Vinegar Yard

Southwark, SE1 3QR

21. Environmental Statement

Volume 03 - Technical Appendicies

GLA/6913/S2 (LBS 18/AP/4171)

October 2021

TRIUM

ENVIRONMENTAL CONSULTING

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October 2021

Vinegar Yard: Competent Expert and Relevant Experience

Regulation 18(5) of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended) (referred to as 'the EIA Regulations') require that to ensure the completeness and quality of the ES:

'(a) the developer must ensure that the environmental statement is prepared by competent experts'; and

'(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts'.

As set out in **ES Chapter 1 – Introduction (Volume 1)** of the ES, Trium is an environmental consultancy specialising in urban regeneration and property development projects in the United Kingdom (UK), with a specific focus in London. Trium is therefore considered to be 'competent experts' as referenced in the EIA Regulations. In addition, and for completeness, Table 1 below sets out the company, persons and expertise of all the key technical specialists that have worked on the EIA.

Table 1: Experts Involved in the Production of the ES and their Relevant Experience

Discipline	Company	Person(s)	Expertise
EIA Coordination	Trium	Juliette Callaghan	Juliette Callaghan is founding Partner of Trium. She has approximately 16 years' experience in UK Environmental Impact Assessments (EIA), Urban Regeneration & Construction and Masterplanning, primarily with the property industry. Over her career to date Juliette has either directed, managed or contributed to over 120 EIAs, both within the UK and overseas. Juliette has a thorough understanding of the UK EIA and planning processes and is experienced in working alongside the requirements of EIA and planning legislation in addition to strategic, regional and local planning policy and guidance. Juliette has experience in managing the issues and impacts surrounding large scale, high profile urban regeneration development projects primarily within London. She has undertaken EIAs for the industrial, retail, residential and leisure, commercial and cultural sectors and works closely on a daily basis with developer clients, planners, planning lawyers, architects and engineers. Juliette has therefore contributed to achieving planning consents for sensitive and controversial schemes which have often required detailed negotiations with Local Planning Authorities and Statutory and non-Statutory Consultees. Recent project experience includes EIAs for: Britannia Masterplan, Hackney; Earls Court Masterplan, Hammersmith & Fulham and Kensington & Chelsea; Western Gateway, Newham; Olympia Masterplan, Hammersmith & Fulham MSG, Stratford; Bloomberg Place, City of London; BBC Television Centre, Hammersmith & Fulham; and Battersea Power Station.
		Lucy Turner	Lucy has over 3 years of experience working on and / or managing EIAs for urban regeneration projects of different scales and characteristics in the UK.
Socio-Economics and Health	Hatch Regeneris	Zoe Crampton	The socio-economic lead is an Associate Director at Hatch Regeneris with over fifteen years of experience in undertaking socio-economic development research and in producing Socio-economic ES Chapters. Recent project experience includes: Stag Brewery, LB Richmond: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a major mixed-use scheme in LB Richmond Bow River, LB Tower Hamlets: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a residential-led scheme in LB Tower Hamlets
			Station Hill, Reading: Socio-economic assessment and Health Impact Assessment and preparation of chapter for the ES of a major mixed-use scheme in Reading Purfleet, Thurrock: Socio-economic assessment and preparation of chapter for the ES of a new town centre and residential scheme in Purfleet. Zoe has the following qualifications: BA Geography (Hons) University of Birmingham
		Luke Bonnici	Luke Bonnici is a senior consultant at Hatch with ten years' experience in economic development and socio-economic impact assessments. Luke has considerable experience preparing ES chapters for various housing and mixed-use developments in London and across the South East, in addition to nationally significant infrastructure projects. Recent experience includes: - Bow River, LB Tower Hamlets: Socio-economic assessment and preparation of chapter for the ES of a residential-led scheme; - Euro House, LB Brent: Socio-economic assessment and preparation of chapter for the ES of a residential-led scheme; - Green Technology Hub, Stroud District Council: Socio-economic assessment and preparation of chapter for the ES of an employment-led scheme; - The Tulip, City of London: Socio-economic assessment, preparation of chapter for the ES, and drafting of socio-economics benefits statement of a visitor attraction; - EURO 2020 Greenwich Park Fan Zone, RB Greenwich: Preparation of socio-economics benefits statement for a temporary fan zone in Greenwich Park during the (now postponed) EURO 2020 championship; - Dudgeon and Sheringham Extension Projects, PINS: Socio-economics and tourism assessment, and preparation of chapter for PEIR of two offshore wind farm extensions off the Norfolk coast with 900MW generation capacity; - Rampion 2, PINS: Socio-economics, tourism and recreation assessment, and preparation of chapter for PEIR of an offshore wind farm extension off the Sussex coast with 1,200MW generation capacity. Luke has the following qualifications: BA (Hons) Geography from the University of Malta, MSc Urban Regeneration from UCL.
		Tracy Chapman	Tracy Johnston is a senior consultant at Hatch with six years' experience in community, health, equality and socio-economic impact assessments. Tracy has prepared several ES chapters and health impact assessments for various housing, mixed-use and commercial developments in London and across the south of England. Recent experience includes: •Station Hill, Reading: health impact assessment of a mixed-use scheme; •Bow River Village 3, LB Tower Hamlets: health impact assessment which forms part of the socio-economic ES chapter for this mixed-use development; •Shot Farm, Basildon: socio-economic assessment and preparation of chapter for the ES of a residential scheme; and •Padge Hall Farm, Hinckley: socio-economic assessment, preparation of chapter for the ES, socioeconomic impact statement and non-technical summary, as well as a health impact assessment for this commercial scheme. Prior to joining Hatch, Tracy was part of the team delivering the community, equality and health impact assessments for H2S Phase 2b, a nationally significant infrastructure project. Tracy has the following qualifications: MA (Hons) Economics and International Relations from the University of Aberdeen and an MSc Economics (Development Economics) from the University of Amsterdam.
Traffic and Transport	Caneparo	Duncan Roberts	Duncan has over 20 years of experience of highway design and development transport planning in London. He has a BEng in Civil Engineering from the University of Leeds.
		Mark Turner	Mark is a member of the Chartered Institution of Highways and Transportation (MCIHT) with 12 years of experience of development transport planning in London. He both a MSc in Transportation Planning and Engineering and a MA in Urban Economy from the University of Southampton.
Noise and Vibration	Sandy Brown	Phil Owen	Philip Owen is an associate at Sandy Brown with 14 years of experience as an acoustic consultant. During this time Philip has provided acoustic consultancy on planning applications, EIAs and masterplans. Philip has a BSc in acoustics and is a Corporate Member of the Institute of Acoustics (MIOA).

Discipline	Company	Person(s)	Expertise
Air Quality	Air Quality Consultants	Laurence Caird	Mr Caird is an Associate Director with AQC, with 14 years' experience in the field of air quality including the detailed assessment of emissions from road traffic, airports, heating and energy plant, and a wide range of industrial sources including the thermal treatment of waste. He has experience in ambient air quality monitoring for numerous pollutants using a wide range of techniques and is also competent in the monitoring and assessment of nuisance odours and dust. Mr Caird has worked with a variety of clients to provide expert air quality services and advice, including local authorities, planners, developers and process operators. He is a Member of the Institute of Air Quality Management and is a Chartered Scientist.
		Denise Evans	Dr Evans is an Associate Director with AQC, with more than 20 years' relevant experience. She has prepared air quality review and assessment reports for local authorities, and has appraised local authority air quality assessments on behalf of the UK governments, and provided support to the Review and Assessment helpdesk. She has extensive modelling experience, completing air quality and odour assessments to support applications for a variety of development sectors including residential, mixed use, urban regeneration, energy, commercial, industrial, and road schemes, assessing the effects of a range of pollutants against relevant standards for human and ecological receptors. Denise also has experience of completing assessments for the purposes of Permit applications. She has acted as an Expert Witness and is a Member of the Institute of Air Quality Management.
		Jack Buckley	Mr Buckley is a Consultant with AQC with three years' experience in the field of air quality. Prior to joining AQC in June 2019, he worked as a Consultant at Capita, where he gained experience in the assessment of air quality impacts for a range of projects, including road and rail infrastructure schemes, residential developments and industrial facilities sizes. He has experience in producing air quality assessments for EIA schemes, using qualitative and quantitative methods, including ADMS-Roads and air quality neutral calculations, and has undertaken diffusion tube monitoring studies. Prior to joining Capita, Jack completed a BSc (Hons) in Chemistry and an MSc in Environmental Science and Management, with both dissertations investigating the performance of low-cost air quality sensors. He is an Associate Member of both the Institute of Air Quality Management and the Institution of Environmental Sciences.
Wind Microclimate	RWDI	Stefan Astley	RWDI are wind consultants with extensive experience over 40 years in the fields of wind engineering & environmental studies. RWDI uses advanced engineering tools and expertise to determine wind conditions in the built environment. Stefan is a Senior Project Manager at RWDI, with over 5 years' experience in delivering wind microclimate assessments to support planning across a wide variety of schemes – Ranging from low-rise refurbishments of existing buildings to phased masterplans and tall city-centre towers.
Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare	GIA	Nicola Comandini	Nicola in is an Associate Partner with an MSc in Building Engineering and Architecture. Nicola is the technical lead on overshadowing, light pollution and solar glare for this scheme, with with 8 years' experience advising on daylight, sunlight and overshadowing matters for large scale urban EIA projects
		Elliot Hathaway	Elliot in is an Associate Partner with an MSc in Surveying and Land/Environmental management. He is the technical lead on Daylight and Sunlight for surrounding properties for this scheme, with 5 years' experience advising on daylight and sunlight matters for large scale urban projects that require EIA work.
		Lotte Tobermann	Since graduating with an MSc in Environmental Planning, Lotte joined GIA in 2019, having previously worked in EIA consultancy. Lotte's role entails the coordination and preparation of Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution EIA scoping reports and Environmental Statement chapters.
Built Heritage, Townscape and Visual Impact Assessment	Montagu Evans	David Taylor	Mr Taylor has over 8 years' experience in strategic planning and design matters in relation to development in the historic environment or with sensitive receptors. Schemes include Blatanik School of Government, Oxford; Guildford Train Station, Surrey; Winstanley and York Road Estate, Wandsworth; and, Station Road, Ilford. Mr Taylor is a Chartered Member of the Royal Town Planning Institute, an Affiliate of the Institute of Historic Building Conservation and a Recognised Practitioner in Urban Design, Urban Design Group.

Discipline	Company	Person(s)	Expertise
Archaeology	Mills Whipp	Peter Mills	Mills Whipp Projects was one of the earliest archaeological consultancy to be established in the UK and has managed archaeological projects across the country. These have ranged from small scale rural developments to major urban projects. MWP is renowned for combining archaeological expertise with robust, practical solutions. The lead consultant is Peter Mills who has more than 30 years professional experience in archaeology. His skills include the preparation of independent archaeological analysis and the provision of advice to the development industry. He has high-level proficiency in the production of Environmental Statements, Archaeological Risk Assessments and Archaeological Research Reports.
Greenhouse Gas	Adapt Sustainability	Amanda Stevenson	Amanda Stevenson has over ten years' consultancy experience in the field of environmental management and sustainability in the built environment. Amanda has supported a number of organisations in developing GHG emissions assessments and carbon footprinting for urban regeneration schemes. Amanda has an MSc in Intelligent Building Design, BA hons degree, certified CSR Practitioner and a Practitioner member of IEMA.
Demolition and Construction	Mace	Andy Jones	Andy is an experienced construction leader who brings 27 years' experience and an exceptional track record in overseeing and managing complex and high-profile projects from inception to completion in London, the Middle East and North America. He is experienced in a commercial offices, mixed use and residential delivery - all relevant to the proposal at Vinegar Yard. Having held a variety of roles over the course of his career, including pre-construction director, project director and operations director - Andy has the breadth of experience and knowledge needed to be an effective leader and collaborator.
		Lynne Potter	Lynne has experience in Sustainability in the Construction and Facilities Management fields, working predominantly on projects in and around London. She has IOSH Managing Environmental Responsibilities, NEBOSH General Certificate and is an active member as Practitioner with IEMA. Working as part of the Mace Major Projects team she has experience in large-scale, mixed-use developments for high profile clients. Her work encompasses BREEAM and WELL certification schemes, audits with CCS and BSI, working with the Local Authorities regarding Section 61 applications and continuing liaison, as well as internal KPIs including carbon, water, waste, biodiversity and producing embodied carbon analysis.

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Cumulative Scheme List

N.B. Where a Cumulative Scheme benefits from multiple consents, the scheme that is the latest permission would be assessed (refer highlighted row).

Table B1 Cumulative Schemes

Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
1	**1 Bank End** (Site, Including Railway Arches and Thames House, Bounded by Stoney Street, Clink Street and Park Street) ***Southwark***	**15/AP/3066** Redevelopment of 1 Bank End, including reuse of railway arches, and rebuilding and extension of the rear of Thames House, Park Street (retention of façade) to provide a development reaching a maximum height of 6 storeys comprising retail/café/restaurant units (flexible Class A1, A2, A3 and A4 use) at ground and first floor levels, office floorspace (Class B1 use) at ground up to fifth floor level, a cinema (Class D2 use) at ground and basement level, associated cycle parking spaces, associated refuse and recycling, with new public access routes and public open space.	**Granted** (24th March 2017) Under construction.
2	**133 Park Street and 105 Sumner Street** ***Southwark***	**16/AP/4569** 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.	**Granted** (20th October 2017) Under construction
3	**151-157 Tower Bridge Road** ***Southwark***	**16/AP/3222** Alterations to and the refurbishment of the existing buildings, including: change of use from 106 residential units (40 x studios, 36 x 1bed and 30 x 2bed), 41 aparthotel units/partially vacant aparthotel floorspace and flexible retail/commercial floorspace, to 69 residential units (8 x 1bed, 56 x 2bed and 5 x 3bed), 137 aparthotel units and flexible retail/commercial floorspace (A1/A2/A3/B1a); installation of balconies; alterations to elevations; minor alterations to increase the height of the buildings (max. 32.3 metres); landscaping; alterations to vehicle access; and associated works.	**Granted** (2nd November 2017)
		18/AP/3167 Alterations and refurbishment of the existing buildings, including: Change of use from 106 residential units (40 x studios, 36 x 1bed and 30 x 2bed), 41 aparthotel units/partially vacant aparthotel floorspace and flexible retail/commercial floorspace to 86 residential units (4 x studio, 30 x 1-bed, 45 x 2-bed and 7 x 3-bed), 143 aparthotel units, a new gym (D2), a cafe (A3) and flexible retail/commercial floorspace (A1, A2, A3, B1a); installation of balconies, alterations to elevations, minor alterations to increase the height of the buildings (max. 34.26 metres), the demolition and rebuild of levels 8 and 9 of 151 Tower Bridge Road; landscaping and associated works	**Granted** (5th July 2019) Under Construction
4	**Southwark Fire Station, 94 Southwark Bridge Road, Grotto Place and Grotto Podiums** ***Southwark***	**17/AP/0367** 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.	**Granted** (2nd November 2018) Commenced on site.

Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
		18/AP/2863 Construction of a temporary school building until September 2021.	**Granted** (1st November 2018) Completed.
5	**Capital House, 40 – 46 Weston Street** ***Southwark***	**14/AP/4640 – 'The Quill'** Demolition of Capital House, and erection of a 21 and 31 storey building (1 basement Level plus ground and 30 upper storeys) to a maximum height 108.788m to provide 119 residential units (C3), retail/café units (flexible Class A1, A3 Use) at ground floor level, 199 cycle parking spaces, 2 disabled car parking spaces, associate refuse and recycling, and an area of public open space.	**Granted** (25th November 2015)
		18/AP/0900 Redevelopment of the site to include the demolition of Capital House and the erection of a 45-storey building (3 basement levels and ground with mezzanine and 44 storeys) of a maximum height of 157.7m (AOD) to provide up to 1,028 student accommodation units (Sui Generis use), a museum (Class D1 use), cycling parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development.	**Granted** (14th May 2019) Not commenced on site
6	**185 Park Street** ***Southwark***	**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 9, 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.	**Granted** (12th February 2016)
		17/AP/1944 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 9, 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. The proposed amendments include: - Reducing the office building (Block 1) by one floor; - Amendments to the scale, massing, design and internal configuration of Block 1; - Reduced quantum of office floorspace and ancillary floorspace; - Increased quantum of retail floorspace; - Reconfiguration of Basement Level 1 to accommodate additional retail floorspace; - Amendments to landscaping of Block 1; - Amendments to drawings numbers contained in Conditions 2 and 14; - Amending development description to read as follows: 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	**Granted** (15th June 2018) Under construction

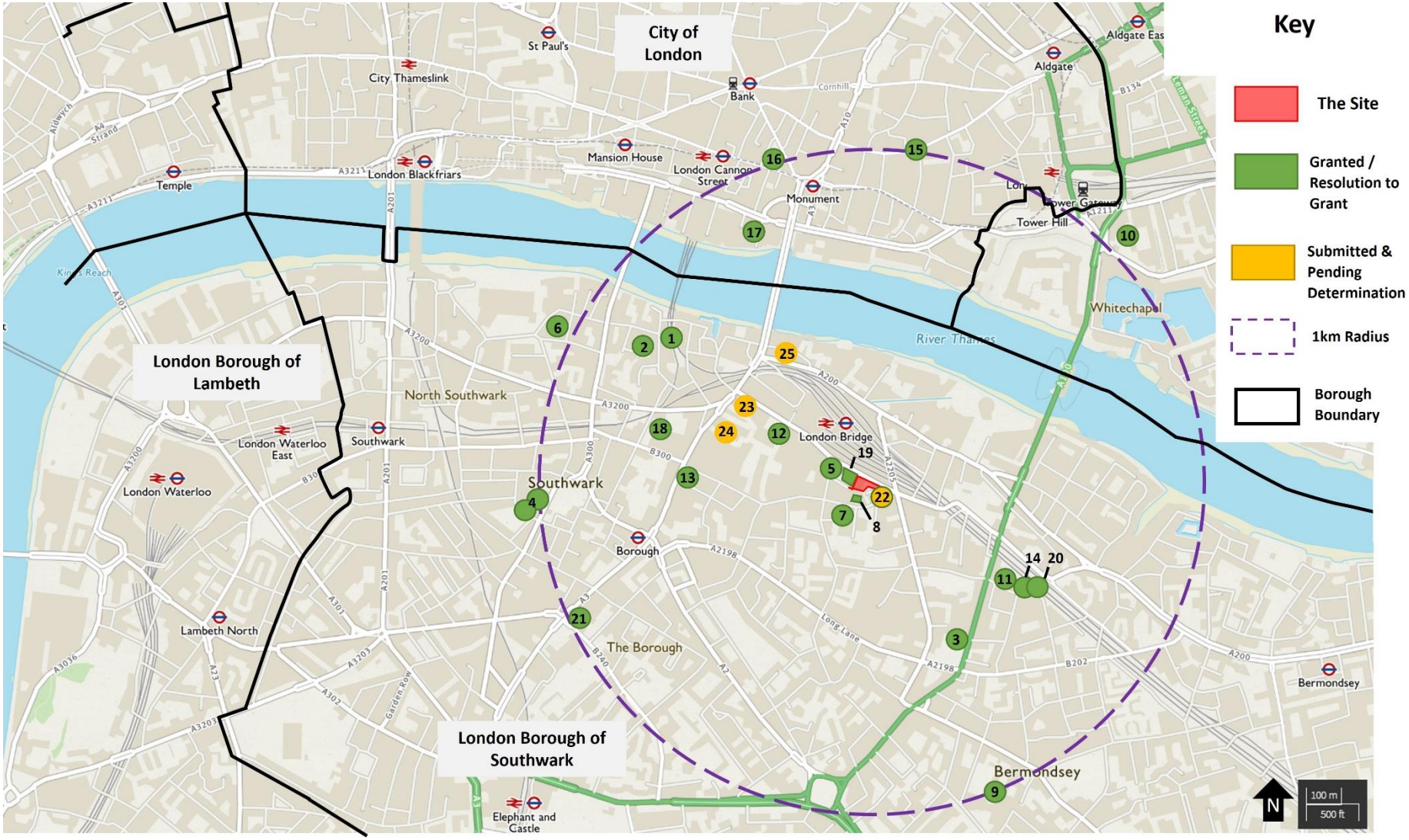
Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
		A1/A3/A4), Cultural facility (Class D1/A1/A3/A4); provision of hard and soft landscaping and the provision of parking, servicing and plant areas.	
7	**Guinness Court, Snowsfields Street** ***Southwark***	**16/AP/3819** Erection an external lift core to Block C from ground to 4th floor level and double mansard roof extension over Blocks A, B and C to provide 30 residential units (2x 1bed, 24x 2bed, 4x 3bed) together with associated ancillary works.	**Granted** (9th June 2019) Not commenced on site
8	**2-4 Melior Place London** ***Southwark***	**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	**Granted** (30th July 2019)
9	**Rich Industrial Estate, Crimscott Street and Willow Walk** ***Southwark***	**15/AP/2474** Demolition of four existing buildings and electricity substation and the development of a phased mixed-use scheme ranging from 3-9 storeys plus basements (maximum height 34.03m AOD) comprising a series of new buildings and retained/refurbished/extended buildings to provide a total of 19,468sqm (GIA) of commercial, retail, art gallery and storage floorspace (Use Classes A1, A2, A3, B1, B8 and D1) and 406 residential units (Use Class C3) plus associated highway and public realm works, landscaping, car and cycle parking, infrastructure works and associated works.	**Granted** (7th December 2016) Under Construction.
10	**Royal Mint Court** ***Tower Hamlets***	**PA/16/00479/A1** Full planning permission for comprehensive redevelopment of the site to provide an employment-led mixed use development of up to 81,000sq.m of B1, A1, A3 and D2 floor space, involving the refurbishment and restoration of the Johnson Smirke Building (Grade II*), remodelling and refurbishment of the Grade II façade of The Registry, with alterations and extensions to the remainder of the building, the retention, part demolition, alterations and extensions to Murray and Dexter House , the erection of a standalone four storey building within the south west corner of the site, alterations to existing boundary wall to create new access points to the site and associated public realm and landscaping and all ancillary and associated works.	**Granted** (16th February 2017)
11	**47-49 Tanner Street** ***Southwark***	**18/AP/0896** Redevelopment of the site involving the provision of a 7-storey building, with basement, incorporating the retention of the existing 3-storey warehouse, for B1(a) Office Use. Together with associated landscaping, cycle parking and the demolition of an existing detached ancillary store building.	**Granted** (28th February 2019) Not commenced on site
12	**Boland house and Counting House, St Thomas street, London SE1** **Southwark**	**15/AP/3465** External alterations and refurbishment of part of the basement, ground, and first floors of Boland House to create a museum/gallery (Class D1). Change of use from A3/A5 (restaurant and hot food takeaway) to Class D1 (museum/gallery)of the part ground floor in addition of the lift structure for Great Maze Pond elevation; landscaping works to Guy's Courtyard and all necessary and enabling works.	**Granted** (9th December 2015) External work not yet complete
13	**153-159 Borough High Street** ***Southwark***	**15/AP/4980** 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	**Granted** (19th January 2017) Demolition has taken place

Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
14	**67-71 Tanner Street, London, SE1 3PL** ***Southwark***	**16/AP/5180** Redevelopment of the site to create a 9 storey (plus single basement) office building (use class B1a) and associated works *n.b. A new application has been submitted for this site (planning application reference no: 19/AP/0865) and has been numbered scheme 26 on the map.*	**Granted** (17th January 2018) Not commenced on site
15	**130 Fenchurch Street** ***City of London***	**14/00496/FULMAJ** Demolition of the existing building and erection of a new building of two basements, ground and 17 upper storeys comprising office (Class B1) use [40,502sq.m GEA] and flexible retail (Class A1/A3) floorspace [558sq.m GEA] and associated cycle parking, servicing, storage and plant. [Total 41,060sq.m GEA].	**Granted** (17th Mar 2016)
		16/00809/FULMAJ Demolition of existing building and erection of a building over two basement levels, ground, mezzanine and 18 upper storeys and a triple height plant storey [106.35m AOD] for uses comprising office (Class B1) [45,128sq.m GEA], retail (Class A1) and flexible retail space (Class A1/A3) [486sq.m GEA] with associated cycle parking, servicing, storage and plant. [Total 45,614sq.m GEA]	**Granted** (29th March 2019) Not commenced on site
16	**Site Bounded by King William Street, Cannon Street, Abchurch Lane & Nicholas Lane.** Incorporating 10 King William Street, 12 Nicholas Lane, 14 Nicholas Lane, 135-141 Cannon Street, 143-149 Cannon Street & 20 Abchurch Lane ***City of London***	**14/00178/FULEIA** Demolition of the existing buildings and redevelopment with a new office (Class B1) building at part basement, ground floor and six upper floors (17,250sq.m total GIA) with retail (Class A1/A2/A3/A4/A5) uses at part ground and mezzanine levels (1,091sq.m GIA) incorporating reconstruction of the existing historic facade at 20 Abchurch Lane. Passive provision for a new Bank Station Entrance Hall on Cannon Street and associated infrastructure at ground floor level.	**Granted** (27th June 2014) Under Construction.
17	**Seal House 1 Swan Lane London EC4R 3TN** ***City of London***	**18/01178/FULMAJ** Demolition of the existing building and construction of a basement, ground plus 11 storey building for office use (Class B1) (16,084sq.m GIA), retail use (Class A1/A3) at ground (314sq.m GIA), restaurant use (Class A3) at 11th floor level (708sq.m GIA), a publicly accessible terrace at 12th floor roof level (744sq.m) and public realm improvement works together with ancillary parking, servicing and plant and all necessary enabling works.	**Granted** (30th September 2021)
18	**Landmark Court, Land bounded by Southwark Street, Redcross Way and Cross Bones**	**19/AP/0830** Phased mixed-use development comprising demolition of Nos 25-33 Southwark Street, restoration of 15 Southwark Street for residential use and erection of new buildings comprising: Part 6/9/10 storey office building (plus single level basement) and 3 storey workshop building (Use Class B1), flexible ground floor uses (Use Classes B1/A1/A2/A3/A4 and D2), a	**Granted** (5th January 2021) Construction not yet commenced

Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
	Graveyard, London SE1	marketplace with up to 9 permanent stalls (Use Class A1), 35 residential units (new build 8 storey block and refurbishment of 15 Southwark Street) together with associated areas of new public realm, enhancements to Crossbones Graveyard, hard and soft landscaping, means of access and enclosure and installation of ancillary plant and equipment.	
19	**Becket House 60-68 St Thomas Street London Southwark SE1 3QU** **'Edge Scheme'**	**20/AP/0944** Redevelopment of the site to include demolition of Becket House and the erection of a 27 storey building with additional level of plant and basement levels in order to provide office use (Class B1), retail (flexible Class A1/A3), 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 submitted pursuant to the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.	**Resolution to Grant** Not commenced works on site
20	**67-71 Tanner Street, London, SE1 3PL**	**19/AP/0865** Construction of a 10 storey plus basement building to provide an 86 bedroom hotel with ancillary restaurant at ground floor level and associated cycle parking, refuse and recycling stores, and plant. *n.b. This application is located on the same site as Scheme 16 (planning application reference no: 16/AP/5180)*	**Granted** 29th January 2021 Not commenced works on site
21	**Land at** **19-23 Harper Street, 325 Borough High Street and 1-5 and 7-11 Newington Causeway, London SE1 6AW**	**18/AP/0657** Demolition of existing buildings and redevelopment to provide a hotel-led, mixed-use development comprising erection of ground plus part 4, part 6, part 7 and part 13 storey building with basement providing 434 hotel rooms (Class C1), 6 no. residential dwellings (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. n.b. amendments to the description of development as of July 2019 as follows: *'Demolition of existing buildings and redevelopment to provide a mixed-use development comprising 328 hotel rooms (Class C1) 20 no. residential dwellings (Class C3), offices, workspace and workshops (Class B1), multifunctional community events space (Class B1/D1), retail use (Class A1/A2/A3), 4 no. car parking spaces together with access, cycle parking, hard and soft landscaping and other associated works incidental to the development.'*	**Granted** (11th May 2020) Not commenced works on site
Submitted and pending determination			
London Borough of Southwark			
22	**40-44 Bermondsey Street Vinegar Yard Warehouse 9-17 Vinegar Yard And Land Adjacent To 1-7 Snowsfields SE1** **'Sellar Scheme'**	**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.	Decision: Pending

Ref	Name / Address *Borough*	Application Ref. Scheme Description	Status as of December 2020
23	**New City Court, 4-26 St Thomas Street London SE1 9RS**	**18/AP/4039** Redevelopment to include demolition of the 1980s office buildings and erection of a 37 storey building (plus two basement levels) of a maximum height of 144m (AOD), restoration and refurbishment of the listed terrace (nos. 4-16 St Thomas Street) and change of use of lower floors to Class A1 retail, and redevelopment of Keats House (nos. 24-26 St Thomas Street) with removal, relocation and reinstatement of the historic façade on a proposed building, to provide a total of 46,374sqm of Class B1 office floorspace, 765sqm of Class A1 retail floorspace, 1,139sqm of Class A3 retail floorspace, 615sqm of leisure floorspace (Class D2), 719sqm hub space (Class B1/D2) and a 825sqm elevated public garden within the 37-storey building, associated public realm and highways improvements, provision for a new access to the Borough High Street entrance to the Underground Station, cycling parking, car parking, service, refuse and plant areas, and all ancillary or associated works. (Associated listed building consent application ref. 18/AP/4040).	Application Validated 22.01.19 Decision: Pending
		21/AP/1361 Redevelopment to include demolition of the 1980s office buildings and erection of a 26-storey building (plus mezzanine and two basement levels), restoration and refurbishment of the listed terrace (nos. 4-16 St Thomas Street), and redevelopment of Keats House (nos. 24-26 St Thomas Street) with removal, relocation and reinstatement of the historic façade on a proposed building, to provide office floorspace, flexible office/retail floorspace, restaurant/café floorspace and a public rooftop garden, associated public realm and highways improvements, provision for a new access to the Borough High Street entrance to the Underground Station, cycling parking, car parking, service, refuse and plant areas, and all ancillary or associated works.	Application Validated 27.04.21 Decision: Pending (To be assessed qualitatively where relevant)
24	**Kings College London, Land Rear of 89-111 Borough High Street London SE1**	**19/AP/0405** Demolition of six existing building, and development of 10,842 sqm (GIA) student residential environment (Student Village). Will provide 10.3000 sqm of residential uses and 520 sqm of commercial space at ground floor, comprising 417 new single occupancy bedrooms and communal kitchens and common rooms, community and commercial uses at ground floor, and new public realm. The scheme involves the construction of four blocks consisting of a four storey block adjacent to The George Inn, with additional blocks being part four part seven, part five part eight and rising to a maximum of a part 10 part 12 storey building, with a 2.7m storey height above ground floor. The bedrooms are arranged in 43 clusters, ranging from 6-13 rooms per cluster.	Decision: Pending
25	**Colechurch House, London Bridge Walk, London , Southwark**	**20/AP/3013** Redevelopment of the site to include demolition of Colechurch House, pedestrian footbridge and walkway and erection of an elevated 22-storey building above a public park and basement providing office floorspace, retail floorspace, restaurant/café floorspace, leisure floorspace, theatre and a bar, delivered alongside cycle parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development.	Decision: Pending

Figure B2 Cumulative Schemes Map



Appendix: EIA Methodology

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TRIUM

Climate Change

Technical Note

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1. Introduction

1.1 This technical note describes a future climate scenario which has been developed using the future climate projections data published by the Met Office (UKCP18) in November 2018. UKCP18 projections consider the climate effects arising from a series of 'Representative Concentration Pathways' (RCP) emissions scenarios.

1.2 The purpose of this technical note is to present projection data for the future climate and to provide guidance to the EIA technical team on how to consider whether the effects of the Proposed Development (defined under the current climate conditions) may alter under the future climate scenario. In the context of the future climate condition, consideration needs to be given to:

- The change in the magnitude of impact of the Proposed Development;
- Receptor vulnerability;
- Vulnerability of the Proposed Development; and
- Resilience of the Proposed Development.

Climate Projections

1.3 UKCP18 gives probabilistic projections[1] for a number of atmospheric variables, with different temporal and spatial averaging, for several future time periods, under four different future RCP emissions scenarios.

1.4 In general, the longer the lifetime of a development, the greater the uncertainty about the impact of climate change over time. Uncertainty is dealt with by presenting projections which are probabilistic in nature, and which give the probability of different climate outcomes.

1.5 To make use of the probabilistic projections, an emissions scenario and percentile outcome (i.e. the likelihood of the change in climate occurring) needs to be identified.

1.6 The emissions scenario and probabilistic projection are detailed within this document and have been used by all technical disciplines contributing to the Environmental Impact Assessment (EIA), to ensure consistency in approach.

Emission Scenarios

1.7 The RCP emission scenarios represent four distinct Representative Concentration Pathways (RCP2.6, RCP4.5, RCP6.0 and RCP8.5) available in the UKCP18 climate projections. These are named according to the concentration of greenhouse gas modelled to occur in the atmosphere in 2100. The RCPs have been developed for long-term and near-term climate modelling and provide time-dependant projections of atmospheric greenhouse gas concentrations. These pathways were developed based on a literature review of current climate modelling research and have been chosen to represent the full range of climate outcomes presented within the literature.

1.8 The emission scenarios represent assumptions in terms of climate policy, land use and technological development, with RCP2.6 representing the 'optimum' emission scenario (i.e. measures aimed at achieving the maximum reduction in GHG emissions).

1.9 RCP 8.5 is the most conservative, highest emission, and highest-impact scenario. It assumes that technological development will slow and that there will be little to no decarbonisation of world power from new technology. It also assumes that no further climate mitigation or regulations to reduce climate change or air pollution will be implemented.

1.10 More information on the RCPs can be found in the UKCP18 Guidance: Representative Concentration Pathways[2].

[1] Probabilistic projections give a range of possible climate change outcomes and their relative likelihoods i.e. unlikely, likely or very likely ranging across 10th to 90th percentiles.

[2] UKCP18 Guidance: Representative Concentration Pathways https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-guidance-rcp.pdf

Adopted Emissions Scenario: RCP8.5

1.11 RCP8.5 has been used in the climate projections presented in this technical note as it represents a suitably conservative emissions scenario with regards to climate policy, land use, and technological development. This is in accordance with the Institute of Environmental Management and Assessment's (IEMA's) Climate Change Resilience and Adaptation guidance[3], which states that *"Recommended best practice is to use the higher emissions scenario (RCP 8.5 in the latest UKCP18 projections) at the 50th percentile, for the 2080s timelines, unless a substantiated case can be made for not doing this (e.g. anticipated lifespan of the project is shorter than 2080s)"*.

1.12 The use of RCP8.5 is also in accordance with *"the National Policy Statement on National Networks, which states that developments should use the UKCP09 high emissions scenario at the 50% probability level"*[3]; therefore, this RCP has been identified as the most reasonable conservative emissions scenario for identifying future climate change projections.

[3] Institute of Environmental Management and Assessment, (2020); Environmental Impact Assessment Guide to: Climate Change Resilience and Adaptation.

2. Approach to Assessment

1.13 These steps provide a guide to assessing climate change within the EIA. More information and guidance can be found in references listed in Appendix C.

Step 1: Define the Future Climate Condition

1.14 Within the "Climate Change" section of the chapter, firstly identify the climate variables that are relevant to the assessment. So, for example, the variables of relevance might be 'wind', 'temperature', 'humidity' etc.

1.15 The next stage is to determine how these variables change under the future climate scenario based on the information presented in appendix A. The future climate condition should be discussed in terms of the 50% probability level, but also acknowledge the predicted extremes at the 10% and 90% probability levels.

1.16 This stage defines the future climate condition that is relevant to your assessment.

Step 2: Define Receptor Vulnerability

1.17 Receptors that have been identified for inclusion within the technical assessment need to be considered in terms of their vulnerability[4] (i.e. susceptibility or resilience) to changes in the future climate. The vulnerability of the resource / receptors (including identifying individual receptors / sub-groups) should be defined using the definitions provided below.

1.18 Vulnerability of a receptor should generally be defined as follows and presented in tabular format:

- **High vulnerability**: the receptor is directly dependent on existing and/or prevailing climatic factors, and reliant on these specific existing climate conditions continuing in future (e.g. river flows and groundwater level); or only able to tolerate a very limited variation in climate conditions.
- **Moderate vulnerability**: the receptor is dependent on some climatic factors, but able to tolerate a range of conditions (e.g. a species which has a wide geographic range across the entire UK).
- **Low vulnerability**: climatic factors have little influence on receptors.

1.19 Table 1 provides an example of receptor sensitivity and vulnerability presented within a table.

[4] Please note that 'receptor sensitivity' is different to the consideration of 'vulnerability'. Reference to **sensitivity** of a resource / receptor in the EIA assessment reflects the receptor's **value** in terms of its quality or condition, and expresses its **proneness** to being potentially impacted through a change in the existing environment (i.e. existing climate conditions) in which is resides, as a result of the implementation of a Proposed Development.
Vulnerability is defined as a receptor's **susceptibility** or **resilience** to a change in climate (i.e. change in the existing environment).
By way of an example to highlight this difference, a highly sensitive receptor does not mean that it is highly vulnerable to climate change, while conversely a low sensitive receptor may be highly vulnerable to climate change.
Taking account of receptor vulnerability within the assessment requires consideration of whether climate change will alter the existing environment (i.e. existing climate conditions) within which the resource / receptor resides, and as a result, making a judgement as to whether climate change will alter the magnitude of the impact (defined under the current climate conditions) experienced by the resource / receptor (based on its vulnerability) because of the implementation of the Proposed Development. The higher the vulnerability of an individual resource / receptor to climate change, the greater the change in the magnitude of the impact.
For example, climate change alters the environment and for a high vulnerability receptor, results in amplifying the impact (of the Proposed Development) experienced by the receptor.
Conversely, an individual resource / receptor with a greater resilience (low vulnerability) to changes in the existing climate conditions is not likely to experience a change in the impact experienced as a result of the Proposed Development (i.e. no change in the magnitude of impact).
Please also note that there may be instances when a broad description of a resource / receptor group may comprise of sub-groups which may vary in their vulnerability to climate change. Where relevant, individual resource / receptors may need to be identified and considered as part of the climate change assessment.

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Table 1. Summary of Receptor Sensitivity and Vulnerability for Assessment

Resource / Receptor *(include as groups or as individual receptors as relevant)*	Sensitivity *(as per standard EIA criteria)*	Vulnerability *(as per the criteria cited above)*

Step 3: Magnitude of Impact, Nature and Scale of Effects and Effect Significance

1.20 Consider whether the magnitude of impact and resultant nature and scale of the effects of the Proposed Development (as defined earlier on in the chapter) during the operational phase will be worse or improved under the future climate conditions, and whether the changes alter the overall significance of effects identified for the Proposed Development, without climate change.

1.21 In most cases, there is likely to be an absence of published, accepted quantifiable methods for considering climate change effects for technical topics.

1.22 Therefore, this 'assessment' is likely to be qualitative and based on professional opinion which draws on the information available and acknowledges the level of uncertainty surrounding climate change projections.

1.23 Present the assessment as a narrative. Tables and supporting figures can be presented if helpful but are not essential. Appendix B gives examples of calculating the effect.

Step 4: Identify any Mitigation Needed

1.24 If any adverse significant effects are identified (as a result of the impact of climate change), appropriate mitigation will need to be identified.

1.25 When considering the adoption of mitigation to address any significant effects arising from changes in climate, consideration should be given to when the mitigation might be most usefully implemented over the duration of the scheme.

1.26 Mitigation measures include identifying appropriate resilience and adaptive management measures.

1.27 Resilience measures include design features (e.g. habitable rooms within residential units located above the flood level which accounts for climate change) and construction materials (e.g. materials resistant to increases in temperature), to provide an appropriate resilience to changes in the existing climatic conditions, as well as occurrences of extreme weather.

1.28 Adaptive management measures allow for the uncertainty surrounding climate change and its impact to be accounted for. Consideration should be given as to whether there are opportunities to introduce mitigation measures later into the project when there is more certainty over future climate projections. These measures could be secured through a commitment to prepare a management plan / strategy (or equivalent) which would periodically review the need for such measures and their integration into the scheme if / when required.

1.29 Where mitigation is proposed, consideration of the effectiveness of the measures should be taken into account, with reference to the resulting magnitude of impact and the resulting residual effect and its significance.

3. The Future Climate Condition for EIA

1.30 A summary of the future climate projections based on RCP8.5 is presented in Appendix A and described below for the climatic variables temperature, precipitation, and total cloud cover. Table 2 provides a breakdown of the data provided for each climatic variable in appendix A. UKCP18 data for wind is not yet available, so UKCP09 data has been presented.

Table 2. Climatic Variables for which Future Climate Projection Data is Provided

Climatic Variable	Climate Projection	Variable	Temporal Average
Temperature	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal
		Mean Daily Max	Annual
			Seasonal
		Mean Daily Min	Annual
			Seasonal
Precipitation	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal
Wind*	**UKCP09 A1B**	Mean	Annual
			Seasonal
Total Cloud	**UKCP18 RCP8.5**	Mean	Annual
			Seasonal

***Note**: UKCP18 probabilistic data for wind is not available, nor any RCP8.5 data for wind through alternative projections. For this reason, UKCP09 wind data has been presented for the A1B scenario, as it is comparable to RCP8.5.

Future London Climate Condition

1.31 The following description provides a high level overview of the future climate in London in 2100 under the UKCP18 using RCP8.5. Appendix A provides the data underlying this description.

Temperature[5]

1.32 Changes in temperature can have implications for the built and natural environment, built infrastructure, and human health. Increases in temperature can lead to impacts on human health, especially in urban areas such as London, where buildings can retain heat, leading to increased night-time temperatures. This is of particular interest when assessing developments within London, with its urbanised character and high population density.

1.33 The projected trends of climate changes in the 21st century indicate a move towards warmer, wetter winters and hotter, drier summers. Probabilistic projections show that there will be more warming in the summer than in the winter.

1.34 In summer, there is a pronounced north / south contrast when considering temperature changes, with greater increases in maximum summer temperatures over the southern UK compared to northern Scotland.

Precipitation[6]

1.35 Precipitation can have significant socio-economic impacts on various timescales, and can have implications related to pluvial or surface flooding, as surface run-off inundates the urban landscape. Flooding is one of the most socially and economically disruptive hazards within the UK, and has impacts on energy supply, transport and infrastructure.

[5] UKCP18 Factsheet: Temperature (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-temperature.pdf

[6] UKCP18 Factsheet: Precipitation (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-precipitation.pdf

1.36 Year to year, a high level of variability in precipitation has been observed, with a slight overall increase in UK winter precipitation over the last few decades.

1.37 Probabilistic projections show that while the probability of dry summers increases, the probability of wet summers reduces only slightly. Trends indicate drier summers, with reductions in rainfall, are largest in the south of England.

Wind [7]

1.38 Wind data is not available for RCP8.5, nor probabilistic projections for any of the RCP emissions scenarios. UKCP09 A1B data has been presented in Appendix A.

1.39 UKCP18 guidance reports no significant trends in 'storminess', which is determined by maximum gust speeds, from the UK over the last four decades. Global projections over the UK suggest an increase in near surface wind speeds for the second half of the 21st century during the winter season. An increase in frequency of winter storms is also predicted. Though, it should be noted that the increase in wind speeds is modest compared to the variability observed.

Summary

1.40 This note provides a future climate condition for the technical assessment of the Proposed Development in relation to climate change. It has been developed to ensure consistency across the technical topics covered in the EIA.

1.41 The data provided within this technical note is up to date 3 August 2020 2020. It is acknowledged that more information will become available on the UKCP18 interface over time, and revisions of this note shall be provided as appropriate.

[7] UKCP18 Factsheet: Wind https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-wind.pdf

Appendix A: Future Climate Projection Data

Table 3. UKCP18 Future Climate Projections: RCP8.5 Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Mean Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.41	4.11	5.98	12.86	14.56	16.43
Winter Average	1.45	3.47	5.65	6.07	8.09	10.27
Spring Average	1.44	2.92	4.57	10.63	12.11	13.76
Summer Average	2.73	5.41	8.15	19.41	22.09	24.83
Autumn Average	2.26	4.29	6.56	13.47	15.50	17.77
Maximum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.44	4.33	6.38	16.55	18.44	20.49
Winter Average	1.59	3.30	5.25	8.91	10.62	12.57
Spring Average	1.44	3.35	5.44	14.63	16.54	18.63
Summer Average	2.79	6.04	9.52	23.97	27.22	30.70
Autumn Average	1.80	4.48	7.44	16.64	19.32	22.28
Minimum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	2.17	3.96	6.07	8.79	10.58	12.69
Winter Average	1.31	3.50	6.19	3.13	5.32	8.01
Spring Average	1.43	3.01	4.94	6.48	8.06	9.99
Summer Average	2.74	4.96	7.5	14.67	16.89	19.43
Autumn Average	1.98	4.36	6.91	9.55	11.93	14.48
Precipitation	%	%	%	mm / day	mm / day	mm / day
Annual Average	-13.00	-1.79	9.66	1.52	1.72	1.92
Winter Average	-3.04	21.46	52.25	1.68	2.11	2.64
Spring Average	-23.42	-8.27	8.41	1.25	1.50	1.78
Summer Average	-71.24	-35.57	3.62	0.49	1.10	1.77
Autumn Average	-12.05	5.75	24.61	1.68	2.02	2.38
Total Cloud Anomaly	%	%	%	(0-1)	(0-1)	(0-1)
Annual Average	-16.47	-8.15	-0.28	0.57	0.63	0.68
Winter Average	-3.78	0.25	4.24	0.70	0.73	0.76
Spring Average	-17.25	-6.24	4.67	0.56	0.64	0.71
Summer Average	-39.02	-19.02	1.03	0.40	0.53	0.66
Autumn Average	-16.89	-7.27	1.50	0.55	0.62	0.68

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Table 4. UKCP09 Future Climate Projections for Wind: A1B Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Wind	n/a	M s-1^2	n/a	n/a	n/a	n/a
Annual Average	n/a	-0.065	n/a	n/a	n/a	n/a
Winter Average	n/a	-0.052	n/a	n/a	n/a	n/a
Spring Average	n/a	-0.154	n/a	n/a	n/a	n/a
Summer Average	n/a	-0.01	n/a	n/a	n/a	n/a
Autumn Average	n/a	-0.044	n/a	n/a	n/a	n/a

Appendix B: Examples of Defining Effect 'Scale within an EIA

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

Example 1

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = Low
(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
Magnitude of Impact = Low
Resultant Effect = Moderate

Example 2

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = High
(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
Magnitude of Impact = High
(*qualitative judgement*)
Resultant Effect = Major

Example 3

‘Normal EIA’	Climate Change
Receptor A = Low Sensitive	Receptor A = Low Sensitive
Magnitude of Impact = Low	Vulnerability = Low
Resultant Effect = Negligible	(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
	Magnitude of Impact = Low
	Resultant Effect = Negligible

Example 4

‘Normal EIA’	Climate Change
Receptor A = Low Sensitive	Receptor A = Low Sensitive
Magnitude of Impact = Low	Vulnerability = High
Resultant Effect = Negligible	(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
	Magnitude of Impact = High
	(*qualitative judgement*)
	Resultant Effect = Moderate

Appendix C: Policy and Guidance

Policy and Guidance

- EU Guidance on Integrating Climate Change and Biodiversity into the Environmental Impact Assessment (2013)[8]
- IEMA Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation (Nov 2015)[9]
- UK Climate Change Risk Assessment Evidence Report (2017)[10]
- 2017 EIA Regulations[11]

[8] EU Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessments http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf
[9] IEMA EIA Guide to Climate Change Resilience and Adaptation https://www.iema.net/assets/templates/documents/iema_guidance_documents_eia_climate_change_resilience_and_adaptation%20(1).pdf
[10] UK Climate Change Risk Assessment (2017) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf
[11] EIA 2017 Regulations http://www.legislation.gov.uk/uksi/2017/571/introduction/made

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LT / JC / Vinegar Yard / St Thomas Bermondsey Limited
21st October 2020

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Approach to the EIA for Vinegar Yard – Planning Application Resubmission 2020

Introduction

This note presents the approach to the EIA for the planning resubmission for Vinegar Yard and has been prepared by Trium.

An EIA Scoping Report was prepared and submitted to the LBS for discussion on the 24th September 2018 in relation to the 2018 Environmental Statement (ES). Informal feedback on the Scoping Report was received from the LBS on the 29th November 2018 in the form of a high level review (the 'LBS Review') of the content within the report submitted and with recommendations for consideration within the ES. The LBS Review comments were incorporated where appropriate within the 2018 ES that was submitted in support of the 2018 planning application.

It is not the intention of the Applicant to rescope the EIA for the 2020 revised scheme. The 2018 scoping process was undertaken in detail and has provided the Applicant and Trium with sufficient knowledge of the site and the surrounding area to be able to determine the scope of the EIA for the 2020 revised scheme. In addition, although the 2020 scheme is different to the 2018 scheme, the scheme still presents an urban redevelopment scheme with a tall building component and comprising of non residential land uses. While it is acknowledged that the surrounding development context is evolving (through the submission of planning applications for neighbouring and nearby land), the development that is now to be sought for approval, in EIA terms, is not fundamentally different to the 2018 scheme. It is therefore not considered necessary to re scope the EIA. Furthermore, it is acknowledged that scoping is not mandatory under the 2017 EIA Regulations.

In determining the scope of the EIA for the 2020 revised scheme, reference has been made to the September 2018 Scoping Report, the November 2018 LBS Review and the 2018 ES.

The September 2018 Scoping Report and subsequent November 2018 LBS Review is appended to this note for reference (Annex A and B respectively).

In addition to the Scoping Process, the 2018 ES was reviewed by an independent third party (Land Use Consultants (LUC)) on behalf of the LBS. The feedback received from LUC on the 2018 ES was responded to at the time and will, as relevant be incorporated into the 2020 ES for the revised scheme, thus ensuring that the 2020 ES for the revised scheme is comprehensive in terms of scope and requested clarifications and Regulation 25 points raised previously by LUC on behalf of the LBS.

Proposed Approach

Consistent with the approach agreed with the LBS and adopted for the 2018 ES, the following technical topics shall be scoped out of (i.e. excluded from) the EIA for the 2020 revised scheme:

- Water Resources (Drainage and Flood Risk);
- Ecology;
- Geoenvironmental (Land Contamination, Ground Conditions, Ground water and Land Take and Soils);
- Electronic Interference (TV and Radio Reception);
- Project Vulnerability; and
- Waste.

Justification for scoping out these topics can be found within the September 2018 Scoping Report and will be re presented within the 2020 ES for completeness and to avoid a paper trail. As necessary, information on the above technical topics shall be provided in support of the planning application, for example, the planning application shall be supported by a Flood Risk Assessment and Drainage Strategy and an Ecological Appraisal – these will either be appended to the ES or submitted as standalone planning deliverables.

Consistent with the approach agreed with the LBS and adopted for the 2018 ES, the following technical topics shall be scoped in to (i.e. included within) the EIA for the 2020 revised scheme:

- Socio-Economics;
- Traffic and Transport;
- Air Quality;
- Noise and Vibration;
- Wind Microclimate
- Daylight, Sunlight and Overshadowing, Light Pollution and Solar Glare;
- Archaeology;
- Health;
- Climate Change; and
- Built Heritage, Townscape and Visual Impact.

In addition, the 2020 ES for the revised scheme will comprise a number of introductory and concluding 'non-technical' chapters.

Table 1 below sets out the proposed content and structure of the 2020 ES.

For some topics such as traffic and transport and noise and vibration, the baseline data used in the 2018 ES will not be updated. This is due to the impact of Covid-19 on the ability to currently collect representative data. It is therefore considered that using the existing 2018 data will present the most representative data set. For other topics, that require qualitative review of desktop third party data (such as ecology, archaeology and socio-economics) to form their baseline, these will be updated to reflect the 2020 (or nearest year of available data) conditions.

With regards to assessment methodology, the revised scheme will be assessed against both baseline (as relevant to the technical topic) and cumulative scenarios. In terms of the cumulative assessment, all topics will consider a cumulative scenario that takes into account both consented schemes and any nearby schemes that are currently undetermined. For the wind microclimate, daylight, sunlight and overshadowing and heritage, townscape and visual assessments, there will be an additional number of cumulative scenarios that will assess the adjacent emerging St Thomas Street developments. These are detailed in Table 1 below.

Table 1: Approach to 2020 ES resubmission

Environmental Statement	
Chapter/Report	**Approach and Nature of Updates**
ES Volume 1	
Chapter 1: Introduction	Updates to 2018 ES chapter relating to the revised scheme (including description of development, redline boundary, planning application history)
Chapter 2: EIA Methodology	Updates to 2018 ES chapter relating to scoping approach, planning policy context, updated cumulative schemes list and map, addressing LUC 2018 ES Review.
Chapter 3: Alternatives & Design Evolution	Updates to 2018 ES chapter (including the addition of the previous scheme as an alternative design and addressing LUC 2018 ES Review.
Chapter 4: The Proposed Development	Updates to 2018 ES chapter including full review of revised scheme (including energy strategy, landscaping proposals etc) and addressing LUC 2018 ES Review.
Chapter 5: Demolition and Construction	Updates to 2018 ES chapter (including construction programme, description of works, phasing diagrams, material quantities, waste quantities, HGV vehicle numbers and routing in context of new scheme and other surrounding new schemes) and address LUC 2018 ES Review.
Chapter 6: Socio Economics	Updates to 2018 ES chapter including updating the baseline context with secondary data, assessment of potential effects during the demolition and construction phase and the complete and operational phase, assessment of cumulative effects during the demolition and construction phase and the complete and operational phase and addressing LUC 2018 ES Review.
Chapter 7: Traffic and Transport	Updates to 2018 ES chapter including reviewing additional cumulative schemes to amend the existing baseline traffic data, assessment of potential effects during the demolition and construction phase and the complete and operational phase, and addressing LUC 2018 ES Review.
Chapter 8: Air Quality	Updates to 2018 ES chapter including reviewing sensitive receptors, assessment of effects during demolition and construction phase (including updating the assessment / anticipated opening year) and the complete and operational phase, review cumulative effects and addressing LUC 2018 ES Review.
Chapter 9: Noise and Vibration	Updates to 2018 ES chapter including reviewing sensitive receptors, assessment of effects during demolition and construction phase (including updating the assessment / anticipated opening year) and the complete and operational phase, review cumulative effects and addressing LUC 2018 ES Review.
Chapter 10: Wind Microclimate	Further wind tunnel testing. Updates to 2018 ES chapter including updating the baseline context, assessment of potential effects during the demolition and construction phase and the complete and operational phase, assessment of cumulative effects including the following cumulative scenarios: • Proposed Development with Capital House; • Proposed Development with Capital House, Becket House and 40-44 Bermondsey Street (including the tower massing over the warehouse); and • Proposed Development with Capital House, Becket House and 40-44 Bermondsey Street (without the tower massing over the warehouse) • Proposed Development with all consented schemes and emerging scheme within a 360m radius of the site. The chapter will also address the LUC 2018 ES Review.
Chapter 11: Daylight, Sunlight, Overshadowing, Solar Glare, Light Pollution	Updates to 2018 ES chapter including updating the baseline context, assessment of potential effects during the demolition and construction phase and the complete and operational phase, assessment of cumulative effects including the following cumulative scenarios: • Proposed Development with Capital House; • Proposed Development with Capital House, Becket House and 40-44 Bermondsey Street (including the tower massing over the warehouse); and • Proposed Development with Capital House, Becket House and 40-44 Bermondsey Street (without the tower massing over the warehouse)

	• Proposed Development with all consented schemes and emerging scheme within a 360m radius of the site. The chapter will also address the LUC 2018 ES Review.
Chapter 12: Archaeology	Updates to 2018 ES chapter including update of the GLHER data and updating the baseline context and the archaeological desk-based assessment report, assessment of potential effects during the demolition and construction phase and the complete and operational phase, assessment of cumulative effects during the demolition and construction phase and the complete and operational phase, and addressing LUC 2018 ES Review.
Chapter 13: Effect Interactions	Updates to 2018 ES chapter including updates to reflect results of updated technical chapters and addressing LUC 2018 ES Review.
Chapter 14: Likely Sig Effects and Conclusions	Updates to 2018 ES chapter including updates to reflect results of updated technical chapters and addressing LUC 2018 ES Review.
Chapter 15: Mitigation and Monitoring Schedule	Updates to 2018 ES chapter including updates to reflect results of updated technical chapters and addressing LUC 2018 ES Review.
Chapter 16: Glossary	Minor updates to 2018 ES chapter.
ES Volume 2	
Heritage, Townscape and Visual Impact Assessment (HTVIA)	Updates to 2018 HTVIA including updated verified imagery (wirelines and renders) and assessment narrative.
ES Volume 3 Appendices	
Land Quality Risk Assessment	Provision of letter (attached to 2018 report) to accompany the 2018 report addressing scheme changes and any implications on 2018 results and conclusions.
Arboriculture Report and Impact Assessment (AIA)	Site visit and provision of letter (attached to 2018 report) to accompany the 2018 report addressing scheme changes and any implications on 2018 results and conclusions.
Preliminary Ecological Appraisal	Site visit, update of third party data and provision of letter (attached to 2018 report) to accompany the 2018 report addressing scheme changes and any implications on 2018 results and conclusions.
Basement Impact Assessment	Updates to 2018 report to reflect revised scheme and addressing LUC 2018 ES Review.
Flood Risk Assessment	Updates to 2018 report to reflect revised scheme and addressing LUC 2018 ES Review.
Drainage Assessment	Updates to 2018 report to reflect revised scheme and addressing LUC 2018 ES Review.
Greenhouse Gas Emissions Assessment	Updates to 2018 report to reflect revised scheme and addressing LUC 2018 ES Review.
Biodiversity Net Gain	New Biodiversity Net Gain report in line with emerging policy.
Air Quality, Noise and Vibration, Daylight / Sunlight, Overshadowing, Solar Glare, Light Pollution, Archaeology, Wind, Traffic and Transport	Updated supporting technical information (as required)
Non-Technical Summary	
NTS	Updated / complete replacement document to reflect the 2020 ES.

Vinegar Yard

EIA Scoping Report

for informal discussion with the LBS

Prepared for:
St Thomas Bermondsey Limited

Date:
September 2018

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INTRODUCTION

1. St Thomas Bermondsey Limited (hereinafter referred to as the 'Applicant') is seeking planning permission for the proposed redevelopment of a site ('Vinegar Yard' (the 'site')) within the administrative boundary of the London Borough of Southwark (LBS) covering a total area of 0.3 hectares (ha). The site is irregular in shape and bordered by St Thomas Street to the north, Snowsfields to the east and to the south east, Melior Place to the south west, and Fenning Street to the west.

2. The location of the site and the indicative redline planning application boundary is shown in **Appendix A** of this scoping report. Vinegar Yard currently runs diagonally through the middle of the site with a single access point from St Thomas Street to the north of the site.

3. The scheme proposals (hereafter referred to as the Proposed Development) include the construction of a multi storey building on the west side of the site and a separate smaller building on the east side. The multi storey building will provide for a commercial development including the provision of retail uses on the ground and first floors which will open into an improved public realm. A music venue is proposed within the separate smaller building (with the performance area being below ground) which will be linked to the main commercial development via a 3-storey basement. The Proposed Development will comprise a total of up to 33, 960 square metres (m^2) gross external area (GEA).

4. The Proposed Development will have a maximum height of ground + 20 stories (up to 100m AOD).

5. Given the proposals described, the Proposed Development does not fall within the classification of Schedule 2, 10(b) (Infrastructure Projects – Urban Development Projects) of the EIA Regulations[1]. The site area does not exceed the 5 ha threshold, nor does it provide over 1 ha of development that is dwelling/house, nor does it provide over 150 residential units. The site is also not located within a 'sensitive area' as defined by the EIA Regulations.

6. However, taking into account the scale of the development proposed and the nature of the site and surrounding area (dense urban environment with a potentially high concentration of sensitive receptors in the vicinity of the site), it is considered that there is the potential for significant environmental effects to arise. On this basis, the Applicant has decided to undertake an EIA for the Proposed Development and prepare an Environmental Statement (ES) to support the planning application. As the Proposed Development is not 'EIA development' under the EIA Regulations, the EIA has been undertaken voluntarily, although in accordance with the requirements of the EIA Regulations.

7. Trium Environmental Consulting LLP (Trium) has been commissioned by the Applicant to prepare an EIA Scoping Opinion Request for the redevelopment of the site in line with the requirements of the EIA Regulations and relevant EIA guidance. This includes submitting a Scoping Opinion Request Report (hereafter referred as the 'Scoping Report') to the LBS that sets out the proposed scope of the EIA and the content and approach to preparing the ES that will be submitted to support the application for full planning permission.

8. The EIA Regulations require that in order to ensure the completeness and quality of the ES, '(a) the developer must ensure that the environmental statement is prepared by competent experts;' and '(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.' Trium consider that these requirements are equally important and relevant to the EIA scoping process in addition to the preparation of the ES. As such, in accordance with this requirement, the following statement is provided:

> Trium is an environmental consultancy specialising in urban regeneration and property development projects in the UK, with a specific focus in London. Trium's Partners and Employees have extensive experience in managing the environmental issues and impacts surrounding large scale, high profile urban regeneration development projects. The Partners and Employees of Trium have, over the course of their careers to date (including with former employers), project directed, managed or contributed to over 200 EIAs within the retail, residential, leisure, commercial, cultural, infrastructure and industrial sectors. Trium's lead EIA practitioner for Vinegar Yard is a Full Member of IEMA, a Chartered Environmentalist (IEMA, 2016) and has over 15 years EIA experience within London.

[1] Town and Country Planning (Environmental Impact Assessment) Regulations 2017

Structure of the EIA Scoping Report

9. This Scoping Report is structured as follows and provides:

- A summary of the EIA purpose and process including EIA Scoping;
- A description of the location of the site and the site and surrounding area's environmental context;
- An overview of the Proposed Development;
- An outline of the planning policy context;
- A description of the EIA process and methodology;
- A description of the environmental topic areas that are considered to potentially result in significant effects on the environment and an explanation of the proposed scope and assessment methodology that will be adopted to predict the magnitude of potential impacts and the resultant scale, nature, geographic extent and duration of potential effects, and the effect significance within the EIA;
- A description of the environmental topic areas that are considered unlikely to result in significant environmental effects, and are therefore scoped out of the EIA;
- Confirmation of the proposed structure of the ES; and
- The request for an informal EIA Scoping Opinion from the LBS.

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EIA AND THE SCOPING PROCESS

EIA Purpose and Process

10. EIA is a process carried out which examines available environmental information to ensure that the likely significant environmental effects of certain projects are identified and assessed before a decision is taken on whether a project is granted planning permission. This means environmental issues can be identified at an early stage and projects can then be designed to avoid or to minimise significant environmental effects, and appropriate mitigation and monitoring can be put in place.

11. Regulation 4 of the EIA Regulations sets out the EIA process. Specifically, Regulation 4(2) states that "the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors:

- (a) population and human health;
- (b) biodiversity;
- (c) land, soil, water, air and climate;
- (d) Material assets, cultural heritage and the landscape;
- (e) The interaction between the factors referred to in sub-paragraphs (a) to (d)."

12. The potential for likely significant effects on the aforementioned factors, during both the demolition and construction works associated with the Proposed Development and once the Proposed Development is complete and operational, is considered within the following relevant environmental topics addressed within this Scoping Report:

- Socio-Economics and Health;
- Traffic and Transport;
- Air Quality;
- Noise and Vibration;
- Wind Microclimate;
- Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
- Archaeology (Buried Heritage);
- Built Heritage, Townscape and Visual;
- Water Resources, Drainage and Flood Risk;
- Ecology;
- Geoenvironmental (Land Contamination, Ground Conditions and Groundwater);
- Electronic Interference;
- Waste and
- Climate Change.

13. The method behind the EIA process generally takes into account the existing conditions of the area into which the development is being introduced (the ***baseline***) and makes reasonable predictions of the likely change (the ***impact*** – in terms of magnitude) that may occur, during both its construction and when the development is completed and operating as proposed. The predicted impact is considered in

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terms of key environmental and social aspects (***receptors***) found within the surrounding area, and based on their sensitivity to change, the scale of the resulting change experienced by the receptor / resource (the ***effect***) is then determined along with a statement on whether the effect is significant or not. Any mitigation measures required to reduce or eliminate significant adverse effects are then considered and assessed, with the resulting residual effect scale being determined. All the likely significant effects of the development are reported (within an ***environmental statement***).

Project Vulnerability

14. With reference to Regulation 4(4) and Schedule 4 of the EIA Regulations, this Scoping Report considers whether there are likely to be any significant effects on the environment or the project arising from the vulnerability of the Proposed Development to major accidents or disasters.

15. Available guidance (IEMA Quality Mark Article 'Assessing the Risks of Major Accident and Disasters in EIA (WSP, 2016)) defines major accidents and disasters as follows:

"man-made and natural events which are considered to be likely and are anticipated to result in substantial harm that the normal functioning of the project is unable to cope with/rectify".

16. Based on the above definition, the major accidents or disasters that could be considered likely and that are considered relevant to the Proposed Development which will be considered within the EIA are as follows:

- Flood Risk; and
- Fire risk

17. In terms of flood risk, the planning application will be accompanied by a Flood Risk Assessment (FRA). The FRA will review the potential sources of flooding that could affect the site, and how the identified sources of flooding can be minimised, mitigated or eliminated to reduce project vulnerability. The potential sources of flooding are likely to be:

- Tidal flooding from the River Thames;
- Pluvial (drainage-related) flooding (impact on and off site); and
- Groundwater flooding.

18. An assessment will be made of the impact of climate change on the flood risk categorisation of the site and how the Proposed Development has built in climate change resilience and resistance with regard to future flood risk and so future potential vulnerability with regard to this aspect.

19. Consideration has been given to fire risk and whether this could constitute a major accident or disaster that could be considered likely and relevant to the Proposed Development. It has been concluded however, that fire risk is managed outside of the EIA process through a combination of legislative and industry guidance which mitigate the risk of fire causing a major accident or disaster to new developments within the urban environment. Legislative requirements include the 'The Construction (Design Management) Regulations 2015', which provide guidance on fire safety requirements for new buildings, while requirements under the Building Regulations and associated guidance relate to the health and safety of people in and around buildings. Alternatively, compliance can also be achieved by adopting a fire engineered solution where the size and scale of the development necessitates bespoke measures to address the fire risks.

20. The effective implementation of the legislative tools and guidance is considered to reduce the risk of fire to an acceptable level whereby the occurrence is unlikely, or in the event of a fire, appropriate design and management measures are incorporated into a development to avoid the occurrence of a major accident or disaster.

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21. Given the above, the consideration of fire risk in terms of causing a major accident or disaster will not be addressed further within the EIA as the risk of occurrence will be managed during the post-consent technical design and construction phases, through a mix of legislative requirements and industry guidance which fall outside of the EIA process.

Alternatives

22. In addition, the EIA Regulations require (Schedule 4) that the ES provides "a description of the reasonable alternatives… relevant to the proposed project and its specific characteristics" which have been considered by the Applicant and "an indication of the main reasons for selecting the chosen option, including comparison of environmental effects".

23. The ES will summarise the evolution of the Proposed Development, the alternatives considered, and key modifications made during the design process. Environmental considerations which have influenced this process will be discussed, and a qualitative comparison will be undertaken of the different design options and their relevant environmental effects. Matters that will be considered in terms of design evolution include land uses, layout, building heights and massing. The preferred design alternative, culminating with the Proposed Development being sought for approval, will be discussed.

The Scoping Process

24. EIA Scoping forms one of the first stages of the EIA process. Requesting an EIA Scoping Opinion Request from a local planning authority, under Regulation 15 of the EIA Regulations, involves the preparation of a Scoping Report and its submission to the local planning authority as part of a formal request for their opinion on the content or 'scope' and approach to the EIA.

25. The purpose of scoping is to identify:

- the important environmental issues and topics for consideration in the EIA;
- the baseline conditions and assessment methodology to be used for assessment;
- any potentially sensitive receptors that may be affected by the development being proposed;
- the appropriate time and space boundaries of the EIA (i.e. time: project timeframes including details of the demolition and construction programme and proposed opening year; and space: the site boundary and surrounding environmental context);
- the information necessary for decision-making; and
- the significant effects which are likely to result from the development both during its demolition and construction and operation.

26. This Scoping Report constitutes an informal request for an EIA Scoping Opinion from the LBS.

27. The ES will append the Scoping Opinion and include a summary of any other consultation undertaken as part of the EIA process.

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SITE CONTEXT AND PROPOSED DEVELOPMENT

Site Location

28. The site is approximately 0.3ha in size and irregular in shape. The site is currently occupied by one building in the south west portion of the site and a yard in the east portion of the site. The site is bordered by:

- St Thomas Street and London Bridge Station along the northern boundary;
- Snowsfields and Bermondsey Yard building to the east;
- A warehouse and Snowsfields residence immediately to the south along with Melior Place and Melior Street; and
- Fenning Street and Beckett House to the west.

Site Description and Environmental Context

29. The site is currently occupied by the Vinegar Yard building in the south west corner. There are ongoing demolition works of the temporary Network Rail building currently on site (see Figure 1 and 2 below). However, vacant possession of the site is to take place at the end of September Access to the site is currently gained from St Thomas Street to the north of the site or Melior Street to the south west onto Fenning Street along the west border of the site.

Figure 1 Site with current Network Rail demolition works



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Figure 2 View of the Vinegar Yard building along Fenning Street



30. The site is located within the northern part of the LBS within the London Bridge & West Bermondsey ward as of May 2018.

31. The site is formed predominantly of hardstanding, with one building currently on site in the south west corner and very limited vegetation with the exception of a few trees along the southern border outside of the site boundary.

32. The site is located in an area with a 2011 Public Transport Accessibility Level (PTAL) rating of 6b (excellent). The PTAL rating for the site takes into account the time it takes to access the public transport networks.

33. The Environment Agency's (EA) flood map for the area shows that the site is located within Flood Zone 2 and Zone 3 floodplain (benefitting from flood defences).

34. The site is located within an Air Quality Management Area (AQMA) due to the levels of nitrogen dioxide and fine particulates exceeding air quality objectives within its boundaries.

35. Geological maps indicate the site to be underlain by superficial deposits comprising Alluvium Deposits and River Terrace Gravels overlying London Clay Formation Bedrock which comprises clay and silt.

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The Surrounding Area's Environmental Context

Socio-Economics

36. The Proposed Development is located opposite the Grade II listed railway arches that lead to London Bridge Rail Station. The site itself currently includes temporary office (B1) and light industrial uses (with ancillary office and storage – B1) and is adjacent to a vacant warehouse (B8).

37. The area around the site is undergoing significant regeneration. This is promoted by Southwark Council's emerging Local Plan which identifies potential for comprehensive mixed-use development to include taller buildings. Data[2] from the Office for National Statistics (ONS) indicates that the area in the immediate surroundings of the Proposed Development[3] supports around 9,000 jobs (representing around 4% of the borough's total employment) and sees high levels of specialisation in employment in ICT and education (with location quotients[4] of 3.1 and 3.0 respectively) relative to London. More widely, the London Borough of Southwark sees relatively high concentrations of employment in the same sectors in addition to public administration and professional, scientific and technical jobs, a large proportion of which are office-based.

38. The Local Plan identifies that Southwark needs to accommodate significant growth for offices and other workspaces which are growing in demand and contributing to the Central London economy and its status as a world city. The Local Plan also identifies that the London Bridge area is deficient in parks and other green spaces and indicates that any developments proposed for the area should help mitigate the pressure from development on existing open space, whilst also enhancing the new high street on St. Thomas Street and the setting of the Leather Warehouse and Horseshoe Pub (both unlisted buildings of significance).

39. The surrounding area is urban and high density, and is comprised of residential, office and commercial uses along with London Bridge immediately north of the site.

40. The nearest residential use is directly above the Horseshoe Pub bordering the site along the south. Residential use is also present along the south and south west of the site along Snowsfields, Melior Street and Melior Place. To the north of St Thomas Street (on the northern boundary of the site) is London Bridge Station with train tracks and platforms above it, including a single storey signal box office building (currently running at 20% for the next 18 months) to the north east. Office, residential and commercial uses are located north of the station. These residential uses are predominantly low-rise (around 4-5 storeys in height), with several mid-rise office blocks further north of the site. West of the site comprise high rise buildings including The Shard and Guy's Hospital.

41. The Ark Nursery is a nursery school located approximately 330m south west of the site. There are several primary schools located within 1 km of the site, including but not limited to: Snowsfields Primary School which is located approximately 80m south the site; Tower Bridge Primary School approximately 370m to the north-west of the site; and Saint Joseph's Catholic Primary School approximately 600m west of the site. Ark Globe Academy is the closest secondary school to the site (approximately 910m to the south of the site).

42. The healthcare facilities within the surrounding area of the site include the NHS Southwark CCG (approximately 230m to the north-east of the site) and Concordia Health (approximately 280m south of the site). Guy's Hospital is also approximately 200m west of the site. Dental practices are similarly located to the site, the closest being the London Bridge Dental Practice (approximately 210m north of

[2] Office for National Statistics (2016), 'Business Register and Employment Survey'.
[3] Defined as Southwark 006F LSOA.
[4] Location quotient (LQ) is a measure of a region's sectoral specialisation relative to a larger region (eg. London). A LQ of 1.0 indicates that both regions have the same level of specialisation, whilst a LQ greater than 1.0 indicates that the smaller region sees a higher concentrations of employment in a particular sector

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the site).

43. Communal gardens/public spaces are located within close proximity to the site, including but not limited to Melior Street Community Gardens (directly west of the site), Leathermarket Gardens and Community Park (approximately 175m south of the site); Guy Street Park (located approximately 150m south-west of the site) and Tanner Street Park (approximately 265m south east of the site).

Traffic and Transport

44. St. Thomas Street forms part of the TfL Road Network (TLRN) with associated parking / waiting restrictions. Fenning Street is a narrow and lightly trafficked two-way street. Snowsfields is a narrow one-way westbound street.

45. The site is extremely accessible to public transport, being located adjacent to London Bridge Station which benefits from London Underground services (Jubilee and Northern Lines) in addition to National Rail services. These services are operated by Southern, Southeastern Rail and Thameslink, providing routes from Charing Cross to southeast London, Kent and East Sussex as well as destinations towards South East England. It also provides services that can provide interchanges with Waterloo (via Waterloo East) and London Victoria.

46. The local area is served by a number of bus routes with stops along St Thomas Street, at London Bridge station and on Tooley Street. Additionally, 19 existing bus services stop within an acceptable walking distance of the site (approximately up to 5 minutes' walk from the site), including but not limited to routes: 381, 149, 521 and 43. The site is also in close proximity to national cycle routes and Cycle Superhighway.

47. The site and the surrounding area are located within a Controlled Parking Zone (CPZ), this comprises of a mixture of single and double yellow lines, pay and display bays and permit holder only bays.

Air Quality

48. The LBS has declared an Air Quality Management Area (AQMA) for exceedances of the annual mean NO_2 objective and the 24-hour mean PM_{10} objective that encompasses the entire northern part of the borough, extending from Rotherhithe to Walworth and Camberwell and up to the boundary of the River Thames. The Proposed Development lies within this AQMA.

49. The London Borough of Southwark (LBS) has undertaken monitoring of nitrogen dioxide (NO_2) and particulate matter (PM_{10}) at two automatic monitoring sites within its borough, however, neither of these sites are located in close proximity to the Proposed Development. The LBS also uses a number of passive diffusion tube monitors throughout its borough to measure annual mean NO_2 concentrations. This includes seven sites that are located within 500 m of the site. Measured concentrations of NO_2 at these sites for the year 2017 show exceedances of the annual mean objective at all sites. At five of the seven sites measured concentrations of NO_2 in 2017 were above 60 µg/m3, indicating that there is a risk that the 1-hour objective was also exceeded.

50. A review of potential existing significant industrial or waste management sources of air pollution has been carried out, involving a search of the UK Pollutant Release and Transfer Register[5]. This did not identify any source with the potential to significantly affect future users of the Proposed Development.

Noise and Vibration

51. The noise sources identified at the site and the surrounding area are train and station noise from London Bridge Station, road traffic on local roads and to a lesser extent, patron noise from the nearby pubs and restaurants (The Horseshoe Inn and Melior Street).

[5] Defra (2018) UK Pollutant Release and Transfer Register, [Online], Available at: prtr.defra.gov.uk.

52. The vibration source identified is the above ground rail associated with London Bridge Station.

Archaeology

53. The site is located within an Archaeological Priority Area (APA) designated by the LBS. The site is located within the Borough, Bermondsey and Rivers Archaeological Priority Zone, as designated in the Borough's Local Development Framework Core Strategy. However, the New Local Plan, which will be submitted in early 2019, has reclassified the APAs within the borough, meaning the site will be within a Tier 1 APA, named the 'North Southwark and Roman Roads'. This will be the largest and the most archaeologically important APA in Southwark.

54. There are no listed buildings on the site, however there are approximately 65 listed buildings/monuments within a 500m radius of the site including but not limited to: Railway viaduct arches (Grade II) to the north of the site; Leather Market (Grade II) to the south of the site; and the Roman River Boat at New Guy's House (scheduled ancient monument) to the south west of the site. The site is located approximately 640m south west of the Tower of London which is listed as a World Heritage Site. The Horseshoe Pub directly south of the site's southern border is an unlisted building of significance.

Further Designations

55. The site is not located within a 'sensitive area' (as defined in Part 1 of the EIA Regulations) and is not located within, and does not contain, any Sites of Importance for Nature Conservation (SINC). The nearest SINC is the River Thames and Tidal Tributaries SINC which is located approximately 380m north of the site and is categorised as being a Site of Metropolitan Importance for nature conservation.

56. The site of local importance for nature conservation (SLINC) at the Leathermarket Gardens and Borough Grade II site at Snowsfields Primary School Nature Garden are both within 500m of the site.

57. The south west corner of the site is within the Bermondsey Conservation Area (CA) as per LBS's designated Conservation Area maps. The southern border of the site is also in close proximity to the conservation area border, approximately 6m at its closest point. Tooley Street CA is approximately 76m north of the site at its closest point.

58. The site does not lie within a groundwater source protection zone (SPZ) or a nitrate vulnerability zone (NVZ). The nearest surface water resource to the site is the River Thames which is approximately 380m north of the site at its closest point. The site is also located within the Group7_035 (London Bridge) Critical Drainage Area (CDA) with regard to surface water flooding

59. The site falls within both the Parliament Hill Summit to St Paul's Cathedral (LMVF 2A 1) and the Kenwood viewing Gazebo to St Paul's Cathedral (LMVF 3A 1) background viewing corridors of the London View Management Framework (LMVF).

60. The site is located within the Bankside, Borough and London Bridge Opportunity Area (BBLB OA) as designated within the London Plan, as well as being part of Southwark's St Thomas Street East Masterplan Area. The site is also located within Southwark's Central Activity Zone (CAZ) that seeks to optimise office development.

61. Directly west of the site is Beckett House. The site benefits from an extant permission for a 21 and 31 storey building (including 1 basement level) (LBS Ref: 14/AP/4640). Directly adjacent to Beckett House on the west side is Capital House which benefits from a consented scheme for a 31 storey building (LBS Ref: 14/AP/4640) plus 3 basement levels.

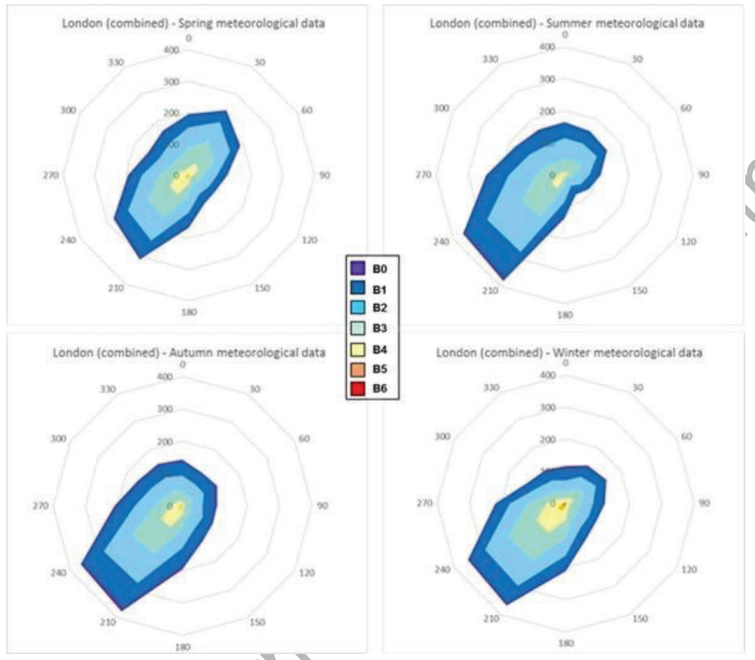
Wind Microclimate

62. Winds for the London area are predominantly from the south west, with a secondary peak from the

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north east during spring. Winds are typically stronger in the winter season, and lighter throughout the summer. Wind roses for the London area are shown below (Figure 3) per season, combined from data attained from Gatwick, Stansted and Heathrow over a period of 30 years, which is analysed through a statistical model which provides the frequency of occurrence and magnitude of winds from all directions from that period, inherently considering trends in that time.

Figure 3.Wind Roses for London (Radial Axis indicated number of hours per year of exceedance of the relevant Beaufort Force)



Overview of the Proposed Development

63. The Proposed Development includes the demolition of the existing structures on-site including the Vinegar Yard building in the south west portion of the site and the yard in the east portion of the site.

64. The Proposed Development includes the construction of a multi storey building covering the west portion of the site and a separate smaller building (pavilion) on the north east side of the site. The Proposed Development will comprise a total of up to 33,960 square metres (m^2) gross external area GEA) and 32,210m^2 gross internal area (GIA).

65. The multi storey building will provide for a commercial (office) development (B1 use class) including the provision of retail uses (A1-A5 use class) on the ground floor, mezzanine and basement 1, which will open into an improved public realm. The multi storey building will comprise a cluster of up to 7 podiums (rotated bundle) varying in height, with a maximum height of ground + 19 stories (up to approximately 87m AOD). The tallest height will be in the west, stepping down to the east, parallel to St Thomas Street.

66. The façade materials used for the multi storey building will mainly consist of glazed material. The ground floor will comprise a large retail hall, the façade of which will primarily consist of glazed material, with the addition of brick/wood materials to reflect the London Bridge Arches opposite.

67. The smaller building (pavilion) on the north east side of the site is roughly rectangular in shape with multiple angled roofs and wall edges. The building is proposed to comprise ground + 4 stories. A box office is proposed for ground level, office use (B1) on the first floor and a restaurant (use A3) on the second floor. Plant rooms are proposed for the top two floors. The pavilion building will be linked to the main office and retail development via a basement, with the music venue (D2 use class) proposed below ground. The façade of the pavilion is proposed to comprise a mixture of glazed material on the ground floor and brickwork on the upper levels reflecting the arches and warehouses in the surrounding area.

68. The proposed basement will extend across the whole site, consisting of 3 levels. Plant rooms will extend to all three basement levels directly below the multi storey building. The stage and performance area of the music venue will be situated below ground with a capacity of 200, on the western end of the site's footprint, covering basement levels 2 and 3. Other music venue facilities such as washrooms and a bar will be situated in basement levels 1 and 2 below the pavilion.

69. The Proposed Development will provide for active frontages along streets and open spaces and will integrate the site into the existing surrounding community through well-defined vehicular and pedestrian access points and pedestrian connections. The Proposed Development will provide for public realm improvements, in the form of hard and soft landscaping around the multi storey building and public amenity space between the main building and the music venue. The planting of trees, creation of green space and public amenity areas have been incorporated into these proposals.

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PLANNING CONTEXT

70. The ES (within **ES Volume 1, Chapter 1: Introduction and EIA Methodology**), will define the relevant national, regional and local policy context. Specifically, the ES will list out the key relevant policy documents but will not discuss the policies within these in any detail.

71. Although relevant policies out of the key planning policy documents will, in some instances, inform the scope and the methodology of the technical assessments within the EIA, the Proposed Development's compliance with and performance against the relevant planning policies will be appraised within the Planning Statement which will be a standalone document that is submitted in support of the planning application. It is not the purpose of the ES to appraise the Proposed Development against relevant national, regional and local planning policy standards / targets.

