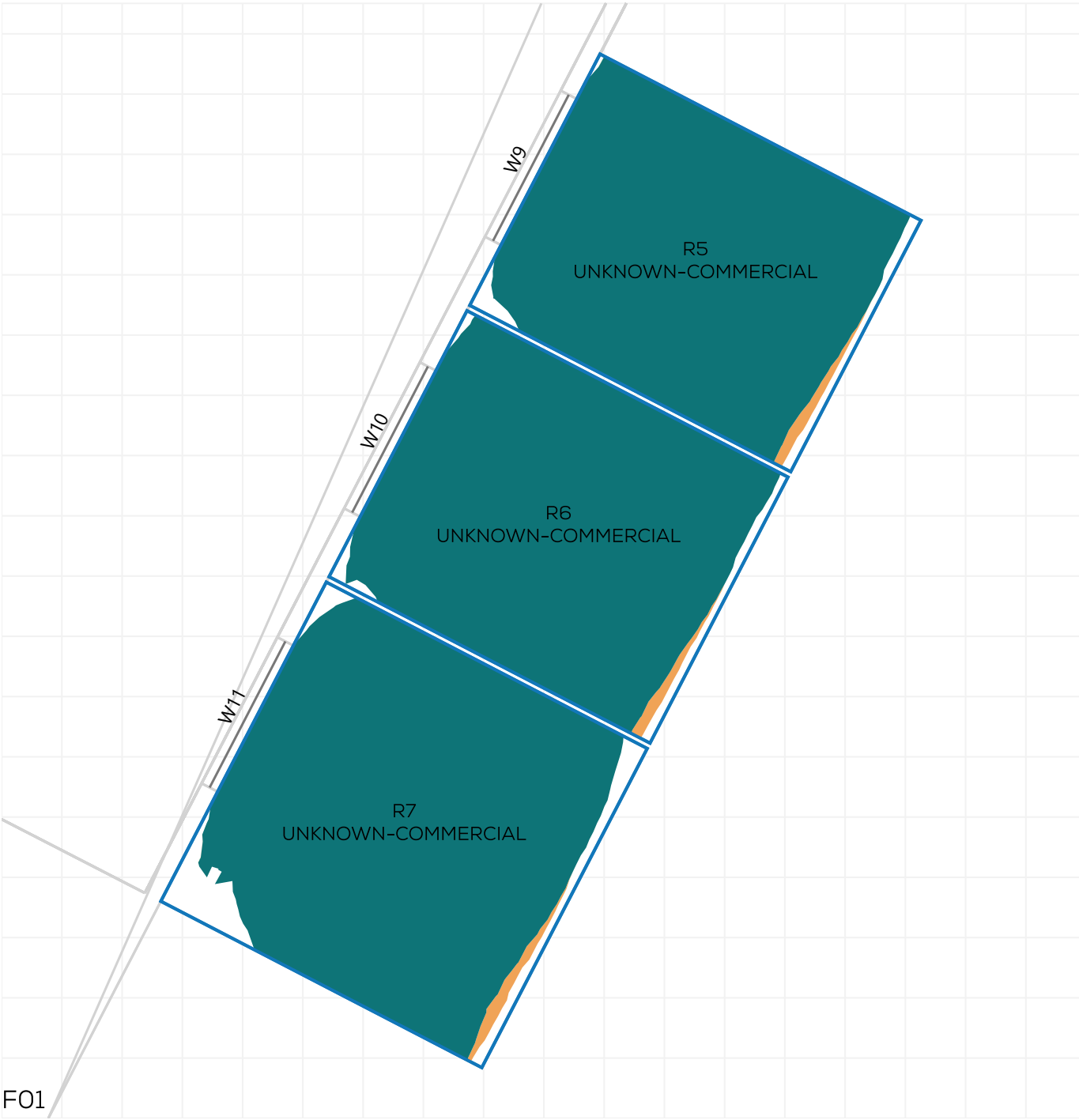
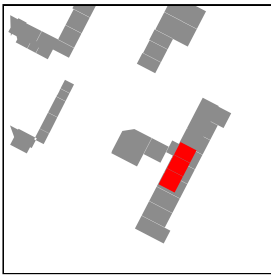
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD58

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD59

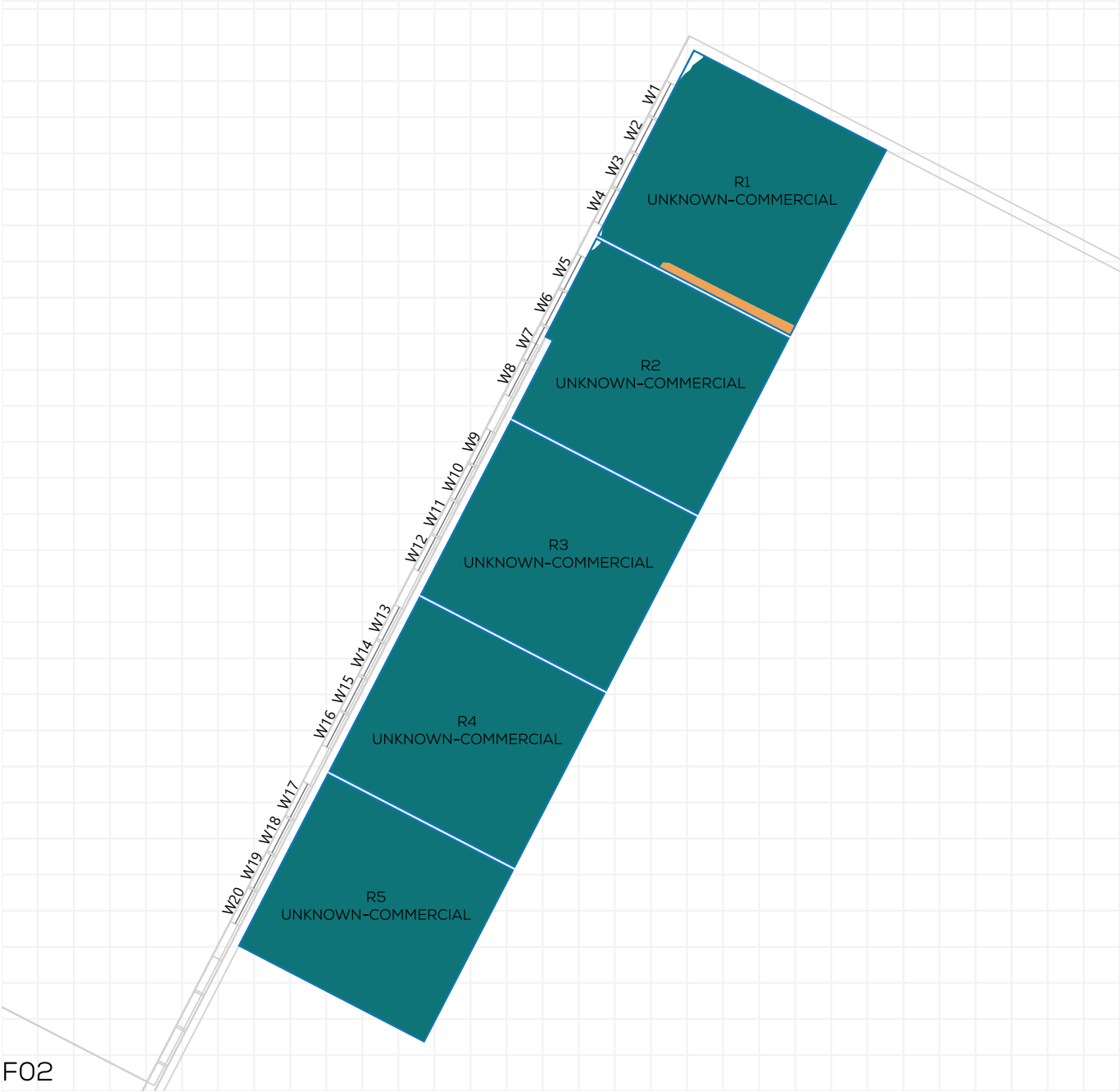
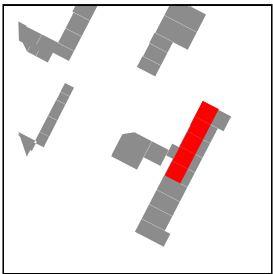
KEY:

GAIN

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MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD60

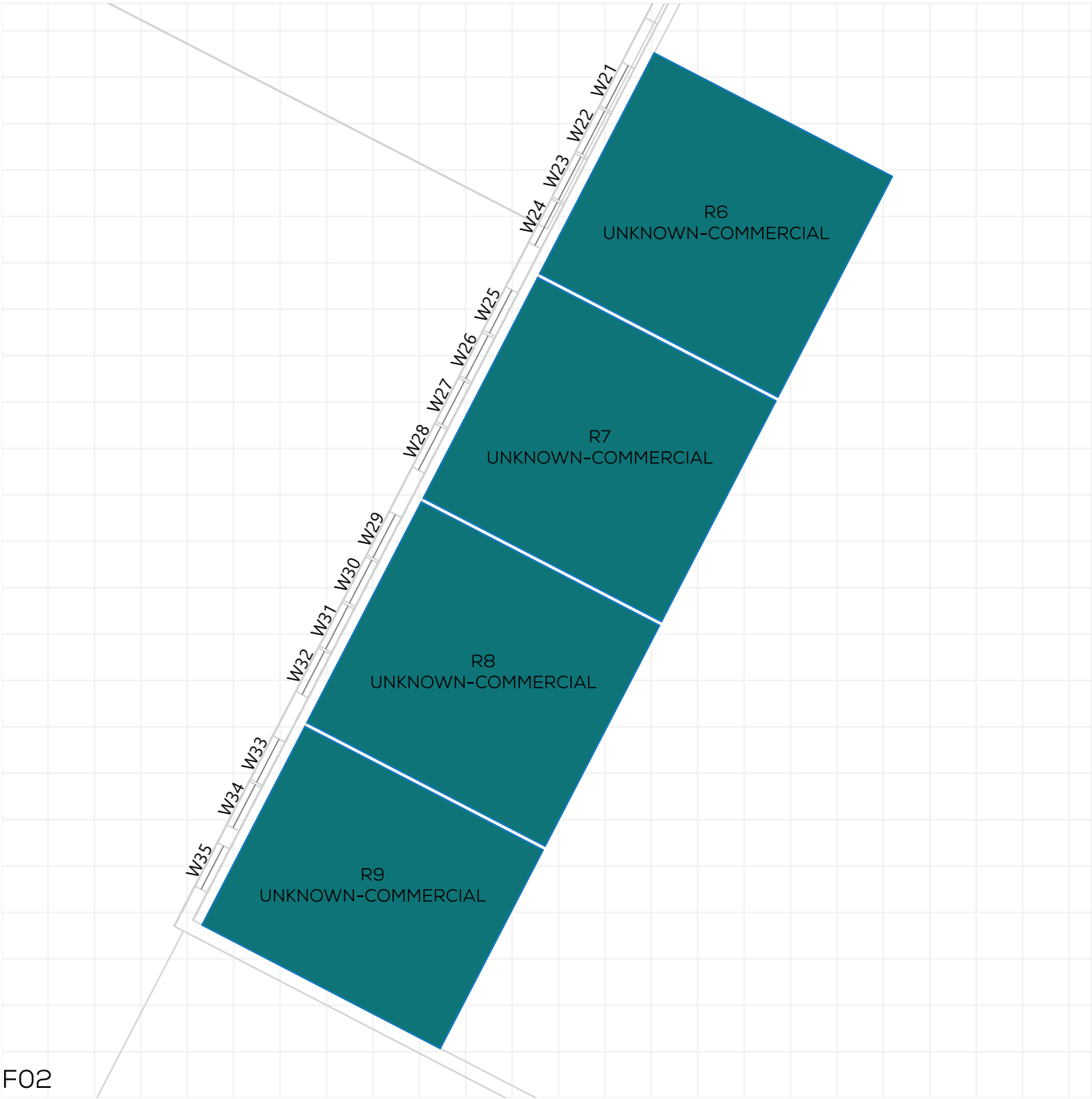
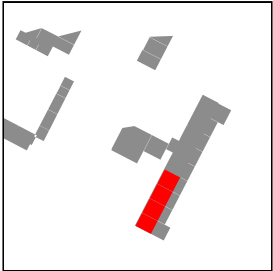
KEY:

GAIN

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MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD61

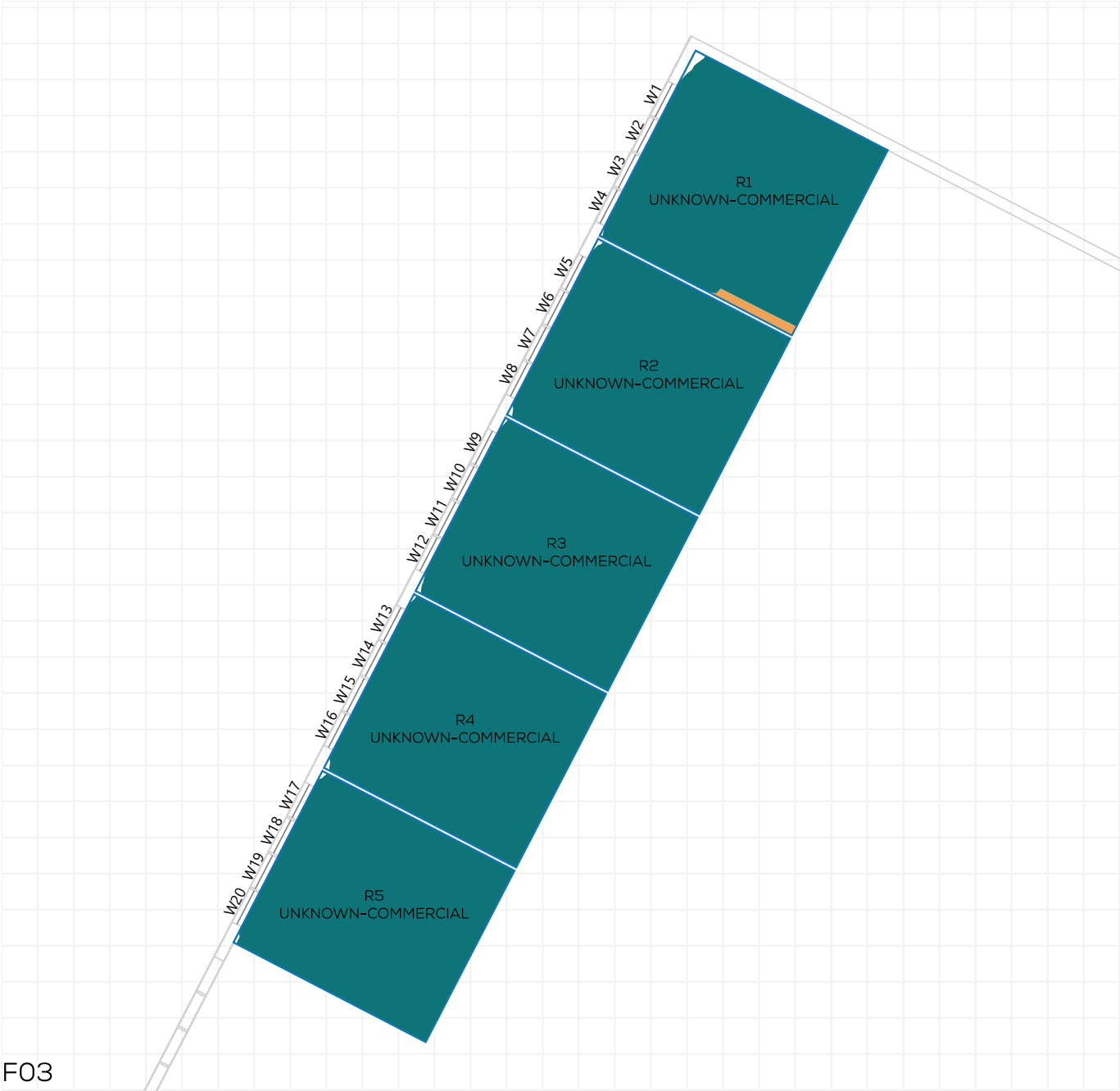
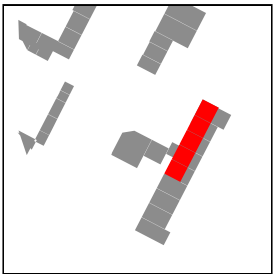
KEY:

GAIN





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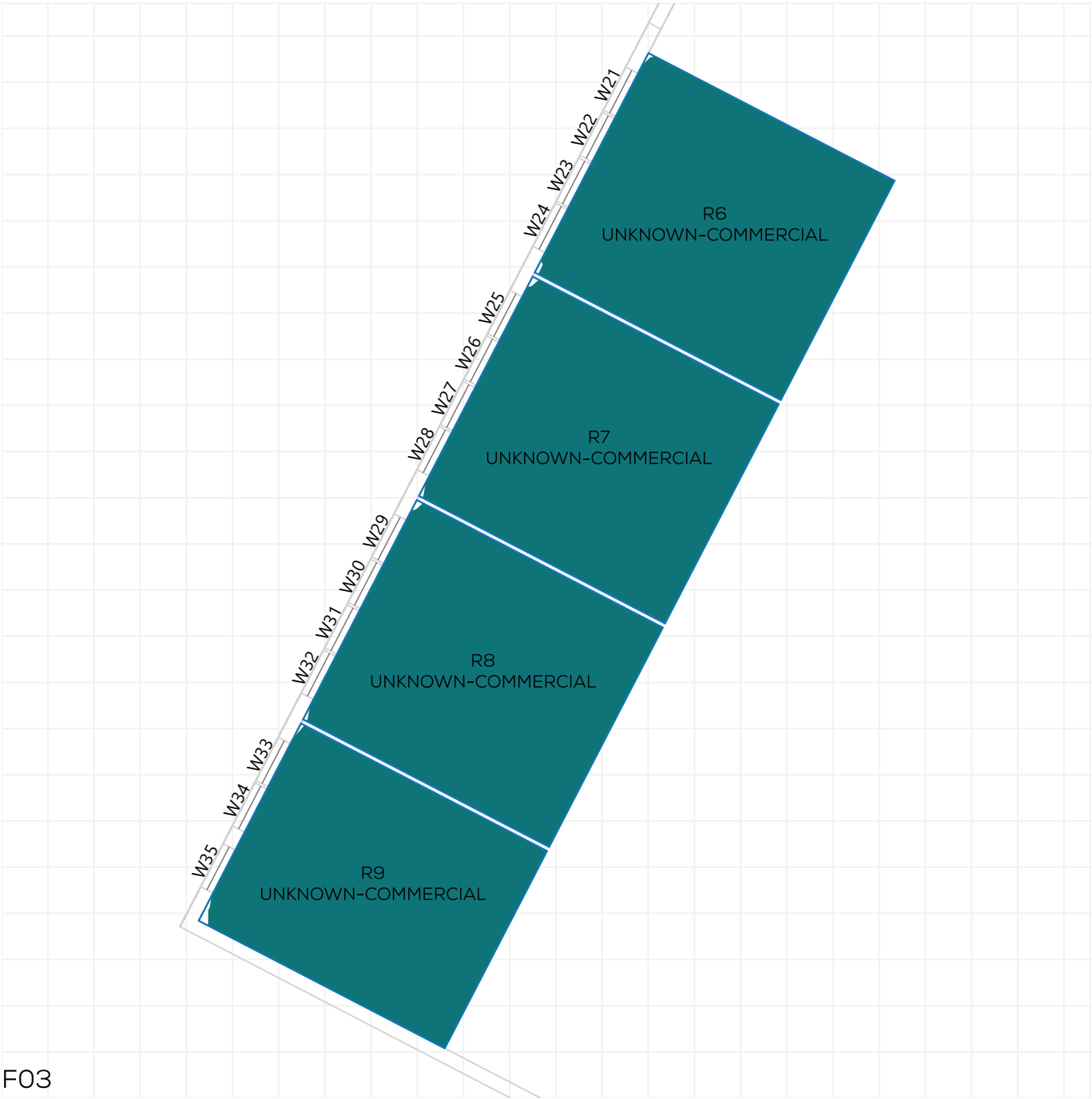
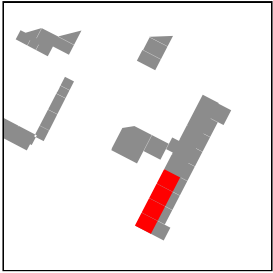
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD62

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD63

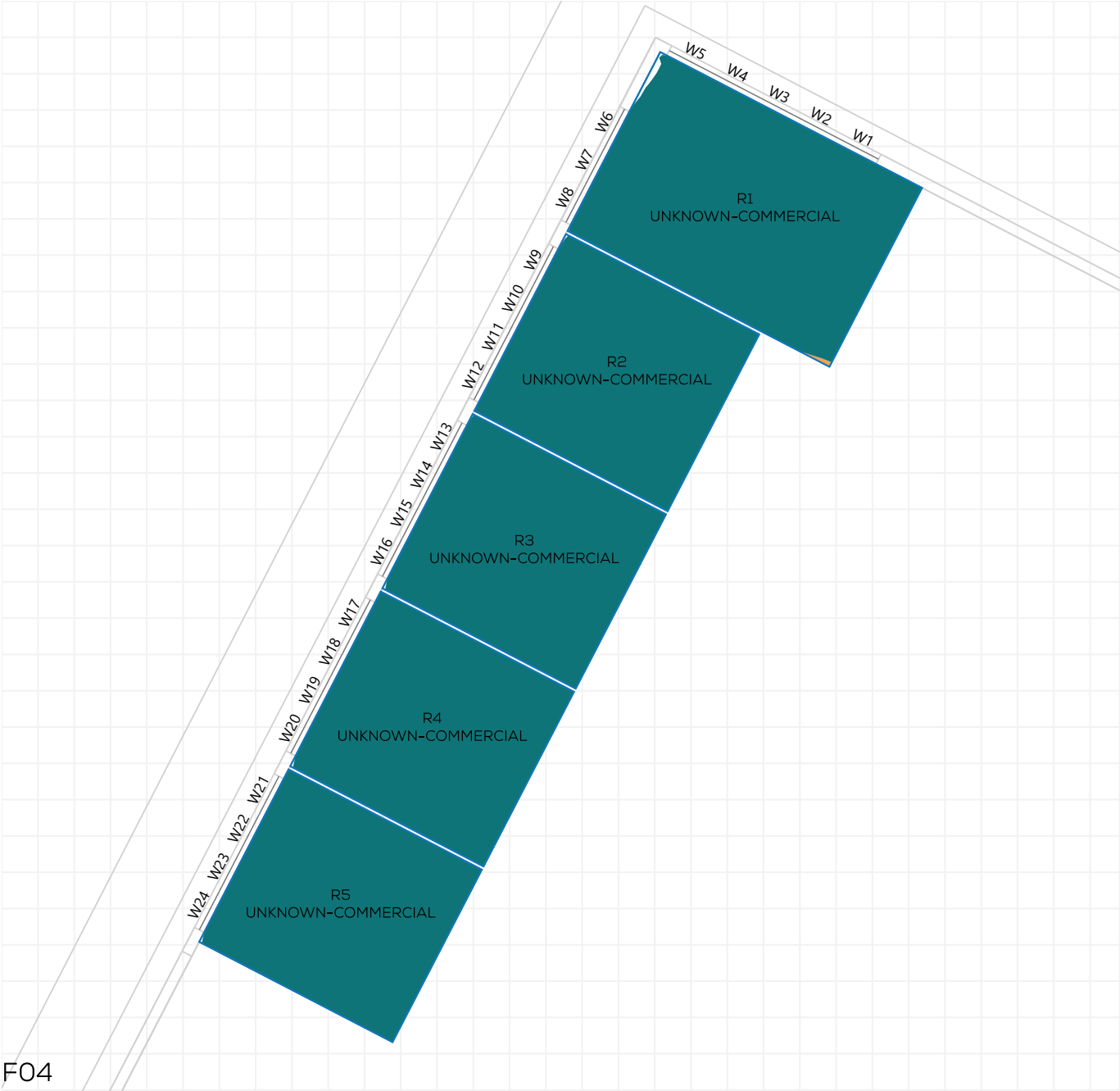
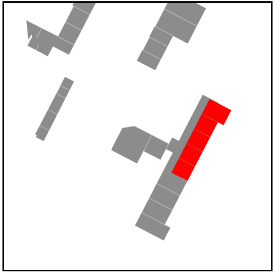
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID

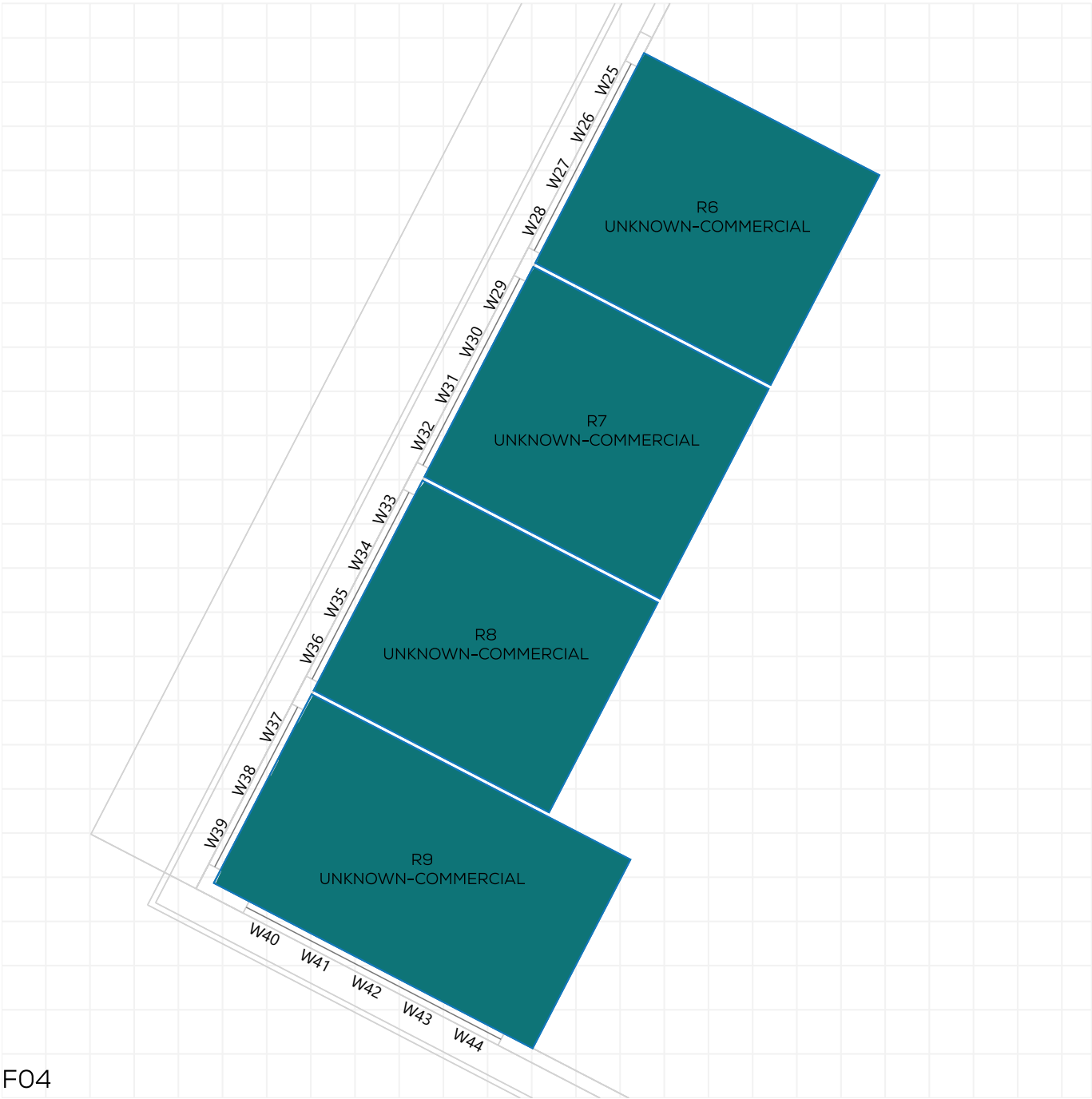
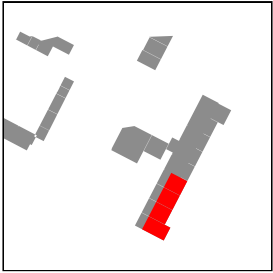


NSL CONTOURS







PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD64


KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID

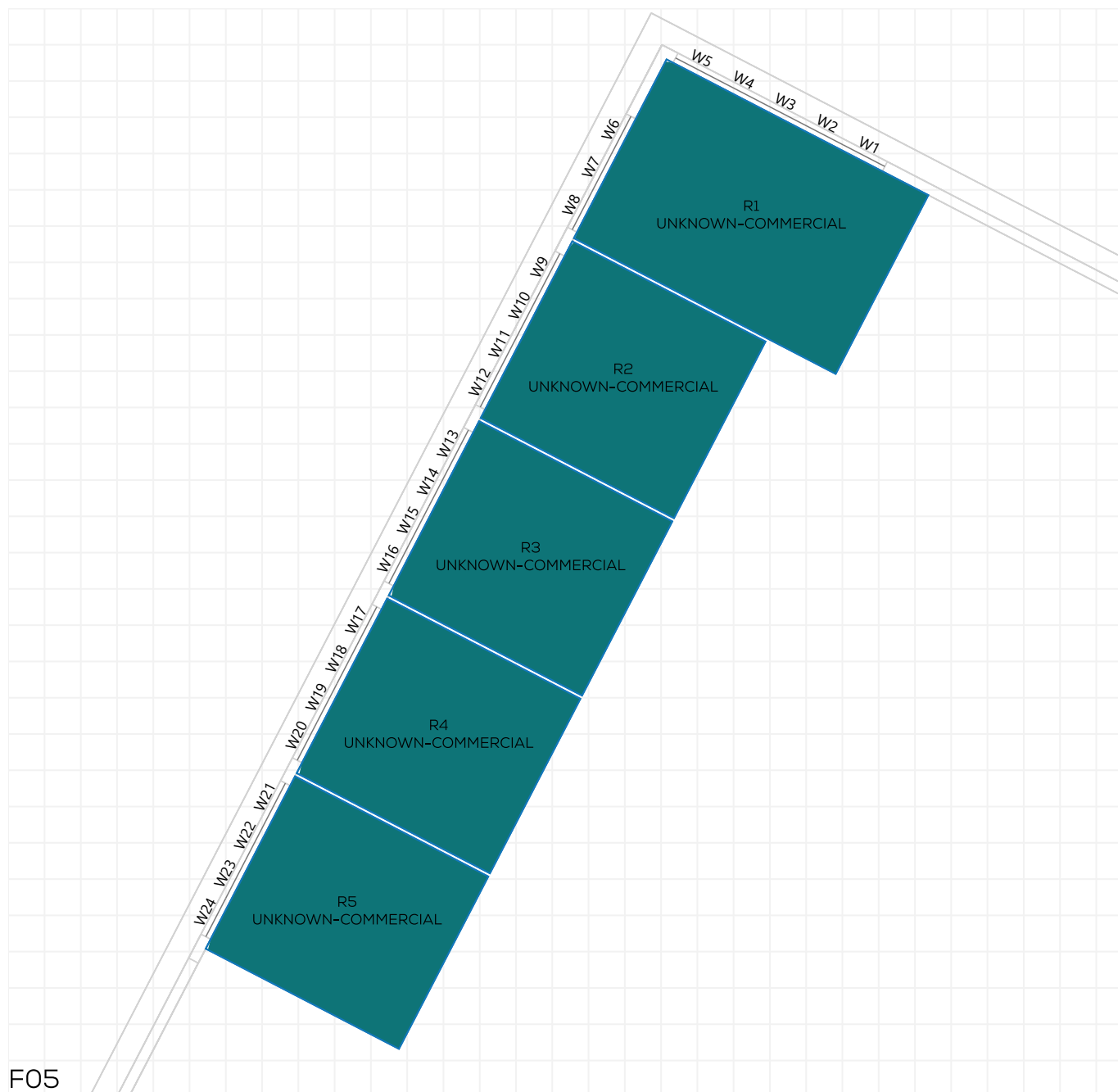
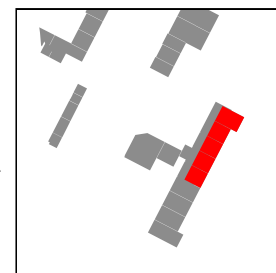


F04





KEY:

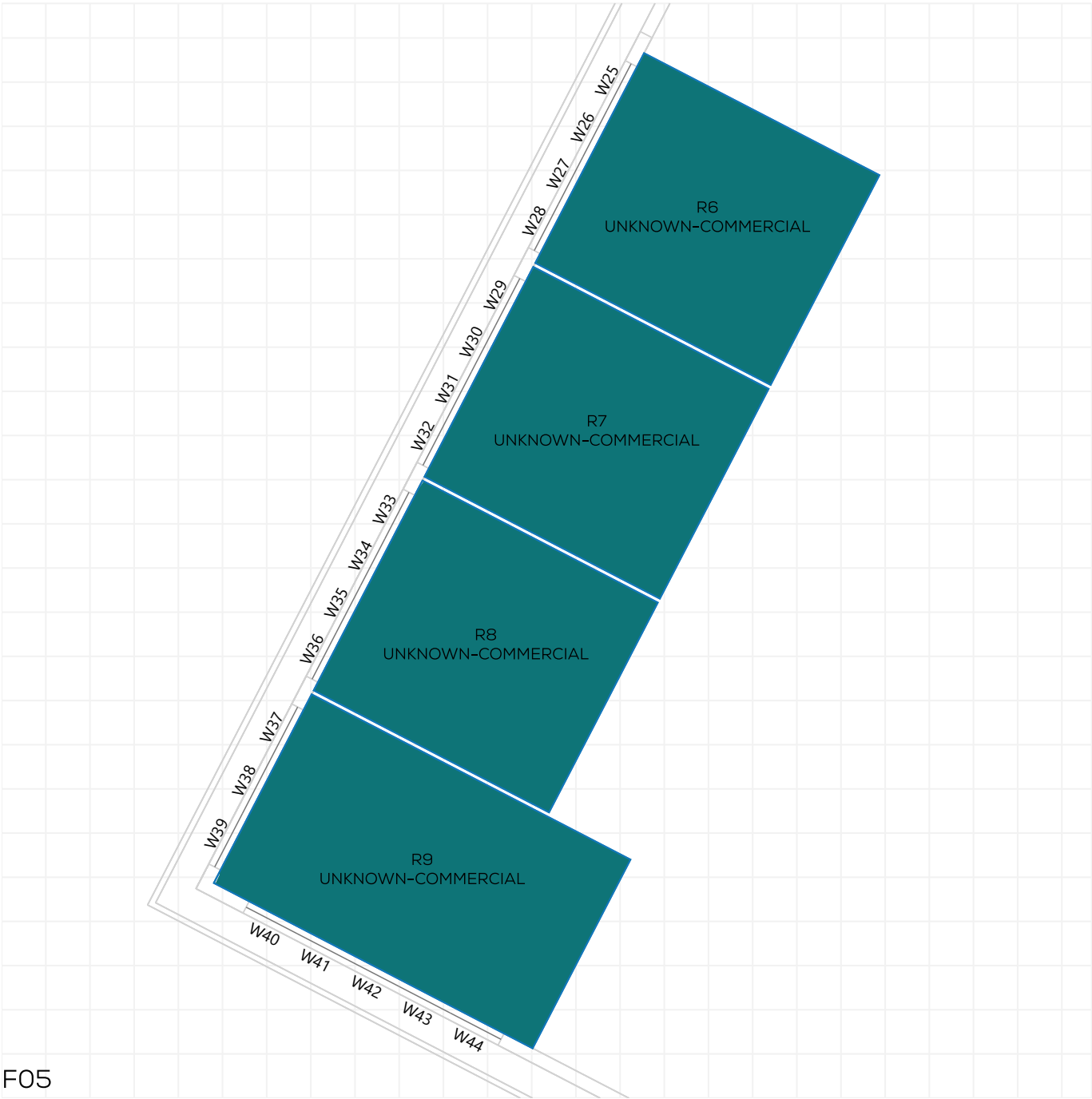
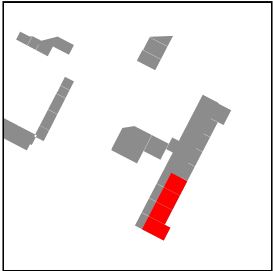
-  GAIN
-  LOSS
-  MAINTAINED LIT AREA
-  1 METRE GRID





PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD66

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD67

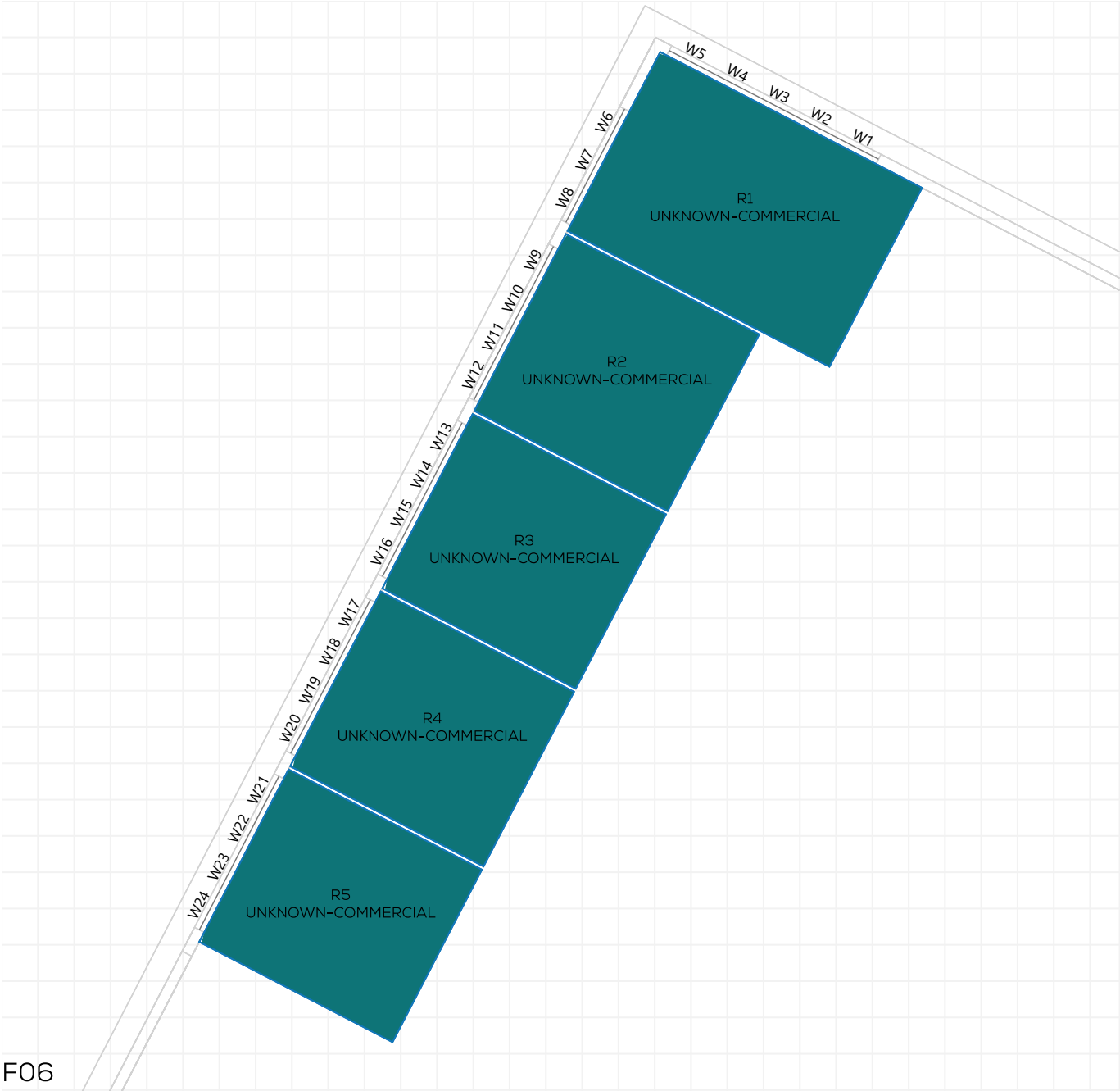
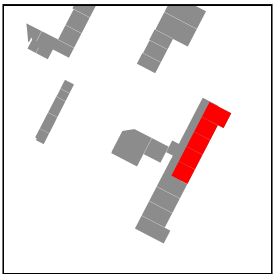
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD68

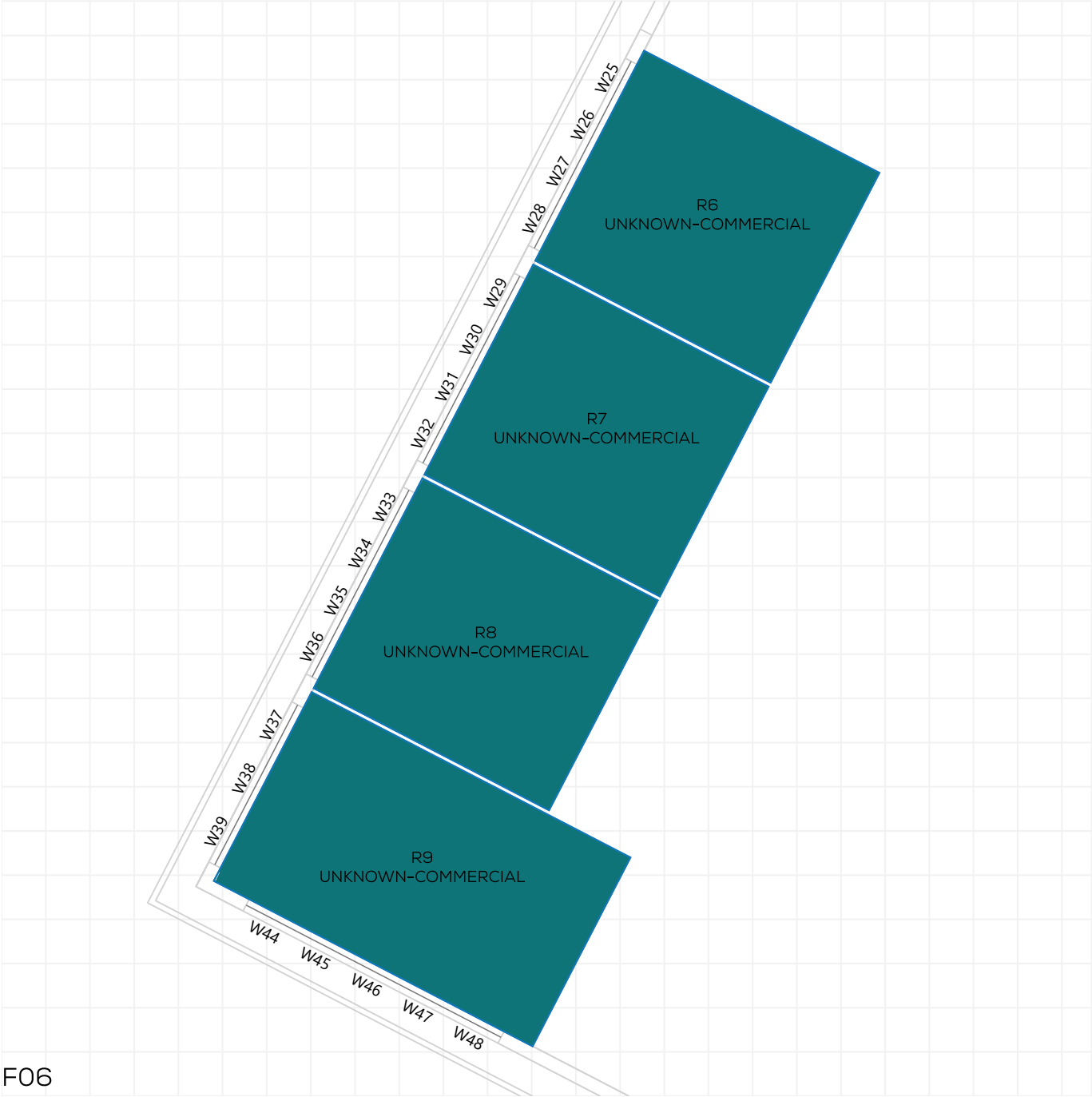
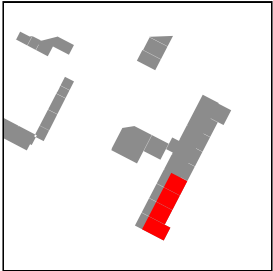
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD69

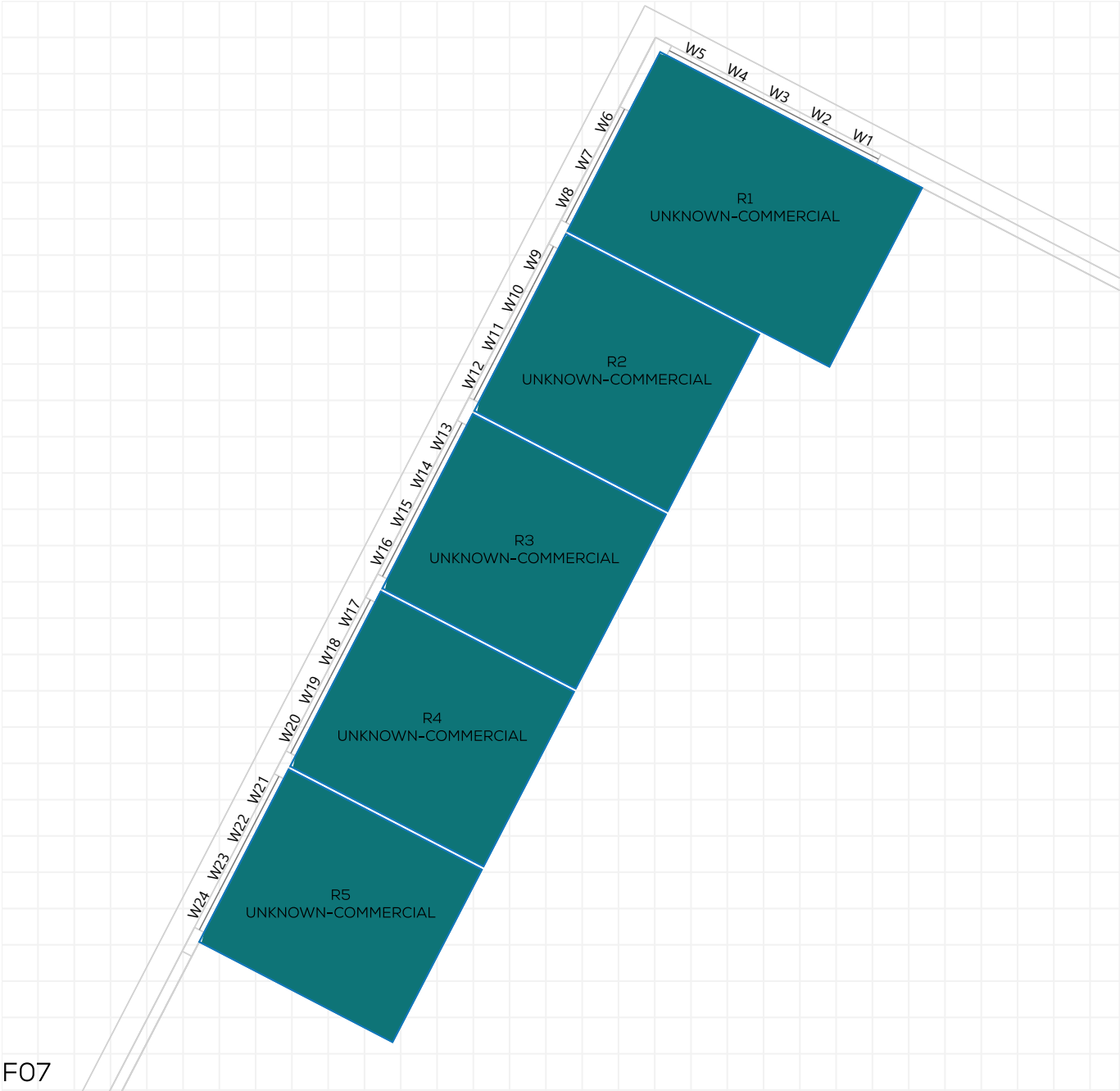
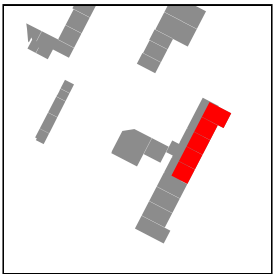
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD70

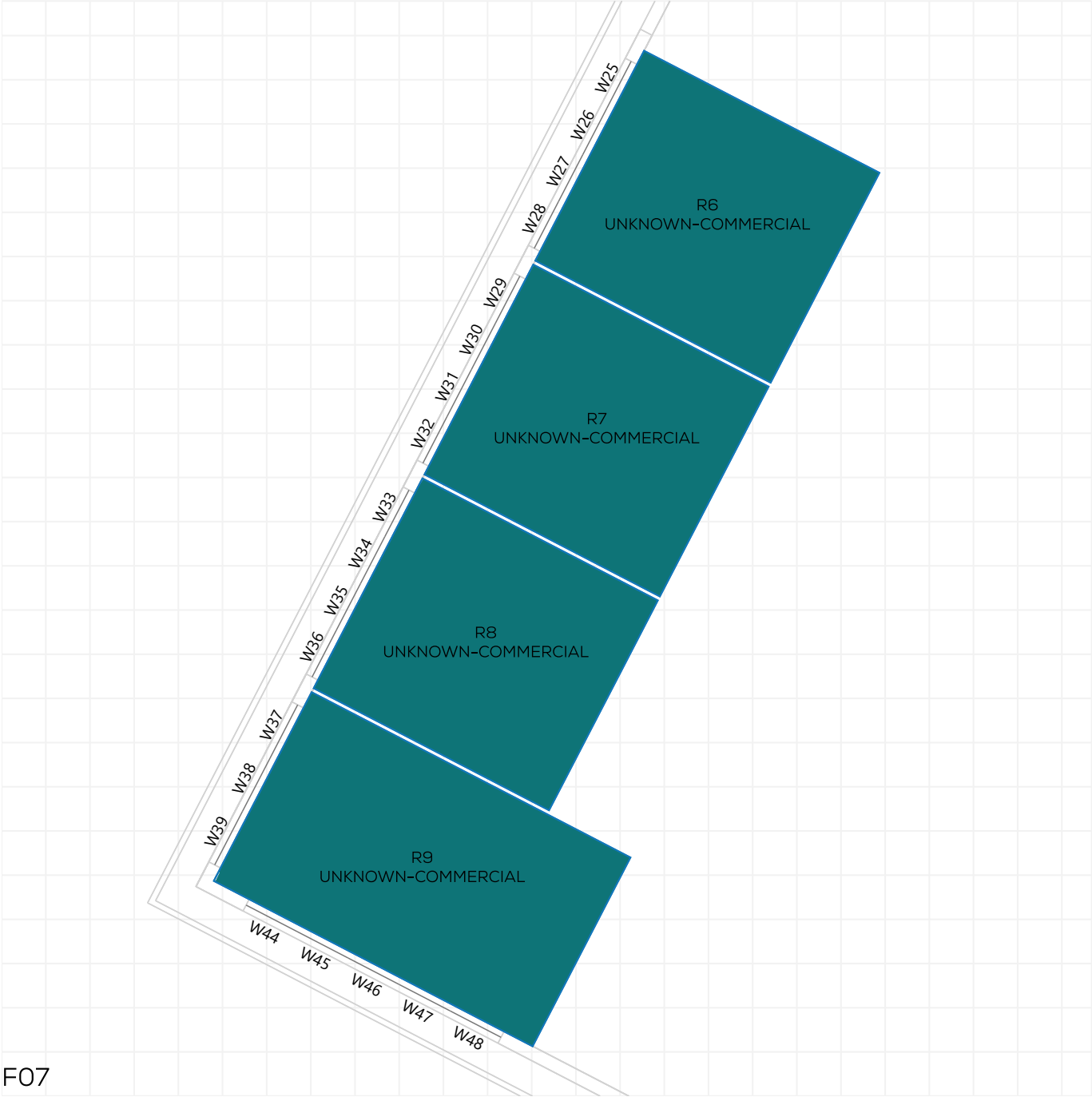
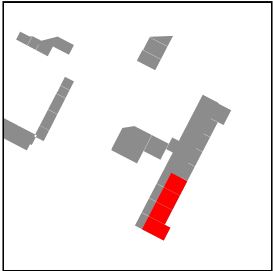
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD71

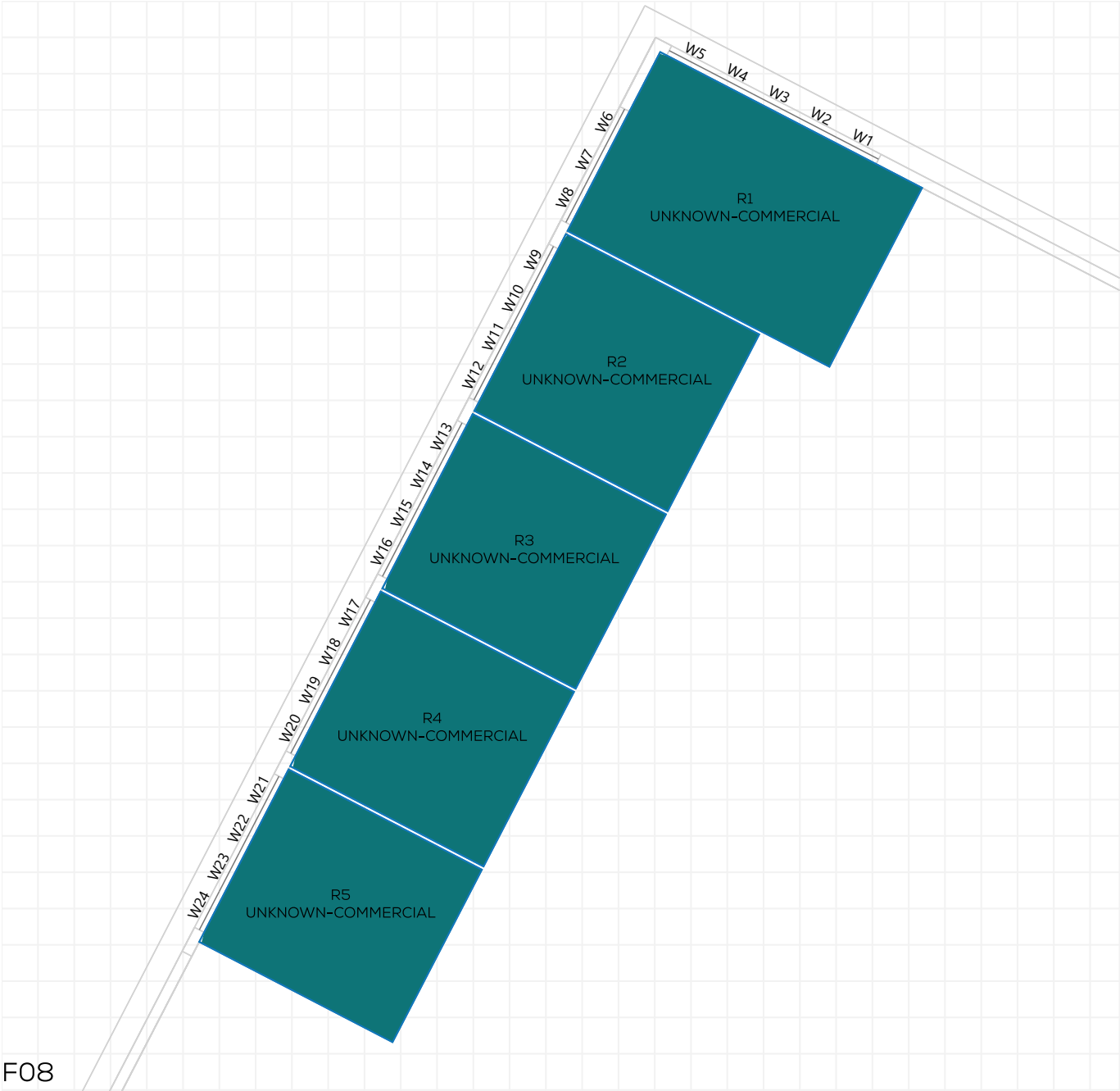
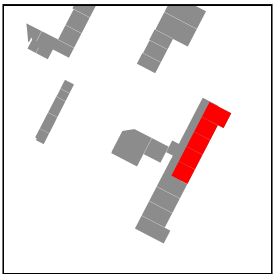
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



F08

PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD72

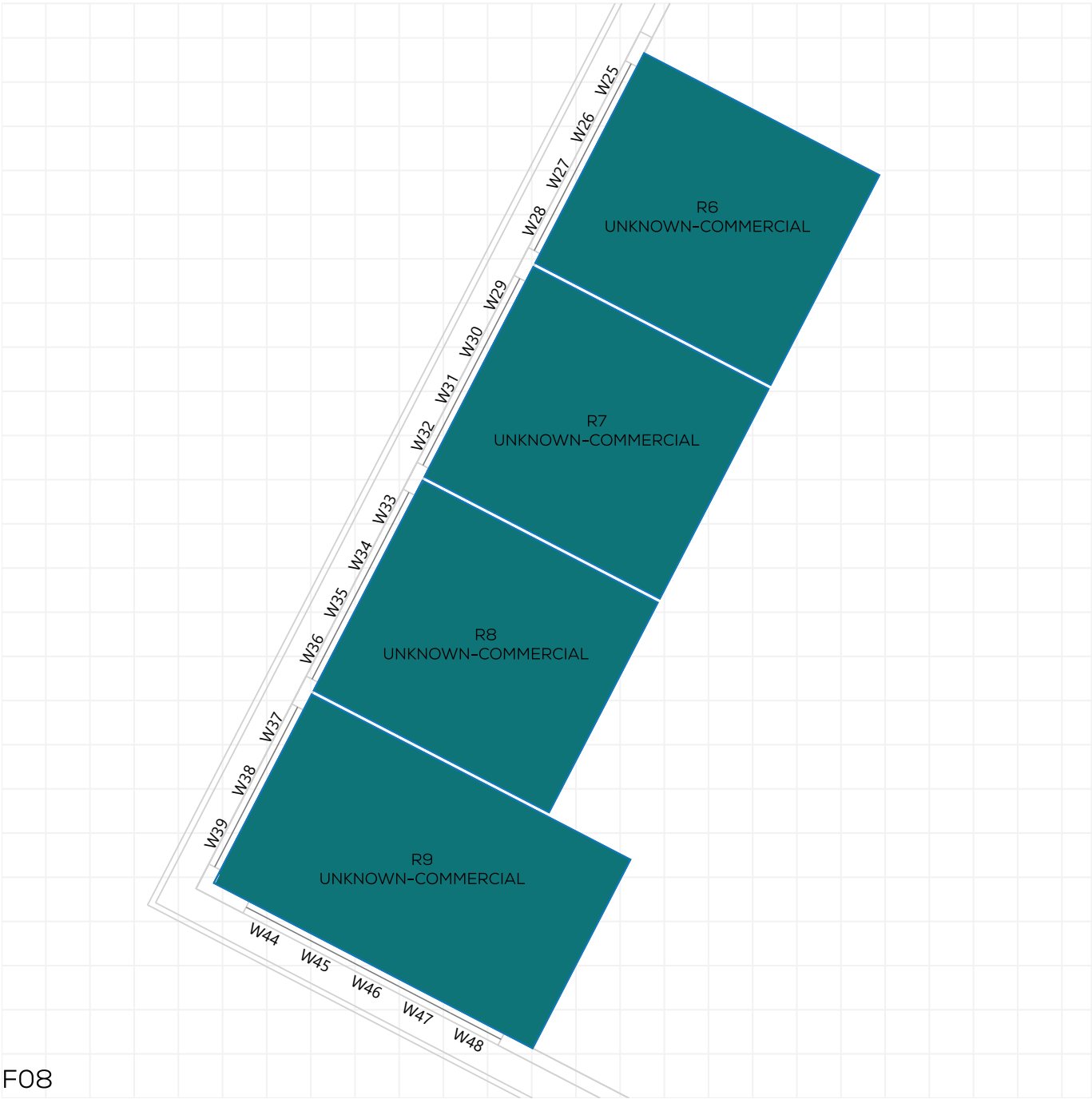
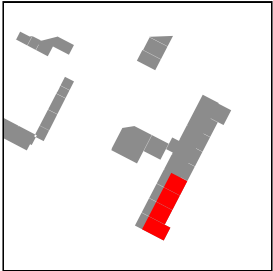
KEY:

GAIN

LOSS

MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD73

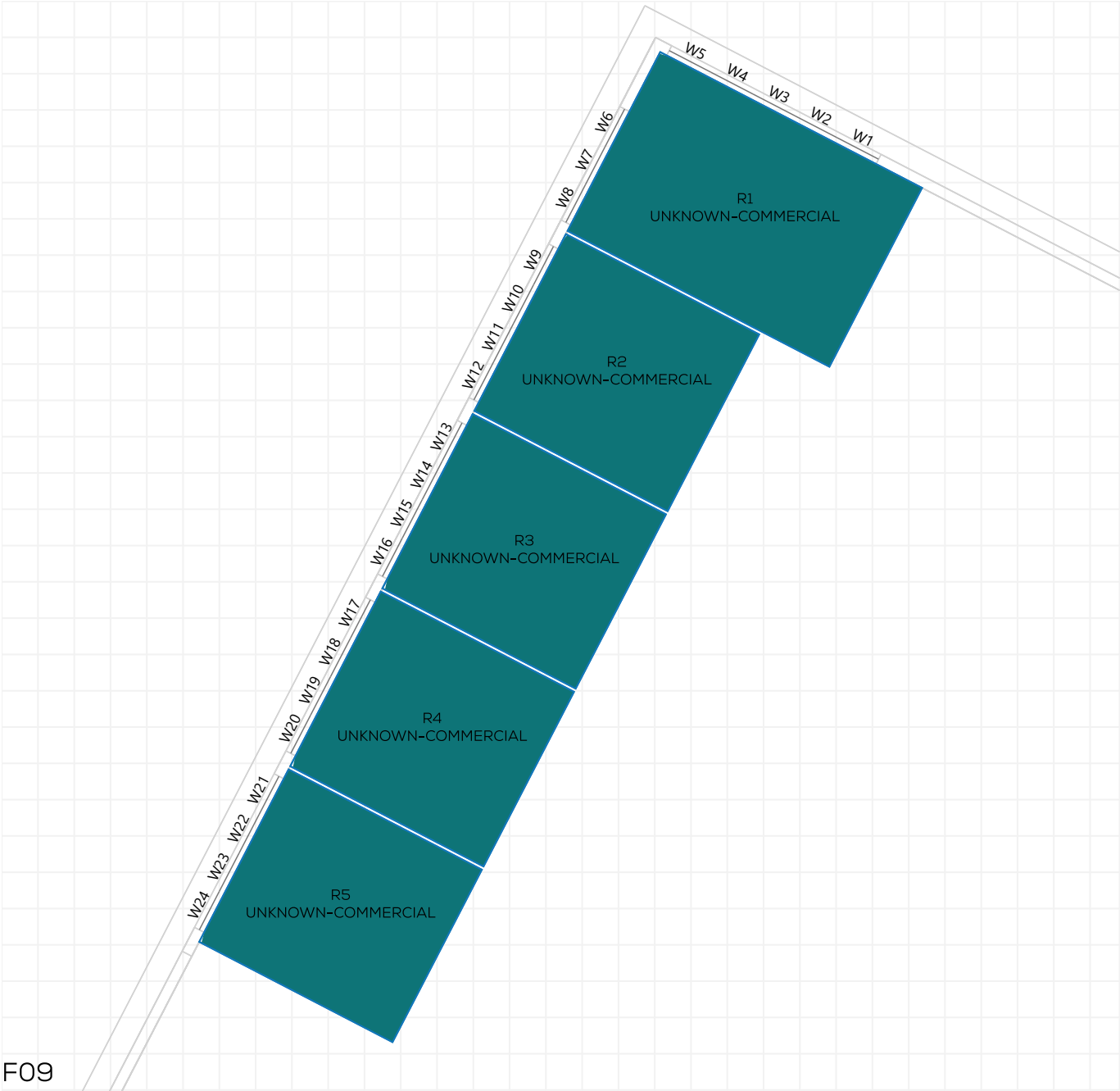
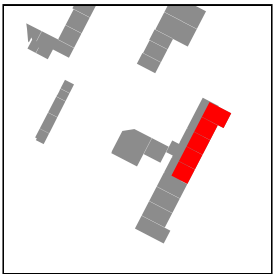
KEY:

GAIN





LOSS

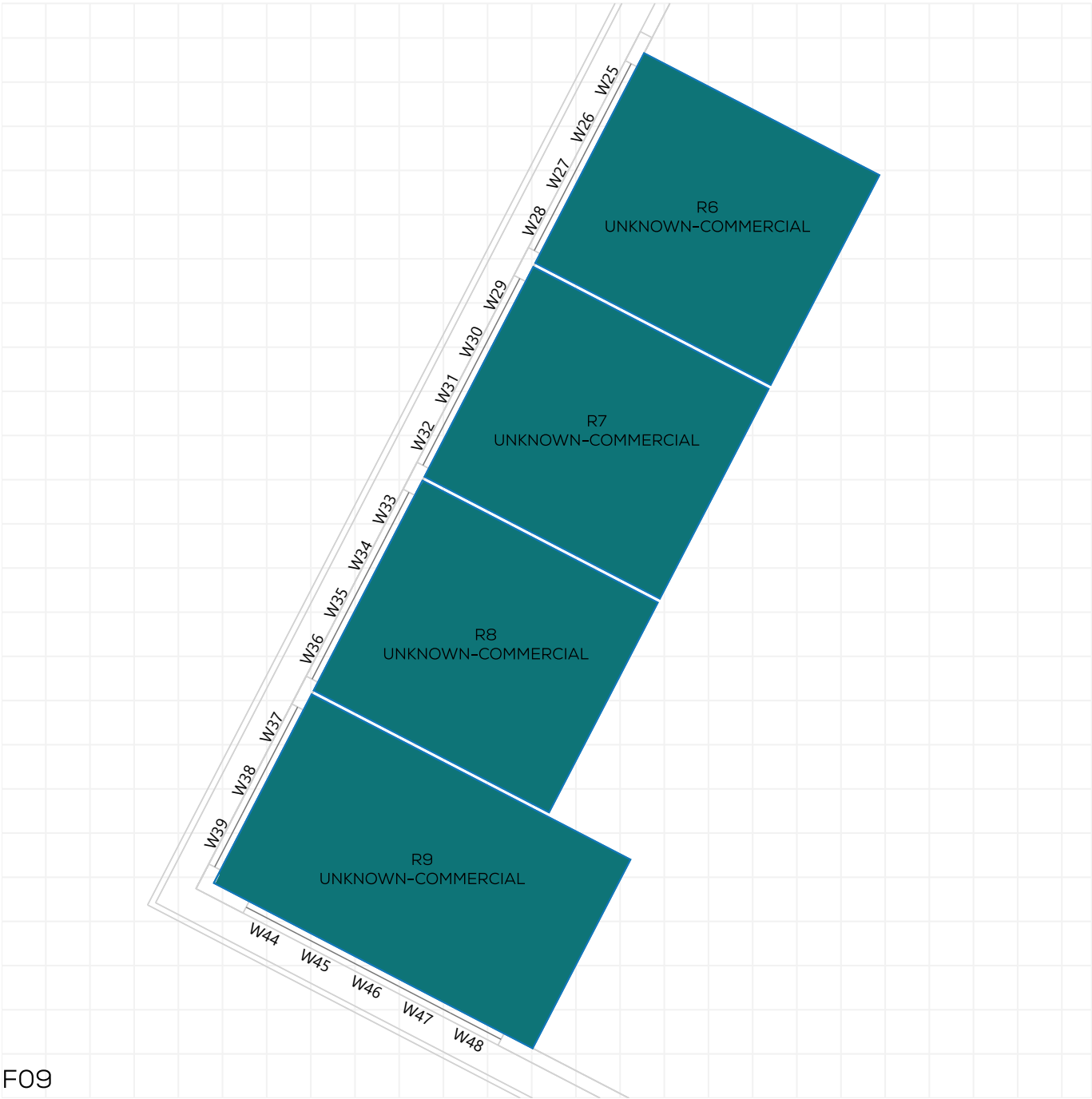
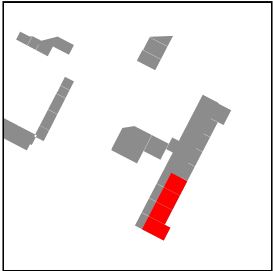
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD74

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD75

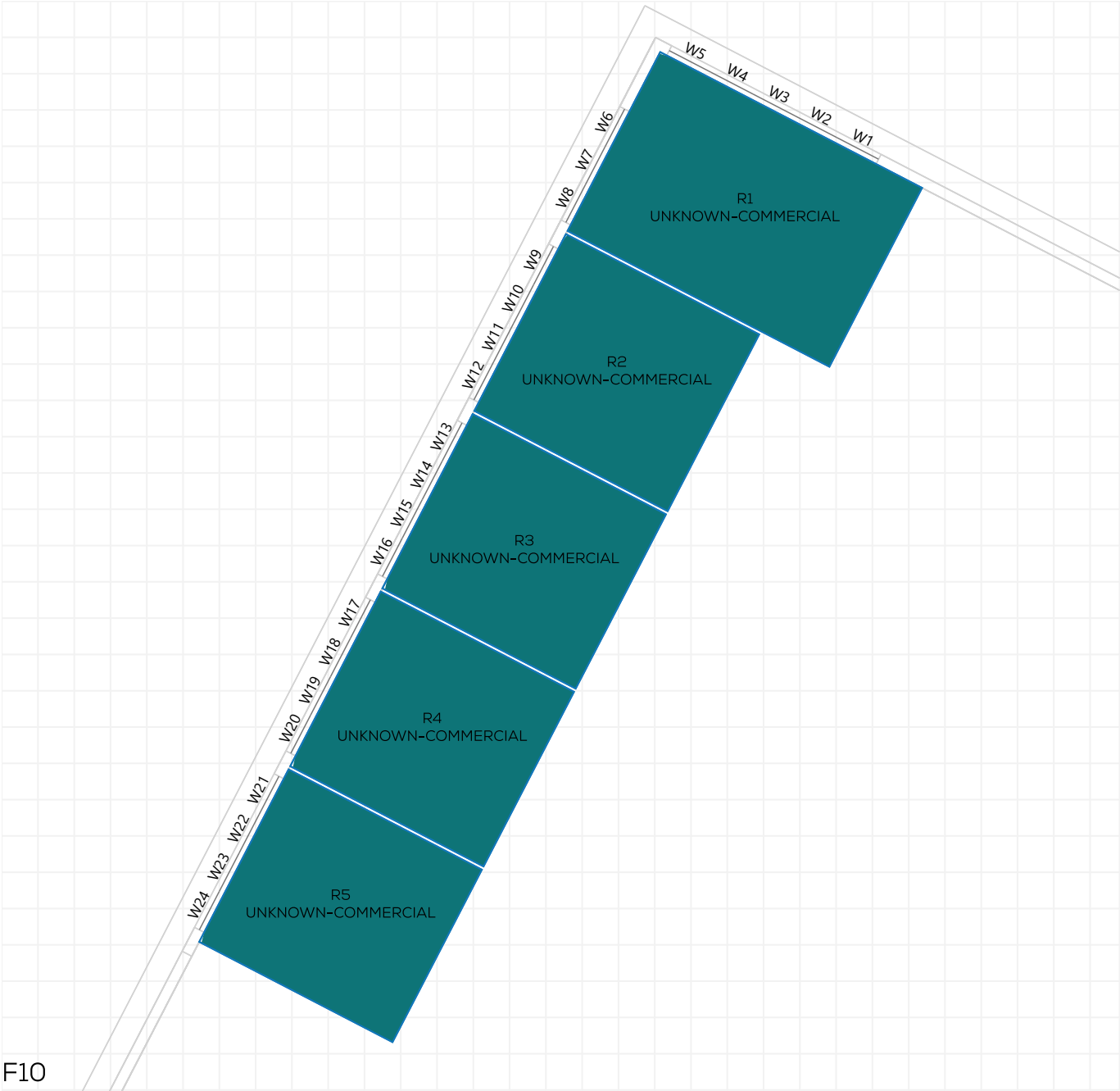
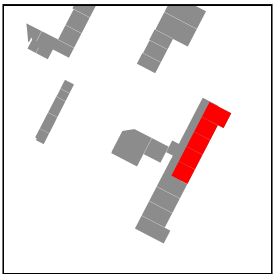
KEY:

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1 METRE GRID



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NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD76

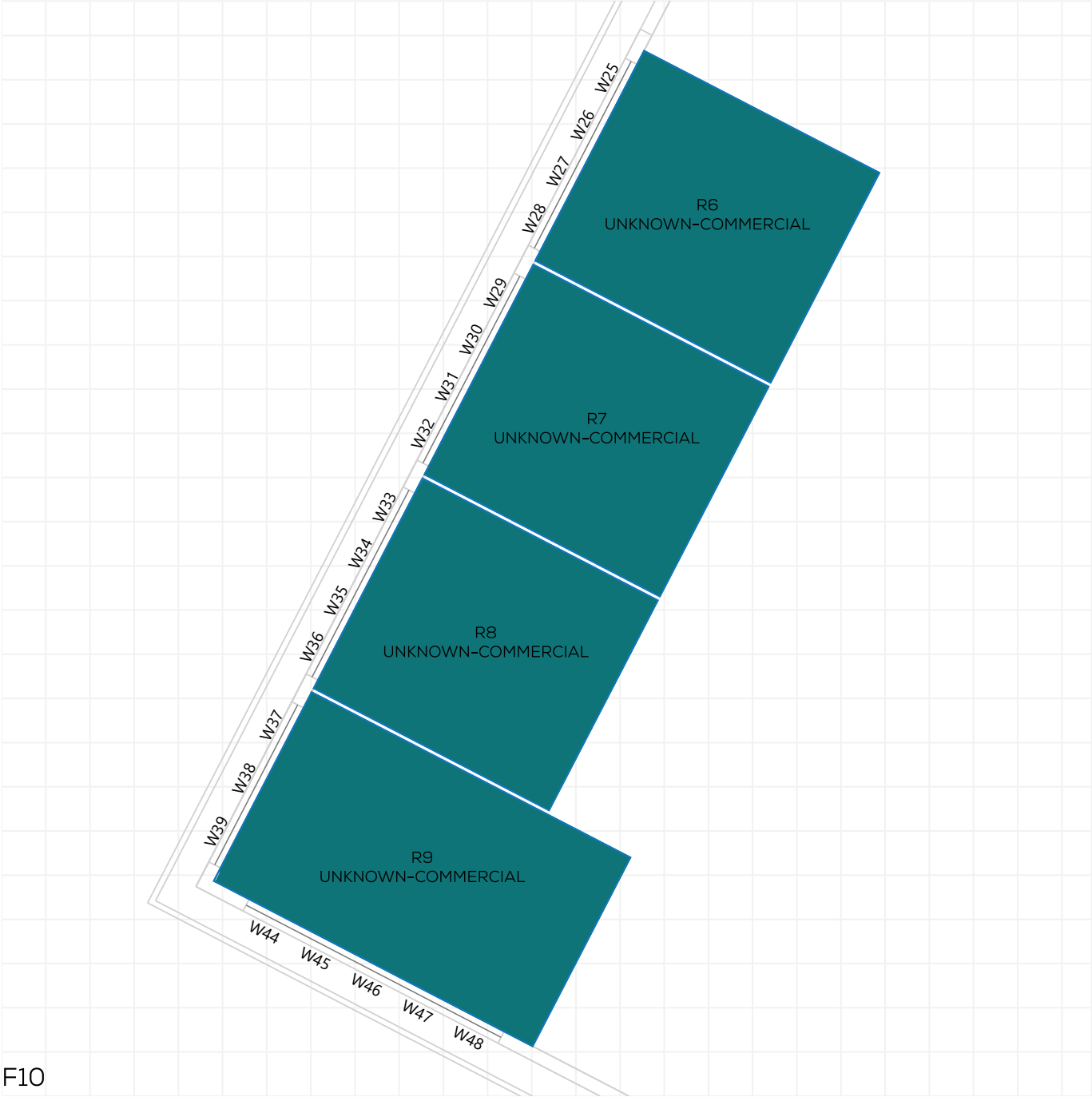
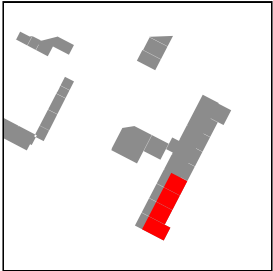
KEY:

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MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD77

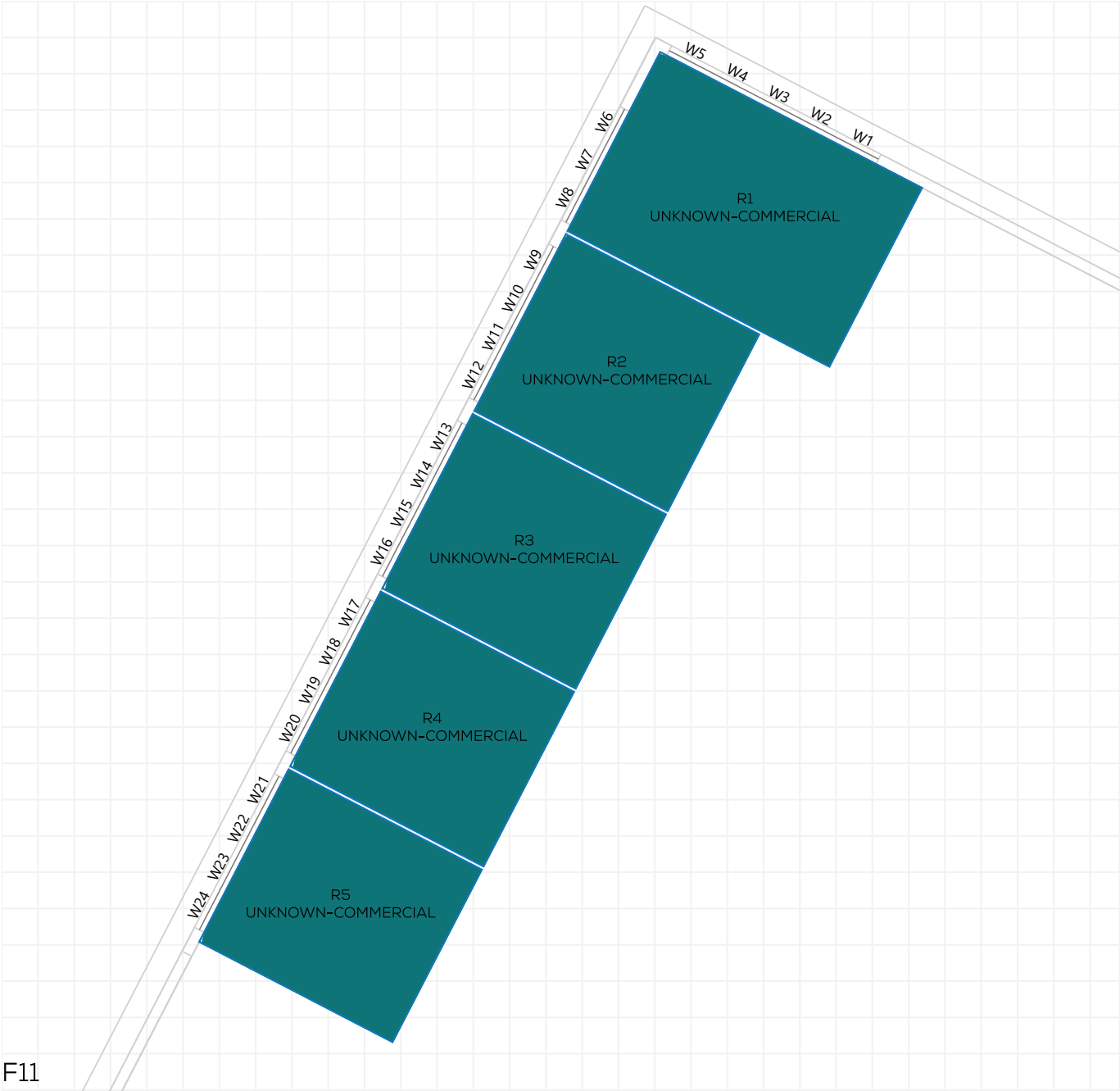
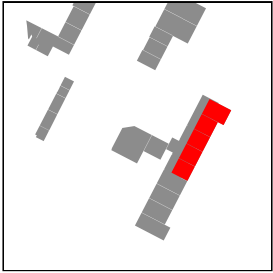
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MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD78

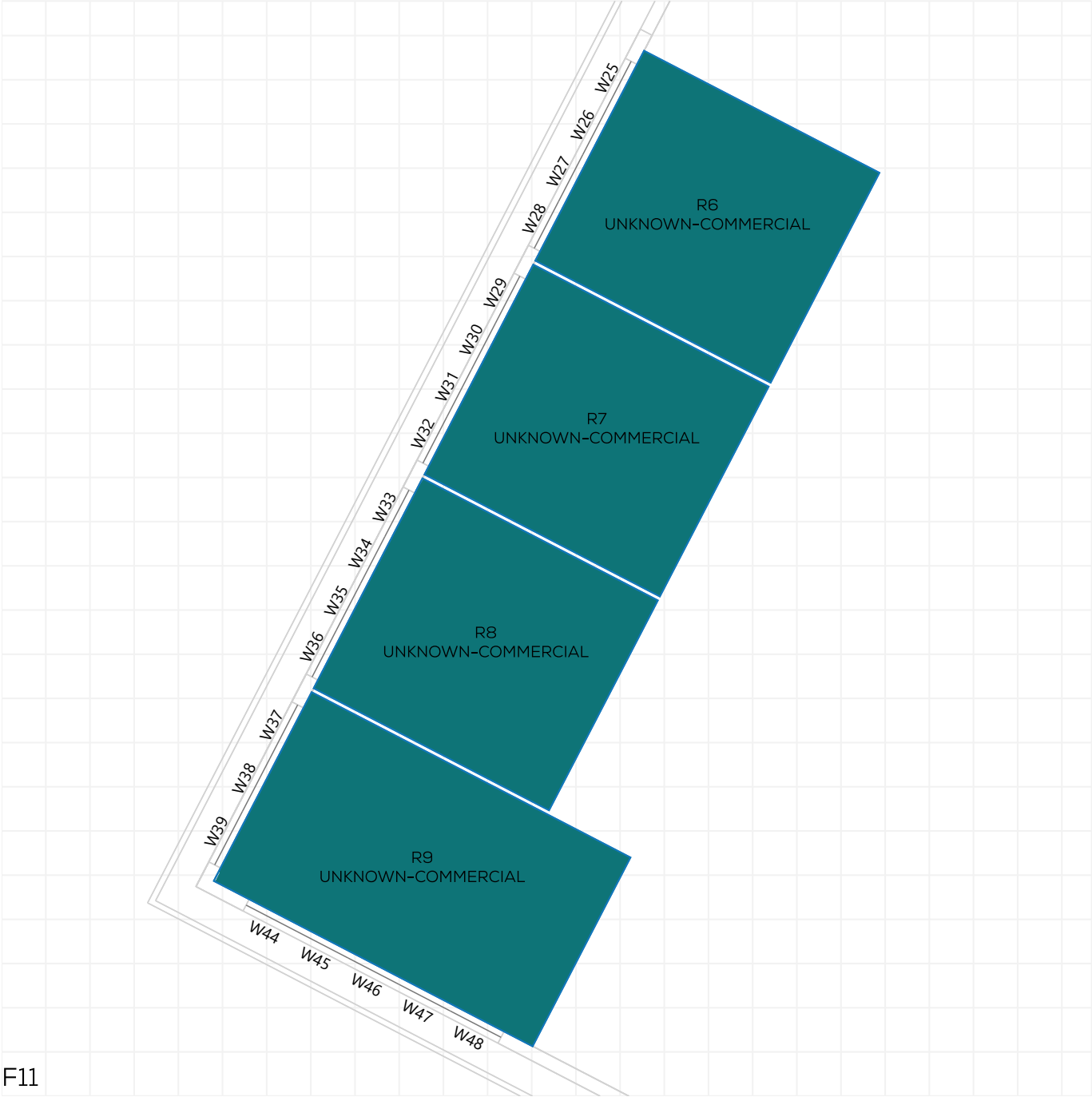
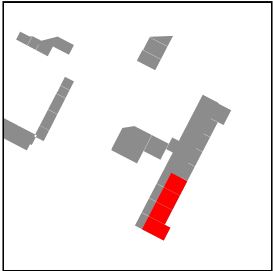
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LOSS

MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD79

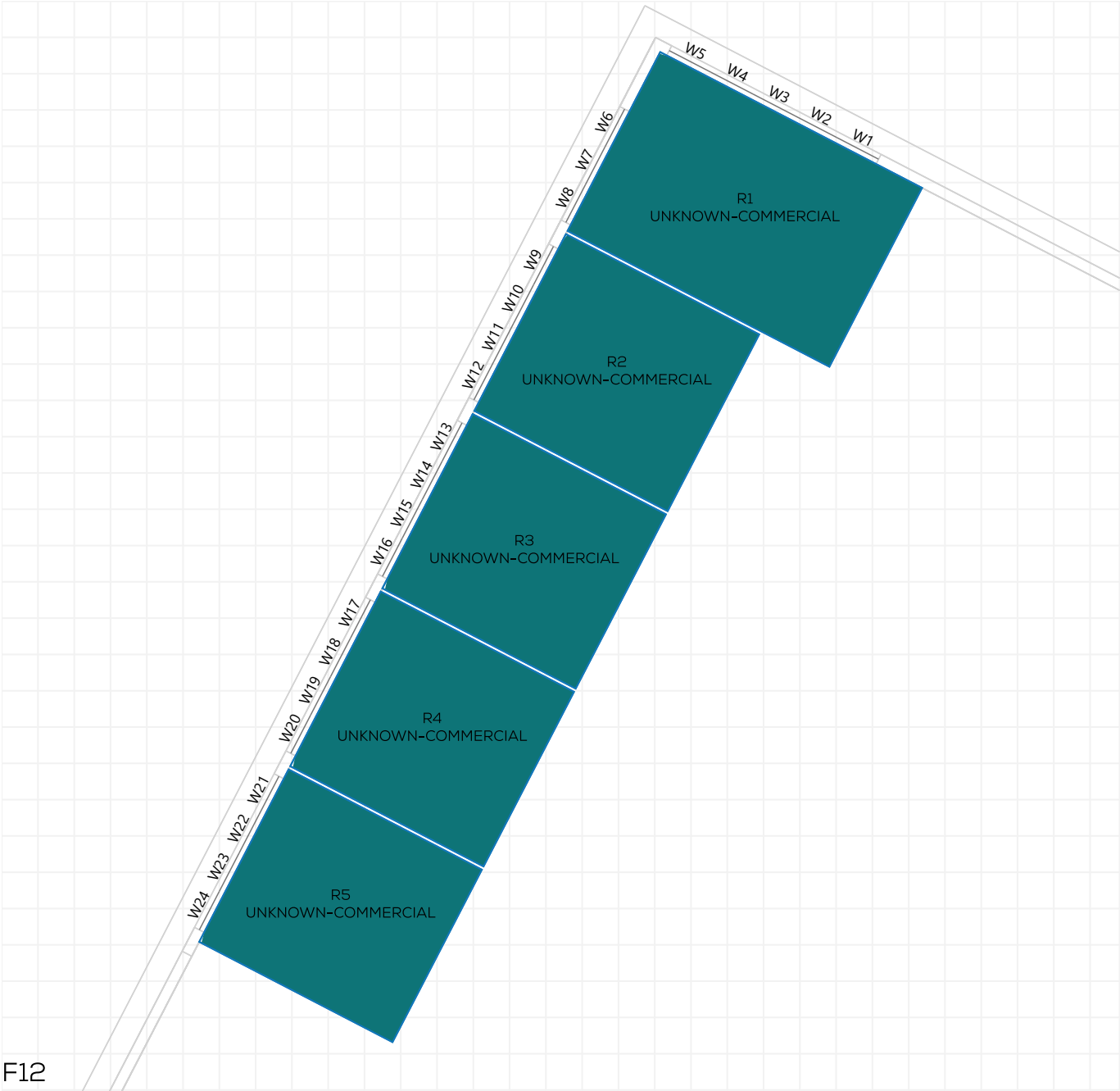
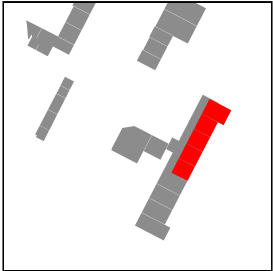
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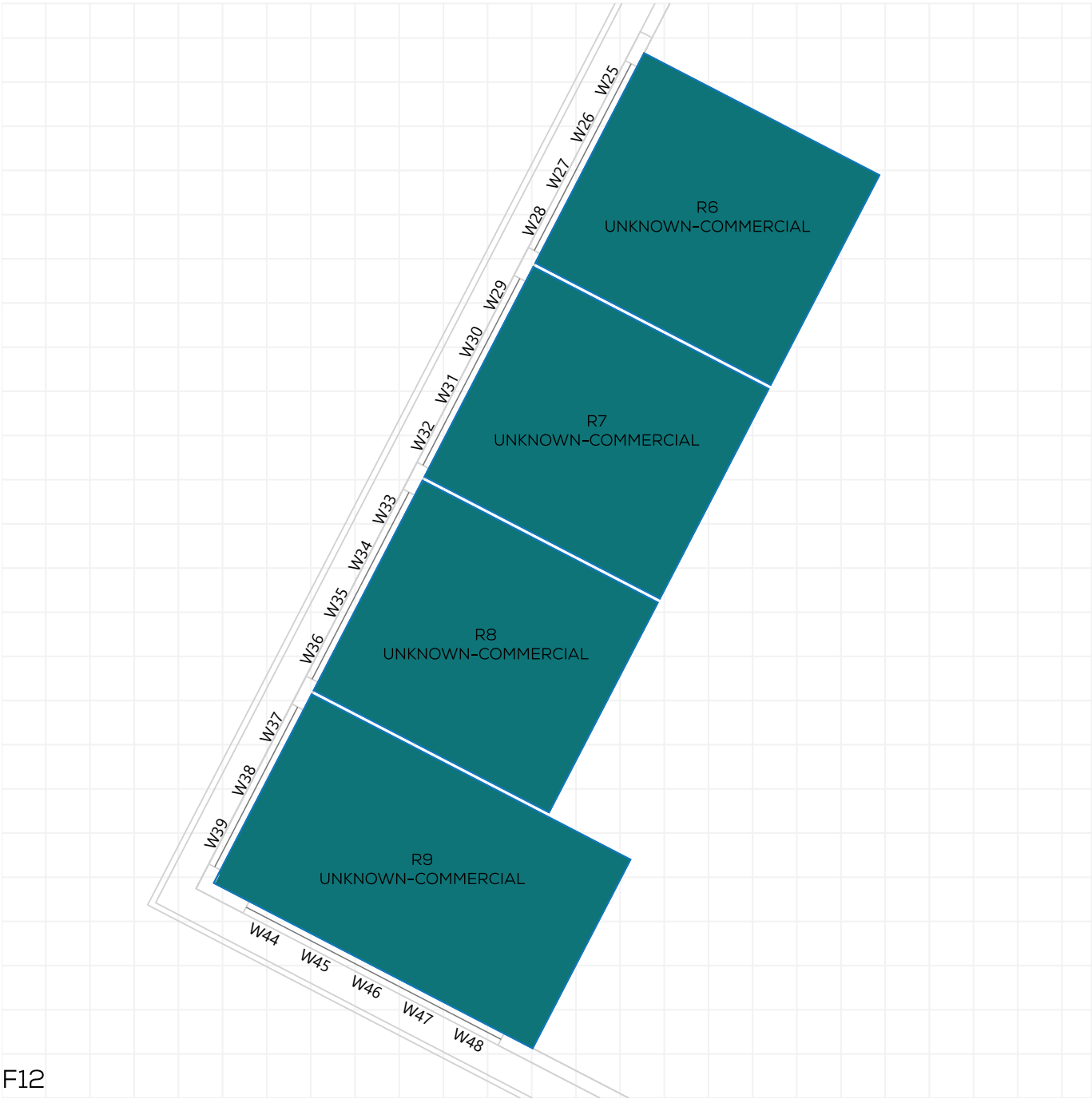
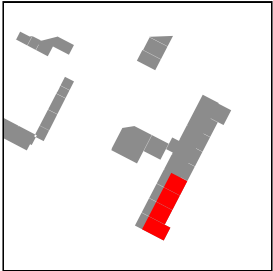
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1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD80

KEY:
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 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD81

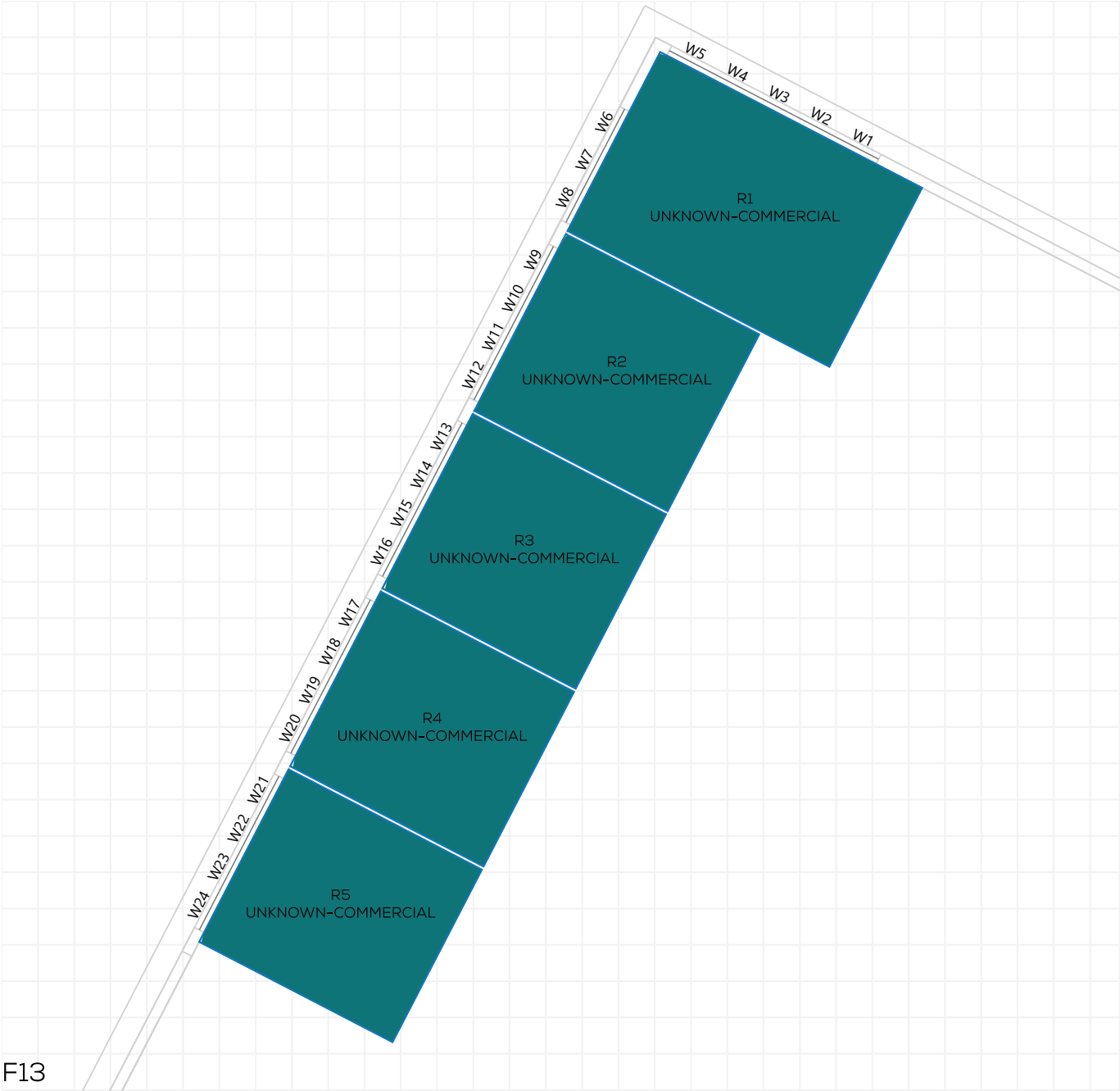
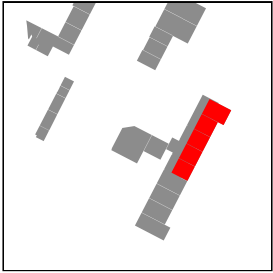
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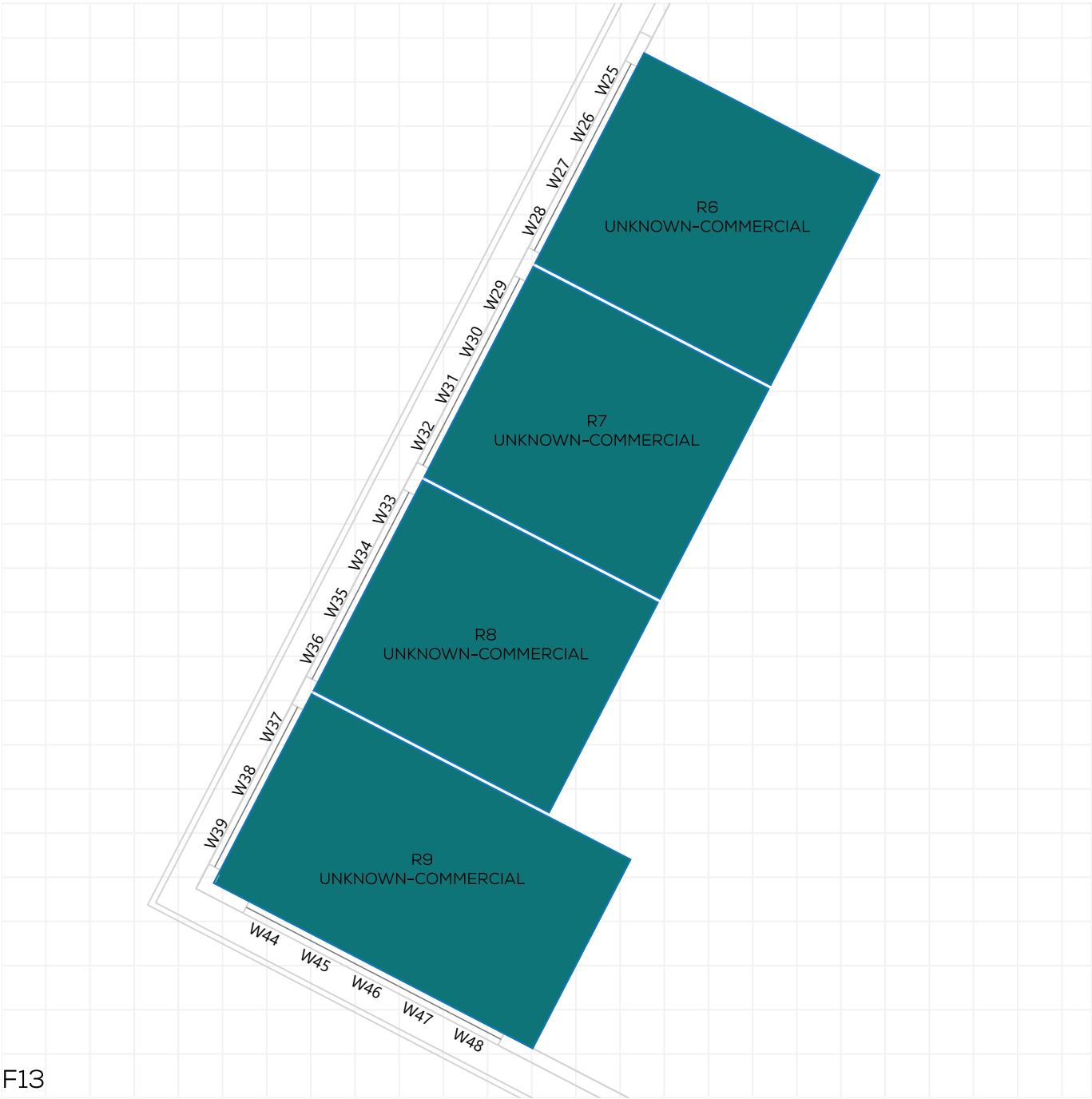
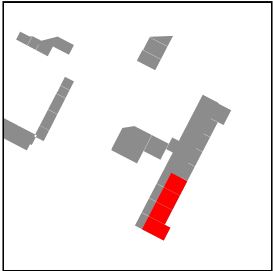
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD82

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD83

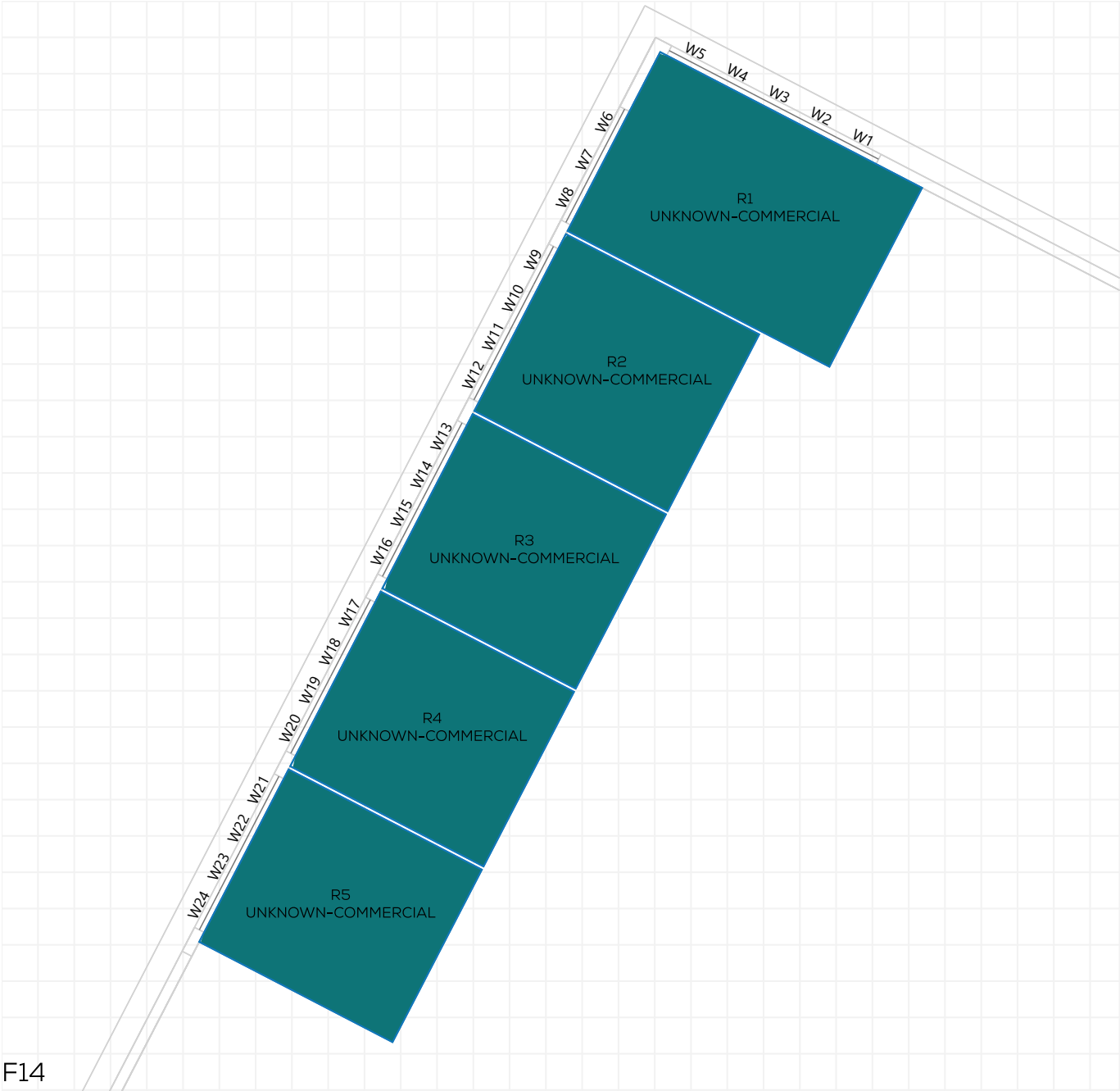
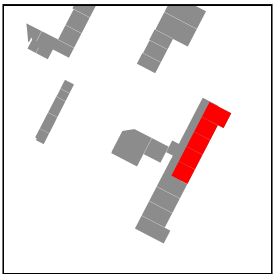
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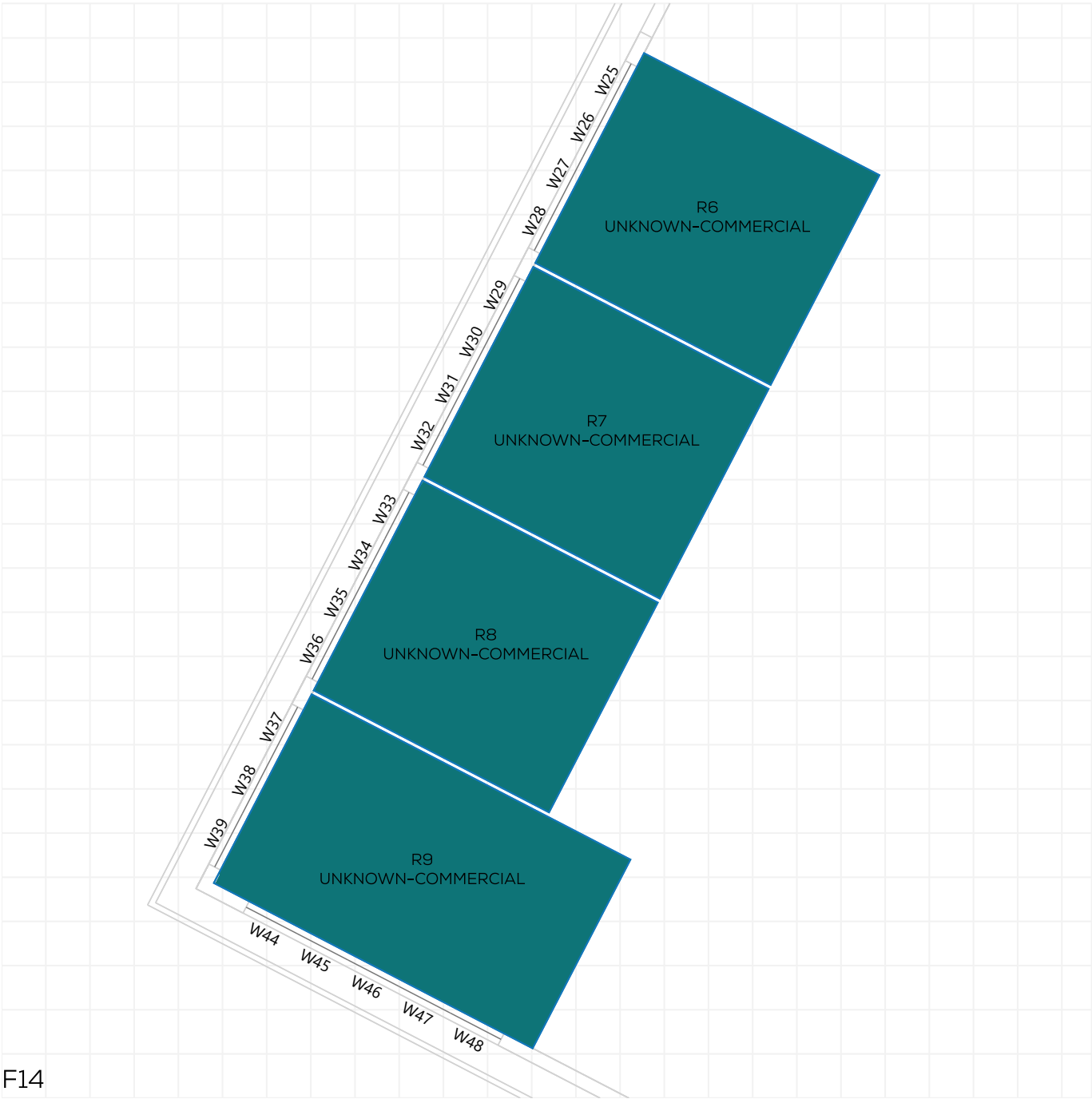
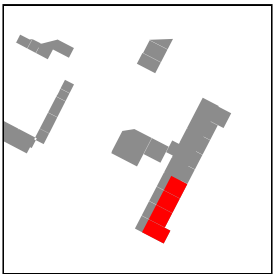
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD84

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD85

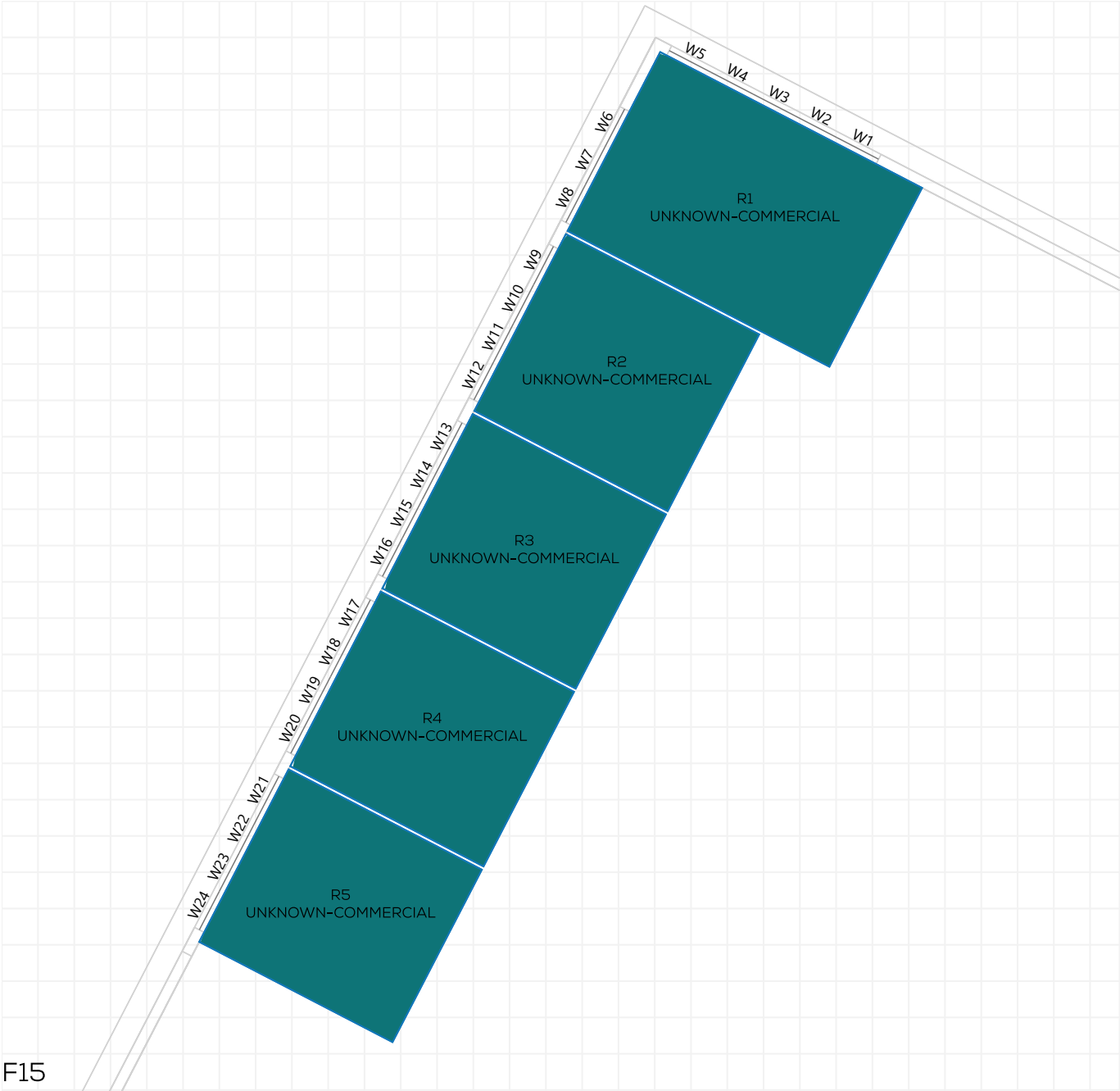
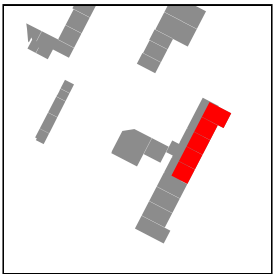
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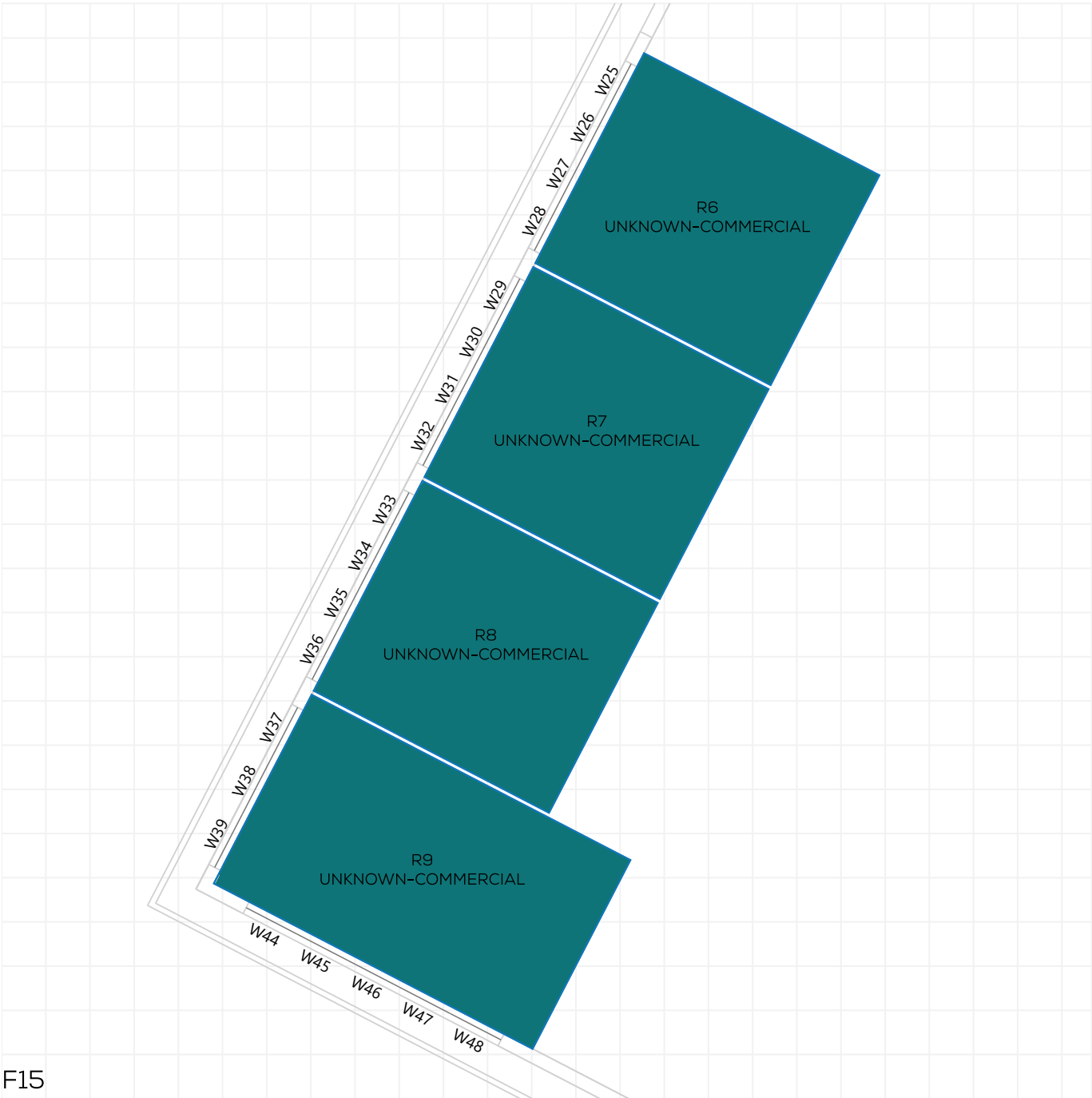
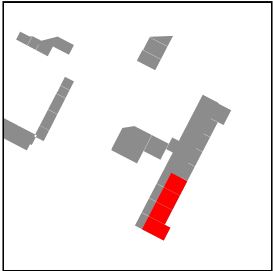
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD86

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD87

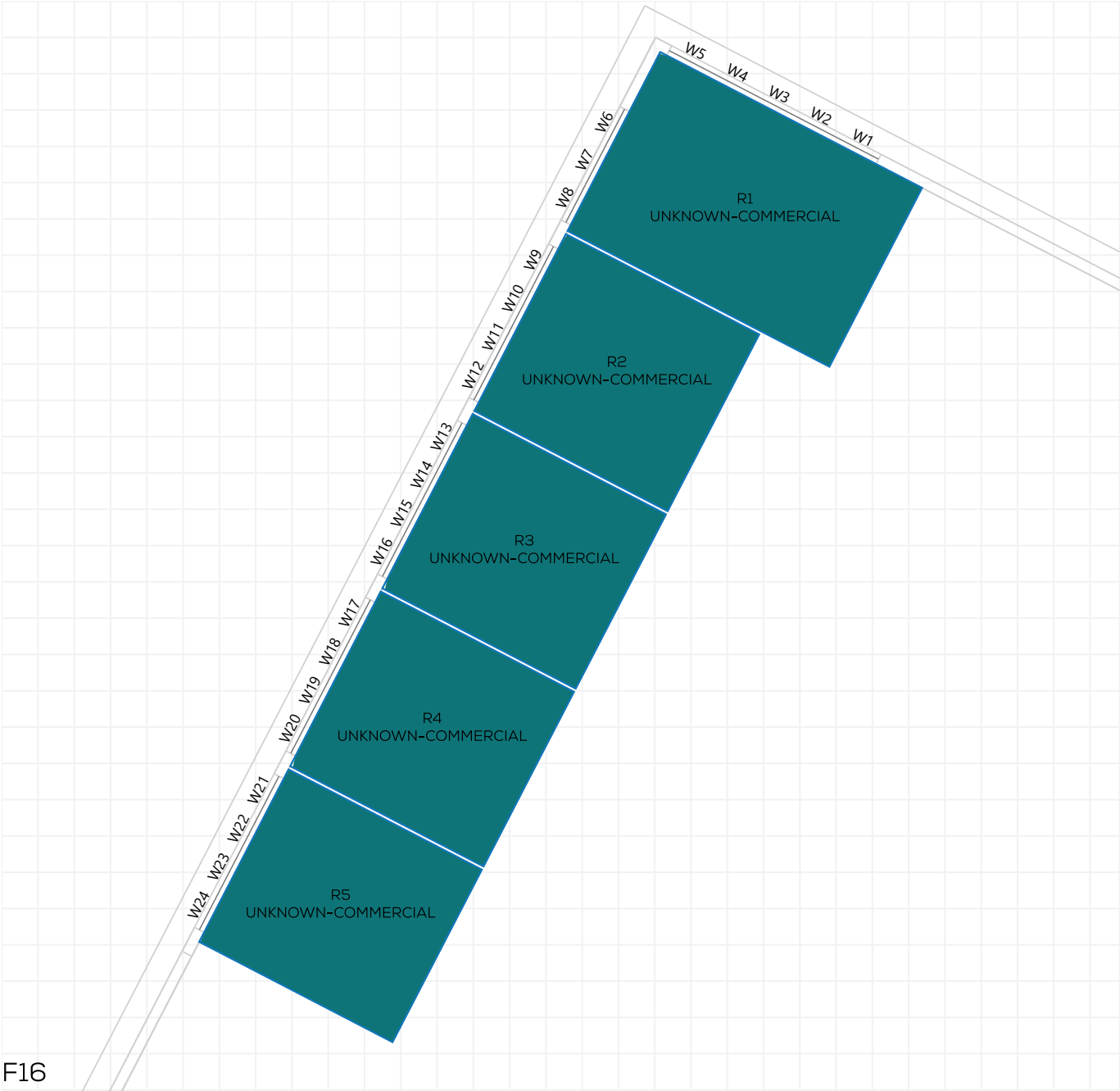
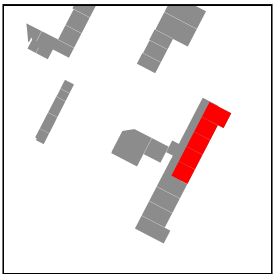
KEY:

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1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
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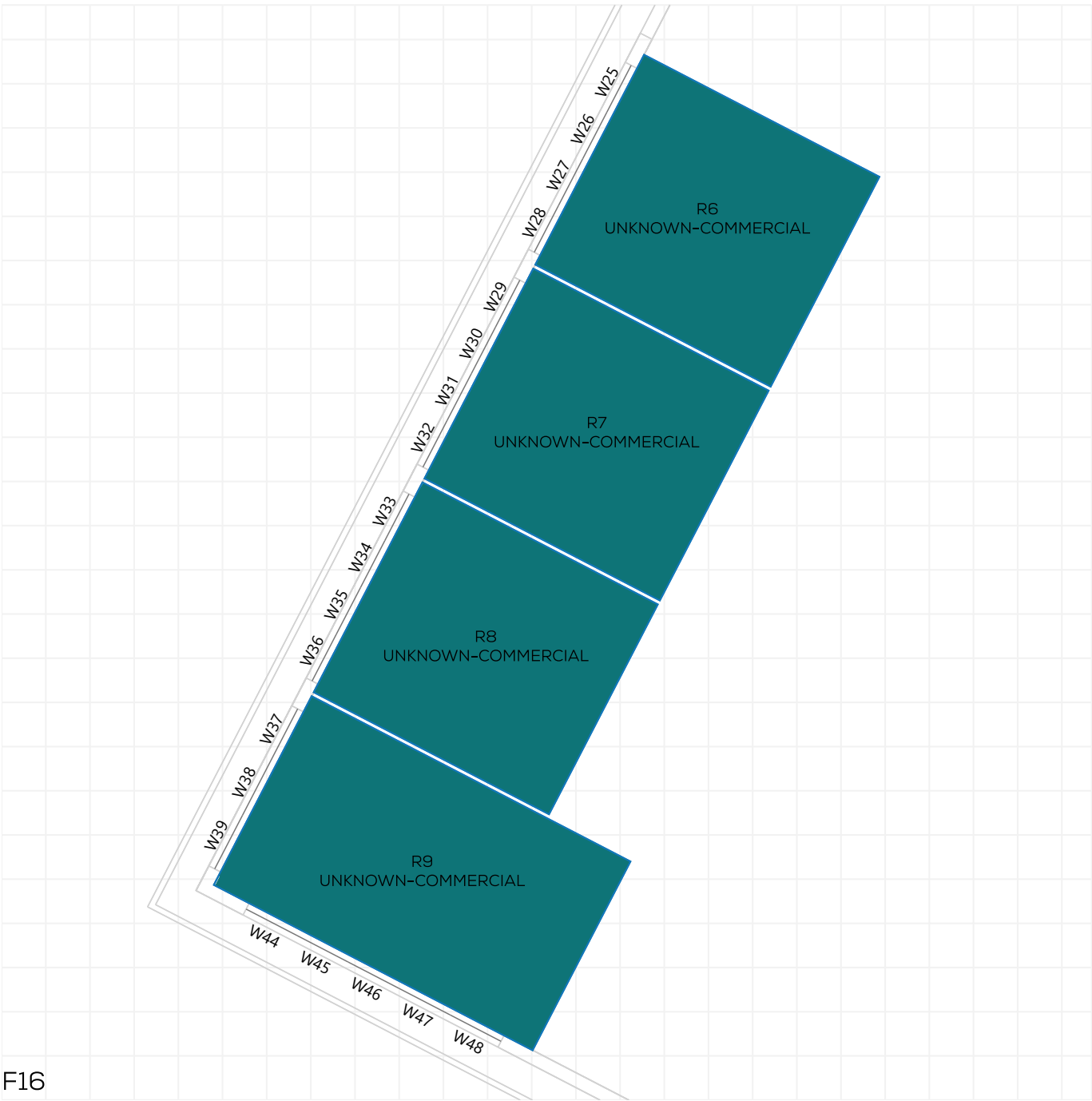
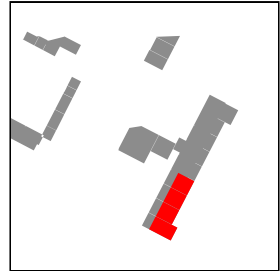
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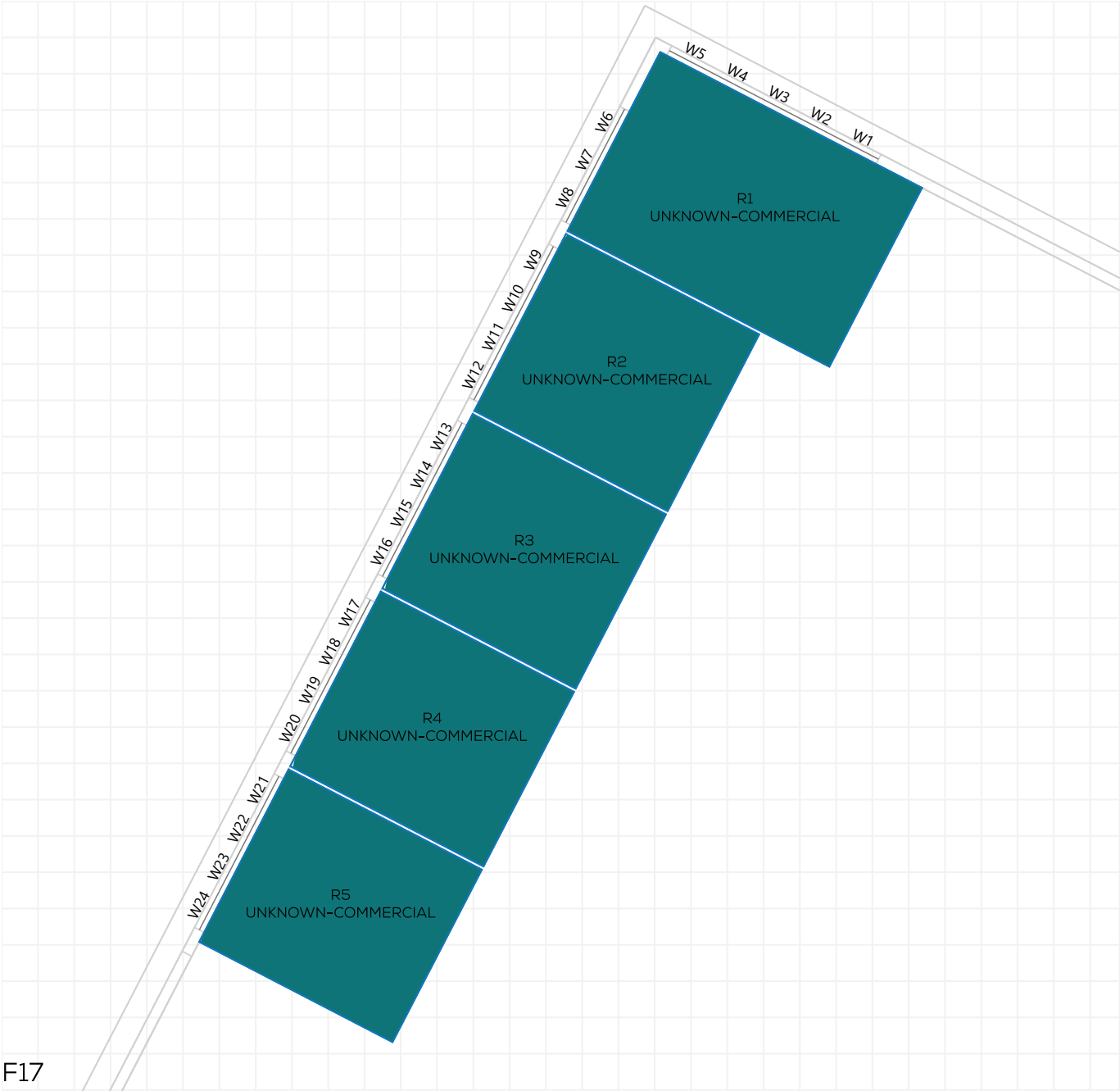
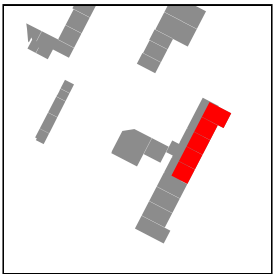
MAINTAINED LIT AREA