72. Where planning policy informs the scope and the methodology of the technical assessments of the EIA, the policies will be presented in the ES (in the relevant technical topic chapters) and discussed as necessary. Any policy detail required to support the relevant impact assessment scope, methodology or assessment of effects, will either be provided within the technical topic chapter itself or within an appendix to the ES.

National Planning Policy and Guidance

73. The EIA will be undertaken having regard to the National Planning Policy Framework (NPPF). The NPPF sets out the Government's economic, environmental and social planning policies for England. The policies contained within the NPPF articulate the Government's vision of sustainable development, which are intended to be interpreted at a local level, to meet the requirements of local aspirations.

74. Following consultation between the 5th March 2018 and 10th May 2018, the new 2018 Framework was formally published on the 24th July 2018. The new 2018 Framework seeks to implement the Government's reforms to planning policy and replaces the 2012 Framework.

75. As relevant to the EIA, specifically to the scope, methodology and assessment of effects for the EIA technical topics, the NPPF shall be considered throughout undertaking of the EIA and preparation of the ES.

76. The EIA will also refer to, as relevant to the EIA technical topics, the Planning Practice Guidance (PPG), which is an online resource. The PPG aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.

Strategic Planning Policy and Guidance

77. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to the following key strategic planning documents. Any additional strategic planning policy and guidance documents considered relevant to the technical assessments which are covered by the EIA will also be considered:

- The London Plan: The Spatial Development Strategy for Greater London Consolidated with Alterations Since 2011 (March 2016) – hereafter referred as 'the London Plan';
- The Draft London Plan (2018) – an updated Draft London Plan has been published with minor alterations from the Mayor in line with consultation comments (which ended March 2018) and is expected to be adopted in 2019; and
- Supplementary Planning Guidance (SPG) (i.e. further guidance on policies in the London Plan that can't be addressed in sufficient detail in the plan itself).

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Local Planning Policy and Guidance

78. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to key local planning policy and guidance documents.

- London Borough of Southwark, (2011); Current Local Plan: made up of the Saved Southwark Plan Policies (2007) and Core Strategy (2011).;
- London Borough of Southwark, (2017); Draft New Southwark Plan: Proposed Submission Version; and
- Supplementary Planning Notes and Guidance: the LBS has adopted a number of Supplementary Planning Documents (SPDs) to provide further guidance on policies set out in Local Plan documents.

Other Guidance

79. In addition to any relevant planning policies that inform the scope, methodology or assessment of effects, as relevant, the technical topic chapters of the ES will present a summary of any pertinent recognised industry guidance documents.

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EIA PROCESS AND METHODOLOGY

EIA Approach and Methodology

80. The EIA will be undertaken with regard to relevant best practice guidance, including:

- England and Wales: Online Planning Practice Guidance (Environmental Impact Assessment, 2017);
- IEMA ES Review Criteria (COM3-6);
- IEMA: Guidelines for Environmental Impact Assessment, 2004;
- IEMA 'Special Report into the State Environmental Impact Assessment Practice in the UK' (2011);
- IEMA 'Shaping Quality Development' (2015); and
- IEMA 'Delivering Quality Development' (2016);
- IEMA 'Delivering Proportionate EIA' (2017).

81. In accordance with the EIA Regulations and the above best practice guidance documents, the EIA must firstly define a baseline position and then identify, describe and assess the effects likely to arise as a result of the Proposed Development during the demolition and` construction works, as well as on completion and operation of the Proposed Development. The EIA must also consider the potential for cumulative effects.

Baseline Conditions

82. Baseline assessments will utilise any existing and available information, as well as new information either collected through baseline surveys undertaken during the course of the EIA process or additional information provided as part of the EIA Scoping Opinion and consultation process. This information will be used to present within the ES (within the individual technical chapters) an up to date description of the current baseline conditions of the site and surrounding area. The existing baseline conditions will be taken as the site's conditions as of the end of September 2018, i.e. following completion of the Network rail demolition works and so a partially cleared site.

83. Following on from this, as per the requirements of the 2017 EIA Regulations, consideration as to how the current baseline conditions of the surrounding area may evolve in the future in the absence of the Proposed Development will be presented in the ES (within the individual technical chapters). The likely evolution of the baseline conditions will be quantified where possible. Where not possible, a qualitative review will be presented.

84. As appropriate to the technical topic in question, the impacts and effects of the Proposed Development shall be assessed against the 'evolved' baseline conditions.

85. Within the table and map of cumulative schemes appended to this scoping report and considered within the ES, schemes: 3, 4, 5, 7, 8 and 11 are currently under construction or have been partially completed as of August 2018.As appropriate to the technical topic, these schemes will be taken as completed and operational as part of the likely evolution of the baseline conditions. Any other 'evolved' baseline conditions identified throughout the planning process will be discussed within the ES.

Demolition and Construction Impact Assessments

86. The purpose of this assessment is to define the likely effects on surrounding receptors because of the demolition and construction works associated with the Proposed Development.

87. The ES (within **ES Volume 1, Chapter 4: Demolition and Construction**) will provide an outline of the anticipated demolition and construction programme and will provide a description of the works / activities proposed (i.e. enabling works, demolition works, substructure works, superstructure works, fit out, and landscaping works). As relevant, how the works will interface with neighbouring land owners / operators shall be outlined.

88. For the purposes of the ES, it is likely that the outline demolition and construction programme will show completion of the Proposed Development in 2023

89. There is no phased delivery of the Proposed Development and as a result, the EIA does not need to consider a phased construction programme.

90. When defining the receptors to be assessed, consideration shall be given to the existing baseline conditions and the likely evolution of the baseline conditions immediately surrounding the site. This is to ensure that, in addition to existing sensitive receptors (i.e. those apparent within the present day baseline conditions), any additional sensitive receptors that could be apparent within the surrounding area by 2023 (and so conceivably over the duration of the demolition and construction works) because of other surrounding development schemes are captured within the assessment.

91. In addition, this chapter of the ES will present information on anticipated demolition and construction waste volumes, identify any possible opportunities for waste materials reuse / recycling and estimated construction material quantities. These aspects will in turn be used, alongside the anticipated demolition and construction programme to define the likely HGV numbers / movements over the duration of the build. HGV routing, site access and egress shall be identified.

92. Information on anticipated plant and equipment lists, including the use of tower cranes and sound power levels and percentage on times shall be presented.

93. Collectively, all the above cited information will inform the demolition and construction impact assessments of the EIA. The assessment of the potential impacts and likely effects during the demolition and construction works will be addressed within each of the individual technical assessment chapters of the ES.

94. Throughout the demolition and construction impact assessments, the assumption will be made that the standard environmental controls required under legislation and best practice guidance are met as a matter of course.

95. The demolition and construction assessments will, through the impact assessments, identify the need for any additional or bespoke environmental management or mitigation measures to avoid, prevent, reduce or off-set any likely significant adverse effects as a result of the proposed demolition and construction works. The ES (within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**) shall outline the measures identified.

96. Where required, a description of any proposed monitoring arrangements will also be presented and would define (where appropriate) the procedures regarding the monitoring of the relevant significant adverse effects, the types of parameters to be monitored and the monitoring duration.

97. It is anticipated that any required demolition and construction related environmental management / mitigation and monitoring measures would be secured and controlled through appropriate demolition and construction Code of Construction Practice or Construction Environmental Management Plan (CEMP) (or equivalent). It is proposed that the requirement for this document be secured by means of a suitably worded planning condition attached to the permission (if granted). Key mitigation and management controls that would later form part of a CEMP will be presented in the ES to help define the policies, procedures and management framework for the implementation of any identified specific environmental management and mitigation controls and monitoring.

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Completed Development Impact Assessments

98. This shall comprise assessments of the environmental and socio-economic effects of the Proposed Development once the Proposed Development is fully constructed and in use.

99. The ES will present a description of the Proposed Development to provide suitable context to enable the assessment of environmental effects. Any assumptions made will be clearly presented in the narrative.

100. The ES (in **ES Volume 1, Chapter 3: The Proposed Development**), will present information on the details of the development sought for approval (including but not limited to):

- Layout – building footprint (including any proposed basements);
- Means of access and egress and circulation – vehicular and pedestrian accessibility into, out of and around the site;
- Scale – the massing, specifically heights of buildings;
- Amount of development – floors areas and uses classes;
- Appearance – architectural detail and materiality of the Proposed Development;
- Landscaping – including planting strategy, species and habitats;
- Open space – amount of on-site provision;
- Embedded environmental design / mitigation, for example in relation to noise mitigation, wind mitigation, ecological enhancements; or flood resilience measures;
- Plant locations;
- Energy strategy;
- Deliveries and servicing strategy (including estimates of the types and quantities of waste anticipated, waste storage, handling and collection);
- Car parking, motorcycle parking, and cycle parking;
- Sustainability (including climate change resilience and adaptation (as relevant)); and
- Utilities (including water supply and wastewater / surface water drainage volume estimates).

Climate Change

101. Recent changes to the EIA Regulations have introduced the requirement for the consideration of climate as part of the EIA process. The EIA Regulations seek to account for climate by requiring a description of '*the impact of the project on climate*' and '*the vulnerability of the project to climate change*' (Schedule 4, paragraph 5(f)).

The Proposed Development's Impact on Climate

102. The approach to assessing the impact of the Proposed Development on climate will be undertaken in accordance with the IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating Their Significance' (2017). This guidance sets out a 'good practice' approach to achieving a proportionate assessment of a development's impact on climate and communicating the results in terms of a notional percentage contribution relative to a carbon budget, together with appropriate mitigation.

103. The guidance presents a series of principles developed by IEMA, which highlight that all GHG emissions

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contribute to climate change, and that the combined effect of all emissions draws us closer to the scientifically defined environmental limit for climate change. The guidance therefore suggests that, in the absence of any defined threshold or significance criteria, any GHG emissions or reductions from a project be considered as significant. The guidance also reinforces a key principle of EIA which is to reduce the impact of a project's emissions at all stages of the lifecycle through mitigation.

104. Consistent with the guidance, the approach taken in the EIA will be to quantify the net GHG emissions[6] from the Proposed Development and compare against an existing carbon budget (defined either at a global, national, regional, local or sectoral level) in order to contextualise the project's carbon contribution by developing a sense of the scale of the emissions anticipated. The carbon budget can be sector specific, local, regional or national. The guidance suggests that emissions are compared using the Committee on Climate Change (CCC) UK wide carbon budget and the appropriate sector breakdown which in this situation is 'buildings'. A further budget will also be referred to, the 'Green Construction Board – the Low Carbon Routemap for the Built Environment' which provides a further budget breakdown for non-domestic buildings, construction and operation.

105. The quantification of GHG emissions shall cover the appropriate life cycle modules stated within PAS 2080 including:

- Before Use Stage (A0-5);
- Use Stage (B1-9); and
- End of Life Stage (C1-4).

106. At this early stage, detailed design information is limited and therefore the assumptions, data used, and any assessment tools will be described in the resulting report.

107. The ES will present the carbon emissions mitigation being proposed, which will follow the principles of the carbon management hierarchy (i.e. avoid, reduce, off-set), in order to reduce as far as reasonably practicable, the anticipated GHG emissions over the Proposed Development's lifecycle.

108. The assessment of GHG emissions (essentially a carbon footprint or 'inventory' of the Proposed Development) and an outline of the carbon mitigation measures proposed will be presented in a technical report and included within ES Volume 3. Relevant information out of this report (specifically relating to carbon mitigation measures) will be presented within the ES Chapter describing the Proposed Development (**ES Volume 1, Chapter 3: The Proposed Development**) and the chapter that outlines the enabling and construction works (**ES Volume 1, Chapter 4: Enabling and Construction**).

Vulnerability to Climate Change & Climate Change Resilience

109. The approach to assessing the vulnerability of the Proposed Development to climate change will be undertaken in accordance with the IEMA guidance 'Climate Change Resilience and Adaption' (2015)', which presents a framework for the consideration of climate change resilience and adaption in the EIA process. It recognises a need for a proportionate approach to the assessment, due to the uncertainties associated with predicting how the environment will respond to climate change.

110. The guidance advises on inter alia, defining the future climate scenario (see below), the integration of climate change adaption into the design, and the process for EIA. The guidance also provides advice on the execution of the impact assessment across the technical topics, including the identification of the climate related parameters which are likely to influence the project in question, and the anticipated changes to those parameters under a future climate scenario.

[6] Determining the net GHG emissions contribution accounts for the existing GHG emissions within the project boundary prior to the project commencing, against the predicted project emissions.

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111. Consistent with the guidance, the EIA will describe a future climate scenario which will be developed through the use of the future climate projections published by the Met Office (through the UK Climate Projections (UKPC09) website). The projections for variables include annual mean temperatures, and annual changes in summer and winter precipitation. The future climate scenario (climate parameters and anticipated variations) shall be appended to the ES.

112. To describe the predicted future climate, it is proposed that the medium emissions scenario (A1B)[7] for the 2080s will be utilised as the future baseline. The medium emissions scenario (A1B) is based on a future world of rapid economic growth and the rapid introduction of new and more efficient technologies, with a balance of non-fossil and fossil intensive energy technologies. The 2080s covers the years 2070 – 2099 and this is the timeframe considered most relevant to the Proposed Development. The projected change to the range of climatic conditions will adopt the 50% probability level, which is a central estimate adopted given the level of uncertainty associated with predicting the modelled scenarios.

113. The future climate change scenario will be considered within the ES across the technical topics being presented (save where specified otherwise), and the level of assessment and methodology will be proportionate to the available evidence base. The assessment shall be presented within each individual technical chapter of the ES (where relevant).

114. The assessment will address firstly:

a) The vulnerability of identified sensitive receptors to climate change;

b) Whether this vulnerability to climate change alters the receptors overall sensitivity;

c) Whether the impacts of the Proposed Development (in terms of impact magnitude) will be worse or improve under the future climate;

d) Based on a-c above, whether the effects on receptors (under the current condition, without climate change) are likely to be different under an alternative future climate regime.

115. Due to the level of uncertainty in both the future climate projections and how the future climate conditions may affect sensitive receptors, the assessment will be qualitative, based on objective professional judgement, unless where there is published, accepted quantifiable methods available (i.e. in relation to the assessment of flood risk).

116. The ES will therefore address how vulnerable the Proposed Development and the receptors to the Proposed Development are to climate change and as a result of this assessment identify the need for climate change resilience or adaptation measures. The ES will present the climate change adaption and resilience measures proposed as part of the Proposed Development. These shall be described within **ES Volume 1, Chapter 3: The Proposed Development**.

117. Key climate change risks that will be addressed as part of the review of the vulnerability of the Proposed Development to climate change will include:

e) Overheating – include climate change considerations in thermal comfort studies;

f) Flooding; and

g) Water stress.

Cumulative Effects and Effect Interactions

118. The EIA will identify the potential for (a) Cumulative Effects and (b) Effect Interactions as described below.

[7] As defined in the IPCC Special Report on Emissions Scenarios (SRES) (IPCC, 2000).

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Cumulative Effects

119. The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to the likely significant effects arising from the "*cumulation with other existing and/or approved projects*" (Schedule 4, 5(e)).

120. Cumulative effects can occur as interactions between the effects associated with a number of projects in an area (i.e. Cumulative Schemes) which may, on an individual basis be insignificant, but together (i.e. cumulatively), result in a significant effect. Cumulative effects arising from the Proposed Development in combination with identified Cumulative Schemes will be considered throughout the ES. The potential for cumulative effects arising during the demolition and construction works and once the Proposed Development is complete and operational will be considered. Each individual technical chapter of the ES will present an assessment of the cumulative effects of the Proposed Development coming forward alongside the Cumulative Schemes.

121. The Cumulative Schemes that will be considered within the ES will typically be located within a 1km radius from the centre of the site, as this spatial extent is considered appropriate for determining cumulative effects in this context.

122. It is acknowledged that for certain topics of the EIA (specifically townscape and visual), there is a need to consider more distant schemes within the cumulative effects assessment. This is entirely appropriate, given the view locations associated with the townscape and visual effects assessment.

123. With regards to traffic and transport considerations, the cumulative effects assessment is inherent in the impact assessment methodology by virtue of the fact that future baseline will be generated which will include other schemes, many of which are more distant than 1km from the site as background road traffic growth, taken from TfL / GLA forecasts. This approach is entirely appropriate, given the potential for wider reaching traffic and transport effects through the highway network.

124. Generally, the Cumulative Schemes will either have:

h) Full planning consent or a resolution to grant consent;

i) Produce an uplift of more than 10,000 square meters (Gross External Area (GEA)) of mixed-use floorspace, or over 150 residential units.

125. In addition, any office to residential conversions (granted under the General Permitted Development Order) giving rise to >150 residential units will be considered.

126. These parameters have been set to allow all the schemes coming forward within the area of the site to be subject to an initial screening exercise to determine the schemes that, based on the scale of redevelopment (amount and mix of uses), could potentially have a cumulative effect with the Proposed Development and should be considered further within the cumulative effects assessment of the EIA.

127. Each technical chapter of the ES will be clear on the Cumulative Schemes that have been considered within the cumulative effects assessment of the topic in question, including a reasoning behind their inclusion. Where Cumulative Schemes are 'screened out' of the cumulative effects assessment, the reasoning for doing so will be presented.

128. As part of this EIA scoping process, the LBS (and other consultees, as relevant) are invited to comment on the proposed 1km catchment area and the floorspace parameters defined above to screen the development schemes and so ultimately, the schemes to be considered within the cumulative effects assessment of the EIA.

129. Other schemes that are under construction, where the construction works are significantly progressed or where early phases are occupied, will be factored into the baseline conditions.

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130. It is acknowledged that there may be other development schemes that are at the **pre-application stage or that have been submitted for planning** but not yet determined by the LBS that may be significant enough to warrant consideration within the cumulative effects assessment. The requirement to include any specific schemes that fall within this category should be identified by the LBS through the EIA Scoping Opinion. Should other development schemes that are at the pre-application stage or that have been submitted for planning but not yet determined be identified by the LBS for inclusion in the cumulative effects assessment, it should be acknowledged by the LBS that the ES will address these as far as is reasonable practicable and that the assessments will be based on the information available on these schemes that is within the public domain.

131. A preliminary list of Cumulative Schemes for consideration within the EIA has been identified and is presented in **Appendix B** of this Scoping Report.

Effect Interactions

132. Effect interactions occur as interactions between effects associated with just one project, i.e. the combination of individual effects arising as a result of the Proposed Development, for example effects in relation to noise, airborne dust or traffic on a single receptor.

133. Effect Interactions from the Proposed Development itself on particular receptors at the site will be considered during the demolition and construction works and also once the Proposed Development is completed and operational. Dependent on the relevant sensitive receptors, the assessment will focus either on key individual receptors or on groups considered to be most sensitive to potential effect interactions. It should be noted that only residual effects that are of minor, moderate or major significance, will be considered within this assessment. Residual effects of negligible or neutral significance will be excluded from this assessment by virtue of their definition, they are considered to be imperceptible.

134. There is no established methodology for assessing the impact of cumulative effects and effect interactions on a particular receptor. Therefore, a significance threshold will not be applied to the combination of individual effects, instead the effect interaction will be discussed and where possible, professional judgement will be applied to determine whether the effect interaction is considered significant.

135. Consideration of effect interactions will be presented within the ES in a separate chapter titled **ES Volume 1, Chapter 12: Effect Interactions**.

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DETERMINING EFFECT SIGNIFICANCE – TERMINOLOGY AND APPROACH

Reference to 'Impact' and 'Effect'

136. It is noted that the terms 'impact' and 'effect' are distinctly different. Having gained an understanding of the likely impact it is then important to know whether the change in environmental or socio-economic conditions results in a significant environmental effect. The impacts of the Proposed Development may or may not result in significant effects on the environment, depending on the sensitivity of the resource or receptor and potentially other factors (such as duration). The assessment of the likely significant effects of the development is a requirement identified by Schedule 4 of the EIA Regulations.

Receptors, Receptor Sensitivity and Magnitude of Impact

137. When undertaking an EIA, it is important to identify potential receptors which may be impacted by the Proposed Development and may need to be considered as part of the assessment.

138. These have been identified from a review of the available information collected as part of the description of the surrounding environmental and socio-economic context, as well as from historic and currently available information relating to the site itself. Potential receptors have also been identified from a review of the description of the Proposed Development sought for approval and the potential impacts and resultant effects which may occur as a result of the redevelopment of the site.

139. The potential receptors are identified within the technical topics scopes presented later in this scoping report. Note that the receptors have been identified at the time of writing as part of the EIA scoping process, however these will be reviewed during preparation of the ES and may be subject to change throughout the EIA process.

140. To achieve a consistent approach across the different technical disciplines addressed within the ES (Volume 1), assessments will broadly define the sensitivity of the receptors that could be affected by the Proposed Development and the magnitude of impact or change from the baseline conditions in order to derive the resultant effect.

141. Terminology to describe the sensitivity of receptors and magnitude of impact or change from the baseline conditions is broadly as follows:

- High;
- Medium;
- Low;
- Negligible; and
- No Impact (in relation to magnitude of impact or change only).

142. Each of the technical assessment chapters of the ES (Volume 1) will provide further detail on the definition of each of the above terms specific to the topic in question and will also provide the criteria, including sources and justifications, for quantifying the different levels of receptor sensitivity and 'impact magnitude'. Where possible, this will be based upon quantitative and accepted criteria (for example, national standards for air quality and noise), together with the use of value judgement and expert interpretation.

Identification of a Resultant Effect

143. The basis for determining the resultant effect generally takes into account the sensitivity of the receptor and magnitude of impact or change from the baseline conditions. A generic matrix that combines the

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sensitivity of the receptor and the magnitude of impact to identify the resultant effect is provided within Table 1.

Table 1. Resultant Effects

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Effect Scale

144. Table 2 provides the broad definition of the 'scale' of the resultant effect i.e. definitions of Major, Moderate, Minor and Negligible effects. The definitions in Table 2 may be adjusted to suit the technical topic in question; where this is the case revised definitions of effect scale will be presented in the technical assessment chapters of the ES (Volume 1) and in ES Volume 2.

145. Where there is 'No Effect' this will be stated.

Table 2. Broad Definitions of the Scale of the Resultant Effect

Type of Effect	Description
Major	These effects may represent key factors in the decision making process. Potentially associated with sites and features of national importance or likely to be important considerations at a regional or district scale. Major effects may relate to resources or features which are unique and which, if lost, cannot be replaced or relocated.
Moderate	These effects, if adverse, are likely to be important at a local scale and on their own could have a material influence on decision-making.
Minor	These effects may be raised as local issues and may be of relevance in the detailed design of the project, but are unlikely to be critical in the decision-making process
Negligible	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error, these effects are unlikely to influence decision-making, irrespective of other effects.

Effect Nature

146. Table 3 provides definitions of the 'nature' of the resultant effect i.e. definitions of Adverse, Beneficial and Neutral.

Table 3. Definition of the Nature of the Resultant Effect

Nature of Effect	Description
Adverse	Detrimental or negative effects to an environmental / socio-economic resource or receptor. The quality of the environment is diminished or harmed.
Beneficial	Advantageous or positive effect to an environmental / socio-economic resource or receptor. The quality of the environment is enhanced.
Neutral	Neither beneficial or adverse. Where the quality of the environment is preserved or sustained or where there is an equal balance of benefit and harm.

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Geographic Extent of Effect

147. The ES (Volumes 1 and 2) will identify the geographic extent of the identified effects. At a spatial level, 'site' or 'local' effects are those affecting the site and neighbouring receptors, while effects upon receptors in LBN beyond the vicinity of the site and its neighbours are considered to be at a 'district / borough' level. Effects affecting Greater London are considered to be at a 'regional' level, whilst those which affect different parts of the country, or England as a whole, are considered being at a 'national' level.

Effect Duration

148. For the purposes of the ES, effects that are generated as a result of the demolition and construction works (i.e. those that last for this set period of time) will be classed as 'temporary'; these maybe further classified as either 'short term' or 'medium-term' effects depending on the duration of the demolition and construction works that generate the effect in question. Effects that result from the completed and operational phases of the Proposed Development will be classed as 'permanent' or 'long-term' effects.

Direct and Indirect Effects

149. The ES will identify whether the effect is 'direct' (i.e. resulting without any intervening factors) or 'indirect' or 'secondary' (i.e. not directly caused or resulting from something else).

Identification of Significant Effects

150. Following identification of an effect, the scale of the effect, its nature, geographic extent and duration and whether the effect is direct or indirect using the above summarised terminology, a clear statement will then be made within the ES (Volumes 1 and 2) as to whether the effect (pre-mitigation) is significant or not significant. Each technical topic addressed within the ES will be clear on which effects are significant and those which are not. This is likely to differ across technical topics.

151. Following identification of whether the potential or 'unmitigated' effects are significant or not, the requirement for any mitigation to either eliminate or reduce likely significant adverse effects will be identified.

152. Where mitigation measures are identified to either eliminate or reduce likely significant adverse effects, these will be incorporated into the Proposed Development, for example either through the design, or will be translated into enabling and construction commitments; or operational or managerial standards / procedures.

153. The ES will then highlight whether the 'residual' effects remain significant following the implementation of suitable mitigation measures and will classify these in accordance with the terminology defined above.

154. In all cases, the overall approach and specific methods of predicting the likely magnitude of impact and resultant scale, nature, geographic extent, duration etc and significance of an effect will be set out in each of the EIA technical assessments / ES technical topic chapters. Where used, recognised specific predictive methods will be referenced. Any assumptions or limitations to knowledge will be stated.

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TOPICS WITH THE POTENTIAL FOR LIKELY SIGNIFICANT EFFECTS

Socio-Economics

155. This section sets out the scope of the socio-economic assessment that will be carried out for the Proposed Development. The scoping exercise has explored the full range of potential socio-economic effects that could be caused by the demolition, construction and operation of the Proposed Development. The assessment will be undertaken and the ES Chapter prepared by Hatch Regeneris.

Potential Sensitive Receptors

156. The Proposed Development has potential to provide an important addition to the area, supporting local employment and an improved public realm for its users and the public in general. The Proposed Development would create new (office-based) jobs within the LBS and deliver additional facilities to the area including retail space, access to public rooftop space and a music venue.

157. The selection of receptors that could be subject to effects has been informed by the initial baseline analysis presented above, as well as consideration of evidence on socio-economic effects associated with the demolition, construction and operation of similar developments; these include:

- The size, diversity and prosperity of the local economy as measured by direct, indirect and induced employment and economic output (i.e. gross value added[8](GVA));
- Existing levels of business rates; and
- Existing provision of recreational space (such as music venues) around the Proposed Development.

Potential Impacts

158. Given the nature of the Proposed Development, the absolute scale of impacts on employment, economic output and public realm is likely to be limited during both the construction and operational phases. The potential socio-economic impacts generated during the construction phase (i.e. both demolition of current uses as well as construction) of the Proposed Development are likely to include, but are not limited to:

- Loss of employment currently supported on-site;
- Creation of temporary employment opportunities resulting from the demolition and construction of the Proposed Development; and
- Creation of temporary economic output (GVA) generated during the demolition and construction of the Proposed Development.

159. The operation of the Proposed Development would have potential to result in the following socio-economic impacts, including:

- Direct, indirect and induced employment supported by the activities supported on-site;
- Direct, indirect and induced economic output (GVA) generated as a result of on-site activities;
- An increase in local business rates generated as a result of the increase in commercial floorspace within the LBS; and

[8] Gross value added (GVA) is a productivity metric that measures the contribution of an activity to the local, regional and/ or national economy. GVA provides a value of the economic output that has been generated as a result of goods production and/ or services delivered, less the cost of all inputs and raw materials that are directly attributable to that production.

- Change in the provision of public realm and recreational space.

160. Due to the Proposed Development delivering commercial uses (and not residential), a full health impact assessment is not considered necessary. The impacts of the Proposed Development on health from a social and economic perspective are not considered to be significant to warrant consideration within the socio-economic chapter.

161. Due to the nature of the scheme (focused on commercial uses), there is no requirement to provide healthcare services or other social infrastructure (such as open space). The scheme is well connected and therefore promotes active travel via public transport. The scheme may include some retail, restaurants or cafes which will offer choice, including healthy food.

162. The socio-economic assessment of the Proposed Development needs to consider the extent to which the impact set out above will materialise within certain geographies. To this end, the socio-economic assessment will consider impacts generated within the following impact areas:

- The local impact area, which will be made up of wards or SOAs;
- The local authority area in which the Proposed Development is located (i.e. LBS); and
- The region in which the Proposed Development is located (i.e. London).

Potential Effects

163. There are no formalised technical guidance and/ or criteria when assessing the scale and so significance of socio-economic effects. The likely effects of the Proposed Development on the receptors identified will be based on professional judgement and consider the following factors:

- The sensitivity of each receptor affected; and
- The magnitude of change to the receptor brought about by the Proposed Development.

164. In accordance with the general EIA methodology presented earlier on in this Scoping Report, the sensitivity of each receptor will be evaluated as being high, medium, low or negligible based on a review of the baseline position and its performance against benchmark areas, together with consideration of the importance of the receptor in policy terms. This can be summarised as shown in Table 4 below.

Table 4 Socio-Economics - Definition of Receptor Sensitivity

Sensitivity of Receptor	Description
High	Evidence of direct and significant socio-economic challenges relating to the receptor. May be given high priority in local, regional and/ or national economic and regeneration policy.
Medium	Some evidence of socio-economic challenges linked to the receptor, some of which may be indirect. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy.
Low	There is little evidence of socio-economic challenges related to the receptor. Receptor is given low priority in local, regional and national economic and regeneration policy.
Negligible	Very low importance and rarity, with little or no priority identified for the receptor at the local, regional and national scales.

165. The magnitude of change (or 'impact') to a receptor will be determined by considering the estimated deviation from baseline conditions once measures aimed at mitigating the Proposed Development's adverse impacts are considered. The criteria used for the assessment of the magnitude of socio-economic impacts (i.e. both beneficial and adverse) are set out in Table 5.

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Table 5 Socio-Economics - Definition of Magnitude of Impact

Magnitude of Impact	Description
High	Proposed Development would cause a large change – judged as beneficial or adverse – to baseline socio-economic conditions in terms of absolute and/ or percentage change.
Medium	Proposed Development would cause a moderate change – judged as beneficial or adverse – to the existing socio-economic conditions in terms of absolute and/ or percentage change.
Low	Proposed Development would cause a slight change – judged as beneficial or adverse – to existing socio-economic conditions in terms of absolute and/ or percentage change.
Negligible	No discernible change, either way, in baseline socio-economic conditions.

166. In reporting the likely scale of the effects of the Proposed Development, with respect to both construction (i.e. demolition of current uses and construction) and operation, the assessment contextualises both the sensitivity of the receptor and magnitude of impacts / change identified above.

167. The matrix used to determine the scale of the socio-economic effects on a receptor is presented in Figure 6. The nature of the effects can be defined as either:

- Beneficial (i.e. an advantageous effect on the impact area);
- Adverse (i.e. detrimental effect on the impact area); or
- Neutral (i.e. neither beneficial or adverse effect on the impact area).

Table 6 Matrix used to Determine Scale of Effect

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

168. Effects that are defined as having a scale of 'Minor' or 'Negligible' are nor significant effects.

169. Effects that are defined as having a scale of 'Moderate' or 'Major' are significant effects.

Outline Scope of Assessment

170. There are no published standards or technical guidelines that set out a preferred method for assessing the likely socio-economic effects of a proposed development. There are however, a series of commonly used methodologies used for quantifying economic effects both during the demolition and construction of and day-to-day operation of a proposed development. Wherever possible, the likely significant socio-economic effects are quantified, but where this is not feasible a qualitative assessment is provided based on professional judgement and experience.

171. The following section summarises the approach that will be used to undertake the assessment of the Proposed Development. Full details of the methodology, including all relevant sources and references used will be provided as part of the ES Chapter itself. The proposed methodology will include:

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- Consideration of local, regional, national policy, plans and development constraints in so far as they influence the baseline condition; assessment methodology or justification of an identified socio-economic effect;
- A review of baseline conditions for the immediate surroundings (the extent of the study area will be defined and will be appropriate to the specific socio-economic consideration) of the Proposed Development and its wider locality. This will be assessed using a number of recognised data sources including, but not limited to, the Office of National Statistics, Business Register and Employment Survey, Annual Population Survey, as well as relevant evidence-based studies from the LBS;
- Identification of appropriate mitigation measures should any significant adverse effects be identified;
- An assessment of the scale of the direct, indirect and induced employment and economic output (i.e. gross value added) effects generated during the demolition and construction phase of the Proposed Development;
- An assessment of the scale of the direct, indirect and induced employment and economic output (GVA) effects generated once the Proposed Development is operational. In addition, the EIA will also consider the scale of the Proposed Development's effect on the public realm and recreational resources;
- Identification of any likely significant socio-economic effects; and
- Assessment of the Proposed Development's cumulative impacts and effects when considered alongside other (major) developments in its impact area.

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Traffic and Transport

172. The Traffic and Transport Chapter will be based on the findings of the Transport Assessment (TA) (should it be considered necessary the TA will be appended to the ES report). The Transport Assessment will be prepared in accordance with Transport for London's (TfL's) Transport Assessment Best Practice Guidance.

Potential Sensitive Receptors

173. A desktop exercise augmented by a number of site visits will be undertaken to identify the sensitive receptors in the study area.

174. The potential receptors are the users of the transport networks, pedestrians and cyclists within the relevant study area for each mode of transport.

175. All road links within the study area will be assessed and assigned sensitivity based primarily on the assessors' experience and judgement. Recognising the quantity of road links within the study area, the assessment narrative within this ES Chapter will focus on the road links that will be most affected, i.e. the key links surrounding the site.

176. Local potentially sensitive receptors that will impact this review include: London Bridge Railway Station, Our Lady of La Salette and Saint Joseph Church, Snowsfields Primary School, Guy's Hospital and Leathermarket Gardens.

Potential Impacts and Effects

177. The TA will set out the trip generation of the Proposed Development. The significance criteria will establish the scale of any beneficial or adverse traffic and transport effects of the Proposed Development. The scale of an effect will be based on the magnitude of an impact and the sensitivity of a receptor.

178. The Institute of Environmental Management and Assessment (IEMA) guidance[9] recommend that standard criteria are assessed, with the assessment focusing on changes in vehicular traffic. In this instance an additional criterion (Public Transport) has been added to take account of the nature of the transport trips generated by the Proposed Development.

179. The key criteria to be assessed for the demolition and construction works and once the Proposed Development is completed and operational will be as follows:

- **Severance** - which is defined as the perceived division that can occur within a community when it becomes separated by a major traffic artery and describes a series of factors that separate people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself.
- **Pedestrian delay** – which is defined in the IEMA guidance as an issue which is affected by changes in the volume, composition and / or speed of traffic may affect the ability of people to cross roads. Typically, increases in traffic levels result in increased pedestrian delay, although increased pedestrian activity itself also contributes.
- **Pedestrian amenity** – which is defined in the IEMA guidance as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity.

[9] Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic, 1993.

- **Cyclist delay and amenity** – considered in regard to traffic flows in order to take account of any potential adverse effects of increased HGV traffic on roads where there are no cycle facilities
- **Driver delay** – which is identified in the IEMA guidance as an issue which can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system.
- **Junction Capacity** – this will be based on the full results of the junction capacity assessment contained within the Transport Assessment.
- **Accidents and safety** - are not defined in the IEMA guidance which suggests that professional judgment will be needed to assess the implications of local circumstance, or factors which may increase or decrease the risk of accidents. This assessment will be based on the full results of the accident analysis contained in the Transport Assessment.
- **Public Transport** – this is not included within IEMA guidance, therefore this will comprise a qualitative judgment based on the results of the public transport trip generation and capacity assessment contained in the Transport Assessment.
- **Hazardous Loads** – some developments may involve the transportation of dangerous or hazardous loads by road. Such movements should include specialist loads which might be involved in the construction or decommissioning phases of development, in addition to movement associated with the operation of the establishment. Hazardous loads could include; explosives; gases; flammable liquid; flammable solids; oxidizing substances; toxic substances; radioactive material and corrosive substances.
- **Fear and Intimidation –** the impact of this is defined in the IEMA guidance as being dependent on the volume of traffic, its HGV composition, its proximity to people or the lack of protection caused by such factors as narrow pavement widths.

Outline Scope of Assessment

180. The full baseline will be identified using data gathered from the following sources:

- Site visits / on-site observations to review local transport conditions;
- Traffic Surveys; these will include Automatic Traffic Counts (ATC) traffic counters and an IN / OUT count to ascertain how many vehicles currently (baseline) enter and exit the site;
- Discussions with the London Borough of Southwark (LBS) and TfL to identify any key background studies that need to be taken into account;
- Accident data for a five-year period within the agreed study area;
- Published / web-based information such as TfL Public Transport Information to identify existing public transport frequencies and routes;
- 2011 Census Data to identify car ownership levels, method of travel and origin / destination of trips; and
- Local, regional and national policy and guidance documents.

181. In undertaking the assessment, reference will be made to the IEMA guidance. Guidance provided by IEMA and Department for Transport (DfT) will be consulted in order to identify applicable criteria for the assessment of impact magnitude and scale of effect. Where there are no ready thresholds to define impact magnitude or effect scale, case interpretation and judgement will be applied based on knowledge of the site.

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182. Within the IEMA guidance, two broad rules are suggested which can be used as a screening tool to limit the scale and extent of the assessment:

- Rule 1: include highway links where traffic flows will increase by 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 will increase by 10% or more.

183. Where the predicted increase in traffic flows is lower than the above thresholds, the IEMA guidance suggest the scale of the effects can be stated to be negligible (and not significant) and further detailed assessments are not warranted. Increases in traffic flows below 10% are generally considered to be insignificant in environmental assessment terms given that daily variations in background traffic flow may vary by this amount.

184. The effect of the Proposed Development will be assessed by determining the magnitude of impact or change from the baseline conditions (Table 8) and will be defined by Rule 1 and 2 above but will also take into account the sensitivity of the receptors (Table 7) to determine the overall scale of the effect.

185. In relation to the sensitivity of a receptor, this can be defined by the vulnerability of the user groups who may use it, e.g. elderly people or children. A sensitive area may be where pedestrian activity is high, for example in the vicinity of a school or where there is already an existing accident issue. It should be noted that the sensitivity of the receptor is judged on the sensitivity of road users (primarily pedestrians). It also takes account of the existing nature of the road e.g. an existing 'A' road is likely to have a lower sensitivity than a minor residential road.

186. The potential receptors are the users of the transport networks, pedestrians and cyclists within the relevant study area for each mode. The criteria that will be used to assess receptor sensitivity is described in Table 7.

Table 7 Traffic and Transport Receptor Sensitivity

Sensitivity	Criteria
High	Modes of transport which are heavily used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a low capacity to accommodate change without significant effects arising.
Medium	Modes of transport which are used (by all users or particularly by vulnerable road users) to an average level relative to other modes within the study area or those which have a moderate capacity to accommodate change without significant effects arising.
Low	Modes of transport which are lightly used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a high capacity to accommodate change without significant effects arising.
Negligible	Modes of Transport which are very lightly used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a very high capacity to accommodate change without significant effects arising.

187. The criteria that will be used to assess the magnitude of impact are described in Table 8 and Table 9.

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Table 8 Traffic and Transport Magnitude of Impact – Delay, Amenity, Fear and Intimidation, Accidents and Safety, Hazardous Loads, Junction Capacity and Public Transport

Magnitude	Criteria
High	Changes which are likely to be perceptible and which would significantly change conditions which would otherwise prevail to the extent that it would significantly affect travel behaviour.
Medium	Changes which are likely to be perceptible and which would materially change conditions which would otherwise prevail to the extent that it may affect travel behaviour to a measurable degree.
Low	Changes which are likely to be perceptible but not the extent that it would materially change conditions which would otherwise prevail.
Negligible	Changes which are unlikely to be perceptible.

Table 9 Traffic and Transport Magnitude of Impact - Severance

Absolute Change in Flow (or HGV)	Percentage change in flow (or HGV)			
	<30%	<60%	<90%	>90%
<30 vehicles	Negligible	Negligible	Negligible	Negligible
<60 vehicles	Negligible	Low	Low	Low
<90 vehicles	Negligible	Low	Medium	Medium
>90 vehicles	Negligible	Low	Medium	High

188. These criteria reflect the guidance set out in paragraph 4.31 of the IEMA guidance which states the following:

"Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. These figures have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any environmental assessment"

189. The inclusion of the absolute change criteria reflects the fact that the percentage change criteria are derived from studies of major changes in traffic flow. This seeks to prevent nonsensical and counterintuitive 'default' results such as increase of four vehicles on a road with an existing flow of three vehicles being classified as a 'large' change.

190. The scale of the likely effect will be derived by considering both the sensitivity of the receptor and the magnitude of impact, as demonstrated in Table 10.

Table 10 Scale of Effect

Receptor Sensitivity	Magnitude of Impact			
	High / Substantial	Medium / Moderate	Low / Slight	Negligible
High	Major	Major	Moderate/Minor	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate/Minor	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

191. In terms of effect significance, moderate and major effects will be considered to be 'significant'. Effects that are minor and negligible are not significant.

192. Finally, the chapter will assess whether any mitigation measures are required along with an assessment of the residual effects.

Assessment Scenarios

193. The potential effects of the Proposed Development will be determined by considering the following scenarios:

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- Existing baseline year
- Assessment Baseline (Opening Year) without the Proposed Development i.e. Do Nothing
- Assessment Baseline (Opening Year) with the Proposed Development i.e. Do Something
- Cumulative Assessment (Assessment Baseline (Opening Year)) with the Proposed Development and Cumulative Schemes.

194. Historical DfT traffic data, for the roads surrounding the site, will be reviewed in order to determine traffic flow trends. These traffic flow trends will be applied to the Existing baseline year, in order to determine the Assessment Baseline (Opening Year).

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Air Quality

195. The air quality assessment and ES Chapter will address the key air quality impacts and effects associated with the construction and operation of the Proposed Development and will identify appropriate mitigation measures as necessary.

Potential Sensitive Receptors

196. For the air quality impacts assessment, relevant receptor locations will be identified based on detailed maps, satellite imagery, and plans of the Proposed Development. The locations selected will be dependent on the exact location and height of the flue(s) serving the centralised energy plant proposed as part of the development. Receptors will be identified to represent a range of exposure, focussing on worst-case locations. Existing receptors are likely to include, but are not limited to, locations on the façades of Guy's hospital, Snowsfields Primary School, residential dwellings within the study area and locations where the short-term air quality objectives apply, for example parks and outdoor seating areas. For the air quality assessment, all receptors where the air quality objectives apply will be considered to be 'high' sensitivity receptors.

197. The construction dust risk assessment will consider the potential for impacts within 350 m of the site boundary, and within 50 m of the routes to be used by construction vehicles up to 500 m from the site entrance(s). For this assessment, relevant receptors in the area include residential dwellings, Guy's hospital and Snowsfield Primary School (high sensitivity receptors) and places of work (medium sensitivity receptors). These will be identified based upon the distance bandings set out in the Greater London Authority (GLA) guidance[10].

Potential Impacts and Effects

198. Potential air quality impacts that will be considered in relation to the demolition, construction and operational phases of the Proposed Development include:

- Impacts of dust soiling and particulate matter (PM_{10}) emissions during the demolition and construction phase of the Proposed Development;
- Impacts of NO_2 and particulate matter (PM_{10} and $PM_{2.5}$) emissions from vehicles associated with the demolition and construction phase of the Proposed Development;
- Impacts of centralised energy plant NO_2 emissions generated by the Proposed Development once operational;
- Impacts of NO_2 and particulate matter emissions (PM_{10} and $PM_{2.5}$) emissions from road traffic generated by the Proposed Development once operational;
- Impacts of existing (including background) and proposed pollution sources on short-term concentrations of NO_2 and particulate matter (PM_{10} only; there is no short-term objective for $PM_{2.5}$) experienced by future users of the Proposed Development itself; and
- The potential for the Proposed Development and existing and cumulative developments to cumulatively impact air quality (including impacts associated with NO_2, particulate matter (PM_{10} and $PM_{2.5}$) and dust soiling) at sensitive receptors during the demolition, construction and operational phases.

199. The air quality neutrality of the Proposed Development will also be addressed, in accordance with the requirements of the GLA.

[10] GLA (2014) The Control of Dust and Emissions from Construction and Demolition SPG, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/control-dust-and.

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Outline Scope of Assessment

Demolition and Construction

200. The potential impacts from dust generated during the demolition and construction phase of the Proposed Development will be considered using the approach presented in the IAQM Guidance[11] for assessing impacts from construction activities, upon which the GLA's guidance document on the control of Dust During Construction and Demolition[11] is based. Cumulative impacts arising from committed developments being constructed in the study area concurrently to demolition and construction activities associated with the Proposed Development will also be considered. Appropriate mitigation measures will be identified based on the outcome of the construction dust assessment, the GLA's guidance document and the LBS Technical Guidance for Demolition and Construction document. The IAQM guidance, on which the GLA's guidance is based, is clear that, with appropriate mitigation in place, the residual effects will normally be 'not significant'.

201. Construction plant emissions will not be explicitly modelled, as relevant guidance from the IAQM[11] states that "*experience from assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM)…suggests that they are unlikely to make a significant impact on local air quality and in the vast majority of cases they will not need to be quantitatively assessed*". However, suitable mitigation measures for the site plant will be presented as part of the mitigation measures based on advice presented in the IAQM and GLA guidance documents, and the LBS Technical Guidance for Demolition and Construction document[12].

202. The number of construction vehicles (including heavy duty vehicles (HDVs)) that will be in operation during the demolition and construction phase of the Proposed Development will be considered in the context of the screening criteria provided in guidance from EPUK and the IAQM[13]. If the Proposed Development is predicted to lead to an increase in HDVs such that they exceed the screening criteria, then emissions from traffic generated during the construction phase will be modelled explicitly. The significance of the air quality effects associated with construction vehicles will be determined following the EPUK / IAQM guidance[13], and appropriate mitigation measures will be recommended, as necessary, based on the outcomes of the assessment.

Completed Development

203. The potential for significant air quality effects during the operational phase of the Proposed Development will be determined based on the approach described in Environmental Protection UK (EPUK) / Institute if Air Quality Management (IAQM) guidance[12], which includes elements of judgement based on the professional experience of the consultants undertaking the assessment. This involves assessing the scale of effects at existing sensitive receptors by considering the magnitude of the predicted changes in pollutant concentrations resulting from emissions associated with the Proposed Development, taking account of baseline concentrations; and at proposed receptors involves a comparison of the predicted concentrations to the relevant air quality objectives. Where necessary, appropriate mitigation measures will be recommended to ensure that there are no significant residual effects.

204. The number of vehicles associated with the Proposed Development during the operational period will be considered in the context of the EPUK / IAQM guidance[13]. As the Proposed Development does not

[11] IAQM (2016) Guidance on the Assessment of Dust from Demolition and Construction v1.1, Available: http://iaqm.co.uk/guidance/.
[12] Moorcroft and Barrowcliffe et al (2017) Land-Use Planning & Development Control: Planning for Air Quality v1.2, IAQM, London, Available: http://iaqm.co.uk/guidance/.
[13] GLA (2014) Sustainable Design and Construction Supplementary Planning Guidance, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and.

include any provision for car parking and is located in close proximity to London Bridge Station, it is anticipated that the volume of additional traffic associated with the Proposed Development will not exceed the screening criteria specified by the EPUK / IAQM guidance, and that an assessment of emissions from operational road traffic will be screened out of the air quality assessment.

205. The dispersion model ADMS-5 will be used to quantify the impacts that the centralised energy plant emissions will have on concentrations of NO_2 at selected receptor locations. The contribution of the energy plant emissions to concentrations of NO_2 will initially be compared to screening criteria set out in the EPUK / IAQM guidance[112]. Where the criteria are exceeded, total concentrations of NO_2 at sensitive receptors in the opening year of the Proposed Development, both with and without the Proposed Development (including the centralised energy plant), will be predicted and compared, and the air quality impacts will be determined based on the approach described in Table 6.3 of the EPUK / IAQM guidance. Cumulative impacts arising from the plant associated with existing and / or committed developments will be considered qualitatively. The significance of the air quality effects associated with centralised energy plant will be determined following the EPUK / IAQM guidance[112] (which includes elements of professional judgement), and appropriate mitigation measures will be recommended, as necessary.

The GLA has published Supplementary Planning Guidance on Sustainable Design and Construction[14] aimed at ensuring that new developments are 'Air Quality Neutral'. This will involve the calculation of the emissions associated with the Proposed Development buildings (i.e. the centralised energy plant emissions) and with traffic generated by the Proposed Development. These emissions will then be compared with published benchmarks. Any excess emissions over and above the benchmarks will need to be reduced by mitigation on-site or off-setting off-site.

In terms of effect significance, moderate and major effects will be considered to be 'significant'. Effects that are minor and negligible are not significant.

[14] GLA (2014) Sustainable Design and Construction Supplementary Planning Guidance, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and.

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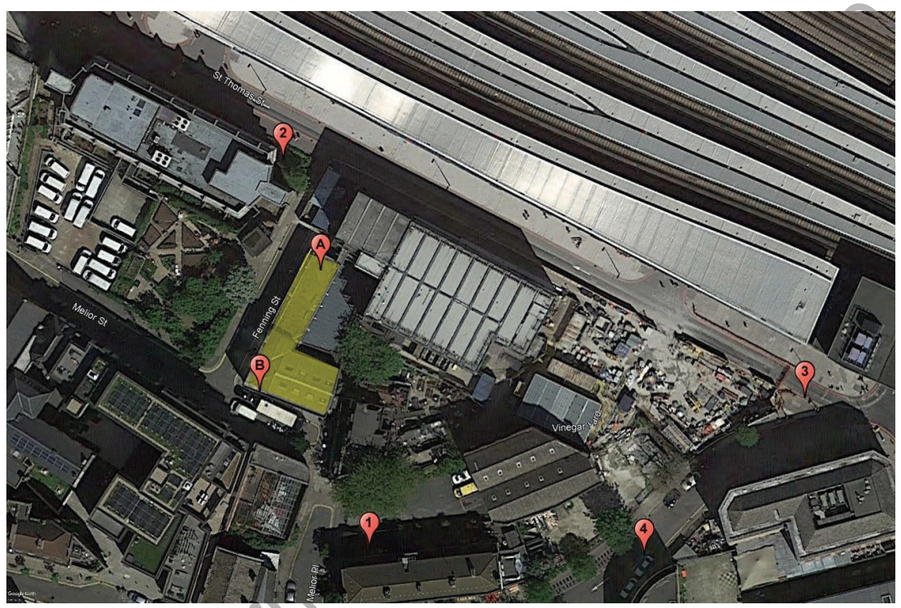
Noise and Vibration

207. The noise and vibration chapter will address the key noise and vibration impacts and associated likely effects of the Proposed Development. Key acoustic issues for the design of the Proposed Development will also be considered.

Baseline Assessment

Noise and vibration monitoring will be undertaken to establish the baseline conditions on the site and surroundings. The proposed locations for the noise and vibration monitoring are shown in Figure 4.

Figure 4 Anticipated Noise and Vibration Monitoring Locations



208. The long-term unattended noise monitoring positions are shown as positions A and B on Figure 4. The short-term attended noise monitoring positions are shown as positions 1 to 4 on Figure 4.

209. The long-term unattended noise monitoring at position A will be on the roof top of the Fenning Street building (highlighted with yellow on Figure 4). The long-term unattended noise monitoring at position B will be through an open window in the Fenning Street building, so that it faces Melior Street.

210. The unattended measurements are supplemented with daytime attended sample measurements. The attended measurements were completed on a tripod 1.2-1.5 m above ground level.

211. Sample vibration measurements will be undertaken within the building along Fenning Street, or on the cleared site if appropriately safe.

212. The long-term and sample noise measurements will be completed using five-minute sample periods, completed in 1/3 octave bands, are A and Z-weighted, and include all typical sound pressure level parameters eg, L_{eq}, L_{max}, L_{90} etc.

Potential Sensitive Receptors

213. The potential receptors considered are:

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- The Horseshoe Inn;
- Dwellings along Melior Street;
- Dwellings along Melior Place;
- Becket House (offices and immigration centre);
- The Lady of La Salette and Saint Joseph (church);
- Guy's Hospital;
- 40 Bermondsey Street (offices);
- 147 Snowfields apartments; and
- London Bridge Train Station (including retail units).

214. The residential receptors (including The Horseshoe Inn), church and hospital are more sensitive to noise than the other receptors identified, which will be reflected in the assessments.

Potential Impact and Effects

215. Potential noise and vibration effects during the enabling and construction works and the completed Development to be addressed in the Environmental Impact Assessment will include:

- Temporary noise and vibration nuisance because of enabling and construction works – associated with daytime and (if required) night time works;
- Noise nuisance to existing surrounding sensitive receptors from road vehicle movements generated during the enabling and construction works - associated with daytime and (if required) night time works;
- Vibration from trainlines affecting the Proposed Development;
- Noise generated from building services plant;
- Noise associated with the operation of the proposed night club (including patrons entering and leaving the venue);
- Noise from vehicles once the Proposed Development is operational; and
- The cumulative operational impacts associated with this and other proposed schemes within the locality will be established and assessed. This will principally be in relation to building services noise and any increases in road traffic along local road, with the assessments undertaken in line with the methods outlined below.

Outline Scope of Assessment

216. The noise and vibration assessment will include the following:

General

217. The noise and vibration impact assessment will be presented in the form of an ES Chapter (**ES Volume 1, Chapter 8: Noise and Vibration**) and will be supported by relevant technical information (survey data and calculations) presented in an appendix in ES Volume 3.

218. Identification of potentially sensitive noise and vibration receptors on and surrounding the site and categorisation of the 'sensitivity' in accordance with EIA terminology, as illustrated in Table 11.

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Table 11 Noise and Vibration – Definition of Receptor Sensitivity

Sensitivity of receptor	Description
High	Residential properties, hospitals (with wards), hotels and hostels.
Medium	Health care centre, Educational Buildings.
Low	Residential amenity, public gardens, commercial and retail buildings.
Negligible	Train station.

219. The magnitude of Impact shall be defined in accordance with recognised noise and vibration guidance and corresponding EIA terminology – High, Medium, Low, Negligible.

220. The relationship between the magnitude of impact and the receptor sensitivities is determined by the scale of effects evaluation matrix shown in Table 12.

Table 12 Matrix used to Determine Scale of Effect

Sensitivity of Receptor	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

221. In terms of nature and scale of effects, effects will be defined as either adverse, beneficial or neutral in nature.

222. The scale of effects will refer to guidance within the Noise Policy Statement for England (NPSE), the decision making includes identifying whether the overall effect of the noise exposure generated by a development is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level. The definitions for the different effect levels are outlined below:

- Significant Observed Adverse Effect Level (SOAEL): The level of noise exposure above which significant adverse effects on health and quality of life occur
- Lowest Observed Adverse Effect Level (LOAEL): The level of noise exposure above which adverse effects on health and quality of life can be detected
- No Observed Effect Level (NOEL): The level of noise exposure below which no effect at all on health or quality of life can be detected.

223. Typically, effects (either before or after mitigation) that are major or moderate in scale shall be considered as 'significant effects' i.e. exceeds the LOAEL. The exception to this will be temporary non-permanent sources where a moderate effect would be considered acceptable as it does not exceed the SOAEL.

Demolition and Construction

224. The assessment of demolition, enabling and construction noise and vibration effects are described below:

- Estimation of noise generated (impact magnitude) during each principal phase of the demolition, enabling and construction works and an assessment of the likely effects on surrounding sensitive receptors pre-mitigation. The assessment will be based on the "ABC" methodology set out in British Standard BS 5228:2009, as interpreted within Table 13.

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Table 13 Description of the magnitude of impact rating for assessing the likely and residual effects of demolition and construction noise and vibration

Magnitude of Impact	Daytime noise levels (07:00-19:00)	Vibration Levels
Negligible	Lower than ambient[1] L_{Aeq} or less than L_{Aeq} 65 dB.	Peak particle velocity (PPV) less than 0.3 mm/s
Low	Higher than ambient L_{Aeq} less than L_{Aeq} 65 dB.	PPV regularly exceeding 0.3 mm/s, but less than 1.0 mm/s.
Medium	Higher than ambient and between L_{Aeq} 66-70 dB	PPV regularly exceeding 1.0 mm/s, but less than 10.0 mm/s.
High	Higher than ambient and greater than L_{Aeq} 70 dB	PPV regularly exceeding 10.0 mm/s.

1 –Ambient noise levels assumed to be less than $L_{Aeq,12hr}$ 59 dB

- Road traffic associated with the demolition, enabling and construction works will be assessed using the same approach as described in Table 14 for general increases in road traffic.
- Classification of the pre-mitigated nature, scale and significance of noise and vibration effects. Identification of appropriate Best Practicable Means mitigation / any other required mitigation and re classification of the residual effects (post mitigation) nature, scale and significance.
- Details of plant and equipment to be used throughout the enabling and construction works including % on times and sound power levels shall be presented within the ES.

Completed Development

225. The operational noise affects will be assessed with respect to the 2018 baseline measurements and where appropriate the baseline for the development year.

226. For the assessment of noise associated with road traffic, reference will be made to the Calculation of Road Traffic Noise (CRTN). Further advice is also given in the Design Manual for Roads and Bridges (DMRB) for road traffic noise assessment. Significance criteria for assessing the traffic noise are presented in Table 14, which is based on the IOA / IEMA 'Guidelines for Noise Impact Assessment.

Table 14 Description of the magnitude of impact rating for assessing the effect of increases in road traffic noise

Magnitude of Impact	Increase in noise level (dBA)	Description
Negligible	<1.0	Noise increase is unlikely to be discernible.
Low	1.0 - 2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas.
Medium	3.0 - 4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas.
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of a building.

- For the assessment of building services noise, reference will be made to the use of BS 4142:2014. Criteria for the assessment are set in accordance with BS 4142 and the Institute of Acoustics (IOA) / Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Noise Impact Assessment, as identified in Table 15.

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Table 15 Description of the magnitude of impact rating for assessing the effects of building services plant noise

Magnitude of Impact	Increase in noise level (dBA)	Description
Negligible	<1.0	Noise increase is unlikely to be discernible.
Low	1.0 - 2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas.
Medium	3.0 - 4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas.
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of a building.

- For the assessment of vibration from trains, reference will be made with respect to Table 1 (probability of adverse comment) in BS 6472-1, as identified in Table 16.

Table 16 Description of the magnitude of impact rating for assessing the effects of vibration in the development

Magnitude of Impact	VDV m/s-$^{1.75}$ for 16h day	Description
Negligible	<0.2	Adverse comment is not expected.
Low	0.2-0.4	Low probability of adverse comment
Medium	0.4-0.8	Adverse comment possible
High	0.8-1.6	Adverse comment probably

227. Facade breakout noise from amplified music and other noise sources associated with the club (patrons entering and leaving the venue) will be assessed with respect to criteria agreed with Local Authorities Environmental Health Officers. In the assessment the following guidance documents will be referenced:

- The Institute of Acoustics “Good Practice Guide on the Control of Noise from Pubs and Clubs”; and
- The Code of Practice on Environmental Noise Control at Concerts.

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Wind Microclimate

Baseline Assessment

228. To understand and quantify the baseline conditions at the site, a scale model will be constructed reflecting the existing built form of the site and the surrounding area. This scale model will be tested in a boundary layer wind tunnel test facility to allow the baseline wind microclimate conditions to be quantified.

229. The baseline results from the wind tunnel will be combined with long-term meteorological climate data for the London area, corrected to the site to understand the baseline conditions specific to the site having regard to its location within London. Testing in the wind tunnel will be conducted in the absence of any hard or soft landscaping, in order to provide a conservative result.

Potential Sensitive Receptors

230. The locations tested will include end uses that are potentially sensitive to wind microclimate conditions, such as pedestrian footpaths or ‘thoroughfares’, possible entrance locations for buildings, pedestrian crossings, bus stops and pick-up/drop off points in addition to amenity areas (i.e. open space), both on and off-site.

Potential Impact and Effects

231. The potential wind microclimate effects associated with the Proposed Development are considered to be:

- Undesirable wind speeds in accessible ground and elevated levels of the site, surrounding buildings and nearby areas of public realm during the demolition and construction phase; and
- Undesirable wind speeds at ground and accessible elevated levels of the site, surrounding buildings and nearby areas of the public realm during the operational phase.

Outline Scope of Assessment

232. Given the size and geometry of the Proposed Development, in addition to the site’s location in relation to surrounding buildings and nearby areas of public realm, it is important to avoid undesirable wind speeds being generated at ground and accessible elevated levels.

233. The wind microclimate assessment will therefore quantify the potential changes to the local wind environment (both on-site and within the surrounding area) in terms of pedestrian amenity and public open space and quantify these in relation to their 'usability' for a range of pedestrian and amenity activities (i.e. thoroughfares, entrances, sitting, etc), as defined by the well-known and established Lawson Comfort Criteria (LCC).

234. Comfort thresholds are shown in the Table below (Table 17). If the measured wind conditions exceed the threshold wind speed for more than 5% of the time (whether that is seasonally or annually), then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose.

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Table 17 Comfort Thresholds according to Lawson Comfort Criteria

Activities (Comfort Category for Assessment)	Threshold	Description
Sitting	0-4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
Standing	4-6 m/s	Gentle breezes acceptable for main building entrances, pick-up/drop-off points and bus stops in addition to wider areas where one may linger.
Strolling	6-8 m/s	Moderate breezes that would be appropriate for window shopping and strolling along a city/town centre street, plaza or park.
Walking	8-10 m/s	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.
Uncomfortable	>10 m/s	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended.

235. As a mixed-use scheme, the target wind environment would usually include the following activities;

- Sitting for amenity spaces (in the summer months) - A mixture of sitting and standing may be tolerable where no seating provisions are specifically provided, and in private spaces;
- Standing/entrance conditions outside building entrances, and pick-up/drop-off points etc (throughout the year); and
- Strolling on thoroughfares and access routes (throughout the year).

236. If strong winds are measured then these will also be reported. The activities described above are those used by Lawson Comfort Criteria. The two further categories (walking and uncomfortable) are often associated with occasional strong winds (in excess of 15 or 20 m/s) and should be mitigated unless there are alternative routes, or they occur on less frequently used routes or in areas inaccessible to the general public.

237. Strong winds are reported for exceedances of 15m/s (to account for less able-bodied people or vulnerable users such as cyclists) or 20 m/s (for able bodied people) for more than 0.022% of the year (or above approximately 2 hours).

Impacts

Demolition and Construction

238. As demolition and construction works progress, the conditions on and around the site would be expected to gradually transition between those of the baseline and the final completed Proposed Development. A qualitative approach will be taken to the assessment of the demolition and construction works, with limited or no access of the majority of the site and in the immediate vicinity available to pedestrians.

Completed Development

239. It is proposed to utilize a wind tunnel testing methodology to undertake the assessment. Scale models will be built of the following scenarios:

- The existing environment at the site, including the existing surrounding buildings / area (the Baseline);

- The Proposed Development (Completed and Operational) massing and the existing surrounding buildings / area; and
- The Proposed Development (Completed and Operational) massing and the surrounding existing buildings and the massing of nearby cumulative schemes (Refer to **Appendix B** of this Scoping Report for further details on cumulative schemes).

240. The scale models will be manufactured and tested in a boundary layer wind tunnel test facility. Mean and peak wind speeds will be measured around in Sensitive Receptor locations, for all wind directions. These results will be combined with long-term meteorological climate data for the London area.

241. The suitability of the conditions both within the site and surrounding the site both in terms of comfort, and strong winds will be presented and discussed within the ES, and a supporting technical report.

Mitigation

242. Should mitigation measures be required to provide wind conditions within a particular area / space to be suitable for their intended use, or are required to mitigate against predicted strong winds, the areas identified requiring suitable mitigation measures will be developed in consultation with the Applicant and the Design Team. Where necessary, mitigation measures will be tested through additional rounds of wind tunnel studies. Following mitigation, the significance of any residual effects will be classified where appropriate.

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Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

244. Given the scale and design of the Proposed Development, along with its proximity to potentially sensitive receptors, a daylight, sunlight, overshadowing, solar glare and light pollution assessment is considered necessary.

245. The assessment will consider the likely significant effects of the Proposed Development on daylight, sunlight and overshadowing on existing, neighbouring residential properties, as well as existing open space and public amenity areas. In addition, the likely solar glare and light pollution effects associated with the Proposed Development will be assessed.

Baseline Assessment

Daylight, Sunlight and Overshadowing

246. For the baseline, the daylight and sunlight conditions within each of the relevant surrounding sensitive receptors will be defined firstly under the existing site conditions by reference to the Vertical Sky Component (VSC), No-Sky Line (NSL) and Annual Probable Sunlight Hours (APSH) methods.

247. With regards to the relevant existing surrounding outdoor amenity areas and the baseline level of overshadowing, the transient overshadowing (TOS) methodology will be used.

248. The daylight, sunlight and overshadowing effects of the Proposed Development will then be assessed against this baseline condition.

Light Pollution

249. 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 will consider the effect of the Proposed Development in absolute terms, by reference to the relevant guidance levels.

Solar Glare

250. 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 the Proposed Development. Consequently, the assessment will consider the effect of the Proposed Development in absolute terms using professional judgement.

Potential Sensitive Receptors

Daylight and Sunlight Receptors

251. Residential receptors identified on nearby roads/streets that are considered sensitive in relation to daylight and sunlight and will therefore be included within the assessments include but are not limited to residential properties along:

- Druid Street;
- Snowsfields;
- Melior Street;
- Melior Place;
- Kirby Grove;
- Hardwidge Street; and
- Bermondsey Street.

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Overshadowing Receptors

252. Areas of amenity space are considered most sensitive to overshadowing effects resulting from the Proposed Development. Owing to the southerly location of the sun path, only open space areas located from north west through to north east of the site require consideration in relation to overshadowing.

253. The following areas of amenity space have been identified as sensitive receptors in relation to the Proposed Development and will therefore be included within the assessments:

- Communal gardens serving St Olaves Estate; and
- Communal area serving Melior Street and Fenning Street;

Light Pollution Receptors

254. These include any residential receptors (either existing in the baseline or created as a result of the Proposed Development) which are located within 20 metres of a commercial element of the Proposed Development.

Solar Glare Receptors

255. The assessment will consider potentially sensitive viewpoints for road users and train drivers surrounding the site. The viewpoints will be selected once the detailed elements of the Proposed Development are finalised and are generally located at the minimum stopping distance and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic.

256. For practical reasons, the area of the assessment will be limited to the area surrounding the Proposed Development. The occurrence of reflected solar glare at greater distances will not be the subject of this assessment.

Potential Impacts and Effects

257. The potential daylight, sunlight and overshadowing effects associated with the Proposed Development are considered to be as follows (and as relevant to the scope of the assessment in terms of receptors identified above):

- Changes to the daylight and sunlight amenity within surrounding residential properties and other properties identified which have a reasonable expectation to natural light because of the demolition and construction works;
- Changes to overshadowing of surrounding outdoor amenity spaces because of the demolition and construction works;
- Changes to the daylight and sunlight amenity to surrounding residential properties and other properties identified which have a reasonable expectation to natural light as a result of the Proposed Development once complete; and
- Changes to overshadowing of surrounding outdoor amenity spaces as a result of the Proposed Development once complete, including outdoor amenity areas which comprise part of the Proposed Development;
- The potential for solar glare effects on sensitive viewpoints surrounding road users and train drivers because of the Proposed Development once complete; and
- The potential for light pollution effects from the commercial elements of the Proposed Development on existing receptors.

258. The magnitude of impact and so resultant potential effects in relation to the daylight and sunlight amenity and overshadowing for the surrounding properties and amenity areas will vary throughout the

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construction phase, depending on the level of obstruction caused. The impact and so resultant effect will almost certainly be less than that of the completed Proposed Development, given that the extent of permanent massing will increase throughout the construction phase, until the buildings are complete.

259. The impacts of the construction of the Proposed Development will steadily increase in magnitude as the superstructure is built and then clad. Those effects that are perceptible, as the superstructure and cladding progress, will be similar to those during the completion and occupation of the Proposed Development as presented below. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing effects.

Outline Scope of Assessment

260. The assessments will be carried out in accordance with the Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition 2011[15] and the British Standard (BS) 8206 Part 2 Lighting for buildings. Code of practice for daylighting (2008)[16]. The analysis will be undertaken from a 3D computer model constructed using specialist software.

Demolition and Construction

261. Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential impacts and effects during demolition of any required existing on-site structures and construction of the Proposed Development on daylight, sunlight, overshadowing and solar glare to surrounding receptors will not be modelled. Instead, a qualitative review has been undertaken using professional judgement and experience.

262. The potential daylight, sunlight, overshadowing and solar glare effects relating to demolition and construction works will vary throughout the works programme and will gradually increase to the potential impacts and effects that will be identified for the completed Proposed Development.

263. The magnitude of impact and so resultant potential effects in relation to the daylight and sunlight amenity and overshadowing for the surrounding properties and amenity areas will vary throughout the construction phase, depending on the level of obstruction caused. The impact and so resultant effect will almost certainly be less than that of the completed Proposed Development, given that the extent of permanent massing will increase throughout the construction phase, until the buildings are complete.

264. The impacts of the construction of the Proposed Development will steadily increase in magnitude as the superstructure is built and then clad. During the construction phase, a number of tall cranes are likely to be present on-site, however their size and temporary presence will lead to generally imperceptible effects of a temporary nature. Those effects that are perceptible, as the superstructure and cladding progress, will be similar to those during the completion and occupation of the Proposed Development. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight, overshadowing and solar glare effects.

265. On this basis, no further consideration shall be given in the ES to effects to daylight, sunlight, overshadowing and solar glare as a result of the demolition and construction works.

Completed Development

Daylight / Sunlight

266. In line with the BRE Guidelines, both the VSC and NSL assessments will be undertaken for the Proposed Development for the relevant sensitive receptors identified above.

[15] British Research Establishment, 2011.Guidelines: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice, Second Edition.
[16] British Standards Institution, 2008. British Standards 8206 Part 2: Code of Practice for Daylighting. BSI.

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267. The sunlight amenity to the surrounding relevant receptors will be considered by reference to the APSH method of assessment. Due to the southerly rotation of the sun, this assessment will consider those windows which face the site and are located within 90 degrees of due south.

268. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of daylight and sunlight amenity effects will be determined using professional judgement and by reference to Appendix I of the BRE Guidelines.

Overshadowing

269. The overshadowing analysis on the surrounding areas of amenity space will be undertaken by reference to the TOS method of assessment.

270. For the TOS assessment, the path of shadow will be mapped for the Proposed Development on the following dates as suggested by the BRE Guidelines:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

271. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of overshadowing effects will be determined using professional judgement.

272. Depending on the outcome of this analysis the Sun Hours on Ground (SHOG) assessment may be required for any amenity areas that appear to be significantly impacted by the Proposed Development. The SHOG assessment considers the proportion of a designated amenity space which receives 2 hours of direct sunlight on 21st March.

Light Pollution

273. Although not yet finalised, the Proposed Development is likely to include highly glazed areas of commercial use where extensive artificial lighting may be used. If the Proposed Development does include highly glazed area and, if this commercial space is located within 20m of nearby residential accommodation, an assessment in terms of light pollution will be undertaken.

274. The assessment of light pollution would focus on the effects of light egress from within the highly glazed office spaces and the subsequent light intrusion on the neighbouring residential receptors. As per standard practice, in the absence of a detailed lighting design, the study will assume an average illuminance level of 500 lux at the working plane as per the Lighting of Work Places, British Standard (BS) 12464-1:2002[17].

275. The ILP Guidance Notes 2011[18] set out numerical criteria for light intrusion before and after curfew (11pm) based on the lighting environment of the surrounding context. As the Proposed Development is located within Southwark, London, this would be considered an area of high district brightness, equating to Environmental Zone 4 within the ILP Guidance Notes. Where the light levels exceed the recommended levels, a nuisance may occur. Professional judgement will be used to establish whether a potential effect would be either beneficial or adverse, the scale of the effect (minor, moderate or major) and ultimately the significance of the effect. Where the light levels are within the limits recommended by the ILP, the effects will be considered as negligible.

Solar Glare

276. The BRE[155] guidelines provide that '*glare or solar dazzle can occur when sunlight is reflected from a*

[17] British Standard (BS) Light and lighting – Lighting of Work Places, Part 1: Indoor work places 12464-1:2002
[18] Institute of Lighting Professionals (ILP), 2011, Guidance Notes for the Reduction of Obtrusive Light GN01:2011, 2011

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façade or area of metal cladding'. This is considered an issue in relation to road users or train drivers whereby an instance of reflection can obscure the view of traffic signals and thus have the potential to cause an accident.

277. At this stage, the details of the façade treatment for the Proposed Development are not yet finalised however should the detailed design include areas of glazing and/or reflective cladding, a solar glare assessment will be undertaken.

278. Road junctions are particularly sensitive in relation to solar glare as instances of reflection may obscure the view of traffic signals or temporarily blind drivers and thus result in accidents. In relation to the Proposed Development, due to the close proximity of the site to several likely sensitive surrounding road junctions, these will be included within the solar glare assessment.

279. In addition, considering the National Rail train line passes to the north of the development site, the potential for solar glare effects as a result of the Proposed Development to train drivers will be considered within the ES. The common practice for this type of study would be investigating the location and orientation of mounted train signals to identify sensitive viewpoints to be assessed along each track.

280. The assessment of solar glare identifies the time of day and year that solar reflections will be visible from the assessed viewpoints, as well as their relationship to a driver's line of sight. The assessment does not however, measure the intensity of the reflection but merely the occurrence and duration.

281. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of solar glare effects will be determined using professional judgement and taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight and the probability of these occurring.

Cumulative Assessment

282. If any nearby cumulative schemes are considered in close enough proximity to cause cumulative impacts, assessments will be undertaken to determine the effects of the Proposed Development on existing receptors and amenity areas, with the surrounding consented schemes being developed at the same time (i.e. a Cumulative Scenario). The assessments (VSC, NSL, APSH, TOS, SHOG, Light Pollution and Solar Glare as relevant) will compare the levels of BRE (or other relevant guidance / standards) compliance to the surrounding receptors (as relevant to the assessment in question) in the Cumulative Scenario to those for the Proposed Development in isolation in order to understand the cumulative daylight, sunlight, overshadowing, light pollution and solar glare effects.

Archaeology

283. The EIA will consider the impact on archaeology during demolition, construction and operation of the Proposed Development. The assessment will be undertaken by Mills Whipp Project (MWP), a Registered Organisation with the Chartered Institute for Archaeologists.

284. The principal legal structure governing archaeology is the Scheduled Ancient Monument and Archaeological Areas Act (1979). The national, regional and local planning policies will also inform the assessment of potential impacts of the Proposed Development on archaeology.

Baseline Assessment

285. Desk-based research work will be undertaken informed by archaeological investigations in the vicinity of the site, as well as a review of the Greater London Historic Environment Record within a 200m zone of the centre of the site with other sites beyond that radius mentioned where relevant. Initial studies indicate that until relatively recent times, the site was open marshland unsuitable for habitation. By the

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16th century some reclamation had taken place and the site was occupied by a sequence of buildings until clearance in the 1980s.

286. It is considered that the foundations of these post mediaeval buildings will have caused considerable disturbance to any earlier deposits which may be present at the site. These buildings themselves are likely to be considered of some archaeological interest by LBS.

Potential Sensitive Receptors

287. The report will consider the impact of the development on:

- Late Pleistocene and Holocene deposits to be removed during construction; and
- The post mediaeval heritage assets in Southwark being reduced as a result of the redevelopment of the site.

Potential Impacts

288. The assessment will consider the potential impacts of the Proposed Development during construction on archaeological remains. The assessment will deal solely with the archaeological impacts of the Proposed Development and would not cover built heritage issues or changes to the setting of above ground assets which will be dealt with separately in ES Volume 2.

289. Potential effects to be addressed by the EIA in relation to archaeology will include:

- Direct impacts on buried archaeological deposits from land disturbance caused by construction of the development; and
- Direct impacts upon historic boundaries from construction.

Assessment Methodology

290. The desk-based assessment (DBA) will conform to the Greater London Archaeological Advisory Service guideline, the Chartered Institute for Archaeologists standards and guidance and the Association of Local Government Archaeological Officers and will include:

- Discussion on the prehistoric, Roman, Saxon, mediaeval and post mediaeval history of the site;
- Consideration of any previous events which may have affected asset survival;
- Consideration of the archaeological potential of the site;
- Provision of an evaluation of the sensitivity and importance of the buried assets based on professional judgement informed by good practice guidance including the values set out in English Heritage Conservation Principles (English Heritage, 2008);
- Consider the magnitude of impacts which could arise from the Proposed Development during demolition and construction;
- Assess the scale and nature of archaeological effects;
- Identify appropriate archaeological mitigation - the requirement for mitigation will be determined in consultation with LBS; and
- Identify residual archaeological effects.

291. Further to discussions with LBS, intrusive field investigations in the form of boreholes and trenches will be undertaken and a supporting evaluation report will be prepared and submitted in support of the planning application.

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(Built) Heritage, Townscape and Visual

292. The (Built) Heritage, Townscape and Visual Impact Assessment (the 'HTVIA') identifies the likely significant direct and indirect effects of the Proposed Development on built heritage, townscape and visual receptors.

Baseline Assessment

293. The site falls within the administrative boundary of the London Borough of Southwark. It is bounded by St Thomas Street (north), Fenning Street (west) and Vinegar Yard / Melior Street to the south and east.

294. There is one existing building on the site. On the western boundary of the site is a part two and part three storey industrial building. The three storey element to the south is of brick construction with some external features demonstrating its use as an industrial warehouse, including pulley. The two storey later extension is of no architectural merit.

295. Prior to demolition, within the northern part of the site there was a modular construction five storey port-a-cabin used by Network Rail as welfare facilities for contractors and staff working on the development of London Bridge Station. The building was utilitarian in appearance and was of no architectural merit.

296. To the east are two vacant plots either side of the Vinegar Yard vehicular access.

Heritage

297. The (built) heritage assessment will consider the significance of heritage assets and the impact of the Proposed Development upon that significance. The south-west part of the site, comprising the three storey brick industrial warehouse building, is located in the Bermondsey Street Conservation Area. The warehouse is identified as a positive contributor to the character and appearance of the Conservation Area by the January 2003 Appraisal prepared by LB Southwark.

298. There are heritage assets in the wider area and so the HTVIA assesses the potential of the Proposed Development to impact their setting.

299. In the immediate vicinity of the site, Nos. 9-17 Vinegar Yard, 6 Melior Street and the Horseshoe Inn PH are all identified as positive contributors to the character and appearance of the Conservation Area.

300. There are no statutorily listed buildings within the immediate vicinity of the site, with the exception of the Grade II listed railway viaduct arches by Charles Henry Driver on St Thomas Street.

301. Within 500m of the site boundary there are approximately 104 designated heritage assets, plus the Tower Bridge Conservation Area, Tooley Street Conservation Area, and Borough High Street Conservation Area.

302. The Tower of London conservation area and World Heritage Site in Tower Hamlets is also a notable consideration in terms of heritage impact.

Townscape and Visual

303. The townscape assessment will consider the Proposed Development within its urban context, including the buildings, the relationships between them, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

304. In preparing this Scoping Report regard has been had to the relevant policy designations. Policy designations outline the strategic aspirations for an area, contribute to the understanding of townscape value and the potential for, or even lack of, change.

305. The site is also located within LB Southwark's London Bridge, Borough and Bankside Opportunity Area. The adopted and emerging London Plan (Policy 2.13 & draft Policy SD1 respectively) recognises that such Opportunity Areas have the potential to appropriately accommodate significant increases in office

accommodation along with a mix of commercial and leisure uses. Policy is clear that in combination, such uses will benefit the local population and London as a whole through job creation, leisure opportunities and enhanced public realm and place creation.

306. The existing development plan and emerging New Southwark Plan identifies the site within an area suitable for tall buildings. This is supported by the site's inclusion within Southwark Council's emerging site specific allocation 'NSP53: Land between St Thomas Street, Fenning Street, Melior Place and Snowfields'.

307. The site is located immediately to the south of London Bridge Station and benefits from a PTAL rating of 6B (the highest). The policy designations for the site and proximity to public transport is therefore conducive to development at a greater density, subject to satisfying other policy criteria.

308. Critical to the understanding of this baseline is an understanding of the emerging context delivered by cumulative schemes. To the west of the site is The Quill (ref: 14/AP/4640), which has consent for a 31 storey building.

309. The visual assessment will consider the impact of the Proposed Development upon visual receptors. The assessment relates to how people will be affected by changes in views and visual amenity at different places, including publicly accessible locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

310. The site is located in the background assessment areas of the London View Management Framework (LVMF) views of St Paul's from Parliament Hill (LVMF 2A.1) and Kenwood House (LVMF 3A.1). The consideration of these views is additional to the World Heritage Site, listed buildings and conservation areas set out above. It is notable that the Shard sits in front of the site and restricts visibility of potential development at the site from these LVMF viewpoints.

311. Development on the site would also be potentially visible in LVMF London Panoramas 1A.2 Alexandra Palace; 4A.1 Primrose Hill; 5A.2 Greenwich Park; 6A.1 Blackheath - but would be outside the Protected Vistas of St Paul's in these views. It would be potentially visible in LVMF River Prospects 10A.1 Tower Bridge and 12B.1 Southwark Bridge.

312. The scale (height) of the Proposed Development is likely to be perceptible over a long distance and thus has the potential to impact visual receptors within the immediate and wider area. The scope of assessment is set out below.

Outline Scope of Assessment

313. The study area will also be informed by building locations and heights, topography and townscape features and an understanding of the scale of the Proposed Development. The current proposals comprise a development with a maximum scale of 100m AOD, although this is subject to change through design development during the pre-application process.

314. The visual extent of the Proposed Development may be determined through undertaking a Zone of Theoretical Visibility (ZTV). The aim of the ZTV is to provide an initial guide on visibility for further detailed analysis to take place.

315. The ZTV demonstrates the visibility of the Proposed Development from a viewing height of 1.6m above ground level. It may be prepared using a range of topographically referenced data, such as Z-mapping and Blue Sky LiDAR. The data may represent the built environment only e.g. excluding trees and foliage.

316. The extent of the study area will be confirmed following a review of the ZTV and will be agreed through the pre-application process. It will be reaffirmed through Site observations, a desk-based review of

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designations and characterisation studies.

317. The study area will comprise:

- All heritage receptors (within a set distance of the site boundary):
    a) World Heritage Sites;
    b) Listed buildings;
    c) Conservation areas;
    d) Registered parks and gardens;
    e) Scheduled ancient monuments; and
    f) Locally listed buildings (non-designated heritage receptors).
- Townscape character areas (within a set distance of the site boundary); and
- Visual receptors (within a set distance of the site boundary).

318. The visual assessment will be supported by Accurate Visual Representations (AVRs or verified views), which provide the basis for the assessment of the Proposed Development and its effect on the identified views. Each viewpoint will be reproduced in the following formats:

- Existing – baseline photography;
- Proposed – 'existing' plus wire line (AVR1) or render (AVR3) of the Proposed Development; and
- Cumulative – 'proposed' plus material consents surrounding the site.

319. The AVRs will be prepared to industry standard by independent visualisation consultants. The methodology will be in accordance with Appendix C of the London View Management Framework (2012), which is considered best practice.

320. The AVR locations are to be agreed with the LPA.

Assessment Methodology

321. The method is the product of best practice and policy requirements informed by guidance. There is correlation between heritage, townscape and visual assessment. Notwithstanding, these are separate disciplines and require separate assessment in accordance with legislation, planning policy and best practice guidance.

Heritage

322. The assessment of heritage will be informed by relevant parts of the development plan and chapter 16 of the National Planning Policy Framework (2018). Other guidance used in the assessment will include:

- Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2015); and
- Tall Buildings: Historic England Advice Note 4 (2015).

323. The assessment of the impact to the Outstanding Universal Value of the Tower Bridge WHS would need to be in accordance with national guidance comprising:

- Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011) produced by the International Council on Monuments and Sites (ICOMOS); and
- London's World Heritage Sites – Guidance on Settings SPG (2012), produced by the GLA)

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Townscape and Visual

324. The framework for assessment of townscape and visual impact will be prepared using the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) ('GLVIA3'). Regard will also be given to the methodology set out in An Approach to Landscape Character Assessment (2014) prepared by Natural England.