1 METRE GRID







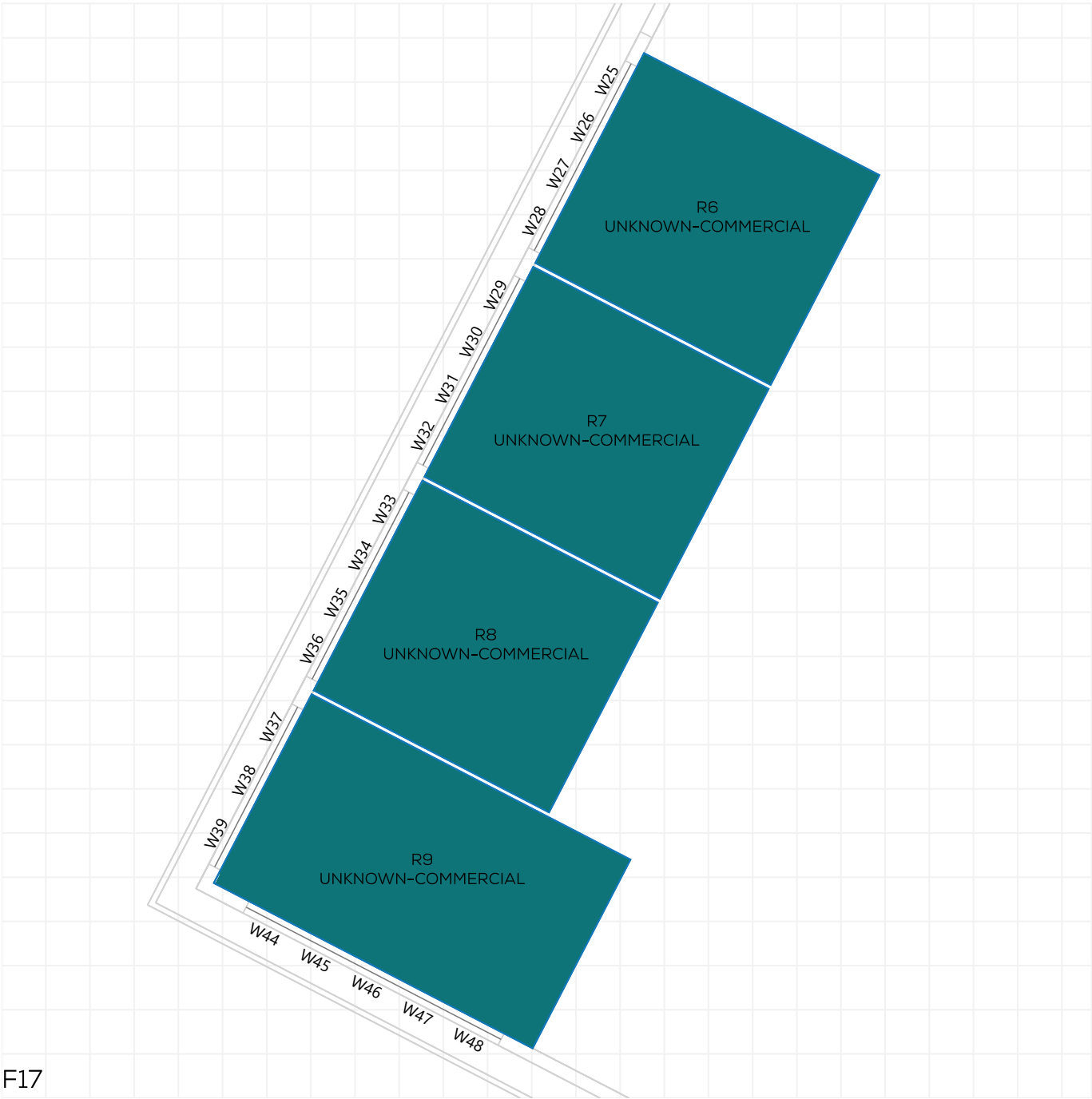
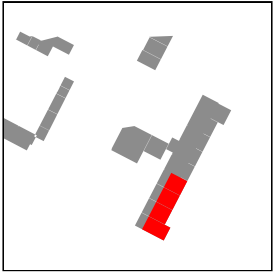
PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD89

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD90

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD91

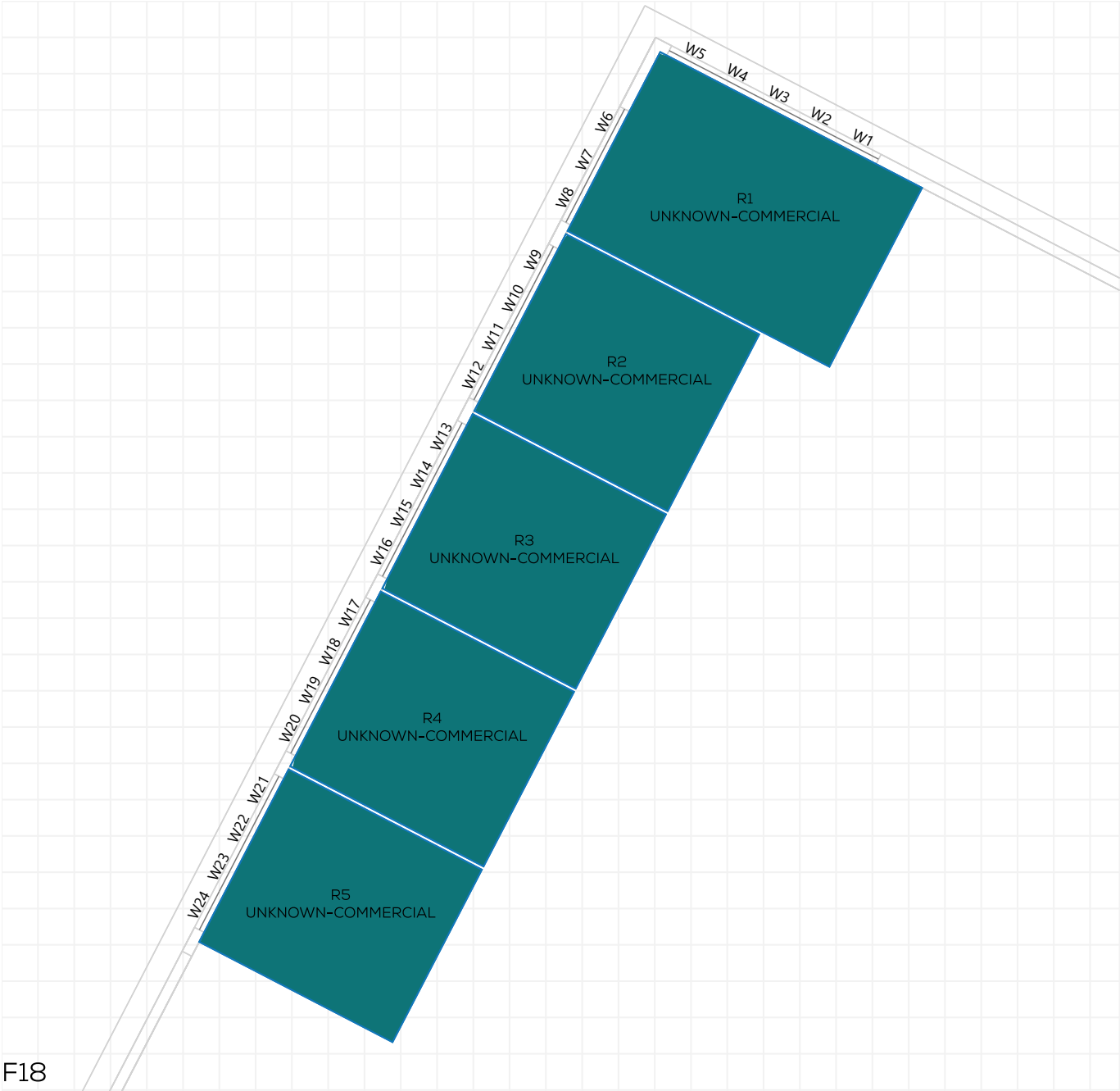
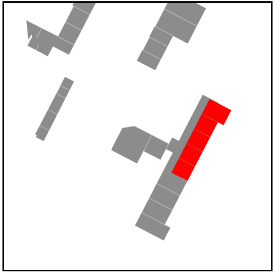
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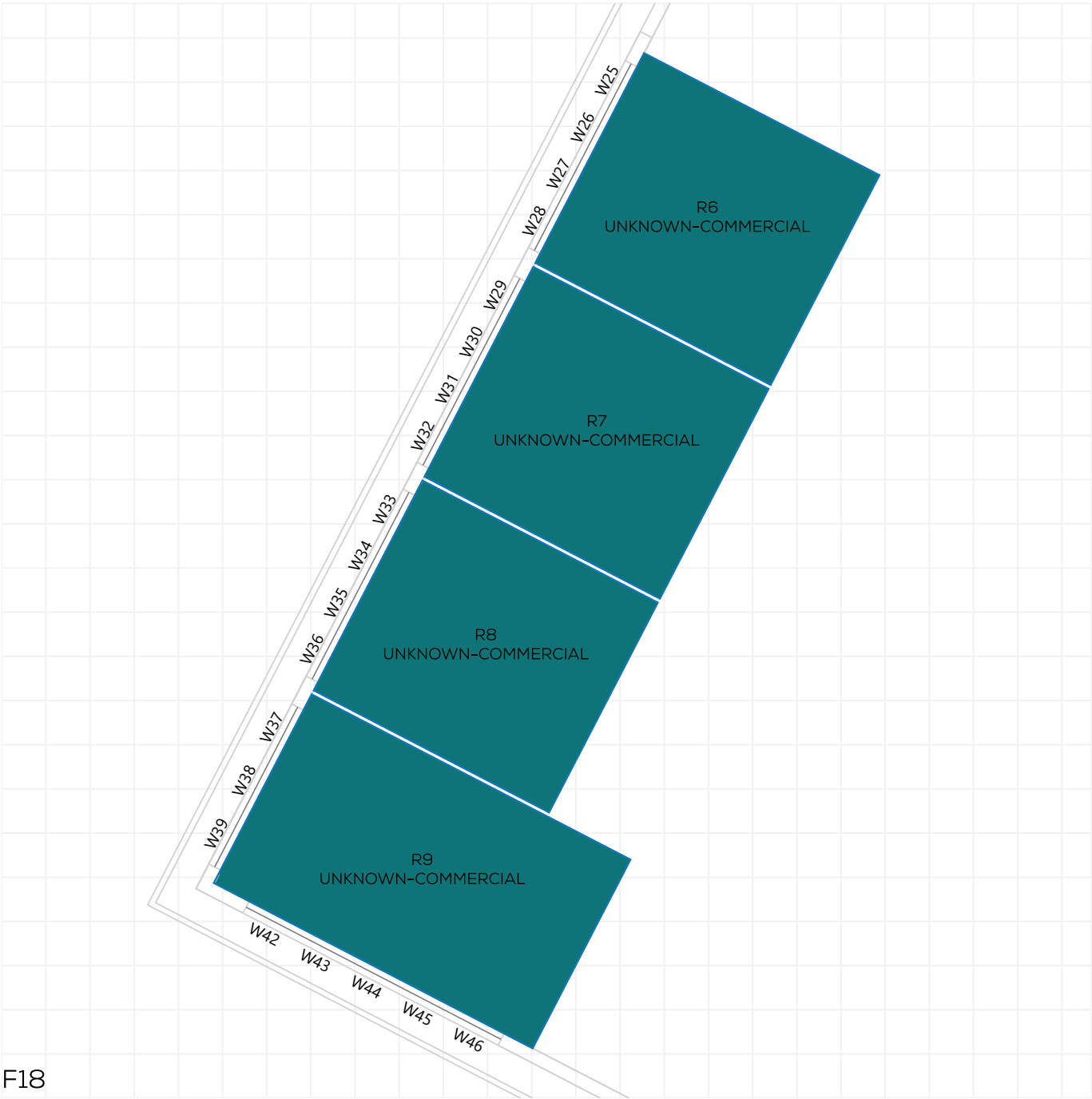
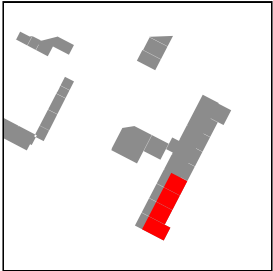
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD92

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD93

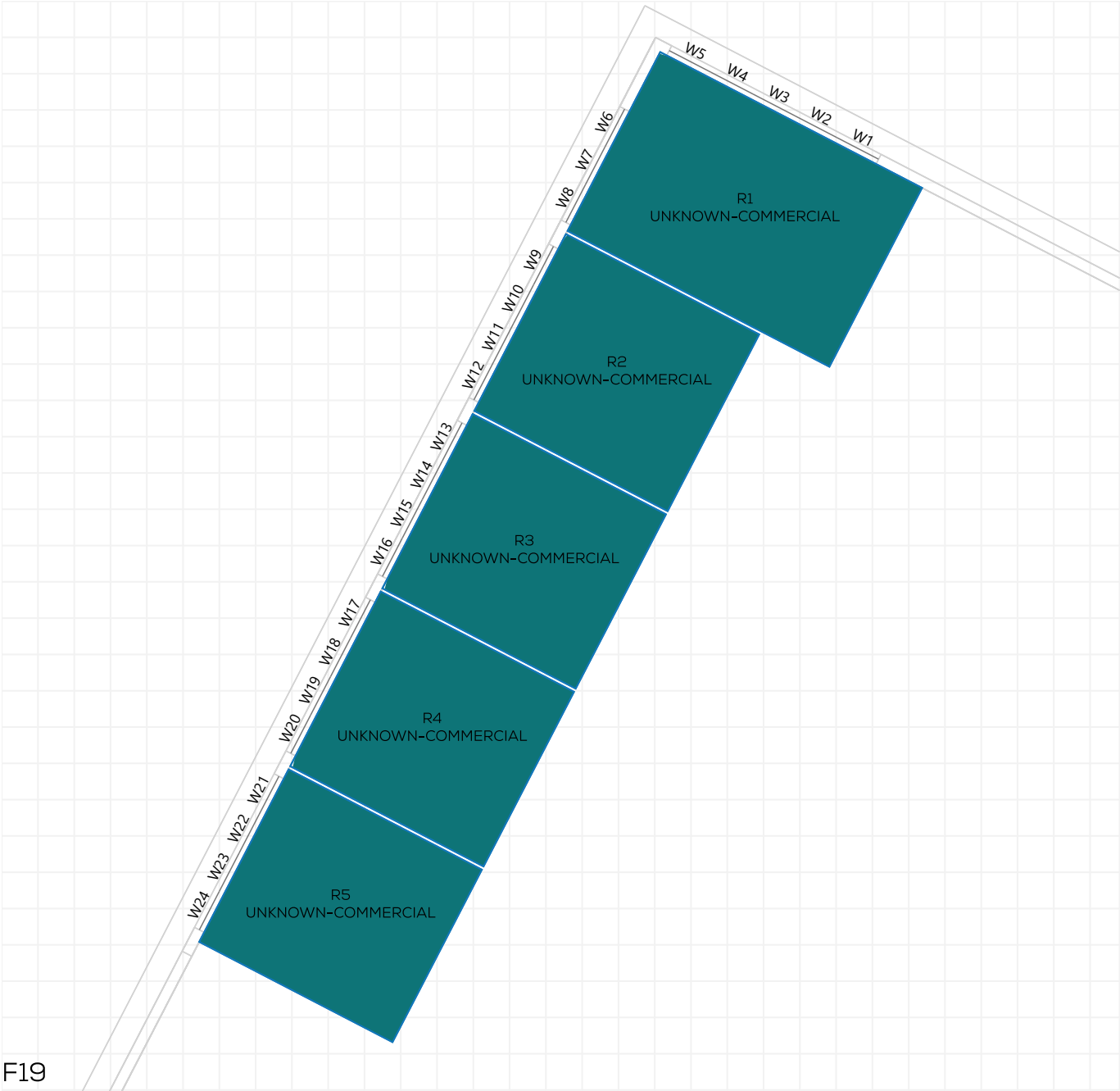
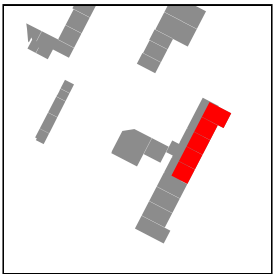
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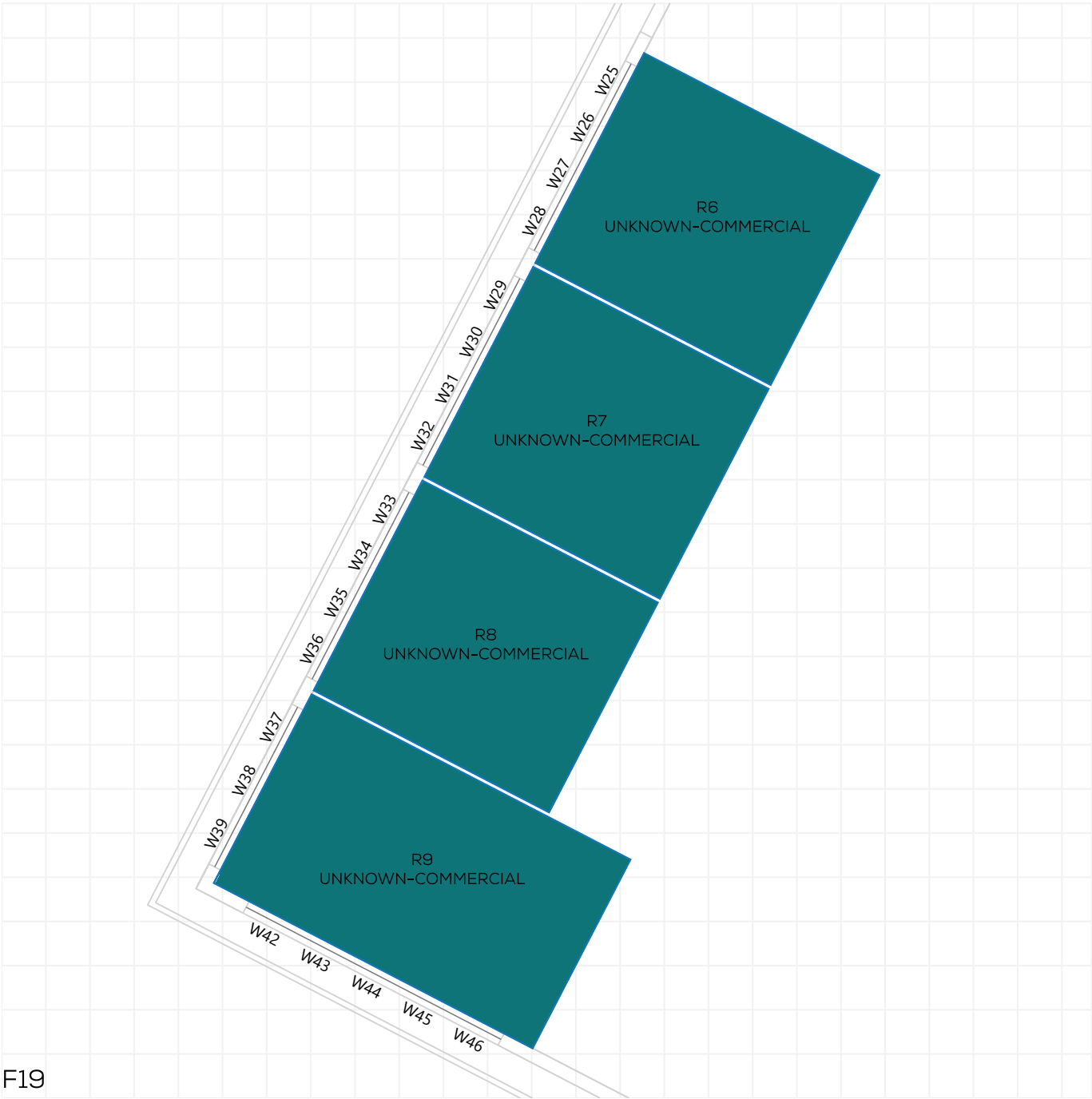
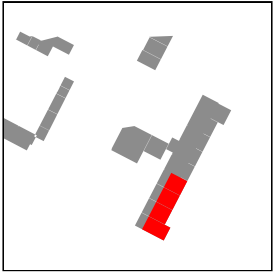
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD94

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD95

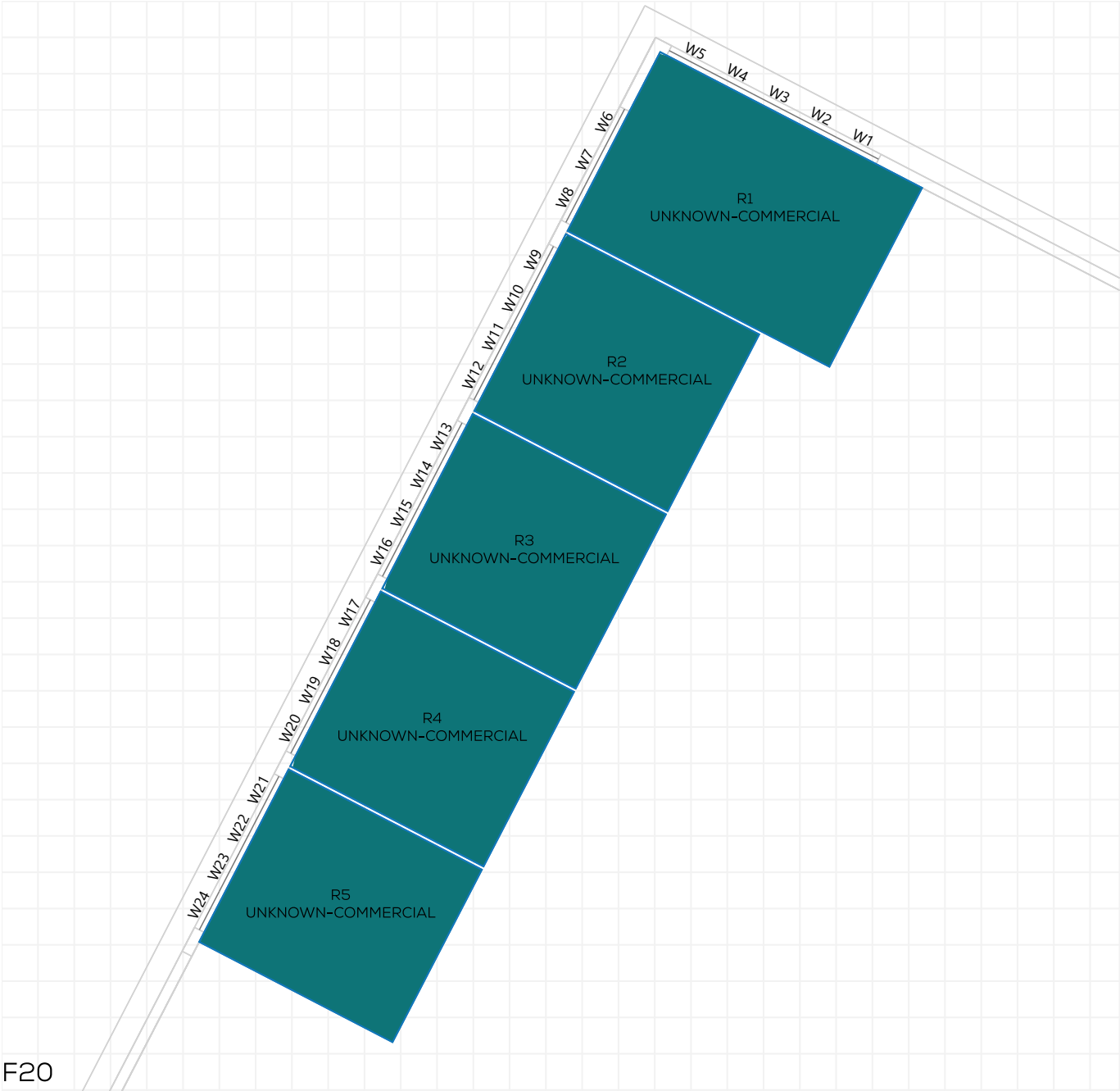
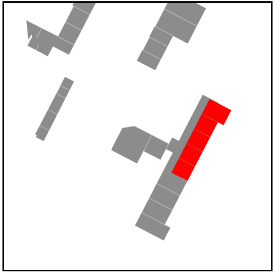
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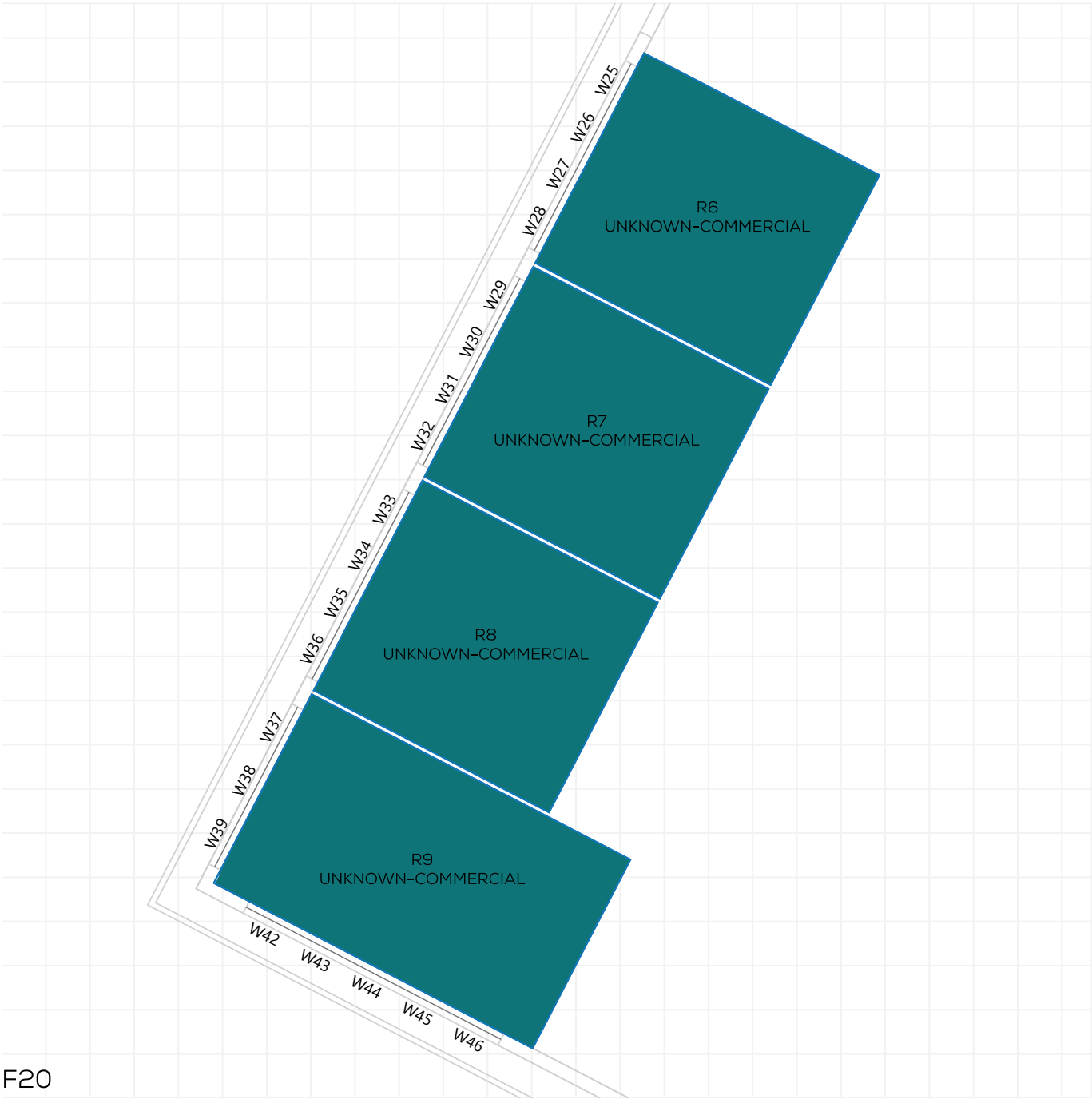
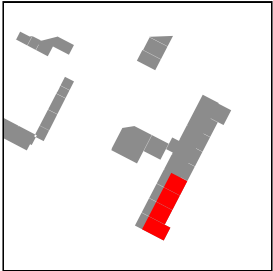
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD96

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD97

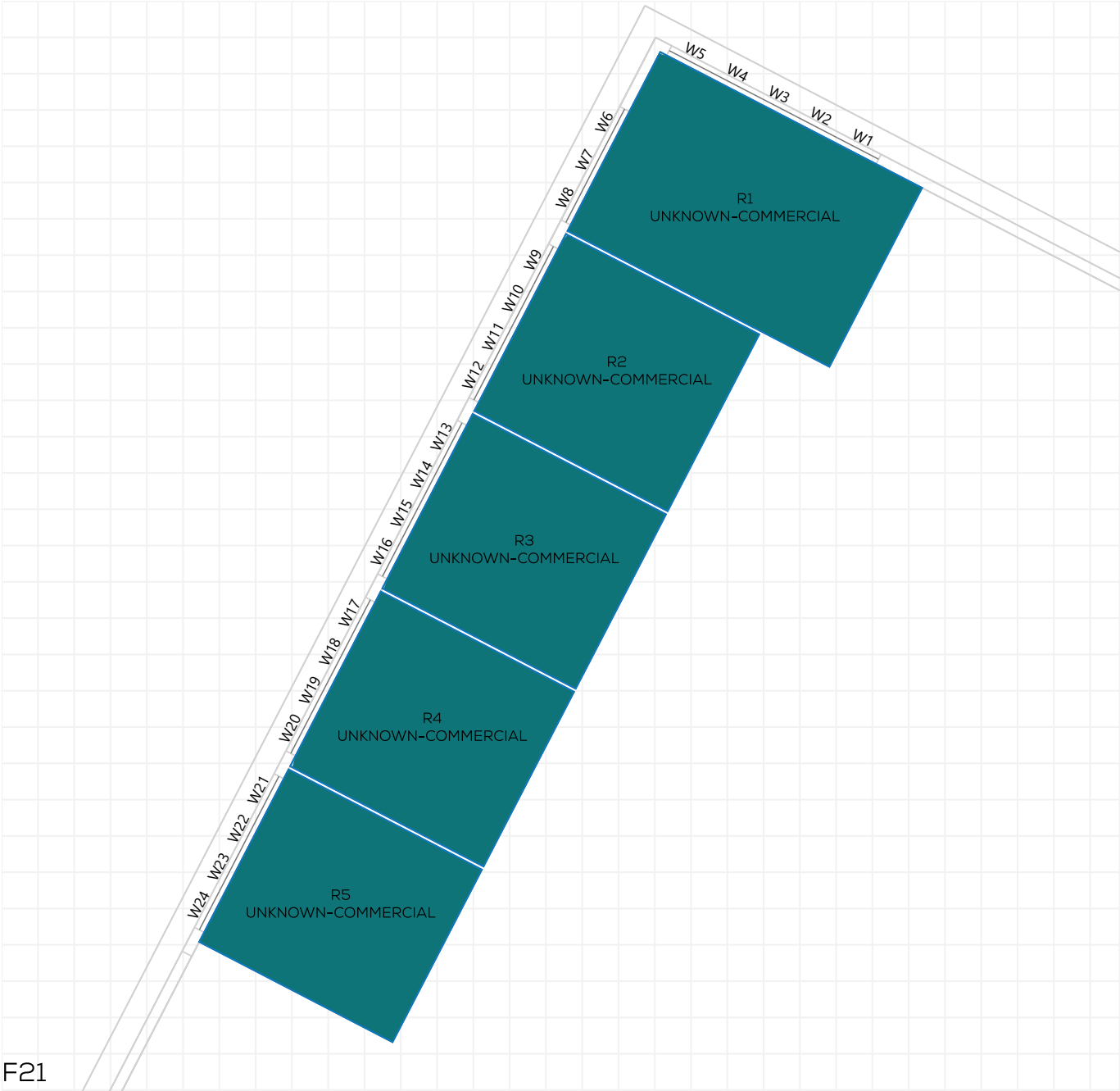
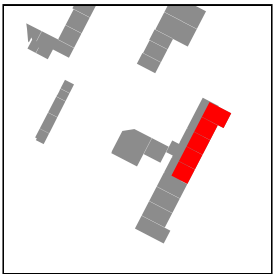
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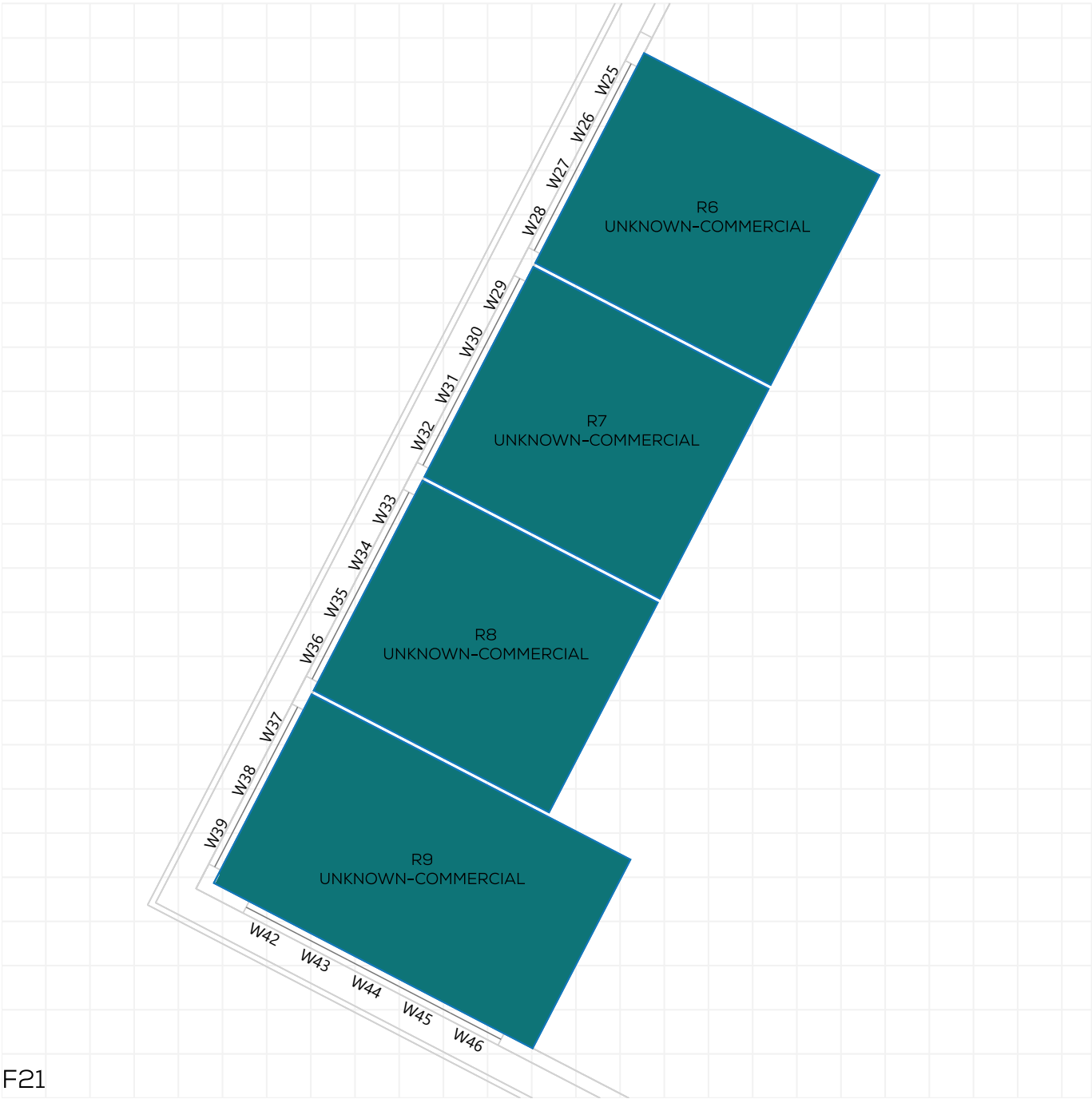
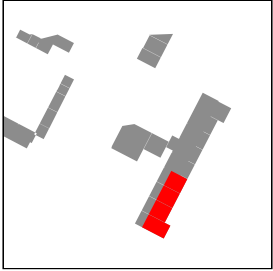


NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD98

KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD99

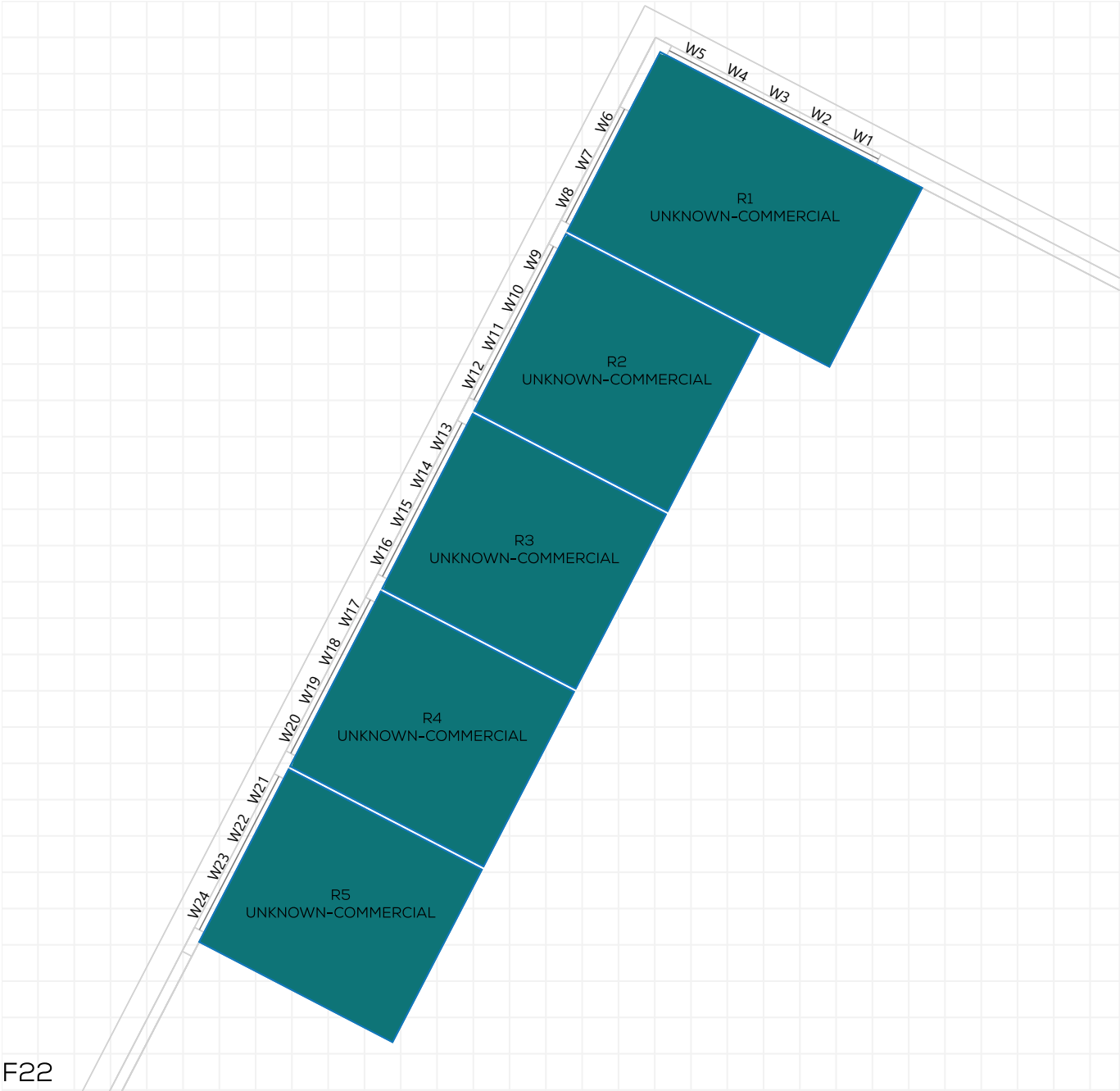
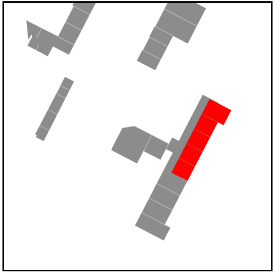
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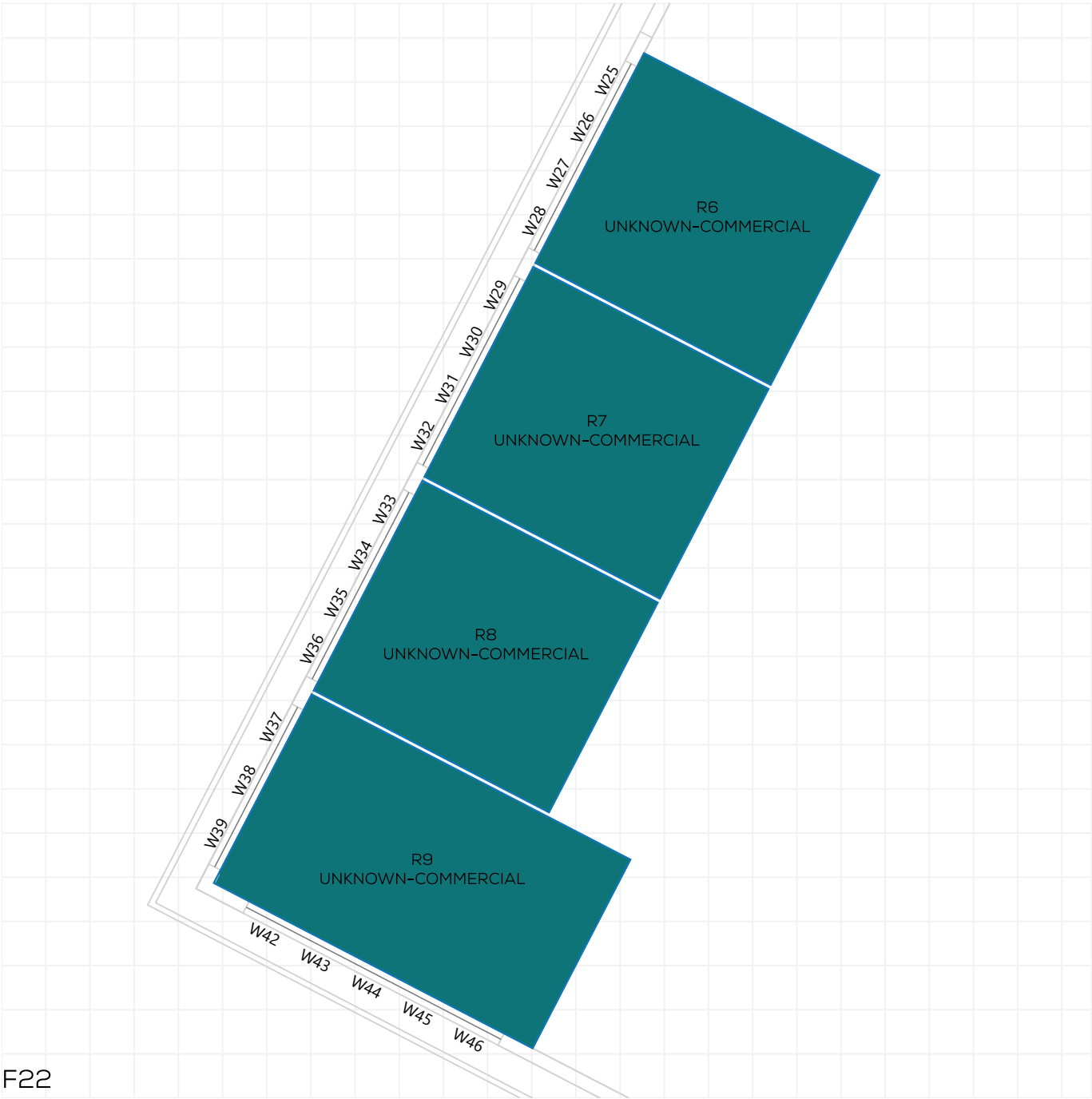
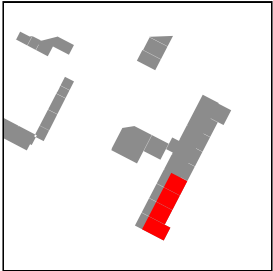
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD100

KEY:
 GAIN
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 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD101

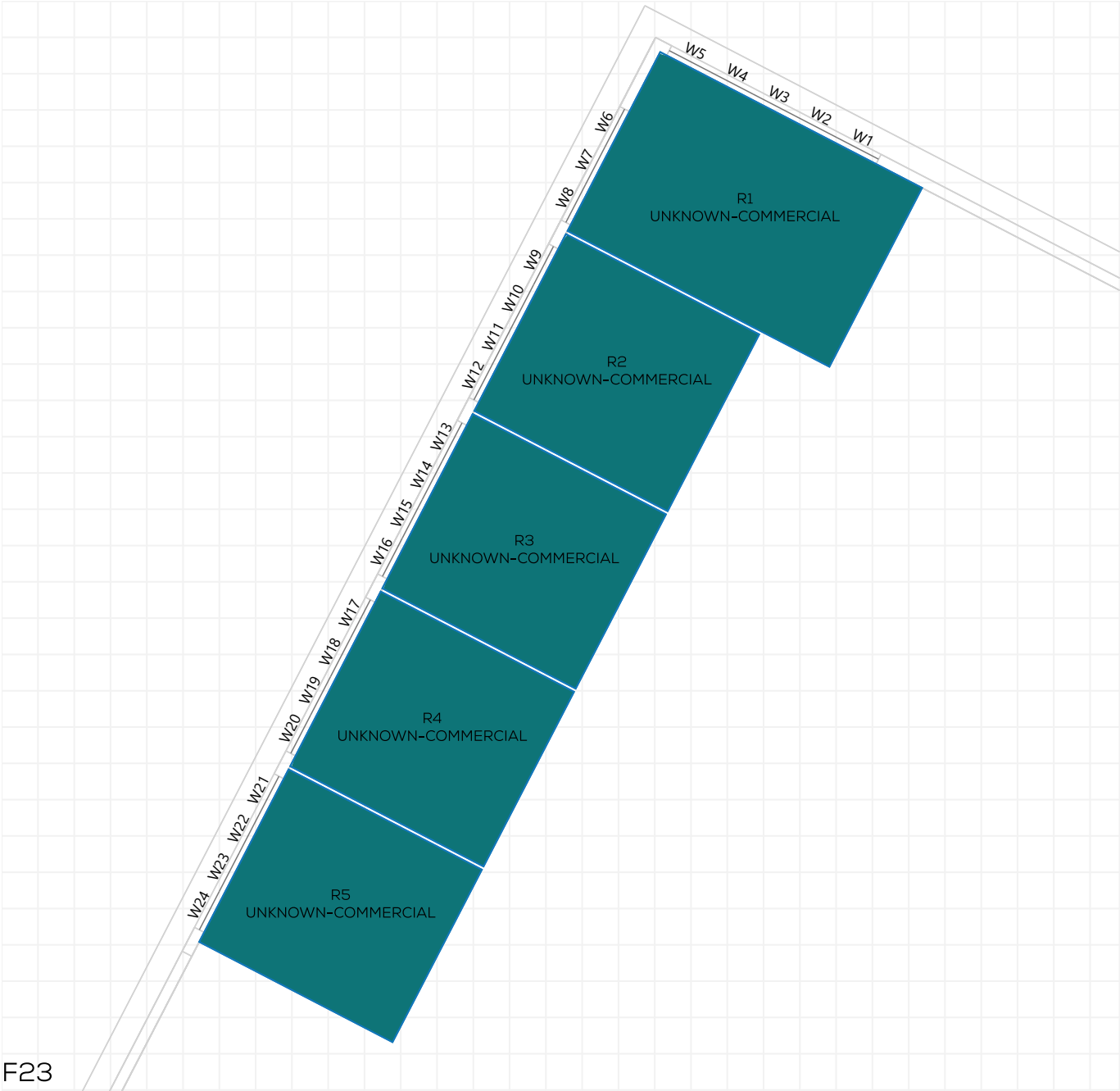
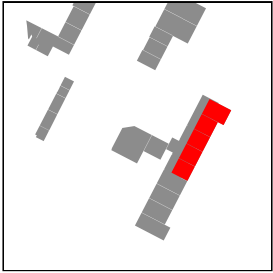
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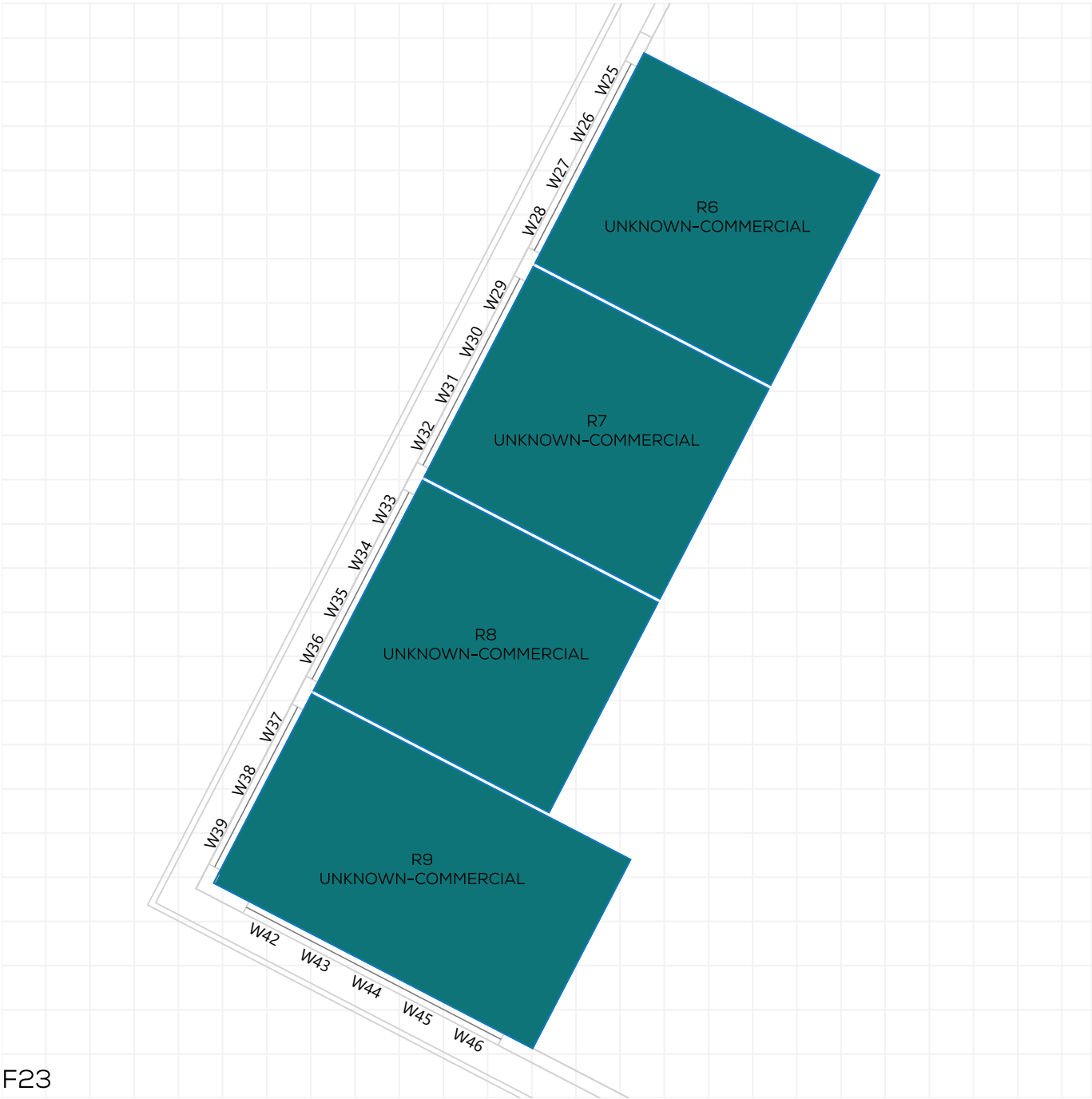
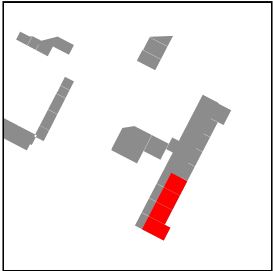
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD102

KEY:
 GAIN
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 MAINTAINED LIT AREA
 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD103

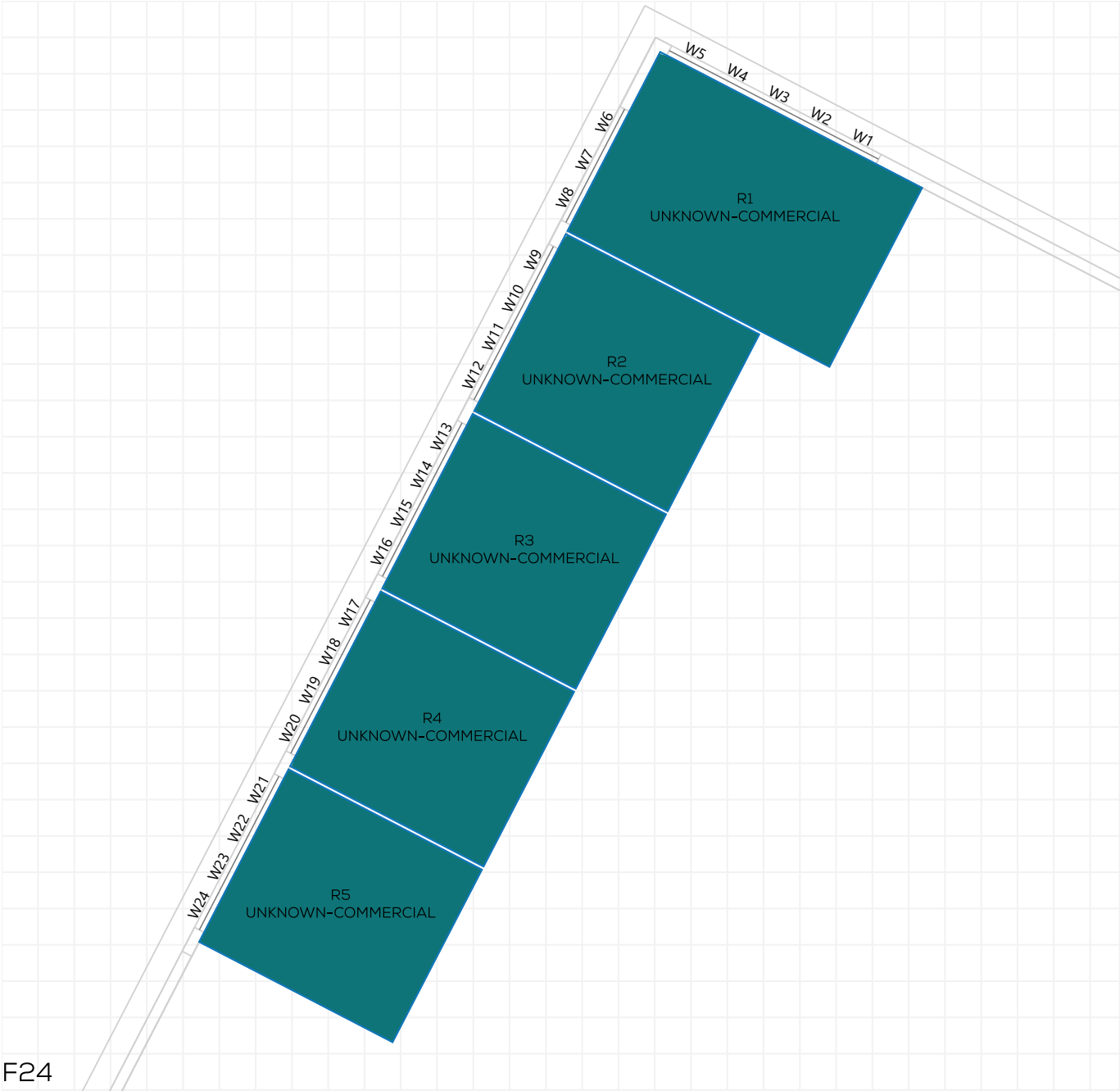
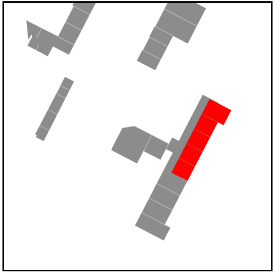
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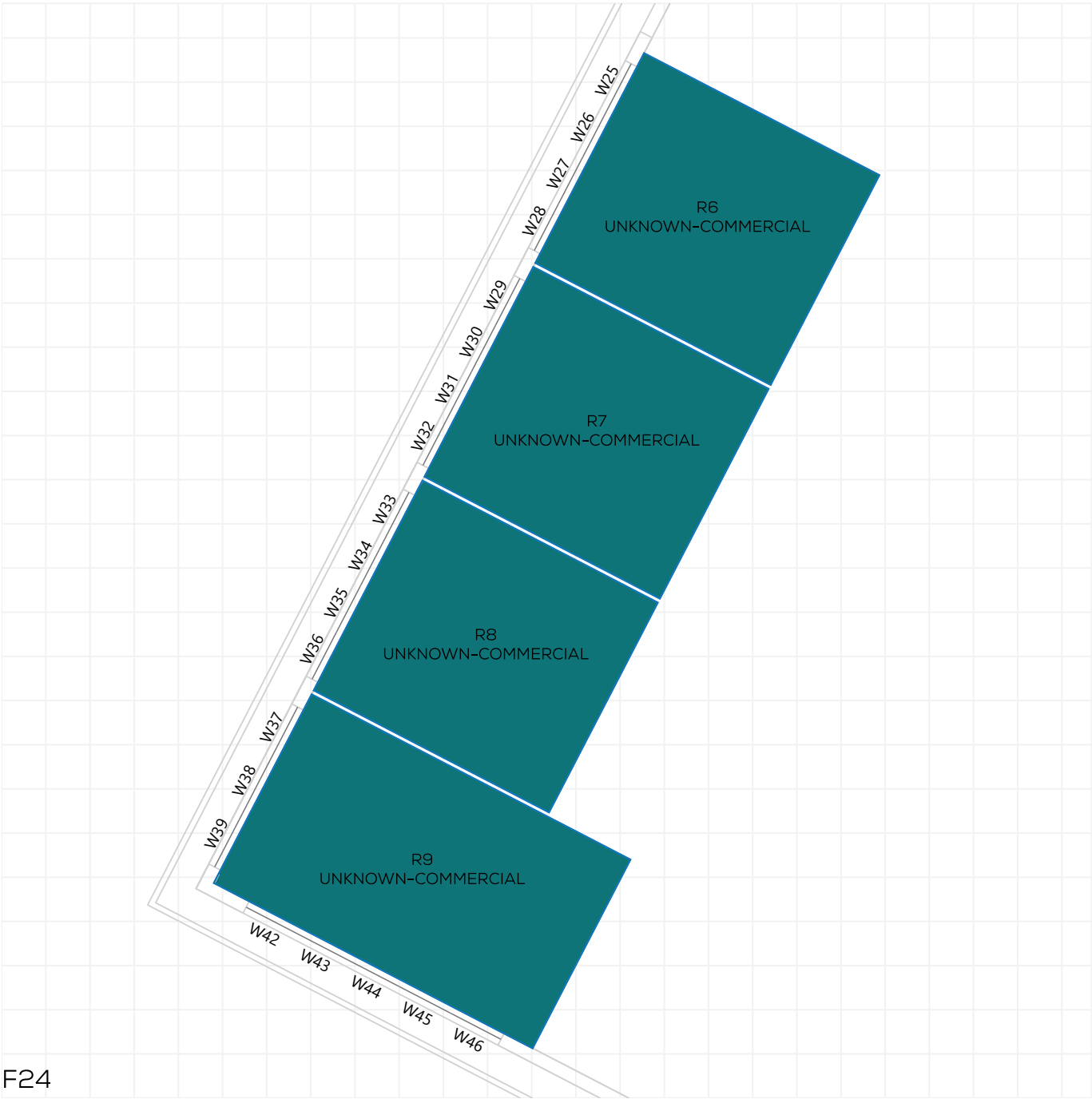
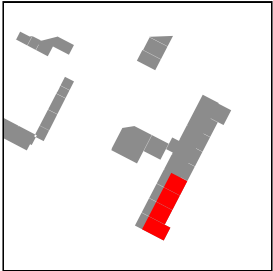
MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD104

KEY:
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 MAINTAINED LIT AREA
 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD105

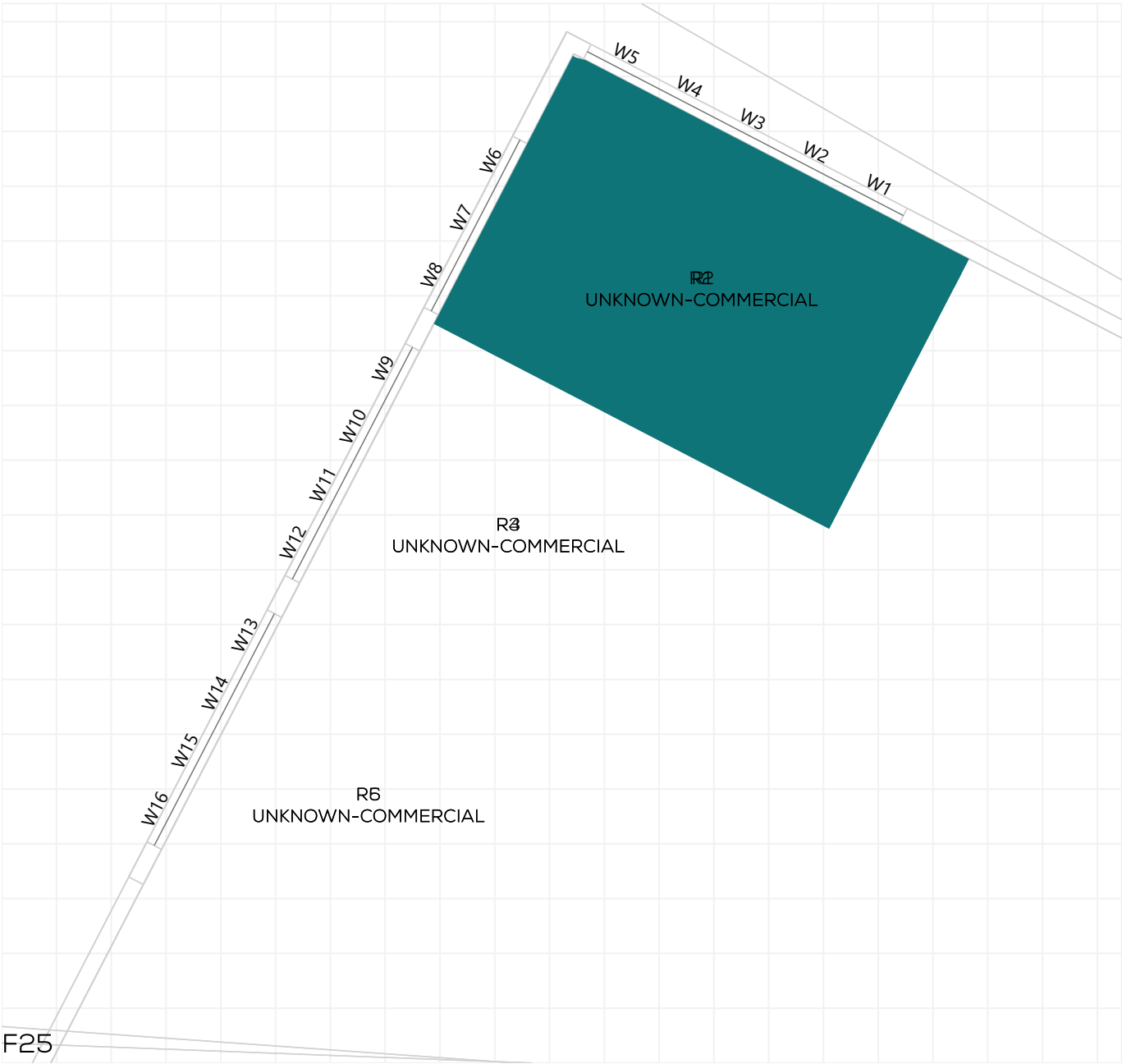
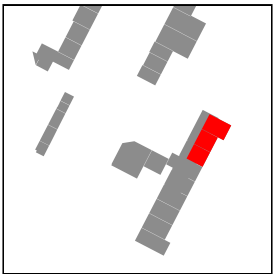
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GAIN