325. The two components of TVIA are:

- Assessment of townscape effects: assessing effects on the townscape as a resource in its own right; and
- Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people.

326. It should be noted that the assessment does not comprise a 'residential amenity assessment', which considers private viewpoints from residential properties. This is separate from townscape and visual assessment (refer to GLVIA3, paragraph 6.17).

Potential Effects

Demolition and Construction

327. The demolition and construction phase may cause indirect effects on heritage receptors which arise from a change to setting. Due to the proximity of heritage assets, this will largely be limited to visibility of equipment associated with construction (cranes, hoarding, etc.).

328. The appearance of cranes and other construction activity on the skyline and setting of the heritage receptors is not likely to impact the ability of an observer to appreciate the heritage value of the receptors. For many heritage receptors in the area there is no inter-visibility with the site, and so the assessment is one of no significant effect. In any event, the indirect effects during construction will be temporary. There is likely to be no long-term effect on the ability to appreciate the heritage value of the built heritage receptors arising from this stage of the Proposed Development.

329. The construction phase of the Proposed Development may have effects on the townscape and visual receptors as a result of:

- The noise, dust and vibration associated with the construction activity;
- Visibility of equipment associated with construction (cranes, hoarding, etc.); and/or
- The potential increase in activity affecting the local road network.

330. The activities related to construction described above are most likely to affect the townscape and visual receptors which are closest to the site. The receptors which are further from the site are less likely to experience indirect effects as a result of the distance, limited or no inter-visibility, and interposing development.

331. The site would be enclosed with hoardings, which will provide a visual buffer to the immediate environment. The phase will, however, result in increased noise, vibration, dust and traffic in the surrounding area. The magnitude of this impact will be greatest where there are residential uses in close proximity.

332. The continued functioning of the local area during the phase is an important consideration to the vitality of the townscape. Construction vehicles, comprising ready mix lorries, articulated low loaders, plant delivery and rigid vehicles, would have an adverse impact on the function of the townscape in the immediate area. A Transport Assessment is recommended to provide mitigation measures to reduce

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the disruption caused by construction and site preparation. The logistic management team would organise and plan prescribed delivery times to ensure that busy roads do not become congested with frequent material deliveries. The Applicant may enter into a 'Considerate Constructors' scheme to ensure best practice. With this mitigation in place the effects of the construction phase would be reduced to Minor Adverse. This effect is temporary in nature.

Completed Development

333. The operation stage may cause indirect effects on heritage receptors which arise from a change to the character and appearance of the Bermondsey Street Conservation Area and, for heritage assets in the wider area, a change to setting.

334. The Proposed Development would comprise a notable increase in scale (height) relative to the existing context within the site. Notwithstanding, this is not incongruent to the surrounding area where there is an existing and established context of tall and/or large development. This is not uncommon for a central urban environment such as the site. Considerable care and attention must be given to the access, form, layout and architectural detailing of the ground floor to ensure that this provides a contextual relationship and functional enhancement to the surrounding townscape, including heritage assets.

335. The Proposed Development would be seen over a considerable distance. The potential magnitude of impact would be reduced by virtue of atmospheric haze and motion parallax. It would be seen within the context of existing tall and large development. It is not considered that significant adverse effects are likely to arise from impacts to heritage assets, although, where there is potential, design quality may be a mitigating factor.

336. The Proposed Development itself is likely to give rise to a significant change to the site and surrounding area. This would be in accordance with the aspirations of the Development Plan. It is likely that the Proposed Development will give rise to a demonstrable improvement to the character, function and appearance of the immediate townscape.

337. Further assessment will need to be undertaken to understand the impact to townscape function and appearance over longer distances from the site. This would be in accordance with the scope of assessment set out above.

Mitigation

338. Measures proposed to prevent, reduce or where possible offset any significant adverse impacts will be identified and developed as part of the design process. Primary mitigation measures, including architectural and urban design, will become embedded into the project design, commonly referred to as embedded mitigation.

339. The likely effects of the Proposed Development will include embedded mitigation. As a result, there may be no requirement for additional mitigation. If this is the case, likely residual effects would remain the same as the likely effects, unless otherwise stated.

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TOPICS WHERE NO LIKELY SIGNIFICANT EFFECTS ARE ANTICIPATED

Water Resources

Flood Risk and Surface Water Drainage

340. Flood risk is regulated through the NPPF which requires a site-specific Flood Risk Assessment (FRA) to be produced for all sites located within Flood Zone 2 and 3, bigger than one hectare or with critical drainage problems.

341. The Environment Agency's (EA) flood map for the area shows that the site is located within Flood Zone 2 and Zone 3 floodplain benefiting from flood defences and therefore is at low risk from flooding from fluvial and tidal sources. There may however be other sources of flooding that would affect the site, such as flooding from pluvial (drainage-related) or groundwater sources.

342. As such, the planning application will be accompanied by an FRA and a Surface Water and Foul Sewage Drainage Strategy. The FRA will review the potential sources of flooding that could affect the site, and how the identified sources of flooding can be minimised, mitigated or eliminated to reduce project vulnerability. The potential sources of flooding that will be considered are as follows:

- Tidal flooding from the River Thames;
- Pluvial (drainage-related) flooding (impact on and off site); and
- Groundwater flooding.

343. An assessment will be made of the impact of climate change on the flood risk categorisation of the site and how the Proposed Development has built in climate change resilience and resistance with regard to future flood risk.

344. The Surface Water and Foul Sewage Drainage Strategy will demonstrate the optioneering work undertaken throughout the design evolution process for the sustainable management of surface water runoff through the use of sustainable drainage systems (SuDS) at the site. The surface water drainage strategy will allow for a reduction in surface water discharge rates compared to the existing situation in line with local policy and London Plan requirements.

345. The drainage will be designed to accommodate the one in 100 year storm, including an allowance for an increase in rainfall intensity to allow for climate change.

346. The FRA and Surface Water and Foul Sewage Drainage Strategy will be informed by consultation with key stakeholders including the Environment Agency (EA), the LBS and Thames Water (TW).

347. They will also use the background information contained within strategic documents as relevant, such as the LBS Strategic Flood Risk Assessment (SFRA), and Surface Water Management Plan (SWMP), Preliminary Flood Risk Assessment (PFRA) and the Local Flood Risk Management Strategy (LFRMS).

348. The FRA and Surface Water and Foul Sewage Drainage Strategy shall be summarised within the ES (**ES Volume 1, Chapter 3: The Proposed Development**), any mitigation and monitoring measures proposed relating to flood risk, surface water and foul sewage drainage will be summarised within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**, and the full documentation will be appended to the ES.

349. In summary, the FRA and outline drainage strategy will investigate:

- Sources of flooding (e.g. tidal, surface water, groundwater) which could affect the site;
- Existing flood defenses/flood mitigation measures;

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- Probability of flooding;
- Climate change;

  Mitigation and climate change resilience / resistance measures embedded into the Proposed Development to reduce the risks associated with flooding (from any source);
- Residual flood risk; and
- Appropriate strategies for surface water drainage.

350. Through a well informed and considered design process with regard to flood risk and surface water drainage considerations, coupled with appropriate measures to manage the residual flood risk at the site following redevelopment, no likely significant effects associated with flooding and surface water drainage are anticipated.

351. In recognition that a FRA and Surface Water and Foul Sewage Drainage Strategy will be prepared and submitted in support of the planning application which will address in detail the issues identified above, a separate flood risk impact assessment (provided as part of a 'Water Resources, Drainage and Flood Risk' ES Chapter) is not considered necessary and so will not be presented in the ES to avoid duplication.

352. The results and conclusions of the FRA and Surface Water and Foul Sewage Drainage Strategy (including climate change resilience with regard to flood risk and surface water drainage) will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**). Any management and mitigation strategies identified will be presented in **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

Wastewater (Foul Drainage)

353. Foul water discharge rates are expected to increase as a consequence of the Proposed Development. Estimated wastewater volumes arising as a result of the Proposed Development (in a fully operational event day scenario) will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

354. Consultation with TW will be undertaken to understand any existing capacity constraints on the foul water public drainage network.

355. The Proposed Development will include water efficiency measures to try and reduce the volume of foul water discharged to the network and so reduce the overall magnitude of the impact of the Proposed Development on the foul drainage / sewer network.

356. It is anticipated that any required upgrades to the foul water drainage network would be discussed with TW and ultimately undertaken by TW to increase the capacity of the sewer network and enable it to accommodate additional flows from brownfield redevelopment sites across London.

357. A Surface Water and Foul Sewage Drainage Strategy will be prepared and submitted in support of the planning application. The Surface Water and Foul Sewage Drainage Strategy will identify any existing capacity issues within the foul water drainage network and present strategic options for foul water management at the site.

358. The design principles set by the Surface Water and Foul Sewage Drainage Strategy (including assumptions on expected potable water demand and estimated wastewater volumes) and its conclusions will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

359. In recognition that the Surface Water and Foul Sewage Drainage Strategy will define the principles of the design of the foul drainage network within the site and the link up to the surrounding public sewer network and identify strategic options for foul water management at the site, no likely significant effects associated with waste water discharges are anticipated as a result of the Proposed Development (subject to discussion with TW and the addressing of any strategic capacity issues across the public sewer network).

360. Measures proposed to manage environmental effects associated with wastewater discharges throughout the demolition, construction and operation of the Proposed Development will be presented within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

361. On this basis, no further impact assessment work with regards to foul water drainage will be presented within the ES.

Water Demand

362. There is a potential impact in the form of increased potable water demand resulting from the Proposed Development. The potential increase in water demand as a consequence of the Proposed Development will be discussed with TW and where required additional capacity will be requested to supply the Proposed Development.

363. The inclusion of water efficiency measures to reduce water usage, in addition to the implementation by TW of the Thames Water Resource Management Plan (i.e. management and provision of water supply at a strategic level which has been made to accommodate future projected housing, commercial and population growth), it is considered that sufficient measures will be in place for water demand to be met and so no likely significant effects are anticipated.

364. The ES will summarise any discussions had with TW on this aspect (including assumptions on expected water demand) within the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

365. In recognition of the above, no further assessment work with regards to potable water demand and supply will be presented within the ES.

Demolition and Construction Works

366. A number of water resources and drainage mitigation measures shall be implemented throughout the demolition and construction works to protect water resources, particularly relating to groundwater and drainage networks. These mitigation measures can be categorised as 'Pre Commencement' measures, and measures implemented throughout the demolition and construction works themselves. The measures are as follows and will also be presented within the ES in **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

Pre-Commencement:

- Discharge arrangements into the foul water sewer will be agreed with Thames Water Utilities Limited (TWUL).
- All existing utilities will be identified and marked before works commence, with the use of signs to warn of their presence.
- Settlement facilities and oil / petrol interceptors will be installed at relevant discharge points into the sewers (for surface water runoff and wastewater discharges).
- An Emergency Response Plan (ERP) will be prepared and which will set out the procedure to be adopted in the event of a leak or spill.

During Demolition and Construction Works:

- Any damage to existing infrastructure would be immediately repaired.

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- Any waste effluent will be tested and any water that may have come into contact with contaminated materials or be identified as being contaminated, will be disposed of appropriately and, to the satisfaction of the EA and/or TWUL; and where necessary, disposed of at the correctly licensed facility by a licensed specialist contractor/s.
- Plant and machinery will be kept away from controlled waters and will have drip trays installed beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
- Refueling and delivery areas will be located away from the local sewer network drains.
- All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, will have secondary bunding.
- All storage will be protected from vandalism and kept locked up when not in use.
- Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
- On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP).
- All relevant contractors will be required to investigate opportunities to sustainably manage the use of water, such as turning off taps when not in use, both on site and within site offices and the use of recycled water / a rainwater harvesting system for equipment such as wheel washes.
- The water consumption throughout the enabling and construction works will be monitored, either through sub-metering or reading of utility bills, to allow comparison against best practice benchmarks and improvements to be made.

Conclusion

367. Based on a likely low residual flood risk to the site (demonstrated through the FRA) and an appropriately designed Surface Water and Foul Sewage Drainage Strategy no likely significant effects are anticipated in respect of flood risk, surface water drainage and foul drainage. Potable water demand to the Proposed Development shall be discussed with TWUL; no likely significant effects are anticipated as a result of TWUL statutory duty to manage the provision of water supply to London at a strategic level.

368. The FRA, Surface Water and Foul Sewage Drainage Strategy and consultation undertaken with TWUL in respect of water demand and wastewater discharge shall be summarised within the ES.

369. Furthermore, no likely significant effects are anticipated to water resources throughout the demolition and construction works following the implementation of various standard mitigating measures both pre-commencement and throughout the works, as defined above. These standard mitigating measures and any additional measures relating to the protection of water resources identified throughout the EIA process, shall be presented within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**. It is anticipated that appropriately worded planning conditions will be attached to any planning permission to secure these measures.

370. On this basis, with the exception of the work defined above in respect of the FRA and Surface Water and Foul Sewage Drainage Strategy and consultation with TWUL on potable water demand and

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wastewater discharges, no further impact assessment work in respect of water resources, drainage and flood risk shall be presented within the ES.

Ecology

371. The site is currently occupied by Network Rail who, at the time of writing, are in the process of demolishing a temporary building on the north west of the site.

372. There is therefore an existing high level of activity on site, which will continue until the provisional date of September 30th, when demolition works should be complete and vacant possession will be in place. A PEA will be undertaken once the demolition is complete, where a comprehensive ecological review of the site will be able to take place.

373. Based on a review of aerial photography for the site, there is no / little vegetation within the site boundary and very few in the immediate vicinity, except for one tree within the Horseshoe Pub boundary and some trees and scrub within Snowsfields residential boundary, both to the south of the site.

374. Therefore, based on this review and the high level of activity on the site, it is considered unlikely to support protected species and there are no ecological constraints to the site's redevelopment.

375. Wardell Armstrong have been commissioned to undertake a Preliminary Ecological Appraisal (PEA), comprising a desk study and Phase 1 habitat survey including a protected species assessment of the site.

376. The desk study will incorporate a 2km radius for national statutory and non-statutory sites and a 5km search radius for internationally designated sites from the Proposed Development site boundary.

377. The phase 1 habitat survey will involve the classification and mapping of any habitat types and collating plant species lists for any habitat types present. An external assessment of all buildings within the site to ascertain bat roost potential will also take place. In the unlikely event that the building is considered to have bat roost potential then further works may be required including internal inspections and bat dusk emergence and/or dawn re-entry surveys.

378. In addition, any potential presence or field evidence of protected, notable or alien invasive species will be recorded. A single report will be produced detailing the results of the PEA survey and will detail the requirement for further survey work if necessary. The PEA will be submitted in support of the planning application. Though not finalised at this time, the Proposed Development will provide ecological enhancements through appropriate landscaping measures. This includes soft landscaping options (on ground level) comprising a mixture of tree, shrub and bed planting as well as the use of native species and/or species of recognised wildlife value. Incorporating flowering and berry producing plants will attract a wide range of insects birds and mammals. Trees can be under-planted to improve structure and cover for wildlife and consideration should also be given to creation of species-rich hedgerows. Other recommended ecological enhancing measures include permeable paving, green walls and climbing plants, grass strips and green roofs. The provision of bird and/or bat boxes are also encouraged.

379. Measures proposed as part of the landscaping design to enhance the ecological value of the site (and their associated biodiversity benefits) will be described in more detail within the ES (**ES Volume 1, Chapter 3: The Proposed Development**).

380. In the unlikely event that the PEA identifies any ecological sensitivities, potential ecological impacts, appropriate ecological mitigation and management controls will be identified to render any residual ecological impact insignificant.

381. On the basis that no significant ecological effects are anticipated, an ecological impact assessment will be scoped out of the EIA.

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Geoenvironmental (Land Contamination, Ground Conditions and Groundwater)

382. An assessment has been undertaken to evaluate the potential effects of the Proposed Development on land quality and contamination. The principal objective is to identify possible unacceptable risks to human health, buildings and other property and the natural and historical environment from the condition of the land and groundwater so that appropriate action can be considered and then taken to address those risks.

Baseline Assessment

383. The assessment of the current site baseline conditions has been informed by a site visit undertaken on 4 September 2018, interviews with the current site manager, the results of a geotechnical and contamination assessment report[19] and a geo-environmental data and historic maps report[20].

384. Pertinent information regarding the site includes:

- The proposed development site includes an external yard and a warehouse building. The yard has been used for the past six years by Network Rail for storage (predominantly for scaffolding supplies), portable site offices and staff welfare during the modernisation of the adjacent London Bridge Railway Station. The existing warehouse buildings were also used by Network Rail as offices. The station modernisation project is almost complete and Network Rail are in the process of vacating the site in 2018;
- Immediate surrounding land includes the London Bridge railway station complex (with tracks on a viaduct raised above street level and with commercial outlets in the railway arches and parking and station access beneath the track level) to the north, residential apartments to the east, a disused warehouse, the Horseshoe Inn public house and residential apartments to the south and Melior Street Community Gardens and Offices to the west;
- The earliest Ordnance Survey map extract (1871) indicates the site and surrounding area is already densely developed. The size and layout of the buildings suggests they were likely used for industrial / commercial uses. The only labelling on the maps includes a 'warehouse' in the west of the site (labelling on the 1958, 1968 and 1980 maps) and 'Garden Chambers' in the centre of the site (labelling on the 1950 map). The 1980 map indicates the majority of site buildings, with the exception of the warehouse in the west of the site, have been removed and indicate the site in its current layout;
- The historical maps indicate the immediately surrounding land has included London Bridge railway station, warehouses, printing works, public house, residential properties, garage and a school;
- The nearest surface water course is the River Thames located 474m north of the site.
- No significant risks from mining, natural cavities or extractions are reported to influence the site;
- No recorded landfill or waste sites are located within 500m of the site;
- British Geological Survey (BGS) mapping indicates the sequence of stratigraphy at the site includes superficial deposits of Alluvium, River Terrace Gravels and London Clay Formation Bedrock. A BGS record of a borehole drilled within the London Bridge station approximately 100m north-west of the site indicates the London Clay to extend to 42.75m bgl and is underlain by stiff silty clay of the Woolwich and Reading Beds.

[19] Ashdown Site Investigation Limited (March 2012). Geotechnical and Contamination (Phase I and II) Assessment report. Referenced LW23042.
[20] Ashdown Site Investigation Limited (February 2012). Geo-Environmental Data and Historic Maps. Referenced LW23042maps.

- The Alluvium and River Terrace Gravels are classified by the Environment Agency as Secondary (undifferentiated) aquifers and the London Clay Formation as unproductive strata. The site is not within a source protection zone for a public groundwater abstraction for potable use. The nearest groundwater abstractions are reportedly 353m and 376m north-east of the site.
- An intrusive site investigation was undertaken in 1998 comprising six mechanically excavated trial pits to depths between 1.1m and 3.1m below ground level (m bgl) and six boreholes (drilled through the infilled trial pits) to 20m bgl. The borehole logs indicate ground gas wells were installed to 5m bgl. The ground conditions reported in the site investigation included a deepening sequence of Made Ground, Alluvium, River Terrace Gravel and London Clay Formation:
    a) Made Ground comprised clayey silty sand with brick, concrete, plastic, metal, wood, clinker and glass (representative of general demolition material) to depths between 1.2m and 3.3m. Buried concrete slabs were encountered in two boreholes at 1.1m and 2.0m bgl;
    b) The base of the Alluvium was encountered at depths between 2.6m and 6.4m bgl and comprised gravelly silty clay with flint, shell fragments and organic matter;
    c) The base of the River Terrace Deposits was encountered at depths between 8.9m and 10.05m and comprised coarse sand and flint gravels;
    d) London Clay Formation bedrock was proven below the River Terrace Gravels to the maximum depth of the investigation (20m bgl);
    e) Two rounds of groundwater level measurement were undertaken in 1998 and indicated groundwater rest levels in all six wells at depths between 3.58m to 4.81m bgl; and
    f) Three rounds of ground gas monitoring (completed in 1998) measured detectable concentrations of methane in one of the six boreholes (maximum 4.3% volume) and carbon dioxide in all six boreholes at variable concentrations (maximum 3.1% volume).
- A supplementary investigation in 2012 comprised seven boreholes to between 1.2m and 2.0m bgl and installation of four groundwater and ground gas sampling points. The initial conceptual site model included in the report indicated the potential source of contamination to be Made Ground from legacy site developments. Therefore, the boreholes were located across the site to evaluate the thickness, nature and chemical composition of the Made Ground. Pertinent results included:
    g) One borehole penetrated the full thickness of Made Ground (1.2m) and encountered Alluvium to 2.0m. The remaining six boreholes did not penetrate the full thickness of the Made Ground. The authors description of the Made Ground and Alluvium is similar to that described in the 1998 investigation;
    h) Soil samples were collected for laboratory chemical analysis for metals and pH (9 samples), polycyclic aromatic hydrocarbons (PAH; 9 samples), volatile organic compounds (VOC; 2 samples), total petroleum hydrocarbons (5 samples); carbon banded hydrocarbons (3 samples); speciated aromatic and aliphatic hydrocarbons and benzene, toluene, ethylbenzene and xylene (1 sample), asbestos screening (3 samples) and cyanide, thiocyanate, phenols and ammonium (3 samples);
    i) the results were compared to generic assessment criteria for a residential without private garden end use following the Environment Agency Contaminated Land Exposure Assessment model. The results indicated:
        i. Lead concentrations above the GAC (246 mg/kg) in 8 of 9 samples tested (maximum recorded 867 mg/kg);
        ii. Benzo(a)pyrene concentrations above the GAC (1.0 mg/kg) in 3 of 9 samples tested (maximum 2.9 mg/kg);
        iii. No other chemical parameters were detected above the GAC; and

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iv. Asbestos fibres were not detected in the three samples tested.

j) Three ground gas monitoring visits were undertaken in 2012. Methane and ground gas flow was not detected. Carbon dioxide concentrations were measured in three of the sampling points (maximum 6.9% volume). The calculated gas screening value was indicative of Characteristic Situation 2.

Potential Sensitive Receptors

385. The evaluation of potentially sensitive receptors has been undertaken with consideration of the available baseline information and the Proposed Development. The development will comprise multiple basement levels, retail, and office space at ground floor level and a music venue. It is therefore considered that the construction phase will include full removal of the Made Ground and Alluvium during basement construction.

386. Potentially sensitive receptors during the construction phase the include:

- Health effects to construction workers through direct contact, inhalation and ingestion of contaminated soils and dusts during groundworks;
- Health effects to construction workers, including potential exposure to asbestos containing materials that could be present in the building fabric in the existing warehouse structure, through inhalation of asbestos fibres during demolition works;
- Health effects to nearby residents, workers and users of nearby facilities (public house, cafes and restaurant), through inhalation and ingestion of contaminated soils, dusts and asbestos fibres mobilised during demolition and excavation groundworks;
- Potential presence of buried munitions and / or ordnance excavated or disturbed during basement excavation and foundation construction posing a risk to human health and new structures;
- Mobilisation of contaminants in soils into groundwater during construction works;
- Potentially contaminated groundwater discharges to sewers and surface waters arising from dewatering activities during basement construction; and
- Effects on groundwater quality from pollution due to uncontrolled releases of fuels and chemicals during construction.

387. Potential receptors to contamination during the post-construction operational phase of the development are significantly reduced given the removal of Made Ground and Alluvium during basement excavation and complete hard cover over the site. Therefore, the only plausible effect is considered to be:

- Potential health effects to site users from contact with contaminants in soils imported to the site and used for landscaped areas and public open space.

Potential Impacts

388. The primary impacts relevant to the assessment are:

- Demolition of the existing warehouse building in the southwest of the site;
- Basement excavation;
- Dewatering during basement excavation;
- Storage and use of fuels, chemicals and lubricants on the site for use in generators and machinery during construction activity; and
- Uncovered soils in soft planted areas.

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Outline Scope of Assessment

389. It is proposed that a ground conditions / contaminated land impact assessment in the form of an ES chapter be scoped out of the ES given that there is sufficient existing quantitative assessment information for the site ground conditions from investigations completed within the past five years and a well-developed conceptual site model exists. Instead it is proposed that the application is conditioned in line with the model Planning conditions issued by the Department of Communities and Local Government (DCLG; 30 May 2008). DCLG suggest a three-stage condition approach including 1. site characterisation, 2. submission of a remediation scheme and 3. implementation of approved remediation scheme. Two further conditions for reporting unexpected contamination discovered during the course of the development and long-term monitoring and maintenance to demonstrate the effectiveness of the remediation scheme were also recommended by DCLG.

390. It is proposed that a Preliminary Risk Assessment (PRA; also known as a desk study) is prepared and submitted in support of the planning application. The PRA will include a site reconnaissance visit, an up-to-date Landmark EnviroCheck report with historical maps, review of available asbestos management reports (if available), consultation with statutory regulators and review of the existing site investigation data to develop of a revised conceptual site model and contaminant linkage assessment specific to the proposed development.

391. The report will include an evaluation of uncertainty and proposals for supplementary investigation, if required. Proposals for supplementary investigation would include sampling, laboratory analysis, selection of assessment criteria and monitoring of site conditions to collect information on the actual presence and extent of contaminants, pathways and receptors that may from pollutant linkages and determine whether unacceptable risks remain and whether remedial action is required.

392. The assessment will be performed and documented in line with the DEFRA and Environment Agency 'Model Procedures for the Management of Land Contamination (2004), Environment Agency Guiding Principles for Land Contamination, London Borough of Southwark Contaminated Land Consortium guidance for developers and contractors redeveloping contaminated land (2003), National Planning Policy Framework and applicable British Standards and guidance. Technical reports will be prepared by a competent person that can demonstrate a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution and membership of a relevant professional organisation.

393. Based on this initial consideration of the potential receptors that could possibly be affected by the Proposed Development, it is considered that the following mitigation measures may also be appropriate in line with current codes of construction practice to prevent any adverse effects to ground conditions and groundwater, human health and the wider environment:

- Preparation of a demolition plan, including asbestos demolition survey report;
- Preparation and implementation of a construction environmental management plan, including health and safety procedures;
- Preparation of an earthworks strategy. Mitigation measures relating to buried ordnance and munitions will be determined by a specialist subcontractor and stated as part of the earthworks strategy; and
- Development of a dewatering strategy for groundwater perched above the London Clay Formation and within the superficial aquifer during construction of the basement structure.
- The appropriate use of Personal Protective Equipment (PPE) and implementation and adherence to appropriate health and safety protocols, plans and procedures. Enabling and construction

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workers will remain vigilant of ground conditions at all times and will report to the Principal Contractor, any suspect areas of potential contamination;

- Appropriate handling and disposal of pile arisings, concrete, pastes and/or grouts during the laying of foundations will be undertaken.
- All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) are to be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents, in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, would have secondary bunding.
- All storage will be protected from vandalism and kept locked up when not in use.
- Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator; and
- On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP).

394. Accordingly, the redevelopment of the site is unlikely to generate any significant environmental effects associated with the ground conditions (including groundwater) and any residual effects associated with ground conditions and groundwater would be insignificant.

395. On this basis, it is suggested that a full ground conditions (including groundwater) impact assessment is scoped out of the EIA. The ES will however include the Phase 1 Geoenvironmental and Geotechnical Desk Study and will specifically, within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**, cite the industry recognised standards and good practice measures with respect to land affected by contamination including those to be undertaken pursuant to planning conditions to ensure the protection of human health, the environment and controlled waters.

Electronic Interference

396. Interference to certain telecommunications systems (e.g. television (TV), mobile phone and radio) can arise from buildings physically blocking and absorbing associated signals. Therefore, a loss or degradation of the reception of such systems can result from the introduction of new buildings and is often referred to as 'electronic interference', with the affected area referred to as the 'shadow area'.

397. For assessment purposes, domestic dwellings where TV is watched, or radio is listened to as an amenity, are identified as sensitive receptors. Places where the provision of TV or radio form part of commercial premises (e.g. hotels, offices and shops), are not identified as sensitive receptors[21].

Radio Signals

398. Due to radio signals being at lower frequencies, they can 'bend' to a greater extent around buildings (or other obstructions) when compared to TV signals. Radios are also able to make constructive use of reflected signals. As such, radio signals are able to operate successfully in dense urban settings (i.e. containing a large density of tall and large buildings) and therefore radio reception (both analogue and digital) is not considered to be at risk of degradation as a result of the Proposed Development. No likely significant effects to radio reception (both analogue and digital) are therefore anticipated as a result of the Proposed Development.

[21] This differentiation has been consistently used by the relevant United Kingdom (UK) government agencies (currently Office of Communications (OFCOM)) since the inception of TV services in the UK.

Cable TV Reception

399. Cable TV (CATV) services are delivered via underground coaxial or fibre-optic cables to residential dwellings. As CATV services are not transmitted through the air, there is limited potential for interference to CATV, and therefore CATV is not considered to be at risk of degradation as a result of the Proposed Development. No likely significant effects to CATV services are therefore anticipated as a result of the Proposed Development.

Mobile Phone Reception

400. A review of Ofcom's mobile availability checker[22] has identified that both 3G and 4G mobile services for four network providers (EE, O2, Vodaphone and Three) are available within and in close proximity to the site. A search of the Mast Data database[23] identified no mobile masts currently present on-site that will need to be re-located, and no mobile phone masts in close enough proximity to the site that could be potentially affected by the Proposed Development. It is therefore considered that there is no risk of degradation to mobile phone reception as a result of the Proposed Development. No likely significant effects to mobile phone reception are therefore anticipated as a result of the Proposed Development.

Terrestrial TV Reception

Baseline

401. Terrestrial (land based) TV signals are transmitted in digital format (Digital Terrestrial TV (DTTV) i.e. Freeview). The site receives DTTV signals from the Crystal Palace transmitter mast, located approximately 8.7km to the south of the site, any resultant DTTV shadow areas will therefore be located to the north of the site.

402. In general, DTTV reception in the area surrounding the site is considered to be poor, this is demonstrated by the 'raised aerials' on properties surrounding the site (often an indicator of difficulty receiving DTTV signals as seen on Google Street View[24].

Proposed Development DTTV Shadow

403. With regards to determining the potential effects of the Proposed Development on DTTV reception received by residential dwellings, and transmitted by the Crystal Palace transmitter mast, upfront design information relating to the Proposed Development has been reviewed. It has been identified that the Proposed Development will comprise one main tall tower composed of multiple podiums varying in height, the highest being of ground + 20 storeys and up to +100m (AOD) in the west portion of the site, with a second smaller building (pavilion) in the north east portion of the site comprising a music venue.

404. The DTTV shadow generated as a result of the Proposed Development, is anticipated to fall to the north of the site for approximately 1.1km at its longest point. Buildings that fall within the shadow area are predominantly office and non-residential use such as the London Bridge Hospital. However, it is likely that there will be some residential dwellings within the shadow area, primarily in the form of flats above commercial or retail space, which may be affected. This equates to an adverse effect.

405. It should be noted that a DTTV shadow cast by a building/obstruction diminishes with distance as a result of 'knife-edge diffraction'. This diffraction mechanism is a process whereby signals appear to bend (or 'diffract') behind a structure and eventually meet, like that of a knife-edge as opposed to a straight block[25]. Due to this 'knife-edge' diffraction, the effects experienced further away from the site,

[22] Ofcom. Mobile and Broadband Checker. Accessed online 23.05.2018 [URL: https://checker.ofcom.org.uk/mobile-coverage]
[23] Mast Data, (2017). Searching for Mobile Phone Telecommunication Mast and Basestations Locations. Accessed online 23.05.2018 [URL: https://www.mastdata.com]
[24] Google Street View. Accessed online 08.08.18 [URL:https://www.google.co.uk/maps/@51.5107583,-0.0848245,3a,60y,71.93h,119.72t/data=!3m6!1e1!3m4!1sRxM9wBJmh5c23cbBgLUCPA!2e0!7i13312!8i6656]
[25] DTTV shadows have been calculated using both the proposed widths and heights of the buildings: DTTV shadows

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are going to be less than those in closer proximity to the site. Therefore, any effects experienced within this area are unlikely to be noticeable.

406. There is therefore the potential for a loss or degradation to DTTV reception as a result of the Proposed Development for those residential dwellings currently (at the time of writing) receiving TV reception via DTTV. The most noticeably adverse effects will be experienced by those residential dwellings located in closest proximity to the site, with the magnitude of the impact reducing with distance away from the site.

407. For potentially affected residential dwellings located within the DTTV shadow area, standard measures are available to mitigate the likely adverse effect, these include: upgrading the existing DTTV aerials by increasing their height and gain; the provision of a non-subscription satellite service which is available from the BBC and ITV ('Freesat') or Sky for a one-off cost; or linking affected residential dwellings up to the existing available CATV network at a one-off cost. These standard measures are straight forward to implement and would remove any adverse effects to DTTV reception.

Satellite TV Reception

408. Satellite TV services to the UK are provided by geo-stationary satellites, which are primarily located within the Astra 28.2oE satellite cluster. Due to the geostationary positioning of the satellites in relation to London, satellite TV shadow areas will fall to the northwest of the site.

409. The anticipated satellite TV shadow generated as a result of the Proposed Development will fall approximately 180m to the northwest of the site, over land associated with London Bridge train station and falls as far as the Shard, where it will then end; no residential dwellings fall within this satellite TV shadow area. Consequently, no sensitive receptors fall within the anticipated satellite TV shadow generated as a result of the Proposed Development, and as a result there is limited potential for a loss or degradation to satellite TV reception.

Conclusion

410. Based on the information available, it can be concluded that there is no potential for adverse effects on radio signals, cable TV reception, and mobile phone reception. However, there is a slight potential for a loss or degradation to DTTV reception received by residential dwellings as a result of the Proposed Development. Suitable measures have been identified and are potentially available to all affected residential dwellings.

411. Whilst there is the potential for some impact to occur, taking into account the size and extent of potential impacts and the availability of standard measures to monitor and remedy potential impacts, the likely residual effects on DTTV reception to surrounding receptors are not considered to be significant. On this basis, no further consideration of electronic interference effects will be presented within the ES.

Waste

412. The predominant waste and recycling effects on sensitive receptors, arising from the construction and operation of new development, result from:

- The composition of waste (i.e. whether the waste generated is inert, or whether it comprises waste potentially hazardous to human health, requiring specialist management e.g. asbestos containing

generated as a result of the taller buildings proposed have been calculated based on the width of the building at a right angle to the angle of the signals transmitted by the Crystal Palace transmitter mast. This is to take account of the diffraction process; should the height of the buildings be used to calculate DTTV shadow length, this would generate an unrealistic DTTV shadow length. Therefore, despite the three towers to the centre of the site being the tallest buildings proposed, they do not generate the longest DTTV shadow generated as a result of the Proposed Development, this is generated by the eastern-most building, which is both wide and tall.

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materials (ACMs), clinical waste, hazardous waste) and the potentially negative impacts on construction workers and future on-site users (sensitive receptors); and

- The quantity of waste generated and the impacts of this waste on the local waste management infrastructure (receptor sensitive to this impact), when considering the existing capacity of the local infrastructure, and current and future apportionment targets.

Mitigation

Construction

413. Mitigation measures to avoid, remedy or mitigate adverse effects in terms of waste and recycling during the demolition / construction can include:

- Provision of a Construction Environment Management Plan (CEMP) to include waste reduction and management objectives;
- The appropriate management of any potential contamination identified on-site; and
- The minimising of stockpiling of construction materials.

414. As detailed in the current London Plan 2016, re-use and recycling rates of construction, excavation and demolition (CE&D) waste in London are high (estimated at 82% in 2008); Policy 5.16 of the London Plan 2016 sets a target of 95% for recycling and re-use of CE&D waste by 2020.

415. The specific mitigation measures to be implemented throughout the demolition / construction works will be outlined within the ES (**ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**). Through the implementation of mitigation measures, amount of waste generated will be minimised. Providing measures in the CEMP are enforced and adhered to, significant adverse effects on sensitive receptors, pertaining to the quantity and composition of waste during the demolition and construction phase, are considered unlikely.

Operational

416. An operational waste and recycling management strategy will be prepared and will calculate waste storage provisions based on the area schedule and will outline associated waste management measures. The Proposed Development will be designed to accommodate the required waste storage. In particular, the strategy will provide details on how each waste stream generated from each use class will be managed, and details on how waste will be reduced, minimised and recycled, where possible (in line with the Waste Hierarchy). Measures relating to the Proposed Development once complete and occupied, including a summary of the waste strategy, will be presented in **ES Volume 1, Chapter 3: The Proposed Development**.

Likelihood for Significant Effects

417. With these measures in place, it is considered that the likely waste effects would not be significant. As such, no technical waste assessment is proposed to be undertaken, but as stipulated above, will be referenced as appropriate within the ES, and where appropriate, appended to the ES.

418. Any impacts associated with the transportation of waste (particularly in construction) will be dealt with where applicable in **ES Volume 1, Chapter 6: Traffic and Transport,** and dust within **ES Volume 1, Chapter 7: Air Quality**.

419. It is therefore proposed that a waste and recycling impact assessment is scoped out of the EIA.

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FORMAT AND CONTENT OF THE EIA

420. The proposed scope and structure of the ES is as follows:

j) **ES Volume 1: Main ES** – a document which forms the main body of the ES and which comprises of the following non-technical and technical chapters:

a. Chapter 1. Introduction and EIA Methodology;
b. Chapter 2. Alternatives and Design Evolution;
c. Chapter 3. The Proposed Development;
d. Chapter 4. Demolition and Construction;
e. Chapter 5. Socio-Economics;
f. Chapter 6. Traffic and Transport;
g. Chapter 7. Air Quality;
h. Chapter 8. Noise and Vibration;
i. Chapter 9: Wind Microclimate;
j. Chapter 10. Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
k. Chapter 11: Archaeology
l. Chapter 12: Effect Interactions;
m. Chapter 13. Likely Significant Effects and Conclusions;
n. Chapter 14. Mitigation and Monitoring Schedule;
o. Chapter 15. Glossary and Abbreviations.

k) **ES Volume 2: (Built) Heritage, Townscape and Visual Impact Assessment** – a separate townscape, built heritage and visual impact assessment (HTVIA) document that will be accompanied by a full set of views and verified images, as agreed with LBS as part of this EIA Scoping Process:

l) **ES Volume 3: Technical Appendices** – comprises background data, technical reports, tables, figures and surveys. The following appendices are currently envisaged

a. Appendix Introduction and EIA Methodology:
   i. Annex 1: EIA Scoping Report (and Appendices);
   ii. Annex 2: EIA Scoping Opinion & Related Correspondence;

Appendix Traffic and Transport:

Transport Assessment

b. Appendix Air Quality:
   i. Annex 1: Supporting Technical Data;
c. Appendix Noise and Vibration:
   i. Annex 1: Supporting Technical Data;
d. Appendix Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare:
   i. Annex 1: Daylight and Sunlight Technical Data;
   ii. Annex 2: Overshadowing Technical Data;

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iii. Annex 3: Light Pollution Technical Data;
iv. Annex 4: Solar Glare Technical Data;

e. Appendix Wind Microclimate:
   i. Annex 1: Wind Microclimate Technical Data;
f. Appendix Climate Change:
   i. Annex 1: GHG Emissions Assessment.

Appendix Other

Annex 1: Other Relevant Technical Information

m) **ES Non-Technical Summary (NTS)** - this will be a separate document providing a concise description of the Proposed Development, the alternatives considered, any identified mitigation measures and the residual likely significant environmental and socio-economic effects.

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REQUEST FOR AN EIA SCOPING OPINION

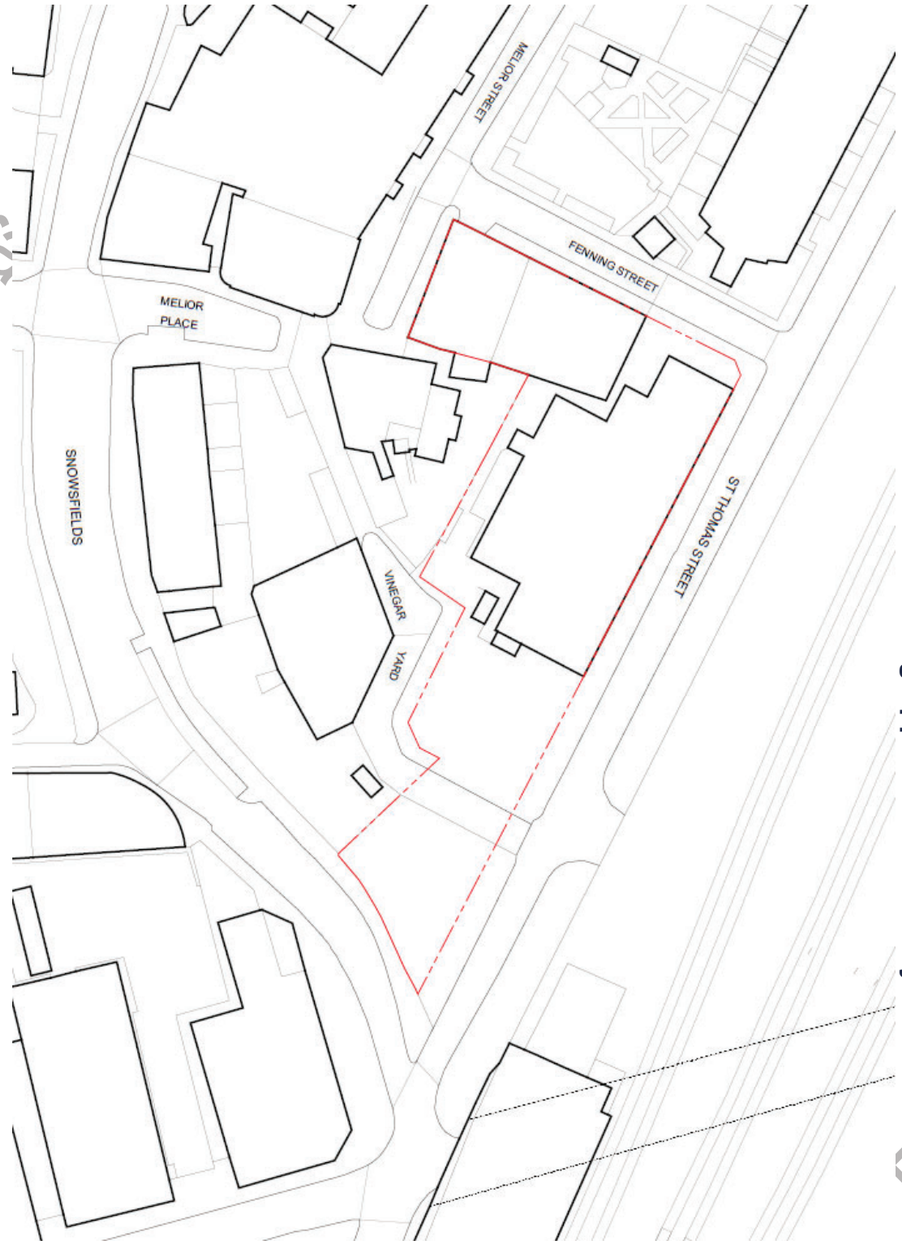
421. This Report requests an Informal Scoping Opinion of the LBS pursuant to Regulation 15 of the EIA Regulations.

422. The EIA Scoping Report suggests a comprehensive scope of work based on previous experience of the assembled team of specialists and existing knowledge of the site. The LBS and consultees are invited to consider the contents of this Report and comment accordingly within the five-week period prescribed by the EIA Regulations.

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APPENDIX A - Site Location and Redline Planning Application Boundary



Cumulative Scheme List

The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to the likely significant effects arising from the "*cumulation with other existing and/or approved projects*" (Schedule 4, 5(e)) (i.e. Cumulative Schemes).

To ensure that cumulative impacts and effects are assessed as comprehensively and realistically as possible, the EIA would only consider other 'Cumulative Schemes'. The Cumulative Schemes that will be considered within the ES will typically be located within a 1-kilometre (km) radius from the centre of the site.

The Cumulative Schemes identified will be guided by the following criteria:

- Full planning consent or a resolution to grant consent;
- Produce an uplift of more than 10,000 square metres (Gross External Area (GEA)) of mixed-use floorspace, or over 150 residential units.

In addition, any office to residential conversions (granted under the General Permitted Development Order) giving rise to >150 residential units will be considered

Note that the above criteria form a guide in the absence of any formal EIA cumulative scheme guidance. Additional factors which are taken into account to help determine which schemes are included (or excluded) include (amongst others) for example, distance of the scheme from the site, and nature and scale of the development for the scheme. Where relevant, the assessment within the respective chapter may only identify a selection of Cumulative Schemes for the assessment (i.e. because of distance to the site), or alternatively identify additional schemes for inclusion (i.e. beyond the 1 km radius) - a clear reason and rationale for doing so.

Where a Cumulative Scheme benefits from multiple consents, the scheme that is the latest permission would be assessed (refer highlighted row). This approach excludes applications for non-material amendments (s96A) – by virtue of the nature of the amendment involved (but have been included for record / reference purposes only). Where the Committed Scheme is subject to a new application that has not yet been determined, qualitative consideration would be given to the implications of the new application if at an advanced stage of planning determination.

Cumulative effects arising from the Proposed Development, in combination with Cumulative Schemes, will be considered throughout the ES. The potential for cumulative effects arising during the demolition and construction works and once the Proposed Development is complete and operational will be considered. Each individual technical chapter of the ES will present an assessment of the cumulative effects of the Proposed Development coming forward alongside the Cumulative Schemes.

For the Proposed Development, the following preliminary list of Cumulative Schemes have been identified for consideration.

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TRIUM

					Under construction.
6	Former Lambeth College Tooley Street SE1 2JR	LBS	13/AP/3207	Conversion/ refurbishment and alteration of existing building into a 70-bed boutique hotel with restaurant bar kitchen and staff facilities plant and servicing and landscape works.	Validated on 16th January 2014. Decision: Granted on 16th April 2014. Implemented
7	1 Bank End (Site, Including Railway Arches and Thames House, Bounded by Stoney Street, Clink Street and Park Street) SE1.	LBS	15/AP/3066	Redevelopment of 1 Bank End, including reuse of railway arches, and rebuilding and extension of the rear of Thames House, Park Street (retention of façade) to provide a development reaching a maximum height of 6 storeys comprising retail/café/restaurant units (flexible Class A1, A2, A3 and A4 use) at ground and first floor levels, office floorspace (Class B1 use) at ground up to fifth floor level, a cinema (Class D2 use) at ground and basement level, associated cycle parking spaces, associated refuse and recycling, with new public access routes and public open space.	Validated 19th August 2015. Application not yet determined. Under construction.
8	133 Park Street, London SE1 9EA and 105 Sumner Street London SE1 9HZ	LBS	16/AP/4569	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.	Validated 9th November 2016. Granted with legal agreement 20 October 2017 Partly constructed
9	Rich Industrial Estate, Crimscott Street, London SE1 5TE and Willow Walk, London SE1	LBS	15/AP/2474	Demolition of four existing buildings and electricity substation and the development of a phased mixed-use scheme ranging from 3-9 storeys plus basements (maximum height 34.03m AOD) comprising a series of new buildings and retained/refurbished/extended buildings to provide a total of 19,468sqm (GIA) of commercial, retail, art gallery and storage floorspace (Use Classes A1, A2, A3, B1, B8 and D1) and 406 residential units (Use Class C3) plus associated highway and public realm works, landscaping, car and cycle parking, infrastructure works and associated works.	Validated 15th July 2015. Application granted with legal agreement 7th December 2016. Status is unknown. Not yet started
10	151-157 Tower Bridge Road, London SE1 3JE	LBS	16/AP/3222	Alterations to and the refurbishment of the existing buildings, including: change of use from 106 residential units (40 x studios, 36 x 1bed and 30 x 2bed), 41 aparthotel units/partially vacant aparthotel floorspace and flexible retail/commercial floorspace, to 69 residential units (8 x 1bed, 56 x 2bed and 5 x 3bed), 137 aparthotel units and flexible retail/commercial floorspace (A1/A2/A3/B1a); installation of balconies; alterations to elevations; minor alterations to increase the height of the buildings (max. 32.3 metres); landscaping; alterations to vehicle access; and associated works.	Validated 2nd September 2016. Application granted with legal agreement 2nd November 2017. Status is unknown.
11	Tower Bridge Magistrates Court and	LBS	15/AP/3303	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)	Validated 14th August 2015.

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Ref	Name / Address	Borough	Planning number (Planning system number)	Scheme Description	Status as of August 2017
1	Ronald Mcdonald House 115 – 122 Snowsfields SE1 3SS	LBS	16/AP/4662	Change of use only from Sui Generis Hostel to Class B1 offices.	Validated 22nd November 2016. Granted for limited period on 13th January 2017.
2	London Bridge Station 64-84 Tooley Street SE1	LBS	11/AP/1987	Application made under the provisions of the Town and Country (Environmental Impact Assessment) (England and Wales) Regulations 2011 seeking demolition of listed train shed part of St Thomas Street wall 64084 Tooley Street and arches together with closure of Weston Street and Stainer Street in order to provide a new station layout including: construction of a new street-level station concourse new replacement facades on Tooley Street and St Thomas Street new roof canopies landscaping and other works associated with the station. Land use is to comprise station concourse station ancillary space operational car park station loading bay Class A retail uses and leisure (Class D1 D2 and sui generis uses).	Validated 6th July 2011. Granted with legal agreement on 29th March 2012. Completed
3	Fielden House 28-42 London Bridge St SE1	LBS	14/AP/1302	Demolition of existing buildings and erection of part 26 and part 16 storeys to provide 148 apartments (118 use class c3 and 30 flexible use c1/c3) with 1800sqm of flexible retail space (classes a1 a2 a3 a4) at St Thomas St And London Bridge St (concourse) levels service area three levels of basement including cap parking (28 spaces) and associated hard and soft landscaping amenity spaces and alterations to existing highways adjoining.	Validated 29th April 2014. Decision: Granted with legal agreement on 29th December 2014. Under construction.
4	127 – 143 Borough High Street SE1 1NP	LBS	13/AP/1714	Demolition of several existing structures and construction of a six storey hotel with 100 bed spaces (4006sqm GIA) (Use Class C1) two commercial units (576 GIA) (Use Classes A1-A3) a gym (492sqm GIA) (Use Class D2. Reconfiguration of a Listed Building to provide ground floor retail unit (Use Class A1) (55sqm) with x1 2-bedroom residential unit (102sqm GIA) (Use Class C3) on the upper floors servicing landscaping alterations to vehicular and pedestrian accesses and associated works.	Validated 28th May 2013. Decision: Granted with legal agreement on 21st February 2014. Under construction
5	175-179 Long Lane SE1 4PN	LBS	13/AP/4586	Redevelopment of site to provide new part 5 part 6 part 7 and part 8 storey building (maximum height 25.7m) comprising commercial floorspace (class b1) at ground floor and 95 residential units (use class c3) above associated car parking and cycle parking landscaping and podium garden at first floor level.	Validated on 23rd December 2013. Decision: Granted with legal agreement on 4th June 2014.

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				redevelopment of land at Grotto Place for the provision of a new sports hall (1,452sqm) and external multi use games facility and landscaping.	
16	Site Bounded By Grange Walk, Grange Yard And The Grange, London, Se1	LBS	16/AP/3963	Variation of Condition 2 - Approved Plans as required by LBS Planning Application 14AP2102 (Demolition of existing buildings and redevelopment to provide 167 residential units with basement car and cycle parking, amenity space, plant and associated works. The proposed height will be part-4, part-6 and part-7 storeys.) The proposed variation would allow for: Internal re-configuration to allow for the creation of 3 additional residential units. This would increase the total number of residential units from 167 (1 x studio, 64 x 1-bed, 66 x 2-bed, 36 x 3-bed) to 170 (1 x studio, 73 x 1-bed, 66 x 2-bed, 33 x 3-bed)	Granted with legal agreement 30 March 2017
17	Capital House, 42-46 Weston Street, London SE1 3QD	LBS	18/AP/0900	Redevelopment of the site to include the demolition of Capital House and the erection of a 45-storey building (3 basement levels and ground with mezzanine and 44 storeys) of a maximum height of 157.7m (AOD) to provide up to 1,028 student accommodation units (Sui Generis use), a museum (Class D1 use), cycling parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development.	Application validated 18th April 2018. Status - Application at pre-determination stage.

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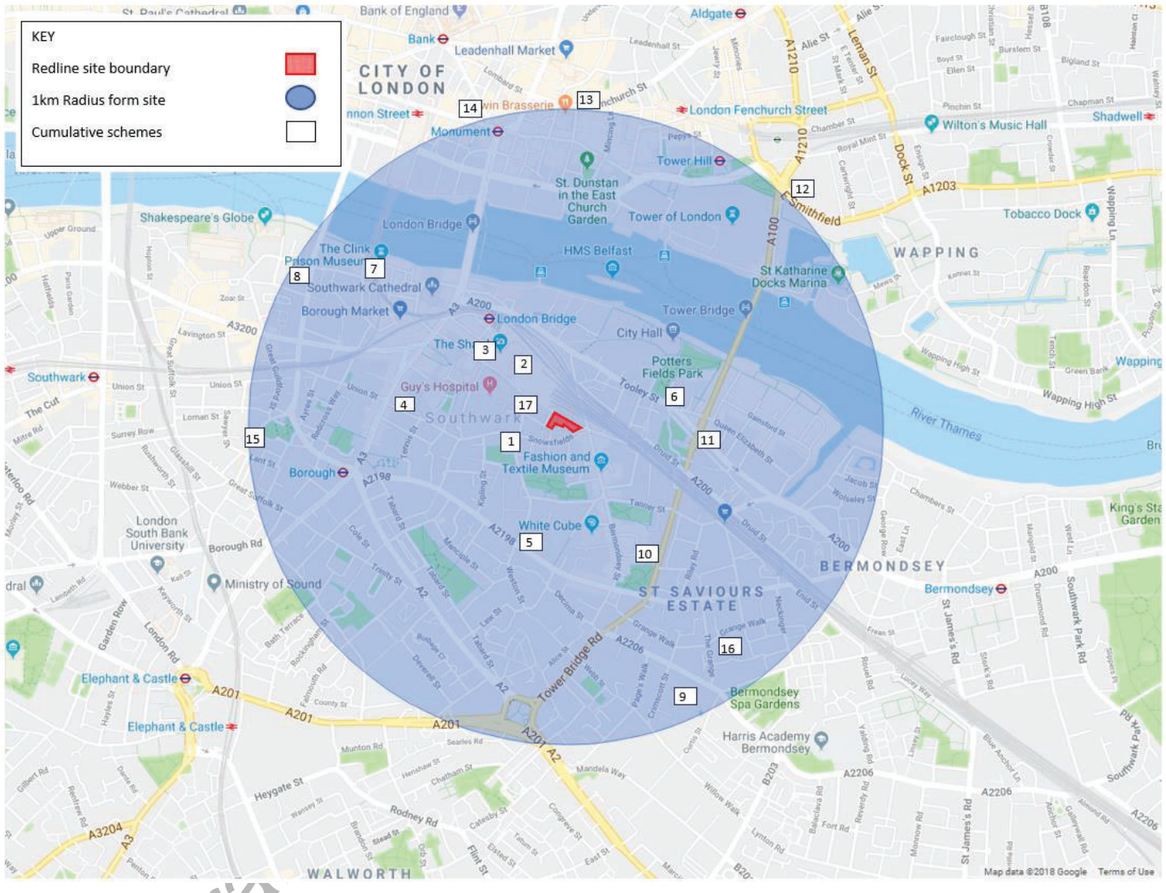
	Police Station, 209-211 Tooley Street, London, SE1 2JY			and police station (use class Sui Generis) to provide a seven storey building for hotel use (use class C1) at lower ground, ground, mezzanine and 1st to 5th floors (198 bedrooms), delicatessen (use class A1), restaurant and cafe use (use class A3), hotel bar use (use class A4), and leisure use (use class D2) with associated vehicle and cycle parking, landscaping, plant and engineering works'.	Granted with legal agreement on 8th March 2016. Status unknown. Under construction.
12	Royal Mint Court, London, EC3N 4QN	LBTH	PA/16/00479/A1	Full planning permission for comprehensive redevelopment of the site to provide an employment-led mixed use development of up to 81,000sq.m of B1, A1, A3 and D2 floor space, involving the refurbishment and restoration of the Johnson Smirke Building (Grade II*), remodelling and refurbishment of the Grade II façade of The Registry, with alterations and extensions to the remainder of the building, the retention, part demolition, alterations and extensions to Murray and Dexter House, the erection of a standalone four storey building within the south west corner of the site, alterations to existing boundary wall to create new access points to the site and associated public realm and landscaping and all ancillary and associated works.	Validated 25th February 2016. Decision: Permitted– issued 16 February. Not yet started.
13	130 Fenchurch Street London EC3M 5DJ	City of London	14/00496/FULMAJ	Demolition of the existing building and erection of a new building of two basements, ground and 17 upper storeys comprising office (Class B1) use [40,502sq.m GEA] and flexible retail (Class A1/A3) floorspace [558sq.m GEA] and associated cycle parking, servicing, storage and plant. [Total 41,060sq.m GEA].	Validated 20th June 2014. Decision: approved on 17th March 2016. Not yet started.
14	Site Bounded by King William Street, Cannon Street, Abchurch Lane & Nicholas Lane Incorporating 10 King William Street, 12 Nicholas Lane, 14 Nicholas Lane, 135-141 Cannon Street, 143-149 Cannon Street & 20 Abchurch Lane London EC4.	City of London	14/00178/FULEIA	Demolition of the existing buildings and redevelopment with a new office (Class B1) building at part basement, ground floor and six upper floors (17,250sq.m total GIA) with retail (Class A1/A2/A3/A4/A5) uses at part ground and mezzanine levels (1,091sq.m GIA) incorporating reconstruction of the existing historic facade at 20 Abchurch Lane. Passive provision for a new Bank Station Entrance Hall on Cannon Street and associated infrastructure at ground floor level.	Validated 28th February 2014. Decision: approved on 27th June 2014. Not yet started.
15	Southwark Fire Station, 94 Southwark Bridge Road, London, SE1 0EG, Grotto Place and Grotto Podiums	LBS	17/AP/0367	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	Recommendation for approval subject to legal agreement and GLA referral

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Vinegar Yard

Figure 1 Cumulative Schemes



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Vinegar Yard EIA Scoping Report: High Level Review

Purpose of the EIA Scoping Report Review

1.1 LUC was appointed on 7th November 2018 by the London Borough of Southwark (LBS) to review the draft Scoping Report (SR) for the proposed redevelopment of 'Vinegar Yard' (hereinafter referred to as 'the proposed development'). The SR was prepared by Trium Environmental Consulting LLP on behalf of St Thomas Bermondsey Limited (hereinafter referred to as 'the Applicant').

1.2 The SR was submitted to the LBS *"for informal discussion"* in October 2018 and a high level review of the content of the document has been undertaken. The findings of the review will be discussed with the Applicant and the LBS before the formal submission of the Environmental Statement (ES).

1.3 The review of the SR has been prepared and coordinated by LUC with specialist input from the following organisations:

- Ricardo Energy and Environment: Air Quality, Noise and Vibration, Water Resources*[1], Geoenvironmental (Land Contamination, Ground Conditions and Ground Water)*;
- Xi Engineering: Wind Microclimate; and,
- Delva Patman Redler LLP: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare.

1.4 LUC has reviewed the following topics:

- Socio-Economics;
- Traffic and Transport;
- Archaeology;
- (Built) Heritage, Townscape and Visual Impact Assessment;
- Ecology*;
- Electronic Interference*;
- Waste*.

1.5 The LBS should ensure that the ES incorporates both LUC and any consultee comments received in response to the draft SR.

1.6 Although the SR was submitted informally, the scoping guidance issued by the London Borough of Tower Hamlets (LBTH)[2] has been referred to in this review as this is considered to represent one of the most comprehensive guidance notes available for scoping development projects in urban areas.

The Proposed Development and Background

1.7 The site is located within the LBS administrative boundary and is approximately 0.3ha in size. St Thomas Street and London Bridge Station form its northern boundary with the Snowsfields and Bermondsey Yard buildings to the east. To the west, the site is bound by Fenning Street and Beckett House and directly adjacent to the south, the site is bordered by a warehouse and Snowsfields residence, Melior Place and Melior Street.

1.8 The whole site is located wholly within flood zones 2 and 3 and the Air Quality Management Area (AQMA) which is designated over the entire northern part of the London Borough of Southwark. The Bermondsey Street Conservation Area covers the south-west of the site. The southern border of the site is also in close proximity to the Conservation Area border, approximately 6m at its closest point.

1.9 The Vinegar Yard building currently occupies the south west corner of the site and other areas of the site are occupied by a temporary Network Rail building (shown in Figures 2 and 3 of the SR) and hardstanding.

1.10 The proposed development includes demolition of the existing structures on site and the construction of up to 33,960 m^2 gross external area which will include a multi storey building on the west side of the site and a separate smaller building on the east side.

1.11 The multi storey building will have a maximum height of ground + 20 stories (up to 100m AOD) and will deliver a commercial development including the provision of retail uses on the ground and first floors which will open into an improved public realm. A music venue is proposed within the separate smaller building (with the performance area being below ground) which will be linked to the main commercial development via a 3-storey basement.

Review of Approach to EIA

Requirement for EIA

1.12 Under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, 'EIA development' means *"development which is either Schedule 1 development or Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location."* Schedule 1 developments for which EIA is mandatory are generally large scale industry and infrastructure projects. The proposed development does not fall within this category.

1.13 Schedule 2, for which EIA may be required, is applicable to developments located in 'sensitive areas' or which meet or exceed applicable thresholds/criteria set out in Schedule 2. The proposed development as described in the submitted SR foes not fall within Schedule 2, 10(b) (Infrastructure Projects – Urban Development Projects) of the EIA Regulations as the site area does not exceed the 5 ha threshold, nor does it provide over 1 ha of development that is dwelling/house, nor does it provide over 150 residential units. The site is also not located within a 'sensitive area' as defined by the EIA Regulations. Whilst the proposed development is therefore not 'EIA development', the EIA has been undertaken voluntarily and in accordance with the requirements of the EIA Regulations.

EIA and the Scoping Process

1.14 There is no mandatory requirement to submit a request for an EIA Scoping Opinion; however, where an EIA Scoping Opinion is sought, the EIA Regulations 2017 set out that this should include the following information under Regulation 15:

(i) *"a plan sufficient to identify the land;*
(ii) *a brief description of the nature and purpose of the development, including its location and technical capacity;*
(iii) *an explanation of the likely significant effects of the development on the environment; and*
(iv) *such other information or representations as the person making the request may wish to provide or make."*

1.15 The SR is accompanied by an appropriate plan (Appendix A – Site Location and Reline Planning Application Boundary) and it is described in the section on 'Site Context and Proposed Development' (see below). Paragraph 11 of the SR refers to Schedule 4 of the EIA Regulations *("Information for inclusion in environmental statements")* and paragraph 12 of the SR lists the

[1] Topics marked '*' have been scoped out of detailed assessment.

[2] Tower Hamlets Council EIA Scoping Advice: http://www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Revised-Scoping-Guidance-V2-Final.pdf

environmental topics that have been considered in the assessment, and with the potential for significant effects to arise from the proposed development either during construction, operation or demolition.

1.16 'Project vulnerability' of the proposed development is also discussed within this section of the SR (as required in Regulation 4(4) and Schedule 4 of the EIA Regulations). This is considered in terms of major accidents and disasters and identifies flood risk and fire risk as relevant to the proposed development. The SR explains that the planning application will be accompanied by a Flood Risk Assessment (FRA) and that fire risk is managed outside of the EIA process through a combination of legislative and industry guidance, including the Construction (Design Management) Regulations (2015). The SR justifies why this topic should be scoped out of detailed assessment, and this is considered an appropriate approach. However, it is suggested that this text would have been better placed in the section of the SR which details 'Topics Where No Likely Significant Effects are Anticipated'.

1.17 Paragraphs 22 and 23 outline how the alternatives will be outlined in the ES, noting that the ES will summarise the evolution of the proposed development, the alternatives considered, and key modifications made during the design process, with commentary provided on how environmental considerations have influenced the final design. This is considered to be an appropriate approach to the consideration of alternatives, as required by Schedule 4 of the EIA Regulations.

1.18 Paragraphs 26 and 27 of the SR respectively assert that the draft SR forms an informal request for an EIA Scoping Opinion from the LBS, and that the Scoping Opinion, along with other consultation, will be appended to the ES.

Site Context and Proposed Development

1.19 Paragraph 28 of the SR describes 'Site location' and the 'Site Description and Environmental Context' is detailed in paragraphs 29-35. Paragraph 29 states that demolition of temporary Network Rail buildings is currently ongoing and that *"vacant possession of the site is to take place at the end of September"*. It is assumed therefore that this has now been completed however this should be clarified in the ES.

1.20 Whilst it is noted that a site location figure is provided as Appendix 1, it is suggested that this should be included in the 'Site location' section, or at least cross-referenced, to allow the reader to fully appreciate the location of the site.

1.21 Paragraphs 32 to 34 of the SR identify that the site lies within 2011 Public Transport Accessibility Level (PTAL) rating of 6b (excellent), within flood zone 2 and zone 3 floodplain and within an AQMA. No figures are referred to in relation to these designations, and it is recommended that the ES provides figures showing these designations.

1.22 The SR includes information on 'The Surrounding Area's Environmental Context' which is split into further headings; socio-economic, traffic and transport, air quality, noise and vibration, archaeology, further designations and wind microclimate. Whilst this information is useful, the text forms a brief baseline for each of the headed topics and it is suggested that this information is included within the relevant topic chapters of the SR and ES.

1.23 The 'Overview of the Proposed Development' sub section of the SR sets out that the proposed development includes the demolition of the existing structures on the site and buildings that will be erected during the construction phase. It also explains the land use classes within each building during the operational phase.

Planning Context

1.24 This section of the SR sets out that the planning statement and the technical assessments of the ES will consider the planning context for the proposed development. The SR notes that the EIA will be undertaken in accordance with national, strategic and local planning policy and guidance and states which relevant documents will be referred to.

EIA Process and Methodology

1.25 Within the 'EIA Approach and Methodology' subsection, the SR states that the EIA will be undertaken in line with the relevant and best practice guidance.

1.26 Paragraph 82 states that the baseline will be taken as September 2018, following completion of the Network Rail demolition works, and therefore assumed to now be completed as noted above. Demolition of the Network Rail buildings are therefore understood not to form part of the proposed development and paragraph 63 does not mention this, stating, "*The Proposed Development includes the demolition of the existing structures on-site including the Vinegar Yard building in the south west portion of the site and the yard in the east portion of the site*". To ensure clarity, it is recommended that ES specifies what demolition work is being included and excluded in the assessment.

1.27 Schemes proposed for inclusion in the cumulative assessment are discussed in paragraph 85 of the SR, cross referenced to Appendix B – Cumulative Schemes. The Applicant notes that any changes to the cumulative schemes will be reflected in the baseline and assessment in the ES. It should be noted that the Applicant must agree the schemes for inclusion in the cumulative assessment with the LBS. The approach to the cumulative assessment and assessment of effect interactions set out in paragraphs 118-135 sets out how this will be assessed within the technical chapters and within a separate chapter respectively. The approach is considered appropriate.

1.28 Paragraph 88 indicates that the completion of the demolition and construction work will occur in the year 2023 and paragraph 89 states there will be no phased delivery of the proposed development and a phased construction programme therefore does not need to be considered.

1.29 The SR explains that the ES will provide information on the volumes of construction material to be taken to site and waste volumes, the duration of the demolition and construction phase. These details in turn will be assessed within the technical chapters along with any monitoring programmes.

1.30 Paragraph 97 of the SR indicates the inclusion of the construction Code of Construction Practice or Construction Environmental Management Plan (CEMP) (or equivalent) within the ES, which is welcomed.

1.31 Paragraphs 98 to 100 of the SR are under the heading 'Completed Development Impact Assessments' and set out what will need to be assessed within the EIA once the development is in the operational phase. This section is considered appropriate.

1.32 'Climate Change' is the next sub section of the SR and provides a detailed approach of how the climate change assessment will be undertaken. It also states that climate change will be considered throughout the technical chapters of the ES and the level of assessment and methodology will be proportionate to the available evidence base. This approach is considered appropriate.

Determining Effect Significance – Terminology and Approach

1.33 The scope for applying effect significance is set out in paragraphs 136 to 154. The use of standard terminology is proposed, noting that for each topic, *"the ES will be clear on which effects are significant and those which are not"* and that *"this is likely to differ across technical topics"*. This standardised, yet flexible approach to assessment, is considered appropriate on the assumption that there is clarity on what effects are considered to be significant in the context of the EIA Regulations.

Environmental Topics Scoped-In to the EIA

1.34 The 'Topics with the Potential for Likely Significant Effects' section of the SR sets out the proposed topics for consideration in the ES in accordance with Schedule 4 of the EIA Regulations *("Information for inclusion in environmental statements")*.

Socio Economics

1.35 The inclusion of this topic into the SR is considered to be appropriate, particularly in light of the commercial nature of the proposed development. However, it is noted that due to the scale of the overall development, impacts on employment, economic output and public realm are likely to be limited during both the construction and operational phases.

1.36 The SR sets out the key socio-economic issues likely to arise from the proposed development in paragraph 158 and 159. The Socio-Economic assessment should identify the baseline characteristics of the area through a range of appropriate sources, including those detailed in paragraph 171. Other sources could include reviewing local economic plans and any Local Enterprise Partnership publications.

1.37 It is considered that the Applicant has taken into account most of the standard issues and requirements and that the scope of the socio-economic elements of the chapter is considered appropriate.

1.38 Due to the commercial nature of the proposed development and a perceived lack of impacts from a socio-economic perspective, a full health impact assessment is not proposed to be undertaken. Additionally, it has also been noted that due to the nature of the scheme and its focus on commercial issues there is no requirement for the provision of healthcare services or other social infrastructure.

1.39 Although the approach to assessing impacts on health is considered acceptable, insufficient information has been presented to justify scoping this topic out in its entirety. It is recommended that further clarity is provided on any potentially sensitive health receptors or relevant pathways that may affect health and wellbeing of existing nearby residents and new workers that will be introduced to the site. It is considered that it is likely to be sufficient to cross-reference other relevant chapters within the EIA where impacts such as noise, air quality, and flood risk are considered further. If this cannot be achieved and appropriately demonstrated, then further assessment of the potential health impacts of the development should be provided in the form of a proportionately scoped EIA chapter, relating to the relevant health impacts of the proposed development.

Traffic and Transport

1.40 The scope for traffic and transport is set out in paragraphs 172 to 194 of the SR. It is stated that the chapter will be based on the findings of the Transport Assessment, which will be prepared in line with Transport for London Guidance. The TA should be appended to the chapter and cross referenced where appropriate.

1.41 The chapter will be prepared in line with IEMA Guidelines for the Environmental Assessment of Road Traffic 1993. This is appropriate.

1.42 The ES chapter will consider: relevant policy; the baseline conditions; assessment of potential effects of both the construction and operational phases; cumulative effects; mitigation and residual effects. It is noted that mitigation and residual effects should be considered for both the construction and operational phases.

1.43 The proposed development does not include any vehicle parking however, the impact on public transport modes, walking and cycling should be assessed and delivery and servicing arrangements should be assessed as part of the operational phase.

1.44 Overall, the scope of the transport chapter and the assessment scenarios proposed are considered appropriate.

Air Quality

1.45 The applicant has correctly identified the AQMAs within the LBS for the annual mean NO2 and 24 hour mean PM10 Air Quality Strategy (AQS) objectives. Within the ES, the applicant should have regard to the Air Quality Focus area that is located close to the site.

1.46 In paragraph 202, the Institute of Air Quality Management's (IAQM) land use planning and development guidance has been correctly identified to determine if construction traffic meets the assessment criteria in Table 6.2.

1.47 In paragraph 204, it is stated that *"it is anticipated that the volume of additional traffic associated with the Proposed Development will not exceed the screening criteria specified by the EPUK / IAQM guidance, and that an assessment of emissions from operational road traffic will be screened out of the air quality assessment."* A comparison of the proposed scheme's net change upon road traffic should be provided to demonstrate that it does not meet IAQM's Table 6.2 assessment criteria.

1.48 As noted in the SR, impacts from the proposed development can be screened out of detailed assessment. As noted above, this should be proven by demonstrating that the net change in traffic flows associated with the proposed development does not meet Table 6.2 of IAQM's screening criteria. However, dispersion modelling of proposed road traffic surrounding the proposed development should be undertaken to establish pollutant (NO_2, PM_{10} and $PM_{2.5}$) concentrations at proposed receptors.

1.49 In addition, it is recommended that a sensitivity test should be applied to consider elevated real world emission rates from diesel vehicles. It is recommended that this is undertaken and the methodology/guidance used for the sensitivity test documented.

1.50 The consultant has correctly identified industry standard guidance such as:

- Construction dust assessment;
- Institute for air quality management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction;
- Mayor of London's Supplementary Planning Guidance, The Control of Dust and Emissions during construction and demolition;
- Evaluating significance of air quality impact – IAQM Land-Use Planning & Development Control: Planning for Air Quality (2017);
- Air Quality Neutral Assessment - Mayor of London's Supplementary Planning Guidance, Sustainable Design and Construction; and,
- Air quality monitoring – Local Air Quality Management Technical Guidance 2016.

1.51 An assessment of this guidance and the conformity of the proposed development with these should be included within the ES. It is recommended that consideration is given to the Mayor of London's draft London Plan, in particular, ambitions to meet the world health organisation's particulate thresholds in section 9.1.1.

1.52 Confirmation that the locations of sensitive receptors for the model have been agreed with LBS is to be provided within the ES.

1.53 It is noted that control measures including for the control of dust are to be employed. Details of these measures are to be included within the ES.

Noise and Vibration

1.54 A baseline long and short term noise measurement survey has been proposed to be carried out representing the different noise conditions at the site boundaries and at nearby sensitive receptor locations. The scope and measurement procedures appear to be adequate although it is not clear whether the methodology has been agreed in consultation with LBS EHO. Confirmation that the methodology and scope of the noise and vibration assessment and monitoring locations have been agreed with LBS is required.

1.55 Receptor locations have been adequately described and, although not mentioned, it is assumed that the assessment will include amenity areas as receptors.

1.56 Appropriate methods for calculating levels of construction noise and vibration at sensitive receptors have been described and the assessment will take account of existing ambient conditions at receptors.

1.57 Appropriate impact descriptors have been assigned for construction and operational noise assessment in terms of 'negligible' to 'major' and separate descriptors are proposed for traffic noise assessment during construction and operation.

1.58 Relevant criteria for the assessment of vibration impacts have been included for both construction and operational phases and the assessment of noise from building services plant has been adequately described.

1.59 Although criteria for assessment of significant effects have been identified there is no mention of mitigation methods or when such measures might be needed. Details on mitigation measures are to be clearly identified within the ES.

1.60 The assessment of residual impacts and noise in amenity areas has not been included. A summary of residual effects following mitigation and consideration of the potential cumulative noise effects from other nearby developments is to be provided within the ES.

Wind Microclimate

1.61 The applicant intends to use a boundary layer wind tunnel to perform wind microclimate analysis on the current baseline conditions, the proposed development, and the proposed development with surrounding cumulative schemes. This is a robust method for rating the wind microclimate conditions at the site and analysis will be supported by wind data for the surrounding area to assist in calculation of wind microclimate effects in and around the proposed development. This scope of EIA work is suitable for the proposed development; however the applicant has not stated the radius of surrounding infrastructure that is intended to be modelled. The radius from the centre of the development should be dependent on the development size and the type of surrounding infrastructure, however a 300m radius would be desirable.

1.62 The impact from the analysis will be quantified by the potential change in pedestrian comfort and safety at sensitive receptor locations such as building entrances, pedestrian thoroughfares and amenity areas. The analysis will consider the wind microclimate at both ground level and at balcony/terrace height for the proposed development. All wind speed data will be compared to the Lawson Comfort Criteria, which is the industry standard methodology for rating wind microclimate conditions. Strong winds will also be considered for the wind microclimate analysis. This is a satisfactory approach for completing the EIA at the proposed development.

1.63 Mitigation will be specified. If required, the applicant has also stated that mitigation measures may be tested again in a wind tunnel environment. In the case of strong winds, this is recommended.

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

1.64 The proposed scope of assessment of existing surrounding sensitive receptors should include the residential properties in Guinness Court and Carmarthen Place, the student accommodation in Weston Street and the Snowsfields Primary School.

1.65 The proposed assessment methodology is considered appropriate. The two-hours sun-on-ground test should be run for the public open space on the corner of Fenning Street and Melior Street. Justification should be provided for the 20-metre cut-off the light pollution assessment.

1.66 The use and internal layout of rooms in existing surrounding sensitive properties should be ascertained, so far as reasonably possible, by researching publicly accessible online planning and/or estate agency records to obtain floor plans, where possible. Where such information is not readily available, estimation based on external observation would be appropriate.

1.67 It is agreed that the significance of daylight and sunlight effects should be determined by reference to the recommendations in Appendix I of the BRE guide. The following scale of effect should be used to categorise magnitudes of change in daylight and sunlight to buildings and amenity spaces where retained levels will be below BRE standard target values (i.e. less than 27% VSC, 80% NSL, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight on 21 March):

- BRE adherent/change of 0% to 20% = negligible change
- Change of 21% to 30% = low magnitude of change
- Change of 31% to 40% = medium magnitude of change
- Change of more than 40% = high magnitude of change

1.68 Summary tables should be provided for each assessment stating the number of receptors in each property or group of properties that fall into each of the above four bands.

1.69 If alternative target values for daylight and sunlight access are to be proposed in the ES, these should be developed in accordance with Appendix F of the BRE guide and appropriate justification provided. If the level of adherence to such alternative target is to be included in the ES, this should supplementary to, not in place of, the level of adherence to BRE standard target values.

1.70 If alternative baselines are to be considered in accordance with Appendix F of the BRE guide, for example an extant planning permission or mirror-image building of the same height and size as the existing neighbouring building, it would be inappropriate for them to be treated in the same way as the existing baseline and for the target to be set at 0.8 times the values for the alternative baselines.

1.71 The Cumulative Assessment referred to in paragraph 282 of the EIA Scoping Report should assess the effects of the cumulative scenario (i.e. proposed development and other cumulative schemes) against the existing baseline.

Archaeology

1.72 The scope and baseline data gathering laid out in for this topic is broadly appropriate and in line with current policy and guidance and industry best-practice.

1.73 The wording of the SR with regard to the potential sensitive receptors (para. 287 - limiting the scope of these to Pleistocene and Holocene deposits and to post-medieval heritage assets) appears somewhat at odds with the detail given on the known archaeological context of the site in paragraph 53 which states that the site lies in an Archaeological Priority Area (APA) focused around Roman and later development in North Southwark. The assessment methodology described at paragraph 290 further states that the prehistoric to post-medieval development of the site will be considered as part of the baseline. The applicant is to ensure that all known archaeological heritage assets or potential archaeological heritage assets, regardless of period, are appropriately discussed within the ES and any potential impacts and effects clearly explained.

1.74 The applicant proposes a study area of 200m from the site boundary. The rationale for this study area is to be clearly explained within the ES. It is noted that the applicant proposes some consultation with LBS on archaeology and it is recommended that, as part of this consultation, the extent of the study area is explicitly agreed.

(Built) Heritage, Townscape, Built Heritage and Visual Impact Assessment

1.75 The topics of (Built Heritage), Townscape and Visual Impact are combined under a single heading ('HTVIA') in the SR. However, this section is then subdivided into 'Heritage' and 'Townscape and Visual' and the assessor acknowledges that "*these are separate disciplines and require separate assessment in accordance with legislation, planning policy and best practice guidance*". To reinforce the importance of this, it is recommended that:

- There are separate Built Heritage and TVIA chapters, but as a minimum the topics should be clearly separate sections within the chapter.
- Each assessment should be carried out by suitably qualified practitioners in the fields of historic environment assessment (for impacts on built heritage) and townscape and visual impact assessment (for impacts on townscape character and views/visual amenity).
- Receptors are considered in line with appropriate historic environment and TVIA guidance and methods, including that effects to heritage assets are reported in terms of the effect of the proposed development upon their significance.

Townscape and Visual

1.76 The study area should include all townscape and visual receptors likely to be significantly affected, either directly or indirectly, by the proposed development and should be clearly justified.

1.77 Townscape character areas will be defined as part of the project and this is welcomed. The SR proposes that the assessor will produce a Zone of Visual Influence to help identify potential viewpoint locations. The list of representative assessment viewpoints and types of AVR to be produced for each viewpoint should be agreed with LBS and other relevant stakeholders. It is noted that effects on the London View Management Framework (LVMF) views will be assessed as part of this Chapter which is welcomed. In addition, the assessor should consider effects on other notable views such as those set out in the 'Southwark Borough Views Background Paper' (2017).

1.78 The TVIA should consider effects during construction and operation. It may also be appropriate for the TVIA to consider how potential effects may change throughout the course of the day, e.g. the effect of proposed lighting on night time views and character. It is noted that the SR makes a

judgement on the level of effect during the construction phase ('minor adverse') – however it is considered that it is not possible to reach a conclusion without a transparent assessment and the construction effects should therefore be assessed as part of the TVIA.

1.79 The chapter should include an assessment of potential cumulative effects (with the relevant cumulative schemes to be agreed with LBS). We note that a cumulative AVR will be provided for each view to inform the assessment.

Built Heritage

1.80 While the overarching principles of the assessment of built heritage assets laid out in the SR appear broadly appropriate, there are certain areas where there is either a lack of clarity in aspects of the assessment or there appear to be potential for conflation of assessment of built heritage with townscape and visual concerns as detailed below.

Baseline extent and content

1.81 The applicant proposes a study area for built heritage baseline data gathering defined by a set distance from the site boundary. The applicant does not give any set distance within the SR so it is not possible, on the basis of the information presented, to establish whether or not the radius is appropriately drawn given the scale of the building proposed for the site and the area over which it may be visible. GPA 3 (Historic England, 2017) encourages the use of ZVIs and ZTVs to identify the areas in which heritage assets may experience setting change as a result of the proposal. The SR states that a ZTV will be prepared as part of initial understanding of the potential visibility of the proposed development. The applicant is to use this, in parallel with any proximity-based criteria, to identify built heritage assets liable to experience setting change for inclusion as receptors within the ES. The applicant is to ensure that any method for developing the study area used is adequately explained and justified.

1.82 The applicant appears to limit the built heritage baseline to statutory and local designations (at paragraph 317). The applicant is reminded that it is necessary to consider the effect of a proposed development upon non-designated assets and that there may be as yet unrecognised built heritage assets lying in proximity to the application site. The presence of such previously unrecognised assets can be established through site walkover, map regression and by consulting the Greater London Historic Environment Record (GLHER). Both GPA 2 (Historic England, 2015) and NPPF paragraph 187 support the use of Historic Environment Records in the context of assessing the presence and significance of heritage assets, including in the context of development. The applicant is reminded that the GLHER is a source that is already being consulted for the Archaeology topic of the ES. It is recommended that the built heritage team liaise with the archaeology specialists to establish whether or not there is any information pertinent to their assessment within the GLHER search results.

Nature of impacts and effects

1.83 The applicant cites appropriate historic environment guidance as guiding their assessment at paragraphs 322 and 323. These, in line with NPPF, require impacts and effects to heritage assets to be articulated in terms of how a proposed development would affect the significance of a given asset. Some of the wording in the sections on potential effects (e.g. paragraphs 327-8, 333-5) implies that it is change in setting, rather than with the resulting effect on significance, that is being considered. The applicant to ensure that impacts and effects to built heritage assets are clearly articulated in terms of what any setting change means for the significance of the heritage asset in question.

Reporting

1.84 The applicant states that AVRs will be prepared to support the visual assessment. It is not stated whether any such visualisations will be used to support the explanation of effects to built heritage assets. It is recommended that relevant AVRs are used as part of the explanation of effects to built heritage assets since they can be very valuable in allowing readers to understand the nature of proposed changed. Where any AVRs are used to illustrate effects to built heritage assets, the applicant is to ensure that there is both sufficient explanation in text of how the AVR illustrates the change to a particular built heritage asset and adequate cross-referencing between the built heritage sections of the ES and the AVRs.