LOSS

MAINTAINED LIT AREA

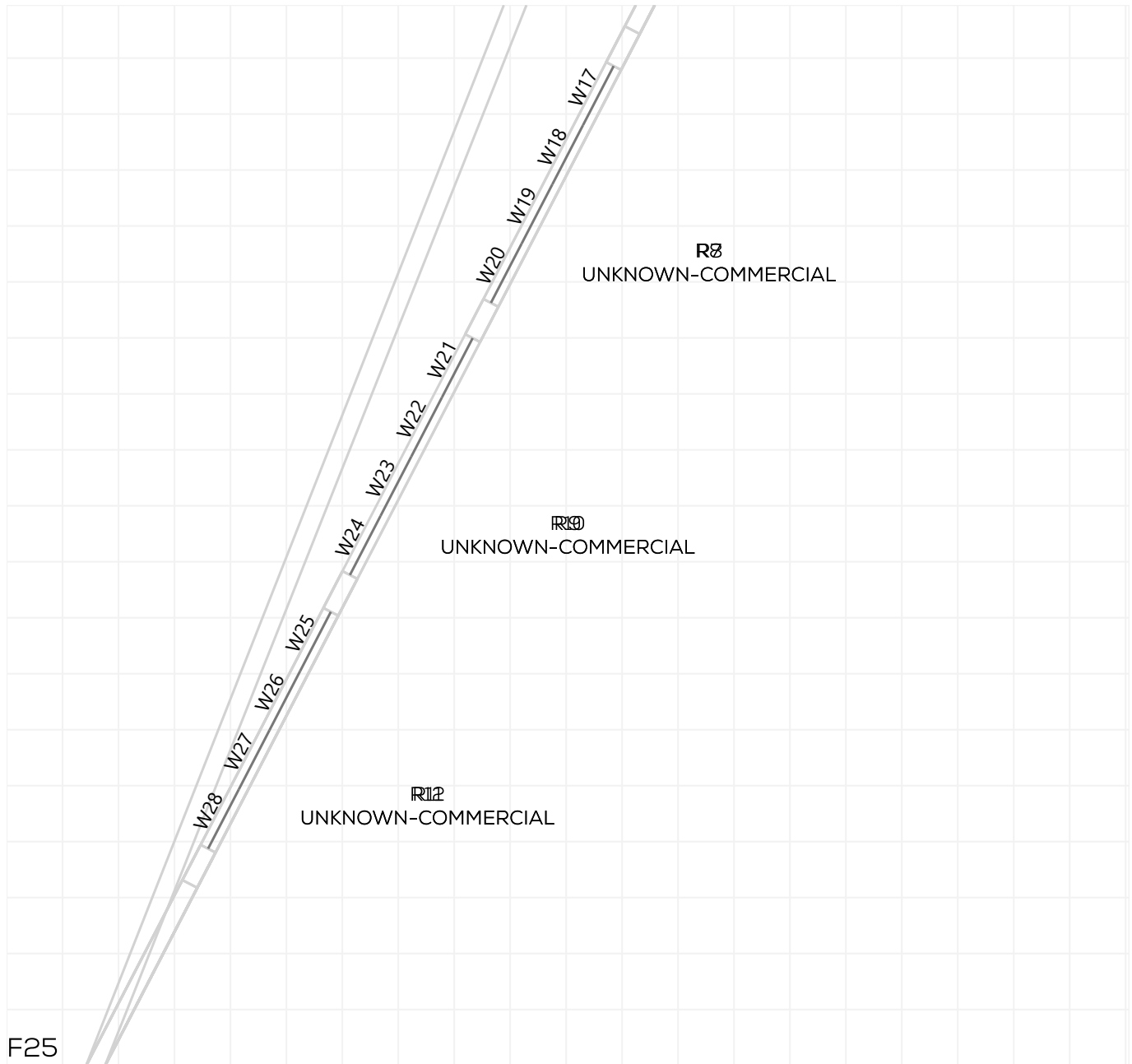
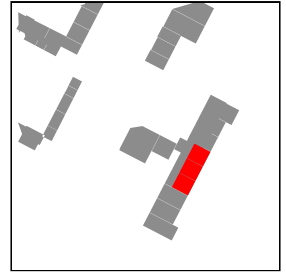
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PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: GUYS CAMPUS (TOWER WING)
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD106

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (TOWER WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD107

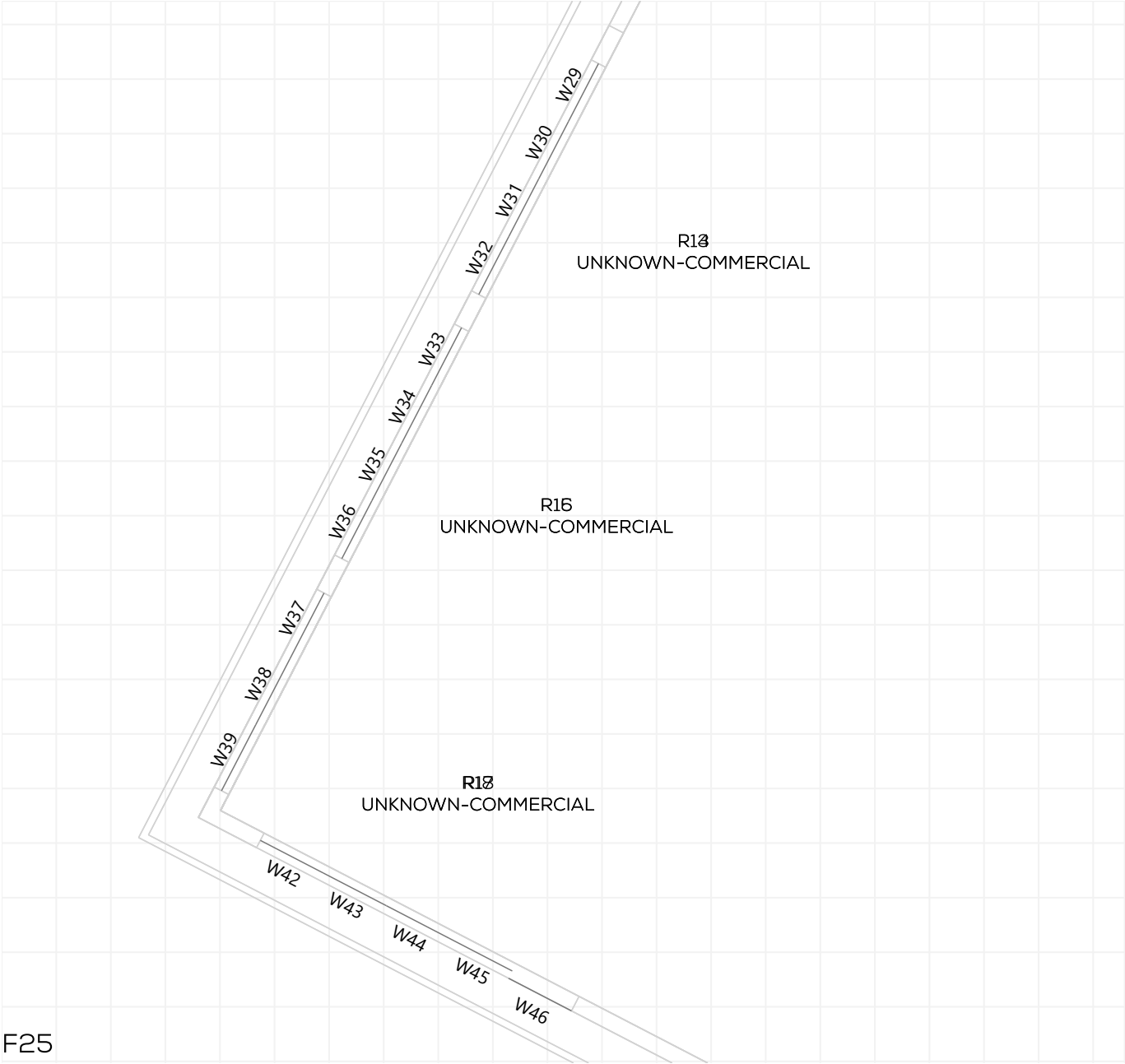
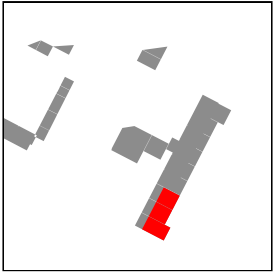
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LOSS

MAINTAINED LIT AREA

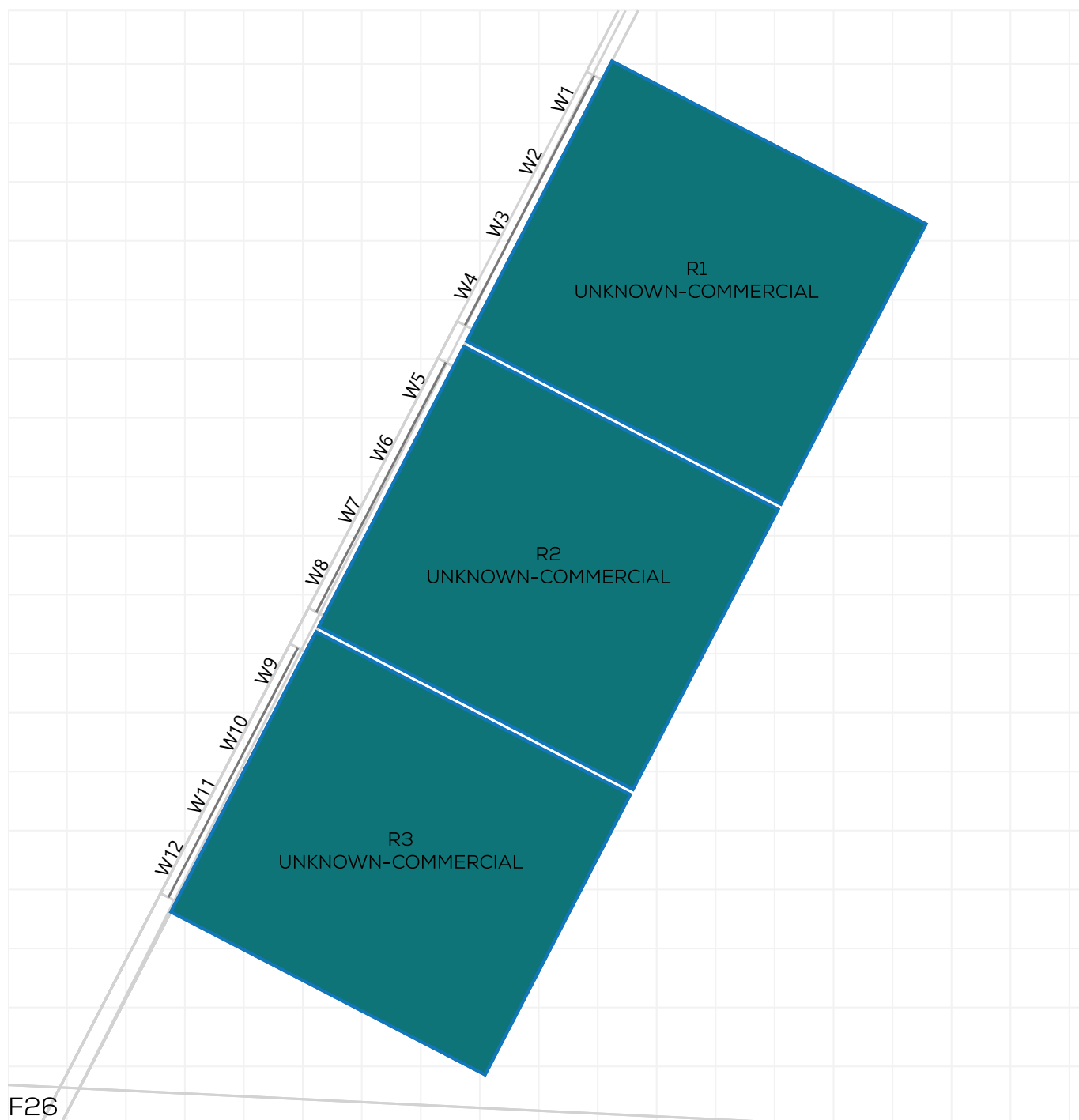
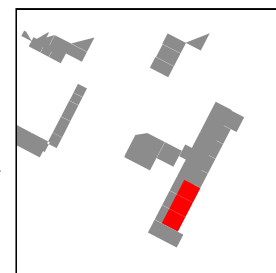
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PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: GUYS CAMPUS (TOWER WING)
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD108

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (SOUTHWARK WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD109

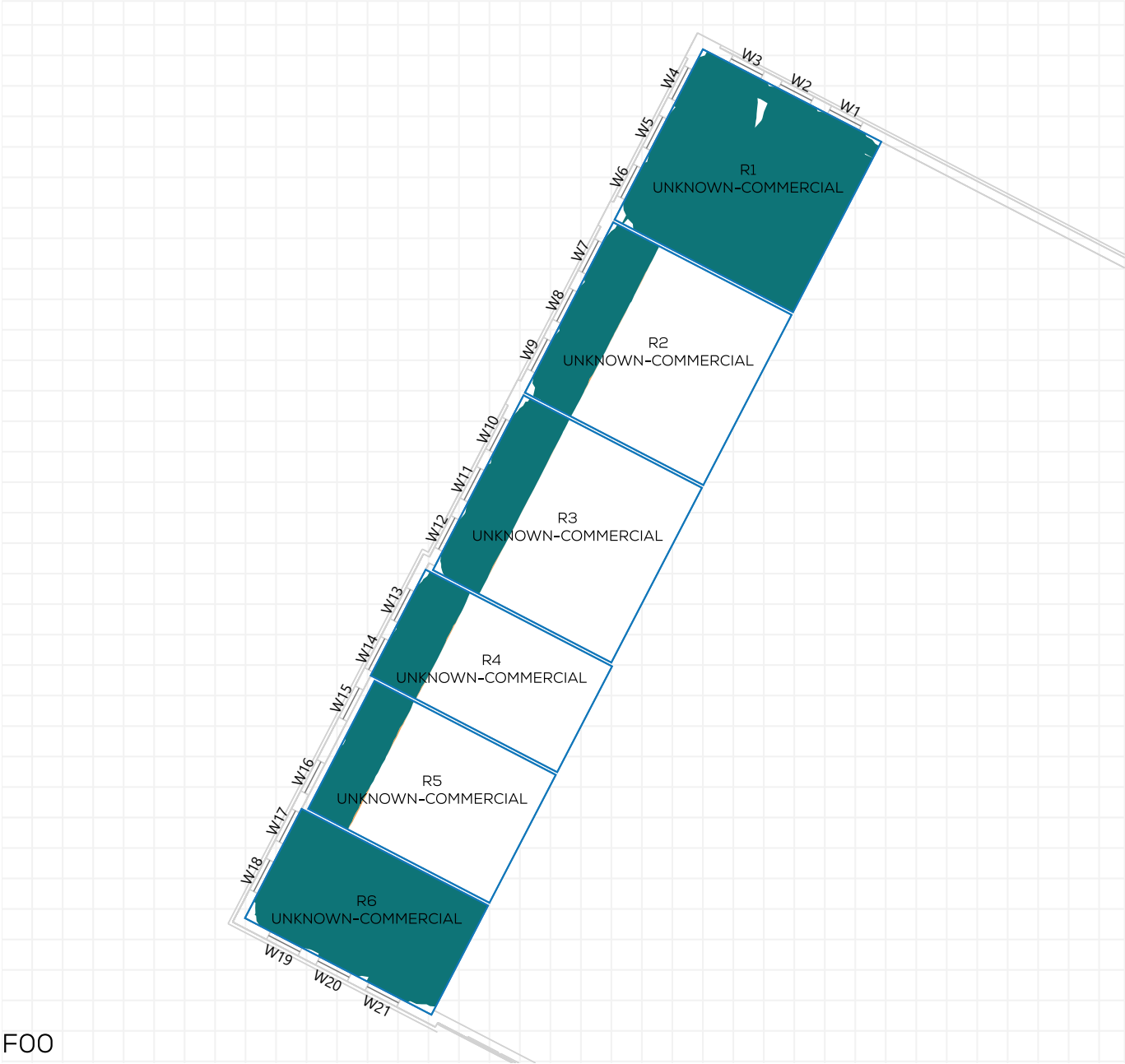
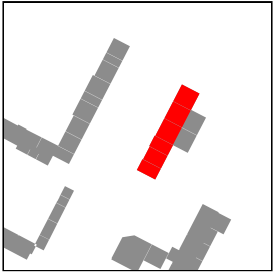
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LOSS

MAINTAINED LIT AREA

1 METRE GRID



F00

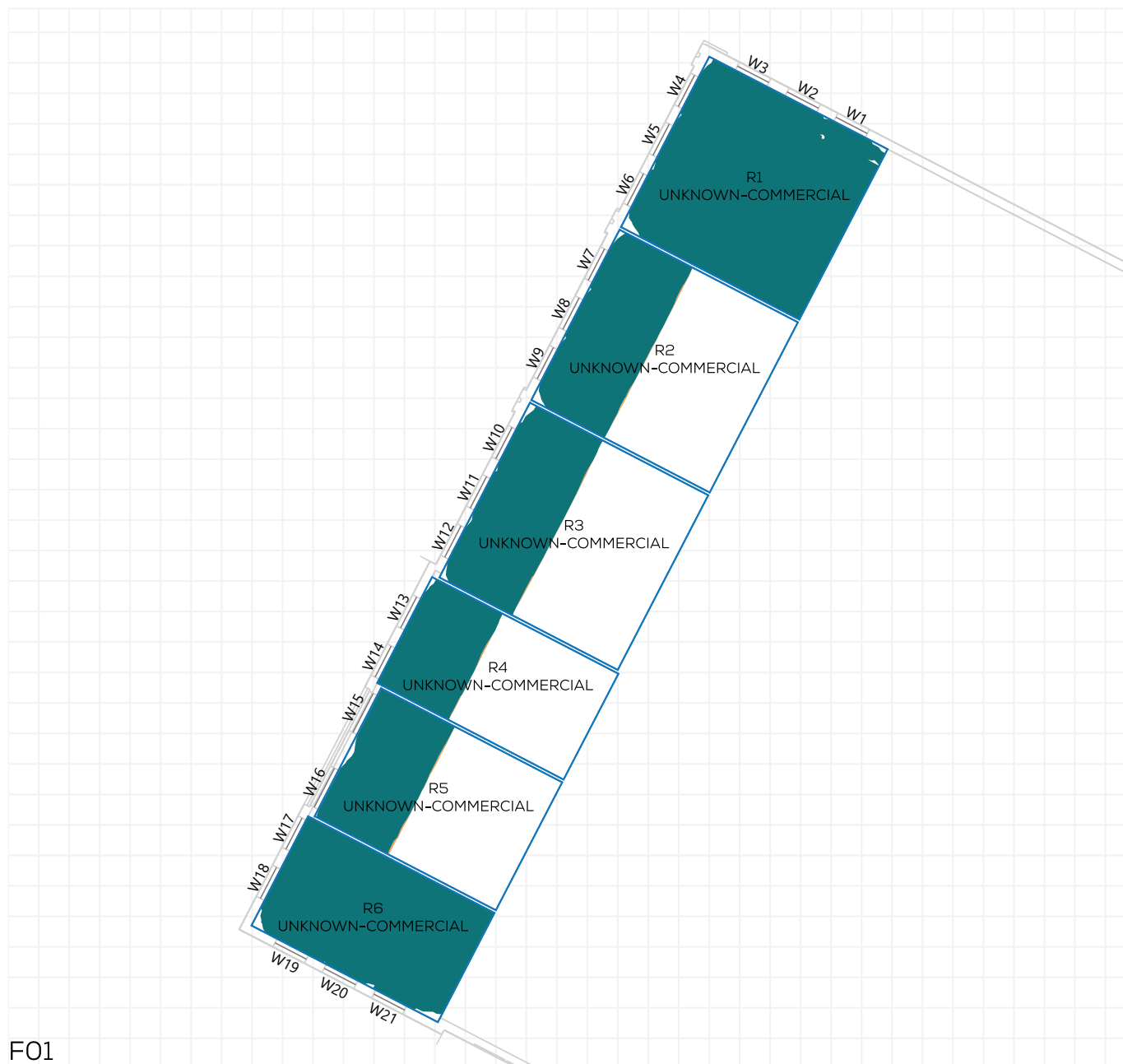
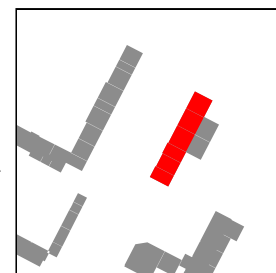
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PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (SOUTHWARK WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD110

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



F01

NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (SOUTHWARK WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
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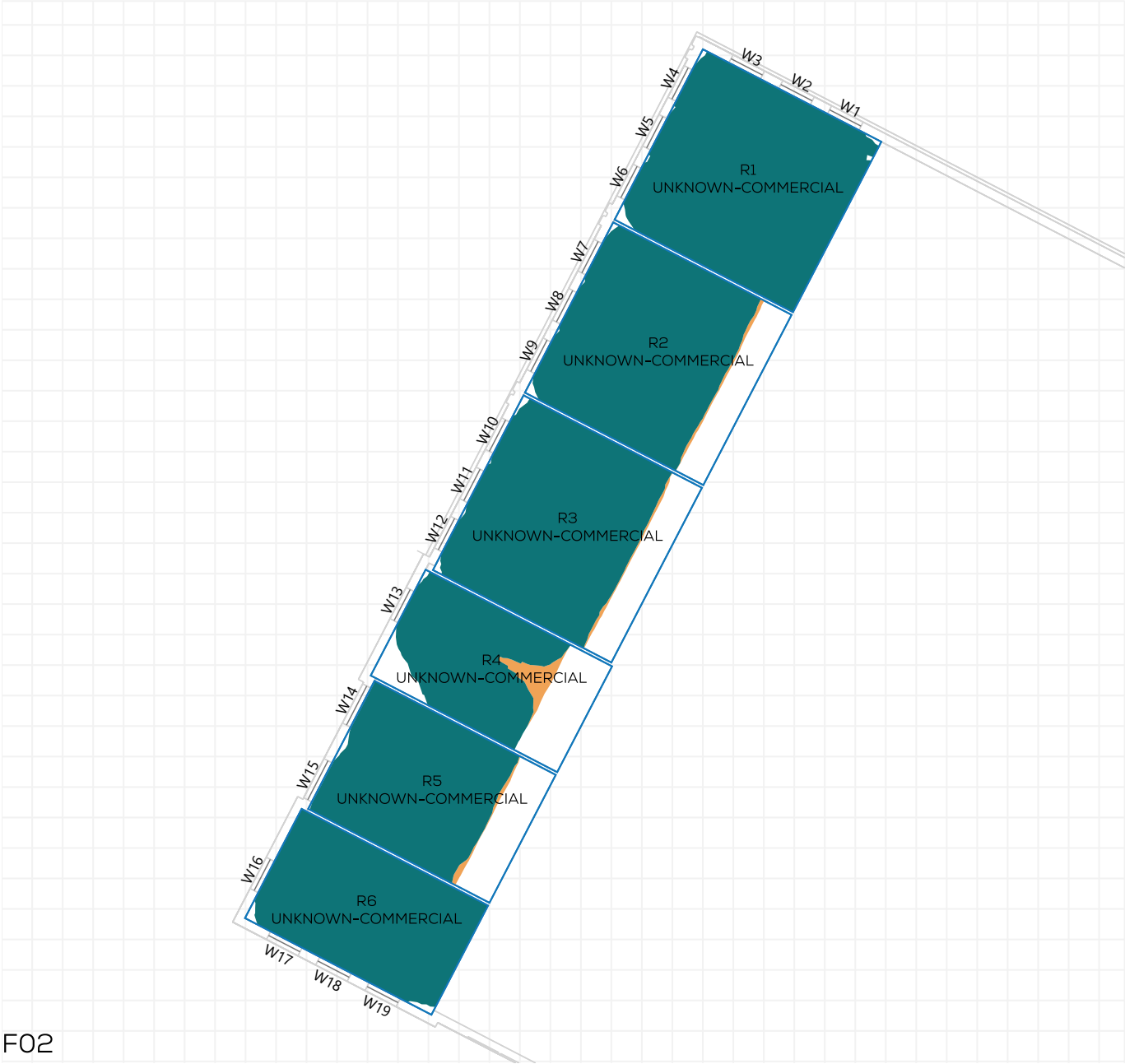
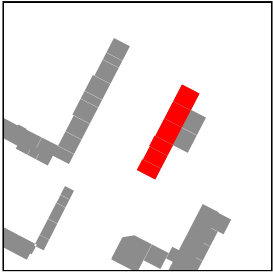
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MAINTAINED LIT AREA

1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (SOUTHWARK WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
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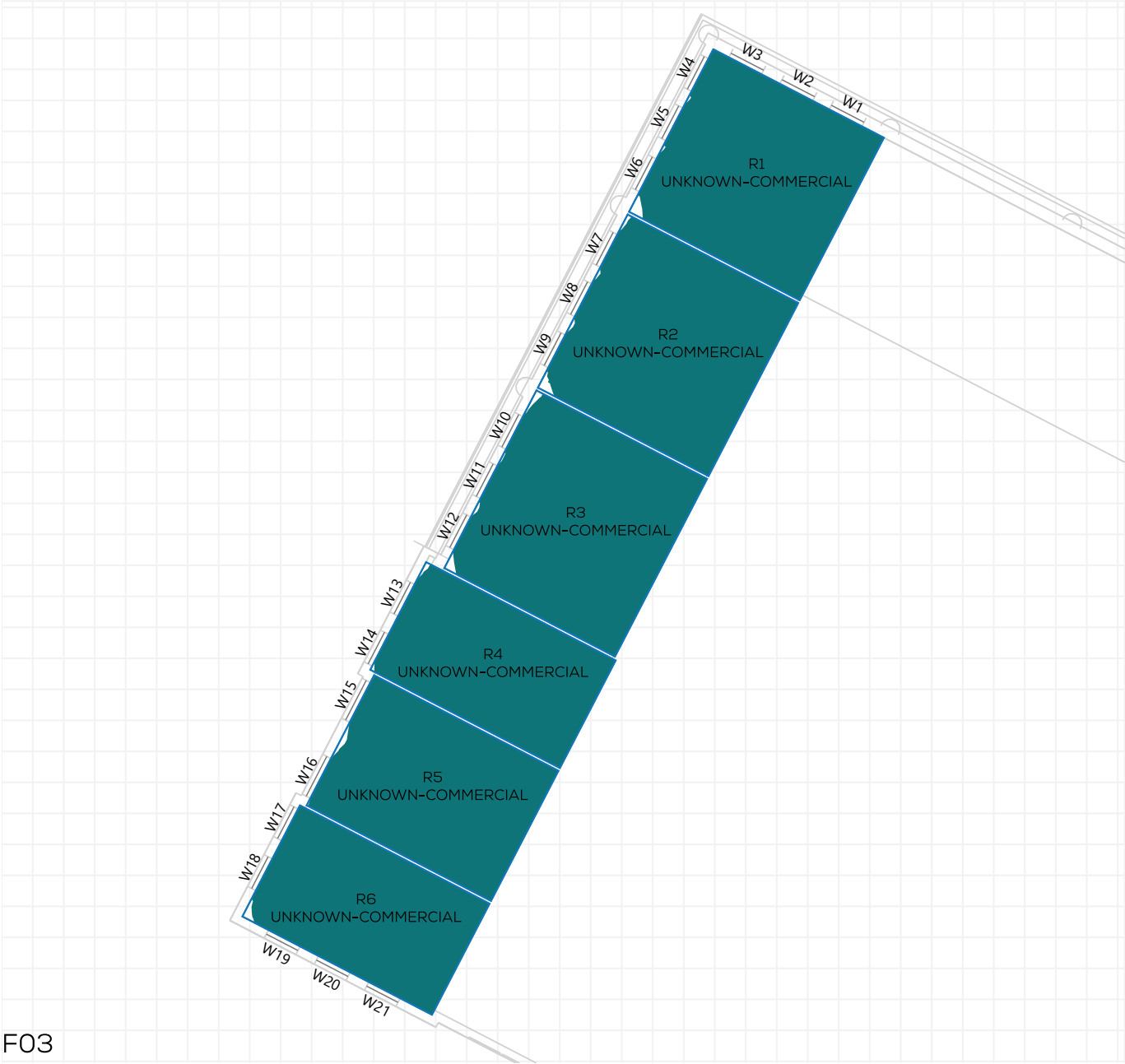
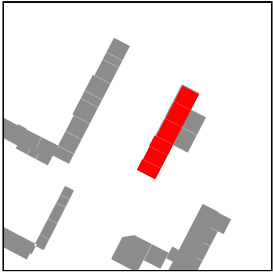
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LOSS

MAINTAINED LIT AREA

1 METRE GRID



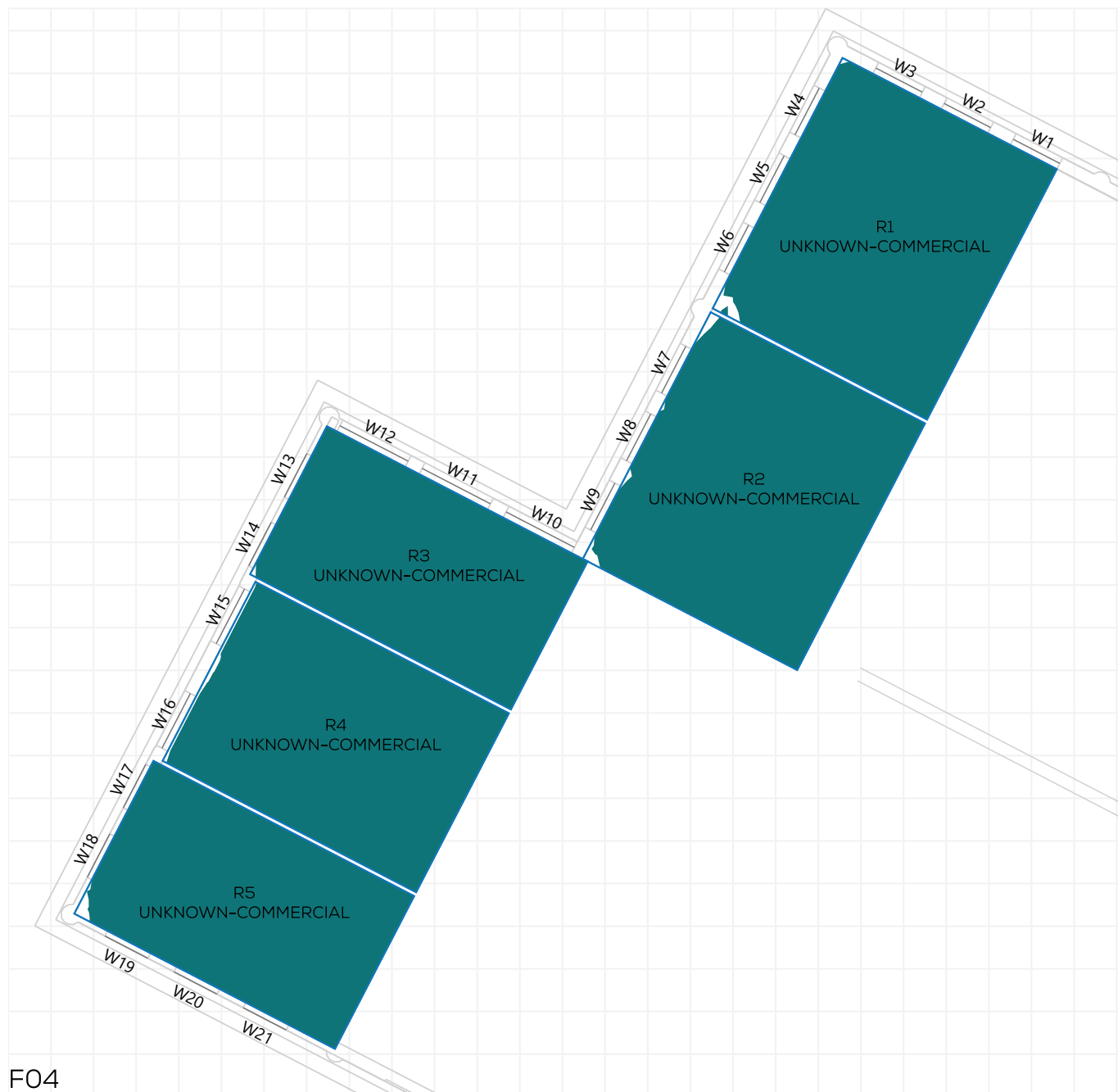
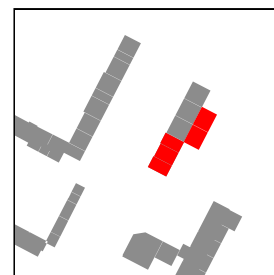
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: GUYS CAMPUS (SOUTHWARK WING)
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD113

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID

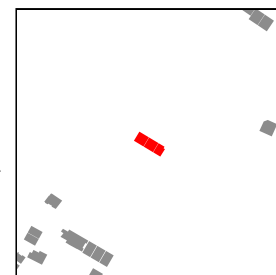


F04

PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: 2 ST THOMAS STREET
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
 DRAWING No.: 8684-REL03-IS02-DD114

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



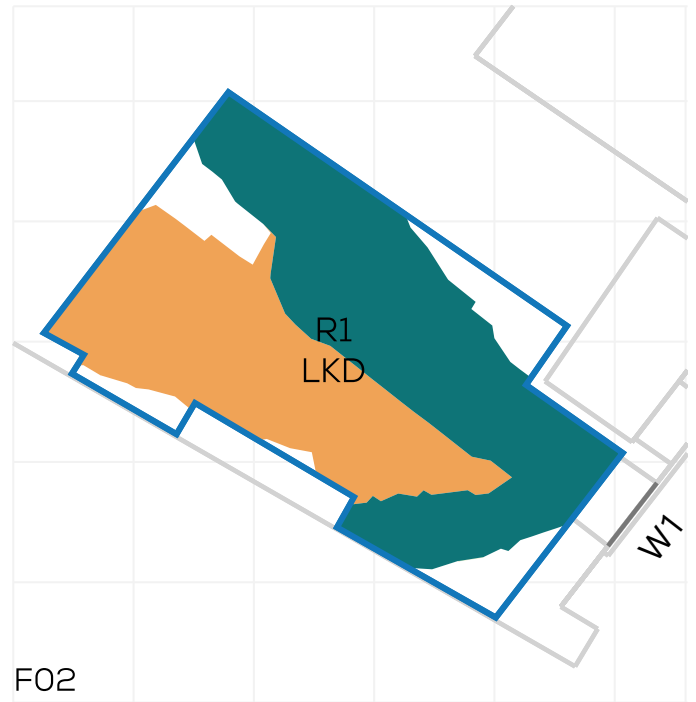
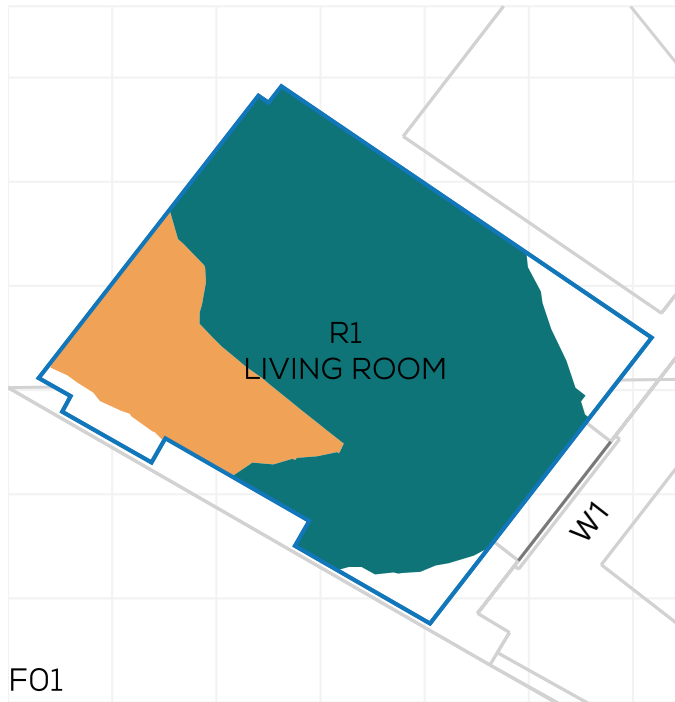
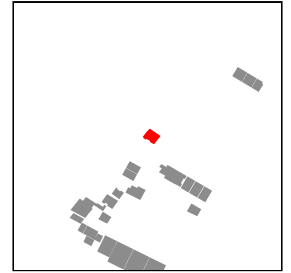
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 43 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD115

KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



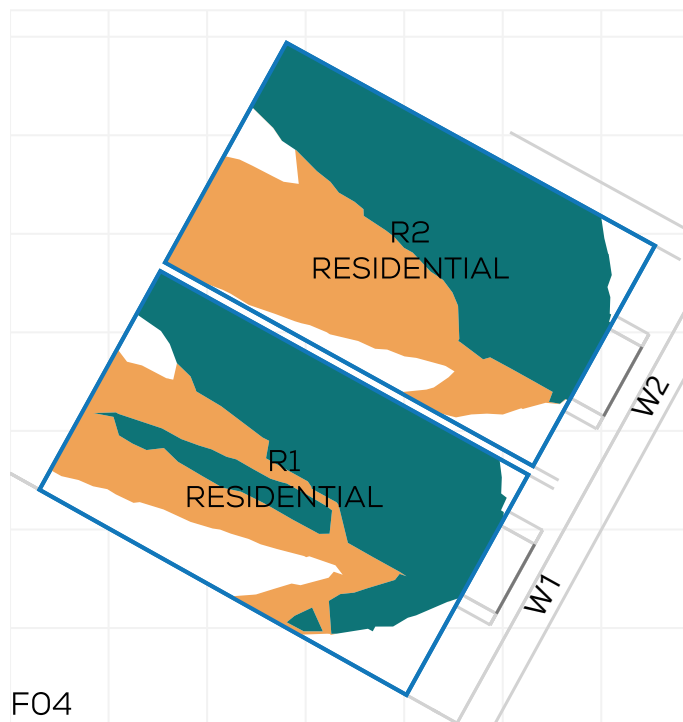
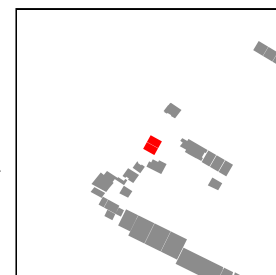
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PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: 51 BOROUGH HIGH STREET
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
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KEY:

-  GAIN
-  LOSS
-  MAINTAINED LIT AREA
-  1 METRE GRID






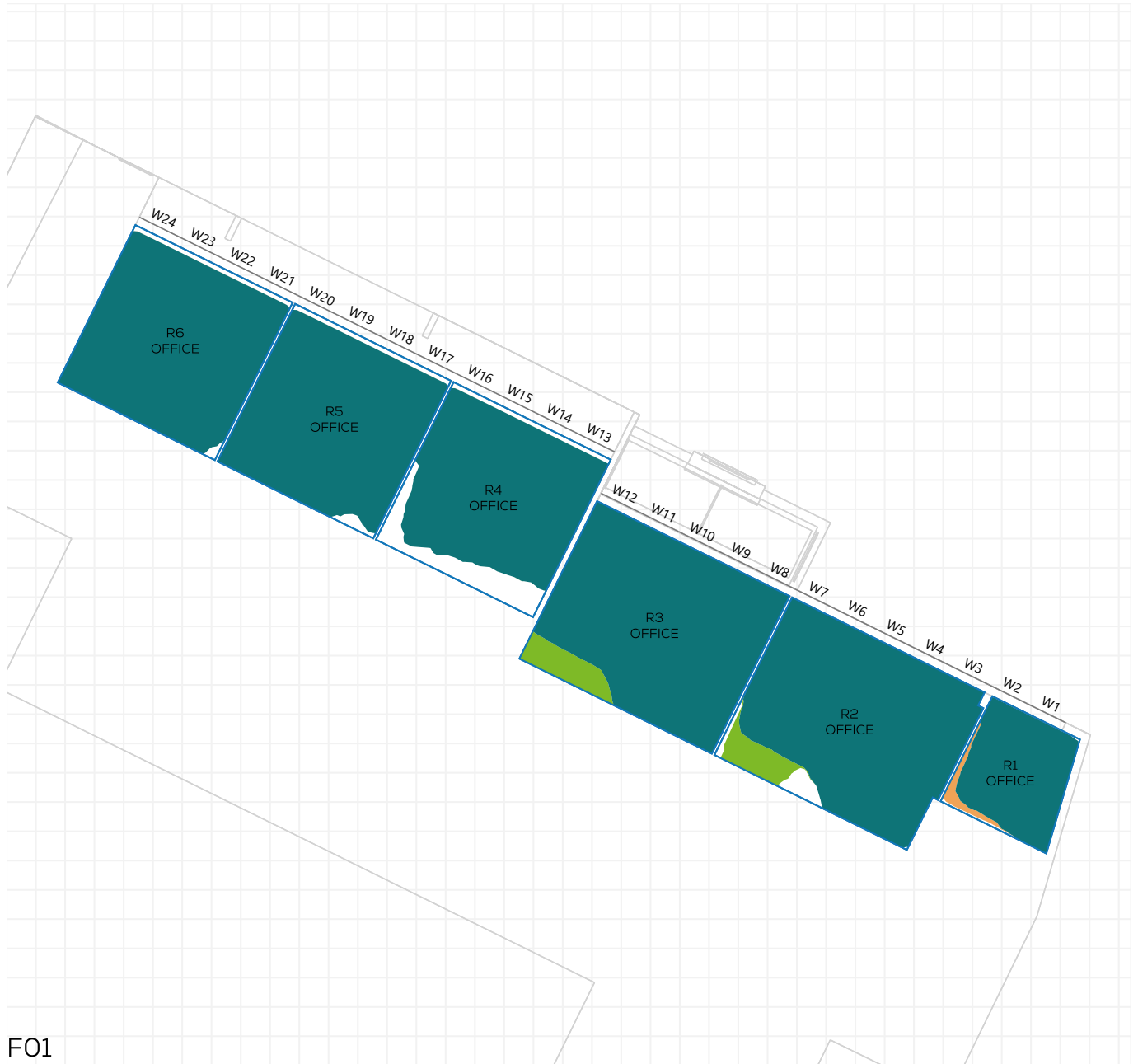
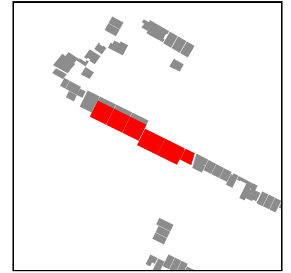
NSL CONTOURS



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: CHAUCER HOUSE - WHITE HART YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
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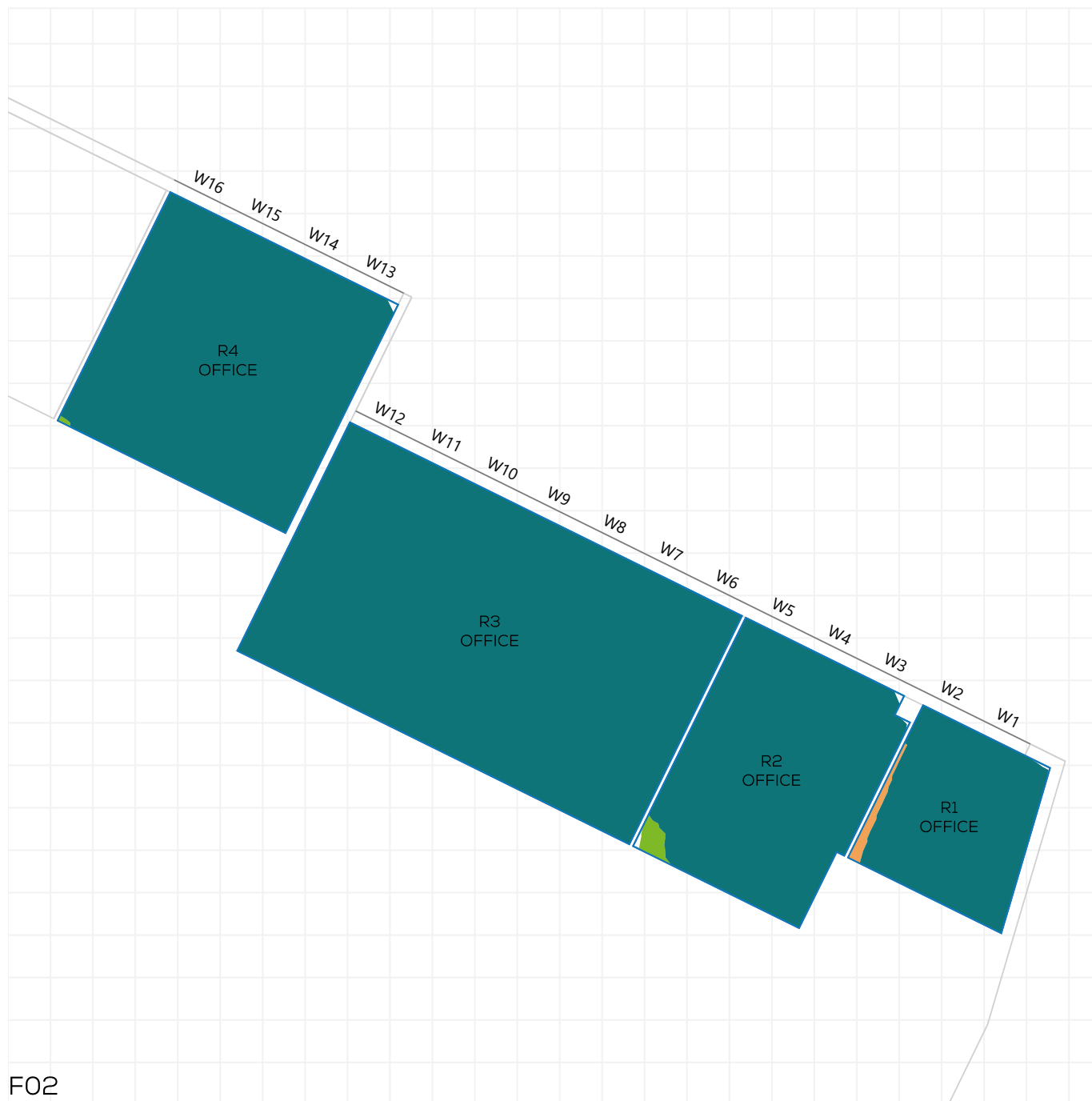
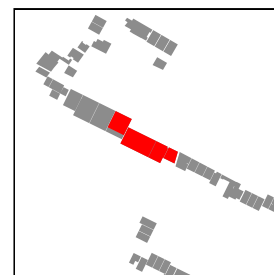
-  GAIN
-  LOSS
-  MAINTAINED LIT AREA
-  1 METRE GRID







PROJECT: 8684 - NEW CITY COURT
 REPORT TITLE: EXISTING VS. PROPOSED
 ADDRESS: CHAUCER HOUSE - WHITE HART YARD
 DATE: 20/12/2018
 SCHEME IR: IR30 (04.09.2018)
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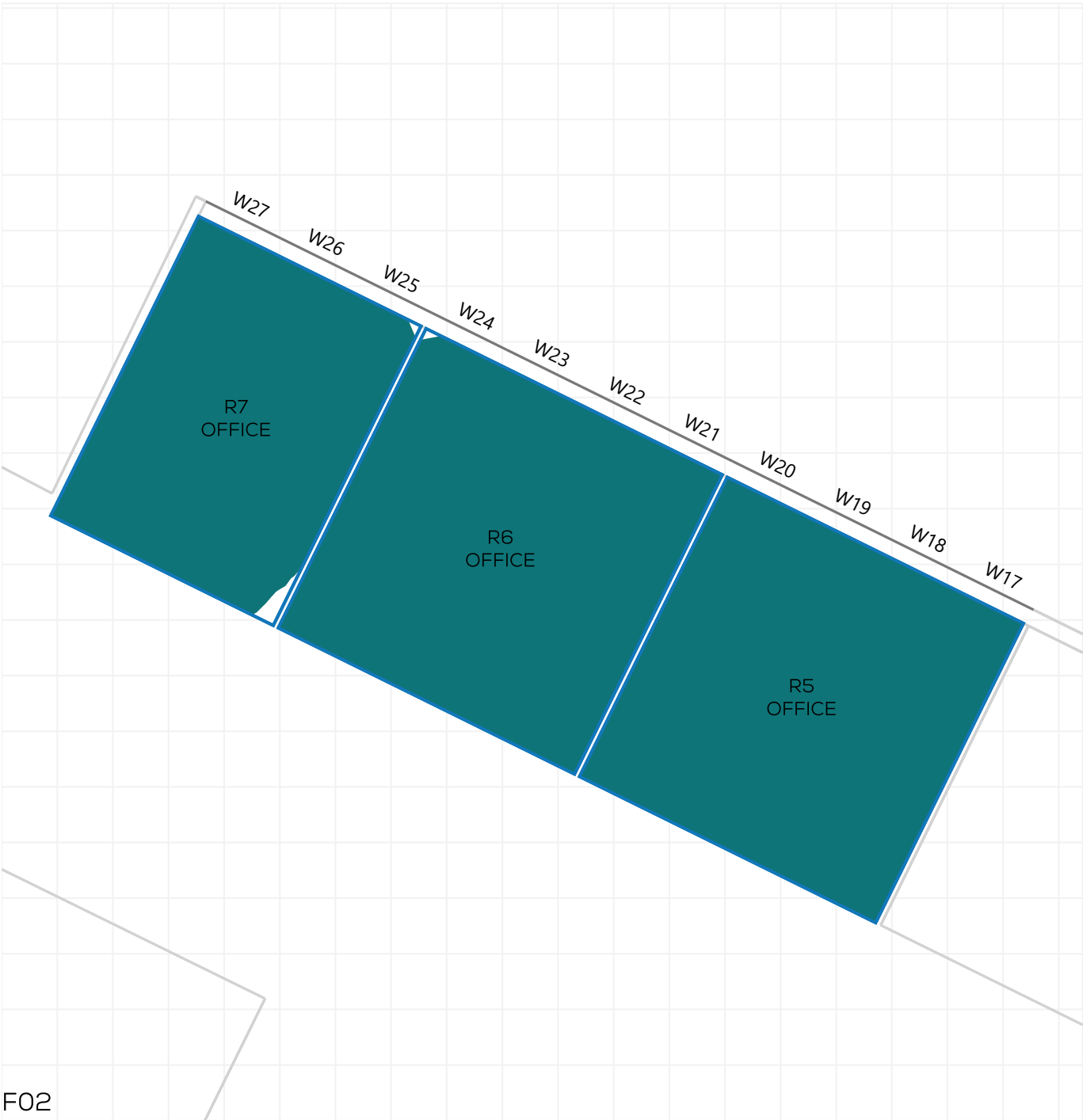
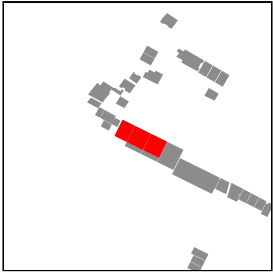
KEY:

- GAIN
- LOSS
- MAINTAINED LIT AREA
- 1 METRE GRID



PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: CHAUCER HOUSE - WHITE HART YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD119





KEY:
 GAIN
 LOSS
 MAINTAINED LIT AREA
 1 METRE GRID

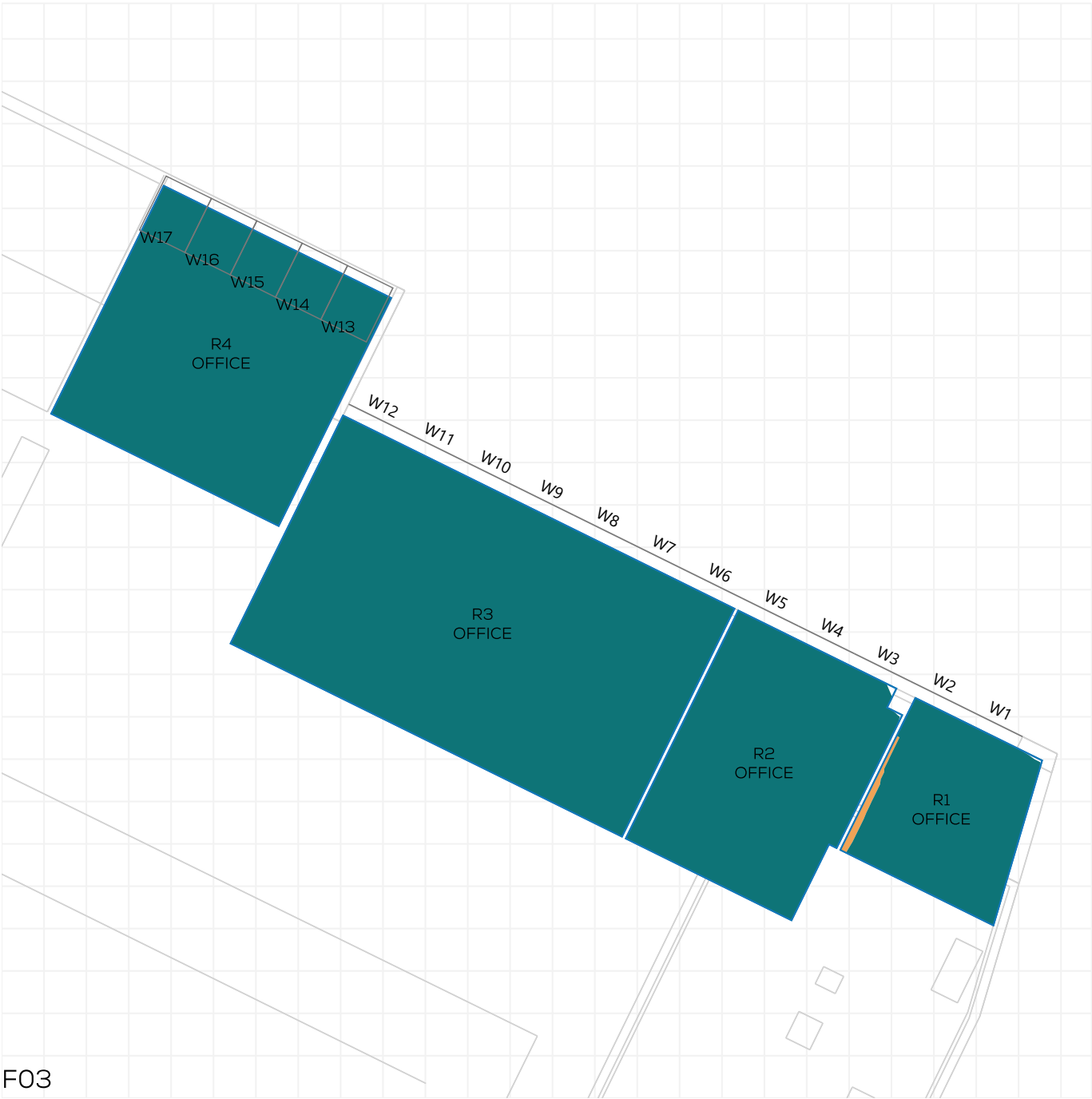
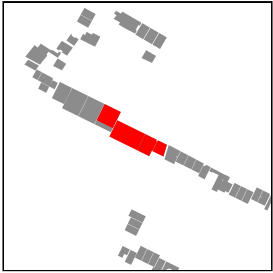


NSL CONTOURS







PROJECT: 8684 - NEW CITY COURT
REPORT TITLE: EXISTING VS. PROPOSED
ADDRESS: CHAUCER HOUSE - WHITE HART YARD
DATE: 20/12/2018
SCHEME IR: IR30 (04.09.2018)
DRAWING No.: 8684-REL03-IS02-DD120


KEY:
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 LOSS
 MAINTAINED LIT AREA
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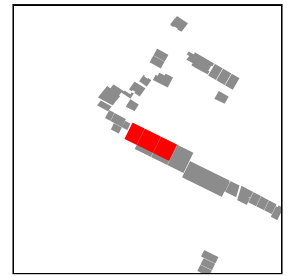


F03

KEY:

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-  LOSS
-  MAINTAINED LIT AREA
-  1 METRE GRID



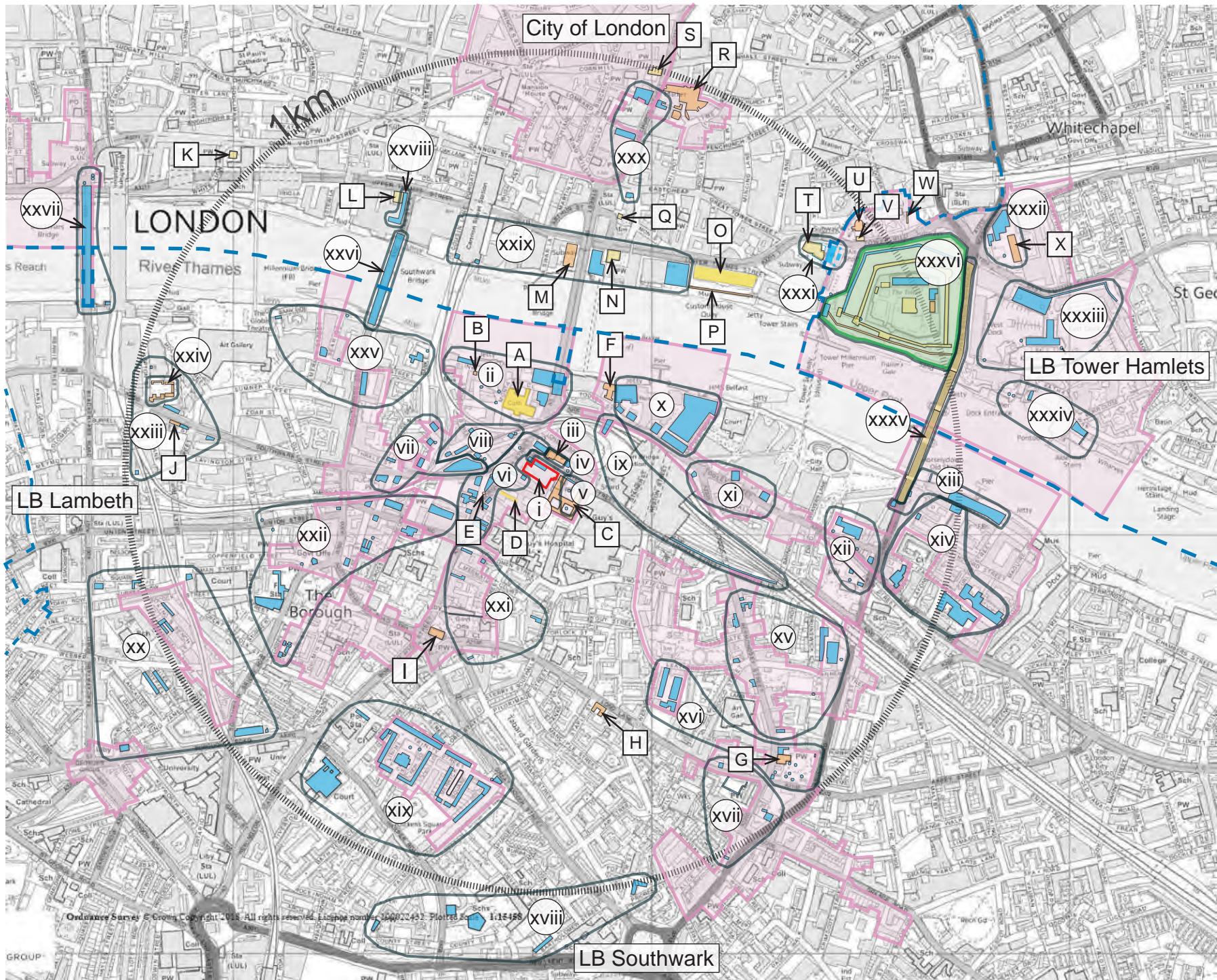


J. Townscape, Visual and Built Heritage Appendices

- Updated Figure 3-7 of the TVBHIA
- TVBHIA Erratum Notice
- Correspondence with LBS on the agreed viewpoints
- Detailed response to LUC item BH1 – Parts 1 and 2

DRAFT

Appendices



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Individual Listed Buildings:

A: Cathedral Church of St Saviour and St Mary Overie (Southwark Cathedral), Cathedral Street (grade I)
B: Remains of Winchester Palace, Clink Street (grade II*)
C: Guy's Hospital main building including wings and chapel, St Thomas Street (grade II*)
D: The George Inn, no.77 Borough High Street (grade I)
E: St Saviours Southwark War Memorial, Borough High Street (grade II*)
F: St Olaf House, no.13 Tooley Street (grade II*)
G: Church of St Mary Magdalene, Bermondsey Street (grade II*)
H: No.142 and attached railings, Long Lane (grade II*)
I: Church of St George the Martyr, Borough High Street (grade II*)
J: Kirkaldy's testing works and testing machine, no.99 Southwark Street (grade II*)

K: Church of St Benet, Paul's Wharf, Upper Thames Street (grade I)
L: Vintners Hall, Upper Thames Street (grade I)
M: Fishmongers' Hall, London Bridge (grade II*)
N: Church of St Magnus the Martyr, Lower Thames Street (grade I)
O: Custom House, Lower Thames Street (grade I)
P: River wall, stairs and cranes, Custom House Quay (grade II*)
Q: The Monument, Monument Street (grade I)
R: Leadenhall Market with subsidiary numbering, Gracechurch Street (grade II*)
S: Church of St Peter, Cornhill (grade I)
T: Church of All Hallows by the Tower, Byward Street, Great Tower Street, Tower Hill (grade I)
U: Merchant Seamen's Memorial, Trinity Square (grade II*)

Notes:

Approximate Site boundary marked in red for indicative purposes only.