Environmental Topics Scoped-Out of the EIA

1.85 The 'Topics Where No Likely Significant Effects are Anticipated' chapter of the SR sets out the issues considered to be insignificant and which are therefore scoped out of the EIA.

Water Resources

1.86 The SR correctly identifies that the proposed development is situated in Flood Zone 3, in an Area Benefitting from Flood Defences. A Flood Risk Assessment (FRA) which will consider potential sources of flooding and impact on and offsite including tidal, pluvial (drainage-related) and groundwater flooding will be produced. This will be submitted with the ES. Climate change related to future flood risk will also be considered as part of the FRA and include statements on how the proposed development will build in climate change resilience and resistance with regard to future flood risk. This is considered adequate.

1.87 The FRA and Surface Water and Foul Sewage Drainage Strategy will be informed by consultation with key stakeholders including the Environment Agency (EA), the LBS and Thames Water and will draw on the NPPF and other relevant guidance and policies, such as local authority Strategic Flood Risk Assessment (SFRA), and Surface Water Management Plan (SWMP), Preliminary Flood Risk Assessment (PFRA) and the Local Flood Risk Management Strategy (LFRMS).

1.88 A Surface Water and Foul Sewage Drainage Strategy will also be submitted with the planning application. The strategy will detail the SuDS envisaged for the proposed development, designed to accommodate a 1:100-year storm and enable the site to achieve runoff rates comparable to those generated at present. However, the applicant should aim to achieve greenfield runoff rates, as advised in statutory and non-statutory guidance, as outlined in the London Plan.

1.89 The Surface Water and Foul Sewage Drainage Strategy will also identify any existing capacity issues within the foul water drainage network and present strategic options for foul water management at the site. This will be informed via consultation with Thames Water which is considered adequate especially when combined with paragraph 1.90 below.

1.90 The SR recognises the potential impact on potable water resources and references that water efficiency measures will be implemented to reduce the proposed development's impact on the foul drainage / sewer network. The efficacy of the water efficiency measures proposed needs to be considered in the context of overall benefits, and the significance of impact which would result if such measures were not included should also be considered.

1.91 The SR does not recognise potential impacts on groundwater. This should be considered since the development of a 3-level basement could impede groundwater flows. Moreover, groundwater contamination could occur during the construction phase and therefore these issues should be considered in the ES. Given that the EIA Regulations require consideration of the risk to human health (for example due to accidents or disasters), it is considered that this should include the risk to human health associated with flooding.

1.92 The SR concludes no likely significant effects with respect to flood risk, surface water drainage and foul drainage, including any effects arising during the demolition and construction works. The applicant proposes to summarise the FRA, Surface Water and Foul Sewage Drainage Strategy and mitigating measures into different chapters within the ES. However, this is considered insufficient especially in the context of the 3-level basement development and the noted increase in demands for potable water and potential associated risk to sewer and foul water capacity and flooding. Therefore, a 'Water Resources and Flood Risk' chapter should be presented in the ES.

Ecology

1.93 The Scoping Report concludes that no significant ecological effects are anticipated given the nature of the site and surrounds (being highly developed and disturbed), and it is therefore proposed that ecology is scoped out of the EIA. This is considered to be appropriate.

1.94 However, the Scoping Report does acknowledge that, although these would unlikely be significant in EIA terms, there is potential for ecological impacts (such as relating to the potential presence of roosting bats) to arise, whilst any development proposals will also present the opportunity to deliver ecological enhancements as is supported in National, London and Southwark planning

policy. Ecological survey is therefore proposed, with an ecological report to be submitted with the planning application to detail the findings of surveys completed, impacts and associated mitigation requirements, and enhancement proposals. This is considered an appropriate level of ecological input to support the planning application.

Geoenvironmental (Land Contamination, Ground Conditions and Groundwater)

1.95 It is likely that the site has been used for industrial/commercial land uses since at least 1871, although exact site uses aren't known. The site lies on alluvium and river terrace gravels (secondary aquifers) underlain by London Clay. The site is not in a source protection zone.

1.96 Three site investigation reports are cited which indicate that soil quality is slightly impacted by lead and PAH.

1.97 The SR identifies receptors (paragraphs 386 and 387) and potential impacts (paragraph 388) and goes on to develop mitigation measures. Paragraph 393 identifies these as a demolition plan, a construction and environmental management plan, an earthworks strategy, a dewatering strategy, the use of PPE and conformance to health and safety procedures, appropriate handling of wastes arising from foundation activities, management of hazardous materials, and spill minimisation and management procedures.

1.98 Given the amount of quantitative information available, it is proposed in the SR that the Ground Conditions/Contaminated Land impact assessment is scoped out of the ES provided that the application is conditioned to secure site characterisation and appropriate remediation with respect to land contamination. It is also proposed that a preliminary risk assessment (PRA) is submitted with the planning application, and that ES Volume 1 Chapter 14 Mitigation and Monitoring Schedule (Chapter 14) will cite industry recognised standards and good practice measures with respect to land affected by contamination.

1.99 This approach is considered broadly acceptable, provided that the mitigation measures outlined in paragraph 393 of the SR (which are considered to be appropriate on the basis of the information provided) are included in Chapter 14 of the ES and subject to appropriate planning conditions. Furthermore, the potential for UXO to be present should also be considered within the ES.

1.100 The demolition plan cited in paragraph 393 should include measures to prevent asbestos impacting soil quality during demolition. Mitigation measures should also include procedures for the appropriate minimisation and management of waste soils arising from the project with consideration of on- and off-site re-use of materials to minimise landfill volumes.

1.101 It is considered that the impact of the 3-storey basement structure on ground stability, groundwater flows and flooding/drainage should be given consideration, given the depth of the basement and the possible impact on existing underground structures such as the London Underground. It is considered that a basement impact assessment should be submitted with the planning application, and that this should be supported by appropriate site investigation data.

Electronic Interference

1.102 The Applicant has proposed to scope out potential effects on electronic interference on the basis that there are to be no adverse effects in relation to radio signals, cable TV reception and mobile phone reception. However, it has been noted that there is the potential for adverse effects relating to both satellite TV reception and Digital Terrestrial TV (DTTV). In the case of the former, there is limited potential for the loss or degradation of signal, although the majority of the structures that falls within the shadow area being of non-residential use. In the case of DTTV there is a slight potential for the adverse impacts, however, standard measures are available to both monitor and mitigate potential impacts and therefore effects are not considered to be significant.

1.103 While this is considered appropriate, it is recommended that in the ES the Applicant commits to investigating and taking appropriate action if required should any complaints or issues arise which can be directly attributed to the proposed development.

Waste

1.104 The scope for waste is set out in paragraphs 412 to 419 of the SR. The EIA will be accompanied by a Construction Environment Management Pan (CEMP) while specific mitigation proposals to be implemented throughout the construction and demolition phases are to be outlined as part of ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule. An operational waste and recycling management strategy will be prepared to address waste management measures to be enforced during the operational phase. Measures relating to the proposed development once complete and occupied, including a summary of the waste strategy, are to be presented in ES Volume 1, Chapter 3: The Proposed Development.

1.105 While the scoping out of this chapter is considered acceptable, the relevant chapters or appendices should include information on the estimated total arisings of demolition and construction waste, the proportion of waste to be reused and whether this re-used waste will require processing. The sources and disposal methods and locations of materials and waste should be identified, as should approaches that will be implemented to maximise resource efficiency. The EIA should also include a commitment to the preparation of a Site Waste Management Plan (SWMP).

Conclusions

1.106 Overall The SR meets the statutory requirements for scoping set out in Regulation 15 of the EIA Regulations which state that a scoping request must include *"a plan sufficient to identify the land; a brief description of the nature and purpose of the development and of its possible effects on the environment; and such other information or representations as the person making the request may wish to provide or make"*.

1.107 Comments in relation to the treatment of specific requirements of Schedule 4 of the EIA Regulations are provided above along with general points relating to the proposed scope, and these are to be considered in the event that the draft SR is formally submitted and the LBS issues a Scoping Opinion.

1.108 The SR makes reference to a wide range of topics and in general the proposed scope of the EIA is considered acceptable however there are a number of topic-specific comments that require to be addressed (see **Table 1** below). In particular, it should be noted that the proposal to scope out Water Resources from detailed assessment is not considered appropriate.

Table 1: Summary of Recommendations

Recommendations of this Review
Introduction
No recommendations are given for this chapter.
EIA and the Scoping Process
The text referring to major accidents and disasters should be moved to the 'Topics Where No Likely Significant Effects are Anticipated' chapter of the SR.
Site Context and Proposed Development
Figures should be presented showing the site location and the different designations that are relevant to the proposed development.
The information included 'The Surrounding Area's Environmental Context' section of the SR reads as baseline data, and this text should only be discussed within the relevant topic chapters of the SR and ES.
Planning Context
No recommendations are given for this chapter.
EIA Process and Methodology
The ES must clearly specific what demolition works are being assessed as part of the EIA. It is not currently clear in the SR whether the National Rail demolition works are to be included as part of the EIA or not.

Recommendations of this Review
The ES must include cumulative schemes that have been agreed with the LBS.
Socio-Economics and Health
The Applicant should provide further justification for scoping out health, including cross-referencing other relevant chapters within the EIA where impacts such as noise, air quality and flood risk are considered.
Traffic and Transport
The TA should be appended to the document and cross referenced where appropriate.
Mitigation and residual effects should cover both the operational and construction phase.
Delivery and servicing arrangements should be assessed as part of the operational phase.
Air Quality
Within the ES, the applicant should have regard to the Air Quality Focus area that is located close to the site
A comparison of the proposed development's net change upon road traffic should be provided to prove that it does not meet IAQM's Table 6.2 assessment criteria.
Dispersion modelling of proposed road traffic should be undertaken surrounding the proposed development, to establish pollutant (NO_2, PM_{10} and $PM_{2.5}$) concentrations at proposed receptors.
If an assessment is required, a sensitivity test should be applied to consider elevated real world emission rates from diesel vehicles.
An assessment of relevant guidance and the conformity of the proposed development with this should be included within the ES.
It is recommended that consideration is given to the Mayor of London's draft London Plan, in particular, ambitions to meet the world health organisation's particulate threshold.
The ES should include confirmation that the locations of sensitive receptors has been agreed with the LBS.
Details of control of dust measures to be employed are to be included within the ES.
Noise and Vibration
Confirmation that the baseline survey methodology has been agreed with LBS EHO.
Assessment of noise in amenity areas to be included.
Details of typical mitigation measures and when they would be needed should be included in the ES.
A summary of residual effects following mitigation and consideration of the potential cumulative noise effects from other nearby developments is to be provided within the ES
Wind Microclimate
The applicant needs to state the radius of surrounding infrastructure that is intended to be modelled; a 300m radius is desirable.
It is recommended that strong wind mitigation measures are tested again in a wind tunnel environment.
Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare
The residential properties in Guinness Court and Carmarthen Place, the student accommodation in Weston Street and the Snowsfields Primary School should be included in the assessment.
The 2-hours sun-on-ground test should be run for the public open space on the corner of Fenning Street and Melior Street. Justification should be provided for the 20-m cut-off the light pollution assessment.
The use and internal layout of existing surrounding sensitive properties should be obtained where possible.
Significance criteria should be stated in the ES based on the recommendations in Appendix I of the BRE guide. The following scale of effect should be used to categorise magnitudes of change in daylight and sunlight to buildings and amenity spaces where retained levels will be below BRE standard target values (i.e. less than 27% VSC, 80% NSL, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight on 21 March): • BRE adherent/change of 0% to 20% = negligible change

Recommendations of this Review
• Change of 21% to 30% = low magnitude of change • Change of 31% to 40% = medium magnitude of change • Change of more than 40% = high magnitude of change
Provide summary tables for each assessment stating the number of receptors with effects in each of the above four bands.
Any alternative target values that may be proposed should be developed in accordance with Appendix F of the BRE guide and appropriate justification provided.
The Cumulative Assessment referred should assess the effects of the cumulative scenario (i.e. proposed development and other cumulative schemes) relative to the existing baseline.
Archaeology
The applicant should ensure that all known archaeological heritage assets or potential archaeological heritage assets, regardless of period, are appropriately discussed within the ES and any potential impacts and effects clearly explained.
The applicant proposes a study area of 200 m from the site boundary. The rationale for this study area is to be clearly explained within the ES and agreed with consultees.
(Built) Heritage, Townscape, Built Heritage and Visual Impact Assessment
Within the ES, preference would be for separate Built Heritage and TVIA chapters, but as a minimum the topics should be clearly separate sections within the ES chapter.
Each assessment should be carried out by suitably qualified practitioners in the fields of historic environment assessment (for impacts on built heritage) and townscape and visual impact assessment (for impacts on townscape character and views/visual amenity).
Receptors are considered in line with appropriate historic environment and TVIA guidance and methods, including that effects to heritage assets are reported in terms of the effect of the proposed development upon their significance.
Townscape and Visual
The study area should include all townscape and visual receptors likely to be significantly affected, either directly or indirectly, by the proposed development and should be clearly justified.
The list of representative assessment viewpoints and types of AVR to be produced for each viewpoint should be agreed with LBS and other relevant stakeholders.
The applicant should consider effects on other notable views such as those set out in the 'Southwark Borough Views Background Paper' (2017).
The TVIA should consider effects during construction and operation. It may also be appropriate for the TVIA to consider how potential effects may change throughout the course of the day, e.g. the effect of proposed lighting on night time views and character.
The chapter should include an assessment of potential cumulative effects (with the relevant cumulative schemes to be agreed with LB Southwark).
Built heritage
The applicant is to provide a set distance for the study area and is to ensure that any method for developing the study area used is adequately explained and justified.
The ES is to consider the effect of a proposed development upon non-designated assets and that there may be as yet unrecognised built heritage assets lying in proximity to the application site.
The applicant to ensure that impacts and effects to built heritage assets are clearly articulated in terms of what any setting change means for the significance of the heritage asset in question.
It is recommended that relevant AVRs are used as part of the explanation of effects to built heritage assets and that there is both sufficient explanation in text of how the AVR illustrates the change to a particular built heritage asset and adequate cross-referencing between the built heritage sections of the ES and the AVRs.
Water Resources (Scoped out)
The SuDs for the proposed development should accommodate a 1:100 storm event at least but should aim to achieve greenfield runoff rates.
The efficacy of the water efficiency measures proposed needs to be considered in the context of overall benefits, and the significance of impact which would result if such measures were not included should also be considered

Recommendations of this Review
Given the 3-level basement, an assessment of groundwater impacts should be included in the ES.
A water resources and flood risk chapter should be presented in the ES.
Ecology (Scoped out)
No recommendations are given for this chapter.
Geoenvironmental (Land Contamination, Ground Conditions and Groundwater) (Scoped out)
It is considered appropriate to scope out this topic, provided that: the application is conditioned to secure site characterisation and appropriate remediation with respect to land contamination; a preliminary risk assessment (PRA) is submitted with the planning application; and the mitigation measures outlined in paragraph 393 of the Scoping Report are included in Chapter 14 of the ES and regard given to the potential for UXO.
The demolition plan cited in paragraph 393 should include measures to prevent asbestos impacting soil quality during demolition.
Mitigation measures should include procedures for the appropriate minimisation and management of waste soils arising from the project with consideration of on- and off-site re-use of materials to minimise landfill volumes.
A basement impact assessment should be submitted with the planning application, supported by appropriate site investigation data.
Electronic Interference (Scoped out)
It is recommended that in the ES the Applicant commits to investigating and taking appropriate action if required should any complaints or issues arise which can be directly attributed to the proposed development.
Waste (Scoped out)
Consideration should be given to the inclusion of information on the estimated total arisings of demolition and construction waste, the proportion of waste to be reused and whether this re-used waste will require processing. The sources and disposal methods and locations of materials and waste should be identified, as should approaches that will be implemented to maximise resource efficiency.
The EIA should also include a commitment to the preparation of a Site Waste Management Plan (SWMP).

Prepared by LUC

November 2018

Appendix: EIA Methodology

Annex 1: Statement of Competence
Annex 2: Cumulative Schemes
Annex 3: Climate Change Technical Note
Annex 4: EIA Approach Note to the Greater London Authority
Annex 5: Vinegar Yard 2018 Scoping Report
Annex 6: LBS Review of 2018 Scoping Report
Annex 7: 2019 LUC Review of Environmental Statement and Addendum
Annex 8: Trium Response to Review of Environmental Statement and Addendum

Vinegar Yard

EIA Scoping Report

for informal discussion with the LBS

Prepared for:
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Draft for Informal Discussion with the LBS

INTRODUCTION

1. St Thomas Bermondsey Limited (hereinafter referred to as the 'Applicant') is seeking planning permission for the proposed redevelopment of a site ('Vinegar Yard' (the 'site')) within the administrative boundary of the London Borough of Southwark (LBS) covering a total area of 0.3 hectares (ha). The site is irregular in shape and bordered by St Thomas Street to the north, Snowsfields to the east and to the south east, Melior Place to the south west, and Fenning Street to the west.

2. The location of the site and the indicative redline planning application boundary is shown in **Appendix A** of this scoping report. Vinegar Yard currently runs diagonally through the middle of the site with a single access point from St Thomas Street to the north of the site.

3. The scheme proposals (hereafter referred to as the Proposed Development) include the construction of a multi storey building on the west side of the site and a separate smaller building on the east side. The multi storey building will provide for a commercial development including the provision of retail uses on the ground and first floors which will open into an improved public realm. A music venue is proposed within the separate smaller building (with the performance area being below ground) which will be linked to the main commercial development via a 3-storey basement. The Proposed Development will comprise a total of up to 33, 960 square metres (m^2) gross external area (GEA).

4. The Proposed Development will have a maximum height of ground + 20 stories (up to 100m AOD).

5. Given the proposals described, the Proposed Development does not fall within the classification of Schedule 2, 10(b) (Infrastructure Projects – Urban Development Projects) of the EIA Regulations[1]. The site area does not exceed the 5 ha threshold, nor does it provide over 1 ha of development that is dwelling/house, nor does it provide over 150 residential units. The site is also not located within a 'sensitive area' as defined by the EIA Regulations.

6. However, taking into account the scale of the development proposed and the nature of the site and surrounding area (dense urban environment with a potentially high concentration of sensitive receptors in the vicinity of the site), it is considered that there is the potential for significant environmental effects to arise. On this basis, the Applicant has decided to undertake an EIA for the Proposed Development and prepare an Environmental Statement (ES) to support the planning application. As the Proposed Development is not 'EIA development' under the EIA Regulations, the EIA has been undertaken voluntarily, although in accordance with the requirements of the EIA Regulations.

7. Trium Environmental Consulting LLP (Trium) has been commissioned by the Applicant to prepare an EIA Scoping Opinion Request for the redevelopment of the site in line with the requirements of the EIA Regulations and relevant EIA guidance. This includes submitting a Scoping Opinion Request Report (hereafter referred to as the 'Scoping Report') to the LBS that sets out the proposed scope of the EIA and the content and approach to preparing the ES that will be submitted to support the application for full planning permission.

8. The EIA Regulations require that in order to ensure the completeness and quality of the ES, '(a) the developer must ensure that the environmental statement is prepared by competent experts;' and '(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts.' Trium consider that these requirements are equally important and relevant to the EIA scoping process in addition to the preparation of the ES. As such, in accordance with this requirement, the following statement is provided:

> Trium is an environmental consultancy specialising in urban regeneration and property development projects in the UK, with a specific focus in London. Trium's Partners and Employees have extensive experience in managing the environmental issues and impacts surrounding large scale, high profile urban regeneration development projects. The Partners and Employees of Trium have, over the course of their careers to date (including with former employers), project directed, managed or contributed to over 200 EIAs within the retail, residential, leisure, commercial, cultural, infrastructure and industrial sectors. Trium's lead EIA practitioner for Vinegar Yard is a Full Member of IEMA, a Chartered Environmentalist (IEMA, 2016) and has over 15 years EIA experience within London.

[1] Town and Country Planning (Environmental Impact Assessment) Regulations 2017

Structure of the EIA Scoping Report

9. This Scoping Report is structured as follows and provides:

- A summary of the EIA purpose and process including EIA Scoping;
- A description of the location of the site and the site and surrounding area's environmental context;
- An overview of the Proposed Development;
- An outline of the planning policy context;
- A description of the EIA process and methodology;
- A description of the environmental topic areas that are considered to potentially result in significant effects on the environment and an explanation of the proposed scope and assessment methodology that will be adopted to predict the magnitude of potential impacts and the resultant scale, nature, geographic extent and duration of potential effects, and the effect significance within the EIA;
- A description of the environmental topic areas that are considered unlikely to result in significant environmental effects, and are therefore scoped out of the EIA;
- Confirmation of the proposed structure of the ES; and
- The request for an informal EIA Scoping Opinion from the LBS.

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EIA AND THE SCOPING PROCESS

EIA Purpose and Process

10. EIA is a process carried out which examines available environmental information to ensure that the likely significant environmental effects of certain projects are identified and assessed before a decision is taken on whether a project is granted planning permission. This means environmental issues can be identified at an early stage and projects can then be designed to avoid or to minimise significant environmental effects, and appropriate mitigation and monitoring can be put in place.

11. Regulation 4 of the EIA Regulations sets out the EIA process. Specifically, Regulation 4(2) states that "the EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on the following factors:

- (a) population and human health;
- (b) biodiversity;
- (c) land, soil, water, air and climate;
- (d) Material assets, cultural heritage and the landscape;
- (e) The interaction between the factors referred to in sub-paragraphs (a) to (d)."

12. The potential for likely significant effects on the aforementioned factors, during both the demolition and construction works associated with the Proposed Development and once the Proposed Development is complete and operational, is considered within the following relevant environmental topics addressed within this Scoping Report:

- Socio-Economics and Health;
- Traffic and Transport;
- Air Quality;
- Noise and Vibration;
- Wind Microclimate;
- Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
- Archaeology (Buried Heritage);
- Built Heritage, Townscape and Visual;
- Water Resources, Drainage and Flood Risk;
- Ecology;
- Geoenvironmental (Land Contamination, Ground Conditions and Groundwater);
- Electronic Interference;
- Waste and
- Climate Change.

13. The method behind the EIA process generally takes into account the existing conditions of the area into which the development is being introduced (the ***baseline***) and makes reasonable predictions of the likely change (the ***impact*** – in terms of magnitude) that may occur, during both its construction and when the development is completed and operating as proposed. The predicted impact is considered in

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terms of key environmental and social aspects (***receptors***) found within the surrounding area, and based on their sensitivity to change, the scale of the resulting change experienced by the receptor / resource (the ***effect***) is then determined along with a statement on whether the effect is significant or not. Any mitigation measures required to reduce or eliminate significant adverse effects are then considered and assessed, with the resulting residual effect scale being determined. All the likely significant effects of the development are reported (within an ***environmental statement***).

Project Vulnerability

14. With reference to Regulation 4(4) and Schedule 4 of the EIA Regulations, this Scoping Report considers whether there are likely to be any significant effects on the environment or the project arising from the vulnerability of the Proposed Development to major accidents or disasters.

15. Available guidance (IEMA Quality Mark Article 'Assessing the Risks of Major Accident and Disasters in EIA (WSP, 2016)) defines major accidents and disasters as follows:

"man-made and natural events which are considered to be likely and are anticipated to result in substantial harm that the normal functioning of the project is unable to cope with/rectify".

16. Based on the above definition, the major accidents or disasters that could be considered likely and that are considered relevant to the Proposed Development which will be considered within the EIA are as follows:

- Flood Risk; and
- Fire risk

17. In terms of flood risk, the planning application will be accompanied by a Flood Risk Assessment (FRA). The FRA will review the potential sources of flooding that could affect the site, and how the identified sources of flooding can be minimised, mitigated or eliminated to reduce project vulnerability. The potential sources of flooding are likely to be:

- Tidal flooding from the River Thames;
- Pluvial (drainage-related) flooding (impact on and off site); and
- Groundwater flooding.

18. An assessment will be made of the impact of climate change on the flood risk categorisation of the site and how the Proposed Development has built in climate change resilience and resistance with regard to future flood risk and so future potential vulnerability with regard to this aspect.

19. Consideration has been given to fire risk and whether this could constitute a major accident or disaster that could be considered likely and relevant to the Proposed Development. It has been concluded however, that fire risk is managed outside of the EIA process through a combination of legislative and industry guidance which mitigate the risk of fire causing a major accident or disaster to new developments within the urban environment. Legislative requirements include the 'The Construction (Design Management) Regulations 2015', which provide guidance on fire safety requirements for new buildings, while requirements under the Building Regulations and associated guidance relate to the health and safety of people in and around buildings. Alternatively, compliance can also be achieved by adopting a fire engineered solution where the size and scale of the development necessitates bespoke measures to address the fire risks.

20. The effective implementation of the legislative tools and guidance is considered to reduce the risk of fire to an acceptable level whereby the occurrence is unlikely, or in the event of a fire, appropriate design and management measures are incorporated into a development to avoid the occurrence of a major accident or disaster.

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21. Given the above, the consideration of fire risk in terms of causing a major accident or disaster will not be addressed further within the EIA as the risk of occurrence will be managed during the post-consent technical design and construction phases, through a mix of legislative requirements and industry guidance which fall outside of the EIA process.

Alternatives

22. In addition, the EIA Regulations require (Schedule 4) that the ES provides "a description of the reasonable alternatives… relevant to the proposed project and its specific characteristics" which have been considered by the Applicant and "an indication of the main reasons for selecting the chosen option, including comparison of environmental effects".

23. The ES will summarise the evolution of the Proposed Development, the alternatives considered, and key modifications made during the design process. Environmental considerations which have influenced this process will be discussed, and a qualitative comparison will be undertaken of the different design options and their relevant environmental effects. Matters that will be considered in terms of design evolution include land uses, layout, building heights and massing. The preferred design alternative, culminating with the Proposed Development being sought for approval, will be discussed.

The Scoping Process

24. EIA Scoping forms one of the first stages of the EIA process. Requesting an EIA Scoping Opinion Request from a local planning authority, under Regulation 15 of the EIA Regulations, involves the preparation of a Scoping Report and its submission to the local planning authority as part of a formal request for their opinion on the content or 'scope' and approach to the EIA.

25. The purpose of scoping is to identify:

- the important environmental issues and topics for consideration in the EIA;
- the baseline conditions and assessment methodology to be used for assessment;
- any potentially sensitive receptors that may be affected by the development being proposed;
- the appropriate time and space boundaries of the EIA (i.e. time: project timeframes including details of the demolition and construction programme and proposed opening year; and space: the site boundary and surrounding environmental context);
- the information necessary for decision-making; and
- the significant effects which are likely to result from the development both during its demolition and construction and operation.

26. This Scoping Report constitutes an informal request for an EIA Scoping Opinion from the LBS.

27. The ES will append the Scoping Opinion and include a summary of any other consultation undertaken as part of the EIA process.

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SITE CONTEXT AND PROPOSED DEVELOPMENT

Site Location

28. The site is approximately 0.3ha in size and irregular in shape. The site is currently occupied by one building in the south west portion of the site and a yard in the east portion of the site. The site is bordered by:

- St Thomas Street and London Bridge Station along the northern boundary;
- Snowsfields and Bermondsey Yard building to the east;
- A warehouse and Snowsfields residence immediately to the south along with Melior Place and Melior Street; and
- Fenning Street and Beckett House to the west.

Site Description and Environmental Context

29. The site is currently occupied by the Vinegar Yard building in the south west corner. There are ongoing demolition works of the temporary Network Rail building currently on site (see Figure 1 and 2 below). However, vacant possession of the site is to take place at the end of September Access to the site is currently gained from St Thomas Street to the north of the site or Melior Street to the south west onto Fenning Street along the west border of the site.

Figure 1 Site with current Network Rail demolition works



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Figure 2 View of the Vinegar Yard building along Fenning Street



30. The site is located within the northern part of the LBS within the London Bridge & West Bermondsey ward as of May 2018.

31. The site is formed predominantly of hardstanding, with one building currently on site in the south west corner and very limited vegetation with the exception of a few trees along the southern border outside of the site boundary.

32. The site is located in an area with a 2011 Public Transport Accessibility Level (PTAL) rating of 6b (excellent). The PTAL rating for the site takes into account the time it takes to access the public transport networks.

33. The Environment Agency's (EA) flood map for the area shows that the site is located within Flood Zone 2 and Zone 3 floodplain (benefitting from flood defences).

34. The site is located within an Air Quality Management Area (AQMA) due to the levels of nitrogen dioxide and fine particulates exceeding air quality objectives within its boundaries.

35. Geological maps indicate the site to be underlain by superficial deposits comprising Alluvium Deposits and River Terrace Gravels overlying London Clay Formation Bedrock which comprises clay and silt.

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The Surrounding Area's Environmental Context

Socio-Economics

36. The Proposed Development is located opposite the Grade II listed railway arches that lead to London Bridge Rail Station. The site itself currently includes temporary office (B1) and light industrial uses (with ancillary office and storage – B1) and is adjacent to a vacant warehouse (B8).

37. The area around the site is undergoing significant regeneration. This is promoted by Southwark Council's emerging Local Plan which identifies potential for comprehensive mixed-use development to include taller buildings. Data[2] from the Office for National Statistics (ONS) indicates that the area in the immediate surroundings of the Proposed Development[3] supports around 9,000 jobs (representing around 4% of the borough's total employment) and sees high levels of specialisation in employment in ICT and education (with location quotients[4] of 3.1 and 3.0 respectively) relative to London. More widely, the London Borough of Southwark sees relatively high concentrations of employment in the same sectors in addition to public administration and professional, scientific and technical jobs, a large proportion of which are office-based.

38. The Local Plan identifies that Southwark needs to accommodate significant growth for offices and other workspaces which are growing in demand and contributing to the Central London economy and its status as a world city. The Local Plan also identifies that the London Bridge area is deficient in parks and other green spaces and indicates that any developments proposed for the area should help mitigate the pressure from development on existing open space, whilst also enhancing the new high street on St. Thomas Street and the setting of the Leather Warehouse and Horseshoe Pub (both unlisted buildings of significance).

39. The surrounding area is urban and high density, and is comprised of residential, office and commercial uses along with London Bridge immediately north of the site.

40. The nearest residential use is directly above the Horseshoe Pub bordering the site along the south. Residential use is also present along the south and south west of the site along Snowsfields, Melior Street and Melior Place. To the north of St Thomas Street (on the northern boundary of the site) is London Bridge Station with train tracks and platforms above it, including a single storey signal box office building (currently running at 20% for the next 18 months) to the north east. Office, residential and commercial uses are located north of the station. These residential uses are predominantly low-rise (around 4-5 storeys in height), with several mid-rise office blocks further north of the site. West of the site comprise high rise buildings including The Shard and Guy's Hospital.

41. The Ark Nursery is a nursery school located approximately 330m south west of the site. There are several primary schools located within 1 km of the site, including but not limited to: Snowsfields Primary School which is located approximately 80m south the site; Tower Bridge Primary School approximately 370m to the north-west of the site; and Saint Joseph's Catholic Primary School approximately 600m west of the site. Ark Globe Academy is the closest secondary school to the site (approximately 910m to the south of the site).

42. The healthcare facilities within the surrounding area of the site include the NHS Southwark CCG (approximately 230m to the north-east of the site) and Concordia Health (approximately 280m south of the site). Guy's Hospital is also approximately 200m west of the site. Dental practices are similarly located to the site, the closest being the London Bridge Dental Practice (approximately 210m north of

[2] Office for National Statistics (2016), 'Business Register and Employment Survey'.
[3] Defined as Southwark 006F LSOA.
[4] Location quotient (LQ) is a measure of a region's sectoral specialisation relative to a larger region (eg. London). A LQ of 1.0 indicates that both regions have the same level of specialisation, whilst a LQ greater than 1.0 indicates that the smaller region sees a higher concentrations of employment in a particular sector

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the site).

43. Communal gardens/public spaces are located within close proximity to the site, including but not limited to Melior Street Community Gardens (directly west of the site), Leathermarket Gardens and Community Park (approximately 175m south of the site); Guy Street Park (located approximately 150m south-west of the site) and Tanner Street Park (approximately 265m south east of the site).

Traffic and Transport

44. St. Thomas Street forms part of the TfL Road Network (TLRN) with associated parking / waiting restrictions. Fenning Street is a narrow and lightly trafficked two-way street. Snowsfields is a narrow one-way westbound street.

45. The site is extremely accessible to public transport, being located adjacent to London Bridge Station which benefits from London Underground services (Jubilee and Northern Lines) in addition to National Rail services. These services are operated by Southern, Southeastern Rail and Thameslink, providing routes from Charing Cross to southeast London, Kent and East Sussex as well as destinations towards South East England. It also provides services that can provide interchanges with Waterloo (via Waterloo East) and London Victoria.

46. The local area is served by a number of bus routes with stops along St Thomas Street, at London Bridge station and on Tooley Street. Additionally, 19 existing bus services stop within an acceptable walking distance of the site (approximately up to 5 minutes' walk from the site), including but not limited to routes: 381, 149, 521 and 43. The site is also in close proximity to national cycle routes and Cycle Superhighway.

47. The site and the surrounding area are located within a Controlled Parking Zone (CPZ), this comprises of a mixture of single and double yellow lines, pay and display bays and permit holder only bays.

Air Quality

48. The LBS has declared an Air Quality Management Area (AQMA) for exceedances of the annual mean NO_2 objective and the 24-hour mean PM_{10} objective that encompasses the entire northern part of the borough, extending from Rotherhithe to Walworth and Camberwell and up to the boundary of the River Thames. The Proposed Development lies within this AQMA.

49. The London Borough of Southwark (LBS) has undertaken monitoring of nitrogen dioxide (NO_2) and particulate matter (PM_{10}) at two automatic monitoring sites within its borough, however, neither of these sites are located in close proximity to the Proposed Development. The LBS also uses a number of passive diffusion tube monitors throughout its borough to measure annual mean NO_2 concentrations. This includes seven sites that are located within 500 m of the site. Measured concentrations of NO_2 at these sites for the year 2017 show exceedances of the annual mean objective at all sites. At five of the seven sites measured concentrations of NO_2 in 2017 were above 60 µg/m3, indicating that there is a risk that the 1-hour objective was also exceeded.

50. A review of potential existing significant industrial or waste management sources of air pollution has been carried out, involving a search of the UK Pollutant Release and Transfer Register[5]. This did not identify any source with the potential to significantly affect future users of the Proposed Development.

Noise and Vibration

51. The noise sources identified at the site and the surrounding area are train and station noise from London Bridge Station, road traffic on local roads and to a lesser extent, patron noise from the nearby pubs and restaurants (The Horseshoe Inn and Melior Street).

[5] Defra (2018) UK Pollutant Release and Transfer Register, [Online], Available at: prtr.defra.gov.uk.

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52. The vibration source identified is the above ground rail associated with London Bridge Station.

Archaeology

53. The site is located within an Archaeological Priority Area (APA) designated by the LBS. The site is located within the Borough, Bermondsey and Rivers Archaeological Priority Zone, as designated in the Borough's Local Development Framework Core Strategy. However, the New Local Plan, which will be submitted in early 2019, has reclassified the APAs within the borough, meaning the site will be within a Tier 1 APA, named the 'North Southwark and Roman Roads'. This will be the largest and the most archaeologically important APA in Southwark.

54. There are no listed buildings on the site, however there are approximately 65 listed buildings/monuments within a 500m radius of the site including but not limited to: Railway viaduct arches (Grade II) to the north of the site; Leather Market (Grade II) to the south of the site; and the Roman River Boat at New Guy's House (scheduled ancient monument) to the south west of the site. The site is located approximately 640m south west of the Tower of London which is listed as a World Heritage Site. The Horseshoe Pub directly south of the site's southern border is an unlisted building of significance.

Further Designations

55. The site is not located within a 'sensitive area' (as defined in Part 1 of the EIA Regulations) and is not located within, and does not contain, any Sites of Importance for Nature Conservation (SINC). The nearest SINC is the River Thames and Tidal Tributaries SINC which is located approximately 380m north of the site and is categorised as being a Site of Metropolitan Importance for nature conservation.

56. The site of local importance for nature conservation (SLINC) at the Leathermarket Gardens and Borough Grade II site at Snowsfields Primary School Nature Garden are both within 500m of the site.

57. The south west corner of the site is within the Bermondsey Conservation Area (CA) as per LBS's designated Conservation Area maps. The southern border of the site is also in close proximity to the conservation area border, approximately 6m at its closest point. Tooley Street CA is approximately 76m north of the site at its closest point.

58. The site does not lie within a groundwater source protection zone (SPZ) or a nitrate vulnerability zone (NVZ). The nearest surface water resource to the site is the River Thames which is approximately 380m north of the site at its closest point. The site is also located within the Group7_035 (London Bridge) Critical Drainage Area (CDA) with regard to surface water flooding

59. The site falls within both the Parliament Hill Summit to St Paul's Cathedral (LMVF 2A 1) and the Kenwood viewing Gazebo to St Paul's Cathedral (LMVF 3A 1) background viewing corridors of the London View Management Framework (LMVF).

60. The site is located within the Bankside, Borough and London Bridge Opportunity Area (BBLB OA) as designated within the London Plan, as well as being part of Southwark's St Thomas Street East Masterplan Area. The site is also located within Southwark's Central Activity Zone (CAZ) that seeks to optimise office development.

61. Directly west of the site is Beckett House. The site benefits from an extant permission for a 21 and 31 storey building (including 1 basement level) (LBS Ref: 14/AP/4640). Directly adjacent to Beckett House on the west side is Capital House which benefits from a consented scheme for a 31 storey building (LBS Ref: 14/AP/4640) plus 3 basement levels.

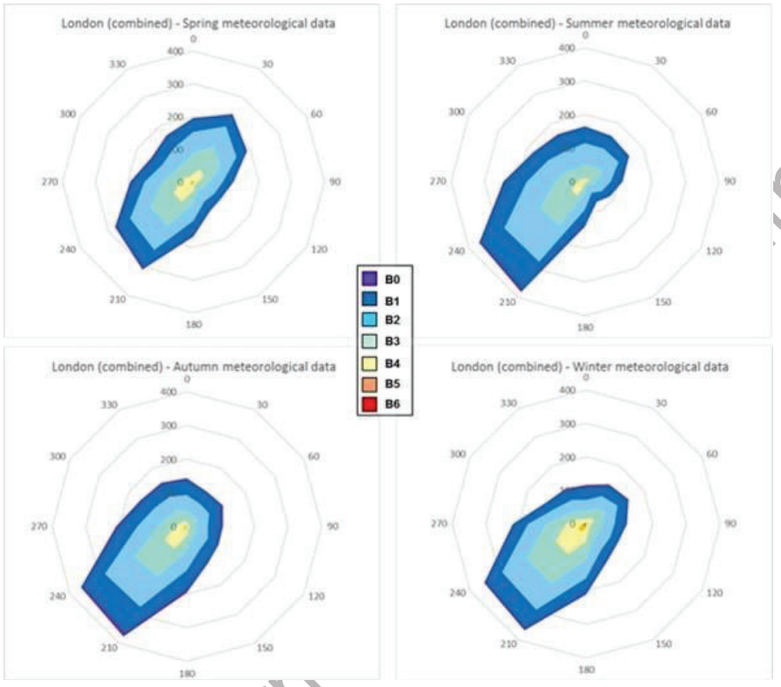
Wind Microclimate

62. Winds for the London area are predominantly from the south west, with a secondary peak from the

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north east during spring. Winds are typically stronger in the winter season, and lighter throughout the summer. Wind roses for the London area are shown below (Figure 3) per season, combined from data attained from Gatwick, Stansted and Heathrow over a period of 30 years, which is analysed through a statistical model which provides the frequency of occurrence and magnitude of winds from all directions from that period, inherently considering trends in that time.

Figure 3.Wind Roses for London (Radial Axis indicated number of hours per year of exceedance of the relevant Beaufort Force)



Overview of the Proposed Development

63. The Proposed Development includes the demolition of the existing structures on-site including the Vinegar Yard building in the south west portion of the site and the yard in the east portion of the site.

64. The Proposed Development includes the construction of a multi storey building covering the west portion of the site and a separate smaller building (pavilion) on the north east side of the site. The Proposed Development will comprise a total of up to 33,960 square metres (m^2) gross external area GEA) and 32,210m^2 gross internal area (GIA).

65. The multi storey building will provide for a commercial (office) development (B1 use class) including the provision of retail uses (A1-A5 use class) on the ground floor, mezzanine and basement 1, which will open into an improved public realm. The multi storey building will comprise a cluster of up to 7 podiums (rotated bundle) varying in height, with a maximum height of ground + 19 stories (up to approximately 87m AOD). The tallest height will be in the west, stepping down to the east, parallel to St Thomas Street.

66. The façade materials used for the multi storey building will mainly consist of glazed material. The ground floor will comprise a large retail hall, the façade of which will primarily consist of glazed material, with the addition of brick/wood materials to reflect the London Bridge Arches opposite.

67. The smaller building (pavilion) on the north east side of the site is roughly rectangular in shape with multiple angled roofs and wall edges. The building is proposed to comprise ground + 4 stories. A box office is proposed for ground level, office use (B1) on the first floor and a restaurant (use A3) on the second floor. Plant rooms are proposed for the top two floors. The pavilion building will be linked to the main office and retail development via a basement, with the music venue (D2 use class) proposed below ground. The façade of the pavilion is proposed to comprise a mixture of glazed material on the ground floor and brickwork on the upper levels reflecting the arches and warehouses in the surrounding area.

68. The proposed basement will extend across the whole site, consisting of 3 levels. Plant rooms will extend to all three basement levels directly below the multi storey building. The stage and performance area of the music venue will be situated below ground with a capacity of 200, on the western end of the site's footprint, covering basement levels 2 and 3. Other music venue facilities such as washrooms and a bar will be situated in basement levels 1 and 2 below the pavilion.

69. The Proposed Development will provide for active frontages along streets and open spaces and will integrate the site into the existing surrounding community through well-defined vehicular and pedestrian access points and pedestrian connections. The Proposed Development will provide for public realm improvements, in the form of hard and soft landscaping around the multi storey building and public amenity space between the main building and the music venue. The planting of trees, creation of green space and public amenity areas have been incorporated into these proposals.

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PLANNING CONTEXT

70. The ES (within **ES Volume 1, Chapter 1: Introduction and EIA Methodology**), will define the relevant national, regional and local policy context. Specifically, the ES will list out the key relevant policy documents but will not discuss the policies within these in any detail.

71. Although relevant policies out of the key planning policy documents will, in some instances, inform the scope and the methodology of the technical assessments within the EIA, the Proposed Development's compliance with and performance against the relevant planning policies will be appraised within the Planning Statement which will be a standalone document that is submitted in support of the planning application. It is not the purpose of the ES to appraise the Proposed Development against relevant national, regional and local planning policy standards / targets.

72. Where planning policy informs the scope and the methodology of the technical assessments of the EIA, the policies will be presented in the ES (in the relevant technical topic chapters) and discussed as necessary. Any policy detail required to support the relevant impact assessment scope, methodology or assessment of effects, will either be provided within the technical topic chapter itself or within an appendix to the ES.

National Planning Policy and Guidance

73. The EIA will be undertaken having regard to the National Planning Policy Framework (NPPF). The NPPF sets out the Government's economic, environmental and social planning policies for England. The policies contained within the NPPF articulate the Government's vision of sustainable development, which are intended to be interpreted at a local level, to meet the requirements of local aspirations.

74. Following consultation between the 5th March 2018 and 10th May 2018, the new 2018 Framework was formally published on the 24th July 2018. The new 2018 Framework seeks to implement the Government's reforms to planning policy and replaces the 2012 Framework.

75. As relevant to the EIA, specifically to the scope, methodology and assessment of effects for the EIA technical topics, the NPPF shall be considered throughout undertaking of the EIA and preparation of the ES.

76. The EIA will also refer to, as relevant to the EIA technical topics, the Planning Practice Guidance (PPG), which is an online resource. The PPG aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.

Strategic Planning Policy and Guidance

77. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to the following key strategic planning documents. Any additional strategic planning policy and guidance documents considered relevant to the technical assessments which are covered by the EIA will also be considered:

- The London Plan: The Spatial Development Strategy for Greater London Consolidated with Alterations Since 2011 (March 2016) – hereafter referred as 'the London Plan';
- The Draft London Plan (2018) – an updated Draft London Plan has been published with minor alterations from the Mayor in line with consultation comments (which ended March 2018) and is expected to be adopted in 2019; and
- Supplementary Planning Guidance (SPG) (i.e. further guidance on policies in the London Plan that can't be addressed in sufficient detail in the plan itself).

Local Planning Policy and Guidance

78. As relevant to the EIA technical topic scope, methodology or assessment of effects, the ES will have regard to key local planning policy and guidance documents.

- London Borough of Southwark, (2011); Current Local Plan: made up of the Saved Southwark Plan Policies (2007) and Core Strategy (2011).;
- London Borough of Southwark, (2017); Draft New Southwark Plan: Proposed Submission Version; and
- Supplementary Planning Notes and Guidance: the LBS has adopted a number of Supplementary Planning Documents (SPDs) to provide further guidance on policies set out in Local Plan documents.

Other Guidance

79. In addition to any relevant planning policies that inform the scope, methodology or assessment of effects, as relevant, the technical topic chapters of the ES will present a summary of any pertinent recognised industry guidance documents.

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EIA PROCESS AND METHODOLOGY

EIA Approach and Methodology

80. The EIA will be undertaken with regard to relevant best practice guidance, including:

- England and Wales: Online Planning Practice Guidance (Environmental Impact Assessment, 2017);
- IEMA ES Review Criteria (COM3-6);
- IEMA: Guidelines for Environmental Impact Assessment, 2004;
- IEMA 'Special Report into the State Environmental Impact Assessment Practice in the UK' (2011);
- IEMA 'Shaping Quality Development' (2015); and
- IEMA 'Delivering Quality Development' (2016);
- IEMA 'Delivering Proportionate EIA' (2017).

81. In accordance with the EIA Regulations and the above best practice guidance documents, the EIA must firstly define a baseline position and then identify, describe and assess the effects likely to arise as a result of the Proposed Development during the demolition and` construction works, as well as on completion and operation of the Proposed Development. The EIA must also consider the potential for cumulative effects.

Baseline Conditions

82. Baseline assessments will utilise any existing and available information, as well as new information either collected through baseline surveys undertaken during the course of the EIA process or additional information provided as part of the EIA Scoping Opinion and consultation process. This information will be used to present within the ES (within the individual technical chapters) an up to date description of the current baseline conditions of the site and surrounding area. The existing baseline conditions will be taken as the site's conditions as of the end of September 2018, i.e. following completion of the Network rail demolition works and so a partially cleared site.

83. Following on from this, as per the requirements of the 2017 EIA Regulations, consideration as to how the current baseline conditions of the surrounding area may evolve in the future in the absence of the Proposed Development will be presented in the ES (within the individual technical chapters). The likely evolution of the baseline conditions will be quantified where possible. Where not possible, a qualitative review will be presented.

84. As appropriate to the technical topic in question, the impacts and effects of the Proposed Development shall be assessed against the 'evolved' baseline conditions.

85. Within the table and map of cumulative schemes appended to this scoping report and considered within the ES, schemes: 3, 4, 5, 7, 8 and 11 are currently under construction or have been partially completed as of August 2018.As appropriate to the technical topic, these schemes will be taken as completed and operational as part of the likely evolution of the baseline conditions. Any other 'evolved' baseline conditions identified throughout the planning process will be discussed within the ES.

Demolition and Construction Impact Assessments

86. The purpose of this assessment is to define the likely effects on surrounding receptors because of the demolition and construction works associated with the Proposed Development.

87. The ES (within **ES Volume 1, Chapter 4: Demolition and Construction**) will provide an outline of the anticipated demolition and construction programme and will provide a description of the works / activities proposed (i.e. enabling works, demolition works, substructure works, superstructure works, fit out, and landscaping works). As relevant, how the works will interface with neighbouring land owners / operators shall be outlined.

88. For the purposes of the ES, it is likely that the outline demolition and construction programme will show completion of the Proposed Development in 2023

89. There is no phased delivery of the Proposed Development and as a result, the EIA does not need to consider a phased construction programme.

90. When defining the receptors to be assessed, consideration shall be given to the existing baseline conditions and the likely evolution of the baseline conditions immediately surrounding the site. This is to ensure that, in addition to existing sensitive receptors (i.e. those apparent within the present day baseline conditions), any additional sensitive receptors that could be apparent within the surrounding area by 2023 (and so conceivably over the duration of the demolition and construction works) because of other surrounding development schemes are captured within the assessment.

91. In addition, this chapter of the ES will present information on anticipated demolition and construction waste volumes, identify any possible opportunities for waste materials reuse / recycling and estimated construction material quantities. These aspects will in turn be used, alongside the anticipated demolition and construction programme to define the likely HGV numbers / movements over the duration of the build. HGV routing, site access and egress shall be identified.

92. Information on anticipated plant and equipment lists, including the use of tower cranes and sound power levels and percentage on times shall be presented.

93. Collectively, all the above cited information will inform the demolition and construction impact assessments of the EIA. The assessment of the potential impacts and likely effects during the demolition and construction works will be addressed within each of the individual technical assessment chapters of the ES.

94. Throughout the demolition and construction impact assessments, the assumption will be made that the standard environmental controls required under legislation and best practice guidance are met as a matter of course.

95. The demolition and construction assessments will, through the impact assessments, identify the need for any additional or bespoke environmental management or mitigation measures to avoid, prevent, reduce or off-set any likely significant adverse effects as a result of the proposed demolition and construction works. The ES (within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**) shall outline the measures identified.

96. Where required, a description of any proposed monitoring arrangements will also be presented and would define (where appropriate) the procedures regarding the monitoring of the relevant significant adverse effects, the types of parameters to be monitored and the monitoring duration.

97. It is anticipated that any required demolition and construction related environmental management / mitigation and monitoring measures would be secured and controlled through appropriate demolition and construction Code of Construction Practice or Construction Environmental Management Plan (CEMP) (or equivalent). It is proposed that the requirement for this document be secured by means of a suitably worded planning condition attached to the permission (if granted). Key mitigation and management controls that would later form part of a CEMP will be presented in the ES to help define the policies, procedures and management framework for the implementation of any identified specific environmental management and mitigation controls and monitoring.

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Completed Development Impact Assessments

98. This shall comprise assessments of the environmental and socio-economic effects of the Proposed Development once the Proposed Development is fully constructed and in use.

99. The ES will present a description of the Proposed Development to provide suitable context to enable the assessment of environmental effects. Any assumptions made will be clearly presented in the narrative.

100. The ES (in **ES Volume 1, Chapter 3: The Proposed Development**), will present information on the details of the development sought for approval (including but not limited to):

- Layout – building footprint (including any proposed basements);
- Means of access and egress and circulation – vehicular and pedestrian accessibility into, out of and around the site;
- Scale – the massing, specifically heights of buildings;
- Amount of development – floors areas and uses classes;
- Appearance – architectural detail and materiality of the Proposed Development;
- Landscaping – including planting strategy, species and habitats;
- Open space – amount of on-site provision;
- Embedded environmental design / mitigation, for example in relation to noise mitigation, wind mitigation, ecological enhancements; or flood resilience measures;
- Plant locations;
- Energy strategy;
- Deliveries and servicing strategy (including estimates of the types and quantities of waste anticipated, waste storage, handling and collection);
- Car parking, motorcycle parking, and cycle parking;
- Sustainability (including climate change resilience and adaptation (as relevant)); and
- Utilities (including water supply and wastewater / surface water drainage volume estimates).

Climate Change

101. Recent changes to the EIA Regulations have introduced the requirement for the consideration of climate as part of the EIA process. The EIA Regulations seek to account for climate by requiring a description of '*the impact of the project on climate*' and '*the vulnerability of the project to climate change*' (Schedule 4, paragraph 5(f)).

The Proposed Development's Impact on Climate

102. The approach to assessing the impact of the Proposed Development on climate will be undertaken in accordance with the IEMA guidance 'Assessing Greenhouse Gas Emissions and Evaluating Their Significance' (2017). This guidance sets out a 'good practice' approach to achieving a proportionate assessment of a development's impact on climate and communicating the results in terms of a notional percentage contribution relative to a carbon budget, together with appropriate mitigation.

103. The guidance presents a series of principles developed by IEMA, which highlight that all GHG emissions

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contribute to climate change, and that the combined effect of all emissions draws us closer to the scientifically defined environmental limit for climate change. The guidance therefore suggests that, in the absence of any defined threshold or significance criteria, any GHG emissions or reductions from a project be considered as significant. The guidance also reinforces a key principle of EIA which is to reduce the impact of a project's emissions at all stages of the lifecycle through mitigation.

104. Consistent with the guidance, the approach taken in the EIA will be to quantify the net GHG emissions[6] from the Proposed Development and compare against an existing carbon budget (defined either at a global, national, regional, local or sectoral level) in order to contextualise the project's carbon contribution by developing a sense of the scale of the emissions anticipated. The carbon budget can be sector specific, local, regional or national. The guidance suggests that emissions are compared using the Committee on Climate Change (CCC) UK wide carbon budget and the appropriate sector breakdown which in this situation is 'buildings'. A further budget will also be referred to, the 'Green Construction Board – the Low Carbon Routemap for the Built Environment' which provides a further budget breakdown for non-domestic buildings, construction and operation.

105. The quantification of GHG emissions shall cover the appropriate life cycle modules stated within PAS 2080 including:

- Before Use Stage (A0-5);
- Use Stage (B1-9); and
- End of Life Stage (C1-4).

106. At this early stage, detailed design information is limited and therefore the assumptions, data used, and any assessment tools will be described in the resulting report.

107. The ES will present the carbon emissions mitigation being proposed, which will follow the principles of the carbon management hierarchy (i.e. avoid, reduce, off-set), in order to reduce as far as reasonably practicable, the anticipated GHG emissions over the Proposed Development's lifecycle.

108. The assessment of GHG emissions (essentially a carbon footprint or 'inventory' of the Proposed Development) and an outline of the carbon mitigation measures proposed will be presented in a technical report and included within ES Volume 3. Relevant information out of this report (specifically relating to carbon mitigation measures) will be presented within the ES Chapter describing the Proposed Development (**ES Volume 1, Chapter 3: The Proposed Development**) and the chapter that outlines the enabling and construction works (**ES Volume 1, Chapter 4: Enabling and Construction**).

Vulnerability to Climate Change & Climate Change Resilience

109. The approach to assessing the vulnerability of the Proposed Development to climate change will be undertaken in accordance with the IEMA guidance 'Climate Change Resilience and Adaption' (2015)', which presents a framework for the consideration of climate change resilience and adaption in the EIA process. It recognises a need for a proportionate approach to the assessment, due to the uncertainties associated with predicting how the environment will respond to climate change.

110. The guidance advises on inter alia, defining the future climate scenario (see below), the integration of climate change adaption into the design, and the process for EIA. The guidance also provides advice on the execution of the impact assessment across the technical topics, including the identification of the climate related parameters which are likely to influence the project in question, and the anticipated changes to those parameters under a future climate scenario.

[6] Determining the net GHG emissions contribution accounts for the existing GHG emissions within the project boundary prior to the project commencing, against the predicted project emissions.

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111. Consistent with the guidance, the EIA will describe a future climate scenario which will be developed through the use of the future climate projections published by the Met Office (through the UK Climate Projections (UKPC09) website). The projections for variables include annual mean temperatures, and annual changes in summer and winter precipitation. The future climate scenario (climate parameters and anticipated variations) shall be appended to the ES.

112. To describe the predicted future climate, it is proposed that the medium emissions scenario (A1B)[7] for the 2080s will be utilised as the future baseline. The medium emissions scenario (A1B) is based on a future world of rapid economic growth and the rapid introduction of new and more efficient technologies, with a balance of non-fossil and fossil intensive energy technologies. The 2080s covers the years 2070 – 2099 and this is the timeframe considered most relevant to the Proposed Development. The projected change to the range of climatic conditions will adopt the 50% probability level, which is a central estimate adopted given the level of uncertainty associated with predicting the modelled scenarios.

113. The future climate change scenario will be considered within the ES across the technical topics being presented (save where specified otherwise), and the level of assessment and methodology will be proportionate to the available evidence base. The assessment shall be presented within each individual technical chapter of the ES (where relevant).

114. The assessment will address firstly:

    a) The vulnerability of identified sensitive receptors to climate change;

    b) Whether this vulnerability to climate change alters the receptors overall sensitivity;

    c) Whether the impacts of the Proposed Development (in terms of impact magnitude) will be worse or improve under the future climate;

    d) Based on a-c above, whether the effects on receptors (under the current condition, without climate change) are likely to be different under an alternative future climate regime.

115. Due to the level of uncertainty in both the future climate projections and how the future climate conditions may affect sensitive receptors, the assessment will be qualitative, based on objective professional judgement, unless where there is published, accepted quantifiable methods available (i.e. in relation to the assessment of flood risk).

116. The ES will therefore address how vulnerable the Proposed Development and the receptors to the Proposed Development are to climate change and as a result of this assessment identify the need for climate change resilience or adaptation measures. The ES will present the climate change adaption and resilience measures proposed as part of the Proposed Development. These shall be described within **ES Volume 1, Chapter 3: The Proposed Development**.

117. Key climate change risks that will be addressed as part of the review of the vulnerability of the Proposed Development to climate change will include:

    e) Overheating – include climate change considerations in thermal comfort studies;

    f) Flooding; and

    g) Water stress.

Cumulative Effects and Effect Interactions

118. The EIA will identify the potential for (a) Cumulative Effects and (b) Effect Interactions as described below.

[7] As defined in the IPCC Special Report on Emissions Scenarios (SRES) (IPCC, 2000).

Cumulative Effects

119. The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to the likely significant effects arising from the "*cumulation with other existing and/or approved projects*" (Schedule 4, 5(e)).

120. Cumulative effects can occur as interactions between the effects associated with a number of projects in an area (i.e. Cumulative Schemes) which may, on an individual basis be insignificant, but together (i.e. cumulatively), result in a significant effect. Cumulative effects arising from the Proposed Development in combination with identified Cumulative Schemes will be considered throughout the ES. The potential for cumulative effects arising during the demolition and construction works and once the Proposed Development is complete and operational will be considered. Each individual technical chapter of the ES will present an assessment of the cumulative effects of the Proposed Development coming forward alongside the Cumulative Schemes.

121. The Cumulative Schemes that will be considered within the ES will typically be located within a 1km radius from the centre of the site, as this spatial extent is considered appropriate for determining cumulative effects in this context.

122. It is acknowledged that for certain topics of the EIA (specifically townscape and visual), there is a need to consider more distant schemes within the cumulative effects assessment. This is entirely appropriate, given the view locations associated with the townscape and visual effects assessment.

123. With regards to traffic and transport considerations, the cumulative effects assessment is inherent in the impact assessment methodology by virtue of the fact that future baseline will be generated which will include other schemes, many of which are more distant than 1km from the site as background road traffic growth, taken from TfL / GLA forecasts. This approach is entirely appropriate, given the potential for wider reaching traffic and transport effects through the highway network.

124. Generally, the Cumulative Schemes will either have:

    h) Full planning consent or a resolution to grant consent;

    i) Produce an uplift of more than 10,000 square meters (Gross External Area (GEA)) of mixed-use floorspace, or over 150 residential units.

125. In addition, any office to residential conversions (granted under the General Permitted Development Order) giving rise to >150 residential units will be considered.

126. These parameters have been set to allow all the schemes coming forward within the area of the site to be subject to an initial screening exercise to determine the schemes that, based on the scale of redevelopment (amount and mix of uses), could potentially have a cumulative effect with the Proposed Development and should be considered further within the cumulative effects assessment of the EIA.

127. Each technical chapter of the ES will be clear on the Cumulative Schemes that have been considered within the cumulative effects assessment of the topic in question, including a reasoning behind their inclusion. Where Cumulative Schemes are 'screened out' of the cumulative effects assessment, the reasoning for doing so will be presented.

128. As part of this EIA scoping process, the LBS (and other consultees, as relevant) are invited to comment on the proposed 1km catchment area and the floorspace parameters defined above to screen the development schemes and so ultimately, the schemes to be considered within the cumulative effects assessment of the EIA.

129. Other schemes that are under construction, where the construction works are significantly progressed or where early phases are occupied, will be factored into the baseline conditions.

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130. It is acknowledged that there may be other development schemes that are at the **pre-application stage or that have been submitted for planning** but not yet determined by the LBS that may be significant enough to warrant consideration within the cumulative effects assessment. The requirement to include any specific schemes that fall within this category should be identified by the LBS through the EIA Scoping Opinion. Should other development schemes that are at the pre-application stage or that have been submitted for planning but not yet determined be identified by the LBS for inclusion in the cumulative effects assessment, it should be acknowledged by the LBS that the ES will address these as far as is reasonable practicable and that the assessments will be based on the information available on these schemes that is within the public domain.

131. A preliminary list of Cumulative Schemes for consideration within the EIA has been identified and is presented in **Appendix B** of this Scoping Report.

Effect Interactions

132. Effect interactions occur as interactions between effects associated with just one project, i.e. the combination of individual effects arising as a result of the Proposed Development, for example effects in relation to noise, airborne dust or traffic on a single receptor.

133. Effect Interactions from the Proposed Development itself on particular receptors at the site will be considered during the demolition and construction works and also once the Proposed Development is completed and operational. Dependent on the relevant sensitive receptors, the assessment will focus either on key individual receptors or on groups considered to be most sensitive to potential effect interactions. It should be noted that only residual effects that are of minor, moderate or major significance, will be considered within this assessment. Residual effects of negligible or neutral significance will be excluded from this assessment by virtue of their definition, they are considered to be imperceptible.

134. There is no established methodology for assessing the impact of cumulative effects and effect interactions on a particular receptor. Therefore, a significance threshold will not be applied to the combination of individual effects, instead the effect interaction will be discussed and where possible, professional judgement will be applied to determine whether the effect interaction is considered significant.

135. Consideration of effect interactions will be presented within the ES in a separate chapter titled **ES Volume 1, Chapter 12: Effect Interactions**.

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DETERMINING EFFECT SIGNIFICANCE – TERMINOLOGY AND APPROACH

Reference to 'Impact' and 'Effect'

136. It is noted that the terms 'impact' and 'effect' are distinctly different. Having gained an understanding of the likely impact it is then important to know whether the change in environmental or socio-economic conditions results in a significant environmental effect. The impacts of the Proposed Development may or may not result in significant effects on the environment, depending on the sensitivity of the resource or receptor and potentially other factors (such as duration). The assessment of the likely significant effects of the development is a requirement identified by Schedule 4 of the EIA Regulations.

Receptors, Receptor Sensitivity and Magnitude of Impact

137. When undertaking an EIA, it is important to identify potential receptors which may be impacted by the Proposed Development and may need to be considered as part of the assessment.

138. These have been identified from a review of the available information collected as part of the description of the surrounding environmental and socio-economic context, as well as from historic and currently available information relating to the site itself. Potential receptors have also been identified from a review of the description of the Proposed Development sought for approval and the potential impacts and resultant effects which may occur as a result of the redevelopment of the site.

139. The potential receptors are identified within the technical topics scopes presented later in this scoping report. Note that the receptors have been identified at the time of writing as part of the EIA scoping process, however these will be reviewed during preparation of the ES and may be subject to change throughout the EIA process.

140. To achieve a consistent approach across the different technical disciplines addressed within the ES (Volume 1), assessments will broadly define the sensitivity of the receptors that could be affected by the Proposed Development and the magnitude of impact or change from the baseline conditions in order to derive the resultant effect.

141. Terminology to describe the sensitivity of receptors and magnitude of impact or change from the baseline conditions is broadly as follows:

- High;
- Medium;
- Low;
- Negligible; and
- No Impact (in relation to magnitude of impact or change only).

142. Each of the technical assessment chapters of the ES (Volume 1) will provide further detail on the definition of each of the above terms specific to the topic in question and will also provide the criteria, including sources and justifications, for quantifying the different levels of receptor sensitivity and 'impact magnitude'. Where possible, this will be based upon quantitative and accepted criteria (for example, national standards for air quality and noise), together with the use of value judgement and expert interpretation.

Identification of a Resultant Effect

143. The basis for determining the resultant effect generally takes into account the sensitivity of the receptor and magnitude of impact or change from the baseline conditions. A generic matrix that combines the

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sensitivity of the receptor and the magnitude of impact to identify the resultant effect is provided within Table 1.

Table 1. Resultant Effects

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Effect Scale

144. Table 2 provides the broad definition of the 'scale' of the resultant effect i.e. definitions of Major, Moderate, Minor and Negligible effects. The definitions in Table 2 may be adjusted to suit the technical topic in question; where this is the case revised definitions of effect scale will be presented in the technical assessment chapters of the ES (Volume 1) and in ES Volume 2.

145. Where there is 'No Effect' this will be stated.

Table 2. Broad Definitions of the Scale of the Resultant Effect

Type of Effect	Description
Major	These effects may represent key factors in the decision making process. Potentially associated with sites and features of national importance or likely to be important considerations at a regional or district scale. Major effects may relate to resources or features which are unique and which, if lost, cannot be replaced or relocated.
Moderate	These effects, if adverse, are likely to be important at a local scale and on their own could have a material influence on decision-making.
Minor	These effects may be raised as local issues and may be of relevance in the detailed design of the project, but are unlikely to be critical in the decision-making process
Negligible	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error, these effects are unlikely to influence decision-making, irrespective of other effects.

Effect Nature

146. Table 3 provides definitions of the 'nature' of the resultant effect i.e. definitions of Adverse, Beneficial and Neutral.

Table 3. Definition of the Nature of the Resultant Effect

Nature of Effect	Description
Adverse	Detrimental or negative effects to an environmental / socio-economic resource or receptor. The quality of the environment is diminished or harmed.
Beneficial	Advantageous or positive effect to an environmental / socio-economic resource or receptor. The quality of the environment is enhanced.
Neutral	Neither beneficial or adverse. Where the quality of the environment is preserved or sustained or where there is an equal balance of benefit and harm.

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Geographic Extent of Effect

147. The ES (Volumes 1 and 2) will identify the geographic extent of the identified effects. At a spatial level, 'site' or 'local' effects are those affecting the site and neighbouring receptors, while effects upon receptors in LBN beyond the vicinity of the site and its neighbours are considered to be at a 'district / borough' level. Effects affecting Greater London are considered to be at a 'regional' level, whilst those which affect different parts of the country, or England as a whole, are considered being at a 'national' level.

Effect Duration

148. For the purposes of the ES, effects that are generated as a result of the demolition and construction works (i.e. those that last for this set period of time) will be classed as 'temporary'; these maybe further classified as either 'short term' or 'medium-term' effects depending on the duration of the demolition and construction works that generate the effect in question. Effects that result from the completed and operational phases of the Proposed Development will be classed as 'permanent' or 'long-term' effects.

Direct and Indirect Effects

149. The ES will identify whether the effect is 'direct' (i.e. resulting without any intervening factors) or 'indirect' or 'secondary' (i.e. not directly caused or resulting from something else).

Identification of Significant Effects

150. Following identification of an effect, the scale of the effect, its nature, geographic extent and duration and whether the effect is direct or indirect using the above summarised terminology, a clear statement will then be made within the ES (Volumes 1 and 2) as to whether the effect (pre-mitigation) is significant or not significant. Each technical topic addressed within the ES will be clear on which effects are significant and those which are not. This is likely to differ across technical topics.

151. Following identification of whether the potential or 'unmitigated' effects are significant or not, the requirement for any mitigation to either eliminate or reduce likely significant adverse effects will be identified.

152. Where mitigation measures are identified to either eliminate or reduce likely significant adverse effects, these will be incorporated into the Proposed Development, for example either through the design, or will be translated into enabling and construction commitments; or operational or managerial standards / procedures.

153. The ES will then highlight whether the 'residual' effects remain significant following the implementation of suitable mitigation measures and will classify these in accordance with the terminology defined above.

154. In all cases, the overall approach and specific methods of predicting the likely magnitude of impact and resultant scale, nature, geographic extent, duration etc and significance of an effect will be set out in each of the EIA technical assessments / ES technical topic chapters. Where used, recognised specific predictive methods will be referenced. Any assumptions or limitations to knowledge will be stated.

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TOPICS WITH THE POTENTIAL FOR LIKELY SIGNIFICANT EFFECTS

Socio-Economics

155. This section sets out the scope of the socio-economic assessment that will be carried out for the Proposed Development. The scoping exercise has explored the full range of potential socio-economic effects that could be caused by the demolition, construction and operation of the Proposed Development. The assessment will be undertaken and the ES Chapter prepared by Hatch Regeneris.

Potential Sensitive Receptors

156. The Proposed Development has potential to provide an important addition to the area, supporting local employment and an improved public realm for its users and the public in general. The Proposed Development would create new (office-based) jobs within the LBS and deliver additional facilities to the area including retail space, access to public rooftop space and a music venue.

157. The selection of receptors that could be subject to effects has been informed by the initial baseline analysis presented above, as well as consideration of evidence on socio-economic effects associated with the demolition, construction and operation of similar developments; these include:

- The size, diversity and prosperity of the local economy as measured by direct, indirect and induced employment and economic output (i.e. gross value added[8](GVA));
- Existing levels of business rates; and
- Existing provision of recreational space (such as music venues) around the Proposed Development.

Potential Impacts

158. Given the nature of the Proposed Development, the absolute scale of impacts on employment, economic output and public realm is likely to be limited during both the construction and operational phases. The potential socio-economic impacts generated during the construction phase (i.e. both demolition of current uses as well as construction) of the Proposed Development are likely to include, but are not limited to:

- Loss of employment currently supported on-site;
- Creation of temporary employment opportunities resulting from the demolition and construction of the Proposed Development; and
- Creation of temporary economic output (GVA) generated during the demolition and construction of the Proposed Development.

159. The operation of the Proposed Development would have potential to result in the following socio-economic impacts, including:

- Direct, indirect and induced employment supported by the activities supported on-site;
- Direct, indirect and induced economic output (GVA) generated as a result of on-site activities;
- An increase in local business rates generated as a result of the increase in commercial floorspace within the LBS; and

[8] Gross value added (GVA) is a productivity metric that measures the contribution of an activity to the local, regional and/ or national economy. GVA provides a value of the economic output that has been generated as a result of goods production and/ or services delivered, less the cost of all inputs and raw materials that are directly attributable to that production.

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- Change in the provision of public realm and recreational space.

160. Due to the Proposed Development delivering commercial uses (and not residential), a full health impact assessment is not considered necessary. The impacts of the Proposed Development on health from a social and economic perspective are not considered to be significant to warrant consideration within the socio-economic chapter.

161. Due to the nature of the scheme (focused on commercial uses), there is no requirement to provide healthcare services or other social infrastructure (such as open space). The scheme is well connected and therefore promotes active travel via public transport. The scheme may include some retail, restaurants or cafes which will offer choice, including healthy food.

162. The socio-economic assessment of the Proposed Development needs to consider the extent to which the impact set out above will materialise within certain geographies. To this end, the socio-economic assessment will consider impacts generated within the following impact areas:

- The local impact area, which will be made up of wards or SOAs;
- The local authority area in which the Proposed Development is located (i.e. LBS); and
- The region in which the Proposed Development is located (i.e. London).

Potential Effects

163. There are no formalised technical guidance and/ or criteria when assessing the scale and so significance of socio-economic effects. The likely effects of the Proposed Development on the receptors identified will be based on professional judgement and consider the following factors:

- The sensitivity of each receptor affected; and
- The magnitude of change to the receptor brought about by the Proposed Development.

164. In accordance with the general EIA methodology presented earlier on in this Scoping Report, the sensitivity of each receptor will be evaluated as being high, medium, low or negligible based on a review of the baseline position and its performance against benchmark areas, together with consideration of the importance of the receptor in policy terms. This can be summarised as shown in Table 4 below.

Table 4 Socio-Economics - Definition of Receptor Sensitivity

Sensitivity of Receptor	Description
High	Evidence of direct and significant socio-economic challenges relating to the receptor. May be given high priority in local, regional and/ or national economic and regeneration policy.
Medium	Some evidence of socio-economic challenges linked to the receptor, some of which may be indirect. Change relating to receptor has medium priority in local, regional and national economic and regeneration policy.
Low	There is little evidence of socio-economic challenges related to the receptor. Receptor is given low priority in local, regional and national economic and regeneration policy.
Negligible	Very low importance and rarity, with little or no priority identified for the receptor at the local, regional and national scales.

165. The magnitude of change (or 'impact') to a receptor will be determined by considering the estimated deviation from baseline conditions once measures aimed at mitigating the Proposed Development's adverse impacts are considered. The criteria used for the assessment of the magnitude of socio-economic impacts (i.e. both beneficial and adverse) are set out in Table 5.

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Table 5 Socio-Economics - Definition of Magnitude of Impact

Magnitude of Impact	Description
High	Proposed Development would cause a large change – judged as beneficial or adverse – to baseline socio-economic conditions in terms of absolute and/ or percentage change.
Medium	Proposed Development would cause a moderate change – judged as beneficial or adverse – to the existing socio-economic conditions in terms of absolute and/ or percentage change.
Low	Proposed Development would cause a slight change – judged as beneficial or adverse – to existing socio-economic conditions in terms of absolute and/ or percentage change.
Negligible	No discernible change, either way, in baseline socio-economic conditions.

166. In reporting the likely scale of the effects of the Proposed Development, with respect to both construction (i.e. demolition of current uses and construction) and operation, the assessment contextualises both the sensitivity of the receptor and magnitude of impacts / change identified above.

167. The matrix used to determine the scale of the socio-economic effects on a receptor is presented in Figure 6. The nature of the effects can be defined as either:

- Beneficial (i.e. an advantageous effect on the impact area);
- Adverse (i.e. detrimental effect on the impact area); or
- Neutral (i.e. neither beneficial or adverse effect on the impact area).

Table 6 Matrix used to Determine Scale of Effect

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

168. Effects that are defined as having a scale of 'Minor' or 'Negligible' are nor significant effects.

169. Effects that are defined as having a scale of 'Moderate' or 'Major' are significant effects.

Outline Scope of Assessment

170. There are no published standards or technical guidelines that set out a preferred method for assessing the likely socio-economic effects of a proposed development. There are however, a series of commonly used methodologies used for quantifying economic effects both during the demolition and construction of and day-to-day operation of a proposed development. Wherever possible, the likely significant socio-economic effects are quantified, but where this is not feasible a qualitative assessment is provided based on professional judgement and experience.

171. The following section summarises the approach that will be used to undertake the assessment of the Proposed Development. Full details of the methodology, including all relevant sources and references used will be provided as part of the ES Chapter itself. The proposed methodology will include:

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- Consideration of local, regional, national policy, plans and development constraints in so far as they influence the baseline condition; assessment methodology or justification of an identified socio-economic effect;
- A review of baseline conditions for the immediate surroundings (the extent of the study area will be defined and will be appropriate to the specific socio-economic consideration) of the Proposed Development and its wider locality. This will be assessed using a number of recognised data sources including, but not limited to, the Office of National Statistics, Business Register and Employment Survey, Annual Population Survey, as well as relevant evidence-based studies from the LBS;
- Identification of appropriate mitigation measures should any significant adverse effects be identified;
- An assessment of the scale of the direct, indirect and induced employment and economic output (i.e. gross value added) effects generated during the demolition and construction phase of the Proposed Development;
- An assessment of the scale of the direct, indirect and induced employment and economic output (GVA) effects generated once the Proposed Development is operational. In addition, the EIA will also consider the scale of the Proposed Development's effect on the public realm and recreational resources;
- Identification of any likely significant socio-economic effects; and
- Assessment of the Proposed Development's cumulative impacts and effects when considered alongside other (major) developments in its impact area.

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Traffic and Transport

172. The Traffic and Transport Chapter will be based on the findings of the Transport Assessment (TA) (should it be considered necessary the TA will be appended to the ES report). The Transport Assessment will be prepared in accordance with Transport for London's (TfL's) Transport Assessment Best Practice Guidance.

Potential Sensitive Receptors

173. A desktop exercise augmented by a number of site visits will be undertaken to identify the sensitive receptors in the study area.

174. The potential receptors are the users of the transport networks, pedestrians and cyclists within the relevant study area for each mode of transport.

175. All road links within the study area will be assessed and assigned sensitivity based primarily on the assessors' experience and judgement. Recognising the quantity of road links within the study area, the assessment narrative within this ES Chapter will focus on the road links that will be most affected, i.e. the key links surrounding the site.

176. Local potentially sensitive receptors that will impact this review include: London Bridge Railway Station, Our Lady of La Salette and Saint Joseph Church, Snowsfields Primary School, Guy's Hospital and Leathermarket Gardens.

Potential Impacts and Effects

177. The TA will set out the trip generation of the Proposed Development. The significance criteria will establish the scale of any beneficial or adverse traffic and transport effects of the Proposed Development. The scale of an effect will be based on the magnitude of an impact and the sensitivity of a receptor.

178. The Institute of Environmental Management and Assessment (IEMA) guidance[9] recommend that standard criteria are assessed, with the assessment focusing on changes in vehicular traffic. In this instance an additional criterion (Public Transport) has been added to take account of the nature of the transport trips generated by the Proposed Development.

179. The key criteria to be assessed for the demolition and construction works and once the Proposed Development is completed and operational will be as follows:

- **Severance** - which is defined as the perceived division that can occur within a community when it becomes separated by a major traffic artery and describes a series of factors that separate people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself.
- **Pedestrian delay** – which is defined in the IEMA guidance as an issue which is affected by changes in the volume, composition and / or speed of traffic may affect the ability of people to cross roads. Typically, increases in traffic levels result in increased pedestrian delay, although increased pedestrian activity itself also contributes.
- **Pedestrian amenity** – which is defined in the IEMA guidance as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity.

[9] Institute of Environmental Assessment, Guidelines for the Environmental Assessment of Road Traffic, 1993.

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- **Cyclist delay and amenity** – considered in regard to traffic flows in order to take account of any potential adverse effects of increased HGV traffic on roads where there are no cycle facilities
- **Driver delay** – which is identified in the IEMA guidance as an issue which can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system.
- **Junction Capacity** – this will be based on the full results of the junction capacity assessment contained within the Transport Assessment.
- **Accidents and safety** - are not defined in the IEMA guidance which suggests that professional judgment will be needed to assess the implications of local circumstance, or factors which may increase or decrease the risk of accidents. This assessment will be based on the full results of the accident analysis contained in the Transport Assessment.
- **Public Transport** – this is not included within IEMA guidance, therefore this will comprise a qualitative judgment based on the results of the public transport trip generation and capacity assessment contained in the Transport Assessment.
- **Hazardous Loads** – some developments may involve the transportation of dangerous or hazardous loads by road. Such movements should include specialist loads which might be involved in the construction or decommissioning phases of development, in addition to movement associated with the operation of the establishment. Hazardous loads could include; explosives; gases; flammable liquid; flammable solids; oxidizing substances; toxic substances; radioactive material and corrosive substances.
- **Fear and Intimidation –** the impact of this is defined in the IEMA guidance as being dependent on the volume of traffic, its HGV composition, its proximity to people or the lack of protection caused by such factors as narrow pavement widths.

Outline Scope of Assessment

180. The full baseline will be identified using data gathered from the following sources:

- Site visits / on-site observations to review local transport conditions;
- Traffic Surveys; these will include Automatic Traffic Counts (ATC) traffic counters and an IN / OUT count to ascertain how many vehicles currently (baseline) enter and exit the site;
- Discussions with the London Borough of Southwark (LBS) and TfL to identify any key background studies that need to be taken into account;
- Accident data for a five-year period within the agreed study area;
- Published / web-based information such as TfL Public Transport Information to identify existing public transport frequencies and routes;
- 2011 Census Data to identify car ownership levels, method of travel and origin / destination of trips; and
- Local, regional and national policy and guidance documents.

181. In undertaking the assessment, reference will be made to the IEMA guidance. Guidance provided by IEMA and Department for Transport (DfT) will be consulted in order to identify applicable criteria for the assessment of impact magnitude and scale of effect. Where there are no ready thresholds to define impact magnitude or effect scale, case interpretation and judgement will be applied based on knowledge of the site.

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182. Within the IEMA guidance, two broad rules are suggested which can be used as a screening tool to limit the scale and extent of the assessment:

- Rule 1: include highway links where traffic flows will increase by 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 will increase by 10% or more.

183. Where the predicted increase in traffic flows is lower than the above thresholds, the IEMA guidance suggest the scale of the effects can be stated to be negligible (and not significant) and further detailed assessments are not warranted. Increases in traffic flows below 10% are generally considered to be insignificant in environmental assessment terms given that daily variations in background traffic flow may vary by this amount.

184. The effect of the Proposed Development will be assessed by determining the magnitude of impact or change from the baseline conditions (Table 8) and will be defined by Rule 1 and 2 above but will also take into account the sensitivity of the receptors (Table 7) to determine the overall scale of the effect.

185. In relation to the sensitivity of a receptor, this can be defined by the vulnerability of the user groups who may use it, e.g. elderly people or children. A sensitive area may be where pedestrian activity is high, for example in the vicinity of a school or where there is already an existing accident issue. It should be noted that the sensitivity of the receptor is judged on the sensitivity of road users (primarily pedestrians). It also takes account of the existing nature of the road e.g. an existing 'A' road is likely to have a lower sensitivity than a minor residential road.

186. The potential receptors are the users of the transport networks, pedestrians and cyclists within the relevant study area for each mode. The criteria that will be used to assess receptor sensitivity is described in Table 7.

Table 7 Traffic and Transport Receptor Sensitivity

Sensitivity	Criteria
High	Modes of transport which are heavily used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a low capacity to accommodate change without significant effects arising.
Medium	Modes of transport which are used (by all users or particularly by vulnerable road users) to an average level relative to other modes within the study area or those which have a moderate capacity to accommodate change without significant effects arising.
Low	Modes of transport which are lightly used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a high capacity to accommodate change without significant effects arising.
Negligible	Modes of Transport which are very lightly used (by all users or particularly by vulnerable road users) relative to other modes within the study area or those which have a very high capacity to accommodate change without significant effects arising.

187. The criteria that will be used to assess the magnitude of impact are described in Table 8 and Table 9.

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Table 8 Traffic and Transport Magnitude of Impact – Delay, Amenity, Fear and Intimidation, Accidents and Safety, Hazardous Loads, Junction Capacity and Public Transport

Magnitude	Criteria
High	Changes which are likely to be perceptible and which would significantly change conditions which would otherwise prevail to the extent that it would significantly affect travel behaviour.
Medium	Changes which are likely to be perceptible and which would materially change conditions which would otherwise prevail to the extent that it may affect travel behaviour to a measurable degree.
Low	Changes which are likely to be perceptible but not the extent that it would materially change conditions which would otherwise prevail.
Negligible	Changes which are unlikely to be perceptible.

Table 9 Traffic and Transport Magnitude of Impact - Severance

Absolute Change in Flow (or HGV)	Percentage change in flow (or HGV)			
	<30%	<60%	<90%	>90%
<30 vehicles	Negligible	Negligible	Negligible	Negligible
<60 vehicles	Negligible	Low	Low	Low
<90 vehicles	Negligible	Low	Medium	Medium
>90 vehicles	Negligible	Low	Medium	High

188. These criteria reflect the guidance set out in paragraph 4.31 of the IEMA guidance which states the following:

"Changes in traffic flow of 30%, 60% and 90% are regarded as producing 'slight', 'moderate' and 'substantial' changes in severance respectively. These figures have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any environmental assessment"

189. The inclusion of the absolute change criteria reflects the fact that the percentage change criteria are derived from studies of major changes in traffic flow. This seeks to prevent nonsensical and counterintuitive 'default' results such as increase of four vehicles on a road with an existing flow of three vehicles being classified as a 'large' change.

190. The scale of the likely effect will be derived by considering both the sensitivity of the receptor and the magnitude of impact, as demonstrated in Table 10.

Table 10 Scale of Effect

Receptor Sensitivity	Magnitude of Impact			
	High / Substantial	Medium / Moderate	Low / Slight	Negligible
High	Major	Major	Moderate/Minor	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate/Minor	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

191. In terms of effect significance, moderate and major effects will be considered to be 'significant'. Effects that are minor and negligible are not significant.

192. Finally, the chapter will assess whether any mitigation measures are required along with an assessment of the residual effects.

Assessment Scenarios

193. The potential effects of the Proposed Development will be determined by considering the following scenarios:

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- Existing baseline year
- Assessment Baseline (Opening Year) without the Proposed Development i.e. Do Nothing
- Assessment Baseline (Opening Year) with the Proposed Development i.e. Do Something
- Cumulative Assessment (Assessment Baseline (Opening Year)) with the Proposed Development and Cumulative Schemes.

194. Historical DfT traffic data, for the roads surrounding the site, will be reviewed in order to determine traffic flow trends. These traffic flow trends will be applied to the Existing baseline year, in order to determine the Assessment Baseline (Opening Year).

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Air Quality

195. The air quality assessment and ES Chapter will address the key air quality impacts and effects associated with the construction and operation of the Proposed Development and will identify appropriate mitigation measures as necessary.

Potential Sensitive Receptors

196. For the air quality impacts assessment, relevant receptor locations will be identified based on detailed maps, satellite imagery, and plans of the Proposed Development. The locations selected will be dependent on the exact location and height of the flue(s) serving the centralised energy plant proposed as part of the development. Receptors will be identified to represent a range of exposure, focussing on worst-case locations. Existing receptors are likely to include, but are not limited to, locations on the façades of Guy's hospital, Snowsfields Primary School, residential dwellings within the study area and locations where the short-term air quality objectives apply, for example parks and outdoor seating areas. For the air quality assessment, all receptors where the air quality objectives apply will be considered to be 'high' sensitivity receptors.

197. The construction dust risk assessment will consider the potential for impacts within 350 m of the site boundary, and within 50 m of the routes to be used by construction vehicles up to 500 m from the site entrance(s). For this assessment, relevant receptors in the area include residential dwellings, Guy's hospital and Snowsfield Primary School (high sensitivity receptors) and places of work (medium sensitivity receptors). These will be identified based upon the distance bandings set out in the Greater London Authority (GLA) guidance[10].

Potential Impacts and Effects

198. Potential air quality impacts that will be considered in relation to the demolition, construction and operational phases of the Proposed Development include:

- Impacts of dust soiling and particulate matter (PM_{10}) emissions during the demolition and construction phase of the Proposed Development;
- Impacts of NO_2 and particulate matter (PM_{10} and $PM_{2.5}$) emissions from vehicles associated with the demolition and construction phase of the Proposed Development;
- Impacts of centralised energy plant NO_2 emissions generated by the Proposed Development once operational;
- Impacts of NO_2 and particulate matter emissions (PM_{10} and $PM_{2.5}$) emissions from road traffic generated by the Proposed Development once operational;
- Impacts of existing (including background) and proposed pollution sources on short-term concentrations of NO_2 and particulate matter (PM_{10} only; there is no short-term objective for $PM_{2.5}$) experienced by future users of the Proposed Development itself; and
- The potential for the Proposed Development and existing and cumulative developments to cumulatively impact air quality (including impacts associated with NO_2, particulate matter (PM_{10} and $PM_{2.5}$) and dust soiling) at sensitive receptors during the demolition, construction and operational phases.

199. The air quality neutrality of the Proposed Development will also be addressed, in accordance with the requirements of the GLA.

[10] GLA (2014) The Control of Dust and Emissions from Construction and Demolition SPG, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/control-dust-and.

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Outline Scope of Assessment

Demolition and Construction

200. The potential impacts from dust generated during the demolition and construction phase of the Proposed Development will be considered using the approach presented in the IAQM Guidance[11] for assessing impacts from construction activities, upon which the GLA's guidance document on the control of Dust During Construction and Demolition[11] is based. Cumulative impacts arising from committed developments being constructed in the study area concurrently to demolition and construction activities associated with the Proposed Development will also be considered. Appropriate mitigation measures will be identified based on the outcome of the construction dust assessment, the GLA's guidance document and the LBS Technical Guidance for Demolition and Construction document. The IAQM guidance, on which the GLA's guidance is based, is clear that, with appropriate mitigation in place, the residual effects will normally be 'not significant'.

201. Construction plant emissions will not be explicitly modelled, as relevant guidance from the IAQM[11] states that "*experience from assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM)…suggests that they are unlikely to make a significant impact on local air quality and in the vast majority of cases they will not need to be quantitatively assessed*". However, suitable mitigation measures for the site plant will be presented as part of the mitigation measures based on advice presented in the IAQM and GLA guidance documents, and the LBS Technical Guidance for Demolition and Construction document[12].

202. The number of construction vehicles (including heavy duty vehicles (HDVs)) that will be in operation during the demolition and construction phase of the Proposed Development will be considered in the context of the screening criteria provided in guidance from EPUK and the IAQM[13]. If the Proposed Development is predicted to lead to an increase in HDVs such that they exceed the screening criteria, then emissions from traffic generated during the construction phase will be modelled explicitly. The significance of the air quality effects associated with construction vehicles will be determined following the EPUK / IAQM guidance[13], and appropriate mitigation measures will be recommended, as necessary, based on the outcomes of the assessment.

Completed Development

203. The potential for significant air quality effects during the operational phase of the Proposed Development will be determined based on the approach described in Environmental Protection UK (EPUK) / Institute if Air Quality Management (IAQM) guidance[12], which includes elements of judgement based on the professional experience of the consultants undertaking the assessment. This involves assessing the scale of effects at existing sensitive receptors by considering the magnitude of the predicted changes in pollutant concentrations resulting from emissions associated with the Proposed Development, taking account of baseline concentrations; and at proposed receptors involves a comparison of the predicted concentrations to the relevant air quality objectives. Where necessary, appropriate mitigation measures will be recommended to ensure that there are no significant residual effects.

204. The number of vehicles associated with the Proposed Development during the operational period will be considered in the context of the EPUK / IAQM guidance[13]. As the Proposed Development does not

[11] IAQM (2016) Guidance on the Assessment of Dust from Demolition and Construction v1.1, Available: http://iaqm.co.uk/guidance/.
[12] Moorcroft and Barrowcliffe et al (2017) Land-Use Planning & Development Control: Planning for Air Quality v1.2, IAQM, London, Available: http://iaqm.co.uk/guidance/.
[13] GLA (2014) Sustainable Design and Construction Supplementary Planning Guidance, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and.

include any provision for car parking and is located in close proximity to London Bridge Station, it is anticipated that the volume of additional traffic associated with the Proposed Development will not exceed the screening criteria specified by the EPUK / IAQM guidance, and that an assessment of emissions from operational road traffic will be screened out of the air quality assessment.

205. The dispersion model ADMS-5 will be used to quantify the impacts that the centralised energy plant emissions will have on concentrations of NO_2 at selected receptor locations. The contribution of the energy plant emissions to concentrations of NO_2 will initially be compared to screening criteria set out in the EPUK / IAQM guidance[112]. Where the criteria are exceeded, total concentrations of NO_2 at sensitive receptors in the opening year of the Proposed Development, both with and without the Proposed Development (including the centralised energy plant), will be predicted and compared, and the air quality impacts will be determined based on the approach described in Table 6.3 of the EPUK / IAQM guidance. Cumulative impacts arising from the plant associated with existing and / or committed developments will be considered qualitatively. The significance of the air quality effects associated with centralised energy plant will be determined following the EPUK / IAQM guidance[112] (which includes elements of professional judgement), and appropriate mitigation measures will be recommended, as necessary.

The GLA has published Supplementary Planning Guidance on Sustainable Design and Construction[14] aimed at ensuring that new developments are 'Air Quality Neutral'. This will involve the calculation of the emissions associated with the Proposed Development buildings (i.e. the centralised energy plant emissions) and with traffic generated by the Proposed Development. These emissions will then be compared with published benchmarks. Any excess emissions over and above the benchmarks will need to be reduced by mitigation on-site or off-setting off-site.

In terms of effect significance, moderate and major effects will be considered to be 'significant'. Effects that are minor and negligible are not significant.

[14] GLA (2014) Sustainable Design and Construction Supplementary Planning Guidance, Available: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/sustainable-design-and.

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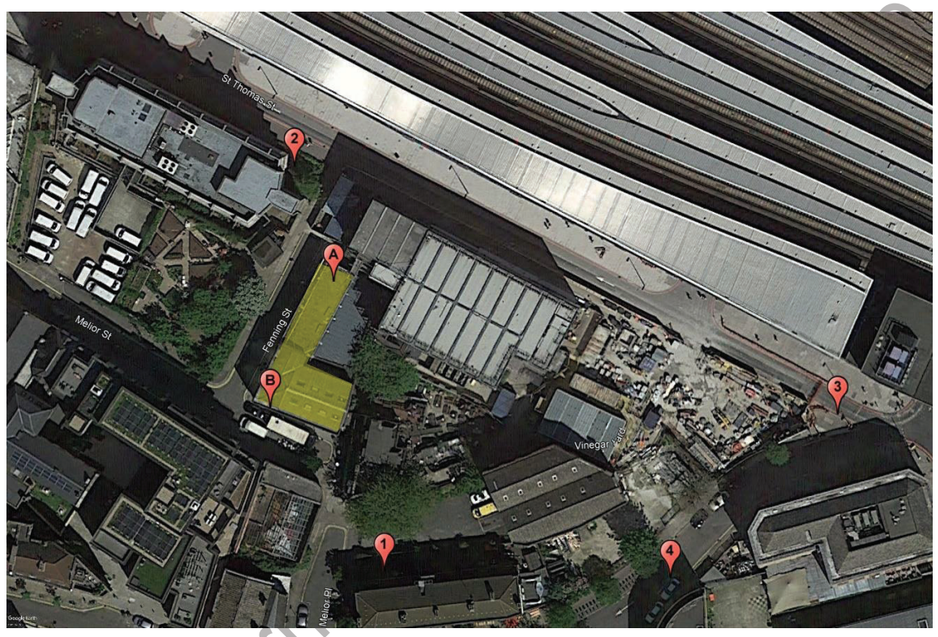
Noise and Vibration

207. The noise and vibration chapter will address the key noise and vibration impacts and associated likely effects of the Proposed Development. Key acoustic issues for the design of the Proposed Development will also be considered.

Baseline Assessment

Noise and vibration monitoring will be undertaken to establish the baseline conditions on the site and surroundings. The proposed locations for the noise and vibration monitoring are shown in Figure 4.

Figure 4 Anticipated Noise and Vibration Monitoring Locations



208. The long-term unattended noise monitoring positions are shown as positions A and B on Figure 4. The short-term attended noise monitoring positions are shown as positions 1 to 4 on Figure 4.

209. The long-term unattended noise monitoring at position A will be on the roof top of the Fenning Street building (highlighted with yellow on Figure 4). The long-term unattended noise monitoring at position B will be through an open window in the Fenning Street building, so that it faces Melior Street.

210. The unattended measurements are supplemented with daytime attended sample measurements. The attended measurements were completed on a tripod 1.2-1.5 m above ground level.

211. Sample vibration measurements will be undertaken within the building along Fenning Street, or on the cleared site if appropriately safe.

212. The long-term and sample noise measurements will be completed using five-minute sample periods, completed in 1/3 octave bands, are A and Z-weighted, and include all typical sound pressure level parameters eg, L_{eq}, L_{max}, L_{90} etc.

Potential Sensitive Receptors

213. The potential receptors considered are:

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- The Horseshoe Inn;
- Dwellings along Melior Street;
- Dwellings along Melior Place;
- Becket House (offices and immigration centre);
- The Lady of La Salette and Saint Joseph (church);
- Guy's Hospital;
- 40 Bermondsey Street (offices);
- 147 Snowfields apartments; and
- London Bridge Train Station (including retail units).

214. The residential receptors (including The Horseshoe Inn), church and hospital are more sensitive to noise than the other receptors identified, which will be reflected in the assessments.

Potential Impact and Effects

215. Potential noise and vibration effects during the enabling and construction works and the completed Development to be addressed in the Environmental Impact Assessment will include:

- Temporary noise and vibration nuisance because of enabling and construction works – associated with daytime and (if required) night time works;
- Noise nuisance to existing surrounding sensitive receptors from road vehicle movements generated during the enabling and construction works - associated with daytime and (if required) night time works;
- Vibration from trainlines affecting the Proposed Development;
- Noise generated from building services plant;
- Noise associated with the operation of the proposed night club (including patrons entering and leaving the venue);
- Noise from vehicles once the Proposed Development is operational; and
- The cumulative operational impacts associated with this and other proposed schemes within the locality will be established and assessed. This will principally be in relation to building services noise and any increases in road traffic along local road, with the assessments undertaken in line with the methods outlined below.

Outline Scope of Assessment

216. The noise and vibration assessment will include the following:

General

217. The noise and vibration impact assessment will be presented in the form of an ES Chapter (**ES Volume 1, Chapter 8: Noise and Vibration**) and will be supported by relevant technical information (survey data and calculations) presented in an appendix in ES Volume 3.

218. Identification of potentially sensitive noise and vibration receptors on and surrounding the site and categorisation of the 'sensitivity' in accordance with EIA terminology, as illustrated in Table 11.

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Table 11 Noise and Vibration – Definition of Receptor Sensitivity

Sensitivity of receptor	Description
High	Residential properties, hospitals (with wards), hotels and hostels.
Medium	Health care centre, Educational Buildings.
Low	Residential amenity, public gardens, commercial and retail buildings.
Negligible	Train station.

219. The magnitude of Impact shall be defined in accordance with recognised noise and vibration guidance and corresponding EIA terminology – High, Medium, Low, Negligible.

220. The relationship between the magnitude of impact and the receptor sensitivities is determined by the scale of effects evaluation matrix shown in Table 12.

Table 12 Matrix used to Determine Scale of Effect

Sensitivity of Receptor	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Minor
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

221. In terms of nature and scale of effects, effects will be defined as either adverse, beneficial or neutral in nature.

222. The scale of effects will refer to guidance within the Noise Policy Statement for England (NPSE), the decision making includes identifying whether the overall effect of the noise exposure generated by a development is, or would be, above or below the significant observed adverse effect level and the lowest observed adverse effect level. The definitions for the different effect levels are outlined below:

- Significant Observed Adverse Effect Level (SOAEL): The level of noise exposure above which significant adverse effects on health and quality of life occur
- Lowest Observed Adverse Effect Level (LOAEL): The level of noise exposure above which adverse effects on health and quality of life can be detected
- No Observed Effect Level (NOEL): The level of noise exposure below which no effect at all on health or quality of life can be detected.

223. Typically, effects (either before or after mitigation) that are major or moderate in scale shall be considered as 'significant effects' i.e. exceeds the LOAEL. The exception to this will be temporary non-permanent sources where a moderate effect would be considered acceptable as it does not exceed the SOAEL.

Demolition and Construction

224. The assessment of demolition, enabling and construction noise and vibration effects are described below:

- Estimation of noise generated (impact magnitude) during each principal phase of the demolition, enabling and construction works and an assessment of the likely effects on surrounding sensitive receptors pre-mitigation. The assessment will be based on the "ABC" methodology set out in British Standard BS 5228:2009, as interpreted within Table 13.

Table 13 Description of the magnitude of impact rating for assessing the likely and residual effects of demolition and construction noise and vibration

Magnitude of Impact	Daytime noise levels (07:00-19:00)	Vibration Levels
Negligible	Lower than ambient[1] L_{Aeq} or less than L_{Aeq} 65 dB.	Peak particle velocity (PPV) less than 0.3 mm/s
Low	Higher than ambient L_{Aeq} less than L_{Aeq} 65 dB.	PPV regularly exceeding 0.3 mm/s, but less than 1.0 mm/s.
Medium	Higher than ambient and between L_{Aeq} 66-70 dB	PPV regularly exceeding 1.0 mm/s, but less than 10.0 mm/s.
High	Higher than ambient and greater than L_{Aeq} 70 dB	PPV regularly exceeding 10.0 mm/s.

1 –Ambient noise levels assumed to be less than $L_{Aeq,12hr}$ 59 dB

- Road traffic associated with the demolition, enabling and construction works will be assessed using the same approach as described in Table 14 for general increases in road traffic.
- Classification of the pre-mitigated nature, scale and significance of noise and vibration effects. Identification of appropriate Best Practicable Means mitigation / any other required mitigation and re classification of the residual effects (post mitigation) nature, scale and significance.
- Details of plant and equipment to be used throughout the enabling and construction works including % on times and sound power levels shall be presented within the ES.

Completed Development

225. The operational noise affects will be assessed with respect to the 2018 baseline measurements and where appropriate the baseline for the development year.

226. For the assessment of noise associated with road traffic, reference will be made to the Calculation of Road Traffic Noise (CRTN). Further advice is also given in the Design Manual for Roads and Bridges (DMRB) for road traffic noise assessment. Significance criteria for assessing the traffic noise are presented in Table 14, which is based on the IOA / IEMA 'Guidelines for Noise Impact Assessment.

Table 14 Description of the magnitude of impact rating for assessing the effect of increases in road traffic noise

Magnitude of Impact	Increase in noise level (dBA)	Description
Negligible	<1.0	Noise increase is unlikely to be discernible.
Low	1.0 - 2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas.
Medium	3.0 - 4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas.
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of a building.

- For the assessment of building services noise, reference will be made to the use of BS 4142:2014. Criteria for the assessment are set in accordance with BS 4142 and the Institute of Acoustics (IOA) / Institute of Environmental Management and Assessment (IEMA) 'Guidelines for Noise Impact Assessment, as identified in Table 15.

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Table 15 Description of the magnitude of impact rating for assessing the effects of building services plant noise

Magnitude of Impact	Increase in noise level (dBA)	Description
Negligible	<1.0	Noise increase is unlikely to be discernible.
Low	1.0 - 2.9	A slight increase in noise levels may be perceived in affected buildings and outdoor recreational areas.
Medium	3.0 - 4.9	Increase in noise levels is likely to be noticeable in affected buildings and outdoor recreational areas.
High	>5.0	Increase in noise levels is likely to be clearly perceptible and could have a significant effect on the continued use of a building.

- For the assessment of vibration from trains, reference will be made with respect to Table 1 (probability of adverse comment) in BS 6472-1, as identified in Table 16.

Table 16 Description of the magnitude of impact rating for assessing the effects of vibration in the development

Magnitude of Impact	VDV m/s-$^{1.75}$ for 16h day	Description
Negligible	<0.2	Adverse comment is not expected.
Low	0.2-0.4	Low probability of adverse comment
Medium	0.4-0.8	Adverse comment possible
High	0.8-1.6	Adverse comment probably

227. Facade breakout noise from amplified music and other noise sources associated with the club (patrons entering and leaving the venue) will be assessed with respect to criteria agreed with Local Authorities Environmental Health Officers. In the assessment the following guidance documents will be referenced:

- The Institute of Acoustics “Good Practice Guide on the Control of Noise from Pubs and Clubs”; and
- The Code of Practice on Environmental Noise Control at Concerts.

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Wind Microclimate

Baseline Assessment

228. To understand and quantify the baseline conditions at the site, a scale model will be constructed reflecting the existing built form of the site and the surrounding area. This scale model will be tested in a boundary layer wind tunnel test facility to allow the baseline wind microclimate conditions to be quantified.

229. The baseline results from the wind tunnel will be combined with long-term meteorological climate data for the London area, corrected to the site to understand the baseline conditions specific to the site having regard to its location within London. Testing in the wind tunnel will be conducted in the absence of any hard or soft landscaping, in order to provide a conservative result.

Potential Sensitive Receptors

230. The locations tested will include end uses that are potentially sensitive to wind microclimate conditions, such as pedestrian footpaths or ‘thoroughfares’, possible entrance locations for buildings, pedestrian crossings, bus stops and pick-up/drop off points in addition to amenity areas (i.e. open space), both on and off-site.

Potential Impact and Effects

231. The potential wind microclimate effects associated with the Proposed Development are considered to be:

- Undesirable wind speeds in accessible ground and elevated levels of the site, surrounding buildings and nearby areas of public realm during the demolition and construction phase; and
- Undesirable wind speeds at ground and accessible elevated levels of the site, surrounding buildings and nearby areas of the public realm during the operational phase.

Outline Scope of Assessment

232. Given the size and geometry of the Proposed Development, in addition to the site’s location in relation to surrounding buildings and nearby areas of public realm, it is important to avoid undesirable wind speeds being generated at ground and accessible elevated levels.

233. The wind microclimate assessment will therefore quantify the potential changes to the local wind environment (both on-site and within the surrounding area) in terms of pedestrian amenity and public open space and quantify these in relation to their 'usability' for a range of pedestrian and amenity activities (i.e. thoroughfares, entrances, sitting, etc), as defined by the well-known and established Lawson Comfort Criteria (LCC).

234. Comfort thresholds are shown in the Table below (Table 17). If the measured wind conditions exceed the threshold wind speed for more than 5% of the time (whether that is seasonally or annually), then they are unacceptable for the stated pedestrian activity and the expectation is that there may be complaints of nuisance or people will not use the area for its intended purpose.

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Table 17 Comfort Thresholds according to Lawson Comfort Criteria

Activities (Comfort Category for Assessment)	Threshold	Description
Sitting	0-4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
Standing	4-6 m/s	Gentle breezes acceptable for main building entrances, pick-up/drop-off points and bus stops in addition to wider areas where one may linger.
Strolling	6-8 m/s	Moderate breezes that would be appropriate for window shopping and strolling along a city/town centre street, plaza or park.
Walking	8-10 m/s	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.
Uncomfortable	>10 m/s	Winds of this magnitude are considered a nuisance for most activities, and wind mitigation is typically recommended.

235. As a mixed-use scheme, the target wind environment would usually include the following activities;

- Sitting for amenity spaces (in the summer months) - A mixture of sitting and standing may be tolerable where no seating provisions are specifically provided, and in private spaces;
- Standing/entrance conditions outside building entrances, and pick-up/drop-off points etc (throughout the year); and
- Strolling on thoroughfares and access routes (throughout the year).

236. If strong winds are measured then these will also be reported. The activities described above are those used by Lawson Comfort Criteria. The two further categories (walking and uncomfortable) are often associated with occasional strong winds (in excess of 15 or 20 m/s) and should be mitigated unless there are alternative routes, or they occur on less frequently used routes or in areas inaccessible to the general public.

237. Strong winds are reported for exceedances of 15m/s (to account for less able-bodied people or vulnerable users such as cyclists) or 20 m/s (for able bodied people) for more than 0.022% of the year (or above approximately 2 hours).

Impacts

Demolition and Construction

238. As demolition and construction works progress, the conditions on and around the site would be expected to gradually transition between those of the baseline and the final completed Proposed Development. A qualitative approach will be taken to the assessment of the demolition and construction works, with limited or no access of the majority of the site and in the immediate vicinity available to pedestrians.

Completed Development

239. It is proposed to utilize a wind tunnel testing methodology to undertake the assessment. Scale models will be built of the following scenarios:

- The existing environment at the site, including the existing surrounding buildings / area (the Baseline);

- The Proposed Development (Completed and Operational) massing and the existing surrounding buildings / area; and
- The Proposed Development (Completed and Operational) massing and the surrounding existing buildings and the massing of nearby cumulative schemes (Refer to **Appendix B** of this Scoping Report for further details on cumulative schemes).

240. The scale models will be manufactured and tested in a boundary layer wind tunnel test facility. Mean and peak wind speeds will be measured around in Sensitive Receptor locations, for all wind directions. These results will be combined with long-term meteorological climate data for the London area.

241. The suitability of the conditions both within the site and surrounding the site both in terms of comfort, and strong winds will be presented and discussed within the ES, and a supporting technical report.

Mitigation

242. Should mitigation measures be required to provide wind conditions within a particular area / space to be suitable for their intended use, or are required to mitigate against predicted strong winds, the areas identified requiring suitable mitigation measures will be developed in consultation with the Applicant and the Design Team. Where necessary, mitigation measures will be tested through additional rounds of wind tunnel studies. Following mitigation, the significance of any residual effects will be classified where appropriate.

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Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

244. Given the scale and design of the Proposed Development, along with its proximity to potentially sensitive receptors, a daylight, sunlight, overshadowing, solar glare and light pollution assessment is considered necessary.

245. The assessment will consider the likely significant effects of the Proposed Development on daylight, sunlight and overshadowing on existing, neighbouring residential properties, as well as existing open space and public amenity areas. In addition, the likely solar glare and light pollution effects associated with the Proposed Development will be assessed.

Baseline Assessment

Daylight, Sunlight and Overshadowing

246. For the baseline, the daylight and sunlight conditions within each of the relevant surrounding sensitive receptors will be defined firstly under the existing site conditions by reference to the Vertical Sky Component (VSC), No-Sky Line (NSL) and Annual Probable Sunlight Hours (APSH) methods.

247. With regards to the relevant existing surrounding outdoor amenity areas and the baseline level of overshadowing, the transient overshadowing (TOS) methodology will be used.

248. The daylight, sunlight and overshadowing effects of the Proposed Development will then be assessed against this baseline condition.

Light Pollution

249. 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 will consider the effect of the Proposed Development in absolute terms, by reference to the relevant guidance levels.

Solar Glare

250. 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 the Proposed Development. Consequently, the assessment will consider the effect of the Proposed Development in absolute terms using professional judgement.

Potential Sensitive Receptors

Daylight and Sunlight Receptors

251. Residential receptors identified on nearby roads/streets that are considered sensitive in relation to daylight and sunlight and will therefore be included within the assessments include but are not limited to residential properties along:

- Druid Street;
- Snowsfields;
- Melior Street;
- Melior Place;
- Kirby Grove;
- Hardwidge Street; and
- Bermondsey Street.

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Overshadowing Receptors

252. Areas of amenity space are considered most sensitive to overshadowing effects resulting from the Proposed Development. Owing to the southerly location of the sun path, only open space areas located from north west through to north east of the site require consideration in relation to overshadowing.

253. The following areas of amenity space have been identified as sensitive receptors in relation to the Proposed Development and will therefore be included within the assessments:

- Communal gardens serving St Olaves Estate; and
- Communal area serving Melior Street and Fenning Street;

Light Pollution Receptors

254. These include any residential receptors (either existing in the baseline or created as a result of the Proposed Development) which are located within 20 metres of a commercial element of the Proposed Development.

Solar Glare Receptors

255. The assessment will consider potentially sensitive viewpoints for road users and train drivers surrounding the site. The viewpoints will be selected once the detailed elements of the Proposed Development are finalised and are generally located at the minimum stopping distance and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic.

256. For practical reasons, the area of the assessment will be limited to the area surrounding the Proposed Development. The occurrence of reflected solar glare at greater distances will not be the subject of this assessment.

Potential Impacts and Effects

257. The potential daylight, sunlight and overshadowing effects associated with the Proposed Development are considered to be as follows (and as relevant to the scope of the assessment in terms of receptors identified above):

- Changes to the daylight and sunlight amenity within surrounding residential properties and other properties identified which have a reasonable expectation to natural light because of the demolition and construction works;
- Changes to overshadowing of surrounding outdoor amenity spaces because of the demolition and construction works;
- Changes to the daylight and sunlight amenity to surrounding residential properties and other properties identified which have a reasonable expectation to natural light as a result of the Proposed Development once complete; and
- Changes to overshadowing of surrounding outdoor amenity spaces as a result of the Proposed Development once complete, including outdoor amenity areas which comprise part of the Proposed Development;
- The potential for solar glare effects on sensitive viewpoints surrounding road users and train drivers because of the Proposed Development once complete; and
- The potential for light pollution effects from the commercial elements of the Proposed Development on existing receptors.

258. The magnitude of impact and so resultant potential effects in relation to the daylight and sunlight amenity and overshadowing for the surrounding properties and amenity areas will vary throughout the

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construction phase, depending on the level of obstruction caused. The impact and so resultant effect will almost certainly be less than that of the completed Proposed Development, given that the extent of permanent massing will increase throughout the construction phase, until the buildings are complete.

259. The impacts of the construction of the Proposed Development will steadily increase in magnitude as the superstructure is built and then clad. Those effects that are perceptible, as the superstructure and cladding progress, will be similar to those during the completion and occupation of the Proposed Development as presented below. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight and overshadowing effects.

Outline Scope of Assessment

260. The assessments will be carried out in accordance with the Building Research Establishment (BRE) Guidelines: Site Layout Planning for Daylight and Sunlight 2011, A Guide to Good Practice, Second Edition 2011[15] and the British Standard (BS) 8206 Part 2 Lighting for buildings, Code of practice for daylighting (2008)[16]. The analysis will be undertaken from a 3D computer model constructed using specialist software.

Demolition and Construction

261. Owing to the evolving and changing nature of demolition and construction activities, the assessment of potential impacts and effects during demolition of any required existing on-site structures and construction of the Proposed Development on daylight, sunlight, overshadowing and solar glare to surrounding receptors will not be modelled. Instead, a qualitative review has been undertaken using professional judgement and experience.

262. The potential daylight, sunlight, overshadowing and solar glare effects relating to demolition and construction works will vary throughout the works programme and will gradually increase to the potential impacts and effects that will be identified for the completed Proposed Development.

263. The magnitude of impact and so resultant potential effects in relation to the daylight and sunlight amenity and overshadowing for the surrounding properties and amenity areas will vary throughout the construction phase, depending on the level of obstruction caused. The impact and so resultant effect will almost certainly be less than that of the completed Proposed Development, given that the extent of permanent massing will increase throughout the construction phase, until the buildings are complete.

264. The impacts of the construction of the Proposed Development will steadily increase in magnitude as the superstructure is built and then clad. During the construction phase, a number of tall cranes are likely to be present on-site, however their size and temporary presence will lead to generally imperceptible effects of a temporary nature. Those effects that are perceptible, as the superstructure and cladding progress, will be similar to those during the completion and occupation of the Proposed Development. It is therefore considered that the completed Proposed Development represents the worst-case assessment in terms of likely daylight, sunlight, overshadowing and solar glare effects.

265. On this basis, no further consideration shall be given in the ES to effects to daylight, sunlight, overshadowing and solar glare as a result of the demolition and construction works.

Completed Development

Daylight / Sunlight

266. In line with the BRE Guidelines, both the VSC and NSL assessments will be undertaken for the Proposed Development for the relevant sensitive receptors identified above.

[15] British Research Establishment, 2011.Guidelines: Site Layout Planning for Daylight and Sunlight, A Guide to Good Practice, Second Edition.
[16] British Standards Institution, 2008. British Standards 8206 Part 2: Code of Practice for Daylighting. BSI.

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267. The sunlight amenity to the surrounding relevant receptors will be considered by reference to the APSH method of assessment. Due to the southerly rotation of the sun, this assessment will consider those windows which face the site and are located within 90 degrees of due south.

268. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of daylight and sunlight amenity effects will be determined using professional judgement and by reference to Appendix I of the BRE Guidelines.

Overshadowing

269. The overshadowing analysis on the surrounding areas of amenity space will be undertaken by reference to the TOS method of assessment.

270. For the TOS assessment, the path of shadow will be mapped for the Proposed Development on the following dates as suggested by the BRE Guidelines:

- 21st March (Spring Equinox);
- 21st June (Summer Solstice); and
- 21st December (Winter Solstice).

271. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of overshadowing effects will be determined using professional judgement.

272. Depending on the outcome of this analysis the Sun Hours on Ground (SHOG) assessment may be required for any amenity areas that appear to be significantly impacted by the Proposed Development. The SHOG assessment considers the proportion of a designated amenity space which receives 2 hours of direct sunlight on 21st March.

Light Pollution

273. Although not yet finalised, the Proposed Development is likely to include highly glazed areas of commercial use where extensive artificial lighting may be used. If the Proposed Development does include highly glazed area and, if this commercial space is located within 20m of nearby residential accommodation, an assessment in terms of light pollution will be undertaken.

274. The assessment of light pollution would focus on the effects of light egress from within the highly glazed office spaces and the subsequent light intrusion on the neighbouring residential receptors. As per standard practice, in the absence of a detailed lighting design, the study will assume an average illuminance level of 500 lux at the working plane as per the Lighting of Work Places, British Standard (BS) 12464-1:2002[17].

275. The ILP Guidance Notes 2011[18] set out numerical criteria for light intrusion before and after curfew (11pm) based on the lighting environment of the surrounding context. As the Proposed Development is located within Southwark, London, this would be considered an area of high district brightness, equating to Environmental Zone 4 within the ILP Guidance Notes. Where the light levels exceed the recommended levels, a nuisance may occur. Professional judgement will be used to establish whether a potential effect would be either beneficial or adverse, the scale of the effect (minor, moderate or major) and ultimately the significance of the effect. Where the light levels are within the limits recommended by the ILP, the effects will be considered as negligible.

Solar Glare

276. The BRE[155] guidelines provide that '*glare or solar dazzle can occur when sunlight is reflected from a*

[17] British Standard (BS) Light and lighting – Lighting of Work Places, Part 1: Indoor work places 12464-1:2002
[18] Institute of Lighting Professionals (ILP), 2011, Guidance Notes for the Reduction of Obtrusive Light GN01:2011, 2011

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façade or area of metal cladding'. This is considered an issue in relation to road users or train drivers whereby an instance of reflection can obscure the view of traffic signals and thus have the potential to cause an accident.

277. At this stage, the details of the façade treatment for the Proposed Development are not yet finalised however should the detailed design include areas of glazing and/or reflective cladding, a solar glare assessment will be undertaken.

278. Road junctions are particularly sensitive in relation to solar glare as instances of reflection may obscure the view of traffic signals or temporarily blind drivers and thus result in accidents. In relation to the Proposed Development, due to the close proximity of the site to several likely sensitive surrounding road junctions, these will be included within the solar glare assessment.

279. In addition, considering the National Rail train line passes to the north of the development site, the potential for solar glare effects as a result of the Proposed Development to train drivers will be considered within the ES. The common practice for this type of study would be investigating the location and orientation of mounted train signals to identify sensitive viewpoints to be assessed along each track.

280. The assessment of solar glare identifies the time of day and year that solar reflections will be visible from the assessed viewpoints, as well as their relationship to a driver's line of sight. The assessment does not however, measure the intensity of the reflection but merely the occurrence and duration.

281. The nature (beneficial or adverse), scale (negligible, minor, moderate or major) and ultimately the significance of solar glare effects will be determined using professional judgement and taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight and the probability of these occurring.

Cumulative Assessment

282. If any nearby cumulative schemes are considered in close enough proximity to cause cumulative impacts, assessments will be undertaken to determine the effects of the Proposed Development on existing receptors and amenity areas, with the surrounding consented schemes being developed at the same time (i.e. a Cumulative Scenario). The assessments (VSC, NSL, APSH, TOS, SHOG, Light Pollution and Solar Glare as relevant) will compare the levels of BRE (or other relevant guidance / standards) compliance to the surrounding receptors (as relevant to the assessment in question) in the Cumulative Scenario to those for the Proposed Development in isolation in order to understand the cumulative daylight, sunlight, overshadowing, light pollution and solar glare effects.

Archaeology

283. The EIA will consider the impact on archaeology during demolition, construction and operation of the Proposed Development. The assessment will be undertaken by Mills Whipp Project (MWP), a Registered Organisation with the Chartered Institute for Archaeologists.

284. The principal legal structure governing archaeology is the Scheduled Ancient Monument and Archaeological Areas Act (1979). The national, regional and local planning policies will also inform the assessment of potential impacts of the Proposed Development on archaeology.

Baseline Assessment

285. Desk-based research work will be undertaken informed by archaeological investigations in the vicinity of the site, as well as a review of the Greater London Historic Environment Record within a 200m zone of the centre of the site with other sites beyond that radius mentioned where relevant. Initial studies indicate that until relatively recent times, the site was open marshland unsuitable for habitation. By the

16th century some reclamation had taken place and the site was occupied by a sequence of buildings until clearance in the 1980s.

286. It is considered that the foundations of these post mediaeval buildings will have caused considerable disturbance to any earlier deposits which may be present at the site. These buildings themselves are likely to be considered of some archaeological interest by LBS.

Potential Sensitive Receptors

287. The report will consider the impact of the development on:

- Late Pleistocene and Holocene deposits to be removed during construction; and
- The post mediaeval heritage assets in Southwark being reduced as a result of the redevelopment of the site.

Potential Impacts

288. The assessment will consider the potential impacts of the Proposed Development during construction on archaeological remains. The assessment will deal solely with the archaeological impacts of the Proposed Development and would not cover built heritage issues or changes to the setting of above ground assets which will be dealt with separately in ES Volume 2.

289. Potential effects to be addressed by the EIA in relation to archaeology will include:

- Direct impacts on buried archaeological deposits from land disturbance caused by construction of the development; and
- Direct impacts upon historic boundaries from construction.

Assessment Methodology

290. The desk-based assessment (DBA) will conform to the Greater London Archaeological Advisory Service guideline, the Chartered Institute for Archaeologists standards and guidance and the Association of Local Government Archaeological Officers and will include:

- Discussion on the prehistoric, Roman, Saxon, mediaeval and post mediaeval history of the site;
- Consideration of any previous events which may have affected asset survival;
- Consideration of the archaeological potential of the site;
- Provision of an evaluation of the sensitivity and importance of the buried assets based on professional judgement informed by good practice guidance including the values set out in English Heritage Conservation Principles (English Heritage, 2008);
- Consider the magnitude of impacts which could arise from the Proposed Development during demolition and construction;
- Assess the scale and nature of archaeological effects;
- Identify appropriate archaeological mitigation - the requirement for mitigation will be determined in consultation with LBS; and
- Identify residual archaeological effects.

291. Further to discussions with LBS, intrusive field investigations in the form of boreholes and trenches will be undertaken and a supporting evaluation report will be prepared and submitted in support of the planning application.

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(Built) Heritage, Townscape and Visual

292. The (Built) Heritage, Townscape and Visual Impact Assessment (the 'HTVIA') identifies the likely significant direct and indirect effects of the Proposed Development on built heritage, townscape and visual receptors.

Baseline Assessment

293. The site falls within the administrative boundary of the London Borough of Southwark. It is bounded by St Thomas Street (north), Fenning Street (west) and Vinegar Yard / Melior Street to the south and east.

294. There is one existing building on the site. On the western boundary of the site is a part two and part three storey industrial building. The three storey element to the south is of brick construction with some external features demonstrating its use as an industrial warehouse, including pulley. The two storey later extension is of no architectural merit.

295. Prior to demolition, within the northern part of the site there was a modular construction five storey port-a-cabin used by Network Rail as welfare facilities for contractors and staff working on the development of London Bridge Station. The building was utilitarian in appearance and was of no architectural merit.

296. To the east are two vacant plots either side of the Vinegar Yard vehicular access.

Heritage

297. The (built) heritage assessment will consider the significance of heritage assets and the impact of the Proposed Development upon that significance. The south-west part of the site, comprising the three storey brick industrial warehouse building, is located in the Bermondsey Street Conservation Area. The warehouse is identified as a positive contributor to the character and appearance of the Conservation Area by the January 2003 Appraisal prepared by LB Southwark.

298. There are heritage assets in the wider area and so the HTVIA assesses the potential of the Proposed Development to impact their setting.

299. In the immediate vicinity of the site, Nos. 9-17 Vinegar Yard, 6 Melior Street and the Horseshoe Inn PH are all identified as positive contributors to the character and appearance of the Conservation Area.

300. There are no statutorily listed buildings within the immediate vicinity of the site, with the exception of the Grade II listed railway viaduct arches by Charles Henry Driver on St Thomas Street.

301. Within 500m of the site boundary there are approximately 104 designated heritage assets, plus the Tower Bridge Conservation Area, Tooley Street Conservation Area, and Borough High Street Conservation Area.

302. The Tower of London conservation area and World Heritage Site in Tower Hamlets is also a notable consideration in terms of heritage impact.

Townscape and Visual

303. The townscape assessment will consider the Proposed Development within its urban context, including the buildings, the relationships between them, the different types of urban open spaces, including green spaces and the relationship between buildings and open spaces.

304. In preparing this Scoping Report regard has been had to the relevant policy designations. Policy designations outline the strategic aspirations for an area, contribute to the understanding of townscape value and the potential for, or even lack of, change.

305. The site is also located within LB Southwark's London Bridge, Borough and Bankside Opportunity Area. The adopted and emerging London Plan (Policy 2.13 & draft Policy SD1 respectively) recognises that such Opportunity Areas have the potential to appropriately accommodate significant increases in office

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accommodation along with a mix of commercial and leisure uses. Policy is clear that in combination, such uses will benefit the local population and London as a whole through job creation, leisure opportunities and enhanced public realm and place creation.

306. The existing development plan and emerging New Southwark Plan identifies the site within an area suitable for tall buildings. This is supported by the site's inclusion within Southwark Council's emerging site specific allocation 'NSP53: Land between St Thomas Street, Fenning Street, Melior Place and Snowfields'.

307. The site is located immediately to the south of London Bridge Station and benefits from a PTAL rating of 6B (the highest). The policy designations for the site and proximity to public transport is therefore conducive to development at a greater density, subject to satisfying other policy criteria.

308. Critical to the understanding of this baseline is an understanding of the emerging context delivered by cumulative schemes. To the west of the site is The Quill (ref: 14/AP/4640), which has consent for a 31 storey building.

309. The visual assessment will consider the impact of the Proposed Development upon visual receptors. The assessment relates to how people will be affected by changes in views and visual amenity at different places, including publicly accessible locations. Visual receptors are always people (although usually visual receptors are defined according to use e.g. residential, business, road, footpath etc.), rather than landscape features.

310. The site is located in the background assessment areas of the London View Management Framework (LVMF) views of St Paul's from Parliament Hill (LVMF 2A.1) and Kenwood House (LVMF 3A.1). The consideration of these views is additional to the World Heritage Site, listed buildings and conservation areas set out above. It is notable that the Shard sits in front of the site and restricts visibility of potential development at the site from these LVMF viewpoints.

311. Development on the site would also be potentially visible in LVMF London Panoramas 1A.2 Alexandra Palace; 4A.1 Primrose Hill; 5A.2 Greenwich Park; 6A.1 Blackheath - but would be outside the Protected Vistas of St Paul's in these views. It would be potentially visible in LVMF River Prospects 10A.1 Tower Bridge and 12B.1 Southwark Bridge.

312. The scale (height) of the Proposed Development is likely to be perceptible over a long distance and thus has the potential to impact visual receptors within the immediate and wider area. The scope of assessment is set out below.

Outline Scope of Assessment

313. The study area will also be informed by building locations and heights, topography and townscape features and an understanding of the scale of the Proposed Development. The current proposals comprise a development with a maximum scale of 100m AOD, although this is subject to change through design development during the pre-application process.

314. The visual extent of the Proposed Development may be determined through undertaking a Zone of Theoretical Visibility (ZTV). The aim of the ZTV is to provide an initial guide on visibility for further detailed analysis to take place.

315. The ZTV demonstrates the visibility of the Proposed Development from a viewing height of 1.6m above ground level. It may be prepared using a range of topographically referenced data, such as Z-mapping and Blue Sky LiDAR. The data may represent the built environment only e.g. excluding trees and foliage.

316. The extent of the study area will be confirmed following a review of the ZTV and will be agreed through the pre-application process. It will be reaffirmed through Site observations, a desk-based review of

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designations and characterisation studies.

317. The study area will comprise:

- All heritage receptors (within a set distance of the site boundary):
    a) World Heritage Sites;
    b) Listed buildings;
    c) Conservation areas;
    d) Registered parks and gardens;
    e) Scheduled ancient monuments; and
    f) Locally listed buildings (non-designated heritage receptors).
- Townscape character areas (within a set distance of the site boundary); and
- Visual receptors (within a set distance of the site boundary).

318. The visual assessment will be supported by Accurate Visual Representations (AVRs or verified views), which provide the basis for the assessment of the Proposed Development and its effect on the identified views. Each viewpoint will be reproduced in the following formats:

- Existing – baseline photography;
- Proposed – 'existing' plus wire line (AVR1) or render (AVR3) of the Proposed Development; and
- Cumulative – 'proposed' plus material consents surrounding the site.

319. The AVRs will be prepared to industry standard by independent visualisation consultants. The methodology will be in accordance with Appendix C of the London View Management Framework (2012), which is considered best practice.

320. The AVR locations are to be agreed with the LPA.

Assessment Methodology

321. The method is the product of best practice and policy requirements informed by guidance. There is correlation between heritage, townscape and visual assessment. Notwithstanding, these are separate disciplines and require separate assessment in accordance with legislation, planning policy and best practice guidance.

Heritage

322. The assessment of heritage will be informed by relevant parts of the development plan and chapter 16 of the National Planning Policy Framework (2018). Other guidance used in the assessment will include:

- Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015);
- Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2015); and
- Tall Buildings: Historic England Advice Note 4 (2015).

323. The assessment of the impact to the Outstanding Universal Value of the Tower Bridge WHS would need to be in accordance with national guidance comprising:

- Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (2011) produced by the International Council on Monuments and Sites (ICOMOS); and
- London's World Heritage Sites – Guidance on Settings SPG (2012), produced by the GLA)

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Townscape and Visual

324. The framework for assessment of townscape and visual impact will be prepared using the Guidelines for Landscape and Visual Impact Assessment, Third Edition (Landscape Institute and Institute of Environmental Management and Assessment, 2013) ('GLVIA3'). Regard will also be given to the methodology set out in An Approach to Landscape Character Assessment (2014) prepared by Natural England.

325. The two components of TVIA are:

- Assessment of townscape effects: assessing effects on the townscape as a resource in its own right; and
- Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people.

326. It should be noted that the assessment does not comprise a 'residential amenity assessment', which considers private viewpoints from residential properties. This is separate from townscape and visual assessment (refer to GLVIA3, paragraph 6.17).

Potential Effects

Demolition and Construction

327. The demolition and construction phase may cause indirect effects on heritage receptors which arise from a change to setting. Due to the proximity of heritage assets, this will largely be limited to visibility of equipment associated with construction (cranes, hoarding, etc.).

328. The appearance of cranes and other construction activity on the skyline and setting of the heritage receptors is not likely to impact the ability of an observer to appreciate the heritage value of the receptors. For many heritage receptors in the area there is no inter-visibility with the site, and so the assessment is one of no significant effect. In any event, the indirect effects during construction will be temporary. There is likely to be no long-term effect on the ability to appreciate the heritage value of the built heritage receptors arising from this stage of the Proposed Development.

329. The construction phase of the Proposed Development may have effects on the townscape and visual receptors as a result of:

- The noise, dust and vibration associated with the construction activity;
- Visibility of equipment associated with construction (cranes, hoarding, etc.); and/or
- The potential increase in activity affecting the local road network.

330. The activities related to construction described above are most likely to affect the townscape and visual receptors which are closest to the site. The receptors which are further from the site are less likely to experience indirect effects as a result of the distance, limited or no inter-visibility, and interposing development.

331. The site would be enclosed with hoardings, which will provide a visual buffer to the immediate environment. The phase will, however, result in increased noise, vibration, dust and traffic in the surrounding area. The magnitude of this impact will be greatest where there are residential uses in close proximity.

332. The continued functioning of the local area during the phase is an important consideration to the vitality of the townscape. Construction vehicles, comprising ready mix lorries, articulated low loaders, plant delivery and rigid vehicles, would have an adverse impact on the function of the townscape in the immediate area. A Transport Assessment is recommended to provide mitigation measures to reduce

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the disruption caused by construction and site preparation. The logistic management team would organise and plan prescribed delivery times to ensure that busy roads do not become congested with frequent material deliveries. The Applicant may enter into a 'Considerate Constructors' scheme to ensure best practice. With this mitigation in place the effects of the construction phase would be reduced to Minor Adverse. This effect is temporary in nature.

Completed Development

333. The operation stage may cause indirect effects on heritage receptors which arise from a change to the character and appearance of the Bermondsey Street Conservation Area and, for heritage assets in the wider area, a change to setting.

334. The Proposed Development would comprise a notable increase in scale (height) relative to the existing context within the site. Notwithstanding, this is not incongruent to the surrounding area where there is an existing and established context of tall and/or large development. This is not uncommon for a central urban environment such as the site. Considerable care and attention must be given to the access, form, layout and architectural detailing of the ground floor to ensure that this provides a contextual relationship and functional enhancement to the surrounding townscape, including heritage assets.

335. The Proposed Development would be seen over a considerable distance. The potential magnitude of impact would be reduced by virtue of atmospheric haze and motion parallax. It would be seen within the context of existing tall and large development. It is not considered that significant adverse effects are likely to arise from impacts to heritage assets, although, where there is potential, design quality may be a mitigating factor.

336. The Proposed Development itself is likely to give rise to a significant change to the site and surrounding area. This would be in accordance with the aspirations of the Development Plan. It is likely that the Proposed Development will give rise to a demonstrable improvement to the character, function and appearance of the immediate townscape.

337. Further assessment will need to be undertaken to understand the impact to townscape function and appearance over longer distances from the site. This would be in accordance with the scope of assessment set out above.

Mitigation

338. Measures proposed to prevent, reduce or where possible offset any significant adverse impacts will be identified and developed as part of the design process. Primary mitigation measures, including architectural and urban design, will become embedded into the project design, commonly referred to as embedded mitigation.

339. The likely effects of the Proposed Development will include embedded mitigation. As a result, there may be no requirement for additional mitigation. If this is the case, likely residual effects would remain the same as the likely effects, unless otherwise stated.

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TOPICS WHERE NO LIKELY SIGNIFICANT EFFECTS ARE ANTICIPATED

Water Resources

Flood Risk and Surface Water Drainage

340. Flood risk is regulated through the NPPF which requires a site-specific Flood Risk Assessment (FRA) to be produced for all sites located within Flood Zone 2 and 3, bigger than one hectare or with critical drainage problems.

341. The Environment Agency's (EA) flood map for the area shows that the site is located within Flood Zone 2 and Zone 3 floodplain benefiting from flood defences and therefore is at low risk from flooding from fluvial and tidal sources. There may however be other sources of flooding that would affect the site, such as flooding from pluvial (drainage-related) or groundwater sources.

342. As such, the planning application will be accompanied by an FRA and a Surface Water and Foul Sewage Drainage Strategy. The FRA will review the potential sources of flooding that could affect the site, and how the identified sources of flooding can be minimised, mitigated or eliminated to reduce project vulnerability. The potential sources of flooding that will be considered are as follows:

- Tidal flooding from the River Thames;
- Pluvial (drainage-related) flooding (impact on and off site); and
- Groundwater flooding.

343. An assessment will be made of the impact of climate change on the flood risk categorisation of the site and how the Proposed Development has built in climate change resilience and resistance with regard to future flood risk.

344. The Surface Water and Foul Sewage Drainage Strategy will demonstrate the optioneering work undertaken throughout the design evolution process for the sustainable management of surface water runoff through the use of sustainable drainage systems (SuDS) at the site. The surface water drainage strategy will allow for a reduction in surface water discharge rates compared to the existing situation in line with local policy and London Plan requirements.

345. The drainage will be designed to accommodate the one in 100 year storm, including an allowance for an increase in rainfall intensity to allow for climate change.

346. The FRA and Surface Water and Foul Sewage Drainage Strategy will be informed by consultation with key stakeholders including the Environment Agency (EA), the LBS and Thames Water (TW).

347. They will also use the background information contained within strategic documents as relevant, such as the LBS Strategic Flood Risk Assessment (SFRA), and Surface Water Management Plan (SWMP), Preliminary Flood Risk Assessment (PFRA) and the Local Flood Risk Management Strategy (LFRMS).

348. The FRA and Surface Water and Foul Sewage Drainage Strategy shall be summarised within the ES (**ES Volume 1, Chapter 3: The Proposed Development**), any mitigation and monitoring measures proposed relating to flood risk, surface water and foul sewage drainage will be summarised within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**, and the full documentation will be appended to the ES.

349. In summary, the FRA and outline drainage strategy will investigate:

- Sources of flooding (e.g. tidal, surface water, groundwater) which could affect the site;
- Existing flood defenses/flood mitigation measures;

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- Probability of flooding;
- Climate change;

Mitigation and climate change resilience / resistance measures embedded into the Proposed Development to reduce the risks associated with flooding (from any source);

- Residual flood risk; and
- Appropriate strategies for surface water drainage.

350. Through a well informed and considered design process with regard to flood risk and surface water drainage considerations, coupled with appropriate measures to manage the residual flood risk at the site following redevelopment, no likely significant effects associated with flooding and surface water drainage are anticipated.

351. In recognition that a FRA and Surface Water and Foul Sewage Drainage Strategy will be prepared and submitted in support of the planning application which will address in detail the issues identified above, a separate flood risk impact assessment (provided as part of a 'Water Resources, Drainage and Flood Risk' ES Chapter) is not considered necessary and so will not be presented in the ES to avoid duplication.

352. The results and conclusions of the FRA and Surface Water and Foul Sewage Drainage Strategy (including climate change resilience with regard to flood risk and surface water drainage) will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**). Any management and mitigation strategies identified will be presented in **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

Wastewater (Foul Drainage)

353. Foul water discharge rates are expected to increase as a consequence of the Proposed Development. Estimated wastewater volumes arising as a result of the Proposed Development (in a fully operational event day scenario) will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

354. Consultation with TW will be undertaken to understand any existing capacity constraints on the foul water public drainage network.

355. The Proposed Development will include water efficiency measures to try and reduce the volume of foul water discharged to the network and so reduce the overall magnitude of the impact of the Proposed Development on the foul drainage / sewer network.

356. It is anticipated that any required upgrades to the foul water drainage network would be discussed with TW and ultimately undertaken by TW to increase the capacity of the sewer network and enable it to accommodate additional flows from brownfield redevelopment sites across London.

357. A Surface Water and Foul Sewage Drainage Strategy will be prepared and submitted in support of the planning application. The Surface Water and Foul Sewage Drainage Strategy will identify any existing capacity issues within the foul water drainage network and present strategic options for foul water management at the site.

358. The design principles set by the Surface Water and Foul Sewage Drainage Strategy (including assumptions on expected potable water demand and estimated wastewater volumes) and its conclusions will be presented in the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

359. In recognition that the Surface Water and Foul Sewage Drainage Strategy will define the principles of the design of the foul drainage network within the site and the link up to the surrounding public sewer

network and identify strategic options for foul water management at the site, no likely significant effects associated with waste water discharges are anticipated as a result of the Proposed Development (subject to discussion with TW and the addressing of any strategic capacity issues across the public sewer network).

360. Measures proposed to manage environmental effects associated with wastewater discharges throughout the demolition, construction and operation of the Proposed Development will be presented within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

361. On this basis, no further impact assessment work with regards to foul water drainage will be presented within the ES.

Water Demand

362. There is a potential impact in the form of increased potable water demand resulting from the Proposed Development. The potential increase in water demand as a consequence of the Proposed Development will be discussed with TW and where required additional capacity will be requested to supply the Proposed Development.

363. The inclusion of water efficiency measures to reduce water usage, in addition to the implementation by TW of the Thames Water Resource Management Plan (i.e. management and provision of water supply at a strategic level which has been made to accommodate future projected housing, commercial and population growth), it is considered that sufficient measures will be in place for water demand to be met and so no likely significant effects are anticipated.

364. The ES will summarise any discussions had with TW on this aspect (including assumptions on expected water demand) within the ES (in **ES Volume 1, Chapter 3: The Proposed Development**).

365. In recognition of the above, no further assessment work with regards to potable water demand and supply will be presented within the ES.

Demolition and Construction Works

366. A number of water resources and drainage mitigation measures shall be implemented throughout the demolition and construction works to protect water resources, particularly relating to groundwater and drainage networks. These mitigation measures can be categorised as 'Pre Commencement' measures, and measures implemented throughout the demolition and construction works themselves. The measures are as follows and will also be presented within the ES in **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**.

Pre-Commencement:

- Discharge arrangements into the foul water sewer will be agreed with Thames Water Utilities Limited (TWUL).
- All existing utilities will be identified and marked before works commence, with the use of signs to warn of their presence.
- Settlement facilities and oil / petrol interceptors will be installed at relevant discharge points into the sewers (for surface water runoff and wastewater discharges).
- An Emergency Response Plan (ERP) will be prepared and which will set out the procedure to be adopted in the event of a leak or spill.

During Demolition and Construction Works:

- Any damage to existing infrastructure would be immediately repaired.

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- Any waste effluent will be tested and any water that may have come into contact with contaminated materials or be identified as being contaminated, will be disposed of appropriately and, to the satisfaction of the EA and/or TWUL; and where necessary, disposed of at the correctly licensed facility by a licensed specialist contractor/s.
- Plant and machinery will be kept away from controlled waters and will have drip trays installed beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
- Refueling and delivery areas will be located away from the local sewer network drains.
- All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, will have secondary bunding.
- All storage will be protected from vandalism and kept locked up when not in use.
- Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator.
- On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP).
- All relevant contractors will be required to investigate opportunities to sustainably manage the use of water, such as turning off taps when not in use, both on site and within site offices and the use of recycled water / a rainwater harvesting system for equipment such as wheel washes.
- The water consumption throughout the enabling and construction works will be monitored, either through sub-metering or reading of utility bills, to allow comparison against best practice benchmarks and improvements to be made.

Conclusion

367. Based on a likely low residual flood risk to the site (demonstrated through the FRA) and an appropriately designed Surface Water and Foul Sewage Drainage Strategy no likely significant effects are anticipated in respect of flood risk, surface water drainage and foul drainage. Potable water demand to the Proposed Development shall be discussed with TWUL; no likely significant effects are anticipated as a result of TWUL statutory duty to manage the provision of water supply to London at a strategic level.

368. The FRA, Surface Water and Foul Sewage Drainage Strategy and consultation undertaken with TWUL in respect of water demand and wastewater discharge shall be summarised within the ES.

369. Furthermore, no likely significant effects are anticipated to water resources throughout the demolition and construction works following the implementation of various standard mitigating measures both pre-commencement and throughout the works, as defined above. These standard mitigating measures and any additional measures relating to the protection of water resources identified throughout the EIA process, shall be presented within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**. It is anticipated that appropriately worded planning conditions will be attached to any planning permission to secure these measures.

370. On this basis, with the exception of the work defined above in respect of the FRA and Surface Water and Foul Sewage Drainage Strategy and consultation with TWUL on potable water demand and

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wastewater discharges, no further impact assessment work in respect of water resources, drainage and flood risk shall be presented within the ES.

Ecology

371. The site is currently occupied by Network Rail who, at the time of writing, are in the process of demolishing a temporary building on the north west of the site.

372. There is therefore an existing high level of activity on site, which will continue until the provisional date of September 30th, when demolition works should be complete and vacant possession will be in place. A PEA will be undertaken once the demolition is complete, where a comprehensive ecological review of the site will be able to take place.

373. Based on a review of aerial photography for the site, there is no / little vegetation within the site boundary and very few in the immediate vicinity, except for one tree within the Horseshoe Pub boundary and some trees and scrub within Snowsfields residential boundary, both to the south of the site.

374. Therefore, based on this review and the high level of activity on the site, it is considered unlikely to support protected species and there are no ecological constraints to the site's redevelopment.

375. Wardell Armstrong have been commissioned to undertake a Preliminary Ecological Appraisal (PEA), comprising a desk study and Phase 1 habitat survey including a protected species assessment of the site.

376. The desk study will incorporate a 2km radius for national statutory and non-statutory sites and a 5km search radius for internationally designated sites from the Proposed Development site boundary.

377. The phase 1 habitat survey will involve the classification and mapping of any habitat types and collating plant species lists for any habitat types present. An external assessment of all buildings within the site to ascertain bat roost potential will also take place. In the unlikely event that the building is considered to have bat roost potential then further works may be required including internal inspections and bat dusk emergence and/or dawn re-entry surveys.

378. In addition, any potential presence or field evidence of protected, notable or alien invasive species will be recorded. A single report will be produced detailing the results of the PEA survey and will detail the requirement for further survey work if necessary. The PEA will be submitted in support of the planning application. Though not finalised at this time, the Proposed Development will provide ecological enhancements through appropriate landscaping measures. This includes soft landscaping options (on ground level) comprising a mixture of tree, shrub and bed planting as well as the use of native species and/or species of recognised wildlife value. Incorporating flowering and berry producing plants will attract a wide range of insects birds and mammals. Trees can be under-planted to improve structure and cover for wildlife and consideration should also be given to creation of species-rich hedgerows. Other recommended ecological enhancing measures include permeable paving, green walls and climbing plants, grass strips and green roofs. The provision of bird and/or bat boxes are also encouraged.

379. Measures proposed as part of the landscaping design to enhance the ecological value of the site (and their associated biodiversity benefits) will be described in more detail within the ES (**ES Volume 1, Chapter 3: The Proposed Development**).

380. In the unlikely event that the PEA identifies any ecological sensitivities, potential ecological impacts, appropriate ecological mitigation and management controls will be identified to render any residual ecological impact insignificant.

381. On the basis that no significant ecological effects are anticipated, an ecological impact assessment will be scoped out of the EIA.

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Geoenvironmental (Land Contamination, Ground Conditions and Groundwater)

382. An assessment has been undertaken to evaluate the potential effects of the Proposed Development on land quality and contamination. The principal objective is to identify possible unacceptable risks to human health, buildings and other property and the natural and historical environment from the condition of the land and groundwater so that appropriate action can be considered and then taken to address those risks.

Baseline Assessment

383. The assessment of the current site baseline conditions has been informed by a site visit undertaken on 4 September 2018, interviews with the current site manager, the results of a geotechnical and contamination assessment report[19] and a geo-environmental data and historic maps report[20].

384. Pertinent information regarding the site includes:

- The proposed development site includes an external yard and a warehouse building. The yard has been used for the past six years by Network Rail for storage (predominantly for scaffolding supplies), portable site offices and staff welfare during the modernisation of the adjacent London Bridge Railway Station. The existing warehouse buildings were also used by Network Rail as offices. The station modernisation project is almost complete and Network Rail are in the process of vacating the site in 2018;
- Immediate surrounding land includes the London Bridge railway station complex (with tracks on a viaduct raised above street level and with commercial outlets in the railway arches and parking and station access beneath the track level) to the north, residential apartments to the east, a disused warehouse, the Horseshoe Inn public house and residential apartments to the south and Melior Street Community Gardens and Offices to the west;
- The earliest Ordnance Survey map extract (1871) indicates the site and surrounding area is already densely developed. The size and layout of the buildings suggests they were likely used for industrial / commercial uses. The only labelling on the maps includes a 'warehouse' in the west of the site (labelling on the 1958, 1968 and 1980 maps) and 'Garden Chambers' in the centre of the site (labelling on the 1950 map). The 1980 map indicates the majority of site buildings, with the exception of the warehouse in the west of the site, have been removed and indicate the site in its current layout;
- The historical maps indicate the immediately surrounding land has included London Bridge railway station, warehouses, printing works, public house, residential properties, garage and a school;
- The nearest surface water course is the River Thames located 474m north of the site.
- No significant risks from mining, natural cavities or extractions are reported to influence the site;
- No recorded landfill or waste sites are located within 500m of the site;
- British Geological Survey (BGS) mapping indicates the sequence of stratigraphy at the site includes superficial deposits of Alluvium, River Terrace Gravels and London Clay Formation Bedrock. A BGS record of a borehole drilled within the London Bridge station approximately 100m north-west of the site indicates the London Clay to extend to 42.75m bgl and is underlain by stiff silty clay of the Woolwich and Reading Beds.

[19] Ashdown Site Investigation Limited (March 2012). Geotechnical and Contamination (Phase I and II) Assessment report. Referenced LW23042.
[20] Ashdown Site Investigation Limited (February 2012). Geo-Environmental Data and Historic Maps. Referenced LW23042maps.

- The Alluvium and River Terrace Gravels are classified by the Environment Agency as Secondary (undifferentiated) aquifers and the London Clay Formation as unproductive strata. The site is not within a source protection zone for a public groundwater abstraction for potable use. The nearest groundwater abstractions are reportedly 353m and 376m north-east of the site.
- An intrusive site investigation was undertaken in 1998 comprising six mechanically excavated trial pits to depths between 1.1m and 3.1m below ground level (m bgl) and six boreholes (drilled through the infilled trial pits) to 20m bgl. The borehole logs indicate ground gas wells were installed to 5m bgl. The ground conditions reported in the site investigation included a deepening sequence of Made Ground, Alluvium, River Terrace Gravel and London Clay Formation:
    a) Made Ground comprised clayey silty sand with brick, concrete, plastic, metal, wood, clinker and glass (representative of general demolition material) to depths between 1.2m and 3.3m. Buried concrete slabs were encountered in two boreholes at 1.1m and 2.0m bgl;
    b) The base of the Alluvium was encountered at depths between 2.6m and 6.4m bgl and comprised gravelly silty clay with flint, shell fragments and organic matter;
    c) The base of the River Terrace Deposits was encountered at depths between 8.9m and 10.05m and comprised coarse sand and flint gravels;
    d) London Clay Formation bedrock was proven below the River Terrace Gravels to the maximum depth of the investigation (20m bgl);
    e) Two rounds of groundwater level measurement were undertaken in 1998 and indicated groundwater rest levels in all six wells at depths between 3.58m to 4.81m bgl; and
    f) Three rounds of ground gas monitoring (completed in 1998) measured detectable concentrations of methane in one of the six boreholes (maximum 4.3% volume) and carbon dioxide in all six boreholes at variable concentrations (maximum 3.1% volume).
- A supplementary investigation in 2012 comprised seven boreholes to between 1.2m and 2.0m bgl and installation of four groundwater and ground gas sampling points. The initial conceptual site model included in the report indicated the potential source of contamination to be Made Ground from legacy site developments. Therefore, the boreholes were located across the site to evaluate the thickness, nature and chemical composition of the Made Ground. Pertinent results included:
    g) One borehole penetrated the full thickness of Made Ground (1.2m) and encountered Alluvium to 2.0m. The remaining six boreholes did not penetrate the full thickness of the Made Ground. The authors description of the Made Ground and Alluvium is similar to that described in the 1998 investigation;
    h) Soil samples were collected for laboratory chemical analysis for metals and pH (9 samples), polycyclic aromatic hydrocarbons (PAH; 9 samples), volatile organic compounds (VOC; 2 samples), total petroleum hydrocarbons (5 samples); carbon banded hydrocarbons (3 samples); speciated aromatic and aliphatic hydrocarbons and benzene, toluene, ethylbenzene and xylene (1 sample), asbestos screening (3 samples) and cyanide, thiocyanate, phenols and ammonium (3 samples);
    i) the results were compared to generic assessment criteria for a residential without private garden end use following the Environment Agency Contaminated Land Exposure Assessment model. The results indicated:
        i. Lead concentrations above the GAC (246 mg/kg) in 8 of 9 samples tested (maximum recorded 867 mg/kg);
        ii. Benzo(a)pyrene concentrations above the GAC (1.0 mg/kg) in 3 of 9 samples tested (maximum 2.9 mg/kg);
        iii. No other chemical parameters were detected above the GAC; and

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iv. Asbestos fibres were not detected in the three samples tested.

j) Three ground gas monitoring visits were undertaken in 2012. Methane and ground gas flow was not detected. Carbon dioxide concentrations were measured in three of the sampling points (maximum 6.9% volume). The calculated gas screening value was indicative of Characteristic Situation 2.

Potential Sensitive Receptors

385. The evaluation of potentially sensitive receptors has been undertaken with consideration of the available baseline information and the Proposed Development. The development will comprise multiple basement levels, retail, and office space at ground floor level and a music venue. It is therefore considered that the construction phase will include full removal of the Made Ground and Alluvium during basement construction.

386. Potentially sensitive receptors during the construction phase the include:

- Health effects to construction workers through direct contact, inhalation and ingestion of contaminated soils and dusts during groundworks;
- Health effects to construction workers, including potential exposure to asbestos containing materials that could be present in the building fabric in the existing warehouse structure, through inhalation of asbestos fibres during demolition works;
- Health effects to nearby residents, workers and users of nearby facilities (public house, cafes and restaurant), through inhalation and ingestion of contaminated soils, dusts and asbestos fibres mobilised during demolition and excavation groundworks;
- Potential presence of buried munitions and / or ordnance excavated or disturbed during basement excavation and foundation construction posing a risk to human health and new structures;
- Mobilisation of contaminants in soils into groundwater during construction works;
- Potentially contaminated groundwater discharges to sewers and surface waters arising from dewatering activities during basement construction; and
- Effects on groundwater quality from pollution due to uncontrolled releases of fuels and chemicals during construction.

387. Potential receptors to contamination during the post-construction operational phase of the development are significantly reduced given the removal of Made Ground and Alluvium during basement excavation and complete hard cover over the site. Therefore, the only plausible effect is considered to be:

- Potential health effects to site users from contact with contaminants in soils imported to the site and used for landscaped areas and public open space.

Potential Impacts

388. The primary impacts relevant to the assessment are:

- Demolition of the existing warehouse building in the southwest of the site;
- Basement excavation;
- Dewatering during basement excavation;
- Storage and use of fuels, chemicals and lubricants on the site for use in generators and machinery during construction activity; and
- Uncovered soils in soft planted areas.

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Outline Scope of Assessment

389. It is proposed that a ground conditions / contaminated land impact assessment in the form of an ES chapter be scoped out of the ES given that there is sufficient existing quantitative assessment information for the site ground conditions from investigations completed within the past five years and a well-developed conceptual site model exists. Instead it is proposed that the application is conditioned in line with the model Planning conditions issued by the Department of Communities and Local Government (DCLG; 30 May 2008). DCLG suggest a three-stage condition approach including 1. site characterisation, 2. submission of a remediation scheme and 3. implementation of approved remediation scheme. Two further conditions for reporting unexpected contamination discovered during the course of the development and long-term monitoring and maintenance to demonstrate the effectiveness of the remediation scheme were also recommended by DCLG.

390. It is proposed that a Preliminary Risk Assessment (PRA; also known as a desk study) is prepared and submitted in support of the planning application. The PRA will include a site reconnaissance visit, an up-to-date Landmark EnviroCheck report with historical maps, review of available asbestos management reports (if available), consultation with statutory regulators and review of the existing site investigation data to develop of a revised conceptual site model and contaminant linkage assessment specific to the proposed development.

391. The report will include an evaluation of uncertainty and proposals for supplementary investigation, if required. Proposals for supplementary investigation would include sampling, laboratory analysis, selection of assessment criteria and monitoring of site conditions to collect information on the actual presence and extent of contaminants, pathways and receptors that may from pollutant linkages and determine whether unacceptable risks remain and whether remedial action is required.

392. The assessment will be performed and documented in line with the DEFRA and Environment Agency 'Model Procedures for the Management of Land Contamination (2004), Environment Agency Guiding Principles for Land Contamination, London Borough of Southwark Contaminated Land Consortium guidance for developers and contractors redeveloping contaminated land (2003), National Planning Policy Framework and applicable British Standards and guidance. Technical reports will be prepared by a competent person that can demonstrate a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution and membership of a relevant professional organisation.

393. Based on this initial consideration of the potential receptors that could possibly be affected by the Proposed Development, it is considered that the following mitigation measures may also be appropriate in line with current codes of construction practice to prevent any adverse effects to ground conditions and groundwater, human health and the wider environment:

- Preparation of a demolition plan, including asbestos demolition survey report;
- Preparation and implementation of a construction environmental management plan, including health and safety procedures;
- Preparation of an earthworks strategy. Mitigation measures relating to buried ordnance and munitions will be determined by a specialist subcontractor and stated as part of the earthworks strategy; and
- Development of a dewatering strategy for groundwater perched above the London Clay Formation and within the superficial aquifer during construction of the basement structure.
- The appropriate use of Personal Protective Equipment (PPE) and implementation and adherence to appropriate health and safety protocols, plans and procedures. Enabling and construction

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workers will remain vigilant of ground conditions at all times and will report to the Principal Contractor, any suspect areas of potential contamination;

- Appropriate handling and disposal of pile arisings, concrete, pastes and/or grouts during the laying of foundations will be undertaken.
- All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) are to be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents, in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, would have secondary bunding.
- All storage will be protected from vandalism and kept locked up when not in use.
- Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator; and
- On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP).

394. Accordingly, the redevelopment of the site is unlikely to generate any significant environmental effects associated with the ground conditions (including groundwater) and any residual effects associated with ground conditions and groundwater would be insignificant.

395. On this basis, it is suggested that a full ground conditions (including groundwater) impact assessment is scoped out of the EIA. The ES will however include the Phase 1 Geoenvironmental and Geotechnical Desk Study and will specifically, within **ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**, cite the industry recognised standards and good practice measures with respect to land affected by contamination including those to be undertaken pursuant to planning conditions to ensure the protection of human health, the environment and controlled waters.

Electronic Interference

396. Interference to certain telecommunications systems (e.g. television (TV), mobile phone and radio) can arise from buildings physically blocking and absorbing associated signals. Therefore, a loss or degradation of the reception of such systems can result from the introduction of new buildings and is often referred to as 'electronic interference', with the affected area referred to as the 'shadow area'.

397. For assessment purposes, domestic dwellings where TV is watched, or radio is listened to as an amenity, are identified as sensitive receptors. Places where the provision of TV or radio form part of commercial premises (e.g. hotels, offices and shops), are not identified as sensitive receptors[21].

Radio Signals

398. Due to radio signals being at lower frequencies, they can 'bend' to a greater extent around buildings (or other obstructions) when compared to TV signals. Radios are also able to make constructive use of reflected signals. As such, radio signals are able to operate successfully in dense urban settings (i.e. containing a large density of tall and large buildings) and therefore radio reception (both analogue and digital) is not considered to be at risk of degradation as a result of the Proposed Development. No likely significant effects to radio reception (both analogue and digital) are therefore anticipated as a result of the Proposed Development.

[21] This differentiation has been consistently used by the relevant United Kingdom (UK) government agencies (currently Office of Communications (OFCOM)) since the inception of TV services in the UK.

Cable TV Reception

399. Cable TV (CATV) services are delivered via underground coaxial or fibre-optic cables to residential dwellings. As CATV services are not transmitted through the air, there is limited potential for interference to CATV, and therefore CATV is not considered to be at risk of degradation as a result of the Proposed Development. No likely significant effects to CATV services are therefore anticipated as a result of the Proposed Development.

Mobile Phone Reception

400. A review of Ofcom's mobile availability checker[22] has identified that both 3G and 4G mobile services for four network providers (EE, O2, Vodaphone and Three) are available within and in close proximity to the site. A search of the Mast Data database[23] identified no mobile masts currently present on-site that will need to be re-located, and no mobile phone masts in close enough proximity to the site that could be potentially affected by the Proposed Development. It is therefore considered that there is no risk of degradation to mobile phone reception as a result of the Proposed Development. No likely significant effects to mobile phone reception are therefore anticipated as a result of the Proposed Development.

Terrestrial TV Reception

Baseline

401. Terrestrial (land based) TV signals are transmitted in digital format (Digital Terrestrial TV (DTTV) i.e. Freeview). The site receives DTTV signals from the Crystal Palace transmitter mast, located approximately 8.7km to the south of the site, any resultant DTTV shadow areas will therefore be located to the north of the site.

402. In general, DTTV reception in the area surrounding the site is considered to be poor, this is demonstrated by the 'raised aerials' on properties surrounding the site (often an indicator of difficulty receiving DTTV signals as seen on Google Street View[24].

Proposed Development DTTV Shadow

403. With regards to determining the potential effects of the Proposed Development on DTTV reception received by residential dwellings, and transmitted by the Crystal Palace transmitter mast, upfront design information relating to the Proposed Development has been reviewed. It has been identified that the Proposed Development will comprise one main tall tower composed of multiple podiums varying in height, the highest being of ground + 20 storeys and up to +100m (AOD) in the west portion of the site, with a second smaller building (pavilion) in the north east portion of the site comprising a music venue.

404. The DTTV shadow generated as a result of the Proposed Development, is anticipated to fall to the north of the site for approximately 1.1km at its longest point. Buildings that fall within the shadow area are predominantly office and non-residential use such as the London Bridge Hospital. However, it is likely that there will be some residential dwellings within the shadow area, primarily in the form of flats above commercial or retail space, which may be affected. This equates to an adverse effect.

405. It should be noted that a DTTV shadow cast by a building/obstruction diminishes with distance as a result of 'knife-edge diffraction'. This diffraction mechanism is a process whereby signals appear to bend (or 'diffract') behind a structure and eventually meet, like that of a knife-edge as opposed to a straight block[25]. Due to this 'knife-edge' diffraction, the effects experienced further away from the site,

[22] Ofcom. Mobile and Broadband Checker. Accessed online 23.05.2018 [URL: https://checker.ofcom.org.uk/mobile-coverage]
[23] Mast Data, (2017). Searching for Mobile Phone Telecommunication Mast and Basestations Locations. Accessed online 23.05.2018 [URL: https://www.mastdata.com]
[24] Google Street View. Accessed online 08.08.18 [URL:https://www.google.co.uk/maps/@51.5107583,-0.0848245,3a,60y,71.93h,119.72t/data=!3m6!1e1!3m4!1sRxM9wBJmh5c23cbBgLUCPA!2e0!7i13312!8i6656]
[25] DTTV shadows have been calculated using both the proposed widths and heights of the buildings: DTTV shadows

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are going to be less than those in closer proximity to the site. Therefore, any effects experienced within this area are unlikely to be noticeable.

406. There is therefore the potential for a loss or degradation to DTTV reception as a result of the Proposed Development for those residential dwellings currently (at the time of writing) receiving TV reception via DTTV. The most noticeably adverse effects will be experienced by those residential dwellings located in closest proximity to the site, with the magnitude of the impact reducing with distance away from the site.

407. For potentially affected residential dwellings located within the DTTV shadow area, standard measures are available to mitigate the likely adverse effect, these include: upgrading the existing DTTV aerials by increasing their height and gain; the provision of a non-subscription satellite service which is available from the BBC and ITV ('Freesat') or Sky for a one-off cost; or linking affected residential dwellings up to the existing available CATV network at a one-off cost. These standard measures are straight forward to implement and would remove any adverse effects to DTTV reception.

Satellite TV Reception

408. Satellite TV services to the UK are provided by geo-stationary satellites, which are primarily located within the Astra 28.2oE satellite cluster. Due to the geostationary positioning of the satellites in relation to London, satellite TV shadow areas will fall to the northwest of the site.

409. The anticipated satellite TV shadow generated as a result of the Proposed Development will fall approximately 180m to the northwest of the site, over land associated with London Bridge train station and falls as far as the Shard, where it will then end; no residential dwellings fall within this satellite TV shadow area. Consequently, no sensitive receptors fall within the anticipated satellite TV shadow generated as a result of the Proposed Development, and as a result there is limited potential for a loss or degradation to satellite TV reception.

Conclusion

410. Based on the information available, it can be concluded that there is no potential for adverse effects on radio signals, cable TV reception, and mobile phone reception. However, there is a slight potential for a loss or degradation to DTTV reception received by residential dwellings as a result of the Proposed Development. Suitable measures have been identified and are potentially available to all affected residential dwellings.

411. Whilst there is the potential for some impact to occur, taking into account the size and extent of potential impacts and the availability of standard measures to monitor and remedy potential impacts, the likely residual effects on DTTV reception to surrounding receptors are not considered to be significant. On this basis, no further consideration of electronic interference effects will be presented within the ES.

Waste

412. The predominant waste and recycling effects on sensitive receptors, arising from the construction and operation of new development, result from:

- The composition of waste (i.e. whether the waste generated is inert, or whether it comprises waste potentially hazardous to human health, requiring specialist management e.g. asbestos containing

generated as a result of the taller buildings proposed have been calculated based on the width of the building at a right angle to the angle of the signals transmitted by the Crystal Palace transmitter mast. This is to take account of the diffraction process; should the height of the buildings be used to calculate DTTV shadow length, this would generate an unrealistic DTTV shadow length. Therefore, despite the three towers to the centre of the site being the tallest buildings proposed, they do not generate the longest DTTV shadow generated as a result of the Proposed Development, this is generated by the eastern-most building, which is both wide and tall.

materials (ACMs), clinical waste, hazardous waste) and the potentially negative impacts on construction workers and future on-site users (sensitive receptors); and

- The quantity of waste generated and the impacts of this waste on the local waste management infrastructure (receptor sensitive to this impact), when considering the existing capacity of the local infrastructure, and current and future apportionment targets.

Mitigation

Construction

413. Mitigation measures to avoid, remedy or mitigate adverse effects in terms of waste and recycling during the demolition / construction can include:

- Provision of a Construction Environment Management Plan (CEMP) to include waste reduction and management objectives;
- The appropriate management of any potential contamination identified on-site; and
- The minimising of stockpiling of construction materials.

414. As detailed in the current London Plan 2016, re-use and recycling rates of construction, excavation and demolition (CE&D) waste in London are high (estimated at 82% in 2008); Policy 5.16 of the London Plan 2016 sets a target of 95% for recycling and re-use of CE&D waste by 2020.

415. The specific mitigation measures to be implemented throughout the demolition / construction works will be outlined within the ES (**ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule**). Through the implementation of mitigation measures, amount of waste generated will be minimised. Providing measures in the CEMP are enforced and adhered to, significant adverse effects on sensitive receptors, pertaining to the quantity and composition of waste during the demolition and construction phase, are considered unlikely.

Operational

416. An operational waste and recycling management strategy will be prepared and will calculate waste storage provisions based on the area schedule and will outline associated waste management measures. The Proposed Development will be designed to accommodate the required waste storage. In particular, the strategy will provide details on how each waste stream generated from each use class will be managed, and details on how waste will be reduced, minimised and recycled, where possible (in line with the Waste Hierarchy). Measures relating to the Proposed Development once complete and occupied, including a summary of the waste strategy, will be presented in **ES Volume 1, Chapter 3: The Proposed Development**.

Likelihood for Significant Effects

417. With these measures in place, it is considered that the likely waste effects would not be significant. As such, no technical waste assessment is proposed to be undertaken, but as stipulated above, will be referenced as appropriate within the ES, and where appropriate, appended to the ES.

418. Any impacts associated with the transportation of waste (particularly in construction) will be dealt with where applicable in **ES Volume 1, Chapter 6: Traffic and Transport,** and dust within **ES Volume 1, Chapter 7: Air Quality**.

419. It is therefore proposed that a waste and recycling impact assessment is scoped out of the EIA.

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FORMAT AND CONTENT OF THE EIA

420. The proposed scope and structure of the ES is as follows:

j) **ES Volume 1: Main ES** – a document which forms the main body of the ES and which comprises of the following non-technical and technical chapters:

a. Chapter 1. Introduction and EIA Methodology;
b. Chapter 2. Alternatives and Design Evolution;
c. Chapter 3. The Proposed Development;
d. Chapter 4. Demolition and Construction;
e. Chapter 5. Socio-Economics;
f. Chapter 6. Traffic and Transport;
g. Chapter 7. Air Quality;
h. Chapter 8. Noise and Vibration;
i. Chapter 9: Wind Microclimate;
j. Chapter 10. Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare;
k. Chapter 11: Archaeology
l. Chapter 12: Effect Interactions;
m. Chapter 13. Likely Significant Effects and Conclusions;
n. Chapter 14. Mitigation and Monitoring Schedule;
o. Chapter 15. Glossary and Abbreviations.

k) **ES Volume 2: (Built) Heritage, Townscape and Visual Impact Assessment** – a separate townscape, built heritage and visual impact assessment (HTVIA) document that will be accompanied by a full set of views and verified images, as agreed with LBS as part of this EIA Scoping Process:

l) **ES Volume 3: Technical Appendices** – comprises background data, technical reports, tables, figures and surveys. The following appendices are currently envisaged

a. Appendix Introduction and EIA Methodology:
   i. Annex 1: EIA Scoping Report (and Appendices);
   ii. Annex 2: EIA Scoping Opinion & Related Correspondence;

Appendix Traffic and Transport:

Transport Assessment

b. Appendix Air Quality:
   i. Annex 1: Supporting Technical Data;
c. Appendix Noise and Vibration:
   i. Annex 1: Supporting Technical Data;
d. Appendix Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare:
   i. Annex 1: Daylight and Sunlight Technical Data;
   ii. Annex 2: Overshadowing Technical Data;

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iii. Annex 3: Light Pollution Technical Data;
iv. Annex 4: Solar Glare Technical Data;

e. Appendix Wind Microclimate:
   i. Annex 1: Wind Microclimate Technical Data;
f. Appendix Climate Change:
   i. Annex 1: GHG Emissions Assessment.

Appendix Other

Annex 1: Other Relevant Technical Information

m) **ES Non-Technical Summary (NTS)** - this will be a separate document providing a concise description of the Proposed Development, the alternatives considered, any identified mitigation measures and the residual likely significant environmental and socio-economic effects.