Listed Building groups:

Group (i) - The Site
Group (ii) - Montague Close / Clink Street (grade II)
Group (iii) - St Thomas Street (grade II*)
Group (iv) - St Thomas Street (grade II)
Group (v) - Guy's Hospital (grade II)
Group (vi) - Borough High Street, north end (grade II)
Group (vii) - Southwark Street, east end and streets to the north (grade II)
Group (viii) - Borough Market (grade II)
Group (ix) - London Bridge Station (grade II)
Group (x) - Tooley Street, north-west end (grade II)
Group (xi) - Tooley Street, central (grade II)
Group (xii) - Fair Street/Tooley Street, south-east end (grade II)
Group (xiii) - Tower Bridge Road and riverside (grade II)
Group (xiv) - Streets east of Tower Bridge Road (grade II)
Group (xv) - Bermondsey Street, north / Brunswick Court and environs (grade II)
Group (xvi) - Bermondsey Street, south / Leathermarket (grade II)
Group (xvii) - Tower Bridge Road, south / Long Lane east (grade II)
Group (xviii) - New Kent Road / Harper Road and environs (grade II)
Group (xix) - Trinity Street / Newington Causeway (grade II)
Group (xx) - Borough Road / Lancaster Street (grade II)
Group (xxi) - Borough High Street, south end and environs (grade II)
Group (xxii) - Southwark Bridge Road, south end and environs (grade II)
Group (xxiii) - Southwark Street, west end and environs (grade II)
Group (xxiv) - Southwark Street, west end and environs (grade II*)
Group (xxv) - Bankside (grade II)
Group (xxvi) - Southwark Bridge (grade II)
Group (xxvii) - Blackfriars Bridge and environs (grade II)
Group (xxviii) - Upper Thames Street (grade II)
Group (xxix) - Lower Thames Street (grade II)
Group (xxx) - Gracechurch Street and environs (grade II)
Group (xxxi) - Byward Street / Tower Hill Terrace (grade II)
Group (xxxii) - Royal Mint (grade II)
Group (xxxiii) - St Katharine's Dock (grade II)
Group (xxxiv) - St Katharine's Way (grade II)
Group (xxxv) - Tower Bridge Road (grade I)
Group (xxxvi) - Tower of London WHS Listed Buildings (grades I, II* and II)

V: The Mercantile Marine First World War Memorial, Trinity Square Gardens, Trinity Square, Tower Hill (grade I)
W: Portion of Old London Wall, Trinity Square, Tower Hill (grade I)
X: Royal Mint, Tower Hill (grade II*)

Listed Building groups:

Group (i) - The Site

Nos. 4-8 and 12-16 St Thomas Street and attached railings

Group (ii) - Montague Close / Clink Street (grade II)

Winchester Wharf, Clink Street
Archway beneath southern end of London Bridge, crossing Tooley Street
Hibernia Chambers, no. 2 Borough High Street
Bridge House, no. 4 Borough High Street
Nos. 6, 8 and 10 Borough High Street

Group (iii) - St Thomas Street (grade II*)

No. 9A St Thomas Street
No. 9 St Thomas Street and attached railings
Mary Sheridan House (part) and area railings, nos. 11 and 13 St Thomas Street

Group (iv) - St Thomas Street (grade II)

Bunch of Grapes Public House, no. 2 St Thomas Street
Mary Sheridan House (part) and attached area railings, no.15 St Thomas Street
K2 Telephone kiosk outside nos.17 and 19 St Thomas Street

Group (v) - Guy’s Hospital (grade II)

Gates, gate piers and street railings to Guy’s Hospital
Statue of Thomas Guy in courtyard of Guy’s Hospital, including pedestal and railings
Alcove from old London Bridge in the inner quadrangle of Guy’s Hospital

Group (vi) - Borough High Street, north end (grade II)

Post Office, no. 19A Borough High Street
No. 28 Borough High Street
No. 1B Southwark Street
No. 30 Borough High Street
Nos. 32 and 34 Borough High Street
No. 3 Southwark Street
No. 38 Borough High Street
No. 40 Borough High Street
Kings Head Public House, Kings Head Yard, including no. 45 Borough High Street
Nos. 50 and 52 Borough High Street
Calverts Buildings (attached to rear of no. 50 Borough High Street)
No. 52A Borough High Street
Nos. 53 and 53A Borough High Street
No. 54 Borough High Street
No. 55 Borough High Street
No. 58 Borough High Street
No. 67 Borough High Street
Nos. 66, 68 and 70 Borough High Street
No. 91 Borough High Street
Nos. 93 and 95 Borough High Street
No. 101 Borough High Street
No. 103 Borough High Street
The Grapes Public House, no. 121 Borough High Street
Nos. 123, 125 and 127 Borough High Street

Group (vii) - Southwark Street, east end and streets to the north (grade II)

The Hop Exchange, no.24 Southwark Street
No. 49 Southwark Street
Nos. 51 and 53 Southwark Street
Nos. 55-59 Thrale Street
Cromwell Buildings nos. 5-24 and attached railings, Redcross Way
Nos.21 and 23 Park Street and attached railings
Nos.20-26 Park Street

Group (viii) - Borough Market (grade II)

Re-sited Floral Hall Portico at Borough Market
The Globe Public House, Bedale Street
No.5 Stoney Street
The Wheatsheaf Public House, no.6 Stoney Street
Nos.1-11 Park Street
No.13 Park Street

Group (ix) - London Bridge Station (grade II)

Railway viaduct arches, Crucifix Lane
Bridge over north end, London Bridge Station

Group (x) - Tooley Street, north-west end (grade II)

Denmark House, no. 15 Tooley Street
London Bridge Hospital, the riverside block behind Tooley Street
London Bridge Hospital (part), nos. 17-25 Tooley Street
Nos. 29, 31 and 33 Tooley Street
Nos. 47 and 49 Tooley Street
Hays Galleria, Counter Street
The Counting House, nos. 51-67 Tooley Street

Group (xi) - Tooley Street, central (grade II)

Shipwrights Arms Public House, no. 88 Tooley Street
Nos. 115-121 Tooley Street
Fire Station, nos.139 and 141 Tooley Street

Group (xii) - Fair Street/Tooley Street, south-east end (grade II)

South London College, Tooley Street
Statue on island site in front of South London College and railings, Tooley Street
No. 201 (former London and County Bank), Tooley Street
Watch House in St John’s Churchyard (Recreation Ground), Fair Street
Gate piers and railings to Churchyard of former Church of St John
No.10 and attached railings to front door steps, Fair Street
War Memorial, Fair Street

Group (xiii) - Tower Bridge Road and riverside (grade II)

Tower Bridge Bridgemaster’s House (Bridge House Estate) and gate to side, Tower Bridge Road (West side)
Acumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road
Horseleydown old stairs and hard, Shad Thames
Butler’s Wharf Building (No.36 Shad Thames) and Butler’s Wharf West (Nos.38-42 (even) Shad Thames)

Group (xiv) - Streets east of Tower Bridge Road (grade II)

The Anchor Tap Public House, Copper Row, Horselydown Lane
Eagle Wharf, 59 Lafone Street, Shad Thames

Tower Bridge Magistrates Court and Police Station and attached railings, 209 and 211 Tooley Street
The Circle, Queen Elizabeth Street

Group (xv) - Bermondsey Street, north / Brunswick Court and environs (grade II)

No.173 Bermondsey Street
Drinking Fountain in south east corner of Tanner Street Recreation Ground, Tanner Street
No.132 Bermondsey Street
Nos.124-130 (Even) Bermondsey Street
No.78 Bermondsey Street
Nos.68-76 (Even) Bermondsey Street
Nos.59, 61 and 63 and attached railings, Bermondsey Street
No.55 Bermondsey Street
Nos. 2 and 4 Leathermarket Street
K2 Telephone Kiosk at junction with Roper Lane, Tower Bridge Road
Warehouse, Sarson’s Vinegar Factory, Roper Lane
Bonded warehouse, Sarson’s Vinegar Factory, Roper Lane
Former Still House, Sarson’s Vinegar Factory, Roper Lane
Plumber’s office, Sarson’s Vinegar Factory, Roper Lane
Engine House, Boiler House and Coal Store, Sarson’s Vinegar Factory, Roper Lane
Brewhouse, Sarson’s Vinegar Factory, Roper Lane
Malt Store, Sarson’s Vinegar Factory, Roper Lane
Fermentation Vats, Sarson’s Vinegar Factory, Roper Lane

Group (xvi) - Bermondsey Street, south / Leathermarket (grade II)

Gates and gate piers at north east entrance to St Mary’s Churchyard, Bermondsey Street
Watch house in St Mary’s Churchyard (Recreation Ground), Bermondsey Street
Drinking fountain, approx 45m south south-east of Church of St Mary Magdalene, Bermondsey Street
Chest Tomb, approximately 60 metres south of Church of St Mary Magdalene, near Abbey Street, Bermondsey Street
Dedication steele approximately 35 metres south of Church of St Mary Magdalene, Bermondsey Street
Harrison Family Chest Tomb, south of Church of St Mary Magdalene, Bermondsey Street
Table Tomb in St Mary’s Churchyard, near entrance from Bermondsey Street, Bermondsey Street
Tomb approximately 15 metres south south east of Church of St Mary Magdalene, Bermondsey Street
Tomb of John Sargeant at south west corner of St Mary Magdalene, Bermondsey Street.

No.191 Bermondsey Street
Nos. 187 and 189 Bermondsey Street
Leather Market, Weston Street
London Leather, Hide and Wool Exchange, Weston Street, the Jugglers Arms Public House, nos.15 and 17 Leathermarket Street
Warehouse Block to east of Leathermarket Yard, Units 13-16, Weston Street
Units 7 and 8, Bermondsey Leather Market, Weston Street
No.8A, Leathermarket Yard, Weston Street

Group (xvii) - Tower Bridge Road, south / Long Lane east (grade II)

Manze’s Eel, Pie and Mash Shop, no. 87 Tower Bridge Road
Nos.2-5 (Consecutive) and attached railings, Bermondsey Square

Simon the Tanner Public House, no.231 Long Lane
Wall of recreation ground, Long Lane

Group (xviii) - New Kent Road / Harper Road and environs (grade II)
The Star and Cross Church, Falmouth Road
Joseph Lancaster Primary School, Harper Road
Geoffrey Chaucer School, Harper Road
Nos.1-19 (Odd) including handrail, Bartholomew Street
Tabard Street Centre (former Tabard Street School), Hunter Close,
Prioress Street

Group (xix) - Trinity Street / Newington Causeway (grade II)
Inner London Sessions Court, Newington Causeway
Nos. 2-12 (even) Trinity Street
Trinity Arms Public House, Swan Street
No.22 and attached railings, Trinity Stree
Nos.25-47 (Odd) and attached railings, Trinity Street
Nos.32-42 (Even) and attached railings, Trinity Street
Nos.1-15 (Consecutive) and attached railings, Trinity Church Square
Nos.16-22 (Consecutive) and attached railings, Trinity Church Square
Nos.23-29 (Consecutive) and attached railings, Trinity Church Square
Nos.30-44 (Consecutive) and attached railings, Trinity Church Square
Nos.45-68 (Consecutive) and attached railings, Trinity Church Square
The Henry Wood Hall, including gate piers and railings, Trinity Church Square
Statue in centre of Trinity Church, Trinity Church Square
K2 telephone kiosk to north-east of the Henry Wood Hall, Trinity Church Square
Nos.26 and 28 Cole Street
K2 telephone kiosk Trinity Street at junction with Great Dover Street
The Roebuck Public House, Great Dover Street
Nos.1-13 (Consecutive) and attached railings, Merrick Square
Nos. 14, 15 and 16 and attached railings, Merrick Square
Nos.17, 18 and 19 and attached railings, Merrick Square
Nos.20-32 (Consecutive) and attached railings, Merrick Square
Railings to Merrick Square Garden, Merrick Square
Surrey Dispensary, Falmouth Road
Nos.4, 10, 12 and 18 and attached railings, Falmouth Road
Nos.20-40 (Even) and attached railings, Falmouth Road

Group (xx) - Borough Road / Lancaster Street (grade II)
St George the Martyr Library, no.12 Borough Road
The Duke of York Public House, no.47 Borough Road
Hanover House, nos.49-60 (Consecutive) Borough Road
No.62 Borough Road
Clandon House, Boyfield Street Estate
Albury House, Boyfield Street Estate
Merrow House, Rushworth Street Estate
Ripley House, Rushworth Street Estate
Chadwick House and attached railings, no.48 Rushworth Street
The Drapers’ Almshouses, nos.1-5 (Consecutive) Glasshill Street
No.55 Great Suffolk Street
The Blackfriars Settlement and attached railings, nos.44-47 (Consecutive) Nelson Square
Former Sons of Temperance Friendly Society Building, no.176 Blackfriars Road

Group (xxi) - Borough High Street, south end and environs (grade II)
No. 151 Borough High Street
Kings Arms Public House with refixed coat of arms, no. 65 Newcomen Street
No. 177 Borough High Street
Wall forming north boundary of public gardens, formerly St George’s Churchyard
No. 19 Tabard Street
Nos. 25 and 27 Crosby Row

Group (xxii) - Southwark Bridge Road, south end and environs (grade II)
Wiltshire House, Maidstone Buildings
Roman Catholic Church of the Most Precious Blood, Presbytery, fore-court walls and shrine, Redcross Way
Nos.31-37 Union Street
Nos. 59 and 61 Union Street
Nos. 62 and 64 Union Street
Bishops Hall, no. 8 Ayres Street & George Bell House, no. 8A Ayres Street
Whitecross Cottages, nos.1-6 Ayres Street
Redcross Cottages, nos. 1-6 Redcross Way
Lord Clyde Public House, no. 27 Clennam Street
The Borough Welsh Congregational Chapel, Southwark Bridge Road
No. 52 Southwark Bridge Road and attached railings
Winchester House and attached railings, no.94 (part) Southwark Bridge Road
Southwark Fire Station, no.94 (part) Southwark Bridge Road
Gable Cottages and garden railings, nos.9-12, 14 & 15, 17-21, 24-28 (consec) Sudrey Street

Group (xxiii) - Southwark Street, west end and environs (grade II)
No.89 Southwark Street
Former Fire Station, no.97 Southwark Street
No.61 and attached railings and overthrow to gate Hopton Street
Nos.124 and 126 and attached ironwork, Southwark Street
Rochester House, Nos.43 and 44 Dolben Street

Group (xxiv) - Southwark Street, west end and environs (grade II*)
Nos. 1-9 Hopton’s Almshouses (Consec), Hopton Gardens
Nos. 10 and 11 Hopton’s Almshouses, Hopton Gardens
Nos. 12-21 Hopton’s Almshouses (Consec), Hopton Gardens

Group (xxv) - Bankside (grade II)
Anchor Public House, no. 1 Bankside / no. 34 Park Street
Union Works, no.60 Park Street
Cardinal’s Wharf and railings at door, no.49 Bankside
Nos.51 and 52 Bankside
Anchor Terrace and attached railings, nos. 1-15 Southwark Bridge Road

Group (xxvi) - Southwark Bridge (grade II)
Southwark Bridge (that part in London Borough of Southwark)
Southwark Bridge (listing separate from that above)

Group (xxvii) - Blackfriars Bridge and environs (grade II)
Blackfriars Bridge
Southern abutment to former West Blackfriars and St Paul’s Rail Bridge, Blackfriars Road

K2 Telephone Kiosk, Blackfriars Bridge
Drinking Fountain on east side of road at north end of Bridge, Blackfriars Bridge
Statue of Queen Victoria at Approach to Blackfriars Bridge, Victoria Embankment

Group (xxviii) - Upper Thames Street (grade II)
Nos.1 to 4 (Consec) Queen Street Place, including no.69 Upper Thames Street.

Group (xxix) - Lower Thames Street (grade II)
Billingsgate Market, Lower Thames Street
Adelaide House, London Bridge
Pair of towers at Cannon Street Station western tower to Cannon Street Station, Cannon Street, Cousin Lane
Eastern tower to Cannon Street Station pair of towers at Cannon Street Station, All Hallows Lane, Cannon Street

Group (xxx) - Gracechurch Street and environs (grade II)
No.2a, Eastcheap
Nos.39 and 40 (Credit Lyonnais) Lombard Street
Nos.81 and 82 Gracechurch Street
Nos. 7 and 9 Gracechurch Street

Group (xxxi) - Byward Street / Tower Hill Terrace (grade II)
Wine Cellars at Nos 8 to 10 (consec) (Premises of Messrs Asher Storey) Tower Hill
Nos.8 - 10 Tower Hill
Railing and dwarf wall to Church of All Hallows by the Tower (those sections flanking Great Tower Street and Byward Street)

Group (xxxii) - Royal Mint (grade II)
Entrance Lodges at The Royal Mint, Tower Hill
Seaman’s Registry, Royal Mint Site
Cast Iron Lamp Standards in forecourt of The Royal Mint

Group (xxxiii) - St Katharine’s Dock (grade II)
St Katharine’s Dock (Warehouse C) St Katharine’s Way
Warehouse I, St Katharine’s Way
Footbridge (between the basin and east dock water areas), St Katharine’s Way
The Quay walls to basin and east and west docks, St Katharine Docks
Boundary wall and gate piers to St Katharine Docks, St Katharine’s Way

Group (xxxiv) - St Katharine’s Way (grade II)
British and foreign wharves (warehouse G), St Katharine’s Way
Alderman stairs and gate piers, St Katharine’s Way
Timepiece sculpture, St Katharine Docks
Dockmaster’s office, St Katharine’s Way

Group (xxxv) - Tower Bridge Road (grade I)
Tower Bridge (that part that lies within the Borough of Southwark), Tower Bridge Road
Tower Bridge (that part in London Borough of Tower Hamlets)
Tower Bridge approach

Group (xxxvi) - Tower of London WHS Listed Buildings (grades I, II* and II)

- The White Tower (grade I)
- The Middle Tower, with causeway to Byward Tower (QV) and remains of causeway to Lion Tower to west (grade I)
- Chapel of St Peter-ad-Vincula (grade I)
- Inner Curtain Wall, with mural towers, the new armouries, the Queen’s House & nos. 1, 2, 4, 5 and 7 Tower Green (grade I)
- Outer Curtain Wall with casements and mural towers (grade I)
- Revetment wall to south side of moat, from Tower Bridge Approach to Middle Tower (QV) (grade II*)
- The Old Hospital Block and raised terrace and railings (grade II*)
- Former Pump House (grade II)
- Museum of the Royal Fusiliers and attached terrace to front (grade II)
- Waterloo Block (grade II)
- Revetment wall to west and north side of moat, from outwork attached to Middle Tower (QV) to Tower Hill postern (grade II)
- Revetment wall to north side of moat, from Tower Hill postern to Tower Bridge Approach (grade II)
- K6 telephone kiosk outside gateway of Byward Tower (grade II)

New City Court TVIBHA – Erratum Notice

Chapter 5 Townscape Assessment (page 329)

- 1.1 Paragraph 5.894 should read as follows:

*‘This would be a change of **minor to moderate** magnitude to a TCA of **medium to high** sensitivity. The significance would be moderate. The effect would be **neutral**’.*

- 1.2 Paragraphs 5.896 - 5.898 should be deleted:

~~*‘5.896 The scale and location of the cumulative schemes, relative to the townscape character area and its relationship with the Site, are such that the cumulative effect would be the same as for the Development.’*~~

~~*‘5.897 This would be a change of **insignificant to minor** magnitude to a TCA of **high** sensitivity. The significance would be **minor**. The effect would be **neutral**.’*~~

~~*‘5.898 The effect is at regional level and long term.’*~~

Table 3-2 – Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects (Chapter 5, page 331)

- 1.3 Under the table heading ‘Townscape Character Areas (TCA)’, the Likely Significant Effect for TCA 5 - North Bank should read as follows:

‘Long-term, regional, neutral effect of moderate significance’

Chapter 7 Cumulative Effects Assessment (page 334)

- 1.4 Paragraph 7.3 should read as follows:

‘In terms of TCAs, the significance of effect as a result of the Works in the cumulative scenario would be ‘moderate to major’ in significance and adverse in effect in respect of TCA 1 (a significant effect), ‘moderate’ in significance and adverse in effect in respect of TCA 5 (a significant effect), and ‘minor’ in significance and adverse in effect in respect of all other TCAs (not a significant in effect)’.

Peter Stewart Consultancy
Somerset House
Strand, London WC2R 1LA

June 2019

Ellen Smith

Subject: RE: NCC - Townscape Views

From: Crosby, Victoria <Victoria.Crosby@southwark.gov.uk>

Sent: 06 November 2018 17:03

To: David Shiels <david.shiels@dp9.co.uk>

Subject: RE: NCC - Townscape Views

Hi David,

Sorry for the delay in getting back to you on this.

I have discussed the zone of theoretical visibility drawing with Michael, and when comparing it with the conservation areas and key listed buildings, most of the viewpoints are captured. There is just one gap where we'd like an extra viewpoint added, from the western corner of Trinity Church Square. Given the tall trees it would need to be a winter view - happy to comment if Miller Hare want to do an initial view and for some reason find it's not actually visible!

Having the proposal modelled in VuCity would let us check any other CAs or listed buildings.

Thanks

Victoria

This email has been scanned by the Symantec Email Security.cloud service.

New City Court - Response to LUC ES Draft Review Report (March 2019) - BH1

Here follows Peter Stewart Consultancy's response to item BH1 of the New City Court ES Review by LUC, presented in two parts.

Part 1 comprises Table BH1, which sets out:

- The significance of effect for individual heritage assets considered in the submitted TVIBHA, including grouped assets;
- A clear statement of whether the effect is significant or not significant in Environmental Impact Assessment (EIA) terms relating to the 'Works' and once the Development is completed and operational;
- Further detail on the mitigation to be undertaken on Site during the Works, including control measures, as requested in item BH23.

Part 2 of this response provides further information on the attributes of each's heritage asset's setting that contribute to its significance. It was requested that this item (BH10) be included in the Table BH1. However, as this information is not suited to tabulation, it follows the table below.

Part 1: Table BH1

This table is an update to Table 3.6 of the December 2018 TVIBHA. The table states the significance of effect for individual heritage assets considered in the submitted TVIBHA, including grouped assets. It also states whether an effect is direct or indirect, and whether an effect is considered to be significant in EIA terms (for the December 2018 ES (TVIBHA), 'moderate' or 'major' effects are deemed to be significant in EIA terms).

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
The Works				
Group (i) - The Site: Nos. 4-8 and 12-16 St Thomas Street and attached railings.	<p>Short to medium term, adverse effect (direct) of moderate to major significance.</p> <p>Short to medium term, adverse effect (indirect) of moderate to major significance.</p>	<p>Prior to the Works:</p> <p>Necessary protective measures would be identified through consultation with the relevant parties and review and sign off on a pre-construction condition survey of adjacent historic assets.</p> <p>Historic building recording would be undertaken prior to the Works commencing, the scope of which would need to be agreed with LBS and secured via an appropriately worded planning condition.</p> <p>During the Works:</p> <p>Hoarding – As stated in Chapter 6 of the December 2018 ES and the Outline Construction Management Plan (CMP) submitted with the planning application, a 3.0m high plywood hoarding will be erected along site boundary. Hoardings and scaffold sheeting will be of the highest standard and inspected and maintained regularly.</p> <p>Dialogue with TFL will</p>	<p>Short to medium term, adverse effect (direct – physical works) of moderate to major significance.</p> <p>Short to medium term, adverse effect (indirect - on setting) of moderate to major significance.</p>	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
		<p>be required as early as possible during the preconstruction period, to determine what will be permissible. A pit lane will be formed which will allow the delivery vehicles to pull off the road to unload in a safe manner. It will also keep the carriageway open at all times. The hoarding erected off TVCBs and external lighting will be used to illuminate the hoarding around the perimeter. The temporary vertical concrete barriers (TVCB)'s will be bolted together providing a robust structure against accidental impact loadings.</p> <p>The main New City Court building will be demolished starting roof and working down to the ground floor slab. The works will be subject to the detailed method statement from the demolition contractor. The lift will be removed early in the programme and the shaft will be used to drop debris to ground floor. All debris will then be removed using plant to an awaiting wagon or skip and removed from site. No crushing will be allowed on site due to noise and the proximity of the residents.</p> <p>Temporary works will be installed to back prop the existing ground floor back to basement level, to ensure the existing slab has safe capacity to support the demolition plant and</p>		

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
		<p>construction vehicles.</p> <p>Use of excavation and demolition methods that produce low vibration levels and participation in a monitoring programme to ensure vibration levels are within established thresholds. For example, as noted at in Chapter 8 of ES Volume 1 – Noise and Vibration of the December 2018 ES:</p> <p><i>‘Where listed structures and rail assets are located within 10 metres of piling or breaking up of concrete slabs mitigation including the use of low vibration generating techniques should be considered to ensure vibration levels at these locations do not exceed 10mm/s.’</i> (Paragraph 8.75);</p> <p><i>‘Monitoring of vibration should also be undertaken, where necessary, to ensure vibration levels at these receptors do not exceed 10mm/s when piling works are being undertaken within 10m’. (Paragraph 8.75);</i></p> <p><i>‘Monitoring of Site of vibration should be undertaken when piling works are being carried out within 10m of Listed Buildings, utilities and LUL lines. Monitoring will ensure vibration at these assets does not exceed 10mm/s’. (paragraph 8.86)</i></p>		

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
		<p>Other measures include:</p> <p>Arrangement of delivery locations and times to limit disruption and avoid damage to the buildings;</p> <p>Ensuring surface water runoff is not directed towards the buildings;</p> <p>Directing debris chutes away from the buildings; and</p> <p>Locating all diesel and oil filling for plant and machinery away from the buildings.</p> <p>A full list of dust mitigation is provided in Chapter 9: Air Quality of the December 2018 ES and the Outline CMP. Dust mitigation measures would include:</p> <ul style="list-style-type: none"> • All skips and muck away lorries will be dampened down via a water point adjacent to the loading area; • Skips to be securely covered and drop heights to be minimised for redundant materials to reduce dust arising when loading; • All cutting equipment to use water as suppressant or suitable local exhaust ventilation systems where applicable; • When demolition is taking place 		

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
		<p>areas to be dampened down to reduce dust arising;</p> <ul style="list-style-type: none"> All vehicles will be washed down before leaving; <p>For more detailed information on the above measures reference should be made to the submitted Construction Management Plan (December 2018); Chapter 6 of ES Volume 1 - Development Programme, Demolition, Deconstruction, Refurbishment and Construction; and Chapters 7 (Air Quality) and 8 (Noise & Vibration) of Part 1 of the December 2018 ES.</p>		
Borough High Street Conservation Area	Short to medium term, local, adverse effect (direct) of moderate to major significance.	<p>Prior to the Works:</p> <p>As above.</p> <p>During the Works:</p> <p>As above.</p> <p>In addition, the Keats House façade is to be removed carefully, and fully recorded to allow re-erection in the final scheme. This will be undertaken by a fully qualified contractor and again will be subject to a fully detailed method statement.</p>	Short to medium term, local, adverse effect (direct) of moderate to major significance.	Significant
Other HAs	Short to medium term, ranging from local to regional, adverse or neutral effect (indirect) of minor/ insignificant to major significance.	Hoarding and other measures as detailed above as appropriate. These will include use of excavation and demolition methods that produce low vibration levels and participation in a	Short to medium term, ranging from local to regional, adverse or neutral effect (indirect) of minor/ insignificant to major significance.	Ranges from Significant to Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
		monitoring programme to ensure vibration levels are within established thresholds.		
Completed and Operational Development				
<i>World Heritage Sites</i>				
<i>Tower of London WHS</i>	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
<i>Conservation Areas</i>				
Borough High Street Conservation Area	Long-term, local, beneficial effect (direct) of moderate to major significance.	None required.	Long-term, local, beneficial effect (direct) of moderate to major significance.	Significant
Tooley Street Conservation Area	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Bear Gardens Conservation Area	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Thrale Street Conservation Area	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Union Street Conservation Area	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Liberty of The Mint Conservation Area	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
King's Bench Conservation Area	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	Not significant
Trinity Church Square Conservation Area	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
St. George's Circus Conservation Area	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	Not significant
Bermondsey Street Conservation Area	Long-term, local to district, neutral effect (indirect) of minor significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor significance.	Not significant
Tower Bridge Conservation Area	Long-term, local to district, neutral effect (indirect) of minor significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor significance.	Not significant
Whitefriars Conservation Area	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Bank Conservation Area	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.	Not significant
Leadenhall Market Conservation Area	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/insignificant significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Tower Conservation Area	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.	Significant
Listed Buildings				
Group (i) - The Site: Nos. 4-8 and 12-16 St Thomas Street and attached railings.	Long-term, local, beneficial effect (direct) of moderate to major significance. Long-term, local, beneficial effect (indirect) of moderate to major significance.	None required.	Long-term, local, beneficial effect (direct – physical works) of moderate to major significance. Short to medium term, beneficial effect (indirect - on setting) of moderate to major significance.	Significant
A: Cathedral Church of St Saviour and St Mary Overie (Southwark Cathedral), Cathedral Street (grade I)	Long-term, district, adverse effect (indirect) of moderate to major significance.	None required.	Long-term, district, adverse effect (indirect) of moderate to major significance.	Significant
B: Remains of Winchester Palace, Clink Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (ii) - Montague Close / Clink Street (grade II)				
Winchester Wharf, Clink Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Archway beneath southern end of London Bridge, crossing Tooley Street	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Hibernia Chambers, no. 2 Borough High Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Bridge House, no. 4 Borough High Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos. 6, 8 and 10 Borough High Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (iii) - St Thomas Street (grade II*)				
No. 9A St Thomas Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 9 St Thomas Street and attached railings	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Mary Sheridan House (part) and area railings, nos. 11 and 13 St Thomas Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Group (iv) - St Thomas Street (grade II)				
Bunch of Grapes Public House, no. 2 St Thomas Street	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Mary Sheridan House (part) and attached area railings, no.15 St Thomas Street	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
K2 Telephone kiosk outside nos.17 and 19 St Thomas	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
C: Guy's Hospital main building including wings and chapel, St Thomas Street (grade II*)	Long-term, local, adverse effect (indirect) of major significance.	None required.	Long-term, local, adverse effect (indirect) of major significance.	Significant
Group (v) - Guy's Hospital (grade II)				
Gates, gate piers and street railings to Guy's Hospital	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Statue of Thomas Guy in courtyard of Guy's Hospital, including pedestal and railings	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Street Alcove from old London Bridge in the inner quadrangle of Guy's Hospital	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
D: The George Inn, no.77 Borough High Street (grade I)	Long-term, local, neutral effect (indirect) of major significance.	None required.	Long-term, local, neutral effect (indirect) of major significance.	Significant
E: St Saviours Southwark War Memorial, Borough High Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Group (vi) - Borough High Street, north end (grade II)				
Post Office, no. 19A Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 28 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 1B Southwark Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No. 30 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 32 and 34 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 3 Southwark Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 38 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 40 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Kings Head Public House, Kings Head Yard, including no. 45 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 50 and 52 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Calverts Buildings (attached to rear of no. 50 Borough High Street)	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 52A Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 53 and 53A Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 54 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No. 55 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 58 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 67 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 66, 68 and 70 Borough High Street	Long-term, district, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, district, neutral effect (indirect) of moderate to major significance.	Significant
No. 91 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 93 and 95 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 101 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
No. 103 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
The Grapes Public House, no. 121 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Nos. 123, 125 and 127 Borough High Street	Long-term, local, neutral effect (indirect) of moderate to major significance.	None required.	Long-term, local, neutral effect (indirect) of moderate to major significance.	Significant
Group (vii) - Southwark Street, east end and streets to the north (grade II)				
The Hop Exchange, no.24 Southwark Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No. 49 Southwark Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos. 51 and 53 Southwark Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos. 55-59 Thrale Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Cromwell Buildings nos. 5-24 and attached railings, Redcross Way	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos.21 and 23 Park Street and attached railings	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos.20-26 Park Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (viii) - Borough Market (grade II)				
Re-sited Floral Hall Portico at Borough Market	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
The Globe Public House, Bedale Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
No.5 Stoney Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
The Wheatsheaf Public House, no.6 Stoney Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos.1-11 Park Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
No.13 Park Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (ix) - London Bridge Station (grade II)				
Railway viaduct arches, Crucifix Lane	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Bridge over north end, London Bridge Station	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
F: St Olaf House, no.13 Tooley Street (grade II*)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Group (x) - Tooley Street, north-west end (grade II)				
Denmark House, no. 15 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
London Bridge Hospital, the riverside block behind Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
London Bridge Hospital (part), nos. 17-25 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Nos. 29, 31 and 33 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Nos. 47 and 49 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Hays Galleria, Counter Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
The Counting House, nos. 51-67 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Group (xi) - Tooley Street, central (grade II)				
Shipwrights Arms Public House, no. 88 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Nos. 115-121 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Fire Station, nos.139 and 141 Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Group (xii) - Fair Street/Tooley Street, south-east end (grade II)				
South London College, Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Statue on island site in front of South London College and railings, Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No. 201 (former London and County Bank), Tooley Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Watch House in St John's Churchyard (Recreation Ground), Fair Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Gate piers and railings to Churchyard of former Church of St John	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
No.10 and attached railings to front door steps, Fair Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
War Memorial, Fair Street	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Group (xiii) - Tower Bridge Road and riverside (grade II)				
Tower Bridge Bridgemaister's House (Bridge House Estate) and gate to side, Tower Bridge Road (West side)	Long-term, local, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, local, neutral effect (indirect) of minor to moderate significance.	Not significant
Acumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Horseleydown old stairs and hard, Shad Thames	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Butler's Wharf Building (No.36 Shad Thames) and Butler's	Long-term, district, neutral effect (indirect) of minor to moderate	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Wharf West (Nos.38-42 (even) Shad Thames)	significance.			
Group (xiv) - Streets east of Tower Bridge Road (grade II)				
The Anchor Tap Public House, Copper Row, Horselydown Lane	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Eagle Wharf, 59 Lafone Street, Shad Thames	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Tower Bridge Magistrates Court and Police Station and attached railings, 209 and 211 Tooley Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Circle, Queen Elizabeth Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Group (xv) - Bermondsey Street, north / Brunswick Court and environs (grade II)				
No.173 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Drinking Fountain in south east corner of Tanner Street Recreation Ground, Tanner Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
No.132 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Nos.124-130 (Even) Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No.78 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Nos.68-76 (Even) Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Nos.59, 61 and 63 and attached railings, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
No.55 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Nos. 2 and 4 Leathermarket Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
K2 Telephone Kiosk at junction with Roper Lane, Tower Bridge Road	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Warehouse, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Bonded warehouse, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Former Still House, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Plumber's office, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane.	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Brewhouse, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Malt Store, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Fermentation Vats, Sarson's Vinegar Factory, Roper Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
G: Church of St Mary Magdalene, Bermondsey Street (grade II*)	Long-term, local, neutral effect (indirect) of moderate significance.	None required.	Long-term, local, neutral effect (indirect) of moderate significance.	Significant
Group (xvi) - Bermondsey Street, south / Leathermarket (grade II)				
Gates and gate piers at north east entrance to St Mary's Churchyard, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Watch house in St Mary's Churchyard (Recreation Ground), Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Drinking fountain, approx 45m south south-east of Church of St Mary Magdalene, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Chest Tomb, approximately 60 metres south of Church of St Mary Magdalene, near Abbey Street, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Dedication steele approximately 35 metres south of Church of St Mary Magdalene, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Harrison Family Chest Tomb, south of Church of St Mary Magdalene, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Table Tomb in St Mary's Churchyard, near entrance from Bermondsey Street, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Tomb approximately 15 metres south south east of Church of St Mary Magdalene, Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Tomb of John Sargeant at south west corner of St Mary Magdalene, Bermondsey	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Street.				
No.191 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Nos. 187 and 189 Bermondsey Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Leather Market, Weston Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
London Leather, Hide and Wool Exchange, Weston Street, the Jugglers Arms Public House, nos.15 and 17 Leathermarket Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Warehouse Block to east of Leathermarket Yard, Units 13-16, Weston Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Units 7 and 8, Bermondsey Leather Market, Weston Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
No.8A, Leathermarket Yard, Weston Street	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Group (xvii) - Tower Bridge Road, south / Long Lane east (grade II)				
Manze's Eel, Pie and Mash Shop, no. 87 Tower Bridge Road	Long-term, district, neutral effect (indirect) of minor/insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Nos.2-5 (Consecutive) and attached railings, Bermondsey Square	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Simon the Tanner Public House, no.231 Long Lane	Long-term, local, neutral effect (indirect) of minor significance.	None required.	Long-term, local, neutral effect (indirect) of minor significance.	Not significant
Wall of recreation ground, Long Lane	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, local to district, neutral effect (indirect) of minor significance.	Not significant
H: No.142 and attached railings, Long Lane (grade II*)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xviii) - New Kent Road / Harper Road and environs (grade II)				
The Star and Cross Church, Falmouth Road	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Joseph Lancaster Primary School, Harper Road	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Geoffrey Chaucer School, Harper Road	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Nos.1-19 (Odd) including handrail, Bartholomew Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Tabard Street Centre (former Tabard Street School), Hunter Close, Prioress Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xix) - Trinity Street / Newington Causeway (grade II)				
Inner London Sessions Court, Newington Causeway	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos. 2-12 (even) Trinity Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Trinity Arms Public House, Swan Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
No.22 and attached railings, Trinity Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.25-47 (Odd) and attached railings, Trinity Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.32-42 (Even) and attached railings, Trinity Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.1-15 (Consecutive) and attached railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.16-22 (Consecutive) and attached railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.23-29 (Consecutive) and attached railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Nos.30-44 (Consecutive) and attached railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.45-68 (Consecutive) and attached railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Henry Wood Hall, including gate piers and railings, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Statue in centre of Trinity Church, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
K2 telephone kiosk to north-east of the Henry Wood Hall, Trinity Church Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.26 and 28 Cole Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
K2 telephone kiosk Trinity Street at junction with Great Dover Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Roebuck Public House, Great Dover Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.1-13 (Consecutive) and attached railings, Merrick Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos. 14, 15 and 16 and attached railings, Merrick Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Nos.17, 18 and 19 and attached railings, Merrick Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.20-32 (Consecutive) and attached railings, Merrick Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Railings to Merrick Square Garden, Merrick Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Surrey Dispensary, Falmouth Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.4, 10, 12 and 18 and attached railings, Falmouth Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.20-40 (Even) and attached railings, Falmouth Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Group (xx) - Borough Road / Lancaster Street (grade II)				
St George the Martyr Library, no.12 Borough Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Duke of York Public House, no.47 Borough Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Hanover House, nos.49-60 (Consecutive) Borough Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
No.62 Borough Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Clandon House, Boyfield Street Estate	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Albury House, Boyfield Street Estate	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Merrow House, Rushworth Street Estate	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Ripley House, Rushworth Street Estate	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Chadwick House and attached railings, no.48 Rushworth Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Drapers' Almshouses, nos.1-5 (Consecutive) Glasshill Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
No.55 Great Suffolk Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
The Blackfriars Settlement and attached railings, nos.44-47 (Consecutive) Nelson Square	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Former Sons of Temperance Friendly Society Building, no.176 Blackfriars Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
I: Church of St George the Martyr, Borough High Street (grade II*)	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (xxi) - Borough High Street, south end and environs (grade II)				
No. 151 Borough High Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Kings Arms Public House with refixed coat of arms, no. 65 Newcomen Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
No. 177 Borough High Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Wall forming north boundary of public gardens, formerly St George's Churchyard	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
No. 19 Tabard Street	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Nos. 25 and 27 Crosby Row	Long-term, district, neutral effect (indirect) of moderate significance.	None required.	Long-term, district, neutral effect (indirect) of moderate significance.	Significant
Group (xxii) - Southwark Bridge Road, south end and environs (grade II)				
Wiltshire House, Maidstone Buildings	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Roman Catholic Church of the Most Precious Blood, Presbytery, forecourt walls and shrine,	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Redcross Way				
Nos.31-37 Union Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Nos. 59 and 61 Union Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Nos. 62 and 64 Union Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Bishops Hall, no. 8 Ayres Street & George Bell House, no. 8A Ayres Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Whitecross Cottages, nos.1-6 Ayres Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Redcross Cottages, nos. 1-6 Redcross Way	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Lord Clyde Public House, no. 27 Clennam Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
The Borough Welsh Congregational Chapel, Southwark Bridge Road	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
No. 52 Southwark Bridge Road and attached railings	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Winchester House and attached railings, no.94 (part)	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Southwark Bridge Road				
Southwark Fire Station, no.94 (part) Southwark Bridge Road	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
Gable Cottages and garden railings, nos.9-12, 14 & 15, 17-21, 24-28 (consec) Sudrey Street	Long-term, district, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, district, neutral effect (indirect) of minor to moderate significance.	Not significant
J: Kirkaldy's testing works and testing machine, no.99 Southwark Street (grade II*)	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xxiii) - Southwark Street, west end and environs (grade II)				
No.89 Southwark Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Former Fire Station, no.97 Southwark Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
No.61 and attached railings and overthrow to gate Hopton Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Nos.124 and 126 and attached ironwork, Southwark Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Rochester House, Nos.43 and 44 Dolben Street	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xxiv) - Southwark Street, west end and environs (grade II*)				
Nos. 1-9 Hopton's Almshouses (Consec), Hopton Gardens.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Nos. 10 and 11 Hopton's Almshouses, Hopton Gardens.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Nos. 12-21 Hopton's Almshouses (Consec), Hopton Gardens.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, district, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xxv) - Bankside (grade II)				
Anchor Public House, no. 1 Bankside / no. 34 Park Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Union Works, no.60 Park Street	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Cardinal's Wharf and railings at door, no.49 Bankside	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Nos.51 and 52 Bankside	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Anchor Terrace and attached railings, nos. 1-15 Southwark Bridge Road	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Group (xxvi) - Southwark Bridge (grade II)				
Southwark Bridge (that part in London Borough of Southwark)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Southwark Bridge (listing separate from that above)	Long-term, district, neutral effect (indirect) of minor significance.	None required.	Long-term, district, neutral effect (indirect) of minor significance.	Not significant
Group (xxvii) - Blackfriars Bridge (grade II)				
Blackfriars Bridge	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Southern abutment to former West Blackfriars and St Paul's Rail Bridge, Blackfriars Road	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
K2 Telephone Kiosk, Blackfriars Bridge	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Drinking Fountain on east side of road at north end of Bridge, Blackfriars Bridge	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Statue of Queen Victoria at Approach to Blackfriars Bridge, Victoria Embankment	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
K: Church of St Benet, Paul's Wharf, Upper Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
L: Vintners Hall, Upper Thames Street	Long-term, regional, neutral effect (indirect) of	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
(grade I)	minor/ insignificant significance.		significance.	
Group (xxviii) - Upper Thames Street (grade II)				
Nos.1 to 4 (Consec) Queen Street Place, including no.69 Upper Thames Street.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
M: Fishmongers' Hall, London Bridge (grade II*)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.	Significant
Group (xxix) - Lower Thames Street (grade II)				
Billingsgate Market, Lower Thames Street	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	Not significant
Adelaide House, London Bridge	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	Not significant
Pair of towers at Cannon Street Station western tower to Cannon Street Station, Cannon Street, Cousin Lane	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	Not significant
Eastern tower to Cannon Street Station pair of towers at Cannon Street Station, All Hallows Lane, Cannon Street	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of minor to moderate significance.	Not significant
N: Church of St Magnus the Martyr, Lower Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
O: Custom House, Lower Thames Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.	Significant
P: River wall, stairs and cranes, Custom House Quay (grade II*)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral (indirect) effect of moderate significance.	Significant
Q: The Monument, Monument Street (grade I)	Long-term, regional, neutral effect (indirect) of moderate significance.	None required.	Long-term, regional, neutral effect (indirect) of moderate significance.	Significant
Group (xxx) - Gracechurch Street and environs (grade II)				
No.2a, Eastcheap	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Nos.39 and 40 (Credit Lyonnais) Lombard Street	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Nos.81 and 82 Gracechurch Street	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Nos. 7 and 9 Gracechurch Street	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
R: Leadenhall Market with subsidiary numbering, Gracechurch Street (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
S: Church of St Peter, Cornhill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
T: Church of All Hallows by the Tower, Byward Street, Great Tower Street, Tower Hill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Group (xxxi) - Byward Street / Tower Hill Terrace (grade II)				
Wine Cellars at Nos 8 to 10 (consec) (Premises of Messrs Asher Storey) Tower Hill	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Nos.8 - 10 Tower Hill	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Railing and dwarf wall to Church of All Hallows by the Tower (those sections flanking Great Tower Street and Byward Street)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
U: Merchant Seamen's Memorial, Trinity Square (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
V: The Mercantile Marine First World War Memorial, Trinity Square Gardens,	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Trinity Square, Tower Hill (grade I)				
W: Portion of Old London Wall, Trinity Square, Tower Hill (grade I)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Group (xxxii) - Royal Mint (grade II)				
Entrance Lodges at The Royal Mint, Tower Hill	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Seaman's Registry, Royal Mint Site	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Cast Iron Lamp Standards in forecourt of The Royal Mint	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
X: Royal Mint, Tower Hill (grade II*)	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Group (xxxiii) - St Katharine's Dock (grade II)				
St Katharine's Dock (Warehouse C) St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Warehouse I, St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Footbridge (between the basin and east dock water	Long-term, regional, neutral effect (indirect) of minor/	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
areas), St Katharine's Way	insignificant significance.			
The Quay walls to basin and east and west docks, St Katharine Docks	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Boundary wall and gate piers to St Katharine Docks, St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	None required.	Long-term, regional, neutral effect (indirect) of minor/ insignificant significance.	Not significant
Group (xxxiv) - St Katharine's Way (grade II)				
British and foreign wharves (warehouse G), St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Alderman stairs and gate piers, St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Timepiece sculpture, St Katharine Docks	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Dockmaster's office, St Katharine's Way	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Group (xxxv) - Tower Bridge Road (grade I)				
Tower Bridge (that part that lies within the Borough of Southwark), Tower Bridge Road	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Tower Bridge (that part in London Borough of Tower	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
Hamlets)				
Tower Bridge approach	Long-term, regional, neutral effect (indirect) of minor significance.	None required.	Long-term, regional, neutral effect (indirect) of minor significance.	Not significant
Group (xxxvi) - Tower of London WHS Listed Buildings (grades I, II* and II)				
The White Tower (grade I)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
The Middle Tower, with causeway to Byward Tower (QV) and remains of causeway to Lion Tower to west (grade I)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Chapel of St Peter-ad-Vincula (grade I)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Inner Curtain Wall, with mural towers, the new armouries, the Queen's House & nos. 1, 2, 4, 5 and 7 Tower Green (grade I)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Outer Curtain Wall with casements and mural towers (grade I)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Revetment wall to south side of moat, from Tower Bridge Approach to Middle Tower (QV) (grade II*)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant

Heritage Asset	Likely Significant Effect	Mitigation Measures	Likely Residual Effect	Significance
The Old Hospital Block and raised terrace and railings (grade II*)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Former Pump House (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Museum of the Royal Fusiliers and attached terrace to front (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Waterloo Block (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Revetment wall to west and north side of moat, from outwork attached to Middle Tower (QV) to Tower Hill postern (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
Revetment wall to north side of moat, from Tower Hill postern to Tower Bridge Approach (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant
K6 telephone kiosk outside gateway of Byward Tower (grade II)	Long term, regional, neutral effect (indirect) of moderate significance.	None required.	Long term, regional, neutral effect (indirect) of moderate significance.	Significant

New City Court – Response to LUC ES Draft Review Report (March 2019) - BH1**Part 2**

Part 2 of this response to item BH1 provides further information on those attributes of each heritage asset and/or its setting that contribute to significance.

Individual listed buildings (grade I or II*)***A: Cathedral Church of St Saviour and St Mary Overie (Southwark Cathedral), Cathedral Street (grade I)***

The effect of the Development on Southwark Cathedral is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.44 – 7.49). This assessment has not been repeated in the main body of December 2018 TVIBHA report which sets out the significant effects (paragraphs 12.75-12.79). The significance of the Cathedral is set out in detail in paragraphs 1.26 - 1.31 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance (SoS)).

As noted in paragraph 7.48 of the December 2018 Heritage Statement, views are not heritage assets. The assessment of the effect of the Development on the setting of the Cathedral, considered as a whole has been informed by the views studies, but it is the effect on the contribution of the setting of the Cathedral, considered in the round, to its heritage significance considered as a whole, that is the relevant consideration.

The December 2018 TVIBHA considered all aspects of heritage significance. With respect to those attributes of setting that contribute to the Cathedral's significance, the SoS states that the Cathedral's setting does not make a major contribution to its significance and much of its setting comprises modern development. One is very much aware of the grouping of large scale modern buildings at London Bridge, not least The Shard, as one moves around the Cathedral on Montague Close. The BHSCAA notes of the Cathedral that *'once dominant over small lanes and buildings packed around it, it is now crowded by modern structures – the office buildings, railway viaduct and London Bridge approach that surround it'*.

The December 2018 TVIBHA noted that there are positive and negative aspects of the effects of the Development on the Cathedral's setting (paragraph 12.75). It concluded that while most aspects of the Cathedral's setting would be unaffected by

the Development, considered in the round, the Development would cause some harm to the heritage significance of this listed building.

This Heritage Asset (HA) is of high sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance would be moderate to major and the effect would be adverse.

In referring to 'consideration in the round', this simply means that while the relationship between the Development and the Cathedral's tower is not a positive one when seen from particular viewpoints which are not significant points in their own right (views 56.2 and 56.3), in other views from Montague Close, there are more positive pictorial qualities in respect of the relationship between the new and old towers (as is the case in view 56.4).

B: Remains of Winchester Palace, Clink Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.50) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.81-12.84). The significance of the HA is set out in paragraphs 1.32-1.34 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

These remains have a very local setting, embedded among modern buildings and 19th century warehouses on the narrow Clink Street/Pickfords Wharf. This setting does not contribute to the significance of these remains. As a consequence of the HA's distance from the Site and its tight urban context, the Development would not affect any element of setting that contributes to its significance, or the ability to appreciate that significance. The principal views of the palace look directly at it from Pickfords Wharf, and from Stoney Street – both looking away from the direction of the Development. Views from the east only take in the remains of 14th century rose window (restored 1972), seen in the context of neighbouring modern development in the foreground and background. These views, of importance in relation to the asset's heritage significance, will be unaffected by the Development.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

C: Guy's Hospital main building including wings and chapel, St Thomas Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.56 - 7.57) and

the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.104-12.107). The significance of the HA is set out in detail in paragraphs 1.55 - 1.56 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The hospital is an inward-looking architectural composition and fairly self-contained. It has group value with several grade II listed structures - Gates, gate piers and street railings to Guy's Hospital; Statue of Thomas Guy in courtyard of Guy's Hospital, including pedestal and railings; and Alcove from old London Bridge in the inner quadrangle of Guy's Hospital – their setting being that of the historic part of the hospital itself. This is the principal reason for the 'GV' specifically noted in the list descriptions for these buildings.

The hospital lies on the busy main road of St Thomas Street. Its setting today is the urban landscape of central London. This has evolved over centuries and includes Guy's Hospital tower and The Shard - both very prominent aspects of its immediate setting today, as is the recently completed 26 storey Shard Place on St Thomas Street, which is situated within the Borough High Street Conservation Area. Also part of its immediate setting is the existing office building on the Site, New City Court, which lies about 12m away to the north-west, rising higher than the roofline of the hospital chapel.

The December 2018 TVIBHA notes (at paragraph 12.103) that the Development will further alter the visual setting of the hospital, in respect both of views from along St Thomas Street, illustrated in TVIA views 50, 51, and 52, and of views from within the grounds of the hospital itself, as typified by TVIA views 47 and 49. The importance of other views of the hospital in relation to the asset's heritage significance is discussed in the Appendix A7 to the December 2018 TVIBHA (paragraph 1.420). These include the axial view through the gardens from the main hospital building to the memorial arch (highlighted by the BHSCAA) and the axial view into the main courtyard from St Thomas Street. – both will be unaffected by The Development will have no effect on these special views. However, as highlighted above, while most aspects of the hospital and its setting will be unaffected by the Development, there would some harm to the visual setting of the hospital.

Notwithstanding, the Development will create tangible, long term benefits to the setting of the hospital, including heritage benefits. The new and enhanced local connections to the hospital provided by the Development will integrate the listed building more closely with the rest of the conservation area. These connections between the new spaces and high quality public realm within the Development and the recently opened public space of Guys' main courtyard will be more appealing than those that exist today, inviting the public to explore the listed building and wider Guy's campus. There will be a greater appreciation of the hospital by more people as a consequence – an unquestionable heritage benefit.

However, in weighing the effects discussed above - considering the effects in the round - the December 2018 TVIBHA concluded that the Development would cause some harm to the setting of this listed building.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is major. The overall significance is major. The effect would be adverse.

D: The George Inn, no.77 Borough High Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.60) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.115-12.118). The significance of the HA is set out in detail in paragraphs 1.61 - 1.63 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The George Inn has a very localised setting, partly defining the George Inn Yard, which retains a sense of containment, albeit mostly defined by post-war offices. Its wider setting includes tall development at London Bridge and the modern world lying a short distance from the listed building is clearly apparent when standing in George Inn Yard today: Guy's Hospital Tower and The Shard feature prominently in views looking in the direction of the Site, looking away from the direction of the listed building. Shard Place is also noticeable from here (as illustrated in TVIA view 46). The effect of the Development on this view, a view of little positive visual quality today, which was chosen to illustrate general townscape effects, does not affect any element of setting that contributes to the significance of the asset, or the ability to appreciate that significance.

While the visual setting of the George Inn will change noticeably, in respect of views from within the yard that it occupies, views of the George Inn itself look across this yard away from the direction of the Site in a south / south-easterly and south-westerly direction. Such views allow one to appreciate the principal frontage of the public house, including its distinctive galleried section of the façade. It is these views that are of particular importance in relation to the asset's heritage significance and they will be unaffected by the Development.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is major. The overall significance is major. The effect would be neutral.

E: St Saviours Southwark War Memorial, Borough High Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.61) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.120-12.123). The significance of the HA is set out in detail in paragraphs 1.64 - 1.66 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The war memorial has a very local setting, dominated by the busy main road today, and the Development, as a consequence of its distance from the site and the nature of the context of the heritage asset would not affect any element of setting that contributes to its significance. The principal views of the Memorial are from the south, looking directly at it, with the grade II listed mid-19th century former Town Hall Chambers in the background, within which there is a clear civic association, and the principal reason for the 'GV' specifically noted in the list description (see SOS at Appendix A7 of the December 2018 TVIBHA)

In referring to 'consideration in the round', this simply means that while there is an adverse effect on view 43 (in section 1 of the December 2018 TVIBHA), the effect on this view chosen to illustrate general townscape effects and not a special view of the war memorial (simply one of many views of the war memorial) does not affect any element of setting that contributes to the significance of the asset, or the ability to appreciate that significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate to major. The effect would be neutral.

F: St Olaf House, no.13 Tooley Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.66) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.145 -12.148). The significance of the HA is set out in paragraphs 1.115 - 1.116 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

St Olaf House is located on the highly trafficked Tooley Street, adjacent to London Bridge Station. These former head offices of Hay's Wharf also form part of the riverside frontage that includes the range of warehouses with offices at Hays Galleria (grade II). They are not noted as having group value in either list description. However, the riverside can be said to be attribute of setting that contributes to the heritage significance of the building. St Olaf House lies in the shadow of post-war development and modern large scale and tall office buildings, namely The Shard and The Place. The latter forms the immediate backdrop to the listed building in views from the north bank towards the Site. TVIA view 24 reveals that, in views from London Bridge, the Development would be seen well the west of St Olaf House, the

two visually separated by The Shard, Guy's Hospital Tower, The Place and no.1 London Bridge. The best views of St Olaf House are at close range from Tooley Street, looking north towards its principal street frontage, looking away from the direction of the Site. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

G: Church of St Mary Magdalene, Bermondsey Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.79) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.186 -12.189). The significance of the HA is set out in detail in paragraphs. 1.173 - 1.175 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This church lies within St Mary Magdalen Churchyard, which contributes to its significance, as noted in the SoS. The churchyard contains a number of individually listed tombs and other small scale structures, including a watch house at the corner of Abbey Street and Bermondsey Street - also attributes of the church's setting that contribute to its significance. The church fronts Bermondsey Street and adjoins an early 19th century house to the north (the former rectory) at no.191 Bermondsey Street (grade II). This relationship between the two is the principal reason for the 'GV' specifically noted in the list descriptions for both buildings.

The principal views of the church's front and its tower are from Bermondsey Street, looking east and south-east, directly at it (away from the direction of the Site). These views allow one to appreciate the relationship between the church and no.191 and are of particular importance to their heritage significance.

As noted in the SoS, the local setting of the church includes modern apartment buildings on Tower Bridge Road (a busy A Road) and Abbey Street, the latter also including a modern hotel that forms part of the Bermondsey Square development. These buildings overlook the churchyard, from which views towards the grouping of tall buildings at London Bridge are possible in the distance, seen rising above the roofline of the church (see TVIA view 32). As noted in the views assessment at para 5.415 of the December 2018 TVIBHA, the Development would be glimpsed '*a section of the Development's south façade would appear between Guy's Hospital tower and the penthouse level of a modern hotel on Bermondsey Street, as indicated by the blue line in the centre of the image. There would be minimal change to the*

view. It would not affect one's ability to perceive and appreciate the church from this location'.

As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance, or the ability to appreciate that significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

H: No.142 and attached railings, Long Lane (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.84) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.203 -12.206). The significance of the HA is set out in detail in paragraphs. 1.193 - 1.194 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This building fronts Long Lane, which today is a busy bus route. Its immediate setting takes in both modern developments on Long Lane and post-war housing, including the tall buildings of the Kipling Estate on Weston Street. The best views of this buildings are at close range, looking south, away from the direction of the Site. This setting does not contribute to the significance of the building. There would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

I: Church of St George the Martyr, Borough High Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.91) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs. 12.226 -12.229). The significance of the HA is set out in detail in paragraphs.1.243 - 1.245 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

As noted in both the SoS and December 2018 TVIBHA, the Church sits on an island site, overlooking the busy road junction of Borough High Street, Marshalsea Road, and Great Dover Street, a setting that does not contribute to its significance. The list description notes under 'SUBSIDIARY FEATURES' 'attached to south-east, brick

wall and pair of square stone dressed gate piers'. The former churchyard, now public gardens, lies to north-east of the church, long separated by a highway, recently pedestrianised. This garden and the grade II listed wall forming its north boundary are attributes of the church' setting that could be said to contribute to its significance (although the wall is not noted as having group value with the church in either list description). The church's local setting includes post-war, late-20th century and modern development. The latter includes tall residential development at Tabard Square. Its wider setting includes The Shard and Guy's Hospital tower.

The principal views of the church are from junction of Borough High Street, Marshalsea Road, and Great Dover Street. Those that look in the direction of the Site today feature The Shard alongside the church tower, the two landmarks competing for the viewer's attention. The Development would not have a negative effect on any element of setting that contributes to the heritage significance of this listed building.

This is a HA of high sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is moderate. The effect would be neutral.

J: Kirkaldy's testing works and testing machine, no.99 Southwark Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs. 7.96 – 7.97) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.244 -12.246). The significance of the HA is set out in detail in paragraphs.1.268- 1.270 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This listed building fronts the main road of Southwark Street and was one of its earliest buildings. It adjoins the Former Fire Station at no.97 (grade II). The list description for the latter states that the two buildings have group value. While this is not mentioned in the list description for no.99, no.97 can be considered to form an attribute of the no.99's local setting that contributes to its significance for this reason.

No.99's local setting includes modern large scale and tall modern commercial and residential development. This includes the Blue Fin Building on Southwark Street and Neo Bankside on Sumner Street. A modern hotel development lies immediately to the rear of the listed building. The best views of this building are at close range, looking away from the direction of the Site. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This is a HA of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

K: Church of St Benet, Paul's Wharf, Upper Thames Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.107) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.278 -12.281). The significance of the HA is set out in detail in paragraphs.1.295- 1.298 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

As stated in the SoS, the setting of the church has changed considerably since it was built and does not contribute to its significance. Bradley and Pevsner note *'The Blackfriars Underpass scheme of the 1970s has left St Benet isolated and battered by noise from the raised flyover... a churchyard on the N was truncated C.1870 for Queen Victoria Street and a little NW vestry of 1692 demolished and replaced by one made in the SW entrance lobby, with a new entrance made in the tower.'*

The best views of this church are at close range, from Queen Victoria Hill and White Lion Hill, both highly trafficked arteries. The late 20th century City of London School, which lies directly to the east and south of the church on Benet's Hill, forms the immediate backdrop to the church in these views. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

L: Vintners Hall, Upper Thames Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.108) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.283 -12.286). The significance of the HA is set out in detail in paragraphs 1.299- 1.302 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This listed building lies on the highly trafficked Upper Thames Street. The building's setting has changed considerably over the centuries, limiting its contribution to its significance. Its immediate context includes the adjoining grade II listed no.69 Upper Thames Street and the grade I listed St James's Church, lying on the north side of Upper Thames Street. These buildings are all seen in the context of late 20th and early 21st century office buildings on this street. The principal views of Vintners Hall are at close range from this highway, looking south-west, away from the direction of the Site. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

M: Fishmongers' Hall, London Bridge (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.110) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.293 -12.296). The significance of the HA is set out in detail in paragraphs 1.305-1.308 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This HA lies on the busy traffic artery of Upper Thames Street and overlooks London Bridge. Commenting on its local setting, Bradley and Pevsner note, '*what makes Fishmonger's Hall unique amongst City livery halls is its conspicuous position, overlooking the Thames by London Bridge*'. As noted in the SoS, the immediate setting of this building makes some contribution to its significance – it was designed to take account of the new London Bridge Approach. Its local setting includes modern, large scale office development on Upper Thames Street. The Shard is a noticeable feature in views of the building looking south, in the direction of the Site. The Development would be read as part of the expanding group of large scale and tall buildings around London Bridge Station (see TVIA view 24). The Development would not harm any element of setting that contributes to the heritage significance of the listed building.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is moderate. The effect would be neutral.

N: Church of St Magnus the Martyr, Lower Thames Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.113) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.304 -12.307). The significance of the HA is set out in detail in paragraphs.1.314 - 1.316 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The church lies on the busy Lower Thames Street, close to London Bridge. The setting of the church has changed considerably since it was built and does not contribute to its significance. Its west front lies just a few feet from the sheer rear wall of the 20th century Adelaide House (see above). Its immediate context includes post-war and modern office buildings lying on Lower Thames Street. The best views of the church are at close range, from Lower Thames Street. TVIA view 23 reveals that the upper levels of the Development would be visible behind Adelaide House and St Magnus the Martyr when viewed from the junction of Gracechurch Street, at the corner with Lombard Street. As noted in the views assessment, the Development *'would be understood to lie well to the south of these buildings (the distance being over half a kilometre). The effects of distance and of the form and materials of the Development would mitigate any harm that might otherwise be caused by its appearance with respect to the church – in particular, its glazed elevation would contrast with the solid character of the Portland stone tower with lead-covered dome. The Development would not affect one's ability to perceive and appreciate either the church or Adelaide House from this location'* (paragraph 5.319).

As noted in the December 2018 TVIBHA, *'The Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting'* (paragraph 12.103). The Development would not harm any element of setting that contributes to the heritage significance of this church, or the ability to appreciate that significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

O: Custom House, Lower Thames Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs. 7.114 – 7.115) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.310 -12.313). The significance of the HA is set out in detail in paragraphs.1.317 - 1.320 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this listed building is discussed in the December 2018 TVIBHA and Heritage Statement. It lies on the trafficked Lower Thames Street. The riverside setting of Custom's House contributes to its significance. Its immediate setting includes the River wall, stairs and cranes, Custom House Quay (grade II*). As noted in the SoS (paragraph 1.320), the association between Custom House and these listed features is the principal reason for the group value identified in list description for the latter, which states *'the ensemble as a whole constituting an outstanding survival of London's late-Georgian riverscape'*.

The local setting of Custom House includes large scale modern office buildings on Lower Thames Street. Its wider setting includes tall office buildings in the City, seen in the backdrop of views of the building from the river and the south bank. Notwithstanding, riverside views of the building are of importance to the heritage significance of the building. These views look north, away from the direction of the Site.

Where visible in the context of Custom House, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its wider setting, which includes tall buildings at London Bridge. The Development would not harm any element of setting that contributes to the heritage significance of this listed building.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

P: River wall, stairs and cranes, Custom House Quay (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.116) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs. 12.315 -12.318). The significance of the HA is set out in detail in paragraphs.1.321 - 1.323 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of these listed features is discussed in the December 2018 TVIBHA and Heritage Statement. It is stated that the immediate setting of these listed features includes post-war development on Water Lane. Their riverside setting contributes to their significance. As noted in the SoS, the association between Custom House and these listed features is the principal reason for the group value identified in list description for the latter, which states *'the ensemble as a whole constituting an outstanding survival of London's late-Georgian riverscape'*.

The wider setting of this HA includes tall office buildings in the City, seen in the backdrop of views from the river and the south bank. Riverside views of the HA, seen in conjunction with Custom House, are of importance to the heritage significance of this HA. These views look north, away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its wider setting, which includes tall buildings at London Bridge. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

Q: The Monument, Monument Street (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.117) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.321 -12.324). The significance of the HA is set out in detail in paragraphs.1.324 - 1.326 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of these listed features is discussed in the December 2018 TVIBHA and Heritage Statement. It is stated that The Monument has a modern setting, surrounded on all sides by late 20th / early 21st century office buildings, which do not contribute to its significance. They form the backdrop of views towards The Monument in views south, along Gracechurch Street, in the direction of the Site. The view from the junction of Gracechurch Street and Lombard Street is identified in the City of London Protected Views Supplementary Planning Guidance SPD (2012) as it offers a good view of The Monument. It has some importance in relation to the heritage significance of this HA. The Development would be visible in the distance in this view, to the right of The Monument (see TVIA view 23); it would be consistent with the character of the HA's existing setting. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not harm any element of setting that contributes to its significance, or the ability to appreciate that significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

R: Leadenhall Market with subsidiary numbering, Gracechurch Street (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.119) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.331 -12.334). The significance of the HA is set out in detail in paragraphs 1.332 - 1.334 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

As noted in the December 2018 TVIBHA and the SoS, the setting of the market has changed considerably since it was constructed and makes a limited contribution to its significance. It lies in the shadow of tall commercial buildings, such as no.20 Fenchurch Street and The Leadenhall Building. Where visible in the context of the market buildings, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is moderate. The effect would be neutral.