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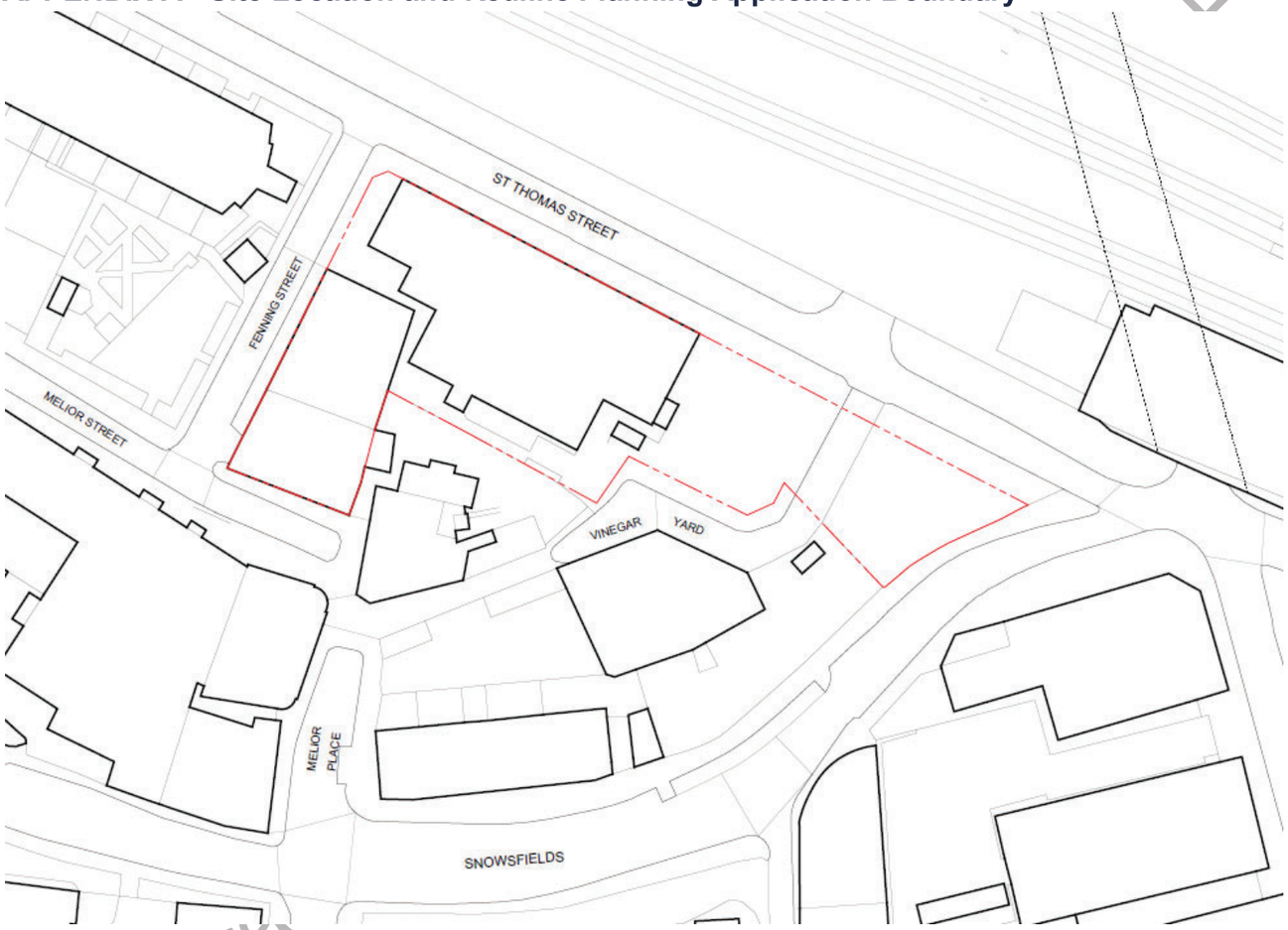
REQUEST FOR AN EIA SCOPING OPINION

421. This Report requests an Informal Scoping Opinion of the LBS pursuant to Regulation 15 of the EIA Regulations.

422. The EIA Scoping Report suggests a comprehensive scope of work based on previous experience of the assembled team of specialists and existing knowledge of the site. The LBS and consultees are invited to consider the contents of this Report and comment accordingly within the five-week period prescribed by the EIA Regulations.

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APPENDIX A - Site Location and Redline Planning Application Boundary



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APPENDIX B – Cumulative Schemes

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Cumulative Scheme List

The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to the likely significant effects arising from the "*cumulation with other existing and/or approved projects*" (Schedule 4, 5(e)) (i.e. Cumulative Schemes).

To ensure that cumulative impacts and effects are assessed as comprehensively and realistically as possible, the EIA would only consider other 'Cumulative Schemes'. The Cumulative Schemes that will be considered within the ES will typically be located within a 1-kilometre (km) radius from the centre of the site.

The Cumulative Schemes identified will be guided by the following criteria:

- Full planning consent or a resolution to grant consent;
- Produce an uplift of more than 10,000 square metres (Gross External Area (GEA)) of mixed-use floorspace, or over 150 residential units.

In addition, any office to residential conversions (granted under the General Permitted Development Order) giving rise to >150 residential units will be considered

Note that the above criteria form a guide in the absence of any formal EIA cumulative scheme guidance. Additional factors which are taken into account to help determine which schemes are included (or excluded) include (amongst others) for example, distance of the scheme from the site, and nature and scale of the development for the scheme. Where relevant, the assessment within the respective chapter may only identify a selection of Cumulative Schemes for the assessment (i.e. because of distance to the site), or alternatively identify additional schemes for inclusion (i.e. beyond the 1 km radius) - a clear reason and rationale for doing so.

Where a Cumulative Scheme benefits from multiple consents, the scheme that is the latest permission would be assessed (refer highlighted row). This approach excludes applications for non-material amendments (s96A) – by virtue of the nature of the amendment involved (but have been included for record / reference purposes only). Where the Committed Scheme is subject to a new application that has not yet been determined, qualitative consideration would be given to the implications of the new application if at an advanced stage of planning determination.

Cumulative effects arising from the Proposed Development, in combination with Cumulative Schemes, will be considered throughout the ES. The potential for cumulative effects arising during the demolition and construction works and once the Proposed Development is complete and operational will be considered. Each individual technical chapter of the ES will present an assessment of the cumulative effects of the Proposed Development coming forward alongside the Cumulative Schemes.

For the Proposed Development, the following preliminary list of Cumulative Schemes have been identified for consideration.

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Ref	Name / Address	Borough	Planning number (Planning system number)	Scheme Description	Status as of August 2017
1	Ronald Mcdonald House 115 – 122 Snowsfields SE1 3SS	LBS	16/AP/4662	Change of use only from Sui Generis Hostel to Class B1 offices.	Validated 22nd November 2016. Granted for limited period on 13th January 2017.
2	London Bridge Station 64-84 Tooley Street SE1	LBS	11/AP/1987	Application made under the provisions of the Town and Country (Environmental Impact Assessment) (England and Wales) Regulations 2011 seeking demolition of listed train shed part of St Thomas Street wall 64084 Tooley Street and arches together with closure of Weston Street and Stainer Street in order to provide a new station layout including: construction of a new street-level station concourse new replacement facades on Tooley Street and St Thomas Street new roof canopies landscaping and other works associated with the station. Land use is to comprise station concourse station ancillary space operational car park station loading bay Class A retail uses and leisure (Class D1 D2 and sui generis uses).	Validated 6th July 2011. Granted with legal agreement on 29th March 2012. Completed
3	Fielden House 28-42 London Bridge St SE1	LBS	14/AP/1302	Demolition of existing buildings and erection of part 26 and part 16 storeys to provide 148 apartments (118 use class c3 and 30 flexible use c1/c3) with 1800sqm of flexible retail space (classes a1 a2 a3 a4) at St Thomas St And London Bridge St (concourse) levels service area three levels of basement including cap parking (28 spaces) and associated hard and soft landscaping amenity spaces and alterations to existing highways adjoining.	Validated 29th April 2014. Decision: Granted with legal agreement on 29th December 2014. Under construction.
4	127 – 143 Borough High Street SE1 1NP	LBS	13/AP/1714	Demolition of several existing structures and construction of a six storey hotel with 100 bed spaces (4006sqm GIA) (Use Class C1) two commercial units (576 GIA) (Use Classes A1-A3) a gym (492sqm GIA) (Use Class D2. Reconfiguration of a Listed Building to provide ground floor retail unit (Use Class A1) (55sqm) with x1 2-bedroom residential unit (102sqm GIA) (Use Class C3) on the upper floors servicing landscaping alterations to vehicular and pedestrian accesses and associated works.	Validated 28th May 2013. Decision: Granted with legal agreement on 21st February 2014. Under construction
5	175-179 Long Lane SE1 4PN	LBS	13/AP/4586	Redevelopment of site to provide new part 5 part 6 part 7 and part 8 storey building (maximum height 25.7m) comprising commercial floorspace (class b1) at ground floor and 95 residential units (use class c3) above associated car parking and cycle parking landscaping and podium garden at first floor level.	Validated on 23rd December 2013. Decision: Granted with legal agreement on 4th June 2014.

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					Under construction.
6	Former Lambeth College Tooley Street SE1 2JR	LBS	13/AP/3207	Conversion/ refurbishment and alteration of existing building into a 70-bed boutique hotel with restaurant bar kitchen and staff facilities plant and servicing and landscape works.	Validated on 16th January 2014. Decision: Granted on 16th April 2014. Implemented
7	1 Bank End (Site, Including Railway Arches and Thames House, Bounded by Stoney Street, Clink Street and Park Street) SE1.	LBS	15/AP/3066	Redevelopment of 1 Bank End, including reuse of railway arches, and rebuilding and extension of the rear of Thames House, Park Street (retention of façade) to provide a development reaching a maximum height of 6 storeys comprising retail/café/restaurant units (flexible Class A1, A2, A3 and A4 use) at ground and first floor levels, office floorspace (Class B1 use) at ground up to fifth floor level, a cinema (Class D2 use) at ground and basement level, associated cycle parking spaces, associated refuse and recycling, with new public access routes and public open space.	Validated 19th August 2015. Application not yet determined. Under construction.
8	133 Park Street, London SE1 9EA and 105 Sumner Street London SE1 9HZ	LBS	16/AP/4569	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.	Validated 9th November 2016. Granted with legal agreement 20 October 2017 Partly constructed
9	Rich Industrial Estate, Crimscott Street, London SE1 5TE and Willow Walk, London SE1	LBS	15/AP/2474	Demolition of four existing buildings and electricity substation and the development of a phased mixed-use scheme ranging from 3-9 storeys plus basements (maximum height 34.03m AOD) comprising a series of new buildings and retained/refurbished/extended buildings to provide a total of 19,468sqm (GIA) of commercial, retail, art gallery and storage floorspace (Use Classes A1, A2, A3, B1, B8 and D1) and 406 residential units (Use Class C3) plus associated highway and public realm works, landscaping, car and cycle parking, infrastructure works and associated works.	Validated 15th July 2015. Application granted with legal agreement 7th December 2016. Status is unknown. Not yet started
10	151-157 Tower Bridge Road, London SE1 3JE	LBS	16/AP/3222	Alterations to and the refurbishment of the existing buildings, including: change of use from 106 residential units (40 x studios, 36 x 1bed and 30 x 2bed), 41 aparthotel units/partially vacant aparthotel floorspace and flexible retail/commercial floorspace, to 69 residential units (8 x 1bed, 56 x 2bed and 5 x 3bed), 137 aparthotel units and flexible retail/commercial floorspace (A1/A2/A3/B1a); installation of balconies; alterations to elevations; minor alterations to increase the height of the buildings (max. 32.3 metres); landscaping; alterations to vehicle access; and associated works.	Validated 2nd September 2016. Application granted with legal agreement 2nd November 2017. Status is unknown.
11	Tower Bridge Magistrates Court and	LBS	15/AP/3303	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)	Validated 14th August 2015.

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	Police Station, 209-211 Tooley Street, London, SE1 2JY			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'.	Granted with legal agreement on 8th March 2016. Status unknown. Under construction.
12	Royal Mint Court, London, EC3N 4QN	LBTH	PA/16/00479/A1	Full planning permission for comprehensive redevelopment of the site to provide an employment-led mixed use development of up to 81,000sq.m of B1, A1, A3 and D2 floor space, involving the refurbishment and restoration of the Johnson Smirke Building (Grade II*), remodelling and refurbishment of the Grade II façade of The Registry, with alterations and extensions to the remainder of the building, the retention, part demolition, alterations and extensions to Murray and Dexter House , the erection of a standalone four storey building within the south west corner of the site, alterations to existing boundary wall to create new access points to the site and associated public realm and landscaping and all ancillary and associated works.	Validated 25th February 2016. Decision: Permitted– issued 16 February. Not yet started.
13	130 Fenchurch Street London EC3M 5DJ	City of London	14/00496/FULMAJ	Demolition of the existing building and erection of a new building of two basements, ground and 17 upper storeys comprising office (Class B1) use [40,502sq.m GEA] and flexible retail (Class A1/A3) floorspace [558sq.m GEA] and associated cycle parking, servicing, storage and plant. [Total 41,060sq.m GEA].	Validated 20th June 2014. Decision: approved on 17th March 2016. Not yet started.
14	Site Bounded by King William Street, Cannon Street, Abchurch Lane & Nicholas Lane Incorporating 10 King William Street, 12 Nicholas Lane, 14 Nicholas Lane, 135-141 Cannon Street, 143-149 Cannon Street & 20 Abchurch Lane London EC4.	City of London	14/00178/FULEIA	Demolition of the existing buildings and redevelopment with a new office (Class B1) building at part basement, ground floor and six upper floors (17,250sq.m total GIA) with retail (Class A1/A2/A3/A4/A5) uses at part ground and mezzanine levels (1,091sq.m GIA) incorporating reconstruction of the existing historic facade at 20 Abchurch Lane. Passive provision for a new Bank Station Entrance Hall on Cannon Street and associated infrastructure at ground floor level.	Validated 28th February 2014. Decision: approved on 27th June 2014. Not yet started.
15	Southwark Fire Station, 94 Southwark Bridge Road, London, SE1 0EG, Grotto Place and Grotto Podiums	LBS	17/AP/0367	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	Recommendation for approval subject to legal agreement and GLA referral

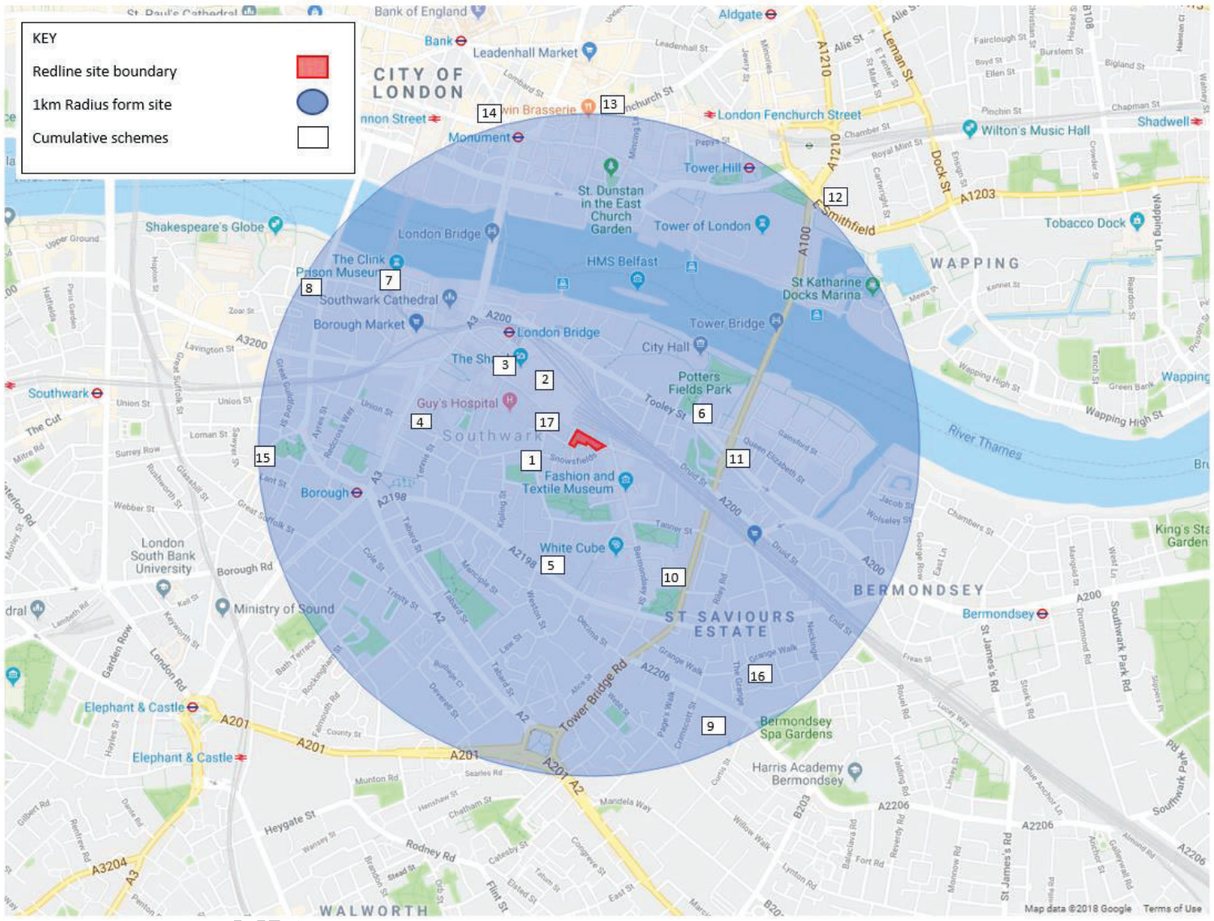
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				redevelopment of land at Grotto Place for the provision of a new sports hall (1,452sqm) and external multi use games facility and landscaping.	
16	Site Bounded By Grange Walk, Grange Yard And The Grange, London, Se1	LBS	16/AP/3963	Variation of Condition 2 - Approved Plans as required by LBS Planning Application 14AP2102 (Demolition of existing buildings and redevelopment to provide 167 residential units with basement car and cycle parking, amenity space, plant and associated works. The proposed height will be part-4, part-6 and part-7 storeys.) The proposed variation would allow for: Internal re-configuration to allow for the creation of 3 additional residential units. This would increase the total number of residential units from 167 (1 x studio, 64 x 1-bed, 66 x 2-bed, 36 x 3-bed) to 170 (1 x studio, 73 x 1-bed, 66 x 2-bed, 33 x 3-bed)	Granted with legal agreement 30 March 2017
17	Capital House, 42-46 Weston Street, London SE1 3QD	LBS	18/AP/0900	Redevelopment of the site to include the demolition of Capital House and the erection of a 45-storey building (3 basement levels and ground with mezzanine and 44 storeys) of a maximum height of 157.7m (AOD) to provide up to 1,028 student accommodation units (Sui Generis use), a museum (Class D1 use), cycling parking, servicing, refuse and plant areas, public realm improvements and other associated works incidental to the development.	Application validated 18th April 2018. Status - Application at pre-determination stage.

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Figure 1 Cumulative Schemes



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Vinegar Yard

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Appendix: EIA Methodology

Annex 1: Statement of Competence
Annex 2: Cumulative Schemes
Annex 3: Climate Change Technical Note
Annex 4: EIA Approach Note to the Greater London Authority
Annex 5: Vinegar Yard 2018 Scoping Report
Annex 6: LBS Review of 2018 Scoping Report
Annex 7: 2019 LUC Review of Environmental Statement and Addendum
Annex 8: Trium Response to Review of Environmental Statement and Addendum

Vinegar Yard EIA Scoping Report: High Level Review

Purpose of the EIA Scoping Report Review

1.1 LUC was appointed on 7th November 2018 by the London Borough of Southwark (LBS) to review the draft Scoping Report (SR) for the proposed redevelopment of 'Vinegar Yard' (hereinafter referred to as 'the proposed development'). The SR was prepared by Trium Environmental Consulting LLP on behalf of St Thomas Bermondsey Limited (hereinafter referred to as 'the Applicant').

1.2 The SR was submitted to the LBS *"for informal discussion"* in October 2018 and a high level review of the content of the document has been undertaken. The findings of the review will be discussed with the Applicant and the LBS before the formal submission of the Environmental Statement (ES).

1.3 The review of the SR has been prepared and coordinated by LUC with specialist input from the following organisations:

- Ricardo Energy and Environment: Air Quality, Noise and Vibration, Water Resources*[1], Geoenvironmental (Land Contamination, Ground Conditions and Ground Water)*;
- Xi Engineering: Wind Microclimate; and,
- Delva Patman Redler LLP: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare.

1.4 LUC has reviewed the following topics:

- Socio-Economics;
- Traffic and Transport;
- Archaeology;
- (Built) Heritage, Townscape and Visual Impact Assessment;
- Ecology*;
- Electronic Interference*;
- Waste*.

1.5 The LBS should ensure that the ES incorporates both LUC and any consultee comments received in response to the draft SR.

1.6 Although the SR was submitted informally, the scoping guidance issued by the London Borough of Tower Hamlets (LBTH)[2] has been referred to in this review as this is considered to represent one of the most comprehensive guidance notes available for scoping development projects in urban areas.

The Proposed Development and Background

1.7 The site is located within the LBS administrative boundary and is approximately 0.3ha in size. St Thomas Street and London Bridge Station form its northern boundary with the Snowsfields and Bermondsey Yard buildings to the east. To the west, the site is bound by Fenning Street and Beckett House and directly adjacent to the south, the site is bordered by a warehouse and Snowsfields residence, Melior Place and Melior Street.

1.8 The whole site is located wholly within flood zones 2 and 3 and the Air Quality Management Area (AQMA) which is designated over the entire northern part of the London Borough of Southwark. The Bermondsey Street Conservation Area covers the south-west of the site. The southern border of the site is also in close proximity to the Conservation Area border, approximately 6m at its closest point.

1.9 The Vinegar Yard building currently occupies the south west corner of the site and other areas of the site are occupied by a temporary Network Rail building (shown in Figures 2 and 3 of the SR) and hardstanding.

1.10 The proposed development includes demolition of the existing structures on site and the construction of up to 33,960 m^2 gross external area which will include a multi storey building on the west side of the site and a separate smaller building on the east side.

1.11 The multi storey building will have a maximum height of ground + 20 stories (up to 100m AOD) and will deliver a commercial development including the provision of retail uses on the ground and first floors which will open into an improved public realm. A music venue is proposed within the separate smaller building (with the performance area being below ground) which will be linked to the main commercial development via a 3-storey basement.

Review of Approach to EIA

Requirement for EIA

1.12 Under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, 'EIA development' means *"development which is either Schedule 1 development or Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location."* Schedule 1 developments for which EIA is mandatory are generally large scale industry and infrastructure projects. The proposed development does not fall within this category.

1.13 Schedule 2, for which EIA may be required, is applicable to developments located in 'sensitive areas' or which meet or exceed applicable thresholds/criteria set out in Schedule 2. The proposed development as described in the submitted SR foes not fall within Schedule 2, 10(b) (Infrastructure Projects – Urban Development Projects) of the EIA Regulations as the site area does not exceed the 5 ha threshold, nor does it provide over 1 ha of development that is dwelling/house, nor does it provide over 150 residential units. The site is also not located within a 'sensitive area' as defined by the EIA Regulations. Whilst the proposed development is therefore not 'EIA development', the EIA has been undertaken voluntarily and in accordance with the requirements of the EIA Regulations.

EIA and the Scoping Process

1.14 There is no mandatory requirement to submit a request for an EIA Scoping Opinion; however, where an EIA Scoping Opinion is sought, the EIA Regulations 2017 set out that this should include the following information under Regulation 15:

(i) *"a plan sufficient to identify the land;*
(ii) *a brief description of the nature and purpose of the development, including its location and technical capacity;*
(iii) *an explanation of the likely significant effects of the development on the environment; and*
(iv) *such other information or representations as the person making the request may wish to provide or make."*

1.15 The SR is accompanied by an appropriate plan (Appendix A – Site Location and Reline Planning Application Boundary) and it is described in the section on 'Site Context and Proposed Development' (see below). Paragraph 11 of the SR refers to Schedule 4 of the EIA Regulations *("Information for inclusion in environmental statements")* and paragraph 12 of the SR lists the

[1] Topics marked '*' have been scoped out of detailed assessment.

[2] Tower Hamlets Council EIA Scoping Advice: http://www.towerhamlets.gov.uk/Documents/Planning-and-building-control/Revised-Scoping-Guidance-V2-Final.pdf

environmental topics that have been considered in the assessment, and with the potential for significant effects to arise from the proposed development either during construction, operation or demolition.

1.16 'Project vulnerability' of the proposed development is also discussed within this section of the SR (as required in Regulation 4(4) and Schedule 4 of the EIA Regulations). This is considered in terms of major accidents and disasters and identifies flood risk and fire risk as relevant to the proposed development. The SR explains that the planning application will be accompanied by a Flood Risk Assessment (FRA) and that fire risk is managed outside of the EIA process through a combination of legislative and industry guidance, including the Construction (Design Management) Regulations (2015). The SR justifies why this topic should be scoped out of detailed assessment, and this is considered an appropriate approach. However, it is suggested that this text would have been better placed in the section of the SR which details 'Topics Where No Likely Significant Effects are Anticipated'.

1.17 Paragraphs 22 and 23 outline how the alternatives will be outlined in the ES, noting that the ES will summarise the evolution of the proposed development, the alternatives considered, and key modifications made during the design process, with commentary provided on how environmental considerations have influenced the final design. This is considered to be an appropriate approach to the consideration of alternatives, as required by Schedule 4 of the EIA Regulations.

1.18 Paragraphs 26 and 27 of the SR respectively assert that the draft SR forms an informal request for an EIA Scoping Opinion from the LBS, and that the Scoping Opinion, along with other consultation, will be appended to the ES.

Site Context and Proposed Development

1.19 Paragraph 28 of the SR describes 'Site location' and the 'Site Description and Environmental Context' is detailed in paragraphs 29-35. Paragraph 29 states that demolition of temporary Network Rail buildings is currently ongoing and that *"vacant possession of the site is to take place at the end of September"*. It is assumed therefore that this has now been completed however this should be clarified in the ES.

1.20 Whilst it is noted that a site location figure is provided as Appendix 1, it is suggested that this should be included in the 'Site location' section, or at least cross-referenced, to allow the reader to fully appreciate the location of the site.

1.21 Paragraphs 32 to 34 of the SR identify that the site lies within 2011 Public Transport Accessibility Level (PTAL) rating of 6b (excellent), within flood zone 2 and zone 3 floodplain and within an AQMA. No figures are referred to in relation to these designations, and it is recommended that the ES provides figures showing these designations.

1.22 The SR includes information on 'The Surrounding Area's Environmental Context' which is split into further headings; socio-economic, traffic and transport, air quality, noise and vibration, archaeology, further designations and wind microclimate. Whilst this information is useful, the text forms a brief baseline for each of the headed topics and it is suggested that this information is included within the relevant topic chapters of the SR and ES.

1.23 The 'Overview of the Proposed Development' sub section of the SR sets out that the proposed development includes the demolition of the existing structures on the site and buildings that will be erected during the construction phase. It also explains the land use classes within each building during the operational phase.

Planning Context

1.24 This section of the SR sets out that the planning statement and the technical assessments of the ES will consider the planning context for the proposed development. The SR notes that the EIA will be undertaken in accordance with national, strategic and local planning policy and guidance and states which relevant documents will be referred to.

EIA Process and Methodology

1.25 Within the 'EIA Approach and Methodology' subsection, the SR states that the EIA will be undertaken in line with the relevant and best practice guidance.

1.26 Paragraph 82 states that the baseline will be taken as September 2018, following completion of the Network Rail demolition works, and therefore assumed to now be completed as noted above. Demolition of the Network Rail buildings are therefore understood not to form part of the proposed development and paragraph 63 does not mention this, stating, "*The Proposed Development includes the demolition of the existing structures on-site including the Vinegar Yard building in the south west portion of the site and the yard in the east portion of the site*". To ensure clarity, it is recommended that ES specifies what demolition work is being included and excluded in the assessment.

1.27 Schemes proposed for inclusion in the cumulative assessment are discussed in paragraph 85 of the SR, cross referenced to Appendix B – Cumulative Schemes. The Applicant notes that any changes to the cumulative schemes will be reflected in the baseline and assessment in the ES. It should be noted that the Applicant must agree the schemes for inclusion in the cumulative assessment with the LBS. The approach to the cumulative assessment and assessment of effect interactions set out in paragraphs 118-135 sets out how this will be assessed within the technical chapters and within a separate chapter respectively. The approach is considered appropriate.

1.28 Paragraph 88 indicates that the completion of the demolition and construction work will occur in the year 2023 and paragraph 89 states there will be no phased delivery of the proposed development and a phased construction programme therefore does not need to be considered.

1.29 The SR explains that the ES will provide information on the volumes of construction material to be taken to site and waste volumes, the duration of the demolition and construction phase. These details in turn will be assessed within the technical chapters along with any monitoring programmes.

1.30 Paragraph 97 of the SR indicates the inclusion of the construction Code of Construction Practice or Construction Environmental Management Plan (CEMP) (or equivalent) within the ES, which is welcomed.

1.31 Paragraphs 98 to 100 of the SR are under the heading 'Completed Development Impact Assessments' and set out what will need to be assessed within the EIA once the development is in the operational phase. This section is considered appropriate.

1.32 'Climate Change' is the next sub section of the SR and provides a detailed approach of how the climate change assessment will be undertaken. It also states that climate change will be considered throughout the technical chapters of the ES and the level of assessment and methodology will be proportionate to the available evidence base. This approach is considered appropriate.

Determining Effect Significance – Terminology and Approach

1.33 The scope for applying effect significance is set out in paragraphs 136 to 154. The use of standard terminology is proposed, noting that for each topic, *"the ES will be clear on which effects are significant and those which are not"* and that *"this is likely to differ across technical topics"*. This standardised, yet flexible approach to assessment, is considered appropriate on the assumption that there is clarity on what effects are considered to be significant in the context of the EIA Regulations.

Environmental Topics Scoped-In to the EIA

1.34 The 'Topics with the Potential for Likely Significant Effects' section of the SR sets out the proposed topics for consideration in the ES in accordance with Schedule 4 of the EIA Regulations *("Information for inclusion in environmental statements")*.

Socio Economics

1.35 The inclusion of this topic into the SR is considered to be appropriate, particularly in light of the commercial nature of the proposed development. However, it is noted that due to the scale of the overall development, impacts on employment, economic output and public realm are likely to be limited during both the construction and operational phases.

1.36 The SR sets out the key socio-economic issues likely to arise from the proposed development in paragraph 158 and 159. The Socio-Economic assessment should identify the baseline characteristics of the area through a range of appropriate sources, including those detailed in paragraph 171. Other sources could include reviewing local economic plans and any Local Enterprise Partnership publications.

1.37 It is considered that the Applicant has taken into account most of the standard issues and requirements and that the scope of the socio-economic elements of the chapter is considered appropriate.

1.38 Due to the commercial nature of the proposed development and a perceived lack of impacts from a socio-economic perspective, a full health impact assessment is not proposed to be undertaken. Additionally, it has also been noted that due to the nature of the scheme and its focus on commercial issues there is no requirement for the provision of healthcare services or other social infrastructure.

1.39 Although the approach to assessing impacts on health is considered acceptable, insufficient information has been presented to justify scoping this topic out in its entirety. It is recommended that further clarity is provided on any potentially sensitive health receptors or relevant pathways that may affect health and wellbeing of existing nearby residents and new workers that will be introduced to the site. It is considered that it is likely to be sufficient to cross-reference other relevant chapters within the EIA where impacts such as noise, air quality, and flood risk are considered further. If this cannot be achieved and appropriately demonstrated, then further assessment of the potential health impacts of the development should be provided in the form of a proportionately scoped EIA chapter, relating to the relevant health impacts of the proposed development.

Traffic and Transport

1.40 The scope for traffic and transport is set out in paragraphs 172 to 194 of the SR. It is stated that the chapter will be based on the findings of the Transport Assessment, which will be prepared in line with Transport for London Guidance. The TA should be appended to the chapter and cross referenced where appropriate.

1.41 The chapter will be prepared in line with IEMA Guidelines for the Environmental Assessment of Road Traffic 1993. This is appropriate.

1.42 The ES chapter will consider: relevant policy; the baseline conditions; assessment of potential effects of both the construction and operational phases; cumulative effects; mitigation and residual effects. It is noted that mitigation and residual effects should be considered for both the construction and operational phases.

1.43 The proposed development does not include any vehicle parking however, the impact on public transport modes, walking and cycling should be assessed and delivery and servicing arrangements should be assessed as part of the operational phase.

1.44 Overall, the scope of the transport chapter and the assessment scenarios proposed are considered appropriate.

Air Quality

1.45 The applicant has correctly identified the AQMAs within the LBS for the annual mean NO2 and 24 hour mean PM10 Air Quality Strategy (AQS) objectives. Within the ES, the applicant should have regard to the Air Quality Focus area that is located close to the site.

1.46 In paragraph 202, the Institute of Air Quality Management's (IAQM) land use planning and development guidance has been correctly identified to determine if construction traffic meets the assessment criteria in Table 6.2.

1.47 In paragraph 204, it is stated that *"it is anticipated that the volume of additional traffic associated with the Proposed Development will not exceed the screening criteria specified by the EPUK / IAQM guidance, and that an assessment of emissions from operational road traffic will be screened out of the air quality assessment."* A comparison of the proposed scheme's net change upon road traffic should be provided to demonstrate that it does not meet IAQM's Table 6.2 assessment criteria.

1.48 As noted in the SR, impacts from the proposed development can be screened out of detailed assessment. As noted above, this should be proven by demonstrating that the net change in traffic flows associated with the proposed development does not meet Table 6.2 of IAQM's screening criteria. However, dispersion modelling of proposed road traffic surrounding the proposed development should be undertaken to establish pollutant (NO_2, PM_{10} and $PM_{2.5}$) concentrations at proposed receptors.

1.49 In addition, it is recommended that a sensitivity test should be applied to consider elevated real world emission rates from diesel vehicles. It is recommended that this is undertaken and the methodology/guidance used for the sensitivity test documented.

1.50 The consultant has correctly identified industry standard guidance such as:

- Construction dust assessment;
- Institute for air quality management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction;
- Mayor of London's Supplementary Planning Guidance, The Control of Dust and Emissions during construction and demolition;
- Evaluating significance of air quality impact – IAQM Land-Use Planning & Development Control: Planning for Air Quality (2017);
- Air Quality Neutral Assessment - Mayor of London's Supplementary Planning Guidance, Sustainable Design and Construction; and,
- Air quality monitoring – Local Air Quality Management Technical Guidance 2016.

1.51 An assessment of this guidance and the conformity of the proposed development with these should be included within the ES. It is recommended that consideration is given to the Mayor of London's draft London Plan, in particular, ambitions to meet the world health organisation's particulate thresholds in section 9.1.1.

1.52 Confirmation that the locations of sensitive receptors for the model have been agreed with LBS is to be provided within the ES.

1.53 It is noted that control measures including for the control of dust are to be employed. Details of these measures are to be included within the ES.

Noise and Vibration

1.54 A baseline long and short term noise measurement survey has been proposed to be carried out representing the different noise conditions at the site boundaries and at nearby sensitive receptor locations. The scope and measurement procedures appear to be adequate although it is not clear whether the methodology has been agreed in consultation with LBS EHO. Confirmation that the methodology and scope of the noise and vibration assessment and monitoring locations have been agreed with LBS is required.

1.55 Receptor locations have been adequately described and, although not mentioned, it is assumed that the assessment will include amenity areas as receptors.

1.56 Appropriate methods for calculating levels of construction noise and vibration at sensitive receptors have been described and the assessment will take account of existing ambient conditions at receptors.

1.57 Appropriate impact descriptors have been assigned for construction and operational noise assessment in terms of 'negligible' to 'major' and separate descriptors are proposed for traffic noise assessment during construction and operation.

1.58 Relevant criteria for the assessment of vibration impacts have been included for both construction and operational phases and the assessment of noise from building services plant has been adequately described.

1.59 Although criteria for assessment of significant effects have been identified there is no mention of mitigation methods or when such measures might be needed. Details on mitigation measures are to be clearly identified within the ES.

1.60 The assessment of residual impacts and noise in amenity areas has not been included. A summary of residual effects following mitigation and consideration of the potential cumulative noise effects from other nearby developments is to be provided within the ES.

Wind Microclimate

1.61 The applicant intends to use a boundary layer wind tunnel to perform wind microclimate analysis on the current baseline conditions, the proposed development, and the proposed development with surrounding cumulative schemes. This is a robust method for rating the wind microclimate conditions at the site and analysis will be supported by wind data for the surrounding area to assist in calculation of wind microclimate effects in and around the proposed development. This scope of EIA work is suitable for the proposed development; however the applicant has not stated the radius of surrounding infrastructure that is intended to be modelled. The radius from the centre of the development should be dependent on the development size and the type of surrounding infrastructure, however a 300m radius would be desirable.

1.62 The impact from the analysis will be quantified by the potential change in pedestrian comfort and safety at sensitive receptor locations such as building entrances, pedestrian thoroughfares and amenity areas. The analysis will consider the wind microclimate at both ground level and at balcony/terrace height for the proposed development. All wind speed data will be compared to the Lawson Comfort Criteria, which is the industry standard methodology for rating wind microclimate conditions. Strong winds will also be considered for the wind microclimate analysis. This is a satisfactory approach for completing the EIA at the proposed development.

1.63 Mitigation will be specified. If required, the applicant has also stated that mitigation measures may be tested again in a wind tunnel environment. In the case of strong winds, this is recommended.

Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare

1.64 The proposed scope of assessment of existing surrounding sensitive receptors should include the residential properties in Guinness Court and Carmarthen Place, the student accommodation in Weston Street and the Snowsfields Primary School.

1.65 The proposed assessment methodology is considered appropriate. The two-hours sun-on-ground test should be run for the public open space on the corner of Fenning Street and Melior Street. Justification should be provided for the 20-metre cut-off the light pollution assessment.

1.66 The use and internal layout of rooms in existing surrounding sensitive properties should be ascertained, so far as reasonably possible, by researching publicly accessible online planning and/or estate agency records to obtain floor plans, where possible. Where such information is not readily available, estimation based on external observation would be appropriate.

1.67 It is agreed that the significance of daylight and sunlight effects should be determined by reference to the recommendations in Appendix I of the BRE guide. The following scale of effect should be used to categorise magnitudes of change in daylight and sunlight to buildings and amenity spaces where retained levels will be below BRE standard target values (i.e. less than 27% VSC, 80% NSL, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight on 21 March):

- BRE adherent/change of 0% to 20% = negligible change
- Change of 21% to 30% = low magnitude of change
- Change of 31% to 40% = medium magnitude of change
- Change of more than 40% = high magnitude of change

1.68 Summary tables should be provided for each assessment stating the number of receptors in each property or group of properties that fall into each of the above four bands.

1.69 If alternative target values for daylight and sunlight access are to be proposed in the ES, these should be developed in accordance with Appendix F of the BRE guide and appropriate justification provided. If the level of adherence to such alternative target is to be included in the ES, this should supplementary to, not in place of, the level of adherence to BRE standard target values.

1.70 If alternative baselines are to be considered in accordance with Appendix F of the BRE guide, for example an extant planning permission or mirror-image building of the same height and size as the existing neighbouring building, it would be inappropriate for them to be treated in the same way as the existing baseline and for the target to be set at 0.8 times the values for the alternative baselines.

1.71 The Cumulative Assessment referred to in paragraph 282 of the EIA Scoping Report should assess the effects of the cumulative scenario (i.e. proposed development and other cumulative schemes) against the existing baseline.

Archaeology

1.72 The scope and baseline data gathering laid out in for this topic is broadly appropriate and in line with current policy and guidance and industry best-practice.

1.73 The wording of the SR with regard to the potential sensitive receptors (para. 287 - limiting the scope of these to Pleistocene and Holocene deposits and to post-medieval heritage assets) appears somewhat at odds with the detail given on the known archaeological context of the site in paragraph 53 which states that the site lies in an Archaeological Priority Area (APA) focused around Roman and later development in North Southwark. The assessment methodology described at paragraph 290 further states that the prehistoric to post-medieval development of the site will be considered as part of the baseline. The applicant is to ensure that all known archaeological heritage assets or potential archaeological heritage assets, regardless of period, are appropriately discussed within the ES and any potential impacts and effects clearly explained.

1.74 The applicant proposes a study area of 200m from the site boundary. The rationale for this study area is to be clearly explained within the ES. It is noted that the applicant proposes some consultation with LBS on archaeology and it is recommended that, as part of this consultation, the extent of the study area is explicitly agreed.

(Built) Heritage, Townscape, Built Heritage and Visual Impact Assessment

1.75 The topics of (Built Heritage), Townscape and Visual Impact are combined under a single heading ('HTVIA') in the SR. However, this section is then subdivided into 'Heritage' and 'Townscape and Visual' and the assessor acknowledges that "*these are separate disciplines and require separate assessment in accordance with legislation, planning policy and best practice guidance*". To reinforce the importance of this, it is recommended that:

- There are separate Built Heritage and TVIA chapters, but as a minimum the topics should be clearly separate sections within the chapter.
- Each assessment should be carried out by suitably qualified practitioners in the fields of historic environment assessment (for impacts on built heritage) and townscape and visual impact assessment (for impacts on townscape character and views/visual amenity).
- Receptors are considered in line with appropriate historic environment and TVIA guidance and methods, including that effects to heritage assets are reported in terms of the effect of the proposed development upon their significance.

Townscape and Visual

1.76 The study area should include all townscape and visual receptors likely to be significantly affected, either directly or indirectly, by the proposed development and should be clearly justified.

1.77 Townscape character areas will be defined as part of the project and this is welcomed. The SR proposes that the assessor will produce a Zone of Visual Influence to help identify potential viewpoint locations. The list of representative assessment viewpoints and types of AVR to be produced for each viewpoint should be agreed with LBS and other relevant stakeholders. It is noted that effects on the London View Management Framework (LVMF) views will be assessed as part of this Chapter which is welcomed. In addition, the assessor should consider effects on other notable views such as those set out in the 'Southwark Borough Views Background Paper' (2017).

1.78 The TVIA should consider effects during construction and operation. It may also be appropriate for the TVIA to consider how potential effects may change throughout the course of the day, e.g. the effect of proposed lighting on night time views and character. It is noted that the SR makes a

judgement on the level of effect during the construction phase ('minor adverse') – however it is considered that it is not possible to reach a conclusion without a transparent assessment and the construction effects should therefore be assessed as part of the TVIA.

1.79 The chapter should include an assessment of potential cumulative effects (with the relevant cumulative schemes to be agreed with LBS). We note that a cumulative AVR will be provided for each view to inform the assessment.

Built Heritage

1.80 While the overarching principles of the assessment of built heritage assets laid out in the SR appear broadly appropriate, there are certain areas where there is either a lack of clarity in aspects of the assessment or there appear to be potential for conflation of assessment of built heritage with townscape and visual concerns as detailed below.

Baseline extent and content

1.81 The applicant proposes a study area for built heritage baseline data gathering defined by a set distance from the site boundary. The applicant does not give any set distance within the SR so it is not possible, on the basis of the information presented, to establish whether or not the radius is appropriately drawn given the scale of the building proposed for the site and the area over which it may be visible. GPA 3 (Historic England, 2017) encourages the use of ZVIs and ZTVs to identify the areas in which heritage assets may experience setting change as a result of the proposal. The SR states that a ZTV will be prepared as part of initial understanding of the potential visibility of the proposed development. The applicant is to use this, in parallel with any proximity-based criteria, to identify built heritage assets liable to experience setting change for inclusion as receptors within the ES. The applicant is to ensure that any method for developing the study area used is adequately explained and justified.

1.82 The applicant appears to limit the built heritage baseline to statutory and local designations (at paragraph 317). The applicant is reminded that it is necessary to consider the effect of a proposed development upon non-designated assets and that there may be as yet unrecognised built heritage assets lying in proximity to the application site. The presence of such previously unrecognised assets can be established through site walkover, map regression and by consulting the Greater London Historic Environment Record (GLHER). Both GPA 2 (Historic England, 2015) and NPPF paragraph 187 support the use of Historic Environment Records in the context of assessing the presence and significance of heritage assets, including in the context of development. The applicant is reminded that the GLHER is a source that is already being consulted for the Archaeology topic of the ES. It is recommended that the built heritage team liaise with the archaeology specialists to establish whether or not there is any information pertinent to their assessment within the GLHER search results.

Nature of impacts and effects

1.83 The applicant cites appropriate historic environment guidance as guiding their assessment at paragraphs 322 and 323. These, in line with NPPF, require impacts and effects to heritage assets to be articulated in terms of how a proposed development would affect the significance of a given asset. Some of the wording in the sections on potential effects (e.g. paragraphs 327-8, 333-5) implies that it is change in setting, rather than with the resulting effect on significance, that is being considered. The applicant to ensure that impacts and effects to built heritage assets are clearly articulated in terms of what any setting change means for the significance of the heritage asset in question.

Reporting

1.84 The applicant states that AVRs will be prepared to support the visual assessment. It is not stated whether any such visualisations will be used to support the explanation of effects to built heritage assets. It is recommended that relevant AVRs are used as part of the explanation of effects to built heritage assets since they can be very valuable in allowing readers to understand the nature of proposed changed. Where any AVRs are used to illustrate effects to built heritage assets, the applicant is to ensure that there is both sufficient explanation in text of how the AVR illustrates the change to a particular built heritage asset and adequate cross-referencing between the built heritage sections of the ES and the AVRs.

Environmental Topics Scoped-Out of the EIA

1.85 The 'Topics Where No Likely Significant Effects are Anticipated' chapter of the SR sets out the issues considered to be insignificant and which are therefore scoped out of the EIA.

Water Resources

1.86 The SR correctly identifies that the proposed development is situated in Flood Zone 3, in an Area Benefitting from Flood Defences. A Flood Risk Assessment (FRA) which will consider potential sources of flooding and impact on and offsite including tidal, pluvial (drainage-related) and groundwater flooding will be produced. This will be submitted with the ES. Climate change related to future flood risk will also be considered as part of the FRA and include statements on how the proposed development will build in climate change resilience and resistance with regard to future flood risk. This is considered adequate.

1.87 The FRA and Surface Water and Foul Sewage Drainage Strategy will be informed by consultation with key stakeholders including the Environment Agency (EA), the LBS and Thames Water and will draw on the NPPF and other relevant guidance and policies, such as local authority Strategic Flood Risk Assessment (SFRA), and Surface Water Management Plan (SWMP), Preliminary Flood Risk Assessment (PFRA) and the Local Flood Risk Management Strategy (LFRMS).

1.88 A Surface Water and Foul Sewage Drainage Strategy will also be submitted with the planning application. The strategy will detail the SuDS envisaged for the proposed development, designed to accommodate a 1:100-year storm and enable the site to achieve runoff rates comparable to those generated at present. However, the applicant should aim to achieve greenfield runoff rates, as advised in statutory and non-statutory guidance, as outlined in the London Plan.

1.89 The Surface Water and Foul Sewage Drainage Strategy will also identify any existing capacity issues within the foul water drainage network and present strategic options for foul water management at the site. This will be informed via consultation with Thames Water which is considered adequate especially when combined with paragraph 1.90 below.

1.90 The SR recognises the potential impact on potable water resources and references that water efficiency measures will be implemented to reduce the proposed development's impact on the foul drainage / sewer network. The efficacy of the water efficiency measures proposed needs to be considered in the context of overall benefits, and the significance of impact which would result if such measures were not included should also be considered.

1.91 The SR does not recognise potential impacts on groundwater. This should be considered since the development of a 3-level basement could impede groundwater flows. Moreover, groundwater contamination could occur during the construction phase and therefore these issues should be considered in the ES. Given that the EIA Regulations require consideration of the risk to human health (for example due to accidents or disasters), it is considered that this should include the risk to human health associated with flooding.

1.92 The SR concludes no likely significant effects with respect to flood risk, surface water drainage and foul drainage, including any effects arising during the demolition and construction works. The applicant proposes to summarise the FRA, Surface Water and Foul Sewage Drainage Strategy and mitigating measures into different chapters within the ES. However, this is considered insufficient especially in the context of the 3-level basement development and the noted increase in demands for potable water and potential associated risk to sewer and foul water capacity and flooding. Therefore, a 'Water Resources and Flood Risk' chapter should be presented in the ES.

Ecology

1.93 The Scoping Report concludes that no significant ecological effects are anticipated given the nature of the site and surrounds (being highly developed and disturbed), and it is therefore proposed that ecology is scoped out of the EIA. This is considered to be appropriate.

1.94 However, the Scoping Report does acknowledge that, although these would unlikely be significant in EIA terms, there is potential for ecological impacts (such as relating to the potential presence of roosting bats) to arise, whilst any development proposals will also present the opportunity to deliver ecological enhancements as is supported in National, London and Southwark planning

policy. Ecological survey is therefore proposed, with an ecological report to be submitted with the planning application to detail the findings of surveys completed, impacts and associated mitigation requirements, and enhancement proposals. This is considered an appropriate level of ecological input to support the planning application.

Geoenvironmental (Land Contamination, Ground Conditions and Groundwater)

1.95 It is likely that the site has been used for industrial/commercial land uses since at least 1871, although exact site uses aren't known. The site lies on alluvium and river terrace gravels (secondary aquifers) underlain by London Clay. The site is not in a source protection zone.

1.96 Three site investigation reports are cited which indicate that soil quality is slightly impacted by lead and PAH.

1.97 The SR identifies receptors (paragraphs 386 and 387) and potential impacts (paragraph 388) and goes on to develop mitigation measures. Paragraph 393 identifies these as a demolition plan, a construction and environmental management plan, an earthworks strategy, a dewatering strategy, the use of PPE and conformance to health and safety procedures, appropriate handling of wastes arising from foundation activities, management of hazardous materials, and spill minimisation and management procedures.

1.98 Given the amount of quantitative information available, it is proposed in the SR that the Ground Conditions/Contaminated Land impact assessment is scoped out of the ES provided that the application is conditioned to secure site characterisation and appropriate remediation with respect to land contamination. It is also proposed that a preliminary risk assessment (PRA) is submitted with the planning application, and that ES Volume 1 Chapter 14 Mitigation and Monitoring Schedule (Chapter 14) will cite industry recognised standards and good practice measures with respect to land affected by contamination.

1.99 This approach is considered broadly acceptable, provided that the mitigation measures outlined in paragraph 393 of the SR (which are considered to be appropriate on the basis of the information provided) are included in Chapter 14 of the ES and subject to appropriate planning conditions. Furthermore, the potential for UXO to be present should also be considered within the ES.

1.100 The demolition plan cited in paragraph 393 should include measures to prevent asbestos impacting soil quality during demolition. Mitigation measures should also include procedures for the appropriate minimisation and management of waste soils arising from the project with consideration of on- and off-site re-use of materials to minimise landfill volumes.

1.101 It is considered that the impact of the 3-storey basement structure on ground stability, groundwater flows and flooding/drainage should be given consideration, given the depth of the basement and the possible impact on existing underground structures such as the London Underground. It is considered that a basement impact assessment should be submitted with the planning application, and that this should be supported by appropriate site investigation data.

Electronic Interference

1.102 The Applicant has proposed to scope out potential effects on electronic interference on the basis that there are to be no adverse effects in relation to radio signals, cable TV reception and mobile phone reception. However, it has been noted that there is the potential for adverse effects relating to both satellite TV reception and Digital Terrestrial TV (DTTV). In the case of the former, there is limited potential for the loss or degradation of signal, although the majority of the structures that falls within the shadow area being of non-residential use. In the case of DTTV there is a slight potential for the adverse impacts, however, standard measures are available to both monitor and mitigate potential impacts and therefore effects are not considered to be significant.

1.103 While this is considered appropriate, it is recommended that in the ES the Applicant commits to investigating and taking appropriate action if required should any complaints or issues arise which can be directly attributed to the proposed development.

Waste

1.104 The scope for waste is set out in paragraphs 412 to 419 of the SR. The EIA will be accompanied by a Construction Environment Management Pan (CEMP) while specific mitigation proposals to be implemented throughout the construction and demolition phases are to be outlined as part of ES Volume 1, Chapter 14: Mitigation and Monitoring Schedule. An operational waste and recycling management strategy will be prepared to address waste management measures to be enforced during the operational phase. Measures relating to the proposed development once complete and occupied, including a summary of the waste strategy, are to be presented in ES Volume 1, Chapter 3: The Proposed Development.

1.105 While the scoping out of this chapter is considered acceptable, the relevant chapters or appendices should include information on the estimated total arisings of demolition and construction waste, the proportion of waste to be reused and whether this re-used waste will require processing. The sources and disposal methods and locations of materials and waste should be identified, as should approaches that will be implemented to maximise resource efficiency. The EIA should also include a commitment to the preparation of a Site Waste Management Plan (SWMP).

Conclusions

1.106 Overall The SR meets the statutory requirements for scoping set out in Regulation 15 of the EIA Regulations which state that a scoping request must include *"a plan sufficient to identify the land; a brief description of the nature and purpose of the development and of its possible effects on the environment; and such other information or representations as the person making the request may wish to provide or make"*.

1.107 Comments in relation to the treatment of specific requirements of Schedule 4 of the EIA Regulations are provided above along with general points relating to the proposed scope, and these are to be considered in the event that the draft SR is formally submitted and the LBS issues a Scoping Opinion.

1.108 The SR makes reference to a wide range of topics and in general the proposed scope of the EIA is considered acceptable however there are a number of topic-specific comments that require to be addressed (see **Table 1** below). In particular, it should be noted that the proposal to scope out Water Resources from detailed assessment is not considered appropriate.

Table 1: Summary of Recommendations

Recommendations of this Review
Introduction
No recommendations are given for this chapter.
EIA and the Scoping Process
The text referring to major accidents and disasters should be moved to the 'Topics Where No Likely Significant Effects are Anticipated' chapter of the SR.
Site Context and Proposed Development
Figures should be presented showing the site location and the different designations that are relevant to the proposed development.
The information included 'The Surrounding Area's Environmental Context' section of the SR reads as baseline data, and this text should only be discussed within the relevant topic chapters of the SR and ES.
Planning Context
No recommendations are given for this chapter.
EIA Process and Methodology
The ES must clearly specific what demolition works are being assessed as part of the EIA. It is not currently clear in the SR whether the National Rail demolition works are to be included as part of the EIA or not.

Recommendations of this Review
The ES must include cumulative schemes that have been agreed with the LBS.
Socio-Economics and Health
The Applicant should provide further justification for scoping out health, including cross-referencing other relevant chapters within the EIA where impacts such as noise, air quality and flood risk are considered.
Traffic and Transport
The TA should be appended to the document and cross referenced where appropriate.
Mitigation and residual effects should cover both the operational and construction phase.
Delivery and servicing arrangements should be assessed as part of the operational phase.
Air Quality
Within the ES, the applicant should have regard to the Air Quality Focus area that is located close to the site
A comparison of the proposed development's net change upon road traffic should be provided to prove that it does not meet IAQM's Table 6.2 assessment criteria.
Dispersion modelling of proposed road traffic should be undertaken surrounding the proposed development, to establish pollutant (NO_2, PM_{10} and $PM_{2.5}$) concentrations at proposed receptors.
If an assessment is required, a sensitivity test should be applied to consider elevated real world emission rates from diesel vehicles.
An assessment of relevant guidance and the conformity of the proposed development with this should be included within the ES.
It is recommended that consideration is given to the Mayor of London's draft London Plan, in particular, ambitions to meet the world health organisation's particulate threshold.
The ES should include confirmation that the locations of sensitive receptors has been agreed with the LBS.
Details of control of dust measures to be employed are to be included within the ES.
Noise and Vibration
Confirmation that the baseline survey methodology has been agreed with LBS EHO.
Assessment of noise in amenity areas to be included.
Details of typical mitigation measures and when they would be needed should be included in the ES.
A summary of residual effects following mitigation and consideration of the potential cumulative noise effects from other nearby developments is to be provided within the ES
Wind Microclimate
The applicant needs to state the radius of surrounding infrastructure that is intended to be modelled; a 300m radius is desirable.
It is recommended that strong wind mitigation measures are tested again in a wind tunnel environment.
Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare
The residential properties in Guinness Court and Carmarthen Place, the student accommodation in Weston Street and the Snowsfields Primary School should be included in the assessment.
The 2-hours sun-on-ground test should be run for the public open space on the corner of Fenning Street and Melior Street. Justification should be provided for the 20-m cut-off the light pollution assessment.
The use and internal layout of existing surrounding sensitive properties should be obtained where possible.
Significance criteria should be stated in the ES based on the recommendations in Appendix I of the BRE guide. The following scale of effect should be used to categorise magnitudes of change in daylight and sunlight to buildings and amenity spaces where retained levels will be below BRE standard target values (i.e. less than 27% VSC, 80% NSL, 25% APSH annually, 5% APSH in winter and 50% of a garden/amenity space receiving at least two hours of sunlight on 21 March): • BRE adherent/change of 0% to 20% = negligible change

Recommendations of this Review
• Change of 21% to 30% = low magnitude of change • Change of 31% to 40% = medium magnitude of change • Change of more than 40% = high magnitude of change
Provide summary tables for each assessment stating the number of receptors with effects in each of the above four bands.
Any alternative target values that may be proposed should be developed in accordance with Appendix F of the BRE guide and appropriate justification provided.
The Cumulative Assessment referred should assess the effects of the cumulative scenario (i.e. proposed development and other cumulative schemes) relative to the existing baseline.
Archaeology
The applicant should ensure that all known archaeological heritage assets or potential archaeological heritage assets, regardless of period, are appropriately discussed within the ES and any potential impacts and effects clearly explained.
The applicant proposes a study area of 200 m from the site boundary. The rationale for this study area is to be clearly explained within the ES and agreed with consultees.
(Built) Heritage, Townscape, Built Heritage and Visual Impact Assessment
Within the ES, preference would be for separate Built Heritage and TVIA chapters, but as a minimum the topics should be clearly separate sections within the ES chapter.
Each assessment should be carried out by suitably qualified practitioners in the fields of historic environment assessment (for impacts on built heritage) and townscape and visual impact assessment (for impacts on townscape character and views/visual amenity).
Receptors are considered in line with appropriate historic environment and TVIA guidance and methods, including that effects to heritage assets are reported in terms of the effect of the proposed development upon their significance.
Townscape and Visual
The study area should include all townscape and visual receptors likely to be significantly affected, either directly or indirectly, by the proposed development and should be clearly justified.
The list of representative assessment viewpoints and types of AVR to be produced for each viewpoint should be agreed with LBS and other relevant stakeholders.
The applicant should consider effects on other notable views such as those set out in the 'Southwark Borough Views Background Paper' (2017).
The TVIA should consider effects during construction and operation. It may also be appropriate for the TVIA to consider how potential effects may change throughout the course of the day, e.g. the effect of proposed lighting on night time views and character.
The chapter should include an assessment of potential cumulative effects (with the relevant cumulative schemes to be agreed with LB Southwark).
Built heritage
The applicant is to provide a set distance for the study area and is to ensure that any method for developing the study area used is adequately explained and justified.
The ES is to consider the effect of a proposed development upon non-designated assets and that there may be as yet unrecognised built heritage assets lying in proximity to the application site.
The applicant to ensure that impacts and effects to built heritage assets are clearly articulated in terms of what any setting change means for the significance of the heritage asset in question.
It is recommended that relevant AVRs are used as part of the explanation of effects to built heritage assets and that there is both sufficient explanation in text of how the AVR illustrates the change to a particular built heritage asset and adequate cross-referencing between the built heritage sections of the ES and the AVRs.
Water Resources (Scoped out)
The SuDs for the proposed development should accommodate a 1:100 storm event at least but should aim to achieve greenfield runoff rates.
The efficacy of the water efficiency measures proposed needs to be considered in the context of overall benefits, and the significance of impact which would result if such measures were not included should also be considered

Recommendations of this Review
Given the 3-level basement, an assessment of groundwater impacts should be included in the ES.
A water resources and flood risk chapter should be presented in the ES.
Ecology (Scoped out)
No recommendations are given for this chapter.
Geoenvironmental (Land Contamination, Ground Conditions and Groundwater) (Scoped out)
It is considered appropriate to scope out this topic, provided that: the application is conditioned to secure site characterisation and appropriate remediation with respect to land contamination; a preliminary risk assessment (PRA) is submitted with the planning application; and the mitigation measures outlined in paragraph 393 of the Scoping Report are included in Chapter 14 of the ES and regard given to the potential for UXO.
The demolition plan cited in paragraph 393 should include measures to prevent asbestos impacting soil quality during demolition.
Mitigation measures should include procedures for the appropriate minimisation and management of waste soils arising from the project with consideration of on- and off-site re-use of materials to minimise landfill volumes.
A basement impact assessment should be submitted with the planning application, supported by appropriate site investigation data.
Electronic Interference (Scoped out)
It is recommended that in the ES the Applicant commits to investigating and taking appropriate action if required should any complaints or issues arise which can be directly attributed to the proposed development.
Waste (Scoped out)
Consideration should be given to the inclusion of information on the estimated total arisings of demolition and construction waste, the proportion of waste to be reused and whether this re-used waste will require processing. The sources and disposal methods and locations of materials and waste should be identified, as should approaches that will be implemented to maximise resource efficiency.
The EIA should also include a commitment to the preparation of a Site Waste Management Plan (SWMP).

Prepared by LUC

November 2018

Appendix: EIA Methodology

Annex 1: Statement of Competence
Annex 2: Cumulative Schemes
Annex 3: Climate Change Technical Note
Annex 4: EIA Approach Note to the Greater London Authority
Annex 5: Vinegar Yard 2018 Scoping Report
Annex 6: LBS Review of 2018 Scoping Report
Annex 7: 2019 LUC Review of Environmental Statement and Addendum
Annex 8: Trium Response to Review of Environmental Statement and Addendum

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Land Bounded by St Thomas Street, Fenning Street, Vinegar Yard and Snowfields, Southwark

Review of Environmental Statement and Addendum

Prepared by LUC in association with Delva Patman Redler, Ricardo Energy and Environment, Clewlow Consulting and Xi Engineering

October 2019

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1 Introduction

1.1 Land Use Consultants (LUC) in association with Delva Patman Redler, Ricardo Energy and Environment, Clewlow Consulting and Xi Engineering has been commissioned by London Borough of Southwark (LBS) to provide a critical review of the Environmental Statement (ES) (dated December 2018) and the Supplementary Cumulative Effects Assessment (Addendum) (dated March 2019) for the land bounded by St Thomas Street, Fenning Street, Vinegar Yard and Snowfields, including no's 1-7 Fenning Street and no.9 Fenning Street, SE1 3QR. The ES and Addendum have been prepared to support a planning application (Application Ref.18/AP/4171 by St Thomas Bermondsey Limited ("the Applicant") with the description of the scheme as follows:

1.2 *"Redevelopment of the site to include the demolition of the existing buildings and the erection of a building up to 20 storeys in height (maximum height of 86.675m AOD) and a 3 storey pavilion building (maximum height of 16.680m AOD) with 3 basement levels across the site providing . The development would provide a total of 30,292 sqm (GIA) of commercial floorspace comprising of use classes A1/A2/A3/A4/B1/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".*

1.3 The site of the proposed development is located within the London Borough of Southwark (LBS).

1.4 The ES has been prepared under the provisions of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the EIA Regulations'). Under the EIA Regulations Part 1, 4. (5) Planning authorities are required to "ensure that they have, or have access as necessary to, sufficient expertise to examine the environmental statement". LUC is a Registrant of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark, and the LUC Project Director is individually accredited to the Institute. Details of the expertise of each of the team members involved in the review are set out in **Appendix 1** to this review.

1.5 The purpose of this review is to determine whether the ES meets the statutory requirements of the EIA Regulations[1] and relevant guidance[2]. The assessments undertaken must be of a high enough quality to provide confidence in the reported impacts of the scheme. If issues with the adequacy or robustness of the ES are identified, the review identifies what additional information is required to address concerns.

1.6 The review focusses on the ES and Addendum and does not provide comment on any additional planning judgements that need to be made by LBS. Where the securing of an environmental commitment or obligation is considered to warrant a planning condition, the proposed direction of such a condition will be provided. The conclusions of the review report will be used by planning officers at LBS when determining the application.

Review Report

1.7 This Report sets out the review of the Vinegar Yard, Southwark ES and Addendum. The structure of the report is as follows:

- Section 2 checks for Regulatory Compliance;
- Section 3 details review findings on the EIA Context and Influence (Scoping, Alternatives and Consultation)[3];
- Section 4 provides commentary on the presentation of the ES and Non-Technical Summary[4];

1Town and Country Planning (Environmental Impact Assessment) Regulations 2017

2 Including the National Planning Practice Guidance and the IEMA Quality Mark Review Criteria.

3 IEMA EIA Quality Mark - ES Review Criteria, COM4: Context and Influence.

- Sections 5-13 are topic specific reviews relating to each topic covered in the ES[5];
- Section 14 provides an overall summary of the likely significant effects and conclusions (topic-specific comments are also provided in Sections 5-13)[6];
- Section 15 reviews mitigation and monitoring; and
- Section 16 reviews ES Volume 2: Built Heritage, Townscape and Visual Impact Assessment.

1.8 A criteria-based approach, developed by the Institute of Environmental Management and Assessment (IEMA) hereafter referred to as 'the IEMA criteria', was used to undertake the review[7]. The criteria include general criteria looking at the information contained in the ES, including the presentation of the results and the non-technical summary. Issue-specific criteria address:

- the baseline conditions;
- assessment of impacts; and
- mitigation measures and management.

1.9 The review identifies a list of any clarifications required from the Applicant and a summary of any potential requests for further information under Regulation 25 of the EIA Regulations (referred to hereafter as potential Regulation 25 requests) to be made to the Applicant, as appropriate.

1.10 Further information has been provided to LBS by Trium Environmental Consulting LLP (dated August 2019), in response to the DRR, in the form of document entitled "*Response to Review of Environmental Statement and Addendum"* and associated appendices. This document sets out the Applicant's responses to the clarifications and initial responses to the potential Regulation 25 requests identified within the DRR. Since the DRR was prepared, there have been no changes to the proposed development.

1.11 The additional information provided in the response was assessed and conclusions made as to whether the outstanding matters had been resolved, in Section 17. This completed the Final Review Report.

Applicant Response to FRR

1.12 Following the Final Review Report further information has been provided to LBS by Trium Environmental Consulting LLP in the form of specific responses on Archaeology, Built Heritage and Daylight and Sunlight (dated September 2019). This information has been reviewed and the responses are outlined in Section 17.

ES Vol 3 Appendix: Supporting Technical Information

1.13 It is noted that the ES Vol 3 Appendix: Supporting Technical Information contains a suite of stand-alone documents which cover the following:

- Land Quality Risk Assessment;
- Arboricultural Constraints and Opportunities Report;
- Preliminary Ecology Appraisal;
- Basement Impact Assessment;
- Flood Risk Assessment;
- Drainage Assessment; and
- GHG Emissions Assessment

[4] IEMA EIA Quality Mark – ES Review Criteria, COM6: EIA Presentation.
[5] IEMA EIA Quality Mark – ES Review Criteria, COM5: EIA Content.
[6] IEMA EIA Quality Mark – ES Review Criteria, COM5: EIA Content.
[7] As set out in the IEMA EIA Quality Mark Applicant Guide (June 2016)

1.14 A high level review of the above documents was undertaken and the following commentary is provided:

Land Quality Risk Assessment – It is noted that no further land quality assessments are required to evaluate environmental risks at the site.

Arboricultural Constraints and Opportunities Report – It is noted that development should not extend to Root Protection Areas (RPAs) and retained trees should be protected during construction.

Preliminary Ecology Appraisal – It is noted that no sensitive ecological receptors have been identified and that no further surveys or mitigation measures are required.

Basement Impact Assessment – It is noted that this impact assessment recommends further survey work/specialist investigations which need to be undertaken to provide information on the parameters required for structural design and to reduce/mitigate risk associated with the site.

Flood Risk Assessment – It is noted that the development site is at low risk of flooding from tidal or river sources, surcharging sewers, groundwater sources and artificial sources. The site is at risk from surface water flooding from St Thomas Street and Vinegar Yard; mitigation should be implemented to reduce to a low risk. Recommendations include setting floor levels to at or above the breach level on a permanent basis and existing surface water discharge rate should be reduced to greenfield rate of 5L/sec.

Drainage Assessment – It is noted that three options for the SuDS strategy are proposed and that these will need to further investigated. It is noted that further drainage design could be conditioned to any future planning consent.

GHG Emissions Assessment – It is noted that the contribution of emissions in the context of the existing carbon budget are deemed to be low and that the arising GHG emissions represent a small proportion of national GHG emissions and by the adoption of mitigation measures, as well as continuing decarbonisation of the energy network, it is anticipated that emissions will be reduced over time.

2 Regulatory Compliance

2.1 This section checks for the presence or absence of each item below, in accordance with COM3 'Regulatory Compliance' of the IEMA review criteria[8]. Further detail is provided in the following sections in relation to the way each aspect of the EIA has been undertaken and is presented in the ES. Criteria A-I represent the minimum information which must be provided to constitute an ES.

2.2 It should be noted that the table below only confirms whether or not the information required has been provided in its most basic form i.e. presence or absence of the subject of the criteria and does not confirm regulatory compliance. As noted in the IEMA EIA Quality Mark: Registrant Guide[9]a number of the criteria under COM3 cover similar subjects to criteria set out in COM 4, 5 and 6 which are reviewed below. The review undertaken in subsequent sections of this report provides further detail in relation to the way each aspect of the EIA has been undertaken and is presented in the ES, focussing on the quality of the information provided.

2.3 It should be noted that the Regulatory Checklist provided in the table below is taken from COM3 of the IEMA EIA Quality Mark Registrant Guide February 2018 and this does not fully reflect the content and terminology of the 2017 EIA Regulations (i.e. the new topics of human health, climate change and risk of major accidents and disasters are not stated explicitly, and 'flora and fauna' has not been updated to 'biodiversity'). Notwithstanding this point, these new topics have been considered in Section 3 of this report below.

Table 2.1: Regulatory Compliance

Criteria		Y/N
A	Does the ES contain a clear section, or sections, providing a description of the development comprising information on the site, design and size of the development during construction and operation?	Yes, ES Vol 1 Chapters 1 and 4; see requested clarifications and potential requests under Reg 25 in the following topic chapters.
B	Does the ES contain a section, or sections, that outline the main alternatives studied by the developer and an indication of the main reasons for his choice, taking into account the environmental effects?	Yes, ES Vol 1 Chapter 3
C	Does the ES contain a clear section, or sections, that provides the data required to identify and assess the main effects which the development is likely to have on the environment?	Yes, as set out within the relevant topic Chapters
D	In the light of the development being assessed has the ES identified, described and assessed effects on: - Population - Fauna & Flora - Soil - Water - Air - Climatic factors - Landscape - Cultural Heritage - Material Assets - Other	Yes, as set out in the relevant technical chapters and appendices
E	Does the ES attempt to set out the interaction between the factors set out in COM3 D) above?	Yes, cumulative effects are considered in each topic chapter, where relevant and within the Supplementary Cumulative Effects Assessment (Addendum)
F	Does the ES contain a section, or sections, that describe the likely significant effects of the proposed development on the environment, including as reasonably required: direct, indirect, secondary, cumulative, short, medium, long-term, permanent and temporary, positive and negative effects?	Yes, as set out within the relevant topic chapter
G	Does the ES contain a clear section, or sections, that provides a description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects?	Summaries are provided within the relevant topic chapter with detailed mitigation measure presented in ES Vol 1 Chapter 15.
H	Has a Non-Technical Summary been produced containing an outline of the information mentioned in COM3 A) to G)?	Yes
I	Does the ES contain a section, or sections, that outline any difficulties encountered by the developer in compiling the information presented in the ES?	Yes, the limitations and assumptions for each technical topic are set out in each chapter and summarised within ES Vol 1 Chapter 2.

[8] IEMA EIA Quality Mark – ES Review Criteria, COM3: EIA Regulatory Compliance
[9] IEMA EIA Quality Mark: Registrant Guide, February 2018

Table 2.2: Summary of Regulatory Compliance Actions

Ref	Summary of Clarifications Required from Applicant
N/A	See following chapters
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	See following chapters
Ref	**Summary of Potential Planning Conditions**
N/A	See following chapters

3 EIA Context and Influence (Chapters 2 – 4)

Scoping

3.1 An EIA Screening Opinion was not sought from LBS as the applicant had considered the proposed development to constitute 'EIA Development' under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017. Chapter 2 of the ES, EIA Methodology provides information on the EIA Scoping process undertaken. An EIA Scoping Report was subsequently prepared and informally submitted to LBS for discussion on 24th September 2018. LBS issued a high level scoping review report (the 'LBS Review') on 29th November 2018. Copies of both the Scoping Report and the LBS Review have been provided in ES Volume 3 Appendix: EIA Scoping.

EIA Development

3.2 Annex A of ES Chapter 2 provides a summary of the comments received in the LBS Review and the applicant's subsequent response/action responding to the comments within the ES. The ES has been prepared on a voluntary basis: paragraphs 1.8 and 1.32 of the ES conclude that the proposed development has the potential to generate likely significant effects and constitutes 'EIA development'.

Scoped in/Assessment Topics

3.3 Chapter 2 of the ES addresses 'EIA Scoping and Consultation', where emphasis is placed upon detailing the topics which have been scoped out of the EIA. Volume 3: Appendix – EIA Scoping provides details of the scoped in/assessment topics.

Scoped out Topics

3.4 Environmental topics scoped out through the scoping process/the LBS Review have been identified in Chapter 2 of the ES with commentary provided to justify the exclusion of these topics from the ES, specifically paragraphs 2.12 – 2.34 and Chapter 2 Annex A Table 2A.1.

3.5 The LBS Review suggested the inclusion of a chapter within the ES dedicated to 'Water Resources and Flood Risk'. Whilst it is acknowledged that references to water resources and flood risk have been provided within specific chapters and that a Flood Risk Assessment has been provided as an additional supporting document within ES Vol 3 Appendix: Supporting Technical Information, there is no clear justification as to why the information has not been presented within the ES in a specific ES chapter as per the LBS Review suggestion. The Applicant is requested to provide justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES (ECI1).

Sensitive Receptors

3.6 Chapter 1 of the ES provides details in tables 1.1 and 1.2 of the key features and designations relating to environmental topics both on the site and in the surrounding area. Sensitive receptors are also considered within ES Vol 1 chapters 6 to 12 and ES Vol 2. Where relevant, locations of sensitive receptors are provided in figures within the topic chapters and potential effects of the proposed development are discussed.

Competent Experts

3.7 Section 1.38 of Chapter 1 provides only an overview relating to the team at Trium who prepared the ES. Regulation 18 (5) of the EIA Regulations states that:

"In order to ensure the completeness and quality of the environmental statement—

(a) the developer must ensure that the environmental statement is prepared by competent experts; and

(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts"

3.8 The Applicant is requested to provide the relevant expertise and qualifications of the experts who prepared the ES (ECI2).

Description of Development

3.9 The LBS Review recommended that figures should be presented showing the site location and different designations that are relevant to the proposed development. Tables 1.1 and 1.2 of Chapter 1 provide details of the key features and designations both within the site and in the surrounding environment. There are no corresponding figures to illustrate any of the key features/designations within Chapter 1 nor any references to where these figures (where available) can be referenced within the corresponding ES Chapters. Reference to such or inclusion within Chapter 1 would have provided a clearer understanding of the designation locations and boundaries.

3.10 In addition to the site information/site context information provided in Chapter 1 of the ES, Chapter 3 provides details re the design evolution and Chapter 4 addresses the proposed development in greater detail.

3.11 Chapter 4 paragraph 4.3 details that the proposals include the demolition of existing buildings (plural). It is noted that Chapter 5 relates to Demolition and Construction and figure 5.2 illustrates the location of an existing building on the site. It is not clear whether there is more than one building to be demolished and its location. The Applicant is requested to provide clarity re the existing site plan and building(s) to be demolished. Photographs of the existing site would further aid the description of the site in context (ECI3).

3.12 Chapter 4 paragraph 4.103 states *that "TWUL may need to carry out flow and pressure tests for daily demand estimations when the planning application for the proposed development is submitted"*. Clarity is sought to confirm if these tests have been undertaken. (ECI4).

Alternatives

3.13 Chapter 3 of ES Vol 1 assesses the alternatives and design evolution. It is noted that the Applicant assesses three scenarios: *"do nothing/no development alternative; alternative sites; and alternative designs"*.

3.14 Each of the three scenarios detailed above have been covered within the ES text, with the "do nothing" scenario discounted due to the opportunity to develop sustainably a brownfield site in the heart of London which complies with the strategic development ambitions for the area.

3.15 With regards to alternative sites, the Applicant states that no alternative sites or locations were considered as the site was considered to be appropriate for redevelopment due to its vacant state and location within the Southwark Strategic Area Details of alternative designs for the proposed development are covered in Chapter 3 with different design proposals detailed (mainly alternative designs for the main building) and illustrated in figures 3.5 – 3.9. Amendments to the pavilion scheme are provided in figure 3.11. It is clear that the design evolution/alternative designs have been informed by various discussions with the local authority, however further detail regarding the level of consultation undertaken should be confirmed; this will be covered in the 'consultation' section below.

3.16 Chapter 3 paragraphs 3.56 – 3.75 provide commentary on key environmental considerations which have influenced the design of the proposed development. These paragraphs cover wind microclimate, view restrictions and townscape requirements and geometry. Chapter 4 also provides detail relating to environmental considerations and provides details relating to energy strategy, water resources, ecology and climate change.

3.17 Chapter 3 identifies the key environmental consideration and design influences which have been considered through the evolution of the current design.

Consultation

3.18 Details regarding consultation are limited within the ES, however commentary has been provided in Chapters 2 (paragraphs 2.3 – 2.5) and Chapter 3 (paragraphs 3.28 – 3.32). It is further acknowledged that each topic chapter has a note regarding consultation undertaken in the preparation of that chapter and that a Statement of Community Involvement has been submitted with the Planning Application.

3.19 Paragraph 3.29 of Chapter 3 details that *"further consultations took place with statutory and non-statutory consultees and stakeholders including Southwark's Design Review Panel (DRP)"*. It is unclear from the ES who these consultees and stakeholders were, when consultation was undertaken and in what form.

3.20 The ES would benefit from further detail (e.g. a table) regarding consultation to make it clear to the reader who was consulted, how they were consulted, what their comments were and how their input contributed to the proposed development (ECI5).

Table 3.1: Summary of EIA Context and Influence Actions

Ref	Summary of Clarifications Required from Applicant
ECI1	The Applicant is requested to provide further justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES following the request for this ES chapter from the LBS Review.
ECI3	The Applicant is requested to provide clarity re the existing site plan and building(s) to be demolished. Existing site photographs would further aid the description of development chapter to detail the development site.
ECI4	The Applicant is requested to confirm if flow and pressure tests have been undertaken now that the application for the proposed development has been submitted?
ECI5	The Applicant is requested to provide further detail (e.g. a table) regarding the consultation undertaken to clarify who was consulted, when and how they were consulted, the comments received and how the comments influenced the development proposals.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
ECI2	The Applicant is requested to provide details on the relevant expertise and qualifications of those who prepared the ES.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

4 EIA Presentation

Overall Presentation (ES Quality)

4.1 The main ES Report is well presented and clearly laid out. There is a contents page at the beginning of the ES which also provides information on the contents of the Appendices. However it is not clear what further information is contained within the 'Supporting Technical Information' Appendix. A list of tables and figures would have been helpful in the contents page and clearer detail regarding the topics covered within the 'Supporting Technical Information' Appendix should have been included to allow a member of the public to logically locate areas of interest and relevant information.

4.2 The length of the main body of the ES is appropriate for the type and scale of the development and the sensitivity of the receiving environment.

4.3 A glossary of abbreviations and technical terms is contained within the ES.

4.4 The Proposed Development is clearly described in Chapters 1, 3 and 4 as discussed above. As noted previously, the inclusion of further figures would have been helpful within the ES introductory chapters.

4.5 Chapter 5, Figure 5.1 and Table 5.1 sets out details on the anticipated timescales of the construction programme, including the demolition stage.

4.6 Overall, the presentation of the ES is acceptable subject to any comments made throughout the review.

Non-Technical Summary

4.7 The Non-Technical summary has been provided as a standalone document. The presentation is clear and in general, the language used is non-technical.

4.8 Paragraph 1.13 states that Greenhouse Gas Emissions has been included as a 'scoped in' topic; this does not appear to coincide with the main contents of the ES.

4.9 The NTS is of reasonable length and provides an overview of the scope and aims of the ES, describing the site, its surroundings and the proposed development. Where relevant, there is use of figures showing the location of the development, design evolution and proposed development, although more illustrative material to explain the existing site context and proposed scheme would have been helpful.

4.10 The NTS sets out the baseline and provides a summary of the likely significant effects expected at both the demolition and construction (where relevant) and completed stages for each technical chapter.

4.11 The NTS excludes any details relating to an overview of the mitigation measures which will be put in place to reduce significant impacts. The Applicant is requested to include a summary of mitigation and monitoring within the NTS (NTS1).

4.12 The presentation of the NTS is acceptable however it should be updated where necessary to reflect any points noted within this review or to include new information in response to potential Regulation 25 requests.

Table 4.1: Summary of EIA Presentation and NTS Actions

Ref	Summary of Clarifications Required from Applicant
NTS1	The Applicant is requested to include a summary of mitigation and monitoring within the NTS.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

5 Demolition and Construction

Scope of EIA

5.1 ES Vol 1 Chapter 5 describes the proposed programme of the demolition and construction works and provides details of the expected key activities that will be undertaken in relation to site establishment, enabling works, excavation and substructure works, superstructure works, building envelope, landscaping and public realm works and handover works.

5.2 Chapter 5 provides an indicative demolition and construction programme and sequence of construction activities spanning over an indicative five year period. The ES acknowledges that the information presented is broad at this stage and may be subject to modification/amendments during the detailed construction planning when a contractor has been appointed. The information presented at this stage is based on reasonable assumptions based on professional judgement and is considered to be appropriate to this stage of the planning process.

5.3 The ES further provides estimated material quantities for demolition, excavation and construction in addition to plant and equipment schedules for demolition and construction (substructure and superstructure). Details of indicative traffic management including site access, vehicle movements, closures/diversions and deliveries are also provided within Chapter 5. This information has been used to inform the subsequent technical assessment chapters. It is considered that the level of detail given within ES Chapter 5 is acceptable to inform the assessment.

5.4 As per the Scoping Report, an outline Construction Environment Management Plan (CEMP) has been provided.

Baseline

5.5 Paragraph 5.104 identifies that the receptors considered to be most sensitive to cumulative effects during demolition and construction of the development are pedestrians using the surrounding roads, neighbouring residents and visitors and employees of the neighbouring commercial premises. It is identified that environmental sensitivities are likely to be related to traffic, air quality and noise.

Assessment

5.6 It is noted that the programme of works is expected to be continuous, with no phasing involving the occupation of parts of the scheme whilst construction work is being completed elsewhere on-site.

5.7 Paragraph 5.6 states that the programme of works is presented in Figure 5.1 and summarised in Table 5.2. It is assumed that this is a typographical error and that this should refer to Table 5.1.

5.8 Chapter 5 provides details relating to the site establishment and enabling works, demolition, excavation and substructure works, superstructure, building envelope, etc. which is considered an appropriate approach for this ES chapter.

5.9 Material quantities for demolition and construction are provided as estimates; it is unclear whether the ES has considered the worst case assessment of demolition and construction effects. Clarity is sought from the Applicant regarding the estimated quantities provided in Tables 5.2 and 5.3 (DC1).

5.10 The proposed working hours for demolition and construction are provided in paragraph 5.41 of the ES, and these, together with the procedure for essential work outside of standard working hours, should be subject to planning conditions (DC2).

5.11 As per the review of Chapter 7 Traffic and Transportation, it is expected that a demolition logistics plan and a construction logistics plan will be subject of planning conditions to regulate the access and egress routes to the site during demolition and construction (see table 7.1, TR2).

Secondary, Cumulative, and Combined Impacts

5.12 Effect interactions arising from construction of the Proposed Development itself on particular receptors at the site are assessed in Chapter 13 of the ES. The approach to secondary, cumulative and combined impacts arising from construction is considered to be appropriate, subject to any issues raised within the technical review sections of this report.

Mitigation and Management

5.13 Chapter 5 of ES Vol 1 states that the Applicant will prepare a Construction Environmental Management Plan (CEMP). Sections 5.68-5.102 outlines key mitigation and management controls that will form part of a CEMP to help define the policies, procedures and management framework for the implementation of any identified specific environmental management and mitigation controls and monitoring. It is recommended that the preparation and submission of a CEMP is included as a planning condition (DC3).

Non-Technical Summary

5.14 The NTS outlines the anticipated works and programme, site access and road vehicle movements and construction site management and working hours. The level of construction detail included in the NTS is considered to be appropriate.

Table 5.1: Summary of Demolition and Construction Actions

Ref	Summary of Clarifications Required from Applicant
DC1	The Applicant is requested to confirm whether the estimated quantitates provided in Tables 5.2 and 5.3 have considered the worst case assessment of demolition and construction effects.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None.
Ref	**Summary of Potential Planning Conditions**
DC2	It is recommended that working hours and the procedure for essential work required outside of standard working hours are subject of a planning condition.
DC3	It is recommended that the preparation and submission of a CEMP for LBS approval is included as a planning condition.

6 Socio-Economic

Scope of EIA

6.1 The scope of the socio-economic assessment is appropriate and reflects the broad topics set out in the September 2018 Scoping Report.

6.2 As suggested in in the LBS Review, November 2018, the Applicant has provided detailed coverage of Health within the Air Quality Chapter and to some extent in the Nosie and Vibration Chapters.

6.3 Furthermore the Flood Risk Assessment located in Volume 3: Annex 6 carried out in December 2018 assesses the potential impacts of flooding on health.

6.4 Annex A of Chapter 6 provides a summary of the LBS Review and how the response has been addressed.

6.5 The scope of the EIA is considered to be appropriate where impacts upon neighbouring buildings have been covered within the Supplementary Cumulative Assessment (ES Addendum).

Baseline

6.6 Paragraph 6.1 defines the baseline and describes what matters have been considered in the assessment. Paragraph 6.2 goes on to describe the range of spatial boundaries over which the potential effects have been considered. These range from Local Impact Areas to National Areas. Paragraph 6.3 provides the key list of information sources.

6.7 The methodology for the evolution of the baseline scenario is also provided, and can be found in paragraphs 6.4 and 6.5.

6.8 Table 6.1 provides a definition of the sensitivity of the receptors and table 6.7 provides an analysis of the sensitivity of existing receptors. A description of the analysis can be found in paragraphs 6.46 and 6.48.

6.9 Current baseline conditions are outlined in paragraphs 6.31 to 6.45 for the Labour Market, Employment Economy and Open Spaces.

6.10 The baseline is considered appropriate.

Assessment

6.11 The assessment methodology is described in paragraphs 6.1 to 6.30.

6.12 The legislation and policy relevant to this assessment are identified in the Socio-Economics Appendix: Annex 1: Planning Policy Context. This lists relevant legislation, policy and guidance at national, regional and local scales. The legislation, policy and guidance listed are considered to be appropriate.

6.13 Methods for establishing magnitude are provided in paragraph 6.25 and Table 6.2, methods of determining the nature and scale of effects are described in paragraph 6.26 to 6.28 and outlined in table 6.3.

6.14 The method for evaluating the significance of effects is outlined in paragraphs 6.29 and 6.30. Paragraph 6.29 states *"Likely effects described as moderate and major scale are considered significant (shaded grey within the Table 6.4), whilst those of minor or negligible scale are considered as not significant"* It is assumed that the table reference is incorrect and should refer to Table 6.3 not Table 6.4. The Applicant is requested to clarify this reference. Subject to this clarification the methods are considered to be appropriate (SE2).

6.15 The assumptions and limitations of both the baseline and the assessment have been provided in paragraphs 6.20 to 6.22.

6.16 The Assessment of effects has been carried out and presented for the construction and demolition stages and for the completed development and both potential positive and negative effects have been assessed.

6.17 The ES states that *"there are no adverse socio-economic effects assessed for the construction phase of the Proposed Development and therefore no additional mitigation measures have been identified."* The ES concluded the same for the completed development. Residual effects are outlined in Table 6.13, with all assessed as minor beneficial.

6.18 Chapter 6 also provides an assessment of the potential impacts of Climate Change on sensitive receptors and also an assessment of what the implications may be for a future baseline.

6.19 Subject to the clarification above the assessment is considered appropriate.

Secondary, Cumulative, and Combined Impacts

6.20 Cumulative effects and in-combination effects are assessed in paragraphs 6.91 to 6.108 this has been assessed for both the construction and demolition and completed development stages.

6.21 This concludes that for all stages of the development the effects on the identified receptors at the relevant levels were *"Minor Beneficial, which is not considered to be significant".*

6.22 The cumulative in-combination assessment is considered appropriate.

Mitigation and Management

6.23 As mentioned above the ES stated that no additional mitigation measures have been identified due to the ES conclusion that there were no adverse socio-economic effects for both construction and demolition and the completed development.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

6.24 An additional cumulative assessment in terms of socio-economic effects can be found in the socio-economic section of the Supplementary Cumulative Assessment (ES Addendum) stand-alone document.

6.25 As requested by LBS the socio-economic effects of proposed development on the identified neighbouring buildings was assessed and a detailed narrative on this assessment is provided.

6.26 The assessment provides the likely magnitude of effects and their potential significance.

6.27 It is considered that this supplementary cumulative assessment is appropriate and has considered the cumulative impacts of neighbouring buildings as per paragraph 1.10 of the ES Addendum.

Non-Technical Summary

6.28 Paragraphs 1.62 to 1.68 of the NTS summarise the socio-economic impacts of the proposal. This is considered to be an adequate summary for the non-specialist reader.

6.29 If there are any changes in the assessment as a result of the request for further information, then these should be summarised in the NTS.

Table 6.1: Summary of Socio-Economic Actions

Ref	Summary of Clarifications Required from Applicant
SE1	The Applicant is requested to clarify whether the reference in Paragraph 6.29 should read Table 6.3 (Matrix to Determine Scale of Effect) not Table 6.4 (Labour Market Profile (April 2017 to March 2018) as currently stated.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None
Ref	**Summary of Potential Planning Conditions**
N/A	None

7 Traffic and Transport

Scope of EIA

7.1 The Scoping Report was submitted in September 2018. LBS issued its response to the Scoping Report through the issue of a Scoping Opinion in the form of a High Level Review dated November 2018 (the LBS Review).

7.2 In respect of transport, the LBS Review concluded that the scope of the transport chapter and the assessment scenarios proposed were considered appropriate subject to the inclusion of certain information in the ES.

7.3 The Applicant acknowledges the comments provided in the LBS Review in Annex A to Chapter 7 and provides, as requested, details of how the ES responds to the comments.

Baseline

7.4 The baseline means of assessing the baseline conditions are clearly set out in Paragraphs 7.7 – 7.21 and the baseline situation is described in Paragraphs 7.65 – 7.110.

7.5 Paragraphs 7.66 – 7.76 sets out in general terms the local and strategic context for walking and cycling.

7.6 Although there are no quantitative measures of pedestrian flows or cycle flows presented the conditions for these two non-motorised travel modes are included in the baseline and reference is made to a Pedestrian Environment Review System (PERS) Audit. The PERS Audit is appended to the Transport Assessment (TA).

7.7 In respect of cycle flows, there is source data available from classified counts which are appended to the TA. It is considered that counted cycle trips should be presented where available (TR1).

7.8 In respect of flows on public transport it is acknowledged that the scale of the public transport facilities provided may in the circumstances of the location of this site reasonably be used as a proxy for demonstrating the extent of the baseline situation for comparison purposes.

7.9 The Existing and Future baseline scenarios for traffic flow on nearby highways are presented in Tables 7.14 and 7.15. These tables clearly identify total flow and Heavy Goods Vehicle (HGV) flow to assist with applying the IEMA guidelines.

Assessment

7.10 Paragraph 7.22 sets out the assessment scenarios that have been considered. These are properly explained and are appropriate for the purposes of this assessment. Paragraphs 7.23 – 7.64 set out the type of assessment to be made and Table 7.6 defines the area over which assessment will be made. Table 7.7 summarises how the magnitude of impact will be determined.

7.11 In respect of the quantitative assessment of highway impact an absolute change criteria has been added to the percentage change criteria normally adopted. As the percentage change criteria are derived from studies of major changes in traffic flow, this is considered reasonable in the situation where some roads carry low baseline flows of vehicles and/or HGVs. Accordingly the level of impact is moderated when the addition of a small number of vehicles/HGVs might otherwise suggest a level of impact which is disproportionate. Table 7.8 sets out the approach to including an absolute change criteria and this is considered sound for the purposes of this assessment.

7.12 Table 7.9 summarises how the magnitude of each potential impact is to be used to determine the scale of likely effect. The process followed is logical so enabling the judgements as to the form, type and extent of effects to be transparent.

7.13 The effects of construction traffic are properly assessed by reference to existing levels of flows of heavy duty vehicles (HDVs). The conclusions drawn with respect to the effects are generally robust.

7.14 In respect of public transport the usage (load) based approach to assessment is considered acceptable in the circumstances.

7.15 Accordingly, in respect of the operational effects of the proposed development, the conclusions drawn with respect to the effects are generally robust.

Secondary, Cumulative, and Combined Impacts

7.16 The assessment of secondary, cumulative and combined impacts are dealt with in Chapter 13 of the ES rather than in the Transport chapter of the ES. In transport terms, there are no secondary, cumulative and combined impacts identified in Chapter 13.

7.17 The cumulative effect on traffic flows associated with nearby development is dealt with through the assessment of the Future Baseline, as described in Paragraph 7.22.

Mitigation and Management

7.18 The proposed mitigation measures comprise a Workplace Travel Plan and Delivery and Servicing Plan.

7.19 Mitigation and management of the construction phase is proposed through the preparation of a Construction Logistics Plan which can be secured by condition.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

7.20 Two scenarios are presented; the first deals with the Development plus consented schemes and those submitted but not yet determined, the cumulative applications scenario (Scenario B); and the second deals with the Development plus consented schemes, those submitted but not yet determined and the pre-application scheme at Beckett House/60 St Thomas Street namely the cumulative total schemes scenario (Scenario C).

7.21 The approach to assessment is sound and, although very high percentage changes in HGV flows are identified on St Thomas Street and Snowsfield, these are explained by construction-related traffic flows being required to be compared with particularly low baseline flows. For both scenarios the assessment undertaken and findings as presented can be considered sound.

Non-Technical Summary

7.22 The Non-Technical Summary is consistent with the summary and conclusions set out in Chapter 7 of the ES.

Table 7.1: Summary of Traffic and Transport Actions

Ref	Summary of Clarifications Required from Applicant
TR1	Include details of cycle usage on St Thomas Street as part of the Baseline Conditions based on classified counts included as part of Transport Assessment.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None
Ref	**Summary of Potential Planning Conditions**
TR2	Each of the following should be secured through conditions: • Demolition Logistics Plan; • Construction Logistics Plan; • Workplace Travel Plan; and • Delivery and Servicing Plan.

8 Air Quality

Scope of EIA

8.1 The Applicant has scoped out the assessment of road and rail emissions during the operational phase of the assessment. The aspects which have been scoped in and assessed within the air quality ES chapter are:

- Construction dust nuisance assessment, paragraphs 8.90 through to 8.109;
- Assessment of construction vehicles emissions upon local air quality, paragraphs 8.55 through to 8.89;
- Assessment of energy centre emissions upon local air quality, paragraphs 8.114 through to 8.130;
- A cumulative assessment of the scheme and committed developments upon existing and receptors introduced by the proposed development in paragraph numbers 8.153 through to 8.162; and
- An air quality neutral assessment, paragraphs 8.131 through to 8.137.

8.2 Subject to satisfactory resolution of the requests for further information below, the scope of the EIA is considered to be appropriate.

Baseline

8.3 Baseline conditions are assessed on the basis of local air quality monitoring and data published by Defra. The discussion of baseline conditions is generally appropriate, and the available data are used to inform the assessment of impacts due to emissions from the proposed facility in accordance with relevant guidance. However, in one respect the assessment of baseline conditions is not clear. This is set out below.

Assessment

8.4 The air quality assessment has generally been carried out to a high standard. Except as highlighted in this chapter, the conclusions are supported by the evidence provided.

8.5 Section 8.15 of the ES refers to eleven modular boiler units, but goes on to specify only four units which are then assessed in the air quality study. This apparent discrepancy should be clarified to confirm that all potentially relevant combustion plant have been included in the air quality assessment (AQ1).

8.6 The assessment is based on a set of assumptions surrounding the performance of the Energy Centre combustion plant. It is recommended that the requirements for the combustion plant set out in ES Section A4.2 of the Air Quality Technical Appendix could be used as the basis of a planning condition to ensure that appropriate design and performance of the combustion plant can be secured (AQ9).

8.7 The report correctly identifies that "*Measurements across the UK have shown that the 1-hour NO_2 objective is unlikely to be exceeded at roadside locations where the annual mean concentration is below 60 µg/m^3*". The 1 hour NO_2 objective would be applicable at hotel, restaurant and similar locations. The report shows that air quality at comparable locations is currently close to or above this level (Table 8.2). The report suggests (paragraph 8.72) that improvements in baseline air quality are expected, but does not evaluate the extent of improvement that is expected to occur, nor does it evaluate the risk of exceedances of the 1 hour NO_2 objective at relevant locations within the proposed development, due to existing sources of emissions (i.e. baseline conditions), with an additional increment from the proposed Energy Centre. Other sections of the report provide related information, but do not address this issue:

- Paragraph 8.72 refers to Defra's national scale assessment, but does not address the specific local circumstances of the proposed development, or the introduction of new potentially relevant exposure locations. The conclusion that there is "no risk of a limit value exceedance in the vicinity of the proposed development by the time that it is operational" requires further substantiation.
- The assessment in paragraphs 8.125 and 8.126 addresses the impact of the Energy Centre emissions taking account of typical baseline levels, but does not assess the potential impact of short-term peaks in baseline levels.
- Paragraphs 8.74 to 8.78 refers to background concentrations, but this is not relevant to consideration of exposure close to roads carrying significant traffic, as can be seen from a comparison with the measured results in Table 8.2.

8.8 It is considered that an assessment of 1 hour NO_2 concentrations at potentially relevant locations against the 1 hour NO_2 air quality objective should be provided (AQ8).

8.9 A suite of construction phase mitigation measures is proposed in Section A7.1 of the Air Quality Technical Appendix, derived from the relevant guidance produced by the Institute for Air Quality Management (IAQM). The Applicant should be asked to confirm that these are relevant to the construction dust risks identified in Table 8.11 – that is "high risk" for all potential dust sources and impacts. If necessary, the range of construction phase mitigation measures should be expanded to include all relevant mitigation measures specified in the relevant guidance (AQ2).

8.10 A set of construction phase mitigation measures is specified in ES Sections A7.1 and A7.2. It is envisaged that these should be specified in a CEMP (Paragraph 8.141). It is recommended that a planning condition should be specified to ensure that appropriate construction phase mitigation measures can be secured (AQ10).

8.11 ES paragraph 8.42 indicates that a short term peak concentration due to the proposed development of between 21% and 50% of the air quality objective is considered as "medium" magnitude, and therefore a "moderate severity" impact. Table 8.13 indicates that modelled concentrations in this range are predicted at Guy's Hospital (Receptor E1). Paragraph 8.124 indicates that these concentrations were assessed as comprising a "not significant" effect, but this is inconsistent with the description of the impact as being "moderate severity" without also taking into account the number of properties (or in this case, hospital floors/wards/facilities) affected. Furthermore, it seems that in principle at least, some steps could be taken to mitigate this potentially moderate severity impact – for example, moving the discharge location to a point further away from the Guy's Hospital campus. Further discussion of the options for mitigating this moderate severity impact should be provided by the Applicant, together with further clarification of this conclusion in the light of the number and extent of receptors potentially affected (AQ3).

8.12 Emissions from the Tenants and Landlords Life Safety Generator are calculated from the generator power output (kW) multiplied by the emission specification (mg/kW-hour). The calculated NOx emissions for these units in Table A1.3 of the Air Quality Technical Appendix make an implicit assumption that the efficiency of each engine is 35% to 36%. The source of this assumption should be clarified by the Applicant (AQ4).

Secondary, Cumulative, and Combined Impacts

8.13 Comments are provided in relation to the Supplementary Cumulative Assessment (see below).

Mitigation and Management

8.14 Mitigation and management of impacts is satisfactorily described. Further discussion of mitigation of impacts from the Energy Centre at Guy's Hospital should be provided, as set out in AQ2 above. Mitigation of construction phase impacts should be secured via condition, as set out AQ10.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

8.15 The assessment of cumulative impacts due to construction traffic relies on the use of the screening criteria applied to the impacts of the proposed development itself (ES 8.155; ES Addendum 1.147 and 1.174). Co-ordination of construction activities will assist in mitigating cumulative impacts during the construction phase, as indicated in the ES, but it remains possible that the screening criteria could be exceeded due to the cumulative impact of construction projects in the local area. However, further clarification of the location and extent of other nearby developments should be provided to confirm that this would be effective in fully mitigating the risk of cumulative impacts (AQ5).

8.16 The risk of potential cumulative impacts due to energy centre emissions is ruled out by reference to the requirement for new development to be "Air Quality Neutral" (ES 1.160, 1.182, 1.196). While this is expected to result in overall improvements in air quality across London as a whole, there remains the risk of local scale increases in pollution – for example, where a new development takes place on a previously unoccupied site, or a site with a different use which had lower associated emissions. Further clarification should be provided to confirm that there is no significant risk of significant cumulative impacts due to energy centre emissions (AQ6).

8.17 The ES Addendum report states, in respect of traffic related impacts for Scenario A: "*For all other development schemes not initially considered within the 2018 ES, these schemes have been reviewed and it is considered that none are of a scale either individually or cumulatively, given their proposed land uses (i.e. residential, commercial) and corresponding traffic generated (i.e. car free developments, servicing vehicles), that would materially alter the results of the cumulative effects assessment presented in the 2018 ES., without specific consideration of the potential cumulative impacts*". Further details of the developments considered, and their associated traffic-related air quality impacts should be provided to confirm that there will be minimal risk of operational phase cumulative impacts (AQ7).

Non-Technical Summary

8.18 The non-technical summary provides a reasonable summary of the technical air quality assessment, subject to any amendments required as a result of the clarification requests set out table 8.1 below.

Table 8.1: Summary of Air Quality Actions

Ref	Summary of Clarifications Required from Applicant
AQ1	Paragraph 8.15 of the ES refers to eleven modular boiler units, but goes on to specify only four units. This apparent discrepancy should be clarified to confirm that all potentially relevant combustion plant have been included.
AQ2	Clarification should be provided to confirm that the proposed dust mitigation measures are relevant to the construction dust risks identified in Table 8.11. If necessary, the range of construction phase mitigation measures should be expanded to include all relevant mitigation measures specified in the relevant guidance.
AQ3	Paragraph 8.124 of the ES indicates that a forecast "moderate severity" impact due to emissions from the Energy Centre can be considered as having an "insignificant" effect. Discussion of the options for mitigating this moderate severity impact should be provided, together with further clarification of this conclusion in the light of the number and extent of receptors potentially affected.
AQ4	Clarification of the energy efficiency assumption used to calculate NOx emissions from standby generator plant should be provided
AQ5	Further clarification on the potential for cumulative air quality impacts due to construction traffic should be provided to confirm the study findings that any such impacts would not be significant.
AQ6	Further clarification on the potential for cumulative air quality impacts due to energy centre emissions should be provided to confirm the study findings that any such impacts would not be significant.
AQ7	Further clarification on the potential for operational phase cumulative air quality impacts due to traffic emissions should be provided to confirm the study findings that any such impacts would not be significant.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
AQ8	It is considered that an assessment of 1 hour NO_2 concentrations at potentially relevant locations against the 1 hour NO_2 air quality objective should be provided
Ref	**Summary of Potential Planning Conditions**
AQ9	It is recommended that the requirements for combustion plant set out in EIA Section A4.2 could be used as the basis of a planning condition to ensure that appropriate design and performance of combustion plant can be secured.
AQ10	It is recommended that the implementation of appropriate construction phase mitigation measures as specified in ES Sections A7.1 and A7.2 via a CEMP should be secured through a planning condition.

9 Noise and Vibration

Scope of EIA

9.1 Matters raised during Scoping have been adequately addressed, as described in Annexe A of the Chapter.

Baseline

9.2 Baseline monitoring has been carried out at two long term locations in consultation with LBS. Twelve noise sensitive receptors have been identified and baseline noise levels assigned to each receptor. This approach is considered appropriate.

Assessment

9.3 Relevant technical methodologies and British Standards have been used for the prediction of construction noise levels taking into account the proposed construction programme. Appropriate descriptors have been used for impact assessment which takes account of receptor sensitivity. The assessment also takes account of ambient noise levels at receptors using the threshold methodology of BS5228 and LBS technical guidance for noise.

9.4 The potential effects of construction vibration have been adequately assessed, showing potential minor to moderate effects at four of the receptors nearest to the proposed development.

9.5 The effects of noise from construction traffic on local roads have also been addressed showing negligible effects.

9.6 Design limits for operational noise due to building services plant have been proposed to ensure the effects have a negligible impact. These design limits should be secured through planning condition and the planning condition should make reference to the limits and baseline noise measurements in Table 9.17 of the ES (NV1).

9.7 It is agreed that noise effects resulting operational changes to traffic flows on local roads is likely to result in negligible effects.

Secondary, Cumulative, and Combined Impacts

9.8 Cumulative effects have been considered with nearby approved developments. It is agreed that developments beyond 100m from receptors are likely to result in negligible cumulative effects. Thus two developments, Capital House and Guinness Court, could result in minor adverse cumulative effects if similar construction activities coincided with those at Vinegar Yard, although if demolition and excavation works coincided then the cumulative effects could be moderate adverse as a worst case. These potential effects should be given due consideration by LBS in making a determination of the application.

9.9 The cumulative effects of operational traffic noise have been assessed as minor adverse at four receptors and negligible elsewhere.

Mitigation and Management

9.10 Embedded measures to control construction noise are adequately described in paragraph 9.122 of the ES as Best Practicable Means. These measures should be secured through an appropriately worded planning condition, to be included in the CEMP (NV2). However, residual major adverse effects remain at three locations as threshold levels are likely to be substantially exceeded. The Section 61 agreement with LBS under the Control of Pollution Act will be used to establish construction noise and vibration limits at properties surrounding the development.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

9.11 In addition to the effects of approved developments, the Supplementary Assessment includes nearby schemes that have not yet been approved. Four such schemes are considered, Sellar, The Quill, New City Court and 2-4 Melior Place, however, the conclusions are that cumulative effects would remain the same as for the approved schemes, with minor (or worst case moderate) effects of construction noise and vibration, and minor adverse effects of operational traffic noise. These potential effects should be given due consideration by LBS in making a determination of the application.

Non-Technical Summary

9.12 The noise and vibration summary in the NTS adequately reflects the findings of the assessment.

Table 9.1: Summary of Noise and Vibration Actions

Ref	Summary of Clarifications Required from Applicant
N/A	None
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None
Ref	**Summary of Potential Planning Conditions**
NV1	Building services plant noise controls outlined in Table 9.17
NV2	Noise and vibration control measures in the CEMP.

10 Wind Microclimate

Scope of EIA

10.1 The scope and methodology of the EIA are well written and discuss the process and assumptions made. The Applicant has tested the wind conditions in the winter months (windiest) as well as the summer months for suitability of the amenity spaces, as their use is assumed to be seasonal. The Applicant has assessed 36 different wind directions in 10° increments within a 360m radius of the site and all baseline wind data has been taken from a combination of airports within the region. All of these parameters and assumptions are satisfactory for the proposed development.

10.2 The wind microclimate impact during demolition and construction has not been assessed quantitatively, and instead has been assessed using the professional judgement of a wind engineer. This is a common and satisfactory approach as construction site activity is less sensitive than the completed development and all works will be temporary. Also, the Applicant assumes that there would be restricted access to the site to general public during the demolition and construction phase of the project.

10.3 The assessment was completed using a boundary layer wind tunnel with a 1:300 scale model of the proposed development. Three separate model configurations have been tested for the wind microclimate EIA.

- Configuration 1: Existing Site with Existing Surrounding Buildings' (also referred as the 'Baseline Scenario';
- Configuration 2: The Proposed Development with Existing Surrounding Buildings;
- Configuration 3: The Proposed Development with Existing Surrounding Buildings + Proposed Landscaping (Wind Mitigation) + Committed Developments.

10.4 The two cumulative developments that have been tested are:

- Capital House, 40 – 46 Weston Street; and
- Guinness Court, Snowsfields Street.

10.5 The results from the analysis have been compared to the Lawson Comfort and Safety Criteria (LCSC) which is the industry standard for rating wind microclimate within the London area. The assessment has rated the wind speeds for the development against pedestrian activities using the LCSC and then compared this to the required activities for locations throughout the proposed development. The Applicant also considers strong winds which pose a threat to more sensitive members of society. This is a satisfactory approach for rating the wind microclimate impact at the proposed development and all adverse impact have been considered for mitigation.

Baseline

10.6 The baseline wind conditions at the site are dominated by south westerly winds for the majority of the year, however there is a secondary peak from the north east during late spring and early summer at the site, this is common for South England. The current baseline conditions at the site are suitable for the mixture of sitting and standing conditions and satisfied all of the LCSC requirements, there are also no instances of strong winds in the current baseline conditions.

Assessment

10.7 The wind microclimate impact during the demolition and construction phases of the project is considered to be negligible by the Applicant. This is a satisfactory conclusion and justified by the current calm baseline conditions and low building massing around the proposed development.

10.8 The Applicant states that the probable changes in median wind speed are not predicted to exceed 0.07 m/s and therefore there is not likely to be any significant effect on pedestrians due to climate change. Clarification is sought as it is unclear where the 0.07 m/s value has come from and how this conclusion was reached (WM1). The chapter has reference to the supporting technical appendix; however, no information was found with regards to this conclusion.

10.9 For configuration 2, the results are notably windier than the baseline conditions with results ranging from sitting to strolling for both winter and summer months, with roof terraces ranging from sitting to standing during the summer months. The majority of receptors are suitable for their intended use; however, some building entrances and amenity spaces will require mitigation to satisfy their LCSC requirements. There are also occurrences of strong winds at 5 separate locations throughout the proposed development which should be considered for mitigation along with the other receptors which are breaching their LCSC requirements.

Secondary, Cumulative, and Combined Impacts

10.10 The results for configuration 3 show that with the inclusion of the proposed mitigation, the wind microclimate at the proposed development satisfies the LCSC requirements for each receptor.

10.11 During demolition and construction, the inclusion of the cumulative developments is not likely to have a large impact on the current baseline conditions and therefore should be considered to have a negligible impact.

10.12 The completed development with mitigation measures is concluded to have wind speeds suitable for sitting through strolling in the winter months and sitting through to standing in the summer months. All receptors satisfy their LCSC requirements and there are also no instances of strong winds as a result of the cumulative impact assessment.

Mitigation and Management

10.13 During the demolition and construction phases, the Applicant stated that site hoarding should be sufficient to reduce the impact on passing pedestrians, this is a satisfactory conclusion.

10.14 With regards to the completed development, the Applicant states that without mitigation there are likely to be significant adverse effects on pedestrians. Mitigation is proposed for the following locations:

- Entrances at the north-western corner (location 117) and on the western elevations of the Proposed Development (locations 80 and 109);
- Off-site public amenity space to the west of the Proposed Development bound by Fenning Street and Melior Street (locations 61 – 64);
- Roof terrace levels of the proposed development;
- South of the proposed development (locations 68, 70);
- At the western point of the main building (location 81); and
- At the north-western corner of the proposed development (location 116).

10.15 The Applicant describes the iterative workshop and the conclusions drawn from the designed mitigation within the chapter. With the inclusion of all mitigation measures at the proposed development, all locations satisfy their LCSC requirements and the residual impact can be considered as having a negligible to moderate beneficial impact at the proposed development. As

these mitigation measurements are required to satisfy the LCSC requirements of the proposed development, these should be implemented as a planning condition (WM2).

Assessment of Supplementary Cumulative Assessment (ES Addendum)

10.16 The results in the ES addendum for Scenario A are discussed in the main wind ES chapter and there are no changes to the conclusions.

10.17 The results from Scenario B have been assessed qualitatively using results from previous wind microclimate assessments at the proposed developments required for this scenario. There is expected to be a significant impact as a result of the cumulative developments in Scenario B at the proposed development in the completed development as well as the demolitions and construction phase. Scenario C also has the same conclusion as Scenario B.

10.18 The Applicant states that these assessments have not considered the mitigation measures for the Vinegar Yard development, and the inclusion of these is likely to reduce the impact on the wind microclimate at the proposed development. However, it is recommended that these mitigation measures be tested in a wind tunnel assessment with both scenarios B and C (WM3); as there is potential to have multiple areas breaching their LCSC classifications as well as strong winds which would impact the safety of pedestrian and cyclists. This assessment may come in the form of a Regulation 25 information request.

Non-Technical Summary

10.19 The wind microclimate NTS chapter is satisfactory and accurately summarises the results of the wind assessment. No changes are required.

Table 10.1: Summary of Wind Microclimate Actions

Ref	Summary of Clarifications Required from Applicant
WM1	Clarification is sought as it is unclear where the 0.07 m/s value has come from and how this conclusion was reached The chapter has reference to the supporting technical appendix, however no information was found with regards to this conclusion.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
WM3	In order to satisfy requirements with regards to wind microclimate classification around the proposed development, mitigation measures should be tested in a boundary wind tunnel assessment with the cumulative developments outlined in Scenario B and Scenario C.
Ref	**Summary of Potential Planning Conditions**
WM2	The mitigation measures described in Section 10.102 of the wind microclimate chapter should be secured by a planning condition.

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

Scope of EIA

11.1 The EIA assesses the significance of potential effects on daylight and sunlight to surrounding residential and primary school buildings, overshadowing to the surrounding area including amenity spaces, reflected solar glare to car and train drivers on the surrounding roads and railway, and light pollution to surrounding residential buildings. The scope accords with the Scoping Report and the review comments thereon. The locations of all receptors that have been assessed are clearly shown in the ES.

11.2 The scope of the EIA is considered appropriate, both in terms of the physical extent of the local environment and the environmental issues that have been assessed.

11.3 An assessment of cumulative effects of the proposed development and the development known as 'The Quill' is included. A more comprehensive cumulative affects assessment has been undertaken in other nearby consented schemes is included in the Supplementary ES Addendum (March 2019).

Baseline

11.4 According to the third row of the table at Annex A on page 11-20, floor plans for neighbouring buildings were obtained wherever possible through research, but otherwise room layouts and uses were assumed. The approach is reasonable, but the ES should confirm which buildings are based on floor plans and which are based on assumed room layouts and uses (DSO1).

11.5 The ES does not include any window maps, or alternatively daylight distribution plans. This makes it impossible to understand which windows have been assessed and precisely which ones will be significantly adversely affected. It is recommended that the Applicant provides window maps, at least for the properties identified in the ES as experiencing more than a negligible effect, in order to aid identification of the relevant windows (DSO2).

11.6 The correct BRE assessment methodology has been used to quantify the following baseline conditions:

a. daylight (VSC and NSL) and sunlight (APSH) to existing residential buildings;

b. sunlight (two-hours sun-on-ground contour) to existing gardens and amenity spaces

c. transient overshadowing to the surrounding area (hourly snapshots on 21 March (spring equinox), 21 June (summer solstice) and 21 December (winter solstice)).

11.7 The ES appropriately describes the baseline condition for the surrounding receptors and their sensitivity.

11.8 Solar glare and light pollution have not been assessed in the baseline condition because they are generally not regarded as comparative assessments.

11.9 The baseline assessment is considered acceptable.

Assessment

Methodology and significance criteria – surrounding receptors

11.10 The methodology used for establishing magnitudes of impacts on daylight, sunlight and overshadowing to surrounding receptors is appropriate.

11.11 The potential for reflected solar glare to occur in the proposed condition at selected points on the highway and railway has been assessed using an appropriate common-practice methodology.

11.12 The methodology used for assessing light intrusion to nearby residential windows assumes there are no other sources of light than the luminaires inside the proposed development, so that only light spilling from the windows of the proposed development has been calculated. Whilst this methodology is considered appropriate, because it calculates only the effects of the proposed development, the lack of any other light sources must be borne in mind when interpreting the results. After all, the Institution of Lighting Professionals (ILP) Guidance Notes for the Reduction of Obtrusive Light state that its recommended maximum light intrusion values *"are suggested maxima and need to take account of existing light intrusion at the point of measurement"*. So, where the results show light intrusion levels that are below but close to the ILP recommended maxima, it is possible that the recommendations may not be met once other light sources, such as streetlamps or spillage from other buildings, are taken into account.

11.13 The magnitudes of impacts have been clearly identified in the Technical Appendices and appropriately summarised and described in the ES chapter.

11.14 The method for evaluating effect significance, including the numerical significance criteria used, is clearly described for each environmental topic. The method accords with published guidelines, including Appendix I of the BRE guide, and is considered appropriate.

Assessment findings – surrounding receptors

11.15 The ES chapter describes the likely significant effects of the proposed development on daylight, sunlight, overshadowing, solar glare and light pollution.

11.16 The following minor errors are noted, but do not affect the accuracy of the ES:

- Paragraphs 11.15 and 11.16 refer to Table 11.2 but should refer to Table 11.1;
- Paragraph 11.77 refers to One Blackfriars, but this is presumably an error as that building is too far away to be a consideration;
- Paragraphs 11.111 an 11.123 refer to Vertical Sky Component (VSC), but should refer to No Sky Line Contour (NSL).

11.17 The significance of the effects is considered to have been correctly stated. Additional factors that the reviewer considers to be relevant in ascribing the significance stated in the ES are as follows:

- Daylight effects to 16 Melior Street: In each of the six rooms noted as being living/kitchen/dining rooms (LKDs) that would experience moderate or major adverse daylight effects according to the VSC results, only one out of the six windows that serve each room would be so affected; the impacts on the other five windows would be within the BRE guidelines. The reviewer therefore concurs that the effect on the building as a whole would be minor adverse.
- Daylight effects to 8 Melior Street & 36 Snowsfields: The proposed development would adversely affect 22 rooms that are noted as being LKDs. Of those 22 living spaces, the effects would be no greater than minor adverse in two cases, no greater than moderate adverse in three cases and up to major adverse in the other 17 cases. Without window maps it is impossible to tell precisely which are the adversely affected windows. The reviewer therefore concurs that the effect on the building as a whole should be regarded as major adverse.
- Daylight effects to 103-114 Guinness Court: The three rooms that would experience minor NSL effects are all noted as being bedrooms, which have a lesser requirement for daylight than living rooms and kitchens. The reviewer therefore concurs that the effect on the building as a whole would be minor adverse.

- Daylight effects to 1-15 Guinness Court: Only two rooms that are noted as being living rooms would experience either a moderate or major adverse impact. The impact on VSC to those two rooms would be minor adverse and the retained VSC levels would be in the mid to high teens and arguably not unreasonable for a central urban area. The reviewer therefore concurs that the effect on the building as a whole would be minor adverse.
- Sunlight effects to 16 Melior Street: The two rooms that would experience major annual sunlight loss are noted as being bedrooms, which have a lower requirement for sunlight. The reviewer therefore concurs that the effect on the building as a whole would be minor adverse.
- Sunlight effects to 8 Melior Street & 36 Snowsfields: Of the 15 rooms whose annual sunlight would be adversely affected, just two are noted as being LKDs, which would experience moderate adverse effects. The other 13 rooms are bedrooms, which have a lower requirement for sunlight. The reviewer therefore concurs that the effect on the building as a whole would be minor adverse.

11.18 It is suggested that planning conditions to provide a detailed lighting design and assessment demonstrating that the proposed development will not result in post-curfew adverse light intrusion to 8 Melior St – 36 Snowsfields, The Glasshouse Building and 8-20 Snowsfields or provide suitable mitigation measures to minimise the potential effects, including dimming of lights or integrated blackout blinds controlled by a building management system (DSO3).

11.19 The reviewer does not agree with the statement in paragraph 11.124 of the ES that: *"Due to this neighbours close proximity to the Site, any development to the north of this property would result in adverse daylight conditions."* It is very doubtful that "any" form of development on the application site would result in adverse effects. The Applicant is requested to re-assess this statement in paragraph 11.124 (DSO4).

11.20 Paragraphs 11.98 and 11.105 state that according to the BRE guide the presence of balconies above the windows may be the main factor in the relative loss of light. The BRE guide advises that an additional assessment may be run without the balconies to establish if that is indeed the case; however, the additional assessment is not included in the ES, so the Applicant has not established the degree to which the balconies may be a factor in the relative light loss. The Applicant is requested to clarify whether any additional assessments "without balconies" were run and whether the results demonstrate that the balconies are the main factor in the relative light losses (DSO5).

Secondary, Cumulative, and Combined Impacts

11.21 The cumulative impacts of the proposed development and the nearby development known as 'The Quill' on the identified receptors have been appropriately assessed within the ES. However, a more comprehensive cumulative affects assessment has been undertaken in the Supplementary ES Addendum (March 2019), which includes other nearby developments. The reviewer has therefore focussed on the ES Addendum, as noted below.

Mitigation and Management

11.22 No mitigation measures are proposed on the basis that given the scale of massing proposed and the urban context, the effects that have been identified "are likely to be unavoidable". The reviewer is of the opinion that the identified significant effects cannot be mitigated without a very significant redesign of the massing.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

11.23 The reviewer's understanding of the agreed scope and methodology for the supplementary cumulative assessments is based on the draft note dated 01/02/2019 prepared by DP9 at

Appendix C to the ES Addendum, in particular paragraphs 1.3, 1.8(c) and 1.13(c). The supplementary cumulative assessments have been undertaken in line with that note. Cumulative overshadowing and sun-on-ground assessments have also been undertaken.

11.24 The scenarios that have been assessed are clearly illustrated in 3D massing diagrams at Annex 03. Detailed results are included at Annex 04.

11.25 The number and percentage of receptors with impacts that would be within the BRE guidelines is stated for each scenario. The likely significant cumulative daylight and sunlight effects for each scenario have been summarised in Tables 14, 15 and 16 for cumulative scenarios A, B and C respectively, showing a comparison in each case, so that the incremental increase in significance of effects between the sequenced scenarios can be clearly understood. The significance that has been ascribed to the effects in each scenario is considered to be appropriate.

Non-Technical Summary

11.26 The non-technical summary appropriately summarises the significance of the effects of the proposed development; however, paragraph 1.111 does not make a great deal of sense, which may be related to the fact that paragraph 1.110 is missing. Clarification should be sought from the Applicant (DSO6).

Table 11.1: Summary of Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare Actions

Ref	Summary of Clarifications Required from Applicant
DSO1	Confirm which buildings are based on floor plans and which are based on assumed room layouts and uses.
DSO4	Clarify the statement in paragraph 11.124 of the ES that "any development" would result in adverse daylight conditions.
DSO5	Clarify whether any additional assessments "without balconies" were run and whether the results demonstrate that the balconies are the main factor in the relative light losses.
DSO6	Clarify what is being explained in NTS paragraph 1.111 and the missing paragraph number 1.110.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
DSO2	Provide window maps, at least for the properties identified in the ES as experiencing more than a negligible effect, in order to aid identification of the relevant windows.
Ref	**Summary of Potential Planning Conditions**
DSO3	Provide a detailed lighting design and assessment demonstrating that the proposed development will not result in post-curfew adverse light intrusion to 8 Melior St – 36 Snowsfields, The Glasshouse Building and 8-20 Snowsfields or provide suitable mitigation measures to minimise the potential effects, including dimming of lights or integrated blackout blinds controlled by a building management system.

12 Archaeology

Scope of EIA

12.1 The site does not contain any designated assets but lies within an Archaeological Priority Zone and contains known archaeological assets. The ES Archaeology Chapter sets out to assess the likely significant effects of the proposed development upon below ground archaeological heritage assets on and near the site, and the settings of any below ground archaeological assets within close proximity. Its scope includes:

- Direct impacts on buried archaeological deposits from land disturbance caused by construction of the development; and
- Direct impacts upon historic boundaries from construction.

12.2 It is also stated that it considers indirect effects to setting (para 12.23).

12.3 This scope is considered acceptable, although the Applicant is reminded that setting is not a heritage asset or designation in its own right. The importance of setting lies in what it contributes to the significance of a heritage asset, or to the ability to understand and appreciate that significance.[10] As such, effects to setting that affect an asset's heritage significance are direct, not indirect.

Baseline

12.4 Baseline conditions are summarised in the ES at paragraphs 12.25 – 12.38. This is a summary of more detailed baseline information – including a gazetteer and map of Historic Environment Records – which is presented in the desk-based assessment (provided in the Archaeology Appendix: Annex 1) and the field evaluation report (Chapter 12: Annex 1).

12.5 The study area for the baseline assessment is a 200m radius centred on (NGR) TQ 3310 7990 with references made to sites and features beyond this where they provide insights or parallels to the wider historical, cultural or archaeological context. As requested by the Scoping Response (SR) a clear rationale for the study area size has been provided (para 12.5).

12.6 The baseline is stated to have been informed by data collated from the following sources (para 12.4):

- National Monument Records;
- Greater London Historic Environment Record;
- London Borough of Southwark reference collection;
- London Metropolitan Archive;
- Key historic maps;
- London Library; and
- The Society of Antiquaries.

12.7 As appropriate for a site within an Archaeological Priority Zone the baseline has also been informed by the findings of an archaeological field evaluation; in this case, a programme of trial trenching supplemented by augering to investigate deeper alluvial deposits.

12.8 The baseline conditions identify a low potential for archaeological remains dating from the prehistoric through to medieval period as throughout these periods the site appears to have been

[10] Historic England (2017 2nd ed.). Historic Environment Good Practice Guidance 3: The Setting of Heritage Assets, p4.

'marginal land in a waterlogged area' and as such unsuitable for permanent settlement. Ground reclamation and occupation occurred in the post-medieval period and the evaluation is reported to have identified deposits and features relating to this activity including:

- Late medieval – post-medieval reclamation deposits;
- a 16th century chalk wall;
- post-medieval timber lined tanning pits;
- a 17th century ditch; and
- 19th century building remains relating to warehouses along St Thomas Street.

12.9 Generally the evidence for this period is of local interest but the remains of a 16th century wall that may have belonged to a Tudor mansion are considered to be of potential regional interest.

12.10 The evaluation is also reported to have confirmed the presence of alluvial deposits within the site; such deposits commonly have palaeoenvironmental and/or geoarchaeological value. However, an assessment of the palaeoenvironmental and/or geoarchaeological potential of deposits at the site does not appear to have been presented within the ES or supporting documents. The Applicant is to provide further information on the significance of these deposits and to assess the impact to them, including in cumulative terms (ARCH1).

Assessment

12.11 The assessment is stated to have been prepared in accordance with a broadly acceptable range of standards and guidance (para 12.3).

12.12 Criteria for defining effects is set out at 12.12 – 12.16. The importance of assets has been determined using designations and, for non-designated assets, using Secretary of State's non-statutory criteria for Scheduling Monuments, Historic England's Conservation Principles (2008) and professional judgement. Definitions are provided in Table 12.16. These are considered broadly acceptable.

12.13 Magnitude and nature of impact is set out at 12.17 – 12.19 and Tables 12.2 and 12.3. The magnitude of impact is judged on a scale of High – Negligible and the effects are considered to be either adverse or beneficial. The criteria for beneficial effects (Table 12.3) are problematic as they do not strictly relate to the heritage significance of the asset or the ability to appreciate it, but also include aspects that are general amenity and therefore relate to townscape and visual considerations. However, no action is required as no beneficial effects are anticipated.

12.14 The scale and significance of effects is set out at 12.20 – 12.23. The scale of effect is determined by the importance of the asset and the magnitude of direct impact using a matrix system (Table 12.3). Effects calculated to be 'Moderate' or 'Major' are considered to be significant. This approach and the criteria are considered acceptable.

12.15 Appropriately, all effects are considered to be permanent due to archaeology being a finite and non-renewable resource (para 12.24). However, there is no discussion of the setting of the assets and the contribution - if any - that it makes to their heritage significance. The Applicant is requested to provide further information of the role of setting to the assets heritage significance and any potential effects to it (ARCH2).

Secondary, Cumulative, and Combined Impacts

12.16 Impacts arising from the proposed development are stated at para 12.42. They are judged to be of high magnitude given the creation of the three level basement across the site. The effect is judged to be adverse and permanent. The magnitude and scale of effect is tabulated in Table 12.5.

12.17 Due to the low potential for significant archaeology of prehistoric to Roman date; the scale of effect for these periods is judge to be negligible. It is of note that the final row in this table

relates to the post-medieval occupation activity, stating that it is of local/ regional significance and will incur a high adverse impact; the effect is calculated to be negligible and not significant. This may be a typographical error as it does not accord with the matrix for calculating the scale of effects (Table 12.3), which indicates a 'minor/ moderate' or 'moderate' effect; the latter being significant. The Applicant is to clarify the predicted scale of (pre-mitigation) effect to the post-medieval remains within the site (ARCH3).

12.18 Cumulative effects are discussed at 12.62 – 12.65. No cumulative effects are anticipated as 'whilst the other development schemes beyond the boundary of the site may impact upon similar archaeological remains to those which occur at this site, they are not affecting the same archaeological remains, therefore direct cumulative effects would not occur'. This is considered broadly acceptable.

Mitigation and Management

12.19 In accordance with best practice, a programme of archaeological investigation and recording is proposed prior to or during the groundworks to help reduce the loss of the heritage significance of assets within the site (paras 12.8; 12.45; 12.58). This will need to be secured through an appropriately worded planning condition (ARCH4).

12.20 Following mitigation the residual effects of the proposed development (para 12.47 and Table 12.6) are judged to be negligible to minor adverse and not significant.

Assessment of Supplementary Cumulative Assessment (ES Addendum)

12.21 This section reiterates the cumulative assessment presented in the ES chapter.

Non-Technical Summary

12.22 The Non-Technical Summary provides an accurate account of the assessment and contains sufficient information for a member of the public to understand the effects to archaeology based on the current contents of the ES chapter. This may need to be updated following the provision of further information and clarifications.

Table 12.1: Summary of Archaeology Actions

Ref	Summary of Clarifications Required from Applicant
ARCH1	The Applicant is to provide further information on the significance of these deposits and to assess the impact to them, including in cumulative terms.
ARCH3	The Applicant is to clarify the predicted scale of (pre-mitigation) effect to the post-medieval remains within the site (and whether the negligible entry in the table is a typographical error).
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
ARCH2	The Applicant is to provide further information of the role of setting to the potential archaeological assets' heritage significance and any potential effects to this.
Ref	**Summary of Potential Planning Conditions**
ARCH4	An appropriately worded planning condition to secure the investigation and recording of archaeology within the site prior to the commencement of groundworks and its requisite archiving following completion.

13 Effect Interactions

13.1 Chapter 13 outlines potential effects occurring as a result of interactions between individual effects arising from the proposed development on individual receptors. The ES notes that there is no established EIA methodology for assessing the nature and scale of effect interactions on a receptor. The ES states that European Commission (EC) guidelines have been used to develop an approach relevant to the project. It is noted however that the Applicant has not referenced the EC guidelines and clarity is sought to confirm the guidelines used (EI1).

13.2 It is acknowledged that there is no established EIA methodology for assessing effect interactions; therefore this approach is considered to be appropriate.

13.3 The assessment considers two scenarios; effect interactions during demolition and construction, and effect interactions with the completed development. Taking each scenario in turn, the potential effect interactions are identified as being:

Effect interactions during demolition and construction

- Socio-Economic effects on local construction workforce;
- Vibration and noise effects on local residential properties;
- Noise effects on medical and residential properties;
- Noise effects on Church and commercial properties;
- Built heritage effects on Conservation Areas and non-designated heritage receptors; and
- Effects on Townscape character areas.

Effect interactions – completed development

- Socio-Economic effects on the labour market and local economy (gross value added and business rates generation);
- Noise and Vibration effects on medical and residential properties;
- Noise and Vibration effects on residential properties;
- Wind Microclimate effects on entrances, roadways and crossings;
- Daylight and sunlight effects on residential properties;
- Overshadowing effects on communal gardens;
- Solar Glare effects on road and rail viewpoints;
- Built heritage effects on Conservation Areas and Listed Buildings;
- Effects on Townscape character areas; and
- Visual effects on visitors, pedestrians, road users, residents and workers.

13.4 Tables 13.1 and 13.2 provide commentary on each of the effects in relation to the residual effect, scale and nature of the residual effect and the potential for effect interactions. Where there is potential for effect interactions, these are considered in more detail in the relevant topic chapters, e.g. built heritage, townscape and visual impact assessment (ES Vol 2). There are mixtures of beneficial and adverse effects identified, with varying scales of effect. The most significant effects (major effects) relate to change in daylight amenity.

13.5 Overall, the approach to determining effect interaction is considered to be appropriate, however it is not clear how the specific receptors in each of the receptor groups were chosen, i.e. what was the criteria used to specify which properties, were considered in the assessment. The Applicant is requested to confirm the criteria used to choose the receptor groups (EI2).

Table 13.1: Summary of Effect Interactions Actions

Ref	Summary of Clarifications Required from Applicant
EI1	The Applicant is requested to provide reference to the EC guidelines used in the assessment approach.
EI2	The Applicant is requested to provide further clarity regarding the criteria used to choose the receptor groups.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

14 Likely Significant Effects and Conclusions

14.1 Chapter 14 of the ES summarises the likely significant effects expected to arise as a result of the Proposed Development, identifying that significant adverse effects are predicted during demolition and construction with respect to:

- Noise and vibration effects on a small number of residential properties; and
- Heritage/value of a non-designated heritage asset.

14.2 With regards to effects once the proposed development is complete and occupied it has been identified that significant adverse effects are predicted with respect to:

- Daylight, sunlight, overshadowing, solar glare and light pollution;
- Noise and vibration;
- Climate change; and
- Heritage and Townscape.

14.3 It is predicted that there will be significant beneficial effects once the proposed development is complete and occupied relating to Heritage, Townscape and Views.

14.4 This chapter fairly reports the likely significant effects identified throughout the technical sections of the ES. To assist the reader to easily understand the locations of the receptors in relation to the proposed development the inclusion of a location plan identifying the sensitive receptors is suggested (LSEC1).

14.5 The Chapter is titled 'Likely Significant Effects and Conclusions' however there is no identifiable section relating to 'conclusions' within Chapter 14. Clarity is sought from the Applicant with regards to the conclusions of the EIA (LSEC2).

Table 14.1: Summary of Likely Significant Effects and Conclusions Actions

Ref	Summary of Clarifications Required from Applicant
LSEC1	The Applicant is requested to include a location plan to easily identify the sensitive receptors to aid the ease of understanding of the likely significant effects.
LSEC2	The Applicant is requested to include/clearly identify the 'conclusions' of the EIA as implied by the chapter title.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
N/A	None.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

15 Mitigation and Monitoring

15.1 Chapter 15 presents a collation of the mitigation and monitoring measures that have been stipulated throughout the ES and measures that should be incorporated into the CEMP. This chapter appropriately collates the mitigation and monitoring and is set out in the standard format which is useful in aiding reader understanding. The approach to this section of the ES is considered to be acceptable.

Non-Technical Summary

15.2 The Non-Technical Summary does not provide a summary of the mitigation measures proposed; the Applicant is requested to include details of the mitigation and monitoring within the NTS (MM1).

Table 15.1: Summary of Mitigation and Monitoring Actions

Ref	Summary of Clarifications Required from Applicant
N/A	None.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
MM1	The Applicant is requested to include details of the mitigation and monitoring within the NTS.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

16 Review of ES Volume 2: Built Heritage, Townscape and Visual Impact Assessment

Scope of EIA

Townscape and Visual

16.1 The scope is appropriate and includes responses to the requests made as part of LBS' Scoping Opinion. These are summarised in a helpful table (Table 7.1).

Built Heritage

16.2 The scope of the assessment is stated to include effects to above-ground heritage receptors including:

- Listed buildings;
- Conservation areas;
- Registered Parks and Gardens;
- Scheduled Ancient Monuments;
- Locally listed buildings (non-designated heritage receptors); and
- Other non-designated heritage receptors.

16.3 In particular it focuses on the potential physical effects to Bermondsey Conservation Area and a non-designated asset within the proposed development site. It also considers effects to nearby built heritage receptors as a result of setting change. This is considered to be broadly acceptable.

16.4 It is of note that there are inappropriate references to the planning balance of the proposed scheme in the heritage assessment. The function of the ES chapter is to provide an objective assessment of the effect to the heritage significance of assets. It should not attempt to define public benefit or conduct any balancing exercise. The inclusion of such statements is inappropriate and undermines the credibility of the assessment; it is requested that they be removed (BH1).

16.5 A summary of the consultation undertaken as part of the project design and assessment is included (Section 7). There is no reference to whether any consultation has been undertaken with the local Conservation Team and Historic England. The Applicant should clarify what historic environment consultation has been undertaken and provide details of any advice provided and how it has been actioned (BH2).

Baseline

Townscape

16.6 The study area for the townscape assessment is appropriate.

16.7 The baseline describes the townscape character of the area and divides the study area into townscape character areas as a basis for doing this, which is appropriate. The townscape character areas are appropriate in terms of scale and division. The value of each townscape character area has been provided and is defined in the methodology (sensitivity is assessed as part of the assessment phase, see below).

Visual

16.8 The study area for the visual assessment is appropriate.

16.9 The Zone of Visual Influence (ZVI) in ES Volume 2 Section 2.0 is useful but this should be overlaid with the assessment viewpoints so that any areas of visibility not assessed by a viewpoint can be identified and considered. For example, the Zone of Theoretical Visibility (ZTV) map shows visibility from the foreshore of Custom House Quay and Hardwidge Street directly opposite the site, but viewpoints do not cover these places. The omission of these locations for assessment viewpoints should be justified (TVIA1).

16.10 The sensitivity of visual receptors at each view is assessed as part of the assessment phase (see below).

Built Heritage

16.11 The heritage baseline is presented at Section 5.0. It is stated that a site visit has been undertaken and that non-designated heritage assets have been identified from information in Conservation Area Appraisal documents; however, it is of note that there is no separate assessment of the potential effect to non-designated assets beyond the site, such as the adjacent Horseshoe Inn. The Applicant also does not appear to have used the Greater London Historic Environment Record (GLHER) data (obtained as part of the archaeological assessment) to identify non-designated heritage assets, although it was recommended in the scoping report as it is a requirement of the NPPF[11] and HE good practice guidance[12]. Furthermore, the other sources from which baseline data has been collated are not clearly set out. The Applicant should clarify the data sources used and review the GLHER data to ensure that no heritage receptors have been omitted (BH3). A separate assessment of potential effects to the non-designated assets in close proximity to the site should also be provided (BH4).

16.12 It is stated that data has been collated from within a 400m study area and informed by building locations and heights, topography and townscape features and an understanding of the scale of the development (paragraph 2.5). This is a very small study area for a development of 19 storeys. It is understood that receptors beyond the study area were also assessed if they are inter-visible or have the potential to be impacted by the proposed scheme (paragraph 2.3) and it is requested that further rationale for the scoping in/out of these assets is provided (BH5).

16.13 58 heritage assets have been identified in the study area; where these have a common heritage value of setting these have been grouped for assessment. As appropriate, the baseline section includes descriptions of the assets, their significance and the contribution that setting makes to that significance (however, there is an issue with the values used as discussed below). Helpfully, a table on pages 54-55 indicates which assets are taken through to assessment and those that are not.

16.14 Broadly appropriate figures are included showing the location of the baseline heritage assets in relation to the site (Figure 5.10 and the ZTV (Figure 2.1)). However, the latter has no key limiting its usefulness. There is also no information on which part of the development it is shows. The key is also missing from Figure 2.9 - Cumulative schemes modelled in verified views. The Applicant should update Figure 2.1 and 2.9 to include keys and clarify what part of the development is being shown in Figure 2.1(BH6). A range of historic plans/mapping and images are also included (Figures 4.1 – 4.10) and usefully, photographs of some heritage assets discussed (e.g. Figures 4.11 and 4.12). Some of the Accurate Visual Representations (AVRs) also relate to heritage receptors including some which helpfully demonstrate the lack of inter-visibility between the development and the assets.

[11] NPPF (2018) paragraph 187 highlights that HER data should be used to assess the significance of heritage assets and the contribution that they make to their environment. Further to this, paragraph 189 states that for proposals affecting the heritage significance of assets the relevant historic environment record should, as a minimum, have been consulted.

[12] Historic England's GPA2 (2015) clearly sets out that HER data is a requisite resource for providing core historic environment information for development management decisions in the planning system as set out in the NPPF. Historic England's GPA3 (2017 2nd ed.) similarly states that the local authority Historic Environment Record is an important source of information to support the assessment of significance and setting.

Assessment

Townscape and Visual

16.15 The method used to predict sensitivity is based on judgements about value and susceptibility in line with the 3rd Edition Guidelines for Landscape and Visual Impact Assessment ('GLVIA3'). The method used to assess magnitude of the impact is clearly set out and also draws on the approach set out in relevant guidance (GLVIA3). It is clear which effects are considered to be significant (effects in the moderate to major categories).

16.16 The townscape assessment is set out in Section 9. It identifies significant effects according to sensitivity and magnitude, in line with the method. There is reporting of both beneficial and adverse effects, although not all adverse changes are explicitly reported. For example, the change to the Bermondsey Character Area is assessed as being wholly beneficial. However, the adverse impact arising from the change in scale between this area and the site is acknowledged in the assessments for viewpoints 24 and 25. This adverse change is not acknowledged in the assessment of effect on the Bermondsey Character Area. Clarification should be provided to explain this, and to clarify if both adverse and beneficial effects have been taken into account in the townscape assessment (TVIA2).

16.17 The full impact of the development on viewpoints 20 and 25 is not shown in the visualisations because the images do not show the full building height. The Applicant should provide visualisations that show the full height of the building, even if they are provided as a model view (TVIA3).

16.18 The visual assessment is set out in Section 10. There are 23 beneficial effects (of which six are significant) and 12 adverse effects (of which nine are significant). In terms of direction of effect, we would suggest that the effect on viewpoints 9 (Monument) and 18 (Leathermarket Gardens) could be described as adverse or neutral rather than beneficial, and the effect on viewpoint 11 could be described as neutral rather than beneficial. For viewpoint 17 no reference is made to the adverse aspect of the change arising as a result of obscuring of the view the listed warehouse on Snowsfield. LBS should be aware that some of these changes may be viewed as adverse or neutral, rather than all beneficial.

16.19 AVRs are provided which are very helpful to understand the effects.

Built Heritage

16.20 Standards and guidance for the assessment methodology of Built heritage and townscape and visual are cited at paragraph 3.6. It is not clearly stated which have been used in the historic environment assessment and it is notable that no guidance has been cited that relates to the way in which heritage significance is measured e.g. Historic England's (2008) *Conservation Principles*. The Applicant is requested to provide clarification on which guidance has been used for the historic environment assessment and the criteria and guidance used for assessing heritage significance (BH7).

16.21 Heritage receptor value is discussed in paragraph 2.13 with the criteria set out in Table 2.1. The values used are inappropriate and inconsistent with best practice suggesting that designated assets can be considered of low or medium value. This is because the criteria draw on the now obsolete '*Seeing the history in the view*' guidance (2011) which was not designed for assessing the heritage significance of individual heritage receptors, but the significance of heritage assets as they appear within specific views. The Planning (Listed Buildings and Conservation Areas) Act 1990, as amended, affords equal status and protection to all grades of listed buildings[13]. Additionally, neither NPPF nor the PPG make a distinction in the value of designated heritage assets based upon their grading or state of preservation. As designated heritage assets, all listed buildings, registered parks and gardens and scheduled monuments should be treated as being of 'high' importance. Sensitivity/susceptibility to change can then be moderated in line with an appropriate understanding of the asset's significance.

[13] Grading is advisory and carries no statutory weight.

16.22 The criteria for sensitivity and magnitude to change is discussed at paragraph 2.39 – 2.44 and presented in Tables 2.4-2.6. The methodology calibrates the sensitivity of heritage receptors by their susceptibility to change - which considers their value, the contribution of setting and the nature of the proposals (paragraph 2.41) - and then by moderating this against their significance using a matrix (Table 2.4). This is problematic as it means that assets of very low, low, or potentially even medium, value, can only have a low or moderate sensitivity, even though they may have a high susceptibility to change and risk being totally lost in the event of development.

16.23 The significance of a heritage asset remains constant no matter what the proposal, but its sensitivity to change can fluctuate depending on what values underpin the asset's significance and what the proposal is. Accordingly, the grade of a designated asset is not an analysis of how sensitive it is to change; it is a guide to how significant it is. As such, there needs to be greater explanation of each asset's susceptibility to change and how that relates to its heritage significance through its physical form and setting so that the decision maker can transparently interrogate the findings of the assessment.

16.24 Professional judgement is used in judging the magnitude of change. This is acceptable, but again there are issues with the criteria (Table 2.6) which are not clearly differentiated and do not adequately cover the potential for total loss.

16.25 The approach to the assessment of effects is discussed at paragraphs 2.45 – 2.57 and the assessment of heritage receptors is presented in Section 8. It appears that there is some misapplication of the heritage value criteria. For example, an asset of very low value is said to have incoherent or eroded form of interest. Yet this is not demonstrated for 9 Fenning Street, which may be in 'poor condition' but not to such an extent that it has lost features of value. Nor does there appear to be a consideration of the fact that it has additional significance in positively contributing to Bermondsey Street Conservation Area.

16.26 The Applicant should revisit their assessment criteria to ensure they are appropriate for explaining the scope of value of heritage assets under discussion, the kinds of change (incl. direct loss) they may experience and the resulting effects to their significance, and review its application, to ensure that the criteria are fully met and applied consistently. They should provide further information on how each asset is susceptible to physical change to their form, fabric and setting (where it contributes to their heritage significance). In light of this, the ensuing assessment may require revisiting, to ensure that it is internally consistent and provides sufficient information for the decision-maker in a fully transparent way (BH8).

Secondary, Cumulative, and Combined Impacts

Townscape and Visual

16.27 The cumulative assessment considers the additional effects of the proposed development on top of the cumulative baseline created by consented development. The cumulative assessment also considers the proposed development in the context of submitted (but not determined) schemes and schemes that are yet to be submitted. Distinguishing between the different planning statuses of the cumulative schemes is helpful.

16.28 The AVRs (which are split into Proposed + Consented Schemes; Proposed + Consented + Schemes submitted; and Proposed + Consented + Schemes submitted + schemes yet to be submitted) are very useful to understand the cumulative effects.

Built Heritage

16.29 Impacts arising from construction and demolition, the completed development and cumulative developments are assessed in Section 8 and helpfully summarised in Table 8.1. Residual effects are not separately considered due to there being no mitigation proposed (see below). In light of the previous issues highlighted it is of concern that there may be heritage receptors that have not been accurately assessed or that have not been assessed at all.

16.30 The reported effects arising from construction include:

- A temporary negligible to minor adverse effect on the grade II railway viaduct arches (opposite the site) due to construction activity;
- A minor adverse effect to Bermondsey Street Conservation Area due to the loss of 9 Fenning Street (low impact) and construction activity (negligible impact); and
- A moderate adverse effect to the non-designated 9 Fenning Street due to demolition.

16.31 The construction effects to the railway viaduct are later stated in Table 8.1 to be negligible. The Applicant should clarify what the predicted effect is (BH9).

16.32 There are issues with the assessment in relation to construction effects, particularly in relation to the conservation area and 9 Fenning Street. Firstly, as already mentioned, there is the inconsistent use of the criteria by which the non-designated heritage asset being lost has been valued. Secondly, it is unclear as to why 9 Fenning Street which is stated by the conservation area appraisal and throughout the assessment to be a building that makes a positive contribution to the conservation area is then described as one which makes a neutral contribution (paragraph 8.18). The Applicant is to clarify what contribution to the conservation area they consider 9 Fenning Street to make and to provide further rationale on why (BH10). Finally, the argument at 8.21 that: *'The CA as a whole is large in geographical extent and the Site comprises a small element'* is irrelevant. The assessment of impact is measured against the special interest of the designation, not by a comparison of percentages. In this regard the judgement that the change is of a low magnitude is questionable and the Applicant is requested to clarify how the loss of the building *'will not have a material effect on the character and appearance of the conservation area'* (BH11).

16.33 There is no discussion of the potential for vibration effects to nearby heritage assets, and whether it is intended that the potential for such effects would be monitored. The Applicant should provide further information on this, as vibration could potentially cause buildings to become structurally unsound resulting in significant effects (BH12).

16.34 Only one adverse effect is predicted to result from the completed development and this relates to the Bermondsey Street Conservation Area which is assessed as 'a whole' to experience a minor negative effect (paragraph 8.84). The significance of this effect appears to be judged weighing adverse effects against beneficial ones. This is inappropriate; it is for the decision-maker, not the Applicant, to judge such matters and both the beneficial and adverse effects and the level of their significance should be clearly stated to facilitate this (BH13).

16.35 The Applicant is reminded that in relation to heritage assets beneficial effects are often difficult to achieve, for example, by removing harmful elements of its current setting, to better reveal its character and significance. More typically, developments often only 'improve', in townscape terms, the setting of an asset without meaningfully affecting its heritage significance or the way in which the asset is experienced. In such circumstances, such general improvements to townscape are properly a matter for the townscape and visual assessment, rather than an historic environment consideration, and, as such, should not be directly translated into beneficial effects to heritage assets.

16.36 Within this assessment, the Applicant seems to have translated beneficial changes to townscape directly into beneficial effects to heritage assets without giving clear information on how they alter the asset's significance or appreciation. This can be seen in the major beneficial effect reported to the grade II listed railway viaduct arches and the minor or minor/ moderate beneficial effects reported to 4-8 and 12-16 St Thomas Street and Mary Sheridan House aka no. 15 St Thomas Street, No 9 and Attached Railings, 9A St Thomas Street and Mary Sheridan House aka 11-13 St Thomas Street. These effects are typically described as resulting from the introduction of a new building of high architectural quality in the setting of the asset that lifts the character of the townscape as a whole with no specific relation to how this alters the asset's significance or appreciation. In the case of the listed railway arches, some of the benefit to the asset comes from the way in which the proposed development would replace an area of vacant land which is said to detract from the value of the arches. This detraction appears to only be articulated in townscape and visual terms and not in relation to the arches' heritage significance. Finally, the notion that the enhancement of the setting of the arches would be complementary to their use and function and, indirectly, the creation of a sense of 'place' that would further help secure their long-term conservation is invalid, since the arches are active railway infrastructure that that are maintained regardless of their secondary commercial purpose. In all cases of beneficial effects, the Applicant appears to have taken an approach which demonstrates conflation of an improvement in general amenity, a townscape matter, with a change in setting that is relevant to the significance or appreciation of a heritage asset[14]. Therefore the Applicant is to either provide further information on how the reported beneficial effects stem from the way in which the proposed development would affect the heritage significance of the assets in question, or the ability to appreciate them, or to revisit their assessment findings regarding beneficial effects to heritage assets (BH14).

16.37 Cumulative effects with nearby schemes in three different scenarios are discussed at paragraphs 8.187 – 8.201. In Scenario A (proposed + 14 consented schemes in surrounding area) it is predicted that the beneficial effects to all assets, bar the railway viaduct arches, will be reduced as the increase in tall development will: '*become more embedded as part of the setting of the listed buildings*' (paragraph 8.193).

16.38 Cumulative effects to the Bermondsey Street Conservation Area are considered in relation to Capital House and Guinness Court and found to result in no change or cumulative effect.

16.39 In Scenario B (cumulative Scenario A + schemes submitted but yet to be determined – Sellar, Greystar, 2-4 Melior Pl, New City Court) and Scenario C (cumulative Scenario B + schemes yet to be submitted – Threadneedle) the impact to Bermondsey Street Conservation Area is found to remain minor adverse due to the introduction of tall buildings that would contrast with the height of those in the conservation area and therefore its character and appearance. Reference is also made to the introduction of new public realm and active frontages and the improvement of the area's use and function. It is unclear if the assessment is again weighing effects and making a judgement in the whole and the Applicant is asked to clarify this, and if they have to revisit their assessment as per the request BH13. The cumulative assessment will also need to be revisited in light of request BH14.

16.40 It is requested that the Applicant revisit their assessment of cumulative effects in light of the other requests relating to their assessment and that in particular they provide further information on the cumulative effects to the conservation area (BH15).

Mitigation and Management

Townscape and Visual

16.41 Embedded design mitigation is described in Chapter 7. However, there will clearly be some significant adverse effects remaining and these will need to be weighed in the overall planning balance.

Built Heritage

16.42 Embedded mitigation arising from design development and consultation is discussed at section 7. It is of note that the design evolution shows no attempt to avoid and limit harm to the non-designated asset on the site and therefore in turn to the conservation area. Historic England has raised a similar concern in their consultation response (dated 7th June 2019) advocating that the warehouse be retained within the proposed development design. The Applicant is to clarify their design evolution and what consideration – if any – has been given to the retention of the non-designated asset within the site (BH16).

16.43 In should be noted that while the design of the scheme is potentially executed in a manner that seeks to avoid effects to heritage assets – or at least those beyond the site - it is not a relevant consideration in this context. The design process has resulted in the scheme that has been submitted – and it is the effects of this scheme as it appears at the point of submission that must be assessed. (Otherwise, the reader is placed in the position of attempting to consider effects that the scheme either does not have, or are not as severe as they may otherwise have been.) To be clear, it is entirely reasonable for the Applicant to highlight the efforts made in the design process to avoid significant effects, but this is a matter principally for Chapter 3: Alternatives and Scheme Design.

[14] Historic England (2017 2nd ed.). Historic Environment Good Practice Guidance 3: The Setting of Heritage Assets, p7.

16.44 No additional mitigation is proposed. However, it is acknowledged that a scheme of Historic Building Recording (HBR) may be required by the local authority should the loss of the non-designated 9 Fenning Street be permitted. If 9 Fenning Street is demolished it is highly advised that an appropriate level of HBR is undertaken, being secured via planning condition (BH17).

Non-Technical Summary

16.45 The NTS should provide sufficient information for the non-specialist reader to understand the main environmental impacts of the proposal without reference to the main ES.

Townscape and Visual

16.46 The NTS reports on all significant effects. Nevertheless, Paragraph 1.172 is a little confusing. The text states "*The proposed development does not have the potential to impact any other views identified for assessment*", but the following paragraph goes on to set out impacts on views. The Applicant should clarify the meaning of this sentence (does it mean the proposed development does not have the potential to impact any other views identified in the London View management Framework?)(TVIA4).

Built Heritage

16.47 Table 1 in the NTS incorrectly states that there are no built heritage assets on the site. Similarly the effect to the listed railway viaduct arches is reported to be minor beneficial at paragraph 1.148 and major beneficial in the table at paragraph 1.51. For the sake of clarity on what the significant effects of the proposed development are the Applicant should correct these inconsistencies (BH18).

16.48 There is no mention of 9 Fenning Street beyond the effect that its loss would have on the conservation area. Since its demolition results in a significant effect this should be summarised (BH19).

16.49 The NTS should be updated to accurately reflect the findings of the built heritage assessment following the provision of further information and clarifications requested (BH20).

Table 16.1: Summary of Townscape and Visual Actions

Ref	Summary of Clarifications Required from Applicant
TVIA 2	Clarification should be provided to explain why the adverse changes (relating to change in scale) highlighted in the assessments for viewpoints 24 and 25 are not acknowledged in the townscape assessment. The Applicant should also clarify whether both adverse and beneficial effects have been taken into account in the townscape assessment.
TVIA 4	Clarification in relation to Paragraph 1.172 "*The proposed development does not have the potential to impact any other views identified for assessment*". Should this read "*the proposed development does not have the potential to impact any other views identified in the London View management Framework"*?
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
TVIA 1	Provide an overlay of the ZTV (Figure 2.1) with viewpoints and justify why viewpoints have not been selected for any areas of visibility not already covered by a viewpoint – for example the foreshore of Custom House Quay and Hardwidge Street.
TVIA 3	Provide full height visualisations from viewpoints 20 and 25 (even if model views) and include an additional model view from Hardwidge Street to show the impact from this angle.
Ref	**Summary of Potential Planning Conditions**
N/A	None.

Table 16.2: Summary of Built Heritage Actions

Ref	Summary of Clarifications Required from Applicant
BH1	The function of the ES chapter is to provide an objective assessment of the effect on the heritage significance of assets. It is therefore requested that the Applicant remove all references in the chapter and the built heritage section of the NTS to public benefit and the discussion of 'balance'.
BH5	It is stated that data has been collated from within a 400m study area informed by building locations and heights, topography and townscape features and an understanding of the scale of the Development (paragraph 2.5). This is very small for a development of 19 storeys. It is understood that receptors beyond the study area also being assessed if they are inter-visible or have the potential to be impacted by the proposed scheme (paragraph 2.3) and it is requested that further rationale for the scoping in/ out of these assets is provided.
BH6	The Applicant is to add keys to Figures 2.1 and 2.9 and provide clarification on what part of the development is being shown in Figure 2.1.
BH7	The Applicant is requested to provide clarification on which guidance has been used for the historic environment assessment and the criteria and guidance used for assessing heritage significance.
BH9	The construction effects to the railway viaduct are later stated in Table 8.1 to be negligible. The Applicant should clarify what the predicted effect is.
BH10	The Applicant should provide clarification as to whether they consider 9 Fenning Street to make a neutral or positive contribution to the conservation area as it is described as being both. If they consider it to be a neutral contributor they need to provide further rationale on why, as the conservation area appraisal indicates that it is a building that positively contributes.
BH11	The Applicant is to clarify how the loss of the non-designated 9 Fenning Street – a building that contributes positively to the conservation area *'will not have a material effect on the character and appearance of the conservation area'*.
BH13	Where effects have been considered in the round the Applicant is to provide a breakdown of the beneficial and adverse effects and their significance. This would be best presented in a table where by the assets value, sensitivity, impact, and significance of effect is included.
BH16	The Applicant is to clarify their design evolution and what consideration, if any, has been given to the retention of the non-designated asset within the site.
BH18	Table 1 in the NTS incorrectly states that there are no built heritage assets on the site. Similarly the effect to the listed railway viaduct arches is reported to be minor beneficial at paragraph 1.148 and major beneficial in the table at paragraph 1.51. For the sake of clarity on what the significant effects of the proposed development are the Applicant should correct these inconsistencies.
Ref	**Summary of Potential Regulation 25 Information Requests to be made to Applicant**
BH2	There is no reference to whether any consultation has been undertaken with the local Conservation Team and Historic England. The Applicant should clarify what historic environment consultation has been undertaken and provide details of any advice provided and how it has been actioned.
BH3	The Applicant should provide clarification on the data sources used and review the GLHER data to ensure that no heritage receptors have been omitted.
BH4	A separate (tabulated) assessment of non-designated assets in close proximity to the site should also be provided.
BH8	The Applicant should revisit their assessment criteria to ensure they are appropriate for explaining the scope of value of heritage assets under discussion, the kinds of change (incl. direct loss) they may experience and the resulting effects to their significance. Its application should also be reviewed to ensure that the criteria are fully met and applied consistently. They should provide further information on how each asset is susceptible to physical change to their form, fabric and setting (where it contributes to their heritage significance). In light of this, the ensuing assessment may require revisiting, to ensure that it is internally consistent and provides sufficient information for the decision-maker in a fully transparent way. Any revised assessment is best presented in a table.
BH12	There is no discussion of the potential for vibration effects to nearby heritage assets, and whether it is intended that the potential for such effects would be monitored. The Applicant should provide further information on this, as vibration could potentially cause buildings to become structurally unsound resulting in significant effects.
BH14	The rationale for beneficial effects appears to be based solely on townscape and visual considerations. The Applicant is requested to either provide further information on how

17 Assessment of Final Regulation 25/ Clarifications

17.1 This section considers the Applicant's response, received by LUC on the 2nd September 2019, to the clarifications/potential Regulation 25 information requests identified during the initial review of the ES (July 2019). The Applicant's response sets out additional information which addresses the clarifications and potential Regulation 25 requests.

17.2 Table 17.1 below provides a judgement as to the acceptability of the information provided in response to the clarifications/Regulation 25 requests. Table 17.1 is set out such that the Regulations 25 requests are located at the beginning of each topic.

Table 17.1: Potential Regulation 25 and Clarification Judgements

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
EIA Context & Influence						
ECI2	Regulation 25	The Applicant is requested to provide details on the relevant expertise and qualifications of those who prepared the ES.	Regulation 18(5) of the EIA Regulations 2017 states: (5) In order to ensure the completeness and quality of the environmental statement— (a) the developer must ensure that the environmental statement is prepared by competent experts; and (b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts. With respect to Regulation 18(5)(a), there is (unfortunately) no specific	**Acceptable** It is common practise to provide details of the individuals who prepare the ES Topic chapters, however Trium have outlined their team's extensive experience and why the Chapter Authors have been selected. This is sufficient. This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

Ref	Summary of Clarifications Required from Applicant
	beneficial effects to heritage assets arise, based on how the proposed development alters the heritage significance of assets, or the ability to appreciate that significance, or to revisit their assessment findings regarding beneficial effects.
BH15	It is requested that the Applicant revisit their assessment of cumulative effects in light of the other requests relating to their assessment e.g. BH13 and BH14 and that in particular they provide further information on the cumulative effects to the conservation area.
BH19	There is no mention of 9 Fenning Street beyond the effect that its loss would have on the conservation area. Since its demolition results in a significant effect this should be summarised.
BH20	The NTS should be updated to accurately reflect the findings of the built heritage assessment following the actioning of the requests herein.
Ref	**Summary of Potential Planning Conditions**
BH17	In the event that No 9 Fenning Street is demolished it is advised that HBR is undertaken to record its heritage significance. This should be secured via a planning condition.

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			definition of what a 'competent expert' entails. It is however Trium's opinion that, based upon extensive experience by all involved, the ES has been prepared by competent experts. The developer is therefore adhering to this regulatory requirement by ensuring this. Importantly, if the ES is considered to be complete and robust, but their very nature, the persons who undertook this work are 'competent'. With respect to the second part, the requirement of Regulation 18(5)(b) broadly refers to a statement to be provided on the expertise **or** (rather than 'and') qualifications of the experts. It is our opinion that the content within ES Chapter 1 – Introduction (Volume 1) does provide this, as well as referring to each technical chapter which identifies the experts who prepared the ES Chapter. Importantly, the Regulations specifically use the terminology 'outlining', and therefore the text provided is deemed sufficient, and does not need to be expanded upon to meet this regulatory requirement. It is therefore considered			

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			that the comments presented at paragraph 3.1.5 seek a level of information beyond the requirement of the above regulation, i.e. the EIA Regulations do not seek details of all members of the project team. The technical ES Chapters provided within the ES have been prepared by competent experts within the respective companies identified, who have sufficient knowledge and experience of working on projects involving urban regeneration schemes relating to the relevant technical topic in question. The preparation of each of the technical ES Chapters has involved several individuals within the respective company, and has involved a process of review for issue of the chapter by a figure with sufficient experience and seniority within that company. As has been noted, Trium and its employees is an environmental consultancy specialising in urban regeneration and property development projects in the UK, with a specific focus in London. Trium's Partners and Employees have extensive experience in managing the			

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			in the ES. The LBS Review of the Scoping Report comments with regard to the rationale presented for scoping out of Water Resources and highlights in particular the lack of justification in terms of the impact on potable water resources, and the absence of reference to potential impact on groundwater arising from the basement. *"The Applicant proposes to summarise the FRA, Surface Water and Foul Sewage Drainage Strategy and mitigating measures into different chapters within the ES. However, this is considered insufficient especially in the context of the 3-level basement development and the noted increase in demands for potable water and potential associated risk to sewer and foul water capacity and flooding. Therefore, a 'Water Resources and Flood Risk' chapter should be presented in the ES."* The above matters have been accounted for in the ES, and the justification for scoping out of the EIA are addressed at the following: (a) The impact of the basement – consideration of the potential impact of			

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			environmental issues and impacts, and over the course of their careers to date (including with former employers), project directed, managed or contributed to over 160 EIAs. This includes selecting and managing competent experts for the topics required in an EIA, who have been selected for the project based on their knowledge and experience for the topic in question. No additional information is required to be submitted for ES purposes and as such this does not constitute 'further information' under Regulation 25 – this should therefore be 'downgraded' to a clarification.			
ECI1	Clarification	The Applicant is requested to provide further justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES following the request for this ES chapter from the LBS Review.	The ES Review (para 3.5) states that *'…there is no clear justification as to why the information has not been presented within the ES in a specific ES chapter as per the LBS Review suggestion. The Applicant is requested to provide justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES.'* It is not clear from the ES review comments the additional level of justification required over and above that presented	**Acceptable** The Applicant has provided further justification as to why 'Water Resources and Flood Risk' has been scoped out of the ES. No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			the basement construction on groundwater is discussed within ES Chapter 2 – EIA Methodology (from para 2.25 – 'Water Resources – Groundwater'), and is justified by way of the available information (i.e. Basement Impact Assessment (BIA), presented within the ES Appendix) and proposed mitigation measures (i.e. recognised industry best practice), as concluded within para 2.32 with regard to contamination to groundwater, and within para 2.34 with regard to potential for surface water flooding. (b) Demand for potable water – has been accounted for within ES Chapter 4 – Proposed Development (refer from para 4.100 onwards), with an estimate of water demand and appropriate mitigation by way of network capacity determined by TWUL as part of detailed design, which is a standard process, and water efficiency measures as part of the 'BREEAM Water Credits' (para 4.104). (c) Risk of Sewer and Foul Water Capacity and Flooding - has been accounted for within ES			

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			Chapter 4 – Proposed Development (refer from para 4.105 onwards – Wastewater Generation) which discusses the proposed discharge to the sewer network, including proposed discharge rate, volume and confirmation from TWUL of the available capacity (refer to the 'Drainage Assessment' provided within the application), as well as future liaison with TWUL about future connection and upgrades to the network.			
ECI3	Clarification	The Applicant is requested to provide clarity re the existing site plan and building(s) to be demolished. Existing site photographs would further aid the description of development chapter to detail the development site.	Sufficient clarity is provided within ES Chapter 1 – Introduction, as part of the supporting description below Figure 1.2, and the corresponding site plans presented within ES Volume 3: Appendix – Supporting Technical Information (Annex 1). This is further supported by the 'Indicative Phasing Plan and Layout' (Figure 5.2) of ES Chapter 5 – Demolition and Construction, which presents the existing building remaining on-site to be demolished.	**Acceptable** The Applicant has provided a justification for where the information can be found. No further clarification is sought.	N/A	N/A
ECI4	Clarification	The Applicant is requested to confirm if flow and pressure tests have been undertaken now that the	Please refer to the full description for completeness, which states at para 4.103 of ES Chapter 4 – Proposed Development	**Acceptable** It is noted that the Applicant is seeking full (detailed) planning permission for the	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
		undertaken to clarify who was consulted, when and how they were consulted, the comments received and how the comments influenced the development proposals.	Design and Access Statement (DAS) that was submitted as part of the planning application. Within this section of the DAS, the reader is guided to the 'Statement of Community Involvement' for more detail. This cross-reference is also clearly outlined within ES Chapter 2 – EIA Methodology (Volume 1) (para 2.4). For the purpose of clarification, detail regarding the consultation undertaken is presented within the Statement of Community Involvement. This provides sufficient information on the consultation undertaken, clarifying who was consulted, when and how they were consulted, the comments received and how they influenced the development proposals. The following provides two examples of consultation undertaken as discussed within the SCI: 1) On 11th June 2018 a meeting was held with Cllr Peter John OBE Leader of LBS, to discuss the key principles behind the scheme. 2) A public consultation was held on 10th and 12th of November for neighbouring residents and businesses,	undertaken can be found. COM4 C)[15] states that the main text of the ES should provide a summary or the main issues raised by consultees. Therefore it would have been helpful to have a summary of the consultation in the ES rather than in a separate document. No further clarification is sought.		