S: Church of St Peter, Cornhill (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.120) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.336 -12.339). The significance of the HA is set out in detail in paragraphs 1.335 - 1.338 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

This HA is experienced from the busy City junction of Gracechurch Street, Cornhill, Bishopsgate and Leadenhall Street. The setting of the church has changed considerably since it was built. It is surrounded by 20th century development. The setting of the churchyard, not visible from the street, contributes to its significance, as noted in the SoS. Where visible in the context of the church, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

T: Church of All Hallows by the Tower, Byward Street, Great Tower Street, Tower Hill (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.121) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.341 -12.344). The significance of the HA is set out in detail in paragraphs.1.339 - 1.341 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of the church has changed considerably since it was built. The church is dominated by the busy main road of Tower Hill today, which runs immediately to the north of this HA, as noted in the SoS and December 2018 TVIBHA. It lies in the shadow of Foster + Partners' Tower Place, a large scale office development lying directly to its south. The small churchyard contributes to its significance, as do the church's railings and dwarf wall (those sections flanking Great Tower Street and Byward Street) - listed separately at grade II. Where seen in the context of the church, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

U: Merchant Seamen's Memorial, Trinity Square (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.123) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.351 -12.354). The significance of the HA is set out in detail in paragraphs.1.346 - 1.348 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. There is a clear civic association between this HA and the separately listed Mercantile Marine First World War Memorial, Trinity Square Gardens, Trinity Square, Tower Hill (grade I) - the principal reason for the 'GV' specifically noted in the list descriptions for both HAs. As the SoS notes, the Merchant Seamen's Memorial was built as a complement to the adjoining First World War memorial by Lutyens. The latter is an important attribute of the setting of the former, contributing to its significance. The HA's local setting takes in modern development, including the Citizen M hotel on Trinity Square. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting.

As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

V: The Mercantile Marine First World War Memorial, Trinity Square Gardens, Trinity Square, Tower Hill (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.124) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.2.356 -12.359). The significance of the HA is set out in detail in paragraphs.1.349 - 1.351 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. There is a clear civic association between this HA and the separately listed Merchant Seamen's Memorial, Trinity Square (grade II*) - the principal reason for the 'GV' specifically noted in the list descriptions for both HAs. The list description also notes the group value with the listed buildings and scheduled area of the Tower of London. All of the above are important attributes of the setting of this HA, contributing to its significance. The memorial overlooks the highly trafficked Tower Hill, which separates it from the Tower of London. The local setting also takes in modern development, including the Citizen M hotel on Trinity Square. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting.

As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

W: Portion of Old London Wall, Trinity Square, Tower Hill (grade I)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.115) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.

12.361 -12.364). The significance of the HA is set out in detail in paragraphs.1.352 - 1.353 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This acknowledges the list description's note that '*The Roman Wall, the Mercantile Marine War Memorial with the Port of London Authority Building and Lamps, Trinity House, Railings & Forecourt and Nos 41 and 42 form a group*'.

The local setting of this listed structure includes the highly trafficked Tower Hill and the Citizen M hotel on Trinity Square. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting.

As a consequence of the HA's distance from the Site and the nature of its context, the Development would not affect any element of setting that contributes to its significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

X: Royal Mint, Tower Hill (grade II*)

The effect of the Development on this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.127) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs. 12.361 -12.364). The significance of the HA is set out in detail in paragraphs.1.352 - 1.353 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The SoS refers to the list description's note that the building has group value with the grade II listed Seaman's Registry and entrance Lodges that form part of the Royal Mint complex and which contribute to its significance. The Royal Mint site is contained by a tall boundary wall that shields it from busy highway of Tower Hill. The local setting of this HA includes the highly trafficked junction of Mansell Street/Tower Hill/East Smithfield, and late 20th century office buildings.

Where visible in the context of the Royal Mint, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The very limited effect on its setting is illustrated in TVIA view 29 from Tower Hill, outside the Royal Mint. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Listed buildings within groups

Group (i) – The Site

Nos. 4-8 and 12-16 St Thomas Street and attached railings.

The assessment of direct and indirect effects of the Development on listed buildings on the Site are set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.21 – 7.33) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs. 12.71 – 12.74). All aspects of heritage significance are considered. The significance of the HA is set out in detail in paragraphs.1.13 – 1.24 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The principal effects (direct) on this HA are listed at paragraph 12.59 of the December 2018 TVIBHA as follows:

- *‘Removal of the intrusive 1980s bolt-on volumes to the rear and east end of the terrace;*
- *Reinstatement of front doors and fanlights to the north (front) elevation;*
- *Reintroduction of a north-south passage through the terrace;*
- *Refurbishment of the upper three floors of the terrace to provide new workspace;*
- *Provision of retail space at ground and lower ground floor levels of the terrace, with new shopfronts introduced to its south elevation;*
- *Replacement of the 1980s east flank wall to no.16, to include new openings; and*
- *Refurbishment of basement levels’.*

The December 2018 TVIBHA references the Listed Building Heritage Statement by KMH, which considers the effect of the proposed works to these listed buildings on their special interest (see ES Part 4: Appendices). The KMH report notes a number of heritage benefits that would result from the Development, which would better reveal the heritage significance of the HA. These are summarised at paragraph 12.61 of the December 2018 TVIBHA as follows:

- *‘The reversal of inappropriate change to the listed terrace and the reinstatement of plan form, decorative detail and appropriate materials;*
- *The recreation of the passageway from St Thomas Street; and*
- *The provision of the listed terrace with suitable uses that will help sustain its significance over the long term’.*

The December 2018 TVIBHA quotes from the KMH report, which considers that these direct effects do not constitute harm to the HA. The KMH report quantifies any harm that might be asserted within the context of national planning policy.

The December 2018 TVIBHA goes on to consider the indirect effects of the Development on this HA (paragraphs. 12.65 – 12.70). It notes at paragraph 12.66 that *'The removal of the 1980s office development from the Site would return nos.4-8 and 12-16 St Thomas Street to their original state as a stand-alone terrace. This will better reveal their heritage significance by allowing one to appreciate these buildings from the new public realm proposed on the Site to their south and east'*.

Some harm is identified. In its consideration of views of the terrace from St Thomas Street, the December 2018 TVIBHA acknowledges at paragraph 12.68 that *'the degree to which the Development dominates the existing street scene from some viewpoints would be considerable, disrupting the coherent quality of the view of the terrace from the corner with London Bridge Street, as TVIA view 50 illustrates'*. The effect on other views from St Thomas Street of equal importance to the heritage significance of the HA is also considered. At paragraph 12.69, it is noted that *'as one moves closer still, one's awareness of the tower above will diminish and one would see the terrace in a new light as a result of the new public space introduced between the building and Keats House, where the 1980s entrance block to no.20 once stood. This is illustrated in TVIA view 51 (St.Thomas Street, opposite Guy's Hospital) and TVIA view 52 (St Thomas Street, outside St. Thomas' Church)'*.

This harm is considered in the context of the heritage benefits that would result from the Development and the case for the wider positive effects is clearly set out in paragraph 12.70 of the December 2018 TVIBHA. The subsequent assessment of 'the likely significance of effects' on setting, based on this, considers the beneficial, neutral and adverse effects of the Development (in line with the TVIBHA ES methodology). It concludes that *'The magnitude of change to the setting (indirect) is major. The overall significance is moderate to major. While the Development would have an adverse effect on TVIA view 50, the overall impact on these listed buildings would be positive. The effect would be beneficial'*.

Group (ii) – Montague Close / Clink Street (grade II)

This group comprises the following listed buildings:

- Winchester Wharf, Clink Street;
- Archway beneath southern end of London Bridge, crossing Tooley Street;
- Hibernia Chambers, no. 2 Borough High Street;

- Bridge House, no. 4 Borough High Street; and
- Nos. 6, 8 and 10 Borough High Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.51) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.86 -12.89). The significance of each of these HAs is set out in paragraphs 1.35 - 1.43 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Winchester Wharf, Clink Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The Thameside location of this building is an important attribute of its setting which contributes to its heritage significance. The setting of this HA has changed considerably over the centuries, today featuring large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower. Where seen in conjunction with this HA, the Development would be consistent with this existing context. As stated in the December 2018 TVIBHA, there would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Archway beneath southern end of London Bridge, crossing Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its immediate setting includes the grade II listed Hibernia Chambers to the north, and no.4 Borough High Street to the south – both are built in the same period as Rennie's London Bridge and are attributes of its setting that could be said to contribute to this HA's heritage significance. This archway is best appreciated at close range. Its local setting has changed considerably over the centuries, today both featuring post-war and modern development on Montague Close and Tooley Street, some of a large scale. Where seen in conjunction with this HA, the Development would be consistent with this existing context. As stated in the December 2018 TVIBHA, there would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Hibernia Chambers, no. 2 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting includes the archway beneath the southern end of London Bridge, crossing Tooley Street, and nos. 4, 6, 8, and 10 Borough High Street, all grade II listed. These all date to a similar period and are attributes of its local setting that can be said to contribute to this HA's heritage significance. Although these are not mentioned by name in the list description for no.2, it is assumed that this is the reason in part for the 'GV' specifically noted in its list description.

The setting of this HA has changed considerably over the centuries, today featuring large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower. Where seen in conjunction with this HA, the Development would be consistent with this existing context. As stated in the December 2018 TVIBHA, there would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Bridge House, no. 4 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting includes the archway beneath the southern end of London Bridge, crossing Tooley Street, and nos. 2, 6, 8, and 10 Borough High Street, all grade II listed. These all date to a similar period and are attributes of its local setting that can be said to contribute to this HA's heritage significance. Although these are not mentioned by name in the list description for no.4, it is assumed that this is the reason in part for the 'GV' specifically noted in its list description.

The setting of this HA has changed considerably over the centuries, today featuring large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower. Where seen in conjunction with this HA, the Development would be consistent with this existing context. As stated in the December 2018 TVIBHA, there would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos. 6, 8 and 10 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting includes the archway beneath the southern end of London Bridge, crossing Tooley Street, and nos.2 and 4, Borough High Street, all grade II listed. These all date to a similar period and are attributes of its local setting that can be said to contribute to this HA's heritage significance. Although these are not mentioned by name in the list description for this HA, it is assumed that this is the reason in part for the 'GV' specifically noted in its list description.

The setting of this HA has changed considerably over the centuries, today featuring large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower. Where seen in conjunction with this HA, the Development would be consistent with this existing context. As stated in the December 2018 TVIBHA, there would be no harm to any element of setting that contributes to the heritage significance of this listed building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (iii) - St Thomas Street (grade II*)

This group comprises the following listed buildings:

- No. 9A St Thomas Street;
- No. 9 St Thomas Street and attached railings; and
- Mary Sheridan House (part) and area railings, nos. 11 and 13 St Thomas Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.52 – 7.53) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.92 -12.95). The significance of each of these HAs is set out in detail in paragraphs.1.44 - 1.49 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

No. 9A St Thomas Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states that this church was built '*as part of rebuilding scheme for old St Thomas's Hospital between 1680 and 1732, of which only it, and No.9 adjacent (qv) remain*'. It notes that the north elevation is treated in same way as that of adjoining no.9, which was rebuilt for hospital at same time. As noted in the SoS,

together, they form one of the more important survivals of Queen Anne architecture in London and *'this building forms a group with nos 9-15 (qqv)'*. These buildings are important elements of no.9a's setting, contributing to its heritage significance.

As noted in the December 2018 TVIBHA, the visual setting of this listed building would be noticeably altered as a result of the Development, as illustrated in TVIA views south-east and north-west along St Thomas Street (views 50, 51, and 54). This would not harm any element of setting that contributes to its heritage significance. The best views of this building are at close range, from the north side of St Thomas Street looking away from the direction of the Site.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place.

This HA is of high sensitivity. The magnitude of change to setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 9 St Thomas Street and attached railings

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states *'Forms, together with rear to No.9A, one of the more important survivals of Queen Anne architecture in London. No.9 forms a group with No.9A (former St Thomas's Church and later Chapter House) and Nos 11-15 (odd) (qv)'*. These buildings are important elements of no.9's setting, contributing to its heritage significance.

As noted in the December 2018 TVIBHA, the visual setting of this listed building would be noticeably altered as a result of the Development, as illustrated in TVIA views south-east and north-west along St Thomas Street (views 50, 51, and 54). This would not harm any element of setting that contributes to its heritage significance. The best views of this building are at close range, from the north side of St Thomas Street looking away from the direction of the Site.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and at London Bridge, including

The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place.

This HA is of high sensitivity. The magnitude of change to setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Mary Sheridan House (part) and area railings, nos. 11 and 13 St Thomas Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with nos. 9, 9a, and 15. These buildings are important elements of this HA's setting, contributing to its heritage significance.

As noted in the December 2018 TVIBHA, the visual setting of this listed building would be noticeably altered as a result of the Development, as illustrated in TVIA views south-east and north-west along St Thomas Street (views 50, 51, and 54). This would not harm any element of setting that contributes to its heritage significance. The best views of this buildings is at close range, from the north side of St Thomas Street looking away from the direction of the Site.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place.

This HA is of high sensitivity. The magnitude of change to setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Group (iv) – St Thomas Street (grade II)

This group comprises the following listed buildings:

- Bunch of Grapes Public House, no. 2 St Thomas Street;
- Mary Sheridan House (part) and attached area railings, no.15 St Thomas Street; and
- K2 Telephone kiosk outside nos.17 and 19 St Thomas Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.54 –

7.55) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.98 -12.101). The significance of these HAs is set out in detail in paragraphs.1.50 - 1.54 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Bunch of Grapes Public House, no. 2 St Thomas Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with nos. 4-8 (even), elements of this HA's setting that contribute to its heritage significance.

As noted in the December 2018 TVIBHA, while the visual setting of this listed building would change considerably, in respect views south-east and northwest along St Thomas Street, as typified by TVIA views 50, 51, 53 and 54, this would not harm any element of setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate. The effect would be neutral.

Mary Sheridan House (part) and attached area railings, no.15 St Thomas Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with nos.9, 9a, 11, and 13, elements of this HA's setting that contribute to its heritage significance.

As noted in the December 2018 TVIBHA, while the visual setting of this listed building would change considerably, in respect views south-east and northwest along St Thomas Street, as typified by TVIA views 50, 51, 53 and 54, this would not harm any element of setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and London Bridge, including

The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate. The effect would be neutral.

K2 Telephone kiosk outside nos.17 and 19 St Thomas Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is assumed that the 'GV' specifically noted in its list description refers to its group value with nos.9, 9a, 11, and 13.

As noted in the December 2018 TVIBHA, the Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed feature, which lies on the busy main road of St Thomas Street. That setting includes large scale and tall post-war and modern buildings on St Thomas Street and London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate. The effect would be neutral.

Group (v) – Guy's Hospital (grade II)

This group comprises the following listed buildings:

- Gates, gate piers and street railings to Guy's Hospital;
- Statue of Thomas Guy in courtyard of Guy's Hospital, including pedestal and railings; and
- Alcove from old London Bridge in the inner quadrangle of Guy's Hospital.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.58 – 7.59) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.110 - 12.113). The significance of these HAs is set out in detail in paragraphs 1.57 - 1.60 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of these HAs is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in their list descriptions refers to their group

value with the grade II* listed hospital, the most important feature of their setting, contributing to the significance of these HAs.

As noted in the December 2018 TVIBHA, although these listed features lie in close proximity to several tall buildings or large scale commercial development on St Thomas Street (notably The Shard and Guy's Hospital tower and Shard Place), all three features have a localised setting – that of the historic part of the hospital itself, which is an inward-looking architectural composition and fairly self-contained.

While the Development will alter the visual setting of these listed features, in respect both of views from Guy's Hospital courtyard, as typified by TVIA view 49, and of views from St Thomas Street, as illustrated in TVIA views 50 and 52, this would not result in harm to their setting.

These HAs are of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (vi) – Borough High Street, north end (grade II)

This group comprises the following listed buildings:

- Post Office, no. 19A Borough High Street;
- No. 28 Borough High Street;
- No. 1B Southwark Street;
- No. 30 Borough High Street;
- Nos. 32 and 34 Borough High Street;
- No. 3 Southwark Street;
- No. 38 Borough High Street;
- No. 40 Borough High Street;
- Kings Head Public House, Kings Head Yard, including no. 45 Borough High Street;
- Nos. 50 and 52 Borough High Street;
- Calverts Buildings (attached to rear of no. 50 Borough High Street);
- No. 52A Borough High Street;
- Nos. 53 and 53A Borough High Street;
- No. 54 Borough High Street;
- No. 55 Borough High Street;
- No. 58 Borough High Street;
- No. 67 Borough High Street;
- Nos. 66, 68 and 70 Borough High Street;
- No. 91 Borough High Street;

- Nos. 93 and 95 Borough High Street;
- No. 101 Borough High Street;
- No. 103 Borough High Street;
- The Grapes Public House, no. 121 Borough High Street; and
- Nos. 123, 125 and 127 Borough High Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.62) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.125 -12.128). The significance of these HAs is set out in paragraphs 1.67 - 1.68 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Post Office, no. 19A Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes that the building was *'built on part of the site of Court A of old St Thomas's Hospital as the southern of 2 large ward blocks (the other of which has gone), directly north of the former Church of St Thomas'*. The 'GV' specifically noted in its list description refers to this, an aspect of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 28 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale, period and style. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 1B Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with no.30 Borough High Street, with which it was historically linked and is still physically linked internally, and other adjoining buildings. The 'GV' specifically noted in its list description refers to this, an aspect of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 30 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with no.1B Southwark Street, with which it was historically linked and is still physically linked internally, and other adjoining buildings. The 'GV' specifically noted in its list description refers to this, an aspect of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and

tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 32 and 34 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with adjoining buildings on this island block, as noted above, as well as with the grade II* listed St Saviour's War Memorial. The 'GV' specifically noted in its list description refers to this, an aspect of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 3 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting includes Southwark Street and Borough High Street, which include buildings of a similar scale, period and style. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Southwark Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 38 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting includes Southwark Street and Borough High Street, which feature buildings of a similar scale, period and style to no.38. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 40 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its lies on Borough High Street, which includes buildings of a similar scale, period and style to no.40. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Kings Head Public House, Kings Head Yard, including no. 45 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on King's Head Yard, the most notable aspect of its setting, contributing to the heritage significance of this HA. The Site's late 20th century New City Court office building lies directly opposite, its blank pedimented frontage contributing nothing to the life of this route, which has the character of a service route.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes Guy's Hospital Tower, a prominent feature in views towards this public house on entering the yard from Borough High Street. This is clearly illustrated in TVIA view 45.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 50 and 52 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with several buildings lying on the west side of Borough High Street, the narrow frontages recalling the original medieval burghage plots, and the evolving commercial use of the area. These buildings include no. 54, no.58, a former inn to the rear (Calverts Buildings), and no. 52A, a late-19th century former hop warehouse. These buildings are important elements of this HA's setting, which contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Calverts Buildings (attached to rear of no. 50 Borough High Street)

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with several buildings lying on the west side of Borough High Street, the narrow frontages recalling the original medieval burgage plots, and the evolving commercial use of the area. These buildings include no. 50 and 52, no. 54, no.58, and no. 52A, a late-19th century former hop warehouse. These buildings are important elements of this HA's setting, which contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Southwark Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 52A Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with several buildings lying on the west side of Borough High Street, the narrow frontages recalling the original medieval burgage plots, and the evolving commercial use of the area. These buildings include no. 50 and 52, Calverts Buildings, no. 54, and no.58. These buildings are important elements of this HA's setting, which contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 54 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The group value specifically noted in its list description refers to its relationship with several buildings lying on the west side of Borough High Street, the narrow frontages recalling the original medieval burgage plots, and the evolving commercial use of the area. These buildings include no. 50 and 52, Calverts Buildings, 52a, and no.58. These buildings are important elements of this HA's setting, which contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 58 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. No.58 has group value with several buildings lying on the west side of Borough High Street, the narrow frontages recalling the original medieval burgage plots, and the evolving commercial use of the area. These buildings include no. 50 and 52, Calverts Buildings, 52a, and no.54. These buildings are important elements of this HA's setting, which contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 53 and 53A Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with no.55, reflected in the 'GV' specifically noted in its list description. No.55 is, therefore, an attribute of its setting that can be said to contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 55 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with no.53 and 53a, reflected in the 'GV' specifically noted in its list description. No. 53/53a is, therefore, an attribute of its setting that can be said to contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 67 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale and period and commercial use. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 66, 68 and 70 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale and period and commercial use. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 91 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale and period, style and commercial use. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 93 and 95 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale, period, style and commercial use. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 101 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is likely that the 'GV' specifically noted in its list description refers to its group value with the former house at no.103 next door (which also has 'GV' noted in its list description). No. 103 can be considered as an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of

the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

No. 103 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is likely that the 'GV' specifically noted in its list description refers to its group value with the former house at no.101 next door (which also has 'GV' noted in its list description). No. 101 can be considered as an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

The Grapes Public House, no. 121 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is likely that the 'GV' specifically noted in its list description refers to its group value with the HA at nos. 123, 125, and 127 next door (which also has 'GV' noted in its list description). The latter can be considered as an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Nos. 123, 125 and 127 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is likely that the 'GV' specifically noted in its list description refers to its group value with the HA at no. 121 next door (which also has 'GV' noted in its list description). The latter can be considered as an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which sits on the highly trafficked Borough High Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Shard Place, and Guy's Hospital tower, and the tall commercial buildings of the City of London. This is illustrated in TVIA views 40, 43, and 54 from Borough High Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Group (vii) – Southwark Street, east end and streets to the north (grade II)

This group comprises the following listed buildings:

- The Hop Exchange, no.24 Southwark Street;
- No. 49 Southwark Street;
- Nos. 51 and 53 Southwark Street;
- Nos. 55-59 Thrale Street;
- Cromwell Buildings nos. 5-24 and attached railings, Redcross Way;
- Nos.21 and 23 Park Street and attached railings; and
- Nos.20-26 Park Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.63) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.130 -12.132). The significance of these HAs is set out in

paragraphs.1.94 - 1.95 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The Hop Exchange, no.24 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting on Southwark Street, includes buildings listed (e.g. no.3) and unlisted former warehouses and commercial premises of the same period. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

No. 49 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with nos. 51 & 53 (grade II), reflected in the 'GV' specifically noted in its list description. Nos. 51 & 53, therefore, are an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos. 51 and 53 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with no.49 (grade II), reflected in the 'GV' specifically noted in its list description. No. 49, therefore, is an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos. 55-59 Thrale Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Cromwell Buildings nos. 5-24 and attached railings, Redcross Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos.21 and 23 Park Street and attached railings

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos.20-26 Park Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower, and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA views 41 and 42 from Southwark Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (viii) – Borough Market (grade II)

This group comprises the following listed buildings:

- Re-sited Floral Hall Portico at Borough Market;
- The Globe Public House, Bedale Street;
- No.5 Stoney Street;

- The Wheatsheaf Public House, no.6 Stoney Street;
- Nos.1-11 Park Street; and
- No.13 Park Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.64) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.135 -12.138). The significance of these HAs is set out in paragraphs.1.103 - 1.104 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Re-sited Floral Hall Portico at Borough Market

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Moved to its present site C.2003, this HA's setting does not contribute to the heritage significance of this HA.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

The Globe Public House, Bedale Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

No.5 Stoney Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

The Wheatsheaf Public House, no.6 Stoney Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its heritage significance to a limited extent.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos.1-11 Park Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with no. 13 (grade II), reflected in the 'GV' specifically noted in its list description. No. 13, therefore, is an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The

Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

No.13 Park Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with nos. 1-11 (grade II), reflected in the 'GV' specifically noted in its list description. The HA at nos. 1-11, therefore, is an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes modern market development and railway infrastructure, and large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 53 from Bedale Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (ix) – London Bridge Station (grade II)

This group comprises the following listed buildings:

- Railway viaduct arches, Crucifix Lane; and
- Bridge over north end, London Bridge Station.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.65) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.140 -12.143). The significance of these HAs is set out in paragraphs.1.111 - 1.112 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Railway viaduct arches, Crucifix Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA can be said to have group value with the bridge over the north end, London

Bridge Station (grade II), which is an attribute of its setting that contributes to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of these listed buildings. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Bridge over north end, London Bridge Station

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA can be said to have group value with the Railway viaduct arches, Crucifix Lane (grade II), which are an attribute of its setting that contribute to its heritage significance.

The Development will be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of these listed buildings. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (x) – Tooley Street, north-west end (grade II)

This group comprises the following listed buildings:

- Denmark House, no. 15 Tooley Street;
- London Bridge Hospital, the riverside block behind Tooley Street;
- London Bridge Hospital (part), nos. 17-25 Tooley Street;
- Nos. 29, 31 and 33 Tooley Street;
- Nos. 47 and 49 Tooley Street;
- Hays Galleria, Counter Street; and
- The Counting House, nos. 51-67 Tooley Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.67 -

7.68) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.151 -12.154). The significance of these HAs is set out in paragraphs 1.117 - 1.118 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Denmark House, no. 15 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description is likely to be a reference to its group value with the adjoining nos. 17-25 Tooley Street (grade II) of the same period. The latter, therefore, can be said to be an attribute of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building. This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

London Bridge Hospital (part), nos. 17-25 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description is likely to be a reference to its group value with the adjoining no. 15 Tooley Street (grade II) and London Bridge Hospital, the riverside block behind Tooley Street (grade II), which is connected to this HA by a bridge link. Both of these buildings can be said to be attributes of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building. This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

London Bridge Hospital, the riverside block behind Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description is likely to be a reference to its group value with nos. 17-25 Tooley Street (grade II), which is connected to this HA by a bridge link. The latter can be said to be attribute of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building. This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Nos. 29, 31 and 33 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description is likely to be a reference to its group value with other nearby former commercial buildings on the north side of Tooley Street. These can be said to form an attribute of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building. This HA is of medium

sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Nos. 47 and 49 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with the adjacent Hays Galleria, an attribute of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Hays Galleria, Counter Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with the adjacent nos. 51-67 Tooley Street, which has group value with nos 47 & 49 Tooley Street. These are attributes of its setting that contribute to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

The Counting House, nos. 51-67 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description refers to its group value with the adjacent Hays Galleria and nos. 47 and 49 Tooley Street. These are attributes of its setting that contribute to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building, which lies on the highly trafficked Tooley Street. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, Guy's Hospital tower and the recently completed Shard Place on St Thomas Street. This is illustrated in TVIA view 25 from Old Billingsgate Walk, on the north bank. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Group (xi) – Tooley Street, central (grade II)

This group comprises the following listed buildings:

- Shipwrights Arms Public House, no. 88 Tooley Street;
- Nos. 115-121 Tooley Street; and
- Fire Station, nos.139 and 141 Tooley Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.69 - 7.70) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.157 -12.160). The significance of these HAs is set out in paragraphs.1.126 - 1.127 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Shipwrights Arms Public House, no. 88 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfare of Tooley Street, an aspect of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting

includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, and Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Nos. 115-121 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfare of Tooley Street, an aspect of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, and Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Fire Station, nos.139 and 141 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfare of Tooley Street, an aspect of its setting that contributes to its heritage significance.

The Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this listed building. That setting includes large scale and tall post-war and modern buildings at London Bridge, including The Shard, The Place, and Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Group (xii) – Fair Street/Tooley Street, south-east end (grade II)

This group comprises the following listed buildings:

- South London College, Tooley Street;
- Statue on island site in front of South London College and railings, Tooley Street;
- No. 201 (former London and County Bank), Tooley Street;
- Watch House in St John's Churchyard (Recreation Ground), Fair Street;
- Gate piers and railings to Churchyard of former Church of St John;
- No.10 and attached railings to front door steps, Fair Street; and
- War Memorial, Fair Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.71 - 7.72) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.163 -12.166). The significance of these HAs is set out in paragraphs.1.131 - 1.132 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

South London College, Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfare of Tooley Street, an aspect of its setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Statue on island site in front of South London College and railings, Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfare of Tooley Street, an aspect of its setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

No. 201 (former London and County Bank), Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy thoroughfares of Tooley Street and Tower Bridge Road, aspects of its setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Watch House in St John's Churchyard (Recreation Ground), Fair Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The churchyard, gate piers and railings to the Churchyard (separately listed at grade II), Vicarage (also listed at grade II), and the remains of St John's Church are the principal aspects of its setting that contribute to its heritage significance. The list description for the gate piers and railings to the Churchyard notes the group value between them (see below).

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The

Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Gate piers and railings to Churchyard of former Church of St John

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its relationship to the listed Watch House, and also to the listed Vicarage and the remains of St John's Church 'gives them considerable group value' according to this HA's list description. This is reflected in the 'GV' specifically noted in the list description, which also notes 'With the Watch House, they are of historical interest as reflections of the enhanced security arrangements in late-Georgian London churchyards'. The above are attributes of the setting of this HA that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

No. 10 and attached railings to front door steps, Fair Street

The setting of this HA (the former vicarage) is discussed in both the SoS and the December 2018 TVIBHA. The churchyard, nearby gate piers and railings to churchyard (listed grade II), Watch House (grade II) and the remains of St John's Church are important aspects of the setting of this HA, contributing to its heritage significance. As noted above, the list description for the gate piers and railings to Churchyard of the former Church of St John notes the 'considerable group value' between these HAs.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's

Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

War Memorial, Fair Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The churchyard, nearby gate piers and railings to churchyard (listed grade II), Watch House (grade II), former Vicarage (grade II) and the remains of St John's Church are important aspects of the setting of this HA, contributing to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes both large scale or tall late 20th century and modern development, notably the One Tower Bridge Development, The Shard and Guy's Hospital Tower. This is illustrated in TVIA view 31 from Tower Bridge Road. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Group (xiii) – Tower Bridge Road and riverside (grade II)

This group comprises the following listed buildings:

- Tower Bridge Bridgemaister's House (Bridge House Estate) and gate to side, Tower Bridge Road (West side)
- Accumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road
- Horseleydown old stairs and hard, Shad Thames
- Butler's Wharf Building (No.36 Shad Thames) and Butler's Wharf West (Nos.38-42 (even) Shad Thames)

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.73 - 7.74) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.169 -12.172). The significance of these HAs is set out in

paragraphs.1.140 - 1.141 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Tower Bridge Bridgemaster's House (Bridge House Estate) and gate to side, Tower Bridge Road (West side)

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with the separately listed Tower Bridge (grade I), and the accumulator tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road (grade II). This is reflected in the 'GV' specifically noted in the list description. These HAs are the principal attributes of its setting to contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes the highly trafficked Tower Bridge Road, large scale or tall late 20th century and modern development, notably the One Tower Bridge Development. TVIA view 13, from the Thames path on the north bank, at St Katharine's Dock, illustrates that the Development would appear as a minor addition to the wider context of these listed buildings. The Development would not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Acumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has group value with the separately listed Tower Bridge (grade I), and Tower Bridge Bridgemaster's House (grade II). This is reflected in the 'GV' specifically noted in the list description. These HAs are the principal attributes of its setting to contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes the highly trafficked Tower Bridge Road, large scale or tall late 20th century and modern development, notably the One Tower Bridge Development. TVIA view 13, from the Thames path on the north bank, at St Katharine's Dock, illustrates that the Development would appear as a minor addition

to the wider context of these listed buildings. The Development would not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Horseleydown old stairs and hard, Shad Thames

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The riverside location of this HA is the main aspect of its setting to contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes large scale or tall late 20th century and modern development, notably the One Tower Bridge Development. TVIA view 13, from the Thames path on the north bank, at St Katharine's Dock, illustrates that the Development would appear as a minor addition to the wider context of these listed buildings. The Development would not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Butler's Wharf Building (No.36 Shad Thames) and Butler's Wharf West (Nos.38-42 (even) Shad Thames)

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The riverside location of this HA is an important aspect of its setting, contributing to its heritage significance. It is an important element in the warehouse 'canyon' group along Shad Thames, reflected in the 'GV' specifically noted in the list description. These warehouses, including Eagle Wharf to the south, are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes large scale or tall late 20th century and modern development, notably the One Tower Bridge Development. TVIA view 13, from the Thames path on the north bank, at St Katharine's Dock, illustrates that the Development would appear as a minor addition to the wider context of these listed

buildings. The Development would not have a negative effect on any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor. The overall significance is minor to moderate. The effect would be neutral.

Group (xiv) – Streets east of Tower Bridge Road (grade II)

This group comprises the following listed buildings:

- The Anchor Tap Public House, Copper Row, Horselydown Lane;
- Eagle Wharf, 59 Lafone Street, Shad Thames;
- Tower Bridge Magistrates Court and Police Station and attached railings, 209 and 211 Tooley Street; and
- The Circle, Queen Elizabeth Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.75 - 7.76) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.175 -12.178). The significance of these HAs is set out in paragraphs.1.146 - 1.147 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The Anchor Tap Public House, Copper Row, Horselydown Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA has a very localised setting that contributes to the significance of this HA to a limited degree. That setting includes late 20th century and modern development on Copper

Row and Horselydown Lane. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Eagle Wharf, 59 Lafone Street, Shad Thames

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is an important element in the warehouse 'canyon' group along Shad Thames, reflected in the 'GV' specifically noted in the list description. These warehouses,

including Butler's Wharf to the north, are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes late 20th century and modern development. The latter includes the One Tower Bridge Development. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tower Bridge Magistrates Court and Police Station and attached railings, 209 and 211 Tooley Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the main thoroughfare of Tooley Street, which contributes to its significance to a limited degree. Where noticeable in the context of this listed building, which has been recently converted into a hotel, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes late 20th century and modern development. The latter includes the One Tower Bridge Development. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Circle, Queen Elizabeth Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its significance to a limited degree. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes late 20th century and modern development. The latter includes the One Tower Bridge Development. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xv) – Bermondsey Street, north / Brunswick Court and environs (grade II)

This group comprises the following listed buildings:

- No.173 Bermondsey Street;
- Drinking Fountain in south east corner of Tanner Street Recreation Ground, Tanner Street;
- No.132 Bermondsey Street;
- Nos.124-130 (Even) Bermondsey Street;
- No.78 Bermondsey Street;
- Nos.68-76 (Even) Bermondsey Street;
- Nos.59, 61 and 63 and attached railings, Bermondsey Street;
- No.55 Bermondsey Street;
- Nos. 2 and 4 Leathermarket Street;
- K2 Telephone Kiosk at junction with Roper Lane, Tower Bridge Road;
- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.77 - 7.78) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.181 -12.184). The significance of these HAs is set out in paragraphs.1.153 - 1.154 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

No.173 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. As noted in the SoS, this HA derives its significance in part from Bermondsey Street itself, a historic urban thoroughfare, which is characterised by narrow, relatively long plots that reflect its mediaeval origins.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Drinking Fountain in south east corner of Tanner Street Recreation Ground, Tanner Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting does not contribute to the heritage significance of this remnant of a demolished church.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.132 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the nos.124-130 (even) (grade II), reflected in the 'GV' specifically noted in the list description. That HA is an attribute of no.132's setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's

Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.124-130 (Even) Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA.

It has group value with the no. 132 (grade II), reflected in the 'GV' specifically noted in the list description. That HA is an attribute of the HA's setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.78 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with nos.68-76 (even) (grade II), reflected in the 'GV' specifically noted in the list description. That HA is an attribute of no.78's setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.68-76 (Even) Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with no.78 (grade II), reflected in the 'GV' specifically noted in the list description. That HA is an attribute of this HA's setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.59, 61 and 63 and attached railings, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. As noted in the SoS, this HA derives its significance in part from Bermondsey Street itself, a historic urban thoroughfare, which is characterised by narrow, relatively long plots that reflect its mediaeval origins.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.55 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. As noted in the SoS, this HA derives its significance in part from Bermondsey Street itself, a historic urban thoroughfare, which is characterised by narrow, relatively long plots that reflect its mediaeval origins.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 2 and 4 Leathermarket Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA derives its significance in part from Leathermarket Street, a historic route characterised by former warehouses and leather factories.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

K2 Telephone Kiosk at junction with Roper Lane, Tower Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting does not contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this HA. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Warehouse, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Bonded warehouse, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Former Still House, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Plumber's office, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane;
- Malt Store, Sarson's Vinegar Factory, Roper Lane; and

- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Malt Store, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane; and
- Fermentation Vats, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Fermentation Vats, Sarson's Vinegar Factory, Roper Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has group value with the following adjacent grade II listed buildings, reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of this HA's setting that contribute to the heritage significance of this HA:

- Warehouse, Sarson's Vinegar Factory, Roper Lane;
- Bonded warehouse, Sarson's Vinegar Factory, Roper Lane;
- Former Still House, Sarson's Vinegar Factory, Roper Lane;
- Plumber's office, Sarson's Vinegar Factory, Roper Lane;
- Engine House, Boiler House and Coal Store, Sarson's Vinegar Factory, Roper Lane;
- Vinegar Factory, Roper Lane. Brewhouse, Sarson's Vinegar Factory, Roper Lane; and
- Malt Store, Sarson's Vinegar Factory, Roper Lane.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of the existing setting of this building. That setting includes late 20th century and modern development. Views in the direction of the Site today take in The Shard, some also including Guy's Hospital tower. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this building.

These HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xvi) – Bermondsey Street, south / Leathermarket (grade II)

This group comprises the following listed buildings:

- Gates and gate piers at north east entrance to St Mary's Churchyard, Bermondsey Street;
- Watch house in St Mary's Churchyard (Recreation Ground), Bermondsey Street;
- Drinking fountain, approx 45m south south-east of Church of St Mary Magdalene, Bermondsey Street;
- Chest Tomb, approximately 60 metres south of Church of St Mary Magdalene, near Abbey Street, Bermondsey Street;

- Dedication steele approximately 35 metres south of Church of St Mary Magdalene, Bermondsey Street;
- Harrison Family Chest Tomb, south of Church of St Mary Magdalene, Bermondsey Street;
- Table Tomb in St Mary's Churchyard, near entrance from Bermondsey Street, Bermondsey Street;
- Tomb approximately 15 metres south south east of Church of St Mary Magdalene, Bermondsey Street;
- Tomb of John Sargeant at south west corner of St Mary Magdalene, Bermondsey Street;
- No.191 Bermondsey Street;
- Nos. 187 and 189 Bermondsey Street;
- Leather Market, Weston Street;
- London Leather, Hide and Wool Exchange, Weston Street, the Jugglers Arms Public House, nos.15 and 17 Leathermarket Street;
- Warehouse Block to east of Leathermarket Yard, Units 13-16, Weston Street;
- Units 7 and 8, Bermondsey Leather Market, Weston Street; and
- No.8A, Leathermarket Yard, Weston Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.80 - 7.81) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.192 -12.195). The significance of these HAs is set out in paragraphs 1.176 - 1.177 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Gates and gate piers at north east entrance to St Mary's Churchyard, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard and the busy Tower Bridge Road. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this listed feature, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Watch house in St Mary's Churchyard (Recreation Ground), Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard and busy Long Lane and Bermondsey Street. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Drinking fountain, approx 45m south south-east of Church of St Mary Magdalene, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Chest Tomb, approximately 60 metres south of Church of St Mary Magdalene, near Abbey Street, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Dedication steele approximately 35 metres south of Church of St Mary Magdalene, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Harrison Family Chest Tomb, south of Church of St Mary Magdalene, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and

features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Table Tomb in St Mary's Churchyard, near entrance from Bermondsey Street, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tomb approximately 15 metres south south east of Church of St Mary Magdalene, Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tomb of John Sargeant at south west corner of St Mary Magdalene, Bermondsey Street.

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is St Mary's Churchyard. The churchyard, Church of St Mary Magdalene (grade II*), and the other grade II listed small scale structures and features lying within the churchyard are all attributes of this HA's setting that contribute to its heritage significance. This is reflected in the 'GV' specifically noted in the list description.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.191 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This early 19th century house was the rectory for the adjoining grade II* listed Church of St Mary Magdalene, Bermondsey Street. This relationship between the two is the principal reason for the 'GV' specifically noted in the list descriptions for both buildings. The church is the principal element of its setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 187 and 189 Bermondsey Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. As noted in the SoS, this HA derives its significance in part from Bermondsey Street itself, a historic urban thoroughfare, which is characterised by narrow, relatively long plots that reflect its mediaeval origins. The 'GV' specifically noted in the list description for this HA indicates that it has group value with other listed buildings (not specified).

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Leather Market, Weston Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its list description notes *'The rear forms one side of a courtyard of warehouse fronts, including No.8A Leathermarket Yard (qv), with which it forms a good group of C19 industrial buildings'*. This is reflected in the 'GV' specifically noted in the list description. The other HAs in its group are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

London Leather, Hide and Wool Exchange, Weston Street, the Jugglers Arms Public House, nos.15 and 17 Leathermarket Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its list description notes *'Forms a group with the Leather Market, Weston Street (qv) to the south; the warehouse ranges to the rear of Leather Market, No.8A Leathermarket Yard (qv), complete this excellent C19 industrial grouping'*. This is reflected in the 'GV' specifically noted in the list description. The other HAs in its group are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Warehouse Block to east of Leathermarket Yard, Units 13-16, Weston Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in the list description is a reference to group value with adjacent listed buildings (not specified in this list description). The other HAs in its group are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Units 7 and 8, Bermondsey Leather Market, Weston Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes under reasons for designation *'Group value: the buildings form part of the Leather Market, the most important and concentrated survival of industrial buildings in the area'*. This is reflected in the 'GV' specifically noted in the

list description. The other HAs in its group are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.8A, Leathermarket Yard, Weston Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'Included for group value with the other C19 industrial buildings in Leathermarket Yard, Weston Street'*. This is reflected in the 'GV' specifically noted in the list description. The other HAs in its group are attributes of this HA's setting that contribute to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xvii) – Tower Bridge Road, south / Long Lane east (grade II)

This group comprises the following listed buildings:

- Manze's Eel, Pie and Mash Shop, no. 87 Tower Bridge Road;
- Nos.2-5 (Consecutive) and attached railings, Bermondsey Square;
- Simon the Tanner Public House, no.231 Long Lane; and
- Wall of recreation ground, Long Lane.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.82 - 7.83) and the December 2018 TVIBHA. The latter sets out the significance of effects

(paragraphs.12.198 -12.201). The significance of these HAs is set out in paragraph 1.188 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Manze's Eel, Pie and Mash Shop, no. 87 Tower Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the busy Tower Bridge Road, which contributes to the significance of this HA to a limited degree.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.2-5 (Consecutive) and attached railings, Bermondsey Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on Bermondsey Square, the main aspect of its setting that contributes to its heritage significance.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Simon the Tanner Public House, no.231 Long Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the busy Long Lane, an aspect of its setting that makes a limited contribution to the heritage significance of this HA.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing

setting. That setting includes mid-rise or large scale post-war and modern buildings. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Wall of recreation ground, Long Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the busy Long Lane, an aspect of its setting that makes a limited contribution to the heritage significance of this HA.

Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. That setting includes mid-rise or large scale post-war and modern buildings. The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xviii) – New Kent Road / Harper Road and environs (grade II)

This group comprises the following listed buildings:

- The Star and Cross Church, Falmouth Road;
- Joseph Lancaster Primary School, Harper Road;
- Geoffrey Chaucer School, Harper Road;
- Nos.1-19 (Odd) including handrail, Bartholomew Street; and
- Tabard Street Centre (former Tabard Street School), Hunter Close, Prioress Street.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.85 - 7.86) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.209 -12.212). The significance of these HAs is set out in paragraph 1.195 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The Star and Cross Church, Falmouth Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA's setting makes a limited contribution to its heritage significance.

This HA's local context includes post-war and modern development and a dual carriageway (A201). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Joseph Lancaster Primary School, Harper Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA's setting makes a limited contribution to its heritage significance.

This HA's local context includes post-war and modern development and a dual carriageway (A201). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Geoffrey Chaucer School, Harper Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA's setting makes a limited contribution to its heritage significance.

This HA's local context includes post-war and modern development and a dual carriageway (A201). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Nos.1-19 (Odd) including handrail, Bartholomew Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA's setting makes a limited contribution to its heritage significance.

This HA's local context includes post-war and modern development and a dual carriageway (A201). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Tabard Street Centre (former Tabard Street School), Hunter Close, Prioress Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA's setting makes a limited contribution to its heritage significance.

This HA's local context includes post-war and modern development and a dual carriageway (A201). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting.

The Development will not have a negative effect on any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Group (xix) – Trinity Street / Newington Causeway (grade II)

This group comprises the following listed buildings:

- Inner London Sessions Court, Newington Causeway;
- Nos. 2-12 (even) Trinity Street;
- Trinity Arms Public House, Swan Street;
- No.22 and attached railings, Trinity Street;
- Nos.25-47 (Odd) and attached railings, Trinity Street;
- Nos.32-42 (Even) and attached railings, Trinity Street;
- Nos.1-15 (Consecutive) and attached railings, Trinity Church Square;
- Nos.16-22 (Consecutive) and attached railings, Trinity Church Square;
- Nos.23-29 (Consecutive) and attached railings, Trinity Church Square;
- Nos.30-44 (Consecutive) and attached railings, Trinity Church Square;
- Nos.45-68 (Consecutive) and attached railings, Trinity Church Square;
- The Henry Wood Hall, including gate piers and railings, Trinity Church Square;
- Statue in centre of Trinity Church, Trinity Church Square;
- K2 telephone kiosk to north-east of the Henry Wood Hall, Trinity Church Square;
- Nos.26 and 28 Cole Street;
- K2 telephone kiosk Trinity Street at junction with Great Dover Street;
- The Roebuck Public House, Great Dover Street;
- Nos.1-13 (Consecutive) and attached railings, Merrick Square;
- Nos. 14, 15 and 16 and attached railings, Merrick Square;
- Nos.17, 18 and 19 and attached railings, Merrick Square;
- Nos.20-32 (Consecutive) and attached railings, Merrick Square;
- Railings to Merrick Square Garden, Merrick Square;
- Surrey Dispensary, Falmouth Road;
- Nos.4, 10, 12 and 18 and attached railings, Falmouth Road; and
- Nos.20-40 (Even) and attached railings, Falmouth Road.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.87 - 7.88) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.215 -12.218). The significance of each of these HAs is set out in paragraph 1.201 – 1.227 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Inner London Sessions Court, Newington Causeway

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the busy Newington Causeway, which makes a limited contribution to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 2-12 (even) Trinity Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Included for their group value, leading into the development centred on Trinity Square and Trinity Street*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Trinity Arms Public House, Swan Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Built as part of the Trinity Square Development; converted to public house in late C19 or early C20. Included for group value*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this

planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.22 and attached railings, Trinity Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, referring to its group value with other listed buildings. Reference is not made to other HAs by name. However, no.22 is referred to in the list description for nos.45-68 (Consecutive) Trinity Church Square as follows: *'All the listed buildings in Trinity Church Square form a group, and Nos 45-68 also form a group with Nos 22 & 25-47 (odd) Trinity Street (qqv)'*. These HAs represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.25-47 (Odd) and attached railings, Trinity Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, referring to its group value with other listed buildings. Reference is not made to other HAs by name. However, this HA is referred to in the list description for nos.45-68 (Consecutive) Trinity Church Square

as follows: *'All the listed buildings in Trinity Church Square form a group, and Nos 45-68 also form a group with Nos 22 & 25-47 (odd) Trinity Street (qqv).'* These HAs represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.32-42 (Even) and attached railings, Trinity Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The other HAs lying within this planned development represent attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.1-15 (Consecutive) and attached railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states *'All the listed buildings in Trinity Church Square form a group'*. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.16-22 (Consecutive) and attached railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.23-29 (Consecutive) and attached railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a

modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.30-44 (Consecutive) and attached railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs that make up this planned development, as described within group (xix), represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.45-68 (Consecutive) and attached railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group, and Nos 45-68 also form a group with Nos 22 & 25-47 (odd) Trinity Street (qqv)*'. This is reflected in the 'GV' specifically noted in the list description. These HAs represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development

would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Henry Wood Hall, including gate piers and railings, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group*'. These HAs represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Statue in centre of Trinity Church, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*All the listed buildings in Trinity Church Square form a group*'. This is reflected in the 'GV' specifically noted in the list description. These HAs represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

K2 telephone kiosk to north-east of the Henry Wood Hall, Trinity Church Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, although no reference is made to the specific HAs considered to have group value with this HA. One can infer that this is a reference to the other HAs forming part of this square, which represent an attribute of this HA's setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.26 and 28 Cole Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting makes a limited contribution to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

K2 telephone kiosk Trinity Street at junction with Great Dover Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, although no reference is made to the specific HAs considered to have group value with this HA. Its setting makes a limited contribution to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Roebuck Public House, Great Dover Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has a prominent location on a main road (Great Dover Street), an attribute of its setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 1-13 (Consecutive) and attached railings, Merrick Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Nos 1-32 (consec) Merrick Square (qqv) form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 14, 15 and 16 and attached railings, Merrick Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Nos 1-32 (consec) Merrick Square (qqv) form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 17, 18 and 19 and attached railings, Merrick Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Nos 1-32 (consec) Merrick Square (qqv) form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development

would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.20-32 (Consecutive) and attached railings, Merrick Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Nos 1-32 (consec) Merrick Square (qqv) form a group*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Railings to Merrick Square Garden, Merrick Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, although no reference is made to the specific HAs considered to have group value with this HA. One can infer that this is in reference to the other HAs situated on this square - attributes of its setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Surrey Dispensary, Falmouth Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Falmouth Road, which contains a listed terrace from the same period at nos.4-40 (even), is an attribute of the setting of this HA that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.4, 10, 12 and 18 and attached railings, Falmouth Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*Nos 4-40 (even) Falmouth Road (qv) form a good group and were originally called Taunton Place and Queen's Terrace (the latter corresponding to the southern part of the surviving row). The terraces were renamed Brunswick Street in 1851-2 and Falmouth Road in 1867*'. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.20-40 (Even) and attached railings, Falmouth Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states *'Nos 4-40 (even) Falmouth Road (qv) form a good group and were originally called Taunton Place and Queen's Terrace (the latter corresponding to the southern part of the surviving row). The terraces were renamed Brunswick Street in 1851-2 and Falmouth Road in 1867'*. This is reflected in the 'GV' specifically noted in the list description. The other HAs in this group represent important attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century or modern development, including tall buildings. An example of the latter is a modern apartment building at Tabard Square (around 250m to the north-east of Trinity Church Square). Where noticeable in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xx) – Borough Road / Lancaster Street (grade II)

This group comprises the following listed buildings:

- St George the Martyr Library, no.12 Borough Road;
- The Duke of York Public House, no.47 Borough Road;
- Hanover House, nos.49-60 (Consecutive) Borough Road;
- No.62 Borough Road;
- Clandon House, Boyfield Street Estate;
- Albury House, Boyfield Street Estate;
- Merrow House, Rushworth Street Estate;
- Ripley House, Rushworth Street Estate;
- Chadwick House and attached railings, no.48 Rushworth Street;
- The Drapers' Almshouses, nos.1-5 (Consecutive) Glasshill Street;
- No.55 Great Suffolk Street;
- The Blackfriars Settlement and attached railings, nos.44-47 (Consecutive) Nelson Square; and
- Former Sons of Temperance Friendly Society Building, no.176 Blackfriars Road.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.89 - 7.90) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.221 -12.224). The significance of these HAs is set out in paragraphs 1.228 – 1.229 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

St George the Martyr Library, no.12 Borough Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the highly trafficked Borough Road. This local setting contributes to its heritage significance to a limited degree.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Duke of York Public House, no.47 Borough Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the highly trafficked Borough Road. This local setting includes the adjoining Hanover House (grade II), an aspect of its setting that can be said to contribute to its heritage significance. It is likely that this is the reason for the 'GV' noted in the list description for this HA.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Hanover House, nos.49-60 (Consecutive) Borough Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the highly trafficked Borough Road. This local setting includes the adjoining Duke of York Public House (grade II), an aspect of its setting that can be said to contribute to its heritage significance. It is likely that this is the reason for the 'GV' noted in the list description for this HA.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.62 Borough Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies on the highly trafficked Borough Road. This setting contributes to the heritage significance of this HA to a limited degree. The listed description notes 'GV', but does not refer to other HAs in the group.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Clandon House, Boyfield Street Estate

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*As a pair with Albury House (qv), generally identical to the 2 blocks at Rushworth Street, Merrow House and Ripley House (qv)*'. This is reflected in the 'GV' specifically noted in the list description. The other HA in this group represents an attribute of this HA's setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Albury House, Boyfield Street Estate

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*As a pair with Clandon House (qv), generally identical to the 2 blocks at Rushworth Street, Merrow House and Ripley House (qv)*'. This is reflected in the 'GV' specifically noted in the list description. The other HA in this group represents an attribute of this HA's setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Merrow House, Rushworth Street Estate

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*As a pair with Ripley House (qv), generally identical to the*

2 blocks at Boyfield Street (qv).’ This is reflected in the ‘GV’ specifically noted in the list description. The other HA in this group represents an attribute of this HA’s setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George’s Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Ripley House, Rushworth Street Estate

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states ‘*As a pair with Merrow House (qv), generally identical to the 2 blocks at Boyfield Street (qv).*’ This is reflected in the ‘GV’ specifically noted in the list description. The other HA in this group represents an attribute of this HA’s setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George’s Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Chadwick House and attached railings, no.48 Rushworth Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its significance to a limited degree. This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George’s Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be

seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Drapers' Almshouses, nos.1-5 (Consecutive) Glasshill Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its significance to a limited degree. This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

No.55 Great Suffolk Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting contributes to its significance to a limited degree. This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

The Blackfriars Settlement and attached railings, nos.44-47 (Consecutive) Nelson Square

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes that the HA represents '*The last few surviving houses of the square of c1807-1810.*' The setting of Nelson square contributes to its significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Former Sons of Temperance Friendly Society Building, no.176 Blackfriars Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the busy Blackfriars Road, which makes a limited contribution to its significance.

This HA is located within a local and wider context that includes, post-war, late 20th century and modern development. The latter includes Blackfriars Circus, a residential-led mixed use development at St George's Circus that includes buildings of up to 27 storeys. Where noticeable in the context of this listed building, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. There would be no harm to any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxi) – Borough High Street, south end and environs (grade II)

This group comprises the following listed buildings:

- No. 151 Borough High Street;
- Kings Arms Public House with refixed coat of arms, no. 65 Newcomen Street;
- No. 177 Borough High Street;
- Wall forming north boundary of public gardens, formerly St George's Churchyard;

- No. 19 Tabard Street; and
- Nos. 25 and 27 Crosby Row.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.92 - 7.93) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.232 -12.235). The significance of these HAs is set out in paragraph 1.246 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

No. 151 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale, period and style. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Kings Arms Public House with refixed coat of arms, no. 65 Newcomen Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It has a very localised setting, lying on the narrow Newcomen Street, which contributes to its significance to some degree.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. The best views of this HA look directly at it from Newcomen Street, looking away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

No. 177 Borough High Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its local setting is the highly trafficked Borough High Street, which includes buildings of a similar scale, period and style. These are attributes of its setting that can be considered to contribute to the heritage significance of this HA.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Wall forming north boundary of public gardens, formerly St George's Churchyard

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The wall's immediate setting is the public gardens (the former churchyard) an aspect of its setting that makes some contribution to its heritage significance.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

No. 19 Tabard Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA contributes to its heritage significance to a limited degree.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Nos. 25 and 27 Crosby Row

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA contributes to its heritage significance to a limited degree.

The local context of this HA includes post-war, late-20th century and modern development. Its wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. Its effect is illustrated in TVIA view 40, from Borough High Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is moderate. The overall significance is moderate. The effect would be neutral.

Group (xxii) – Southwark Bridge Road, south end and environs (grade II)

This group comprises the following listed buildings:

- Wiltshire House, Maidstone Buildings;
- Roman Catholic Church of the Most Precious Blood, Presbytery, forecourt walls and shrine, Redcross Way;
- Nos.31-37 Union Street;
- Nos. 59 and 61 Union Street;
- Nos. 62 and 64 Union Street;
- Bishops Hall, no. 8 Ayres Street & George Bell House, no. 8A Ayres Street;

- Whitecross Cottages, nos.1-6 Ayres Street;
- Redcross Cottages, nos. 1-6 Redcross Way;
- Lord Clyde Public House, no. 27 Clennam Street;
- The Borough Welsh Congregational Chapel, Southwark Bridge Road;
- No. 52 Southwark Bridge Road and attached railings;
- Winchester House and attached railings, no.94 (part) Southwark Bridge Road;
- Southwark Fire Station, no.94 (part) Southwark Bridge Road; and
- Gable Cottages and garden railings, nos.9-12, 14 & 15,17-21, 24-28 (consec) Sudrey Street.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.94 - 7.95) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.238 -12.241). The significance of these HAs is set out in paragraph 1.253 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Wiltshire House, Maidstone Buildings

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The connecting warehouse blocks of Maidstone Buildings (not listed) are an attribute of the setting of this HA that contribute to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Roman Catholic Church of the Most Precious Blood, Presbytery, forecourt walls and shrine, Redcross Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes '*Group value: the church and its attached presbytery form an integrated contemporary ecclesiastical complex designed by the same architect*'.

Beyond this, the setting of this HA contributes to its heritage significance to a limited degree.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Nos.31-37 Union Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Nos. 59 and 61 Union Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and

Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Nos. 62 and 64 Union Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Bishops Hall, no. 8 Ayres Street & George Bell House, no. 8A Ayres Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes '*Nos 8 & 8A form an important group with Nos 1-6, Whitecross Cottages, (qv) and the Redcross Cottages, Redcross Way (qv), fronting Redcross Gardens behind, demonstrating the ideals of Octavia Hill, the pioneer of wholesome working-class housing*'. This is reflected in the 'GV' specifically noted in its list description. The other HAs in this group are attributes of the setting of this HA that contribute to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Whitecross Cottages, nos. 1-6 Ayres Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'The Whitecross Cottages form an important group with Nos 8 & 8A (qv) and the Redcross Cottages (qv) fronting Redcross Gardens behind, demonstrating the ideals of Octavia Hill, the pioneer of wholesome working class housing'*. This is reflected in the 'GV' specifically noted in its list description. The other HAs in this group are attributes of the setting of this HA that contribute to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Redcross Cottages, nos. 1-6 Redcross Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'The Redcross Cottages form a group with Whitecross Cottages, Nos 1-6 (consec) Ayres Street (qv) and Nos 8 & 8A Ayres Street (qv), demonstrating the ideals of Octavia Hill, the pioneer of wholesome working-class housing'*. This is reflected in the 'GV' specifically noted in its list description. The other HAs in this group are attributes of the setting of this HA that contribute to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and

Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Lord Clyde Public House, no. 27 Clennam Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

The Borough Welsh Congregational Chapel, Southwark Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The HA lies on the trafficked Southwark Bridge Road, which makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

No. 52 Southwark Bridge Road and attached railings

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It lies on the trafficked Southwark Bridge Road, adjacent to a railway viaduct, which makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Winchester House and attached railings, no.94 (part) Southwark Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes '*The building forms an important group with the Gothic-style fire station built to its left in 1878 (qv)*'. The other HA in this group is an attribute of its setting that contributes to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Southwark Fire Station, no.94 (part) Southwark Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' specifically noted in its list description is a reference to the HA's group

value with the buildings of Winchester House, listed separately. The other HA in this group is an attribute of its setting that contributes to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

*Gable Cottages and garden railings, nos.9-12, 14 & 15,17-21, 24-28 (consec)
Sudrey Street*

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. That setting makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The wider setting includes The Shard and Guy's Hospital tower. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is evident in TVIA views 37 and 38, from Southwark Bridge Road and Red Cross Gardens respectively. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to its setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Group (xxiii) – Southwark Street, west end and environs (grade II)

This group comprises the following listed buildings:

- No.89 Southwark Street;
- Former Fire Station, no.97 Southwark Street;
- No.61 and attached railings and overthrow to gate Hopton Street;
- Nos.124 and 126 and attached ironwork, Southwark Street; and
- Rochester House, Nos.43 and 44 Dolben Street.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.98 - 7.99) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.250 -12.253). The significance of these HAs is set out in paragraph 1.271 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

No.89 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The HA lies on a busy main road, Southwark Street, an attribute of its setting which makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The latter includes Neo Bankside, covering four buildings that step up in height from 12 to 24 storeys, and Bankside 123, which comprises three buildings of 10 and 13 storeys with frontages to Southwark Street. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Former Fire Station, no.97 Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The HA lies on a busy main road, Southwark Street. It adjoins no.99 Southwark Street (grade II*). The list description states that the two buildings have group value, the principal reason for the 'GV' specifically noted. No.99 can be considered to form an attribute of the no.97's local setting that contributes to its significance for this reason.

This HA is located within a local context that includes post-war, late-20th century and modern development. The latter includes Neo Bankside, covering four buildings that step up in height from 12 to 24 storeys, and Bankside 123, which comprises three buildings of 10 and 13 storeys with frontages to Southwark Street. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

No.61 and attached railings and overthrow to gate Hopton Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Little, if anything, of its setting contributes to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The latter includes Neo Bankside, covering four buildings that step up in height from 12 to 24 storeys, and Bankside 123, which comprises three buildings of 10 and 13 storeys with frontages to Southwark Street. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Nos.124 and 126 and attached ironwork, Southwark Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The HA lies on a busy main road, Southwark Street, an attribute of its setting that makes some contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The latter includes Neo Bankside, covering four buildings that step up in height from 12 to 24 storeys, and Bankside 123, which comprises three buildings of 10 and 13 storeys with frontages to Southwark Street. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Rochester House, Nos.43 and 44 Dolben Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The setting of this HA makes a limited contribution to its heritage significance.

This HA is located within a local context that includes post-war, late-20th century and modern development. The latter includes Palestra, Union Street. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Group (xxiv) – Southwark Street, west end and environs (grade II*)

This group comprises the following listed buildings:

- Nos. 1-9 Hopton's Almshouses (Consec), Hopton Gardens;
- Nos. 10 and 11 Hopton's Almshouses, Hopton Gardens; and
- Nos. 12-21 Hopton's Almshouses (Consec), Hopton Gardens.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.100 - 7.101) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.256 -12.259). The significance of these HAs is set out in paragraph 1.277 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Nos. 1-9 Hopton's Almshouses (Consec), Hopton Gardens.

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*2 linked blocks, forming the northern range of originally 28 almshouses, grouped around 3 sides of a garden*'. This is the principal reason for the 'GV' specifically noted. The other HAs in this group (Nos. 10 and 11, and 12-21 Hopton's Almshouses (Consec), Hopton Gardens) form an important attribute of this HA's immediate setting that contribute to its heritage significance.

The immediate context of this HA includes the late 20th century groundscraper, Sampson House, and NeoBankside, covering four buildings that step up in height from 12 to 24 storeys. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Nos. 10 and 11 Hopton's Almshouses, Hopton Gardens.

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*forms the central block of a group of (originally) 28 almshouses, ranged around 3 sides of a garden (this block on the eastern side)*'. This is the principal reason for the 'GV' specifically noted. The other HAs in this group (Nos. 1-9 and 12-21 Hopton's Almshouses (Consec), Hopton Gardens) form an important attribute of this HA's immediate setting that contribute to its heritage significance.

The immediate context of this HA includes the late 20th century groundscraper, Sampson House, and NeoBankside, covering four buildings that step up in height from 12 to 24 storeys. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Nos. 12-21 Hopton's Almshouses (Consec), Hopton Gardens.

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description states '*2 linked blocks, forming the southern range of originally 28 almshouses, grouped around 3 sides of a garden*'. This is the principal reason for the 'GV' specifically noted. The other HAs in this group (Nos.1-9 (Consec) and nos. 10 and 11 Hopton's Almshouses (Consec), Hopton Gardens) form an important attribute of this HA's immediate setting that contribute to its heritage significance.

The immediate context of this HA includes the late 20th century groundscraper, Sampson House, and NeoBankside, covering four buildings that step up in height from 12 to 24 storeys. The wider setting includes a new group of tall buildings on Blackfriars Road. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Group (xxv) – Bankside (grade II)

This group comprises the following listed buildings:

- Anchor Public House, no. 1 Bankside / no. 34 Park Street;
- Union Works, no.60 Park Street;
- Cardinal's Wharf and railings at door, no.49 Bankside;
- Nos.51 and 52 Bankside; and
- Anchor Terrace and attached railings, nos. 1-15 Southwark Bridge Road.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.102 - 7.103) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.262 -12.265). The significance of these HAs is set out in paragraphs 1.281 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Anchor Public House, no. 1 Bankside / no. 34 Park Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes 'GV' although this does not identify other HAs in this group. The riverside location of this HA is an attribute of its setting that can be said to contribute to its heritage significance.

This HA is located in a local context that includes post-war, late-20th century and modern development. The wider setting includes Bankside 123, which comprises three buildings of 10 and 13 storeys. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Union Works, no.60 Park Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This makes a limited contribution to its heritage significance.

This HA is located in a local context that includes post-war, late-20th century and modern development. The wider setting includes Bankside 123, which comprises three buildings of 10 and 13 storeys. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Cardinal's Wharf and railings at door, no.49 Bankside

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The riverside location of this HA is an attribute of its setting that can be said to contribute to its heritage significance.

This HA is located in a local context that includes post-war, late-20th century and modern development. The wider setting includes Bankside 123, which comprises three buildings of 10 and 13 storeys. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.51 and 52 Bankside

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The riverside location of this HA is an attribute of its setting that can be said to contribute to its heritage significance.

This HA is located in a local context that includes post-war, late-20th century and modern development. The wider setting includes Bankside 123, which comprises three buildings of 10 and 13 storeys. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape,

consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Anchor Terrace and attached railings, nos. 1-15 Southwark Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The HA lies on the highly trafficked Southwark Bridge Road, a local setting that contributes to the heritage significance of this HA to a limited degree.

This HA is located in a local context that includes post-war, late-20th century and modern development. The wider setting includes Bankside 123, which comprises three buildings of 10 and 13 storeys. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxvi) – Southwark Bridge (grade II)

This group comprises the following listed buildings:

- Southwark Bridge (that part in London Borough of Southwark); and
- Southwark Bridge (listing separate from that above).

The effect of the Development of this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.104) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.267 -12.270). The significance of this HA is set out in paragraphs 1.287 -1.288 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list descriptions for those parts of the bridge lying in Southwark and the City. The Thames is the most important attribute of the bridge's setting to contribute to its heritage significance.

The bridge's local setting includes post-war, and late-20th century development. Its wider setting includes modern tall development, including The Shard and the recently completed Shard Place on St Thomas Street. The Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. It would not harm any element of setting that contributes to the heritage significance of the bridge, or the ability to appreciate that significance. Its visibility from the bridge is illustrated in TVIA view 14.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxvii) – Blackfriars Bridge (grade II)

This group comprises the following listed buildings:

- Blackfriars Bridge;
- Southern abutment to former West Blackfriars and St Paul's Rail Bridge, Blackfriars Road;
- K2 Telephone Kiosk, Blackfriars Bridge;
- Drinking Fountain on east side of road at north end of Bridge, Blackfriars Bridge; and
- Statue of Queen Victoria at Approach to Blackfriars Bridge, Victoria Embankment.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.105 - 7.106) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.273 -12.276). The significance of these HAs is set out in paragraph 1.289 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Blackfriars Bridge

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The Thames, and the adjacent Southern Abutment to the Former West Blackfriars and St Pauls Rails Bridge, Blackfriars Road (grade II) are the most important attributes of the bridge's setting to contribute to its heritage significance. The list description for the latter notes '*Joseph Cubitt designed Blackfriars Road Bridge to the west (see City of London), and with it this forms a group*'.

This HA is located within a local context that includes large scale and tall late 20th century and modern development. The latter includes One Blackfriars. Where visible in the context of this HA, the Development would be seen as an addition to the

evolving urban landscape, consistent with the character of its existing setting. The effect on the bridge is illustrated in TVIA views 16 and 17 from Waterloo Bridge, and TVIA view 22 from Victoria Embankment. The Development would not harm any element of setting that contributes to the heritage significance of this HA, or the ability to appreciate that significance..

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Southern abutment to former West Blackfriars and St Paul's Rail Bridge, Blackfriars Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The Thames, and the adjacent Blackfriars Bridge (grade II) are the most important attributes of this HA's setting to contribute to its heritage significance. The list description notes '*Joseph Cubitt designed Blackfriars Road Bridge to the west (see City of London), and with it this forms a group*'.

This HA is located within a local context that includes large scale and tall late 20th century and modern development. The latter includes One Blackfriars. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The effect on the bridge is illustrated in TVIA views 16 and 17 from Waterloo Bridge, and TVIA view 22 from Victoria Embankment. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

K2 Telephone Kiosk, Blackfriars Bridge

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Blackfriars Bridge (grade II) and the adjacent drinking fountain (grade II) are attributes of this HA's setting that contribute to its heritage significance. The list description notes 'GV', but does not refer to other HAs.

This HA is located within a local context that includes large scale and tall late 20th century and modern development. The latter includes One Blackfriars. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The effect on the bridge is illustrated in TVIA views 16 and 17 from Waterloo Bridge, and

TVIA view 22 from Victoria Embankment. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Drinking Fountain on east side of road at north end of Bridge, Blackfriars Bridge

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Blackfriars Bridge (grade II) and the adjacent K2 Telephone Kiosk (grade II) are attributes of this HA's setting that contribute to its heritage significance. The list description notes 'GV', but does not refer to other HAs.

This HA is located within a local context that includes large scale and tall late 20th century and modern development. The latter includes One Blackfriars. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The effect on the bridge is illustrated in TVIA views 16 and 17 from Waterloo Bridge, and TVIA view 22 from Victoria Embankment. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Statue of Queen Victoria at Approach to Blackfriars Bridge, Victoria Embankment

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Blackfriars Bridge (grade II) is an attribute of this HA's setting that contributes to its heritage significance.

This HA is located within a local context that includes large scale and tall late 20th century and modern development. The latter includes One Blackfriars. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The effect on the bridge is illustrated in TVIA views 16 and 17 from Waterloo Bridge, and TVIA view 22 from Victoria Embankment. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxviii) – Upper Thames Street (grade II)

This group comprises the following listed buildings:

- Nos.1 to 4 (Consec) Queen Street Place, including no.69 Upper Thames Street.

The effect of the Development of this HA is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.109) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.288 -12.291). The significance of this HA is set out in paragraphs 1.303 – 1.304 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This listed building lies on the highly trafficked Upper Thames Street and Queen Street Place, which make a limited contribution to the HA's heritage significance. Its immediate context includes the adjoining grade I listed Vintners Hall, although neither list description gives mention to group value.

This building is located within a local context that includes large scale late 20th century development. The best views of the building look away from the direction of the Site. The Development would not harm any element of setting that contributes to the heritage significance of the building.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Group (xxix) – Lower Thames Street (grade II)

This group comprises the following listed buildings:

- Billingsgate Market, Lower Thames Street;
- Adelaide House, London Bridge;
- Pair of towers at Cannon Street Station western tower to Cannon Street Station, Cannon Street, Cousin Lane; and
- Eastern tower to Cannon Street Station pair of towers at Cannon Street Station, All Hallows Lane, Cannon Street.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.111- 7.112) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.297 -12.298). The significance of these HAs is set out in

paragraph 1.309 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Billingsgate Market, Lower Thames Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA overlooks the Thames, an attribute of its setting that contributes to its heritage significance.

This HA is located within a local and wider context that includes large scale and tall late 20th century and modern development. The latter includes The Shard and 20 Fenchurch Street. The best views of this HA are from the Thames and the South Bank, looking away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Adelaide House, London Bridge

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This HA lies adjacent to London Bridge and overlooks the Thames, aspects of its setting that do not contribute to its heritage significance.

This HA is located within a local and wider context that includes large scale and tall late 20th century and modern development. The latter includes The Shard and 20 Fenchurch Street. The best views of this HA are from the Thames and the South Bank, looking away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Pair of towers at Cannon Street Station western tower to Cannon Street Station, Cannon Street, Cousin Lane

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The eastern tower to Cannon Street Station (listed separately at grade II) is the principal aspect of this HA's setting to contribute to its heritage significance. Their group value is not referred to in the list description for either HA.

This HA is located within a local and wider context that includes large scale and tall late 20th century and modern development. The latter includes The Shard and 20 Fenchurch Street. The best views of this HA are from the Thames and the South Bank, looking away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Eastern tower to Cannon Street Station pair of towers at Cannon Street Station, All Hallows Lane, Cannon Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The western tower to Cannon Street Station (listed separately at grade II) is the principal aspect of this HA's setting to contribute to its heritage significance. Their group value is not referred to in the list description for either HA.

This HA is located within a local and wider context that includes large scale and tall late 20th century and modern development. The latter includes The Shard and 20 Fenchurch Street. The best views of this HA are from the Thames and the South Bank, looking away from the direction of the Site. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to the heritage significance of this HA.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Group (xxx) – Gracechurch Street and environs (grade II)

This group comprises the following listed buildings:

- No.2a, Eastcheap;
- Nos.39 and 40 (Credit Lyonnais) Lombard Street;
- Nos.81 and 82 Gracechurch Street; and
- Nos. 7 and 9 Gracechurch Street.

The effect of the Development of these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraph 7.118) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.326 -12.329). The significance of these HAs is set out in paragraph 1.327 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

No.2a, Eastcheap

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. It is located in the main road of Eastcheap, an aspect of its setting that makes a contribution to the heritage significance of this former bank.

This HA is located within a local and wider context that includes tall late 20th century and modern buildings. These include 20 Gracechurch Street and 20 Fenchurch Street. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is illustrated in TVIA view 23 from Gracechurch Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.39 and 40 (Credit Lyonnais) Lombard Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is noted in its list description, although the other building(s) in this group are not mentioned. The building lies on the highly trafficked Gracechurch Street, an aspect of its setting that makes a contribution to the heritage significance of this former bank.

This HA is located within a local and wider context that includes tall late 20th century and modern buildings. These include 20 Gracechurch Street and 20 Fenchurch Street. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is illustrated in TVIA view 23 from Gracechurch Street. The

Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.81 and 82 Gracechurch Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The building lies on the highly trafficked Gracechurch Street, an aspect of its setting that contributes in part to the heritage significance of this HA.

This HA is located within a local and wider context that includes tall late 20th century and modern buildings. These include 20 Gracechurch Street and 20 Fenchurch Street. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is illustrated in TVIA view 23 from Gracechurch Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos. 7 and 9 Gracechurch Street

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The building lies on the highly trafficked Gracechurch Street, an aspect of its setting that contributes in part to the heritage significance of this former bank and office block.

This HA is located within a local and wider context that includes tall late 20th century and modern buildings. These include 20 Gracechurch Street and 20 Fenchurch Street. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. This is illustrated in TVIA view 23 from Gracechurch Street. The Development would not harm any element of setting that contributes to the heritage significance of these buildings.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxxi) – Byward Street / Tower Hill Terrace (grade II)

This group comprises the following listed buildings:

- Wine Cellars at Nos 8 to 10 (consec) (Premises of Messrs Asher Storey) Tower Hill;
- Nos.8 – 10 Tower Hill; and
- Railing and dwarf wall to Church of All Hallows by the Tower (those sections flanking Great Tower Street and Byward Street).

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.122) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.346 -12.349). The significance of these HAs is set out in paragraph 1.342 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Wine Cellars at Nos 8 to 10 (consec) (Premises of Messrs Asher Storey) Tower Hill

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting makes a limited contribution to its heritage significance.

This HA is located within a local context that includes the highly trafficked Byward Street/Tower Hill and large scale modern development (Tower Place). Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Nos.8 – 10 Tower Hill

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. Its setting makes a limited contribution to its heritage significance.

This HA is located within a local context that includes the highly trafficked Byward Street/Tower Hill and large scale modern development (Tower Place). Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The

Development would not harm any element of setting that contributes to its heritage significance.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Railing and dwarf wall to Church of All Hallows by the Tower (those sections flanking Great Tower Street and Byward Street)

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. This setting has changed considerably since the church was built, dominated by the busy main road of Tower Hill today, which runs immediately to the north of this HA, as noted in the SoS and December 2018 TVIBHA. The separately listed Church of All Hallows by the Tower, Byward Street, Great Tower Street, Tower Hill (grade I) is the principal aspect of this HA's setting to contribute to its heritage significance.

This HA is located within a local context that includes the highly trafficked Byward Street/Tower Hill and large scale modern development (Tower Place). Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HAs is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxxii) – Royal Mint (grade II)

This group comprises the following listed buildings:

- Entrance Lodges at The Royal Mint, Tower Hill;
- Seaman's Registry, Royal Mint Site; and
- Cast Iron Lamp Standards in forecourt of The Royal Mint.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.126) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.366 -12.369). The significance of these HAs is set out in paragraph 1.354 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Entrance Lodges at The Royal Mint, Tower Hill

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The other HAs found within the Royal Mint complex are important attributes of the setting of this HA, contributing to its heritage significance. The 'GV' noted in the list description refers to the group value of this HA with the Royal Mint (grade II*), Seaman's Registry (grade II), and the Cast Iron Lamp Standards in forecourt of The Royal Mint (grade II).

This HA is located in close proximity to a busy road junction (Mansell Street/Tower Hill/East Smithfield), and late 20th century office buildings. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The very limited effect on its setting is illustrated in TVIA view 29 from Tower Hill, outside the Royal Mint. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Seaman's Registry, Royal Mint Site

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The other HAs found within the Royal Mint complex are important attributes of the setting of this HA, contributing to its heritage significance. The 'GV' noted in the list description refers to the group value of this HA with the Royal Mint (grade II*), Entrance Lodges (grade II), and the Cast Iron Lamp Standards in forecourt of The Royal Mint (grade II).

This HA is located in close proximity to a busy road junction (Mansell Street/Tower Hill/East Smithfield), and late 20th century office buildings. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The very limited effect on its setting is illustrated in TVIA view 29 from Tower Hill, outside the Royal Mint. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Cast Iron Lamp Standards in forecourt of The Royal Mint

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The other HAs found within the Royal Mint complex are important attributes of the setting of this HA, contributing to its heritage significance. The 'GV' noted in the list description refers to the group value of this HA with the Royal Mint (grade II*), Seaman's Registry (grade II), and Entrance Lodges (grade II).

This HA is located in close proximity to a busy road junction (Mansell Street/Tower Hill/East Smithfield), and late 20th century office buildings. Where visible in the context of this HA, the Development would be seen as an addition to the evolving urban landscape, consistent with the character of its existing setting. The very limited effect on its setting is illustrated in TVIA view 29 from Tower Hill, outside the Royal Mint. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxxiii) – St Katharine's Dock (grade II)

This group comprises the following listed buildings:

- St Katharine's Dock (Warehouse C) St Katharine's Way;
- Warehouse I, St Katharine's Way;
- Footbridge (between the basin and east dock water areas), St Katharine's Way;
- The Quay walls to basin and east and west docks, St Katharine Docks; and
- Boundary wall and gate piers to St Katharine Docks, St Katharine's Way

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.128) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.376 -12.379). The significance of these HAs is set out in paragraph 1.361 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

St Katharine's Dock (Warehouse C) St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'Warehouses B, C, G and I form a group with the Dockmaster's Office, the house beside No 6 gate and the boundary walls, gate piers and footbridge in St Katharine's Dock'*. This is reflected in the 'GV' specifically noted

in the list description. These HAs are important attributes of the setting of Warehouse C, contributing to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Opportunities to view the Development in the context of this HA would be particularly limited. Where glimpsed, the Development would be seen as an addition to its evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Warehouse I, St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'Warehouses B, C, G and I form a group with the Dockmaster's Office, the house beside No 6 gate and the boundary walls, gate piers and footbridge in St Katharine's Dock'*. This is reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of the setting of Warehouse I, contributing to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Opportunities to view the Development in the context of this HA would be particularly limited. Where glimpsed, the Development would be seen as an addition to its evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Footbridge (between the basin and east dock water areas), St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'Warehouses B, C, G and I form a group with the Dockmaster's Office, the house beside No 6 gate and the boundary walls, gate piers and footbridge in St Katharine's Dock'*. This is reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of the setting of this footbridge, contributing to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Opportunities to view the Development in the context of this HA would be particularly limited. Where glimpsed, the Development would be seen as an addition to its evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

The Quay walls to basin and east and west docks, St Katharine Docks

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is specifically noted in the list description, although other HAs are not given mention. The other HAs around the dock are important attributes of the setting of this HA, contributing to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Opportunities to view the Development in the context of this HA would be particularly limited. Where glimpsed, the Development would be seen as an addition to its evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Boundary wall and gate piers to St Katharine Docks, St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes *'Warehouses B, C, G and I form a group with the Dockmaster's Office, the house beside No 6 gate and the boundary walls, gate piers and footbridge in St Katharine's Dock'*. This is reflected in the 'GV' specifically noted in the list description. These HAs are important attributes of the setting of this HA, contributing to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Opportunities to view the Development in the context of this HA would be particularly limited. Where glimpsed, the Development

would be seen as an addition to its evolving urban landscape, consistent with the character of its existing setting. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Group (xxxiv) – St Katharine’s Way (grade II)

This group comprises the following listed buildings:

- British and foreign wharves (warehouse G), St Katharine’s Way;
- Alderman stairs and gate piers, St Katharine’s Way;
- Timepiece sculpture, St Katharine Docks; and
- Dockmaster’s office, St Katharine’s Way.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs 7.129) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs 12.381 -12.384). The significance of these HAs is set out in paragraph 1.367 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

British and foreign wharves (warehouse G), St Katharine’s Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The ‘GV’ specifically noted in the list description refers to this HAs group value with the adjacent Alderman stairs and gate piers, St Katharine’s Way (grade II). That HA is an attribute of this HA’s setting that contributes to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 13 from the Thames path at St Katharine’s Dock. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Alderman stairs and gate piers, St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes '*British & Foreign Wharf G Warehouse and No 84 (offices) form a group with Alderman Stairs and Gate Piers*'. This 'GV' specifically noted in the list description refers to this. Warehouse G is an attribute of this HA's setting that contributes to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 13 from the Thames path at St Katharine's Dock. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Timepiece sculpture, St Katharine Docks

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. 'GV' is noted in the list description, although no reference is made to HAs falling within such a group. This HA has ties to St Katherine Docks, an aspect of its setting that contributes to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 13 from the Thames path at St Katharine's Dock. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Dockmaster's office, St Katharine's Way

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The list description notes '*There is also strong group value with the other listed components of St. Katharine's Dock: Warehouses C and I, the house beside No 6 gate and the boundary walls, gate piers and footbridge*'. This 'GV' specifically noted

in the list description refers to this. The above-mentioned HAs are attributes of this HA's setting that contribute to its heritage significance.

This HA is located within a local context that includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 13 from the Thames path at St Katharine's Dock. The Development would not harm any element of setting that contributes to its heritage significance.

This HA is of medium sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxxv) – Tower Bridge Road (grade I)

This group comprises the following listed buildings:

- Tower Bridge (that part that lies within the Borough of Southwark), Tower Bridge Road;
- Tower Bridge (that part in London Borough of Tower Hamlets); and
- Tower Bridge approach.

The effect of the Development on these HAs is set out in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4 – paragraphs.7.130) and the December 2018 TVIBHA. The latter sets out the significance of effects (paragraphs.12.386 -12.389). The significance of these HAs is set out in paragraphs.1.372 – 1.373 of Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Tower Bridge (that part that lies within the Borough of Southwark), Tower Bridge Road

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' noted in the list description is a reference to its group value with other HAs referred to in the list description for Tower Bridge (that part in London Borough of Tower Hamlets), which states '*Tower Bridge and its approach form a group with the London Hydraulic Power Co Subways Entrance, 8 Bollards outside the main entrance to The Tower of London, the Tower itself, the Queens Stairs, Tower Hill*'. The above-mentioned HAs, together with the previously noted grade II listed HAs - Tower Bridge Bridgemaister's House (Bridge House Estate) and gate to side, Tower Bridge Road (West side), and Accumulator Tower and chimney stack to east side of

Tower Bridge Approach, Tower Bridge Road - are attributes of this HA's setting that contribute to its heritage significance.

This HA's setting includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 12 from Tower Bridge and TVIA view 13 from the Thames path at St Katharine's Dock. The Development would not harm any element of setting that contributes to its heritage significance, or the ability to appreciate that significance.

This HAs is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tower Bridge (that part in London Borough of Tower Hamlets)

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' noted in the list description is a reference to its group value with other HAs referred to as follows: *'Tower Bridge and its approach form a group with the London Hydraulic Power Co Subways Entrance, 8 Bollards outside the main entrance to The Tower of London, the Tower itself, the Queens Stairs, Tower Hill'*. The above-mentioned HAs, together with the previously noted grade II listed HAs - Tower Bridge Bridgemaister's House (Bridge House Estate) and gate to side, Tower Bridge Road (West side), and Accumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road - are attributes of this HA's setting that contribute to its heritage significance.

This HA's setting includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 12 from Tower Bridge and TVIA view 13 from the Thames path at St Katharine's Dock. The Development would not harm any element of setting that contributes to its heritage significance, or the ability to appreciate that significance.

This HAs is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tower Bridge approach

The setting of this HA is discussed in both the SoS and the December 2018 TVIBHA. The 'GV' noted in the list description is a reference to its group value with other HAs

referred to as follows: *‘Tower Bridge and its approach form a group with the London Hydraulic Power Co Subways Entrance, 8 Bollards outside the main entrance to The Tower of London, the Tower itself, the Queens Stairs, Tower Hill’*. The above-mentioned HAs, together with the previously noted grade II listed HAs - Tower Bridge Bridgemaister’s House (Bridge House Estate) and gate to side, Tower Bridge Road (West side), and Accumulator Tower and chimney stack to east side of Tower Bridge Approach, Tower Bridge Road - are attributes of this HA’s setting that contribute to its heritage significance.

This HA’s setting includes large scale late 20th century development, such as the Tower Hotel. Where visible in the context of this HA, the Development would be regarded as part of the evolving urban landscape, consistent with the character of its existing setting. The limited effect on its setting is illustrated in TVIA view 12 from Tower Bridge and TVIA view 13 from the Thames path at St Katharine’s Dock. The Development would not harm any element of setting that contributes to its heritage significance.

This HAs is of high sensitivity. The magnitude of change to the setting (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Group (xxxvi) – Tower of London WHS Listed Buildings (grades I, II* and II)

This group comprises the following listed buildings:

- The White Tower (grade I);
- The Middle Tower, with causeway to Byward Tower (QV) and remains of causeway to Lion Tower to west (grade I);
- Chapel of St Peter-ad-Vincula (grade I);
- Inner Curtain Wall, with mural towers, the new armouries, the Queen’s House & nos. 1, 2, 4, 5 and 7 Tower Green (grade I);
- Outer Curtain Wall with casements and mural towers (grade I);
- Revetment wall to south side of moat, from Tower Bridge Approach to Middle Tower (QV) (grade II*);
- The Old Hospital Block and raised terrace and railings (grade II*);
- Former Pump House (grade II);
- Museum of the Royal Fusiliers and attached terrace to front (grade II);
- Waterloo Block (grade II);
- Revetment wall to west and north side of moat, from outwork attached to Middle Tower (QV) to Tower Hill postern (grade II);
- Revetment wall to north side of moat, from Tower Hill postern to Tower Bridge Approach (grade II); and
- K6 telephone kiosk outside gateway of Byward Tower (grade II).

As stated at paragraph 12.390 of the December 2018 TVIBHA, *'the effect of the Development on the listed buildings located within this group is considered as part of the assessment of effect on the Tower of London WHS, which also takes account of the Tower of London's designation as a SM. That assessment can be found at the start of this chapter'*. That assessment, at paragraphs 12.30 – 12.33, was as follows:

'12.30 This is a HA of high sensitivity.

12.31 The magnitude of change to the setting (indirect) is minor.

12.32 The overall significance is moderate. The effect would be neutral.

12.33 The effect is at regional level and long term'.

As noted, in the preceding paragraphs (12.25 – 12.29), the Development would not harm any elements of setting that contribute to the heritage significance or OUV of the WHS, or the ability to appreciate that significance.

Paragraph 12.49 of the December 2018 TVIBHA states that *'With regard to other heritage assets within the WHS, there is no significant potential for any effect on the significance of other heritage assets not already considered as part of the WHS'*.

For clarification, the effect on the HAs lying within this group is stated in Table BH1 (Part 1 of this response).

Conservation Areas

Borough High Street Conservation Area

The effect of the Development on the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significant effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Details of the *'considerable enhancements to the local townscape'* are set out in paragraphs 7.5 to 7.7 and 7.15 of the December 2018 Heritage Statement, and summarised at 7.16. All aspects of heritage significance are considered. In respect of setting of the CA it is principally the effect on views in and out and through the conservation area that are relevant and the effect on these is usefully summarised making references to the December 2018 TVIA, in paragraph 12.393.

Some harm is identified and is quantified within the context of national planning policy within the KMH report. Paragraphs 7.17 to 7.20 of the December 2018 Heritage Statement clearly set out the case of the overall effect. The subsequent assessment of *'the likely significance of effects'*, based on this, considers the

beneficial, neutral and adverse effects of the scheme (in line with the TVIBHA ES methodology) – the adverse effects being minor in nature overall and ‘less than substantial’ in terms of the NPPF.

Tooley Street Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

Tooley Street was planned as a key route from the river crossing at London Bridge eastwards to the inner dock area of the pool of London. London Bridge Station and the railway viaduct immediately to the south of the CA is also a defining characteristic of the local townscape. The riverside context and viaduct are both important attributes of its setting, contributing to the CA’s heritage significance.

In respect of the setting of the CA it is principally the effect on views out and through the conservation area that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at paragraph 12.398 that: *‘The immediate context of the conservation area, both to the north-east at More London, and to the south-west at London Bridge, has changed significantly in recent years and continues to evolve. The tall buildings at London Bridge, including The Shard, are very prominent in views towards the Site from within the conservation area. Opportunities to glimpse the Development from within this CA would be very limited. Where visible, it would be seen a high quality addition to the local context of the CA’*. It concludes that *‘There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA’*.

The subsequent assessment of ‘the likely significance of effects’, based on this, is as follows: The magnitude of change (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Bear Gardens Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area

is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The riverscape and the tight and dense urban grain that surrounds this CA are important attributes of its setting, contributing to the CA's heritage significance. In respect of the setting of the CA, it is principally the effect on views across this CA from the north bank and the Millennium Bridge towards the Site that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at paragraph 12.403 that The Shard forms part of the backdrop in such views of the CA. This is illustrated in TVIA view 15. The upper storeys of the Development would be visible above the rooftops of Bankside's riverside buildings, but would not be readily noticed by most viewers. The December 2018 TVIBHA concludes *'Where noticed, it would be seen as a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'*.

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: The magnitude of change (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Thrale Street Conservation area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The conservation area appraisal summarises the setting of this CA as follows:

'3.1.13 To the north and east, the Bankside and Bear Gardens area largely comprises of 19th and 20th century warehouses, commercial and residential buildings. The tight and dense urban grain of the area, particularly around Bear Garden derives from the intensification of waterside industries during the 18th and 19th centuries.

3.1.14 To the north-west, are the Tate Modern Art Gallery and residential developments, such as the: 19th century Peabody Estate and the more recent Neo-Bankside development.

3.1.15 To the east and south, are the Borough High Street and Union Street Conservation Areas, which are characterised by high quality townscape predominantly dating from the 18th and 19th centuries’.

While not referred to as such in the appraisal, this setting can be said to make a contribution to the significance of this CA.

In respect of the setting of the CA, it is principally the effect on views from within this CA towards the Site that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at paragraph 12.408 that *‘Both The Shard and Guy’s Hospital tower are prominent in views east along Southwark Street, which looks in the direction of the Site. The effect of the Development on the view east along Southwark is evident in TVIA view 41. It would be aligned with The Shard, which would be seen to rise behind the Development. The Development would be a high quality addition to the local context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA’.*

The subsequent assessment of ‘the likely significance of effects’, based on this, is as follows: The magnitude of change (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

Union Street Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The conservation area appraisal notes at paragraph 4.5 under ‘Proposed extensions to the Conservation Area’ that *‘The following areas have a significantly positive historic character and contribute to the setting of the Conservation Area.*

4.5.1. 25, Copperfield Street and former London Fire Brigade building

4.5.2. The Peabody Estate, Marshalsea Road and Mint Street Gardens

4.5.3. Flats, Great Guildford Street’

In respect of the setting of the CA, it is principally the effect on views from within this CA towards the Site that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at para 12.413 that *‘Views towards the Site from within this conservation area take in both The Shard*

and Guy's Hospital tower. The tall commercial buildings of the City of London are also noticeable in views looking north-east. The effect of the Development on views from within this CA is illustrated in TVIA views 37 (Southwark Bridge Road) and 38 (Red Cross Garden). Where visible, this would be in conjunction with The Shard (as in view 37) or together with The Shard and Guy's Hospital Tower (see view 38). It would be seen as a high quality scheme, consolidating the grouping of tall buildings seen at London Bridge. The Development would be a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: The magnitude of change (indirect) is moderate to major. The overall significance is moderate to major. The effect would be neutral.

Liberty of the Mint Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The conservation area appraisal summarises the setting of this CA as follows at para 3.13: *'The conservation area is located within urban Southwark. It is bounded by Borough High Street, to the east, Mint Street Park to the west Great Suffolk Street, to the south, where the character and nature of the built heritage changes significantly. To the north the conservation area the Borough continues with fine warehouse buildings, and former burgage plot layouts of Borough High Street. St George the Martyrs church at the junction of Marshalsea Road, Borough High Street and Great Dover Street forms a prominent node and landmark, adjacent to the conservation area'.*

Attributes of this setting, such as the St George the Martyrs church, which lies within the adjacent Borough High Street CA, can be said to make a contribution to the significance of this CA.

In respect of setting of the CA, it is principally the effect on views along the eastern edge of this CA towards the Site that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at para 12.418 that *'The CA's immediate context includes tall post-war development on Borough High Street. Opportunities to view the Development from within this CA would be very restricted. Views would be possible on its Borough High Street*

boundary (see TVIA view 39). These take in The Shard and Guy's Hospital tower and other modern tall development closer to the CA. Where visible, the Development would be seen as a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: The magnitude of change (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

King's Bench Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The wider character of the area of the CA is summarised on by the Council¹ as being *'of a later 18th century street pattern overlaid first by the mid 19th century brick railway viaduct and then by later 19th and earlier 20th century residential, religious and industrial development, mostly of two or three storeys'.*

In respect of setting of the CA, it is principally the effect on views along the eastern edge of this CA towards the Site that are relevant and the effect of the Development on these is usefully summarised in the December 2018 TVIBHA. It notes at para 12.423 that *'Its immediate context takes in post-war and modern mid-rise housing development. Opportunities to see the Development from this CA would be highly restricted. Where glimpses are possible, it would be seen in the context of existing towers at London Bridge, beyond modern housing development along the northern boundary of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: The magnitude of change (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Trinity Church Square Conservation Area

¹ The Conservation Area web page for Kings Bench

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this CA contributes to its significance to a limited degree, as noted in the conservation area appraisal at para 3.1.2 under the title 'Broad Context': *'The visitor leaves the hustle and bustle of Borough High Street and is suddenly immersed in the grandeur and solemnity of Trinity Church Square. The setting of the Conservation Area is dominated by the inward focus of the terraces formed around two formal squares with more modest terraces of the same architectural period to Falmouth Road'*.

In respect of setting of the CA, the December 2018 TVIBHA notes at para 12.428 that *'The effect of the Development on views from within this CA is illustrated in TVIA views 62 (Trinity Church Square, south-west corner). Views such as this illustrate that the Development would be seen in conjunction with The Shard, Guy's Hospital tower, a modern tower at Tabard Square (lying only 300m away), and several commercial tall buildings located in the City of London. It would be a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA.'*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: The magnitude of change (indirect) is minor to moderate. The overall significance is minor to moderate. The effect would be neutral.

St. George's Circus Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The conservation area appraisal notes under the title 'Setting of the area (significant views and landmarks)' that *'The raison d'être for the planned layout of the circus was to provide a grand road layout to link the new river crossings and the growing urban development of south London. The scheme was conceived with the obelisk forming a landmark and visual focus for travellers approaching the Circus from all directions'*.

The main roads leading to this circus are an aspect of this CA's setting that contributes to its significance.

The December 2018 TVIBHA notes at para 12.432 that *'This CA lies some 1.15km to the south-west of the Site. The CA itself includes new large scale residential development (Blackfriars Circus). Views of the Development from within this CA would be highly limited. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant. The overall significance is minor/insignificant. The effect would be neutral.

Bermondsey Street Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The setting of this conservation area contributes to its significance to a limited degree. As noted in the conservation area appraisal (at para 3.1.1) *'The Conservation Area is close to the dense high rise commercial development of the City of London and London Bridge areas. It lies immediately adjacent to the hub of activity associated with London Bridge Station and Guy's Hospital, and a clear change of character is evident to its quieter, smaller scale. The Conservation Area also contrasts in character with the large areas of mid-twentieth century public housing that adjoin it to the east and the west'.*

The December 2018 TVIBHA notes at para 12.437 that *'This CA is located approximately 275m to the south-east of the Site. It includes several open spaces, such as Tanner Street Park and Leathermarket Gardens, which afford views out to the surrounding context. The Development's impact on views from St Mary Magdalen Churchyard and Leathermarket Gardens can be seen in TVIA views 32 and 33 respectively. Both illustrate that views in the direction of the Site take the group of tall buildings at London Bridge today. The Development would be glimpsed among these. It would be a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Tower Bridge Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The riverside location of this CA is an important attribute of its setting. Notwithstanding, the conservation area appraisal notes (at para 3.1.1) *'The Tower Bridge Conservation Area is characterised by an extraordinarily tight sense of enclosure, which dramatically cuts it off from its surroundings. However, its location right on the southern bank of the Thames in the centre of the city gives it a very particular and unique situation. Tower Bridge itself provides a remarkable approach to the Conservation Area, even though most of the links into it are glimpsed through the narrowest of streets'*.

The December 2018 TVIBHA notes at para 12.442 that *'This CA is located some 650m to the south-east of the Site. The bulk of the conservation area lies to the south-east of Tower Bridge Road. The conservation area's immediate context includes modern housing development at More London, including the recently constructed tall building at Potter's Fields Park. Chances to glimpse the Development from within this CA would be very limited. The best opportunities would be from Tower Bridge and the junction of Tower Bridge Road and Tooley Street (TVIA view 31). Such views take in the tall buildings at London Bridge today. Where visible, the Development would be seen as a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'*.

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral.

Whitefriars Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The riverside location of this CA is an important attribute of its setting. The conservation area character summary notes at the start of Chapter 3 'Summary of character' that among the characteristics that contribute to the special interest of the CA are *'A planned street layout uncommon in the City, set against the more evolutionary pattern of adjacent areas'; 'A unique sense of place created by the quiet grandeur of the Victoria Embankment and buildings, openness of the Thames and proximity of the Temples'; and 'The set-piece created by the transport arteries of the Victoria Embankment, New Bridge Street and Blackfriars Bridge'.*

The December 2018 TVIBHA notes at para 12.447 that *'This CA is located approximately 1.1km to the north-west of the Site. The conservation area's river frontage is undergoing major change at the time of writing. A large scale foreshore structure associated with the Thames Tideway Tunnel project is under construction beside Blackfriars Bridge. The Development would be visible from here, and would be seen from Blackfriars Bridge. The Shard is visible from both locations today. Where visible, the Development would be seen as a high quality addition to the wider context of the CA. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant to minor. The overall significance is minor. The effect would be neutral. The effect is at regional level and long term

Bank Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

As noted in the conservation area character summary, at the start of Chapter 3 'Summary of character', this large CA is *'an area of large-scale commercial buildings set on principal thoroughfares within a network of historic streets, courtyards and*

alleyways, which creates a distinctive and dense urban environment'. It is also 'an area where buildings and streets are harmonised by their predominant use of solid masonry facades with regular punched openings, enriched by abundant classical modelling and surface detail'. While the CA includes modern buildings, its local setting is characterised by a much greater variety of building scale and character and contributes to the significance of this CA to a limited degree.

The December 2018 TVIBHA notes at para 12.452 that *'This CA is located approximately 700m to the north-east of the Site. It sits in the shadow of the City of London's 'Eastern cluster' of tall commercial buildings and includes modern tall office buildings within its boundaries. Visibility of the Development would be restricted to the southern and western boundaries of this CA (Eastcheap and Gracechurch Street). This is illustrated in TVIA view 23, from the junction of Gracechurch Street and Lombard Street. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.*

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant. The overall significance is minor/ insignificant. The effect would be neutral. The effect is at regional level and long term.

Leadenhall Market Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

The CA's setting makes contributes in part to its heritage significance. As noted in the conservation area character summary, at the start of Chapter 6 'Character analysis', *'The conservation area boundary is tightly drawn around the market buildings and the historic streets which provide its townscape setting. The scale of market and surrounding buildings is smaller than the area's office blocks and towers and those buildings on Gracechurch Street, Lime Street and Leadenhall Street. This interplay of scales defines the conservation area's immediate backdrop, particularly the variation in building heights that create a dynamic setting'.*

The December 2018 TVIBHA notes at para 12.457 that *'This CA is located some 850m to the north-east of the Site. The area's close-knit historic townscape contrasts with the larger scale buildings that make up the majority of the City of London today. These larger scale buildings are visible in the background of the CA in the longer*

range views that are possible from within it. The Development has the potential to be seen in glimpsed views from the periphery of the CA, where tall buildings at London Bridge are seen from today. There will be no harmful effect on any element of setting that contributes to the heritage significance of this CA'.

The subsequent assessment of 'the likely significance of effects', based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is insignificant. The overall significance is minor/ insignificant. The effect would be neutral.

Tower Conservation Area

The effect of the Development on the setting of the CA is set out in full in the December 2018 Heritage Statement by PSC (December 2018 ES Appendix 4). This assessment has not been repeated in the main body of December 2018 TVIBHA which sets out the significance of effects. The significance of the conservation area is set out in detail in Appendix A7 to the December 2018 TVIBHA (Statement of Significance).

With regards the setting of the CA, under the heading of 'Character' the conservation area appraisal notes:

- *'the relationship of the city to the river...is important both historically and visually'.*
- *'River traffic has been an essential part of the area's character for hundreds of years. The continued use of St. Katharine's Pier and Tower Pier today enrich the area and make a positive contribution to its urban character'.*
- *'Tower Bridge, along with the White Tower, is one of the internationally recognised symbols of London. The two Victorian Gothic towers and the opening bridge, form a symbolic gateway to the city from the sea. The operation of the bascules, which lift up to allow tall ships to pass through, is a popular, dramatic and theatrical event which has become an essential part of the area's identity'.*

On the subject of views, reference is made to LVMF viewpoints looking into the CA -

- The River Prospect from London Bridge towards Tower Bridge includes views of the Tower of London; and
- The Townscape view of the Tower of London from City Hall.

As noted in the December 2018 Heritage Statement submitted in the planning application (para 1.457), in addition to the LVMF views, the Appraisal identifies a number of local views stating *'there are many important local views, particularly around the Tower walls. The views of the Tower from the north, from the exit to*

Tower Hill underground station and from the pedestrian underpass are particularly significant as they are often the first glimpse of the Tower for visitors. The views down Tower Hill to the river as well as across the moat are also important. Views towards the White Tower along several streets in the area are also significant, for example the view south along Mansell Street.’; and going on to say, ‘Views along the northern approach to Tower Bridge, looking towards the bridge and its distinctive silhouette are also significant, as the historic relationship between the fortress and the bridge can be seen very clearly’.

The aspects of the CA’s setting identified above make contribute to its significance.

The December 2018 TVIBHA notes at para 12.462 that *‘This CA is located approximately 630m to the north-east of the Site. This CA has an urban context, with views from with it in most directions of large scale buildings typical of central London. The Development would appear as a well-designed addition to the grouping of large scale and tall modern buildings at around London Bridge. These include The Shard, The Place, Shard Place and Guys’ Hospital tower. Its visibility is illustrated in TVIA view 12 (LVMF10A.1 – Tower Bridge), view 13 (St Katharine’s Dock), view 26 (Tower of London: Inner Curtain Wall Walkway), view 27 (Tower of London: Inner Ward – north of the White Tower), view 28 (Tower of London Local Setting Study View 1: Tower Green, Inner Ward), and view 29 (Tower of London Local Setting Study View 8: The Royal Mint). It would not harm any element of setting that contributes to the heritage significance of this CA’.*

The subsequent assessment of ‘the likely significance of effects’, based on this, is as follows: This CA is of medium sensitivity. The magnitude of change (indirect) is moderate. The overall significance is moderate. The effect would be neutral. The effect is at regional level and long term.

DRAFT

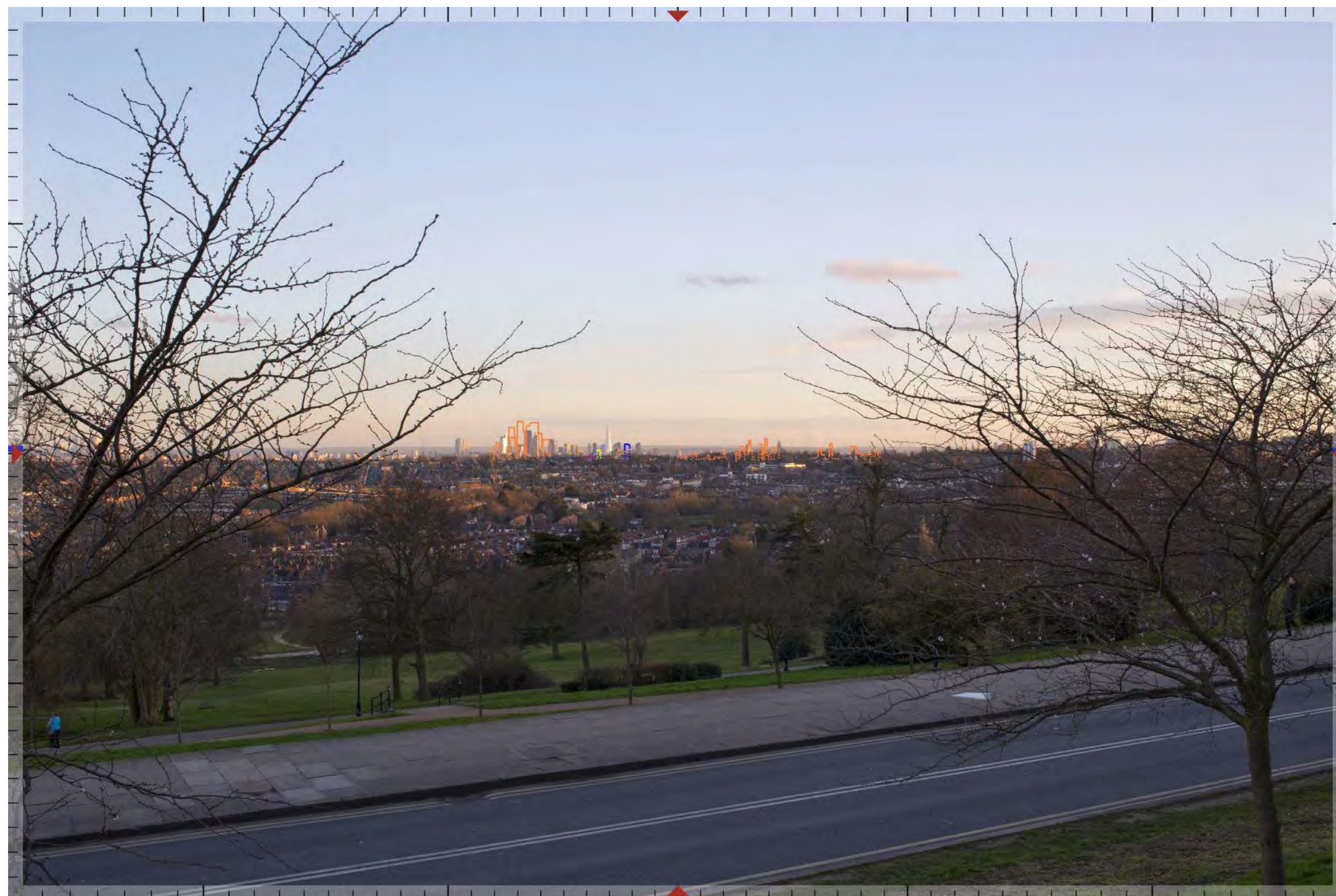
Appendices

UK and Ireland Office Locations





Proposed



Updated cumulative



3462_3011



Existing



Proposed



Updated cumulative



Existing



3462_3021



Proposed



3.1

LVMF 2A.1 | Parliament Hill: the summit - looking toward St Paul's Cathedral | Telephoto



Updated cumulative



Existing



3462_3241



Proposed



Updated cumulative



Existing



3462_3301



Proposed



Updated cumulative



Existing



3462_3311



3462_3315

Proposed



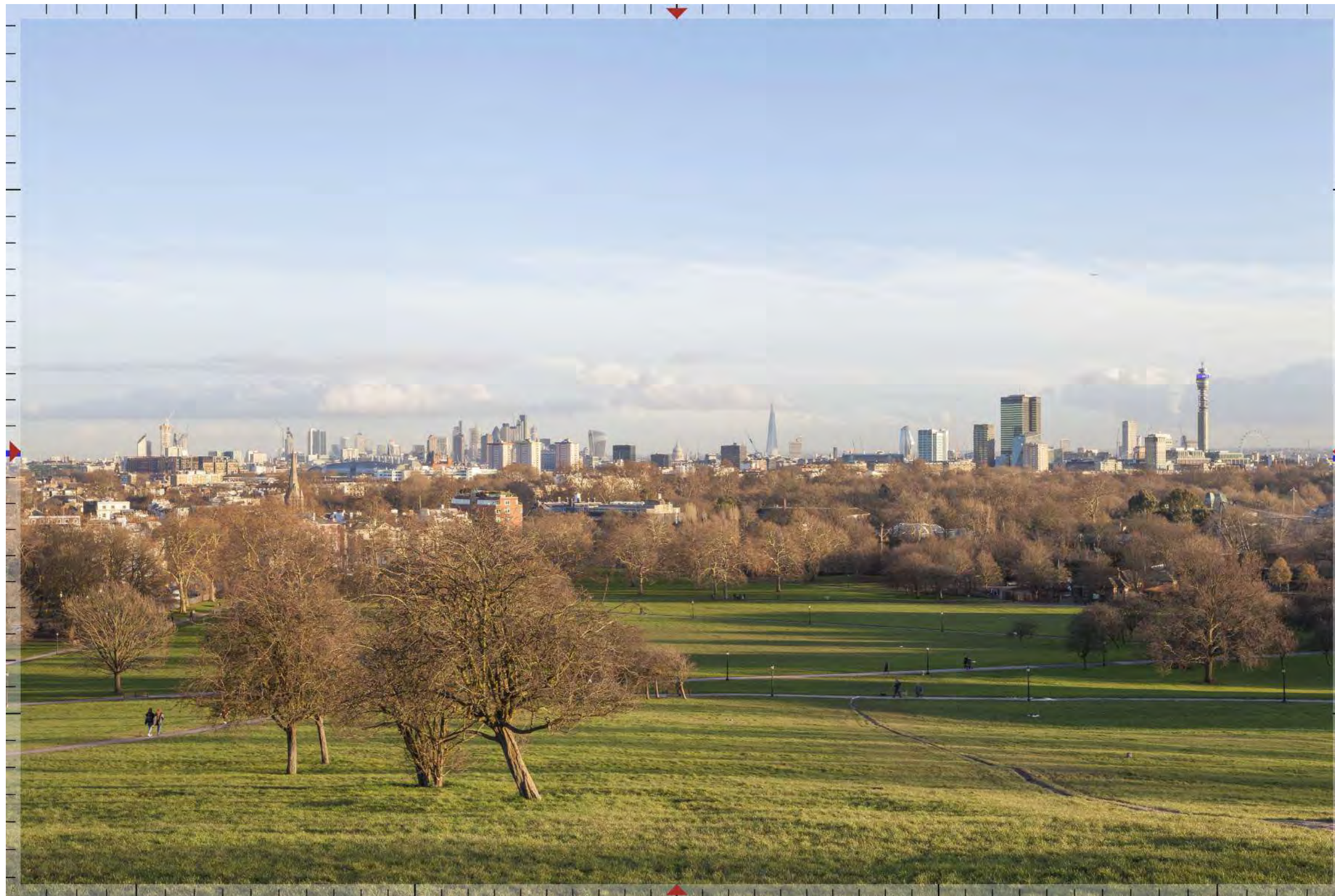
5.1

LVMF 3A.1 | Kenwood: the viewing gazebo - in front of the orientation board | Telephoto



3462_3316

Updated cumulative



3462_3001



Existing



Proposed



3462_3006

Updated cumulative



3462_0721



Existing



Proposed



LVMF 5A.2 | Greenwich Park: the General Wolfe statue - north-east of the statue



Updated cumulative



Existing



3462_4001



Proposed



LVMF 6A.1 | Blackheath Point - near the orientation board



Updated cumulative



3462_3031



Existing



Proposed



LBS Borough View 1 | North facing view from One Tree Hill

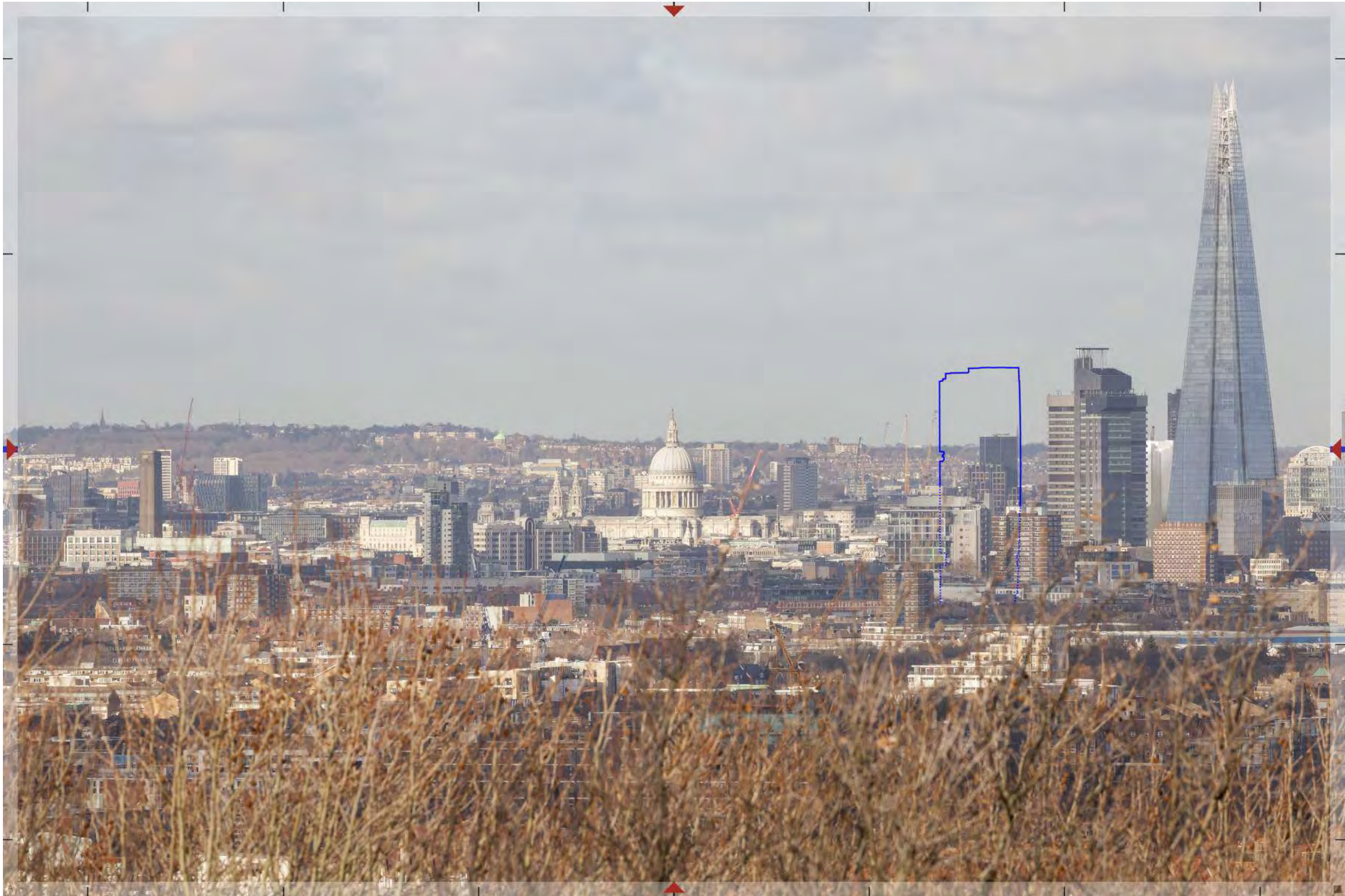


Updated cumulative

3462_3036



Existing

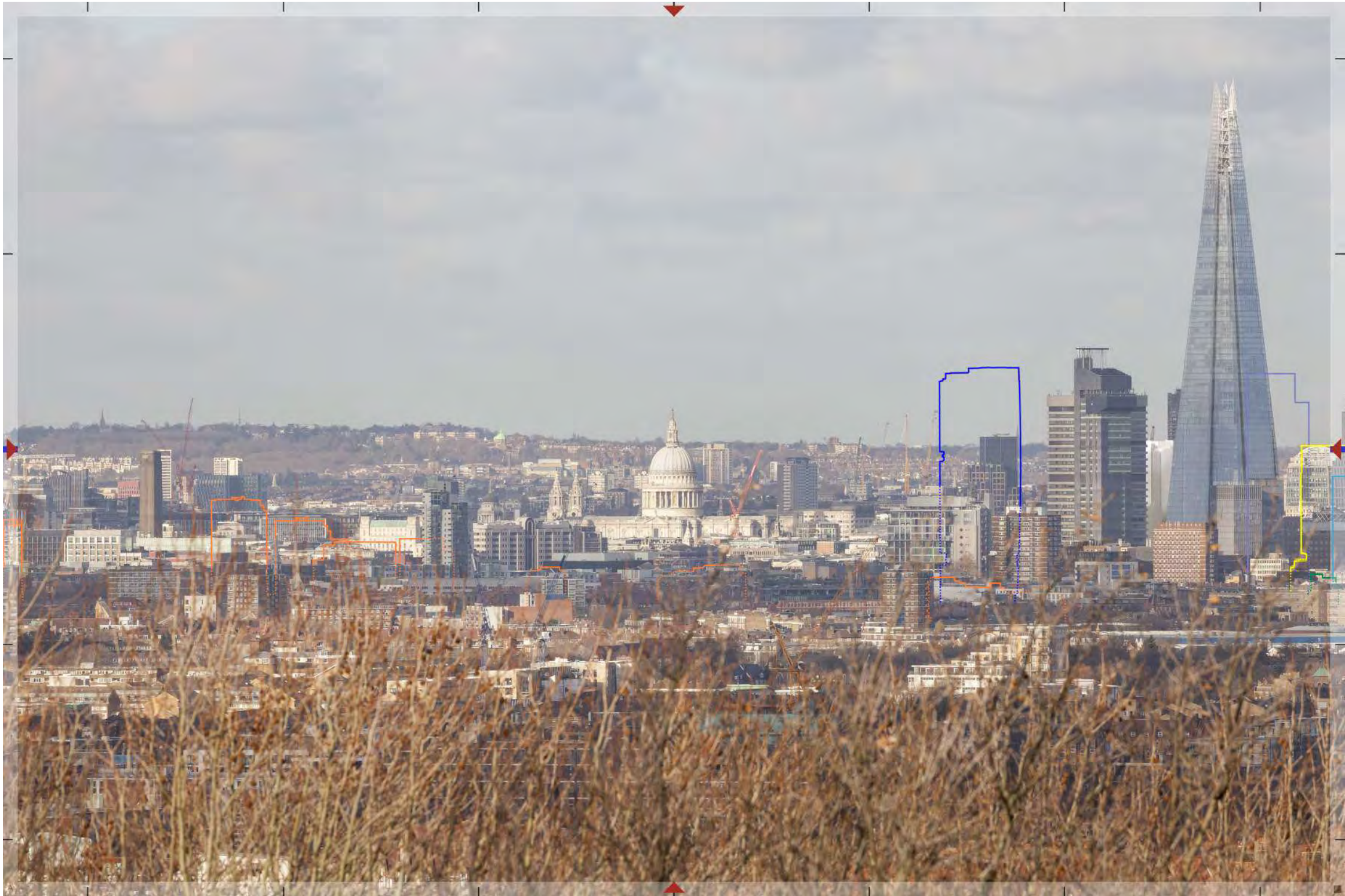


Proposed



9.1

LBS Borough View 1 | North facing view from One Tree Hill | Telephoto



3462_3046

Updated cumulative



3462_3051



Existing



Proposed



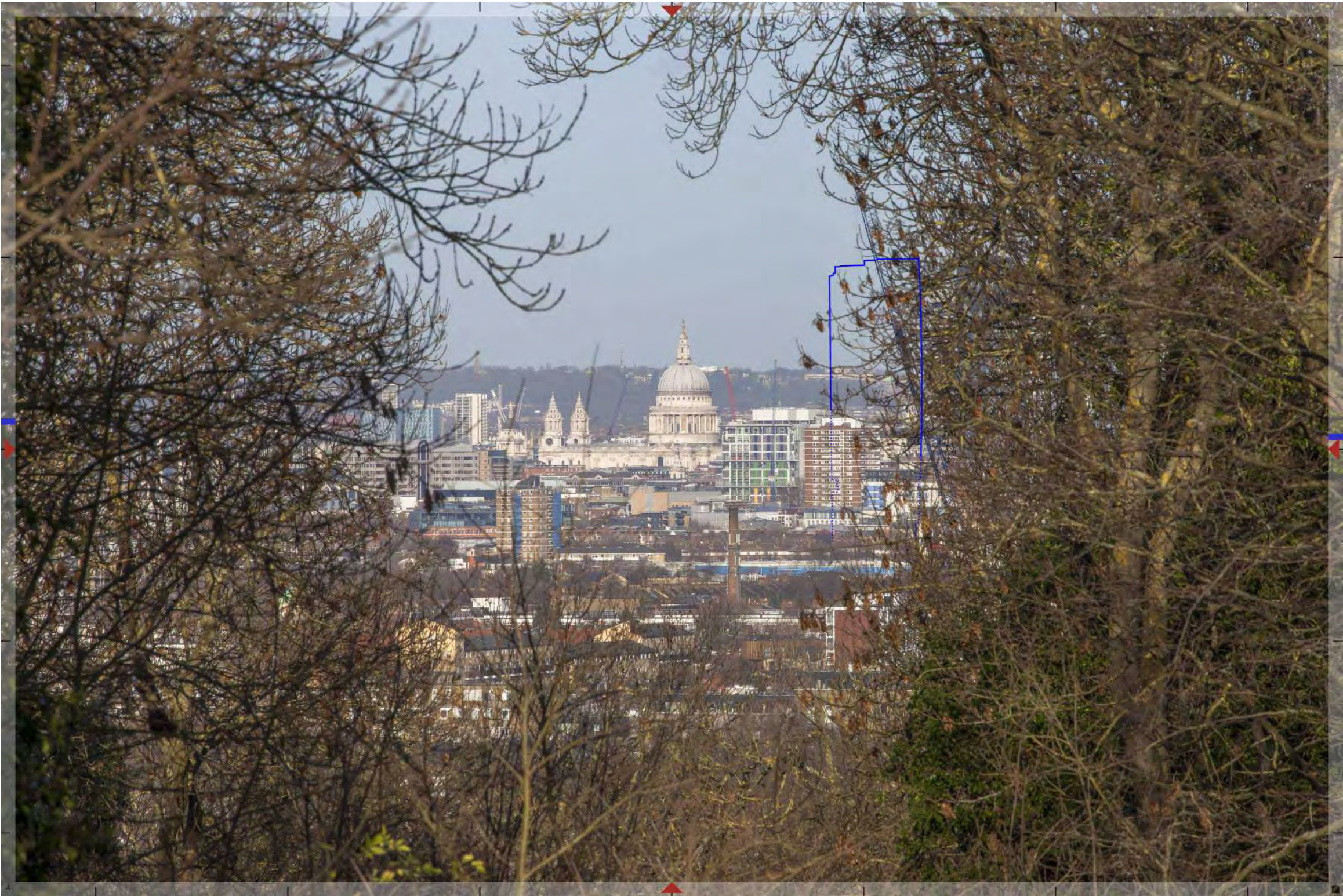
Updated cumulative



3462_3061



Existing



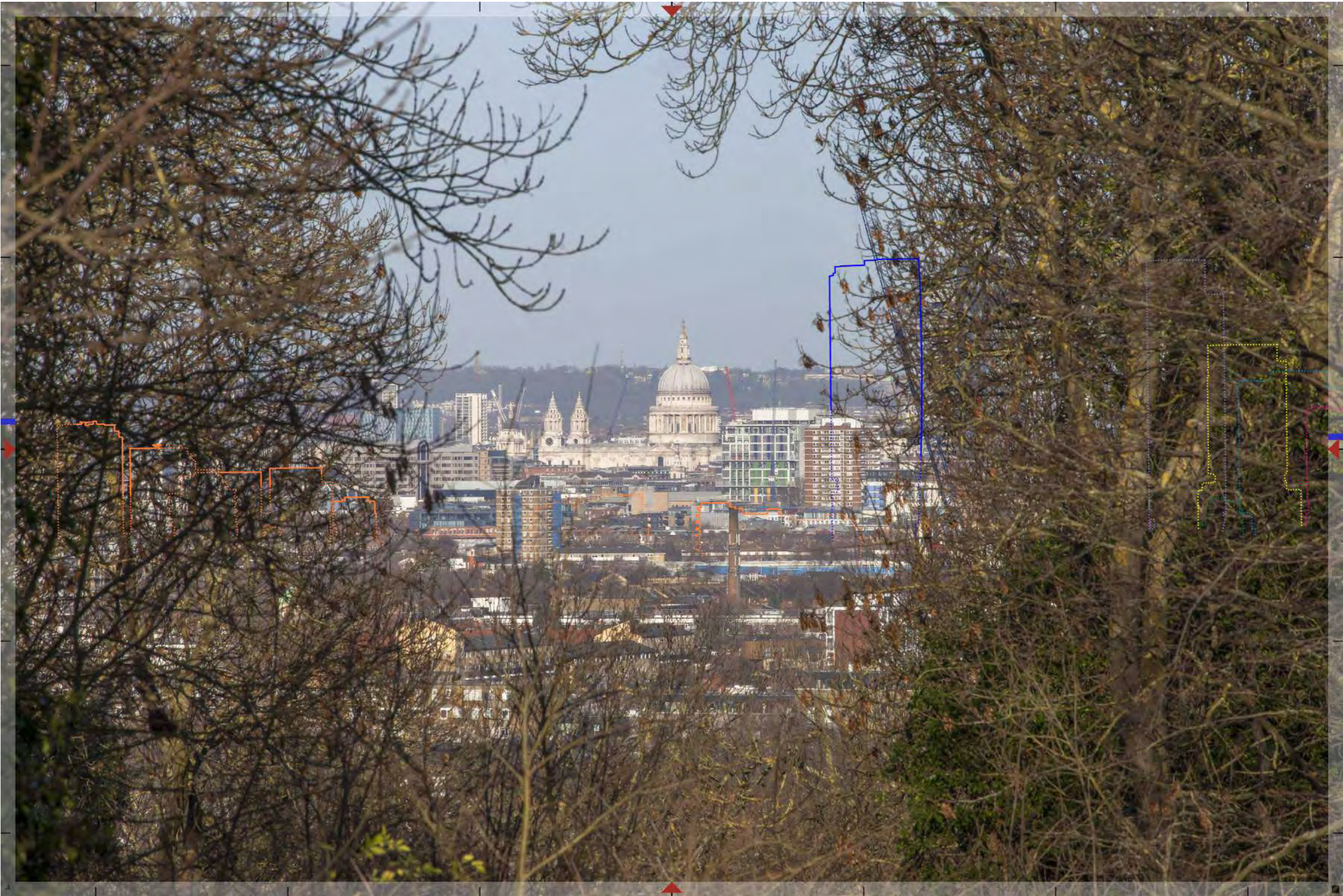
3462_3065

Proposed



10.1

LBS Borough View 2 | St Paul's Cathedral from Nunhead Cemetery | Telephoto



Updated cumulative



3462_0461



Existing



Proposed

3462_0465



Updated cumulative



3462_8801



Existing



Proposed



Updated cumulative



Existing



3462_0471



Proposed



Updated cumulative



Existing



3462_2811



Proposed



Millennium Bridge (centre)



Updated cumulative



3462_0761



Existing



Proposed



Updated cumulative



Existing



3462_0771



Proposed



Updated cumulative



Existing



3462_0911



Proposed



Updated cumulative



Existing

3462_2601





Proposed



Updated cumulative



Existing



3462_1501



Proposed



Old Billingsgate Walk



Updated cumulative



Existing

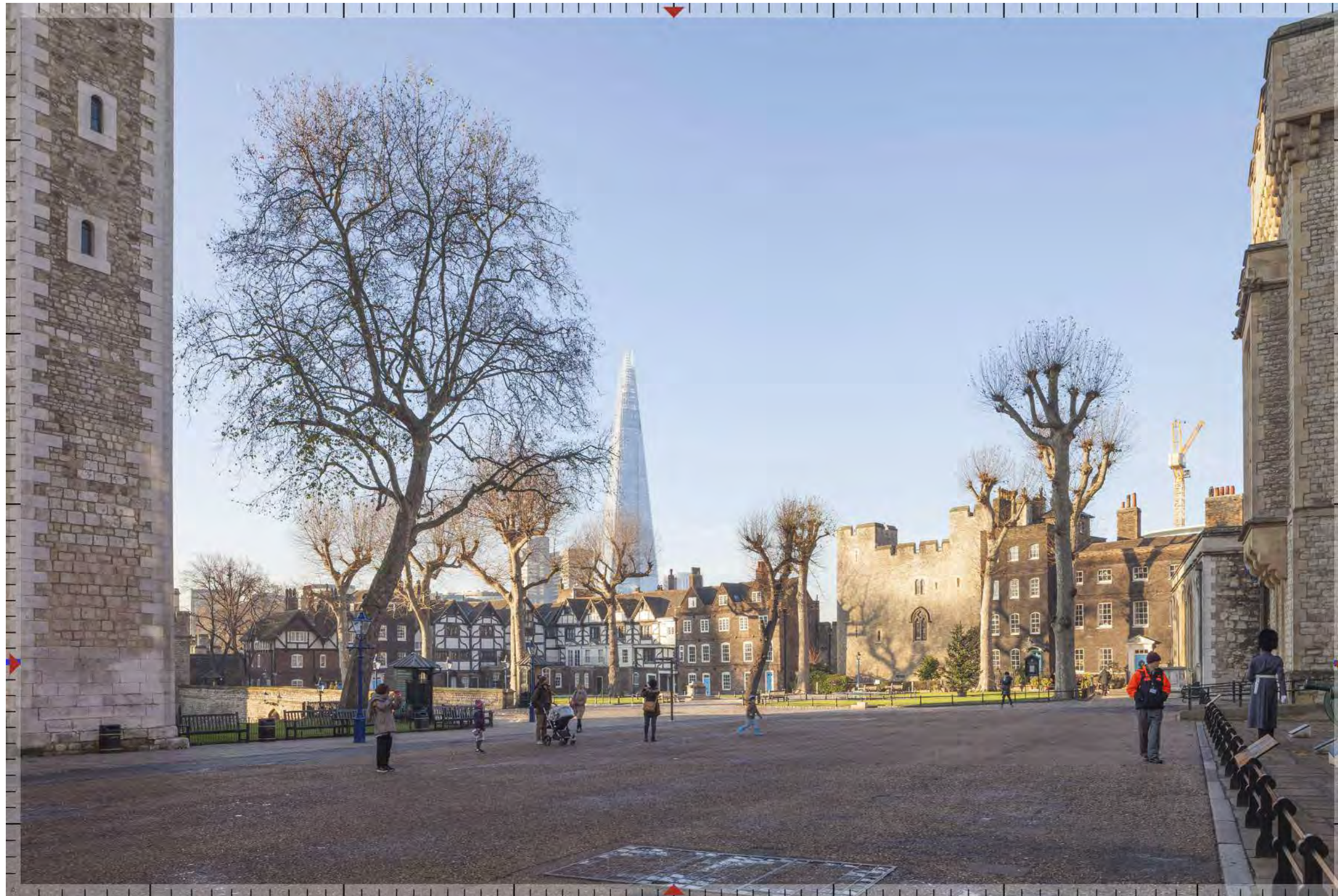




Proposed

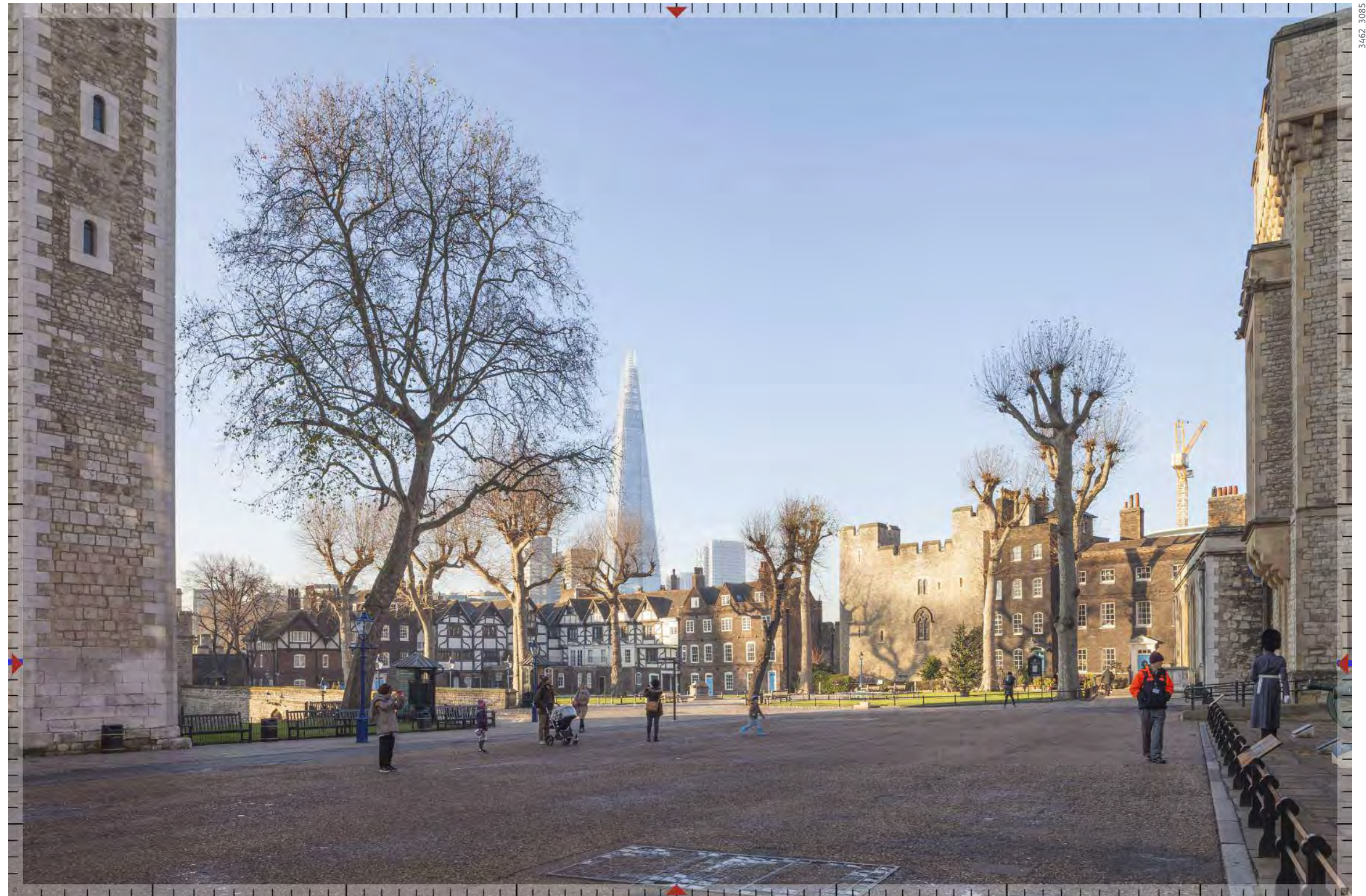


Updated cumulative



Existing





Proposed



Updated cumulative



Existing



Proposed



Updated cumulative



3462_5001



Existing



Proposed



31

Tower Bridge Road / Queen Elizabeth Street



3462_5006

Updated cumulative



3462_5101



Existing



Proposed

3462_5105



Saint Mary Magdalen Churchyard



Updated cumulative



Existing





Proposed



33

Leathermarket Gardens



Updated cumulative

3462_1446



Existing

3462_5301





3462_5305

Proposed



34

Weston Street / Guy Street



3462_5306

Updated cumulative



3462_1421



Existing



Proposed





3/62_1426

Updated cumulative



Existing



Proposed



Southwark Bridge Road outside no.92



Updated cumulative



3462_2831



Existing



Proposed



Red Cross Garden (middle)



Updated cumulative



Existing



3462_2101



Proposed

3462_2105



Southwark Street / Southwark Bridge Road



Updated cumulative

3462_2106



Existing





Proposed



Updated cumulative



Existing

3462_1901





Proposed



Bedale Street / Borough Market



Updated cumulative



Existing



3462_2001



Proposed

3/62_2005



54

Borough High Street / Bedale Street



Updated cumulative

3/462_2006



3462_2501



Existing



Proposed



55

Cathedral Street / Winchester Walk



Updated cumulative



3462_2521



Existing



Proposed



56.2 Southwark Cathedral I north-west corner 1



Updated cumulative



3462_2531



Existing



Proposed



56.3

Southwark Cathedral | north-west corner 2



Updated cumulative



3462_3601



Existing



Proposed

3/462_3605





Updated cumulative

3/462_3606



Existing

3462_2701





Proposed

3/62_2705



London Bridge, outside Glazier’s Hall



Updated cumulative

3/462_2706



3462_1361



Existing



Proposed



Updated cumulative



3462_1341



Existing



Proposed



Ray Street Bridge, corner with Farringdon Lane



Updated cumulative



3462_1321



Existing



Proposed



Islington Local View 3: Vine Street Bridge



Updated cumulative



3462_1301



Existing



Proposed



Updated cumulative



Existing



3462_5341



Proposed



Updated cumulative

Views Assessment	
2.7	Chapter 5 of the December 2018 TVIBHA set out a description and assessment of the effect of the Development ‘as proposed’ and ‘as proposed with cumulative schemes’ for the 67 views contained in that document. As noted in Chapter 1 of this Addendum, no material changes to the Development have been made to date or are currently anticipated that would impact on our assessment. The assessment of the effect of the Development ‘as proposed’ remains as presented in the December 2018 TVIBHA.
2.8	The effect of the Development has been assessed under the revised cumulative condition, taking into account the additional cumulative schemes.
2.9	The methodology for the assessment is as set out in the December 2018 TVIBHA. As set out at paragraph 3.47 of the TVIBHA, the approach to cumulative assessment is to focus on the additional effects of the Development on top of the cumulative ‘future baseline’ formed by consented/submitted schemes (i.e. as if the schemes were in place).
2.10	These views demonstrate that, where visible, the additional schemes illustrated in this revised cumulative condition would be seen to represent an eastward extension to, and consolidation of, the existing grouping of large scale and tall modern buildings around London Bridge Station that form the ‘foot-hills’ to The Shard.
2.11	Taking into account the additional cumulative schemes, the significance of effect of the Development on the views assessed in the December 2018 TVIBHA would remain as set out in the cumulative assessment carried out in that TVIBHA.
Townscape Assessment	
2.12	In terms of townscape, taking into account the additional cumulative schemes illustrated in the preceding views, the significance of effect on townscape would remain as set out in the December 2018 TVIBHA. The effects on the individual TCAs are as follows.
<i>Townscape Character Area 1 – Bankside, Borough and Potters Fields</i>	
2.13	The additional cumulative schemes all lie within this TCA. The effect of the Development, under the revised cumulative condition, would bring about a change of moderate to major magnitude to a TCA of medium to high sensitivity. The significance would be moderate to major . The effect would be beneficial .
2.14	The effect is at local to regional level and long term.
<i>Townscape Character Area 2 – Newington</i>	
2.15	There would be a change of minor magnitude to a TCA of low to medium sensitivity. The significance would be minor . The effect would be neutral .
2.16	The effect is at district level and long term.
<i>Townscape Character Area 3 – Bermondsey</i>	
2.17	There would be a change of minor magnitude to a TCA of low to medium sensitivity. The significance would be minor . The effect would be neutral .
2.18	The effect is at local to district level and long term.
<i>Townscape Character Area 4 –Tower</i>	
2.19	There would be a change of insignificant to minor magnitude to a TCA of high sensitivity. The significance would be minor . The effect would be neutral .
2.20	The effect is at regional level and long term.
<i>Townscape Character Area 5 – North Bank</i>	
2.21	There would be a change of minor to moderate magnitude to a TCA of medium to high sensitivity. The significance would be moderate . The effect would be neutral .
2.22	The effect is at regional level and long term.
Built Heritage Assessment	
2.23	With regard to heritage receptors, the effect of the Development on built heritage assets in the context of the revised cumulative condition would be the same as that set out for the Development considered on its own, as assessed in the December 2018 TVIBHA.

3 **Mitigation Measures and Likely Residual Effects**

3.1 Mitigation measures and likely residual effects for the Development would remain as stated in chapters 6 and 13 of the December 2018 TVIBHA.

4.1 The conclusions of the December 2018 TVIBHA remain valid for the purposes of this updated cumulative assessment. As stated in para.6.22 of that assessment ‘the Development would transform the Site from a disparate collection of buildings, varied in quality, into a major new development in which the best buildings are retained, a major and substantial new building of high quality is added, and the buildings are brought together into a coherent whole with a significant new contribution to the public realm of the conservation area which provides useful new routes and connections, and a variety of new landscaped spaces open to all. The Development would encourage more use and enjoyment of Kings Head Yard, benefitting the conservation area in which it lies. The Development’s office tower would be at a height and scale that would reflect the landmark significance of the Site at the intersection of Borough High Street and St Thomas Street, in close proximity to London Bridge Station. It would take advantage of the townscape opportunities offered by the Site, to the benefit of the local and wider area around it’.

Views

4.2 The December 2018 TVIBHA noted at para. 7.5 that ‘Cumulative development submitted for planning approval at Bankside Yards East and West would change the significance of effect in view 16 from ‘minor/insignificant’ to ‘no effect’. Cumulative development at ITV Studios would change the significance of effect in view 17 from ‘minor/insignificant’ to ‘no effect’. Cumulative development at Doon Street would change the significance of effect in view 18 from ‘moderate’ to ‘minor/insignificant’. Cumulative development at Doon Street and Friars Bridge Court would change the significance of effect in view 19 from ‘moderate’ to ‘minor to moderate’. In all remaining views the significance of effect is unaffected by cumulative development’. The above statement would also apply to the revised cumulative condition.

Townscape

4.3 The December 2018 TVIBHA noted at para 7.6 ‘With regard to TCAs, the overall effect of the Development taking into account cumulative schemes would be unchanged compared to that of the Development considered on its own (as set out in Table 3-2 above), as the visibility, townscape and urban design effects of the Development would not be altered sufficiently by the presence of cumulative schemes to change the overall effect of the Development in respect of each TCA’. The above conclusions would also apply to the Development under the revised cumulative scenario.

Built Heritage

4.4 The December 2018 TVIBHA noted at para 14.3 that ‘With regard to heritage receptors, the effect of the Development on each asset or group of assets in the context of cumulative schemes would be the same as that set out for the

Development considered on its own’. This conclusion would also apply under the revised cumulative scenario.

Appendices

A1 Millerhare’s technical notes on the Views

Scope		Styles			
A1.1	This study tests the visual impact of the Development by GPE (St Thomas Street) Limited at New City Court, 20 St Thomas St, London SE1 9RS. It consists of a series of accurately prepared photomontage images or Accurate Visual Representations (AVR) which are designed to show the visibility and appearance of the Proposed Development from a range of publicly accessible locations around the Site. The views have been prepared by Miller Hare Limited. The technical methodology is consistent with the original TVIBHA.	A1.6	In this study the following groups of views have been defined using the industry standard definitions: <ul style="list-style-type: none">• Distant views – typically with a horizontal Field of View approximately 48 degrees (equivalent to a 35mm lens on 35mm film camera). LVMF views in addition have been shown with their wider setting• Mid-distance views – horizontal Field of View approximately 74 degrees (equivalent to a 24mm lens on 35mm film camera)• Local views – horizontal Field of View approximately 74 degrees (equivalent to a 24mm lens on 35mm film camera)	A1.10	For each viewpoint, the Proposed Development is shown in a defined graphical style. These styles comply with the definitions of AVR style defined by the London View Management Framework. The styles used in this study are:
A1.2	The views included in the study were selected by the project team and they include, where relevant, standard assessment points defined by the Mayor of London and LB Southwark. Where requested, view locations have been refined and additional views added. The full list of views is shown in thumbnail form on the following pages, together with a map showing their location. Detailed co-ordinates for the views, together with information about the source photography are shown in Appendix A2 “View Locations”.	A1.11	For each viewpoint, the Proposed Development is shown in a defined graphical style. These styles comply with the definitions of AVR style defined by the London View Management Framework. The styles used in this study are: <ul style="list-style-type: none">• AVR 1 – a wireline representation showing the silhouette of the proposals. Where a part of the silhouette would be visible in the view it is shown in blue, where it would be invisible, as a result of being occluded by existing structures or dense vegetation, it is shown dotted.• AVR 3 – a fully rendered representation of the building showing the likely appearance of the proposed materials under the lighting conditions obtaining in the selected photograph.		<ul style="list-style-type: none">• Bankside Yards West - Ludgate House• 1 Bank End• 18 Blackfriars (2016) - Office Tower• 18 Blackfriars (2016) - Residential Tower• Friars Bridge Court• Wedge House (2015)• ITV Headquarters• Doon Street• Elizabeth House• 100 Bishopsgate (2012)• 6-8 Bishopsgate (2017)• 1 Undershaft• 100 Leadenhall• 40 Leadenhall• 22 Bishopsgate (2016)• 1 Leadenhall (2018)• 150 Bishopsgate• King Place (2018)• Southbank Place Buildings 1, 2, 3, 4A, 4B, 5, 6 & 7• Capital House (2018)• St Thomas Street Wast - Vinegar Yard• St Thomas Street East - Bermondsey Street & Snowsfield• Arthouse, 2-4 Melior Place• St Thomas Street East - Becket House
A1.3	In preparing each AVR a consistent methodology and approach to rendering has been followed. General notes on the AVRs are given in Appendix A5 “Accurate Visual Representations”, and the detailed methodology used is described in Appendix A6 “Methodology for the production of Accurate Visual Representations”.	A1.7	For each AVR image, the precise Field of View, after any cropping or extension has been applied is shown clearly using indexed markings running around the edges of the image. These indicate increments of 1, 5 and 10 degrees marked away from Optical Axis. Using this peripheral annotation it is possible to detect optical distortions in parts of the image away from the Optical Axis . It is also possible to simulate a different field of view by masking off an appropriate area of the image. More detailed information on the border annotation is contained in Appendix A5 “Accurate Visual Representations”.	4.5	The style of each viewpoint was based the team's professional judgement.
A1.4	From each viewpoint a large format photograph has been taken as the basis of the study image. The composition of this photograph has been selected to allow the Proposed Development to be assessed in a meaningful way in relation to relevant elements of the surrounding context. Typically, photographs have been composed with a horizontal axis of view in order to allow vertical elements of the proposals to be shown vertically in the resulting image. If required in order to show the full extent of the proposals in an natural way the horizon line of the image has been allowed to fall above or below the centre of the image. This has been achieved by applying vertical rise at source using a large format camera or by subsequent cropping of the image. In a limited number of cases the source photograph has been extended vertically to ensure that the full height of the proposals are shown in the images of the future condition. In all cases the horizon line and location of the optical axis are clearly shown by red arrow markers at the edges of the image.	Conditions		Schemes	
A1.5	The lenses chosen for the source photography have been selected to provide a useful Field of View given the distance of the viewpoint from the site location. The lenses used for each view are listed in Appendix A2 “View Locations”.	A1.8	From each selected viewpoint a set of accurate images have been created comparing the future view with the current conditions represented by a carefully taken large format photograph. In this study the following conditions are compared: <ul style="list-style-type: none">• Existing – the appearance today as recorded on the specified date and time• Proposed – the future appearance were the Proposed Development to be constructed• Cumulative – the Proposed Development is shown in the context of other significant schemes considered relevant by the project team	A1.12	In the Cumulative view, the Proposed Development has been shown in the context of other schemes shown in silhouette form (AVR 1) using coloured lines line. Where parts of these schemes would not be visible they are shown as a dotted line. The details of the additional schemes included in the Cumulative view are given in the schedule and overview map included in Appendix A3 “Details of schemes”, these include: <ul style="list-style-type: none">• 185 Park Street• Tower Bridge Magistrates Court• Harper Road• Isis House• 153-159 Borough High Street• 175-179 Long Lane• Lavington Street• 133 Park Street and 105 Sumner Street• Southwark Fire Station• Paris Gardens (2018)• Bankside Yards East - Sampson House
		Presentation		A1.13	
		A1.9		The Proposed Development shown in the study has been defined by drawings and specifications prepared by the client's design team issued to Millerhare in August 2018. Computer models reflecting the Proposed Development have been assembled and refined by Millerhare and images from these models have been supplied to the project team to be checked for accuracy against the design intent. An overview of the study model annotated with key heights is illustrated in Appendix A3 “Details of schemes”.	

Appendices (continued)

A2 View Locations

1 | LVMF 1A.1 | Alexandra Palace: the viewing terrace - south-western section



Camera Location
National Grid Reference 529611.2E 189963.7N
Camera height 94.61m AOD
Looking at Centre of Site
Bearing 164.4°, distance 10.3km
Photography Details
Height of camera 1.60m above ground
Date of photograph 26/04/2018
Time of photograph 18:15
Canon EOS 5D Mark III DSLR
Lens 40mm

2 | LVMF 1A.2 | Alexandra Palace: the viewing terrace - approaching from the north-eastern car park



Camera Location
National Grid Reference 529702.5E 190064.6N
Camera height 94.00m AOD
Looking at Centre of Site
Bearing 165.2°, distance 10.4km
Photography Details
Height of camera 1.60m above ground
Date of photograph 02/03/2015
Time of photograph 17:20
Canon EOS 5D Mark III DSLR
Lens 35mm

3 | LVMF 2A.1 | Parliament Hill: the summit - looking toward St Paul's Cathedral



Camera Location
National Grid Reference 527665.4E 186131.5N
Camera height 98.10m AOD
Looking at Centre of Site
Bearing 138.7°, distance 7.8km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/06/2018
Time of photograph 17:16
Canon EOS 5D Mark II DSLR
Lens 40mm

3.1 | LVMF 2A.1 | Parliament Hill: the summit - looking toward St Paul's Cathedral | Telephoto



Camera Location
National Grid Reference 527665.4E 186131.5N
Camera height 98.10m AOD
Looking at Centre of Site
Bearing 138.6°, distance 7.8km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/06/2018
Time of photograph 17:25
Canon EOS 5D Mark II DSLR
Lens 300mm

4 | LVMF 2B.1 | Parliament Hill: east of the summit - at the prominent oak tree



Camera Location
National Grid Reference 528043.1E 186154.5N
Camera height 71.61m AOD
Looking at Centre of Site
Bearing 147.1°, distance 7.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/08/2018
Time of photograph 17:32
Canon EOS 5D Mark II DSLR
Lens 40mm

5 | LVMF 3A.1 | Kenwood: the viewing gazebo - in front of the orientation board



Camera Location
National Grid Reference 527270.1E 187486.2N
Camera height 114.15m AOD
Looking at Centre of Site
Bearing 142.9°, distance 9.1km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/08/2018
Time of photograph 18:35
Canon EOS 5D Mark II DSLR
Lens 40mm

Appendices (continued)

5.1 | LVMF 3A.1 | Kenwood: the viewing gazebo - in front of the orientation board | Telephoto



Camera Location
National Grid Reference 527270.1E 187486.2N
Camera height 114.15m AOD
Looking at Centre of Site
Bearing 143.0°, distance 9.1km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/08/2018
Time of photograph 18:39
Canon EOS 5D Mark II DSLR
Lens 300mm

6 | LVMF 4A.1 | Primrose Hill: the summit - looking towards St Paul's Cathedral



Camera Location
National Grid Reference 527657.3E 183893.0N
Camera height 68.29m AOD
Looking at Centre of Site
Bearing 122.0°, distance 6.3km
Photography Details
Height of camera 1.60m above ground
Date of photograph 25/01/2018
Time of photograph 15:43
Canon EOS 5D Mark II DSLR
Lens 40mm

7 | LVMF 5A.2 | Greenwich Park: the General Wolfe statue - north-east of the statue



Camera Location
National Grid Reference 538936.1E 177334.5N
Camera height 48.80m AOD
Looking at Centre of Site
Bearing 299.0°, distance 6.8km
Photography Details
Height of camera 1.60m above ground
Date of photograph 24/02/2017
Time of photograph 09:42
Canon EOS 5D Mark III DSLR
Lens 35mm

8 | LVMF 6A.1 | Blackheath Point - near the orientation board



Camera Location
National Grid Reference 538238.2E 176823.1N
Camera height 47.61m AOD
Looking at Centre of Site
Bearing 304.9°, distance 6.4km
Photography Details
Height of camera 1.60m above ground
Date of photograph 13/06/2018
Time of photograph 11:38
Canon EOS 5D Mark II DSLR
Lens 70mm

9 | LBS Borough View 1 | North facing view from One Tree Hill



Camera Location
National Grid Reference 535430.0E 174189.3N
Camera height 91.88m AOD
Looking at Centre of Site
Bearing 333.6°, distance 6.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 16/01/2018
Time of photograph 13:16
Canon EOS 5D Mark II DSLR
Lens 24mm

9.1 | LBS Borough View 1 | North facing view from One Tree Hill | Telephoto



Camera Location
National Grid Reference 535430.1E 174189.4N
Camera height 91.88m AOD
Looking at Centre of Site
Bearing 334.1°, distance 6.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 16/01/2018
Time of photograph 13:08
Canon EOS 5D Mark II DSLR
Lens 300mm

Appendices (continued)

10 | LBS Borough View 2 | St Paul's Cathedral from Nunhead Cemetery



Camera Location
National Grid Reference 535367.0E 175378.2N
Camera height 60.99m AOD
Looking at Centre of Site
Bearing 330.0°, distance 5.5km
Photography Details
Height of camera 1.60m above ground
na
Lens na

10.1 | LBS Borough View 2 | St Paul's Cathedral from Nunhead Cemetery | Telephoto



Camera Location
National Grid Reference 535367.1E 175378.1N
Camera height 60.99m AOD
Looking at Centre of Site
Bearing 330.0°, distance 5.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 16/01/2018
Time of photograph 10:27
Canon EOS 5D Mark II DSLR
Lens 300mm

12 | LVMF 10A.1 | Tower Bridge: Upstream - The North Bastion



Camera Location
National Grid Reference 533665.0E 180311.4N
Camera height 14.82m AOD
Looking at Centre of Site
Bearing 259.9°, distance 1.0km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/04/2017
Time of photograph 09:44
Canon EOS 5D Mark III DSLR
Lens 24mm

13 | St Katharine's Dock, at Girl with a Dolphin Fountain



Camera Location
National Grid Reference 533790.0E 180355.1N
Camera height 6.74m AOD
Looking at Centre of Site
Bearing 242.6°, distance 1.1km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 09:16
Canon EOS 5D Mark II DSLR
Lens 24mm

14 | LVMF 12B.1 | Southwark Bridge: downstream - close to the City of London bank



Camera Location
National Grid Reference 532386.3E 180647.1N
Camera height 13.93m AOD
Looking at Centre of Site
Bearing 138.3°, distance 0.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 03/04/2017
Time of photograph 17:40
Canon EOS 5D Mark III DSLR
Lens 24mm

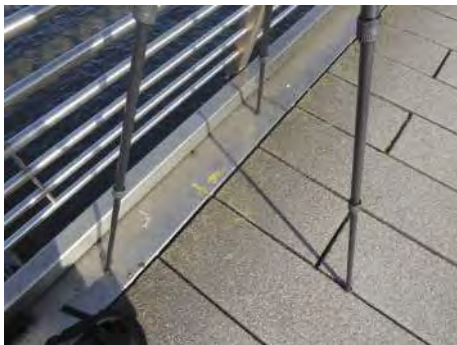
15 | Millennium Bridge (centre)



Camera Location
National Grid Reference 532052.5E 180687.5N
Camera height 15.32m AOD
Looking at Centre of Site
Bearing 128.8°, distance 0.9km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/11/2017
Time of photograph 14:12
Canon EOS 5D Mark II DSLR
Lens 24mm

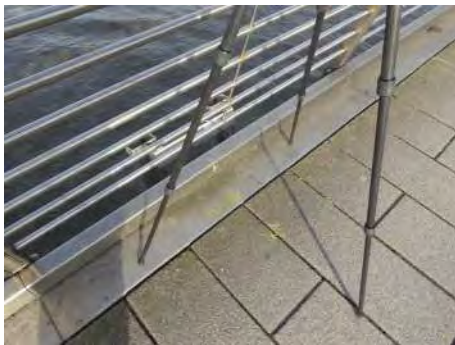
Appendices (continued)

18 | LVMF 17B.1 | Golden Jubilee/Hungerford Footbridges: downstream - crossing the Westminster bank



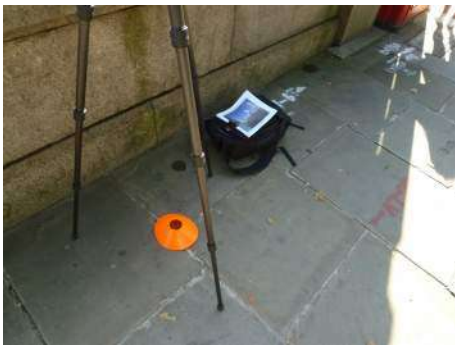
Camera Location
National Grid Reference 530470.6E 180325.7N
Camera height 13.58m AOD
Looking at Centre of Site
Bearing 91.6°, distance 2.3km
Photography Details
Height of camera 1.60m above ground
Date of photograph 07/03/2017
Time of photograph 14:45
Canon EOS 5D Mark III DSLR
Lens 24mm

19 | LVMF 17B.2 | Golden Jubilee/Hungerford Footbridges: downstream - close to the Westminster bank



Camera Location
National Grid Reference 530521.7E 180301.9N
Camera height 13.64m AOD
Looking at Centre of Site
Bearing 89.9°, distance 2.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 07/03/2017
Time of photograph 15:12
Canon EOS 5D Mark III DSLR
Lens 24mm

22 | Victoria Embankment, opposite Temple Gardens



Camera Location
National Grid Reference 531201.9E 180798.4N
Camera height 6.26m AOD
Looking at Centre of Site
Bearing 114.8°, distance 1.7km
Photography Details
Height of camera 1.60m above ground
Date of photograph 10/08/2017
Time of photograph 16:50
Canon EOS 5D Mark II DSLR
Lens 24mm

24 | London Bridge: upstream - at the City of London bank



Camera Location
National Grid Reference 532815.3E 180630.5N
Camera height 15.55m AOD
Looking at Centre of Site
Bearing 183.4°, distance 0.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 08:24
Canon EOS 5D Mark II DSLR
Lens 24mm

25 | Old Billingsgate Walk



Camera Location
National Grid Reference 533086.6E 180586.9N
Camera height 7.16m AOD
Looking at Centre of Site
Bearing 208.8°, distance 0.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 08:53
Canon EOS 5D Mark II DSLR
Lens 24mm

26 | Tower of London: Inner Curtain Wall Walkway



Camera Location
National Grid Reference 533624.9E 180474.1N
Camera height 13.59m AOD
Looking at Centre of Site
Bearing 243.3°, distance 1.0km
Photography Details
Height of camera 1.60m above ground
Date of photograph 07/08/2018
Time of photograph 08:49
Canon EOS 5D Mark II DSLR
Lens 24mm

Appendices (continued)

27 | Tower of London: Inner Ward, north of the White Tower



Camera Location
National Grid Reference 533616.8E 180591.8N
Camera height 13.32m AOD
Looking at Centre of Site
Bearing 239.8°, distance 1.0km
Photography Details
Height of camera 1.60m above ground
Date of photograph 12/12/2017
Time of photograph 09:42
Canon EOS 5D Mark II DSLR
Lens 24mm

29 | Tower of London Local Setting Study View 8: The Royal Mint



Camera Location
National Grid Reference 533794.8E 180690.1N
Camera height 13.65m AOD
Looking at Centre of Site
Bearing 245.7°, distance 1.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 29/04/2017
Time of photograph 08:02
Canon EOS 5D Mark II DSLR
Lens 24mm

31 | Tower Bridge Road / Queen Elizabeth Street



Camera Location
National Grid Reference 533565.6E 179960.8N
Camera height 7.52m AOD
Looking at Centre of Site
Bearing 267.4°, distance 0.9km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 10:06
Canon EOS 5D Mark II DSLR
Lens 24mm

32 | Saint Mary Magdalen Churchyard



Camera Location
National Grid Reference 533376.6E 179401.8N
Camera height 6.46m AOD
Looking at Centre of Site
Bearing 317.4°, distance 1.0km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 10:19
Canon EOS 5D Mark II DSLR
Lens 24mm

33 | Leathermarket Gardens



Camera Location
National Grid Reference 533123.9E 179691.5N
Camera height 4.72m AOD
Looking at Centre of Site
Bearing 320.0°, distance 0.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 10:35
Canon EOS 5D Mark II DSLR
Lens 24mm

34 | Weston Street / Guy Street



Camera Location
National Grid Reference 532967.2E 179777.1N
Camera height 4.92m AOD
Looking at Centre of Site
Bearing 338.2°, distance 0.4km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 10:58
Canon EOS 5D Mark II DSLR
Lens 24mm

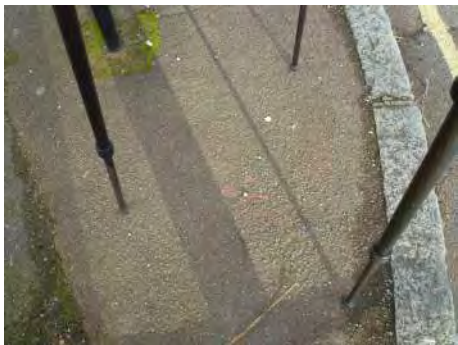
Appendices (continued)

35 | Tabard Gardens



Camera Location
National Grid Reference 532675.1E 179507.1N
Camera height 5.64m AOD
Looking at Centre of Site
Bearing 7.9°, distance 0.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 11:21
Canon EOS 5D Mark II DSLR
Lens 24mm

37 | Southwark Bridge Road outside no.92



Camera Location
National Grid Reference 532171.1E 179917.9N
Camera height 5.81m AOD
Looking at Centre of Site
Bearing 73.2°, distance 0.6km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/11/2017
Time of photograph 13:32
Canon EOS 5D Mark II DSLR
Lens 24mm

38 | Red Cross Garden (middle)



Camera Location
National Grid Reference 532339.5E 179952.2N
Camera height 5.93m AOD
Looking at Centre of Site
Bearing 72.2°, distance 0.4km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/11/2017
Time of photograph 13:06
Canon EOS 5D Mark II DSLR
Lens 24mm

41 | Southwark Street / Southwark Bridge Road



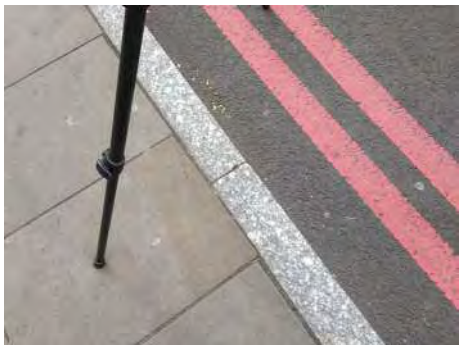
Camera Location
National Grid Reference 532253.7E 180156.7N
Camera height 5.48m AOD
Looking at Centre of Site
Bearing 94.8°, distance 0.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 24/09/2017
Time of photograph 15:38
Canon EOS 5D Mark II DSLR
Lens 24mm

52 | St Thomas Street, outside St. Thomas' Church



Camera Location
National Grid Reference 532755.2E 180177.4N
Camera height 6.28m AOD
Looking at Centre of Site
Bearing 157.1°, distance 0.0km
Photography Details
Height of camera 1.60m above ground
Date of photograph 03/10/2017
Time of photograph 09:07
Canon EOS 5D Mark II DSLR
Lens 24mm

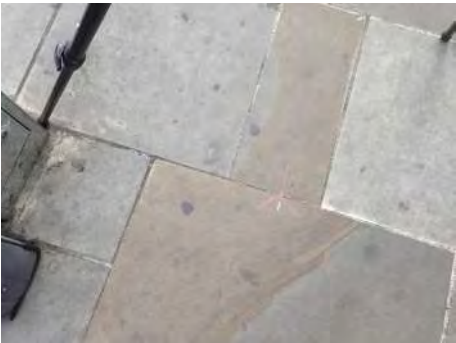
53 | Bedale Street / Borough Market



Camera Location
National Grid Reference 532674.1E 180218.1N
Camera height 7.29m AOD
Looking at Centre of Site
Bearing 138.1°, distance 0.1km
Photography Details
Height of camera 1.60m above ground
Date of photograph 24/09/2017
Time of photograph 16:02
Canon EOS 5D Mark II DSLR
Lens 24mm

Appendices (continued)

54 | Borough High Street / Bedale Street



Camera Location
National Grid Reference 532689.4E 180212.9N
Camera height 7.14m AOD
Looking at Centre of Site
Bearing 130.8°, distance 0.1km
Photography Details
Height of camera 1.60m above ground
Date of photograph 24/09/2017
Time of photograph 16:09
Canon EOS 5D Mark II DSLR
Lens 24mm

55 | Cathedral Street / Winchester Walk



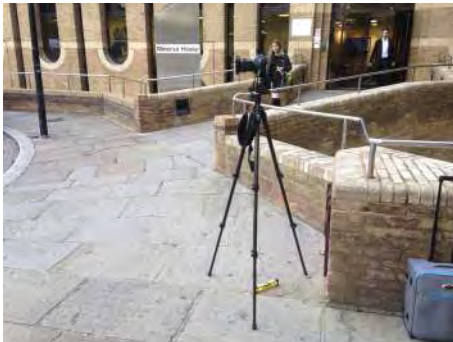
Camera Location
National Grid Reference 532629.3E 180310.1N
Camera height 6.33m AOD
Looking at Centre of Site
Bearing 129.3°, distance 0.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/09/2017
Time of photograph 16:42
Canon EOS 5D Mark II DSLR
Lens 24mm

56.2 | Southwark Cathedral | north-west corner 1



Camera Location
National Grid Reference 532656.5E 180371.3N
Camera height 6.09m AOD
Looking at Centre of Site
Bearing 135.7°, distance 0.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/09/2017
Time of photograph 16:54
Canon EOS 5D Mark II DSLR
Lens 24mm

56.3 | Southwark Cathedral | north-west corner 2



Camera Location
National Grid Reference 532662.2E 180376.0N
Camera height 6.23m AOD
Looking at Centre of Site
Bearing 163.2°, distance 0.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 28/09/2017
Time of photograph 17:24
Canon EOS 5D Mark II DSLR
Lens 24mm

56.6 | Southwark Cathedral: Millennium Courtyard | Panorama



Camera Location
National Grid Reference 532687.4E 180351.8N
[Estimated]
Camera height 6.29m AOD
Looking at Centre of Site
Bearing 165.0°, distance 0.2km
Photography Details
Height of camera 1.60m above ground
na
Lens na

57 | London Bridge, outside Glazier's Hall



Camera Location
National Grid Reference 532766.0E 180376.0N
Camera height 14.01m AOD
Looking at Centre of Site
Bearing 161.1°, distance 0.2km
Photography Details
Height of camera 1.60m above ground
Date of photograph 22/09/2017
Time of photograph 08:15
Canon EOS 5D Mark II DSLR
Lens 24mm

Appendices (continued)

58 | Islington Local View 4: Farringdon Lane, near Ray Street Bridge



Camera Location
National Grid Reference 531366.6E 182194.2N
Camera height 14.77m AOD
Looking at Centre of Site
Bearing 146.3°, distance 2.5km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/10/2017
Time of photograph 16:22
Canon EOS 5D Mark II DSLR
Lens 24mm

59 | Ray Street Bridge, corner with Farringdon Lane



Camera Location
National Grid Reference 531386.0E 182169.6N
Camera height 13.99m AOD
Looking at Centre of Site
Bearing 147.5°, distance 2.4km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/10/2017
Time of photograph 16:15
Canon EOS 5D Mark II DSLR
Lens 24mm

60 | Islington Local View 3: Vine Street Bridge



Camera Location
National Grid Reference 531436.8E 182093.3N
Camera height 15.00m AOD
Looking at Centre of Site
Bearing 145.2°, distance 2.3km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/10/2017
Time of photograph 16:37
Canon EOS 5D Mark II DSLR
Lens 24mm

61 | Islington Local View 1: Clerkenwell Road, bridge across Farringdon



Camera Location
National Grid Reference 531451.4E 182072.7N
Camera height 15.54m AOD
Looking at Centre of Site
Bearing 146.2°, distance 2.3km
Photography Details
Height of camera 1.60m above ground
Date of photograph 06/10/2017
Time of photograph 16:00
Canon EOS 5D Mark II DSLR
Lens 24mm

62 | Trinity Church Square, south-west corner



Camera Location
National Grid Reference 532356.8E 179453.8N
Camera height 6.07m AOD
Looking at Centre of Site
Bearing 50.8°, distance 0.8km
Photography Details
Height of camera 1.60m above ground
Date of photograph 20/02/2018
Time of photograph 14:34
Canon EOS 5D Mark II DSLR
Lens 24mm

Appendices (continued)

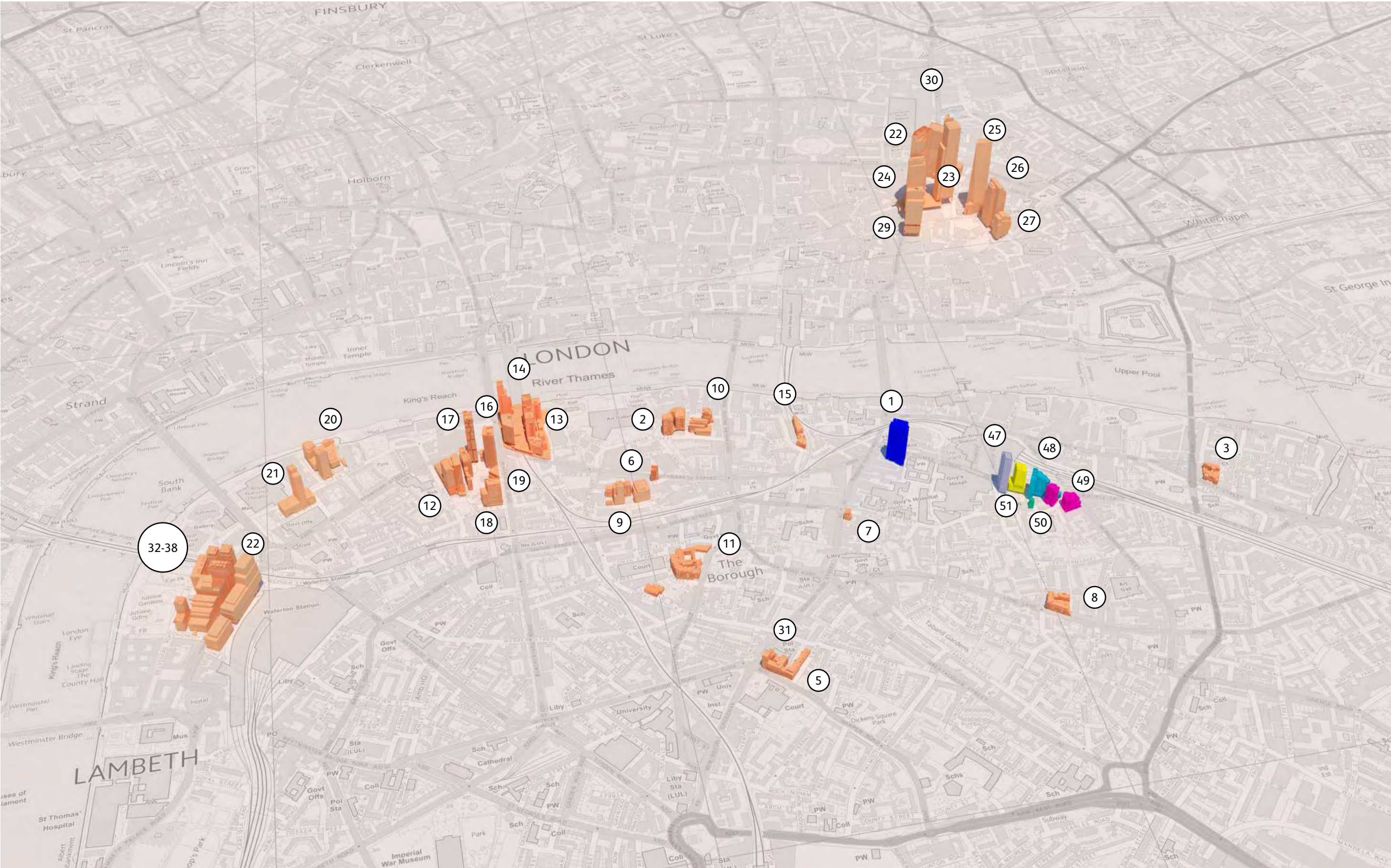
A3 Details of schemes

index	scheme name	address	reference	PA	status	source of model data	positioning method	MH reference	colour
1	New City Court	New City Court, 4-26 St Thomas Street, London SE1 9RS	18/AP/4039	SBC	Submitted for planning	Model supplied by AHMM	Position relative to O.S. supplied by architect	swrk0139-b.detail180828-ahmm-proposed-chalk	Bright Blue
2	185 Park Street (2017)	185 Park Street, Southwark, London, SE1	17/AP/1944	SBC	Legal Consent granted	Model supplied by KPF	Position relative to O.S. supplied by architect	swrk0087.surface150401-nl-consented	Bright Orange
3	Tower Bridge Magistrates Court	Tower Bridge Magistrates Court and Police station, 209-211 Tooley Street, London, SE1 2JY	15/AP/3303	SBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0162.mass180813-kt-consented	Bright Orange
4	Capital House (2014)	Captial House, 40-46 Weston Street, London. SE1 3QD	14/AP/4640	SBC	Proposed	Model built by Millerhare based on design specifications from SPPARC	Position relative to O.S. supplied by architect	swrk0292.detail140727-fg-proposed	Bright Orange
5	Harper Road	25-29 Harper Road, London, SE1 6AW and Formet Court Building, Swan Street, London SE1 1DF	15/AP/3886	SBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0269-c.mass180821-rb-consented	Bright Orange
6	Isis House	Isis House, 67-69 Southwark Street, London, SE1 OHX	13/AP/2075	SBC	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0081-a.profile160219-am-consented	Bright Orange
7	153-159 Borough High Street	153-159 Borough High Street, London, SE1 1HR	15/AP/4980	SBC	Legal Consent granted	n/a	n/a	swrk0290-g.profile171122-dp-consented	Bright Orange
8	175-179 Long Lane	175-179 Long Lane, London, SE1 4PN	13/AP/4586	SBC	Completed	n/a	n/a	swrk0305-c.profile171122-dp-consented	Bright Orange
9	Lavington Street	Lavington Street, London SE1	16/AP/2668	SBC	Legal Consent granted	n/a	n/a	swrk0102-b.surface170324-am-proposed	Bright Orange
10	133 Park Street and 105 Sumner Street	133 Park Street, London SE1 9EA and 106 Sumner Street, London SE1 9HZ	16/AP/4569	SBC	Legal Consent granted	n/a	n/a	swrk0088-b.mass170717-jh1-consented	Bright Orange
11	Southwark Fire Station	Southwark Fire Station, 94 Southwark Bridge Road, London, SE1 OEG, Grotto Place and Grotto Podiums	17/AP/0367	SBC	Legal Consent granted	n/a	n/a	swrk0263.profile180328-dp-consented	Bright Orange
12	Paris Gardens (2018)	1-5 Paris Gardens and 16-19 Hatfields, London, SE1 8ND	17/AP/4230	SBC	Legal Consent granted	Model supplied by KPF	Position relative to O.S. supplied by architect	swrk0030-c.profile180515-kpf-consented	Bright Orange
13	Bankside Yards East – Sampson House	Sampson House, 64 Hopton Street, London, SE1 9JH	17/AP/2286	SBC	Proposed	n/a	n/a	swrk0079.detail180410-plp-proposed-chalk	Bright Orange
14	Bankside Yards West – Ludgate House	64 Hopton Street, London SE1	17/AP/2286	SBC	Proposed	n/a	n/a	swrk0079.detail170505-plp-proposed	Bright Orange
15	1 Bank End	1 Bank End (site, including Railway Arches and Thames House, bounded by Stoney Street, Clink Street and Park Street	15/AP/3066	SBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0105.mass160916-rb-consented	Bright Orange
16	18 Blackfriars (2016) – Office Tower	Land at 18 Blackfriars Road bounded by Stamford Street, Paris Gardens and Christ Church Gardens, London, SE1 8NY	16/AP/5239	SBC	Legal Consent granted	n/a	n/a	swrk0001-b.profile161014-bg-proposed-office	Bright Orange
17	18 Blackfriars (2016) – Residential Tower	Land at 18 Blackfriars Road bounded by Stamford Street, Paris Gardens and Christ Church Gardens, London, SE1 8NY	16/AP/5239	SBC	Legal Consent granted	n/a	n/a	swrk0001-a.profile161014-wea-proposed-resi	Bright Orange
18	Friars Bridge Court	Friars Bridge Court, 41-45 Blackfriars Road, London SE1 8NZ	16/AP/1660	SBC	Legal Consent granted	Model supplied by PLP Architects	Position relative to O.S. supplied by architect	swrk0002-b.detail160309-plp-proposed-chalk	Bright Orange
19	Wedge House (2015)	Wedge House, 32-40 Blackfriars Road, London, SE1 8PB	15/AP/0237	SBC	Under Construction	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0002-a.surface150313-rb-proposed	Bright Orange
20	ITV Headquarters	The London Television Centre, 60 – 72 Upper Ground, London, SE1 9LT	17/03986/FUL	LBC	Legal Consent granted	Model supplied by Hopkins Architects and simplified by Millerhare	Position relative to O.S. supplied by architect	lamb0047.profile170613-hopkins-proposed	Bright Orange
21	Doon Street	Coin Street Site A, Doon Street, London. SE1	11/00996/FUL	LBC	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	lamb0057-pa1.surface070620-ru-consented	Bright Orange
22	Elizabeth House	Elizabeth House, 39 York Road, London, SE1 7NQ	12/01327/FUL	LBC	Legal Consent granted	Model supplied by David Chipperfield	Position relative to O.S. supplied by architect	lamb0207.profile120207-fg-proposed	Bright Orange
23	100 Bishopsgate (2012)	100 Bishopsgate, City of London, EC2	12/00129/FULL	CoL	Under Construction	Model supplied by Allies and Morrison and simplified by Millerhare	Position relative to O.S. supplied by architect	city0311-g.surface151105-am-proposed	Bright Orange
24	6-8 Bishopsgate (2017)	6 – 8 Bishopsgate & 150 Leadenhall Street London EC2N 4DA & EC3V 4QT	17/00447/FULEIA	CoL	Legal Consent granted	Model supplied by Wilkinson Eyre Architects and simplified by Millerhare	Position relative to O.S. supplied by architect	city0311-c.profile170321-wea-proposed	Bright Orange
25	1 Undershaft	1 Undershaft, London, EC3P 3DQ	16/00075/FULEIA	CoL	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	city0311-f.mass161020-kn-proposed-lower	Bright Orange
26	100 Leadenhall Street	100 Leadenhall Street London EC3A 3BP	18/00152/FULEIA	CoL	Legal Consent granted	Paper planning application drawings from local authority	Best fit to Ordnance Survey	city0310-c.profile180316-dp-proposed	Bright Orange
27	40 Leadenhall Street	Site Bounded By 19-21 & 22 Billiter Street, 49 Leadenhall Street, 108 & 109-114 Fenchurch Street, 6-8 & 9-13 Fenchurch Buildings London EC3	13/01004/FULEIA	CoL	Legal Consent granted	Model supplied by Make Architects and simplified by Millerhare	Position relative to O.S. supplied by architect	city0273.surface150604-fg-proposed-plant	Bright Orange
28	22 Bishopsgate (2016)	22 Bishopsgate London EC2N	16/00849/FULEIA	CoL	Proposed	Model supplied by PLP	Position relative to O.S. supplied by architect	city0311-b.detail180904-plp-proposed-chalk	Bright Orange
29	1 Leadenhall (2018)	Leadenhall Court 1 Leadenhall Street London EC3V 1PP	18/00740/FULEIA	CoL	Legal Consent granted	Model supplied by Make	Position relative to O.S. supplied by architect	city0261-a.surface180607-make-consented	Bright Orange
30	150 Bishopsgate	Site Bounded By Stone House And Staple Hall Bishopsgate Devonshire Row London EC2	14/01151/FULL	CoL	Legal Consent granted	Model supplied by PLP	Position relative to O.S. supplied by architect	city0313-b.profile151012-plp-proposed	Bright Orange

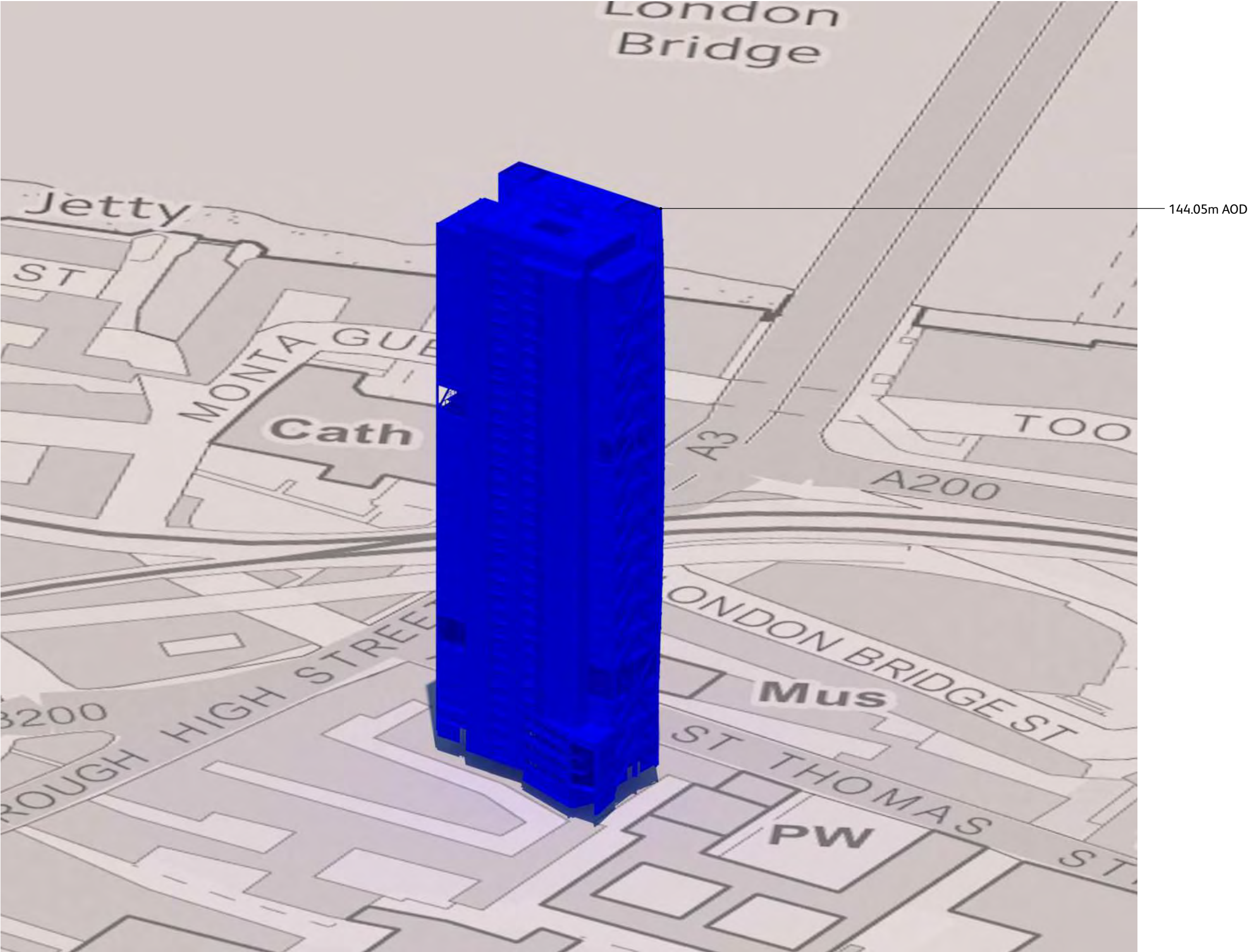
Aerial view of Proposed Development

Appendices (continued)

index	scheme name	address	reference	PA	status	source of model data	positioning method	MH reference	colour
31	King's Place (2018)	Land at 19, 21 and 23 Harper Road, 325 Borough High Street, 1-5 and 7-11 Newington Causeway, London, SE1 6AW	18/AP/0657	SBC	Proposed	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0269-a.profile181025-dp-consented	Bright Orange
32	Southbank Place – Building 1 – One Southbank Place	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-1.surface140626-aa-proposed	Bright Orange
33	Southbank Place – Building 2 – Two Southbank Place	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-2.profile180529-dp-existing	Bright Orange
34	Southbank Place – Building 3 – Four Casson Square	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-3.profile180529-pt-existing	Bright Orange
35	Southbank Place – Building 4A – One Casson Square	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	Model supplied by Squire and Partners and simplified by Millerhare	Position relative to O.S. supplied by architect	lambsp-4a.profile180529-sp-existing	Bright Orange
36	Southbank Place – Building 4B – Thirty Casson Square	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-4b.profile180529-sp-proposed	Bright Orange
37	Southbank Place – Building 5 – The Belvedere	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-5.profile180529-sw-existing	Bright Orange
38	Southbank Place – Buildings 6-7 – Belvedere Gardens	Shell Centre, 2 – 4 York Road, London, SE1	14/04600/NMC	LBC	Under Construction	n/a	n/a	lambsp-67.surface140626-aa-proposed	Bright Orange
39	Capital House (2018)	Capital House, 42-46 Weston Street, London SE1 3QD	18/AP/0900	SBC	Submitted for planning	Model supplied by KPF	Position relative to O.S. supplied by architect	swrk0292.detail181004-kpf-proposed	Lavender
40	St Thomas Street East – Vinegar Yard	n/a	n/a	SBC	Proposed	n/a	n/a	swrk0348.detail181122-kpf-proposed	Dull Blue
41	St Thomas Street East – Bermondsey Street and Snowsfield Site	n/a	n/a	SBC	Proposed	n/a	n/a	swrk0305-l.detail181211-rpbw-proposed	Bright Pink
42	Arthouse, 2-4 Melior Place	2-4 Melior Place, London, SE1 3SZ	18/AP/3229	SBC	Submitted for planning	Paper planning application drawings from local authority	Best fit to Ordnance Survey	swrk0350.profile190103-jh-proposed	Green
43	St Thomas Street East – Becket House	n/a	n/a	SBC	Proposed	n/a	n/a	swrk0349.surface181129-lds-proposed	Bright Yellow



Aerial diagram showing location of schemes



Aerial view of Proposed Development

Appendices (continued)

A5 Accurate Visual Representations

A5.1 Each of the views in this study has been prepared as an Accurate Visual Representation (AVR) following a consistent methodology and approach to rendering. Appendix C of the London View Management Framework: Supplementary Planning Guidance (March 2012) defines an AVR as:

“An AVR is a static or moving image which shows the location of a proposed development as accurately as possible; it may also illustrate the degree to which the development will be visible, its detailed form or the proposed use of materials. An AVR must be prepared following a well-defined and verifiable procedure and can therefore be relied upon by assessors to represent fairly the selected visual properties of a proposed development. AVRs are produced by accurately combining images of the proposed building (typically created from a three-dimensional computer model) with a representation of its context; this usually being a photograph, a video sequence, or an image created from a second computer model built from survey data. AVRs can be presented in a number of different ways, as either still or moving images, in a variety of digital or printed formats.”

A5.2 In this study the baseline condition is provided by carefully taken large format photography. The proposed condition is represented as an accurate photomontage, which combines a computer generated image with the photographic context. In preparing AVRs of this type certain several key attributes need to be determined, including:

- the Field of View
- the representation of the Proposed Development
- documentation accompanying the AVR

Selection of Field of View

A5.3 The choice of telephoto, standard or wide-angle lens, and consequently the Field of View, is made on the basis of the requirements for assessment which will vary from view to view.

A5.4 In the simple case the lens selection will be that which provides a comfortable Viewing Distance. This would normally entail the use of what most photographers would refer to as a “standard” or “normal” lens, which in practice means the use of a lens with a 35mm equivalent focal length of between about 40 and 58 mm.

A5.5 However in a visual assessment there are three scenarios where constraining the study to this single fixed lens combination would not provide the assessor with the relevant information to properly assess the Proposed Development in its context.

Field Of View

The term ‘Field Of View’ (FOV) or more specifically Horizontal Field of View (HFOV), refers to the horizontal angle of view visible in a photograph or printed image and is expressed in degrees. It is often generally referred to as ‘angle of view’, ‘included angle’ or ‘view cone angle’.

Using this measure it becomes practical to make a comparison between photographs taken using lens of various focal lengths captured on to photographic film or digital camera sensors of various size and proportions. It is also possible to compare computer renderings with photographic images.

Studies of this type use a range of camera equipment; in recent times digital cameras have largely superseded the traditional film formats of 35mm, medium format (6cm x 6cm) and large format (5in x 4in). Comparing digital and film formats may be achieved using either the HFOV or the 35mm equivalent lens calculation, however quoting the lens focal length (in mm) is not as consistently applicable as using the HFOV when comparing AVRs.

35mm Lens	HFOV degrees	Lens focal length (mm)
Wide angle lens	74.0	24
Medium wide lens	54.4	35
Telephoto lens	28.8	70
Telephoto lens	20.4	100
Telephoto lens	10.3	200
Telephoto lens	6.9	300

The FOV of digital cameras is dependent on the physical dimensions of the CCD used in the camera. These depend on the make and model of the camera. The comparison table uses the specifications for a Canon EOS-5D Mark II which has CCD dimensions of 36.0mm x 22.0mm.

A5.6 Firstly, where the relationship being assessed is distant, the observer would tend naturally to focus closely on it. At this point the observer might be studying as little as 5 to 10 degrees in plan. The printing technology and image resolution of a print limit the amount of detail that can be resolved on paper when compared to the real world, hence in this situation it is appropriate to make use of a telephoto lens.

A5.7 Secondly, where the wider context of the view must be considered and in making the assessment a viewer would naturally make use of peripheral vision in order to understand the whole. A print has a fixed extent which constrains the angle of view available to the viewer and hence it is logical to use a wide angle lens in these situations in order to include additional context in the print.

A5.8 Thirdly where the viewing point is studied at rest and the eye is free to roam over a very wide field of view and the whole setting of the view can be examined by turning the head. In these situations it is appropriate to provide a panorama comprising of a number of photographs placed side by side.

A5.9 For some views two of these scenarios might be appropriate, and hence the study will include two versions of the same view with different fields of view.

Representation of the Proposed Development and cumulative schemes

Classification of AVRs

A5.10 AVRs are classified according to their purpose using Levels 0 to 3. These are defined in detail in Appendix C of the London View Management Framework: Supplementary Planning Guidance (March 2012). The following table is a summary.

AVR level	showing	purpose
AVR 0	Location and size of proposal	Showing Location and size
AVR 1	Location, size and degree of visibility of proposal	Confirming degree of visibility
AVR 2	As level 1 + description of architectural form	Explaining form
AVR 3	As level 2 + use of materials	Confirming the use of materials

A5.11 In practice the majority of photography based AVRs are either AVR 3 (commonly referred to as “fully rendered” or “photoreal”) or AVR 1 (commonly referred to as “wire-line”). Model based AVRs are generally AVR 1.

AVR 3 – Photoreal



Example of AVR 3 – confirming the use of materials (in this case using a ‘photo-realistic’ rendering technique)

A5.12 The purpose of a Level 3 AVR is to represent the likely appearance of the Proposed Development under the lighting conditions found in the photograph. All aspects of the images that are able to be objectively defined have been created directly from a single detailed description of the building. These include the geometry of the building and the size and shape of shadows cast by the sun.

A5.13 Beyond this it is necessary to move into a somewhat more subjective arena where the judgement of the delineator must be used in order to define the final appearance of the building under the specific conditions captured by the photographic and subsequent printing processes. In this area the delineator is primarily guided by the appearance of similar types of buildings at similar distances in the selected photograph. In large scope studies photography is necessarily executed over a long period of time and sometimes at short notice. This will produce a range of lighting conditions and photographic exposures. The treatment of lighting and materials within these images will respond according to those in the photograph.