[15] https://www.iema.net/assets/newbuild/documents/EIA%20Quality%20Mark_Applicant%20Guide%20June%202016%20V6.pdf

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		application for the proposed development has been submitted?	(Volume 1): *"To inform the detailed design stage, TWUL may need to carry out flow and pressure tests for daily demand estimations when the planning application for the Proposed Development is submitted. This will assess the available capacity in the local supply network and determine whether any additional mains laying is necessary to support the Proposed Development and provide an indication of any cost of upgrades to the network. This would be undertaken as part of the detailed design stage if required."* As clearly stated, any tests undertaken in liaison with TWUL will be as part of the detailed design stage, which is likely to occur once certainty of the project is achieved (i.e. grant of planning permission). Please also refer to the relevant response presented within ECI1 above.	proposed redevelopment of the application site. Para 4.103 states that "TWUL may need to carry out flow and pressure tests for daily demand estimations when the planning application for the Proposed Development is submitted". It is acknowledged from the Applicant's response that the flow and pressure tests will be undertaken following the granting of permission rather than the submission of the application when detailed design will be prepared. This further clarity is deemed to be acceptable. No further clarification is sought		
ECI5	Clarification	The Applicant is requested to provide further detail (e.g. a table) regarding the consultation	The comment presented in para 3.29 of the ES Chapter 3 – Alternatives and Design Evolution (Volume 1) has been taken from the 'Consultation' section of the	**Acceptable** The Applicant has provided a clarification as to where the details of what consultations have been	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
		reference in Paragraph 6.29 should read Table 6.3 (Matrix to Determine Scale of Effect) not Table 6.4 (Labour Market Profile (April 2017 to March 2018) as currently stated.	Economics (Volume 1)) should read Table 6.3 (Matrix to Determine Scale of Effect).	response to the clarification request. No further clarification is sought.		
Traffic and Transport						
TR1	Clarification	Include details of cycle usage on St Thomas Street as part of the Baseline Conditions based on classified counts included as part of Transport Assessment.	The raw data relating to cycle usage was included in the Transport Assessment within Appendix B (Video Survey Data) (refer to ES Volume 3 – Traffic and Transport; Annex 1) submitted with the planning application. The raw data within Appendix B was a video survey that was undertaken between Tuesday 13th and Monday 19th November 2018 to understand vehicle flows on St Thomas Street. A summary of the cycle movements is provided in tabular form below.	**Acceptable** The clarification provided by the Applicant is accepted. No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			having considered feedback from a previous public consultation with other land owners and having made further refinements to the scheme. Attendees were asked to provide feedback based on four themes as discussed within the SCI.			
EIA Presentation						
NTS1	Clarification	The Applicant is requested to include a summary of mitigation and monitoring within the NTS.	The request for including a summary of mitigation and monitoring within the NTS has been noted. Please see the updated NTS, which provides this clarification.	**Acceptable** The Applicant has provided a summary of mitigation and monitoring within the NTS. No further clarification is sought	N/A	N/A
Demolition and Construction						
DC1	Clarification	The Applicant is requested to confirm whether the estimated quantitates provided in Tables 5.2 and 5.3 have considered the worst case assessment of demolition and construction effects.	It is confirmed that the estimated quantitates provided in Tables 5.2 and 5.3 of ES Chapter 5 – Demolition and Construction (Volume 1) are worst case. The summary Demolition and Construction methodology presented within ES Chapter 2 – EIA Methodology (Volume 1) (from para 2.62) broadly advises that the EIA assesses the worst case effects (para 2.63).	**Acceptable** The Applicant has provided adequate clarity in response to the clarification request. No further clarification is sought.	N/A	N/A
Socio-Economic						
SE1	Clarification	The Applicant is requested to clarify whether the	The reference within paragraph 6.29 (of ES Chapter 6 – Socio-	**Acceptable** The Applicant has provided sufficient clarity in	N/A	N/A

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<tr><th>Ref.</th><th>Request Type</th><th>Original Request identified in DRR (July 2019)</th><th>Applicant Response (August 2019)</th><th>Reassessment conclusion (September 2019)</th><th>Applicant Response (September 2019)</th><th>Reassessment conclusion (September 2019)</th></tr>
<tr><td></td><td></td><td>should be provided</td><td>(Volume 1)), see Paragraphs 8.125 and 8.126 and Table 8.14) and for existing sensitive locations in the local area where it is not possible to screen out short-term impacts based on the EPUK / IAQM screening criteria (see Paragraphs 8.120 to 8.124).</td><td>be insignificant, and hence no further investigation of 1 hour NO_2 concentrations is required.

This is not considered to be further information under Regulation 25 and no further information is sought.</td><td></td><td></td></tr>
<tr><td>AQ1</td><td>Clarification</td><td>Paragraph 8.15 of the ES refers to eleven modular boiler units, but goes on to specify only four units. This apparent discrepancy should be clarified to confirm that all potentially relevant combustion plant have been included.</td><td>The boiler plant that will be included within the Proposed Development and which has been considered within the assessment is as follows: 11 x 254kW modular boilers (comprising three x WM254/762V units and one x WM254/508V units, i.e. there are 11 boiler modules but four boiler units.</td><td>Acceptable

Clarification confirms that the Applicant has assessed the four point source releases.

No further clarification is sought.</td><td>N/A</td><td>N/A</td></tr>
<tr><td>AQ2</td><td>Clarification</td><td>Clarification should be provided to confirm that the proposed dust mitigation measures are relevant to the construction dust risks identified in Table 8.11. If necessary, the range of construction phase mitigation measures should be expanded to include all relevant mitigation measures specified in the relevant guidance.</td><td>Table 8.11 (ES Chapter 8 – Air Quality (Volume 1)) identifies the construction phase of the Proposed Development as being High Risk for both dust soiling and human health for all construction sources (i.e. demolition, earthworks, construction and trackout), in accordance with LBS' technical guidance on demolition and construction works (2016). As stated in P8.107, this risk category (i.e. High Risk) has been used to determine the mitigation measures that are set out in the Air</td><td>Acceptable – new planning condition.

This additional construction mitigation measure should be included within the suite of existing measures included in the environmental assessment. The identified dust mitigation measures, together with any further mitigation measures indicated by the guidance used by the Applicant, can be secured via the Condition proposed at AQ10.

No further clarification is</td><td>N/A</td><td>N/A</td></tr>
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<tr><th>Ref.</th><th>Request Type</th><th>Original Request identified in DRR (July 2019)</th><th>Applicant Response (August 2019)</th><th>Reassessment conclusion (September 2019)</th><th>Applicant Response (September 2019)</th><th>Reassessment conclusion (September 2019)</th></tr>
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<tr><th></th><th colspan="2">Morning Peak (08:00 – 09:00)</th><th colspan="2">Evening Peak (17:00 – 18:00)</th><th colspan="2">24 Hour</th></tr>
<tr><th>Direction of Travel</th><th>West Bound</th><th>East Bound</th><th>West Bound</th><th>East Bound</th><th>West Bound</th><th>East Bou</th></tr>
<tr><td>Tuesday 13th</td><td>34</td><td>9</td><td>20</td><td>19</td><td>244</td><td>216</td></tr>
<tr><td>Wednesday 14th</td><td>24</td><td>15</td><td>17</td><td>22</td><td>223</td><td>228</td></tr>
<tr><td>Thursday 15th</td><td>31</td><td>11</td><td>13</td><td>13</td><td>213</td><td>185</td></tr>
<tr><td>Friday 16th</td><td>29</td><td>6</td><td>19</td><td>20</td><td>219</td><td>186</td></tr>
<tr><td>Saturday 17th</td><td>2</td><td>0</td><td>10</td><td>12</td><td>163</td><td>132</td></tr>
<tr><td>Sunday 18th</td><td>6</td><td>3</td><td>6</td><td>1</td><td>102</td><td>102</td></tr>
<tr><td>Monday 19th</td><td>36</td><td>11</td><td>19</td><td>21</td><td>193</td><td>138</td></tr>
<tr><td>Average</td><td>23</td><td>8</td><td>15</td><td>15</td><td>194</td><td>170</td></tr>
</table></td><td></td><td></td></tr>
<tr><td colspan="7">Air Quality</td></tr>
<tr><td>AQ8</td><td>Regulation 25</td><td>It is considered that an assessment of 1 hour NO_2 concentrations at potentially relevant locations against the 1 hour NO_2 air quality objective</td><td>An assessment of whether the 1-hour mean nitrogen dioxide objective is predicted to be exceeded has been undertaken for both locations within the Proposed Development ((ES Chapter 8 – Air Quality</td><td>Acceptable

On further review of the sections highlighted, it is demonstrated that the scheme impact on short-term NO_2 concentrations at the relevant locations will</td><td>N/A</td><td>N/A</td></tr>
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		with further clarification of this conclusion in the light of the number and extent of receptors potentially affected.	life-safety generator plant are: • well below the annual mean screening criteria for existing sensitive receptors, therefore, long-term impacts will be negligible (see Paragraphs 8.116 and 8.117 and Table 8.12); • below the 1-hour mean screening criteria at all but one of the identified worst-case sensitive receptors (E1) (see Paragraph 8.119 and Table 8.13) AND an assessment of the maximum short-term nitrogen dioxide concentrations at receptor E1 in the earliest year that the Proposed Development will be operational (i.e. 2023) demonstrated that concentrations will be below the 1-hour mean objective (see Paragraphs 8.120 to 8.123); and • well below the 1-hour mean objective at locations within the Proposed Development itself (see Paragraphs 8.126 and 8.126 and Table 8.14). As all impacts are negligible / below the relevant screening criteria, the conclusion that the overall effect of the proposed plant will be 'not significant' is appropriate. As such there	considered, especially as E1 represents a range of receptors within Guy's Hospital, not just a single receptor. The IAQM guidance confirms that: "*Even where the effect is judged to be insignificant, consideration should be given to the application of good design and good practice measures, as outlined in Chapter 5.*" This chapter refers to emissions benchmarks and the importance of "*directing combustion generated pollutants through well sited vents or chimney stacks.*" It is therefore requested that the Applicant should review the design and practice measures applied to the energy centre, in the light of the IAQM guidance and any other relevant guidance, and identify whether any improvements could be made to mitigate the forecast impacts of the energy centre at Receptor E1. Further clarification is sought.	routinely for 8 hours each year. The predicted 99.79th percentile 1-hour mean NO2 concentration at Receptor E1 (78.4µg/m3), is dominated by the generators' contribution. An analysis of the relative contributions of the plant to this value identifies that the CHP and boilers (which will operate for extended periods) have a combined process contribution at Receptor E1 of only 1.3µg/m3 (or 0.7% of the objective). As the generators will only operate for short periods for testing (up to 8 hours per year, rather than the 8,760 hours assumed in the prediction of short-term contributions), the actual impact on NO2 at Receptor E1 will be minimal. Even when assuming that the generators operate continuously, the assessment confirms that the energy centre emissions do not cause any exceedances of the 1-hour mean objective, and that concentrations remain well below the objective (<75% of the objective). The assessment has therefore concluded that the effects are not significant and there is no	entitled "*Detailed Assessment of the Impacts of the Proposed Energy Plant at Existing Properties*" which was copied into the applicant's response made no reference to operating hours or to the breakdown in significance of contribution between continuous and non-continuous sources. The information provided by the Applicant confirms that the contribution from continuously operating sources to modelled concentrations at Guy's Hospital is minimal. The contribution from the generators would occur for a maximum of 8 hours per year, and would not itself compromise achieving the air quality standard for nitrogen dioxide, which is specified to allow 18 exceedances per year. Even if the 8 hours of operation per year coincided with the worst case meteorological conditions, there would not be a threat to achieving the air quality standard for nitrogen dioxide, although levels of nitrogen dioxide at this location could increase substantially for a short period. In order to minimise the risk of unnecessary increases in pollution levels

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			Quality Technical Appendices (Annex 7), as informed by the relevant GLA's 'Control of Dust and Emissions from Construction & Demolition' SPG (2014) and the LBS guidance, and based on further information taken from the IAQM (2018) 'Guidance on Monitoring in the Vicinity of Demolition and Construction Sites'. The following mitigation measure was missed from the GLA guidance and should be included: Regarding preparing and maintaining the site: provide showers and ensure a change of shoes and clothes are required before going off-site to reduce transport of dust.	sought.		
AQ3	Clarification	Paragraph 8.124 of the ES indicates that a forecast "moderate severity" impact due to emissions from the Energy Centre can be considered as having an "insignificant" effect. Discussion of the options for mitigating this moderate severity impact should be provided, together	Paragraph 8.124 of the ES (ES Chapter 8 – Air Quality (Volume 1)) states that the likely effects of plant emissions are 'not significant'; no moderate impacts have been predicted as a result of the proposed energy centre. As described in Paragraphs 8.114 to 8.126 (ES Chapter 8 – Air Quality (Volume 1)) the combined nitrogen dioxide emissions contribution of the proposed CHP, boiler and	**Not Acceptable** The Applicant's response does not investigate mitigation of the forecast "moderate severity" impact at Receptor E1, or provide further information on the number and extent of receptors potentially affected. Even though no air quality standards are forecast to be exceeded at Receptor E1, mitigation of the forecast moderate severity impact should be	The initial assessment within the ES regarding the impact of energy centre emissions on the 1-hour mean objective was based on the assumption that all plant are operating continuously throughout the year. This is a worst-case assumption, as it assumes that not only will the CHP and boilers all operate continuously, but so will the life-safety generators, which in reality will only operate	**Acceptable** The Applicant's response provides useful clarification regarding the worst-case assumptions built into the assessment, and changes the basis of the study conclusions which now rely on operating hours and the contribution of continuous versus non-continuous sources. The new information was not previously available: in particular, the ES section

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					emissions remains as stated in the ES chapter, as 'not significant'.	
AQ4	Clarification	Clarification of the energy efficiency assumption used to calculate NOx emissions from standby generator plant should be provided	650kVA Capacity Tenants Life Safety Generator The assumed gross electrical output efficiency: 34.7% (this is typical for a generator of this size). In the derivation of the emission rate, the electrical output (approx. 520kWe) has been derived from the capacity of the proposed generator (i.e. approx. 650kVA) by multiplying by a power factor of 0.8 (typical for generators of this type). The calculated NOx emission rate (1.33g/s) has, therefore, been derived from the calculated electrical output (approx. 520kWe) and the assumed emission factor (9,200mg/kWh). 250kVA Capacity Tenants Life Safety Generator Electrical output efficiency: 36.0% In the derivation of the emission rate, the electrical output (approx. 200kWe) has been derived from the capacity of the proposed generator (i.e. approx. 250kVA) by multiplying by a power factor of 0.8 (typical for generators of this type). The calculated	**Acceptable** Additional clarification has been provided by the Applicant. No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			should be no requirement for further mitigation.		need for additional mitigation. In terms of mitigation provided by design, the flues for the boilers, CHP and larger emergency generator are located on the tallest building, with the flue terminating 5.45m above roof level; the flues for the smaller generator also discharge at high level, well above ground. Emissions for both the CHP and boilers meet the requirements of the GLA's Sustainable Design and Construction SPG (2014). Therefore, best practice is being followed. There is no regulation on emissions from emergency generators operated for less than 50 hours per year, and consequently the assessment has made the worst-case assumption that the installed generators have the highest emissions possible (Stage I emissions), but it is expected that consideration to generators with low emissions can be made during later stages of design. Based on the above, the assessment of impacts on 1-hour mean concentrations is worst-case, and overall, the impact of energy centre	at Guy's Hospital, it is recommended that the building operator should only test the stand-by generator plant during periods when air quality is forecast to be good and/or when the wind is forecast to carry emissions away from Guy's Hospital. The forecast levels of nitrogen dioxide are not sufficient to justify making this the subject of a planning condition.

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			criteria respectively; this is a requirement that will also apply to demolition and construction vehicles associated with committed schemes that are located within the London Borough of Southwark. As such, it is considered that the cumulative air quality impacts arising from emissions due to construction traffic will be 'not significant'.			
AQ6	Clarification	Further clarification on the potential for cumulative air quality impacts due to energy centre emissions should be provided to confirm the study findings that any such impacts would not be significant.	Further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), which concluded that the impacts will be likely to be 'not significant'. Impacts will be likely to be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment', the air quality assessment demonstrates that annual mean process contributions from the Proposed Development will be sufficiently low that any impacts can be screened out as being negligible regardless of existing baseline conditions (any emissions from plant associated with nearby committed schemes would	**Acceptable** The Applicant has demonstrated that inclusion of the proposed energy centre in a cumulative scenario will insignificant. No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			NOx emission rate (0.51g/s) has, therefore, been derived from the calculated electrical output (approx. 200kWe) and the assumed emission factor (9,200mg/kWh).			
AQ5	Clarification	Further clarification on the potential for cumulative air quality impacts due to construction traffic should be provided to confirm the study findings that any such impacts would not be significant.	The air quality assessment considers the potential for cumulative construction traffic air quality impacts within the ES Chapter ((ES Chapter 8 – Air Quality (Volume 1)) - see Paragraphs 8.154 and 8.155) and further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), both of which conclude that the impacts will be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment', the Proposed Development will generate a small volume of construction traffic relative to the existing volume of traffic on the local road network, and all construction phase Heavy Duty Vehicles (HDVs) and Light Duty Vehicles (LDVs) associated with the development will meet Euro VI / Euro 6 emissions	**Acceptable – planning condition update required.** The Applicant has confirmed that all construction phase Heavy Duty Vehicles (HDVs) and Light Duty Vehicles (LDVs) associated with the development will meet Euro VI / Euro 6 emissions criteria. This requirement should be secured through a suitably worded planning condition. See AQ10 below No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			On the basis of the above, it is judged that the overall cumulative impacts of emissions from energy plant will be 'not significant'.			
AQ7	Clarification	Further clarification on the potential for operational phase cumulative air quality impacts due to traffic emissions should be provided to confirm the study findings that any such impacts would not be significant.	Further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), which concludes that the impacts will be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document, the operational traffic generated by the Proposed Development falls below the screening criteria for within an Air Quality Management Area (AQMA) as set out by the EPUK / IAQM guidance. As such, any impacts associated with operational traffic generated by the Proposed Development can be screened out as being negligible regardless of existing baseline conditions (any emissions from operational traffic associated with nearby Committed Developments would form part of this baseline. Based on this, a judgement that the overall cumulative effect of	**Acceptable** The Applicant has demonstrated that inclusion operational traffic generated by the development in a cumulative scenario will be insignificant. The outstanding issue in relation to Receptor E1 is associated with the contribution of the energy centre at an elevated location, and is not directly related to changes in pollution levels resulting from cumulative impacts due to traffic emissions. No further clarification is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
			form part of this baseline). The air quality assessment also demonstrates that short-term process contributions from the Proposed Development will be sufficiently low that any impacts can be screened out as being negligible regardless of existing baseline conditions at most locations (i.e. all but one of the worst-case identified receptors). Where it is not possible to screen out the short-term impacts, impacts have still been found (as described within the ES Chapter, (ES Chapter 8 – Air Quality (Volume 1)) paragraph 8.120) as being 'not significant'. It should be noted that the process contributions are dominated by the emergency generators, which will be operated only occasionally for testing, but which have been assumed within the assessment to be continuously operating (refer to the assumptions - ES Volume 3: Appendix - Air Quality (Annex 1), Paragraph A1.12); this is an extremely conservative assumption resulting in a very conservative assessment of the short-term impacts of the Proposed Development.			

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		with the cumulative developments outlined in Scenario B and Scenario C.	(dated March 2019). The wind tunnel test was undertaken following the submission of the 'Further Information – Cumulative Assessment'. The wind tunnel testing addressing these scenarios was conducted with the wind mitigation measures and landscaping scheme applied to the Proposed Development, as described for the assessments presented in ES Chapter 10 – Wind Microclimate (Volume 1). However, wind mitigation measures (including landscaping) relating to surrounding Committed Developments were not included within the wind tunnel assessment of Scenarios B and C, representing a 'worst case' scenarios in terms of the results. It is considered that any application of mitigation / landscaping measures applied to these surrounding Committed Developments (for the purpose of addressing their own on-site impacts) is likely to have a corresponding impact on the results for the wider area in terms of calmer conditions. The results of the wind tunnel test are presented in the same format as for the			

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			operational traffic will be 'not significant' is appropriate.			
AQ9	Condition	It is recommended that the requirements for combustion plant set out in EIA Section A4.2 could be used as the basis of a planning condition to ensure that appropriate design and performance of combustion plant can be secured.	N/A	It is recommended that the requirements for combustion plant set out in EIA Section A4.2 could be used as the basis of a planning condition to ensure that appropriate design and performance of combustion plant can be secured.	N/A	N/A
AQ10	Condition	It is recommended that the implementation of appropriate construction phase mitigation measures as specified in ES Sections A7.1 and A7.2 via a CEMP should be secured through a planning condition.	N/A	It is recommended that this condition should be expanded to include the additional measures included within AQ2 and AQ5 of this review.	N/A	N/A
Wind Microclimate						
WM3	Regulation 25	In order to satisfy requirements with regards to wind microclimate classification around the proposed development, mitigation measures should be tested in a boundary wind tunnel assessment	Wind tunnel testing of the Proposed Development has been undertaken corresponding with the cumulative assessment scenarios B and C as presented the submission of the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document	**Acceptable** The Applicant has provided sufficient information following on from the potential Regulation 25 request. This is considered to be further information under Regulation 25.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
		identified in the ES as experiencing more than a negligible effect, in order to aid identification of the relevant windows.	Window Maps.	have now been provided are acceptable. This is not considered to be further information under Regulation 25 and no further information is sought.		
DSO1	Clarification	Confirm which buildings are based on floor plans and which are based on assumed room layouts and uses.	Floor plans have been used in full or in part for the following properties: - 16 Melior Street - 14 Melior Street - 8 Melior Street - The Glasshouse - 26 Melior Street - 8-20 Snowsfields - 1-15 Guiness Trust - 37 Snowsfields - 40 Snowsfields - 41 Snowsfields - 54 Weston Street All other properties are modelled on assumed (industry standard dimensions) layouts.	**Acceptable** The Applicant has now identified which properties' rooms were modelled from plans and which were assumed. No further clarification is sought.	N/A	N/A
DSO4	Clarification	Clarify the statement in paragraph 11.124 of the ES that "any development" would result in adverse daylight conditions.	This is in relation to the property 8-20 Snowfields and its direct and channelled view over the site as well as overhanging walkway at 1st floor level which serves to restrict the level of light to these windows and enforce their reliance of light directly over the site of the Proposed Development. Should any 'meaningful' development take place on	**Acceptable** The statement "any development" has now been qualified by the addition of the word "meaningful". No further clarification is sought.	N/A	N/A

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			'Further Information – Cumulative Assessment', and is presented (together with figures) in Appendix B.			
WM1	Clarification	Clarification is sought as it is unclear where the 0.07m/s value has come from and how this conclusion was reached The chapter has reference to the supporting technical appendix, however no information was found with regards to this conclusion.	The reference to 0.07m/s within the ES Chapter 10 – Wind Microclimate (Volume 1) is made at para 10.126, as part of the consideration of 'Climate Change'. This paragraph refers to the 'Climate Projects Report' published by UK Climate Projections 2009 (UKCP09) (refer to website: https://www.metoffice.gov.uk/research/collaboration/ukcp) presented the probable changes in wind speeds. Reference within the paragraph also refers to Climate Change Technical Note presented within ES Volume 3: Appendix – Supporting Technical Information. Unfortunately the technical note was not provided within the Appendix in error – for completeness, the technical note referred to is provided as part of this response (refer to Appendix A) in order to clarify the origin of the reference to 0.07m/s.	**Acceptable** The Applicant has provided detailed information regarding the reference of 0.07m/s value. No further clarification is sought.	N/A	N/A
Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare						
DSO2	Regulation 25	Provide window maps, at least for the properties	Provided within Appendix C – Daylight and Sunlight –	**Acceptable** The window maps that	N/A	N/A

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						reviewer therefore concludes that no further clarification is required.
DSO6	Clarification	Clarify what is being explained in NTS paragraph 1.111 and the missing paragraph number 1.110.	The description provided at para 1.111 of the NTS is referring to a summary of the conclusions of the cumulative assessment presented within the ES Chapter 11 – Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution (Volume 1). It is identifying that in terms of daylight, the cumulative assessment presented within the ES Chapter identified 6 properties where the modelled results registered a difference from the assessment of the Proposed Development within the baseline context. Of the properties identified, only the property 16 Melior Street resulted in a change in the likely effect identified (from 'minor adverse' to 'major adverse'). In relation to sunlight and overshadowing, the assessment results do not differ from those reported the assessment of the Proposed Development within the baseline context. To confirm, the absence of para 1.110 from the NTS is a formatting error.	**Acceptable** The response clarifies that paragraph number 1.110 of the NTS has not been used. It also clarifies that paragraph 1.111 is attempting to explain that the only difference between the cumulative effects and the proposed development effects is in terms of daylight to six neighbouring properties and only one of those involves a difference in effect significance. Consideration should be given to the need to produce an updated NTS.	N/A	N/A

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			site of the Proposed Development, due to the reasons above, it would likely result in adverse daylight conditions.			
DSO5	Clarification	Clarify whether any additional assessments "without balconies" were run and whether the results demonstrate that the balconies are the main factor in the relative light losses.	These were not run and submitted within the ES chapter. No balcony assessments have been previously carried in relation to 8-20 Snowsfields. It is likely that if the balconies were removed, the VSC values following implementation of the Proposed Development would be similar, if not greater, than the VSC values in the existing condition.	**Not Acceptable** The response now adds further speculation that the retained VSC values to windows at The Glasshouse and 8 Melior Street/36 Snowsfields that sit beneath balconies would be similar or better in the proposed development scenario than they could be currently if it wasn't for the balconies. That is an irrelevance and involves a misconstruction of the BRE guidelines relating to balconies. The point remains that paragraphs 11.98 and 11.105 imply that the balconies to those two buildings may be the main factor in their relative loss of light without substantiating that suggestion through the BRE's additional 'without balconies' calculation. In the absence of the additional calculation the impacts should be taken at face value.	The initial response to the review comment was in relation to the 'no balconies' assessment as a general approach, whereby in some instances due to the location of the proposed scheme and the removal of balconies, retained values could be higher. However that is not our assumption with regard to the assessment undertaken, and the point being made is that appropriate consideration should be given to the presence of balconies when reviewing the results presented. As a 'without balconies' assessment has not been carried out, we would also refer the reader to the noted room uses, i.e. bedrooms, which according to the BRE have a lower requirement for daylight (refer in paragraphs 11.97 and 11:104 and the results provided within the Appendices).	**Acceptable** The significance ascribed to the impacts should be based on the factors described in paragraphs I6 and I7 of the BRE guide, which do not include the presence of balconies. The presence of balconies is a material consideration in the judgment of acceptability of the impacts, but that judgment is exercised outside of the ES. It is accepted that balconies may be a factor in the relative light loss to windows that sit beneath them, but as the point has not been proven in relation to the windows referred to in paragraphs 11.98 and 11.105 of the ES through a supplementary 'no balconies' test, less weight should be applied to it. Notwithstanding these observations, the reviewer concurs with the significance that has been ascribed to the daylight effects on the two properties concerned, namely minor adverse in respect of 16 Melior Street and major adverse in respect of 8 Melior Street/36 Snowsfields. The

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			Archaeology (Volume 1)). No additional information is required to be submitted for ES purposes and as such this does not constitute 'further information' under Regulation 25 – this should therefore be 'downgraded' to a clarification.			
ARCH1	Clarification	The Applicant is to provide further information on the significance of these deposits and to assess the impact to them, including in cumulative terms.	The scope of the archaeological assessment within the EIA was primarily to identify the potential for buried heritage assets, which has been undertaken within the desk-based assessment and also as part of the archaeological fieldwork, all of which has been undertaken in accord with relevant standards and guidance- as outlined within all relevant documents (i.e. reports, ES Chapter) submitted within the ES pertaining to the consideration of archaeology as part of the EIA. The report for the evaluation ('Written Scheme of Investigation for an Archaeological Evaluation') in particular clearly outlines the proposed aims and objectives (i.e. Section 3, and Appendix 1 – section 4). The consideration of paleoenvironmental and/or geoarchaeological potential was not included as part of the scope of work.	**Not Acceptable** Contrary to the applicant's response, paragraph 2.87 of the scoping report states that geoarchaeology will be considered (*"The report will consider the impact of the development on: Late Pleistocene and Holocene deposits to be removed during construction…"*). Further clarification of the effects is required.	The proposed development is expected to remove all the geoarchaeological deposits within the footprint of the site. These deposits are part of a widespread series of a depositional sequence that have been found across the London Borough of Southwark. The consideration of Late Pleistocene and Holocene deposits has been accounted for as part of the 'Prehistoric' condition presented in the ES Chapter. This assessment identified that, as a receptor, there was 'low' potential for occurrence of remains, and any remains would be of 'local' importance. The assessment concludes that, given the expected removal of all deposits within the site, it is proposed that during the groundworks, an archaeologist will be present on site to monitor	**Acceptable** The ES chapter refers to the assessment of remains relating to the 'Prehistoric Occupation' of the Site. However, the Applicant has provided clarification that this assessment includes the geoarchaeological deposits within the Site. Further information for which can be found in the DBA. Some of the assessment remains unclear (e.g. why the potential for geoarchaeology is considered to be low when the evaluation has confirmed the presence of alluvial deposits) but as the asset forms part of a much larger resource the assessment of their recording and removal as a less than significant effect is acceptable.

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Archaeology						
ARCH2	Regulation 25	The Applicant is to provide further information of the role of setting to the potential archaeological assets' heritage significance and any potential effects to this.	The historical review of the site and the surrounding area within all relevant documents (i.e. reports, ES Chapter) submitted within the ES pertaining to the consideration of archaeology as part of the EIA all draw reference that subsequent development over the many years has provided a degree of disturbance to any use of the site that preceded it (i.e. refer to ES Appendix 3 – Archaeology – DBA - paragraph 8.7, which states "*Undoubtedly, the last phase of buildings in the 19th century will have caused extensive damage to the remains of the earlier buildings*)", which is considered not unusual for an urban development site within London. It is therefore considered that the setting of the archaeological heritage assets, in this instance, is a degraded (in archaeological terms), modern urban landscape, and the setting has no bearing on the significance of the archaeological heritage assets. The proposed development will have 'negligible impact' as defined by Table 12.2 (ES Chapter 12 –	**Acceptable** The Applicant has provided clarification on the setting of archaeological assets. This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

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			paragraph 2.35, second bullet point, within ES Chapter 2 – EIA Methodology (Volume 1) which states the legislation, guidance and case law that has been adhered to when preparing the ES. For further clarity, please see the below reference to the EC guidelines that were used in the assessment approach for determining the potential for effects interactions: http://ec.europa.eu/environment/eia/eia-support.htm and refer to the following document: 'Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions'.			
EI2	Clarification	The Applicant is requested to provide further clarity regarding the criteria used to choose the receptor groups.	Paragraph 13.3 of ES Chapter 13 – In-Combination Effects / Effect Interactions (Volume 1) advises that the approach to defining effect interactions involves tabulating the residual effects of the Proposed Development against receptors or, where more appropriate, receptor groups to identify the potential for in-combination effects or effect interactions. The identification of the receptors / receptor groups presented within ES Chapter 13 has been	**Acceptable** The Applicant has provided an explanation as to how the receptor groups have been chosen. No further clarification is sought.	N/A	N/A

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			It is commented that from the evaluation that the presence of alluvial deposits was confirmed and is suggested that such deposits commonly have paleoenvironmental and/or geoarchaeological value, however this appears to be a general comment and not in accord within the aim and objective of the assessment undertaken (as discussed above). It is considered that no further information is required to be submitted for ES purposes.		any archaeological finds and record these prior to their excavation. The Applicant also points the decision maker to Section 3 (paragraphs 3.4 to 3.6) of the WSI (presented in the ES Appendix and highlights that a suitable sampling strategy will be agreed with LBS as part of the general archaeological approach post-planning.	
ARCH3	Clarification	The Applicant is to clarify the predicted scale of (pre-mitigation) effect to the post-medieval remains within the site (and whether the negligible entry in the table is a typographical error).	There is a typographic error in Table 12.5 (ES Chapter 12 – Archaeology (Volume 1)) where High Potential in Post Med Occupation in Scale of Effects (Significance) should read minor / moderate. This clarifies the predicted scale of pre mitigation effect.	**Acceptable** No further action is required.	N/A	N/A
Effect Interactions						
EI1	Clarification	The Applicant is requested to provide reference to the EC guidelines used in the assessment approach.	Paragraph 13.2 of ES Chapter 13 – In-Combination Effects / Effect Interactions (Volume 1) references the EC guidelines as a tool which assisted in the development of the approach to determining the potential for effects interactions. This can be cross referenced to	**Acceptable** The Applicant has provided an explanation as to which EC guidelines have been used. No further clarification is sought.	N/A	N/A

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		the chapter title.		sought.		
Mitigation and Monitoring						
MM1	Regulation 25	The Applicant is requested to include details of the mitigation and monitoring within the NTS.	Please see the updated NTS submitted alongside this response document.	**Acceptable** The Applicant has amended the NTS to summarise the details of mitigation and monitoring proposed. This is considered to be further information under Regulation 25. No further information is sought.	N/A	N/A
Townscape and Visual						
TVIA1	Regulation 25	Provide an overlay of the ZTV (Figure 2.1) with viewpoints and justify why viewpoints have not been selected for any areas of visibility not already covered by a viewpoint – for example the foreshore of Custom House Quay and Hardwidge Street.	An overlay of the ZTV with viewpoints has been prepared by visualisation consultants (refer to Appendix D – Annex 1). A model view from Hardwidge Street is provided with this submission (as per TVIA3) (refer to Appendix D – Annex 4). The aim of the ZTV is to provide an initial guide on visibility for further detailed analysis to take place. The ZTV demonstrates the visibility of the Development from a viewing height of between 1.5m and 1.65m above ground level. The data used	**Acceptable** The Applicant has provided an overlay of viewpoints on the ZTV and justified viewpoint selection, providing an additional model view from Hardwidge Street which is helpful additional information for the decision maker. This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

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			derived from the individual technical topic ES Chapters, for where residual effects that are beneficial or adverse in nature and that are minor, moderate or major in scale have been identified.			
Likely Significant Effects and Conclusions						
LSEC1	Clarification	The Applicant is requested to include a location plan to easily identify the sensitive receptors to aid the ease of understanding of the likely significant effects.	Presenting the location of the sensitive receptors graphically is considered to be best left within each of the relevant ES Chapters for ease of reference. It is not considered that collectively presenting all the locations of the receptors on a single location plan would be of benefit to the reader given the variety of technical topics to be conveyed, the nature of effect (representing both adverse and beneficial), and the spatial nature of the receptors themselves (i.e. discrete location such as a single property, or a general, diffuse type of receptor, such as climate change or pedestrians and cyclists).	**Acceptable** The Applicant has provided a justification as to why a location plan has not been provided. No further clarification is sought.	N/A	N/A
LSEC2	Clarification	The Applicant is requested to include/clearly identify the 'conclusions' of the EIA as implied by	Noted. Whilst not clearly labelled as 'conclusions', the section entitled 'Summary of Likely Significant Environmental Effects' should be taken as the conclusions of the EIA.	**Acceptable** The Applicant has provided an explanation on where the 'conclusions' can be found. No further clarification is	N/A	N/A

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			• The analysis of theoretical visibility presented in the ZTV. In the instances where the ZTV indicates that the Proposed Development will be invisible from the Site, or where there is a considerable separating distance between the Site and the receptor, including the foreshore of Custom House Quay that is afforded riparian views that includes tall and large development, that receptor is excluded from full assessment. The magnitude of effect to the value of the heritage receptor being None and the likely effect, None. The viewpoint locations were agreed with the LBS during the pre-application process.			
TVIA3	Regulation 25	Provide full height visualisations from viewpoints 20 and 25 (even if model views) and include an additional model view from Hardwidge Street to show the impact from this angle.	Full height model visualisations from viewpoints 20 and 25 have been prepared for completeness (refer to Appendix D – Annex 5). These should be viewed alongside the accurate visual representations of the same viewpoints contained within ES Volume 2: Heritage, Townscape and Visual Impact Assessment, which represent the field of view experienced by the observer. In addition, a model view	**Acceptable** These have been provided as requested which is helpful additional information for the decision maker This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

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			would primarily comprise Z-map (or equivalent), although may utilise Digital Surface Model (DSM) data that is topographically referenced data of the earth's surface, including the built environment only e.g. excluding trees and foliage. The method for identifying the study area has been reaffirmed by Site observations, a desk-based review of designations and characterisation studies. The study area has also been informed by building locations and heights, topography and townscape features and an understanding of the scale of the Development. As part of the baseline stage of assessment, the heritage receptors which will be subject of a full assessment have been refined to only those which are likely to experience effects. The judgement is taken on the basis of: • The extent to which setting contributes to the heritage value of the receptor; • The particular setting relationship between the heritage receptor and the Site; and			

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			In townscape assessment, views are used to help inform and demonstrate the effect on the townscape character area, i.e. the townscape receptor. The views do not determine the overall effect on townscape receptors, but are a contributing factor.			
TVIA4	Clarification	Clarification in relation to paragraph 1.172 *"The proposed development does not have the potential to impact any other views identified for assessment"*. Should this read *"the proposed development does not have the potential to impact any other views identified in the London View management Framework"*?	The comment regarding clarity in relation to paragraph 1.172 of the NTS has been noted. Please see the updated NTS submitted alongside this response document.	**Acceptable** The Applicant has confirmed that paragraph 1.172 of the NTS relates to other London View management Framework views. No further clarification is sought	N/A	N/A
Built Heritage						
BH2	Regulation 25 (this is now considered to be a Clarification)	There is no reference to whether any consultation has been undertaken with the local Conservation Team and Historic England. The Applicant should clarify what historic	The Applicant has undertaken detailed engagement with the Council, including senior members of the Conservation and Design team. Pages 6-8 of the Planning Statement (submitted with the application, December 2018) provide an overview	**Not Acceptable** The Planning Statement is not typically reviewed as it does not form part of the ES. The consultation information provided in the Planning Statement relates to both the Snowsfield and Vinegar Yard developments, and	The Applicant has indicated that HE provided formal consultation advice (7th June 2019) identifying both the removal of the warehouse and the scale of development as harmful to the Bermondsey Street Conservation Area. The response cites paragraph 196 of the NPPF and so it	**Acceptable** The Applicant has provided a summary of the consultation feedback provided by HE. The Applicant has implied that HE should weigh the harm of the proposed scheme against the

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			from Hardwidge Street has been prepared by Miller Hare. The views are provided as 'full height', although a white line denotes the field of view experienced by the observer. The views do not give rise to any greater effects to townscape receptors than that identified by the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment).			
TVIA2	Clarification	Clarification should be provided to explain why the adverse changes (relating to change in scale) highlighted in the assessments for viewpoints 24 and 25 are not acknowledged in the townscape assessment. The Applicant should also clarify whether both adverse and beneficial effects have been taken into account in the townscape assessment.	Viewpoints 24 and 25 are acknowledged in the townscape assessment (see ES Volume 2: Heritage, Townscape and Visual Impact Assessment, paragraphs 9.23-9.24). The effect on visual receptors and townscape receptors are necessarily discrete and separate considerations. GLVIA3 defines townscape as resource in its own right. This comprises the *"built-up area, including the buildings, the relationships between them, the different types of urban open spaces, including green spaces, and the relationship between buildings and open spaces"*. The assessment of visual effects considers specific views and on the general visual amenity experienced by people.	**Acceptable** The Applicant has confirmed the thinking behind the assessments and confirms that their view is that there will be adverse changes to views and visual amenity of people but not to townscape character. No further clarification is sought	N/A	N/A

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		environment consultation has been undertaken and provide details of any advice provided and how it has been actioned.	of the consultation undertaken. Details of the wider consultation with stakeholders is described in the Statement of Community Involvement. Historic England was not consulted on the application prior to submission. Their consultation responses to the application are being fully considered during determination.	indicates that Historic England and Historic Royal Palaces have been consulted as part of the wider development process of Vinegar Yard and Snowsfield. The Applicant's attention is drawn to EIMA's COM4 C. Consultation criteria. This requires that the information provided on consultation include details of those contacted, that a summary of the main issues is included in the main text of the ES and how any issues raised are dealt with or scoped out. It is requested that clarification is provided on whether the consultation process highlighted any heritage issues, what they were, and how they have been addressed.	is unequivocal that they consider the harm to be 'less than substantial'. HE confirms that the Applicant does "*acknowledge the adverse impact of these proposals*"; although, it is not clear whether HE have acknowledged the potential for beneficial impacts of the proposals to balance out that harm, in accordance with Palmer. HE also state: "*it does not appear to be clear why the demolition of the corner warehouse is required to deliver these benefits. As required by the NPPF, harmful aspects of a proposal must be fully justified and limited, to preserve and enhance the* character of conservation areas". Reference to 'justification' arises from paragraph 194 of the NPPF which states that "*any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification*". 'Clear and convincing justification' is not, however, a freestanding test; rather such a justification is made out on the balance of public benefits and no	benefits. Such action is for the decision maker, not HE or the Applicant, and in any case the reported heritage benefits are disputed (see BH20). The Applicant appears to be implying that paragraph. 196 of the NPPF is only engaged if the harm of a development is not outweighed by the benefits arising from the scheme. This is based on a flawed reading of *Palmer vs. Herefordshire Council &, Anr.* Critically, *Palmer* turns on the ability of the **decision maker** to balance harm against heritage benefits. But, logically, for this to be feasible the decision maker must be in possession of the full facts relating to *all* harmful and beneficial effects. The argument relating to justification is noted; but equally the EIA regulations do require the Applicant to provide "*an outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.*" Finally, in regard to the design changes made the architectural value of the proposal itself is not a mitigant of harm that arises

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					applicant is under any obligation to demonstrate that proposals causing no or less harm are not deliverable. Case law cited in Pugh clarified that the clear and convincing justification is no more than the tests set out in paragraphs 193 to196, thus effectively the balance of benefits. Finally, HE conclude by reiterating their "*concerns regarding the application on heritage grounds";* however, HE make no formal objection and state "*your authority should take these representations into account and seek amendments, safeguards or further information as set out in our advice*". In accordance with the advice set out by HE the Applicant engaged with LBS throughout the pre-application process, in conjunction with the Greater London Authority and Southwark Design Review Panel. The pre-application process has been constructive and has had a significant impact on the final design response. A list of design changes made in response to comments from LBS is	from its presence and its interaction with the significance of heritage assets. Similarly, the impacts of the scheme arise from the design as submitted; credit cannot be given for not submitting a design that would have caused greater harm.

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			London Borough of Southwark (as above) It is confirmed that the GLHER data has been reviewed to ensure no built heritage receptors have been missed by the assessment.			
BH4	Regulation 25	A separate (tabulated) assessment of non-designated assets in close proximity to the site should also be provided.	Non-designated heritage assets within close proximity to the site fall within the Bermondsey Street CA. The impact of the Proposed Development on those assets is provided as part of the assessment of the CA and, in particular, sub-area 3 Weston Street/Snowsfields. Paragraph 5.17 states that: *"A large number of the buildings within this sub-area [sub-area 3] are identified as making a positive contribution to the CA, and their heritage value is derived from their character and appearance as a collection of historic buildings around the early street pattern. This is captured in the sub-area"*.	**Acceptable** We accept and do not take issue with the consideration of the non-designated buildings as part of the conservation area. However the assessment provided only makes passing reference to their being further non-designated assets in the vicinity of the site (e.g. the Horseshoe Inn Public House which is immediately adjacent to it) and does not describe them nor any potential effects to their significance as a result of setting change. It is accepted that the EIA process is focused on significant effects and that any effects to further non-designated assets in the vicinity of the site would not be significant. However, the LBS may require further information on such effects in order to fully understand the implications of the scheme in accordance with the requirements of the NPPF.	N/A	N/A

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					provided in the Design and Access Statement prepared by the architects, KPF. Throughout this process, the removal of the early twentieth century warehouse on the Site and within the Bermondsey Street Conservation Area was accepted in principle by the LPA, subject to the delivery of the adopted allocation's aspirations, including the delivery of employment space and high quality public realm. Neither the GLA nor DRP challenged this approach.	
BH3	Regulation 25	The Applicant should provide clarification on the data sources used and review the GLHER data to ensure that no heritage receptors have been omitted.	The data sources used to identify heritage receptors are as follows: • National Heritage List for England for the identification of: listed buildings, Scheduled Monuments, Registered Park and Gardens, Battlefields, Protected Wreck Sites and World Heritage Sites and their buffer zones • London Borough of Southwark conservation area designations and appraisals • GLHER • Site visits (to identify any other non-designated heritage receptors) • Pre-application consultation with the	**Acceptable** This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

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		it contributes to their heritage significance). In light of this, the ensuing assessment may require revisiting, to ensure that it is internally consistent and provides sufficient information for the decision-maker in a fully transparent way. Any revised assessment is best presented in a table.	Volume 2: Heritage, Townscape and Visual Impact Assessment). The judgement of susceptibility is based on the way in which the Proposed Development would affect the form, fabric and setting of the receptor. With the exception of the Bermondsey Street CA and the non-designated heritage receptor at 9 Fenning Street there will be no effects on the form and fabric of the heritage receptors which are assessed: the effects are setting effects only. Mindful of the above, it is not considered that any aspect of the heritage assessment requires revisiting.	criteria is not consistent. e.g. 9 Fenning Street is described as being of very low value, meaning that its significance must therefore be of 'incoherent or eroded form', which does not seem to be the case as it is clearly legible as a historic warehouse and is in keeping with the character of the commercial elements of the CA. Similarly, the loss of 9 Fenning Street to the CA is described as resulting in a Minor Adverse effect, 'a slight deterioration in the value of the receptor', but in the text is described as not representing a material change. These issues are problematic as they affect the outcome of the matrix approach used and because they evidence an inconsistent approach to the assessment. As the Applicant has		

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				This is not considered to be further information under Regulation 25 and no further information is sought.		
BH8	Regulation 25	The Applicant should revisit their assessment criteria to ensure they are appropriate for explaining the scope of value of heritage assets under discussion, the kinds of change (incl. direct loss) they may experience and the resulting effects to their significance. Its application should also be reviewed to ensure that the criteria are fully met and applied consistently. They should provide further information on how each asset is susceptible to physical change to their form, fabric and setting (where	The criteria for the value and assessment of heritage receptors follows guidance and best practice. It is not considered necessary to revisit this criteria. Furthermore, it is considered that the criteria are applied consistently, mindful that the quantitative measures set out in the methodology and applied to the assessment always require qualitative, professional judgements to support the assessments made. In accordance with the methodology, the susceptibility of each receptor to the type of change arising from the Proposed Development has been described as part of the assessment of likely effects on each heritage receptor at Section 8.0 of the HTVIA (refer to ES	**Acceptable** There are some serious issues with Applicant's assessment criteria and methodology. In particular: • The criteria for significance, which draws on obsolete guidance [16]; • The criteria and method of calibrating sensitivity is irregular and does not allow for the fact that assets of very low or low value can be highly sensitive to physical and/ or setting change. • Application of the assessment	N/A	N/A

[16]The criteria draw on obsolete guidance – Historic England's (2011) Seeing the History in the view which was withdrawn and replaced in 2015 - and suggest that designated assets that are recognised as being of high importance by their inclusion on the National Heritage List for England, can be of medium or low value. The Planning (Listed Buildings and Conservation Areas) Act 1990, as amended, affords equal status and protection to all grades of Listed Buildings. Additionally, neither NPPF nor the PPG make a distinction in the value of designated heritage assets based upon their grading or state of preservation (according to the NPPF grade I and II* designated assets and scheduled Monuments; Protected Wreck Sites and Registered Battlefields and some Conservation Areas are stated to be assets of the highest significance. Grade II Listed buildings and Registered Parks and Gardens and some Conservation Areas are then stated to be assets of less than the highest significance). As designated heritage assets, all Listed Buildings, Registered Parks and Gardens and Scheduled Monuments should be treated as being of 'high' importance and sensitivity/susceptibility to change can then be moderated in line with an appropriate understanding of the asset's significance.

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		significant effects.	design stage by means of selection of less intrusive construction techniques, such as bored piles over driven piles. During construction stage these measures will include the use of low vibration equipment and control of plant tracking maintaining a minimum clearance distance to the surrounding buildings. Any necessary monitoring regime and method statement will be discussed with the contractor to ensure that all third parties requirements are met.			
BH14	Regulation 25	The rationale for beneficial effects appears to be based solely on townscape and visual considerations. The Applicant is requested to either provide further information on how beneficial effects to heritage assets arise, based on how the proposed development alters the heritage significance of assets, or the ability to appreciate that significance, or to revisit their assessment findings regarding beneficial	The beneficial likely effects on the three heritage receptors at the west end of St Thomas Street and the listed Railway Viaduct Arches are primarily based on townscape and visual considerations because the effect of the Proposed Development is to do with the change to their setting, i.e. the area in which the receptor is experienced (the townscape) and seen and appreciated (views). There are no historical associations or other setting relationships between these heritage assets and the site. The assessment of the effect on significance arising from the change to	**Acceptable** Based on the ES assessment, NTS and the Applicant's response it is clear that it is the change to setting – in relation to townscape and visual considerations, and not the heritage assets significance that is being considered in the assessment. Setting is not a heritage asset or designation in its own right. If the way in which an asset is experienced (or its townscape and visual considerations) neither contributes to significance nor allows appreciation of that significance, then the asset's setting is no more	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
				declined to revisit their assessment, we recommend that the LPA afford the reported assessment of effects little weight. However, if the information provided by the applicant in relation to the nature of assets affected and the kinds of effects that will arise across the ES, is read in conjunction with the points raised in LUC's review and responses, then the decision-makers should be able to reach their own decision and discharge their duties in relation to the EIA Regulations, and sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990, as amended.		
BH12	Regulation 25	There is no discussion of the potential for vibration effects to nearby heritage assets, and whether it is intended that the potential for such effects would be monitored. The Applicant should provide further information on this, as vibration could potentially cause buildings to become structurally unsound resulting in	The application submission is accompanied by a report prepared by structural engineers, AKT II. It is stated: Mitigation measures will be put in place in order to protect the surrounding buildings from the potential excessive vibration levels caused during construction works such as piling, heavy vehicle movements or demolition of existing structures. Some of these measures will be implemented during the	**Acceptable** The Applicant has provided information on the potential for vibration effects and their avoidance. This is considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
				This is considered to be further information under Regulation 25 and no further information is sought.		
BH15	Regulation 25	It is requested that the Applicant revisit their assessment of cumulative effects in light of the other requests relating to their assessment e.g. BH13 and BH14 and that in particular they provide further information on the cumulative effects to the conservation area.	In terms of BH13, the cumulative likely effects on heritage receptors are included in Table 8.1 (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment). In terms of BH14, the assessment is of likely effect on heritage assets, particularly in terms of setting considerations, is considered to be robust and undertaken in accordance with guidance and best practice. The same is true of cumulative effects. The cumulative effects on the significance of heritage assets are presented at paragraphs 8.187-8.201 (pp.85-86) of the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment). A rationale for the assessments (and additional assessments) identified at BH13 and BH14 is provided above. The assessment within the HTVIA remains extant and as such no further information is required.	**Acceptable** As per BH14 the Applicant has confused general amenity with setting: any changes to setting must relate to the heritage assets significance and the ability to appreciate that significance. The beneficial effects reported have not been demonstrated to relate to anything more than generic townscape and visual concerns and are being double counted in the historic environment assessment. As stated above, we recommend that they are not afforded any weight in the decision process. This is considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
		effects.	the setting of the heritage asset has been undertaken in accordance with Historic England's guidance – Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (December 2017). It is considered that the assessment of these receptors at Section 8.0 is clear on the way in which the proposed development is considered to have a beneficial effect on the heritage value of the receptor in line with guidance and best practice.	than general amenity and change to it does not affect the heritage asset's significance one way or the other.[17] The argument that appreciation of an asset is increased by allowing more people to view it is also not valid, unless being particularly visible is a factor in its significance. As HE's GPA3 states that: '*the contribution of setting to significance does not depend on public rights or ability to access it, significance is not dependent on numbers of people visiting it.*' The Applicant has not articulated how setting change (e.g. the introduction of a 'new high quality building') will be beneficial to the heritage significance of the assets assessed because they have not demonstrated that townscape and visual considerations relate to the heritage assets significance. Instead these beneficial effects appear to be double-counting of the townscape and visual effects; as such we recommend that they are afforded no weight by the decision-maker.		

[17] Historic England (2017 2nd ed.). Historic Environment Good Practice Guidance 3: The Setting of Heritage Assets, p7.

Ref.	Request Type	Original Request identified in DRR (July 2019)	Applicant Response (August 2019)	Reassessment conclusion (September 2019)	Applicant Response (September 2019)	Reassessment conclusion (September 2019)
					Bermondsey and Rivers Archaeological Priority Zone. In relation to the beneficial effects the Applicant has stated that it is agreed that setting is not a heritage asset in its own right. They suggest that it should be common ground that the existing site is an element of the identified assets' setting and that the proposed development would also form part of that setting. They also agree that heritage setting and townscape / visual impact are two separate disciplines, which must not be conflated; however, in accordance with pages 5 and 6 of GPA3 they consider: "*the numbers and proximity of heritage assets in urban areas mean that the protection and enhancement of setting is intimately linked to townscape and urban design considerations. These include the degree of conscious design or fortuitous beauty and the consequent visual harmony or congruity of development, and often relates to townscape*	significance (architectural/ historical value). We do not dispute that there is not some overlap between townscape and visual considerations and the historic environment. We merely highlight that a townscape and visual assessment has already been done and that this already includes the heritage assets as part of the broader character areas. It is not the purpose of a heritage assessment to focus in on heritage assets and simply reassess their surrounding townscape in detail, as that would simply duplicate the initial assessment. Instead, heritage assessments focus on the heritage significance of the assets, and setting is only important where it contributes to the significance (e.g. architectural, historical, etc. values) of those assets. (This means that unless the 'conscious design', 'fortuitous beauty' and 'visual harmony' relate to the heritage significance of the assets, they should be assessed separately within the townscape/ visual assessments.) To discuss setting in an historic environment assessment is to discuss to the assets' significance

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BH19	Regulation 25	There is no mention of 9 Fenning Street beyond the effect that its loss would have on the conservation area. Since its demolition results in a significant effect this should be summarised.	The effect on 9 Fenning Street as a non-designated heritage receptor in its own right, i.e. as an entity which is separate to the CA, is assessed at paragraphs 8.24-8.31 (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment).	**Acceptable** The applicant is correct and the assessment has already been provided at paragraphs 8.24-8.31. This is not considered to be further information under Regulation 25 and no further information is sought.	N/A	N/A
BH20	Regulation 25	The NTS should be updated to accurately reflect the findings of the built heritage assessment following the actioning of the requests herein.	Please see the updated NTS submitted alongside this response document.	**Not Acceptable** Table 1 still states that there are no built heritage assets on the site. This is inaccurate as 9 Fenning Street is a non-designated built heritage asset and it is on the site. Furthermore the reported beneficial effects are misleading as they do not in any way relate to the heritage significance of the assets (see BH14). As such, the NTS does not accurately reflect the significant effects of the scheme.	The Applicant has clarified that Table 1 in the NTS has been updated to state that: • The site does not contain any listed buildings. • Part of the south-west corner of the site falls within the Bermondsey Street Conservation Area. • The part of the site which falls within the conservation area comprises an early 20th century warehouse which is identified as a non-designated heritage asset. • The site is located within the Borough,	**Acceptable** Whilst we find the updating of Table 1 in the NTS acceptable, we are withdrawing the request in relation to the beneficial effects on the basis that we agree to disagree. We nevertheless continue to recommend that LBS disregard the reported beneficial effects. To provide clarity to the decision-maker regarding this we have responded to the points raised by the Applicant in their response. This should be read in conjunction with our previous responses. Whilst the Site may form part of the setting of the grade II railway arches and three listed buildings at the west end of St Thomas Street it remains that the assessment has not demonstrated that the Site contributes to their heritage

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					on to state: "*The potential for appreciation of the asset's significance may increase once it is interpreted or mediated in some way, or if access to currently inaccessible land becomes possible.*" This is particularly relevant for the identified assets. The assets were conceived as part of an urban environment adjacent to and part of a train station, with a high footfall of people; that environment has changed markedly both through the twentieth century and more recently. Improving the areas and vistas from which one may appreciate both the monumentality and architectural detail of the viaduct in particular is an enhancement to setting and, therein, significance. It must also be borne in mind that "*settings may also have suffered negative impact from inappropriate past developments and may be enhanced by the removal of the inappropriate structure(s).*" (page 4 GPA3). It must be common ground that the area of vacant land on the northern side of the site does not contribute	effects. We also do not agree with the Applicant's assertion that the 'poor visual amenity', 'dead frontage' and lack of inter-visibility means that: "*it must be common ground that: the area of vacant land on the northern side of the site does not contribute positively to the setting of the heritage assets*". There are several issues with this statement. Firstly, it incorrectly suggests that the key attribute of setting is, in historic environment terms, its quality. However, some assets may have a 'high quality' setting that does not contribute to its significance and others a 'low quality' visual setting that makes an important contribution to their heritage significance. In fact, the Site may not look nice but part of it was historically a yard that may have had a functional relationship with the non-designated warehouse on the Site, meaning that it aids in that building's legibility (appreciation), as well as that of the historic character of this part of the conservation area. The argument that the Site does not afford views of the

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					attributes such as enclosure, definition of streets and spaces and spatial qualities as well as lighting, trees, and verges, or the treatments of boundaries or street surfaces." The Applicant also states that 'GLVIA3' states that separate cultural heritage appraisals should be provided, although "*the history of the landscape, its historic character, the interaction between people and places through time, and the surviving features and their settings may be relevant to the LVIA baselines studies, as well as the cultural heritage topic*". The Applicant states that it is not the case of the Applicant to state that the setting of the identified heritage assets is dependent on greater user access; however, greater user access and improvement to the quality of the environment within which those assets are accessed or experienced is a consideration relating to setting. Indeed, the same paragraph referenced by LUC from GPA3 relating to 'access and setting' goes	(unless setting does not contribute to the asset's significance, change would not affect its significance and the asset can be scoped out). It is therefore odd that the Applicant has stated that it is not upon them to state that the setting (significance) of the identified heritage assets' is dependent on greater user access. The asset's significance is precisely what the Applicant is supposed to be articulating; they should then be assessing how the proposed development would affect it. The point that the Applicant misses when they quote GPA3 on interpretation, mediation and accessibility, is any land that offers improved accessibility to an asset needs to be demonstrated to contribute to its significance (e.g. have a specific relationship with the asset) not simply lie within its surrounding environs. Such meaningful relationships aid the appreciation of an asset by making its significance more legible. No meaningful relationship(s) has been demonstrated by the Applicant to exist between the Site and the assets assessed as experiencing beneficial

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					positively to the setting of the heritage assets. In our opinion it detracts from the setting of the assets by virtue of its current enclosed state that it is of poor visual amenity, provides dead frontage and which does not afford the potential for views to/ from the assets. Moreover, page 6 of GPA3 states: "*Sustainable development under the NPPF can have important positive impacts on heritage assets and their settings, for example by bringing an abandoned building back into use or giving a heritage asset further life.* *However, the economic viability of a heritage asset can be reduced if the contribution made by its setting is diminished by badly designed or insensitively located development. For instance, a new road scheme affecting the setting of a heritage asset, while in some cases increasing the public's ability or inclination to visit and/or use it, thereby boosting its economic viability and enhancing the options for the marketing or adaptive re-use of a building, may in other cases have the opposite*	nearby designated assets is also not valid. The proposed development is not re-opening an area from which the assets were intended to be viewed and, as previously stated; significance is not dependant on the number of people who look at an asset. (If it were, then any highly visible asset would by default be highly significant and in turn important, whilst any non-visible assets (e.g. buried archaeology, subterranean buildings) would not be significant/ important. In summary, the Applicant's argument for the reported benefits is that the Site does not contribute to the assets setting (significance) in its current form, but that the proposed development would improve the visual amenity of the area around the heritage assets, enabling them to be appreciated more and in turn increasing their significance. The logic in this is reductive. According to it, any development that increases the visual amenity and visibility of a heritage asset is beneficial and makes it more significant. By default then, any development that is not high quality or makes a heritage asset less visible

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					effect." The proposal takes the opportunity to bring a new building of high quality architecture and public realm within the immediate setting of the assets. This will drastically improve the overall context in which the listed building is appreciated and the number of people who will have an opportunity to appreciate the structures.' Notwithstanding the above we do accept that the grading of sensitivity and magnitude is subject to professional judgement, and that the consequent derived effects may vary between consultants. The identified major effect arising from the impact of the proposed development to the Grade II listed arches at London Bridge may alternatively be identified as a moderate effect. Whilst a downgrade, it is generally considered that moderate to major effects are considered 'significant' in the context of the EIA Regulations.	must cause harm. This premise is problematic for a number of reasons: 1. It would mean that harm rested solely on design 'quality' and visibility of the asset. This ignores the fact that a building of high quality design can still harm the significance of heritage assets as it could remove a key component of its setting (e.g. a church's churchyard) and reduce the ability to appreciate its significance. 2. It would mean that all assets that were visible from a Site would be susceptible to change. Distance and perceptibility would therefore need to be the main criteria for measuring change (and in turn the focus of best practice guidance), not heritage significance and the contribution of setting to that significance, as

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						viewing access. As such, the Applicant's assessment does not accord with policy and best practice with regard to the assessment of heritage assets relating to their heritage significance.
BH1	Clarification	The function of the ES chapter is to provide an objective assessment of the effect on the heritage significance of assets. It is therefore requested that the Applicant remove all references in the chapter and the built heritage section of the NTS to public benefit and the discussion of 'balance'.	As presented, the ES chapter (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment) does provide an objective assessment of the effect on the heritage significance of assets in line with ES methodology. The references to public benefits and the discussion of balance do not undermine or influence the objectivity of the assessment, which is always undertaken first before any policy-related discussion. The references to policy are intended to translate the effect on heritage assets, in ES terms, into the relevant policy context in order to assist the decision-maker in their consideration of the proposals. The decision-maker is invited to consider the effect, once it has been objectively assessed, in terms of the level of harm – substantial or less than substantial – and then take into account the wider	**Acceptable** The applicant has declined to remove references to public benefit and the discussion of 'balance'. It is maintained that these are inappropriate within the given context and that they are matters for the decision-maker to weigh, not the applicant. This is especially concerning given the misreporting of the beneficial effects to the historic environment. No further clarification is sought	N/A	N/A

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						currently is. 3. It would follow that assets with a 'high quality visual' setting were more significant (and sensitive to change) than those with low quality visual settings. This is not the case; a poor quality visual setting may be important to an assets' significance and vice versa. 4. It would mean that visibility/ accessibility correlated with significance and in turn, importance. As per the NPPF and HE's Conservation Principles, this is not the case. Ultimately, the assets with purported benefits derive their heritage significance from their design and history. The proposed development inherently cannot make them any more architecturally or historically significant than they already are. Nor would it fundamentally change the way in which they are appreciated (understood) simply by increasing

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		development is being shown in Figure 2.1.	is clarified that the entirety of the Proposed Development is being shown in Figure 2.1.			
BH7	Clarification	The Applicant is requested to provide clarification on which guidance has been used for the historic environment assessment and the criteria and guidance used for assessing heritage significance.	The guidance which has been used for the historic environment assessment is listed below: • National Planning Policy Framework (February 2019) • National Planning Practice Guidance (published online) • Historic Environment Good Practice Advice in Planning Note 1: Managing Significance in Decision-Taking in the Historic Environment (Historic England, March 2015) • Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second Edition, December 2017) • Historic England Advice Note 1: Conservation Area Appraisal, Designation and Management (Historic England, February 2019) • Historic England Advice Note 4: Tall Buildings (Historic England, December 2015) • Recent case law, in particular Barnwell (2014), Palmer (2016) and Bohm (2017). The guidance which has	**Acceptable** No further clarification is sought.	N/A	N/A

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			considerations, including public benefits and balance.			
BH5	Clarification	It is stated that data has been collated from within a 400m study area informed by building locations and heights, topography and townscape features and an understanding of the scale of the Development (paragraph 2.5). This is very small for a development of 19 storeys. It is understood that receptors beyond the study area also being assessed if they are inter-visible or have the potential to be impacted by the proposed scheme (paragraph 2.3) and it is requested that further rationale for the scoping in/ out of these assets is provided.	The extent of the study area has been informed by Site observations, a desk-based review of designations and characterisation studies. It has been reaffirmed by a review of the ZTV. The ZTV confirms that the extent of visibility of the proposed development is largely confined to 400m due to topography and interposing development. Where particularly sensitive receptors beyond the study area have the potential to be impacted these have been assessed. Whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 of the 2017 Regulations is on the "main" or 'significant' environmental effects to which a development is likely to give rise. The ES should be proportionate and not be any longer than is necessary to assess properly those effects.	**Acceptable** No further clarification is sought	N/A	N/A
BH6	Clarification	The Applicant is to add keys to Figures 2.1 and 2.9 and provide clarification on what part of the	A key has been added to Figures 2.1 and 2.9 in the material which accompanies this response (refer to Appendix D – Annex 2). It	**Acceptable** No further clarification is sought	N/A	N/A

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BH9	Clarification	The construction effects to the railway viaduct are later stated in Table 8.1 to be negligible. The Applicant should clarify what the predicted effect is.	The likely effect from Demolition and Construction on the railway viaduct is presented in Table 8.1 as 'Negligible' (see row 54, column 7 – refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment). This is the resultant likely effect when Moderate/High sensitivity is combined with a 'Negligible' magnitude of impact.	**Acceptable** No further clarification is sought	N/A	N/A
BH10	Clarification	The Applicant should provide clarification as to whether they consider 9 Fenning Street to make a neutral or positive contribution to the conservation area as it is described as being both. If they consider it to be a neutral contributor they need to provide further rationale on why, as the conservation area appraisal indicates that it is a building that positively contributes.	In the assessment of Bermondsey Street CA and 9 Fenning Street in Section 5.0 of the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment - Baseline: Heritage Receptors) it is clear that it is the judgement of the CA Appraisal that the building makes a positive contribution to the CA. The Applicant accepts that the building has some local heritage value derived from aspects of its warehouse aesthetic such as exposed brick, pitched roof and remnants of industrial character (loading bays on the west elevation, Crittal windows). These features are not present on the later extension to the north which is excluded from the CA designation.	**Acceptable** The Applicant has provided further information as requested. It only includes a partial understanding of 9 Fenning Street's heritage significance as it does not include a consideration of its historical value and, possibly, underplays its contribution to the conservation area as Fenning Street is clearly legible as an industrial building of functional appearance and character, and it this character that makes it a positive contributor to the conservation area (not its level of architectural accomplishment – the historical value and character of the building are the principal sources interest, rather than its aesthetic value). No further clarification is	N/A	N/A

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			been used for assessing heritage significance is listed below: • National Planning Policy Framework (February 2019) • National Planning Practice Guidance (published online) • Historic Environment Good Practice Advice in Planning Note 1: Managing Significance in Decision-Taking in the Historic Environment (Historic England, March 2015) • Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second Edition, December 2017) • Historic England Advice Note 1: Conservation Area Appraisal, Designation and Management (Historic England, February 2019) • Conservation Principles (Historic England, 2008) • Principles of Selection for Listed Buildings (Department for Digital, Culture, Media and Sport, November 2018) • List entry descriptions • Conservation area appraisals • Listing selection guides published by Historic England			

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				new, out-of-scale building of a contrasting style. We suggest that little weight is afforded to this assessment. However, if the information provided by the applicant in relation to the nature of assets affected and the kinds of effects that will arise across the ES, is read in conjunction with the points raised in LUC's review and responses, then the decision-makers should be able to reach their own decision and discharge their duties in relation to the EIA Regulations, and sections 66 and 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990, as amended. .		
BH13	Clarification	Where effects have been considered in the round the Applicant is to provide a breakdown of the beneficial and adverse effects and their significance. This would be best presented in a table where by the assets value, sensitivity, impact, and significance of effect is included.	The effect on each receptor identified in the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment) – heritage, townscape and visual – are already presented in tables which set out the value, sensitivity, impact, likely effect and significance of effect: • Table 8.1 on pp. 87-88 for heritage receptors • Table 9.1 on page 94 for townscape receptors • Table 10.0 on pp. 98-100 for visual receptors The qualitative assessment	**Acceptable** The Applicant is correct that the information is provided in Table 8.1. No further clarification is sought	N/A	N/A

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			Overall, the building is in a poor condition and its detailing is unexceptional. It is not a fine example of warehouse of its type, even when compared against other examples in the CA. It has been subject to later alterations which have diminished its aesthetic quality, and it is appreciated as part of the area of later development and around Fenning Street which is excluded from the CA. It is for this reason it is judged to have a Very Low heritage value.	sought		
BH11	Clarification	The Applicant is to clarify how the loss of the non-designated 9 Fenning Street – a building that contributes positively to the conservation area *'will not have a material effect on the character and appearance of the conservation area'*.	The full quote at paragraph 8.19 of the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment) states: *"The loss of the building will not have a material effect on the ability to appreciate the character and appearance of the CA which is primarily defined by the historic townscape of Bermondsey Street".* Read together with paragraphs 8.20-8.23, the impact of the loss of the warehouse results in the overall judgement that there will be a Minor Adverse likely effect on the CA.	**Acceptable** The Applicant has not provided the clarification requested. Whilst no further information is requested, we would highlight the confused and inconsistent nature of the applicant's interpretation of available evidence. The Bermondsey Street CA is divided into sub areas, the site being located within Sub-Area 3 which is partially characterised by industrial buildings, such as 9 Fenning Street. Whilst this asset is not, in itself, a particularly special example of the type its loss will inherently affect the character and appearance of the CA, as will the introduction of a	N/A	N/A

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			contained within the HTVIA (refer to ES Volume 2: Heritage, Townscape and Visual Impact Assessment) identifies the beneficial and adverse effects arising from the scheme as a whole for each receptor, which is in accordance with best practice guidance and planning policy.			
BH16	Clarification	The Applicant is to clarify their design evolution and what consideration, if any, has been given to the retention of the non-designated asset within the site.	It was determined at an early stage in the design development process that it would not be feasible to retain the non-designated heritage asset within the site at 9 Fenning Street. This was part of the pre-application discussions with the LBS.	**Acceptable** No further clarification is sought.	N/A	N/A
BH18	Clarification	Table 1 in the NTS incorrectly states that there are no built heritage assets on the site. Similarly the effect to the listed railway viaduct arches is reported to be minor beneficial at paragraph 1.148 and major beneficial in the table at paragraph 1.51. For the sake of clarity on what the significant effects of the proposed development are the Applicant should correct these inconsistencies.	Please see the updated NTS submitted alongside this response document.	**Not Acceptable** Table 1 still states that there are no built heritage assets on the site. This is inaccurate as 9 Fenning Street is a non-designated built heritage asset and it is on the site. Furthermore the reported beneficial effects are misleading as they do not in any way relate to the heritage significance of the assets (see BH14). As such, the NTS does not accurately reflect the significant effects of the scheme.	Refer to BH20 for the Applicant Response.	**Acceptable** Refer to BH20 for discussion.

Appendix 1
Evidence of Reviewer Competency

Details of the expertise of each of the team members involved in the review are set out in **Table 1** below.

Table 1: Reviewer Competency

Reviewer	Topic/Responsibility	Professional Qualifications	Years of Experience
Helen Kent, LUC Associate Director of Planning, LUC	Project Director	BA (Hons) Geography MSc Land Resource Management PGDip Urban Planning Full member of IEMA MRTPI	18
Sarah Cane, Principal Environmental Planner, LUC	Project Manager Reviewer	BSc(Hons) Environmental Science: Energy Option Chartered Environmentalist Full Member of Chartered Institute of Ecology and Environmental Management Full member of the Association for Project Management	18
Laura McGowan, Principal Planner, LUC	Project Co-ordinator/Reviewer	BA (Hons) Environmental Planning MRTPI	12+
Rebecca Knight, Director of Landscape Planning, LUC	Townscape and Visual Impact	BSc (Hons) Biology Diploma in Landscape Architecture MA in Landscape Design Chartered Member of the Landscape Institute (CMLI)	22
Michelle Statton, LUC, Senior Historic Environmental Consultant	Archaeology and Built Heritage	MA Archaeology PhD Archaeology	13
Simon Clewlow	Traffic and Transport	BSc(Hons) Dipl Eng CEng MICE MCIHT MTPS	37
Aidan Cosgrave, Partner, Delva Patman Redler LLP	Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare	BSc(Hons) Building Surveying Chartered Member of the Royal Institution of Chartered Surveyors (MRICS)	20+
Murray Snaith, Xi Engineering Consultants, Project Engineer	Wind Microclimate	MEng (Hons) Mechanical Engineering Chartered Member of the Institute of Mechanical Engineering (CEng MIMechE) APM Project Management Qualification (IPMA Level D) Associate Member of Institute of Acoustics Associate Member of Association	5

Reviewer	Topic/Responsibility	Professional Qualifications	Years of Experience
		for Project Management	
Dr Mark Broomfield, Ricardo Energy and Environment	Air Quality	BA (Hons) (Cantab) Natural Sciences (Chemistry) D.Phil by research, Atmospheric Chemistry Member of the Institute of Air Quality Management	20+
John Hyde	Noise and Vibration	BSc Physics Member of the Institute of Acoustics Chartered Member of the Institute of Physics	30

Appendix: EIA Methodology

Annex 1: Statement of Competence
Annex 2: Cumulative Schemes
Annex 3: Climate Change Technical Note
Annex 4: EIA Approach Note to the Greater London Authority
Annex 5: Vinegar Yard 2018 Scoping Report
Annex 6: LBS Review of 2018 Scoping Report
Annex 7: 2019 LUC Review of Environmental Statement and Addendum
Annex 8: Trium Response to Review of Environmental Statement and Addendum

Vinegar Yard

Response to Review of Environmental Statement and Addendum

Date:
August 2019

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Project Reference: TEC0050

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APPENDIX C – Daylight, Sunlight Figures .....
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INTRODUCTION

1.1 This document has been provided in response to comments arising from the review of the Environmental Statement (ES) and Supplementary Cumulative Effects assessment (Addendum) that was prepared to support a planning application (Application Ref. 18/AP/4171) by St Thomas Bermondsey Limited ('the Applicant') for the land bounded by St Thomas Street, Fenning Street, Vinegar Yard and Snowfields, including no's 1-7 Fenning Street and no. 9 Fenning Street, SE1 3QR.

1.2 The review process (undertaken by Land Use Consultants (LUC)) has been commissioned by the London Borough of Southwark (LBS) to provide a critical review of the ES (dated December 2018) and Addendum (dated March 2019). The purpose of their review is to determine whether the ES meets the statutory requirements of the EIA Regulations[1] and relevant guidance[2]. The review identifies the potential requirement for either clarifications or further information (under Regulation 25 of the EIA Regulations) to address matters raised during the review.

1.3 This response document has been prepared to provide a response to the review undertaken and address the points raised from the review.

1.4 As part of addresseing the matters raised from the review of the ES, an updated Non-Technical Summary (NTS) is being provided and is submitted alongside this 'Response to the Review' document.

[1] Town and Country Planning (Environmental Impact Assessment) Regulations 2017
[2] Including the National Planning Practice Guidance and the IEMA Quality Mark Review Criteria.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
EIA Context and Influence Actions (Chapters 2-4)		
Clarifications		
ECI1	The Applicant is requested to provide further justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES following the request for this ES chapter from the LBS Review.	The ES Review (para 3.5) states that '…*there is no clear justification as to why the information has not been presented within the ES in a specific ES chapter as per the LBS Review suggestion. The Applicant is requested to provide justification for the exclusion of a 'Water Resources and Flood Risk' chapter within the ES*.' It is not clear from the ES review comments the additional level of justification required over and above that presented in the ES. The LBS Review of the Scoping Report comments with regard to the rationale presented for scoping out of Water Resources and highlights in particular the lack of justification in terms of the impact on potable water resources, and the absence of reference to potential impact on groundwater arising from the basement. "*The applicant proposes to summarise the FRA, Surface Water and Foul Sewage Drainage Strategy and mitigating measures into different chapters within the ES. However, this is considered insufficient especially in the context of the 3-level basement development and the noted increase in demands for potable water and potential associated risk to sewer and foul water capacity and flooding. Therefore, a 'Water Resources and Flood Risk' chapter should be presented in the ES*.' The above matters have been accounted for in the ES, and the justification for scoping out of the EIA are addressed at the following: (a) The impact of the basement – consideration of the potential impact of the basement construction on groundwater is discussed within ES Chapter 2 – EIA Methodology (from para 2.25 – 'Water Resources – Groundwater'), and is justified by way of the available information (i.e. Basement Impact Assessment (BIA), presented within the ES Appendix) and proposed mitigation measures (i.e. recognised industry best practice), as concluded within para 2.32 with regard to contamination to groundwater, and within para 2.34 with regard to potential for surface water flooding. (b) Demand for potable water – has been accounted for within ES Chapter 4 – Proposed Development (refer from para 4.100 onwards), with an estimate of water demand and appropriate mitigation by way of network capacity determined by TWUL as part of detailed design, which is a standard process, and water efficiency measures as part of the 'BREEAM Water Credits' (para 4.104). (c) Risk of Sewer and Foul Water Capacity and Flooding - has been accounted for within ES Chapter 4 – Proposed Development (refer from para 4.105 onwards – Wastewater Generation) which discusses the proposed discharge to the sewer network, including proposed discharge rate, volume and confirmation from TWUL of the available capacity (refer 'Drainage Assessment' provided within the application), as well as future liaison with TWUL about future connection and upgrades to the network.
ECI3	The Applicant is requested to provide clarity re the existing site plan and building(s) to be demolished. Existing site photographs would further aid the description of development chapter to detail the development site.	Sufficient clarity is provided within ES Chapter 1 – Introduction, as part of the supporting description below Figure 1.2, and the corresponding site plans presented within ES Volume 3: Appendix – Supporting Technical Information (Annex 1). This is further supported by the 'Indicative Phasing Plan and Layout' (Figure 5.2) of ES Chapter 5 – Demolition and Construction, which presents the existing building remaining on-site to be demolished.
ECI4	The Applicant is requested to confirm if flow and pressure tests have been undertaken now that the application for the proposed development has been submitted?	Please refer to the full description for completeness, which states at para 4.103 of ES Chapter 4 – Proposed Development (Volume 1): "*To inform the detailed design stage, TWUL may need to carry out flow and pressure tests for daily demand estimations when the planning application for the Proposed Development is submitted. This will assess the available capacity in the local supply network*

ES REVIEW RESPONSE TABLE

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
		the respective company, and has involved a process of review for issue of the chapter by a figure with sufficient experience and seniority within that company. As has been noted, Trium and its employees is an environmental consultancy specialising in urban regeneration and property development projects in the UK, with a specific focus in London. Trium's Partners and Employees have extensive experience in managing the environmental issues and impacts, and over the course of their careers to date (including with former employers), project directed, managed or contributed to over 160 EIAs. This includes selecting and managing competent experts for the topics required in an EIA, who have been selected for the project based on their knowledge and experience for the topic in question. No additional information is required to be submitted for ES purposes and as such this does not constitute 'further information' under Regulation 25 – this should therefore be 'downgraded' to an clarification.
EIA Presentation and NTS Actions		
Clarifications		
NTS1	The Applicant is requested to include a summary of mitigation and monitoring within the NTS.	The request for including a summary of mitigation and monitoring within the NTS has been noted. Please see the updated NTS, which provides this clarification.
Potential Regulation 25 Information		
N/A	N/A	N/A
ES Chapter 5: Demolition and Construction		
Clarifications		
DC1	The Applicant is requested to confirm whether the estimated quantitates provided in Tables 5.2 and 5.3 have considered the worst case assessment of demolition and construction effects.	It is confirmed that the estimated quantitates provided in Tables 5.2 and 5.3 of ES Chapter 5 – Demolition and Construction (Volume 1) are worst case. The summary Demolition and Construction methodology presented within ES Chapter 2 – EIA Methodology (Volume 1) (from para 2.62) broadly advises that the EIA assesses the worst case effects (para 2.63).
Potential Regulation 25 Information		
N/A	N/A	N/A
ES Chapter 6: Socio-Economics		
Clarifications		
SE1	The Applicant is requested to clarify whether the reference in Paragraph 6.29 should read Table 6.3 (Matrix to Determine Scale of Effect) not Table 6.4 (Labour Market Profile (April 2017 to March 2018) as currently stated.	The reference within paragraph 6.29 (of ES Chapter 6 – Socio-Economics (Volume 1)) should read Table 6.3 (Matrix to Determine Scale of Effect).

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
		and determine whether any additional mains laying is necessary to support the Proposed Development and provide an indication of any cost of upgrades to the network. This would be undertaken as part of the detailed design stage if required." As clearly stated, any tests undertaken in liaison with TWUL will be as part of the detailed design stage, which is likely to occur once certainty of the project is achieved (i.e. grant of planning permission). Please also refer to the relevant response presented within ECI1 above.
ECI5	The Applicant is requested to provide further detail (e.g. a table) regarding the consultation undertaken to clarify who was consulted, when and how they were consulted, the comments received and how the comments influenced the development proposals.	The comment presented in para 3.29 of the ES Chapter 3 – Alternatives and Design Evolution (Volume 1) has been taken from the 'Consultation' section of the Design and Access Statement (DAS) that was submitted as part of the planning application. Within this section of the DAS, the reader is guided to the 'Statement of Community Involvement' for more detail. This cross-reference is also clearly outlined within ES Chapter 2 – EIA Methodology (Volume 1) (para 2.4). For the purpose of clarification, detail regarding the consultation undertaken is presented within the Statement of Community Involvement. This provides sufficient information on the consultation undertaken, clarifying who was consulted, when and how they were consulted, the comments received and how they influenced the development proposals. The following provides two examples of consultation undertaken as discussed within the SCI: 1) On 11th June 2018 a meeting was held with Cllr Peter John OBE Leader of LBS, to discuss the key principles behind the scheme. 2) A public consultation was held on 10th and 12th of November for neighbouring residents and businesses, having considered feedback from a previous public consultation with other land owners and having made further refinements to the scheme. Attendees were asked to provide feedback based on four themes as discussed within the SCI.
Potential Regulation 25 Information		
ECI2	The Applicant is requested to provide details on the relevant expertise and qualifications of those who prepared the ES.	Regulation 18(5) of the EIA Regulations 2017 states: *(5) In order to ensure the completeness and quality of the environmental statement—* *(a) the developer must ensure that the environmental statement is prepared by competent experts; and* *(b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts*. With respect to Regulation 18(5)(a), there is (unfortunately) no specific definition of what a 'competent expert' entails. It is however Trium's opinion, that based upon extensive experience by all involved, the ES has been prepared by competent experts. The developer is therefore adhering to this regulatory requirement by ensuring this. Importantly, if the ES is considered to be complete and robust, but their very nature, the persons who undertook this work are 'competent'. With respect to the second part, the requirement of Regulation 18(5)(b) broadly refers to a statement to be provided on the expertise or (rather than 'and') qualifications of the experts. It is our opinion that the content within ES Chapter 1 – Introduction (Volume 1) does provide this, as well as referring to each technical chapter which identifies the experts who prepared the ES Chapter. Importantly, the Regulations specifically use the terminology 'outlining', and therefore the text provided is deemed sufficient, and does not need to be expanded upon to meet this regulatory requirement. It is therefore considered that the comments presented at paragraph 3.1.5 seek a level of information beyond the requirement of the above regulation, i.e. the EIA Regulations do not seek details of all members of the project team. The technical ES Chapters provided within the ES have been prepared by competent experts within the respective companies identified, who have sufficient knowledge and experience of working on projects involving urban regeneration schemes relating to the relevant technical topic in question. The preparation of each of the technical ES Chapters has involved several individuals within

<table>
<tr><th colspan="3">LUC ES REVIEW RESPONSE TABLE</th></tr>
<tr><th>Ref Number</th><th>Nature of Query</th><th>Trium Response</th></tr>
<tr><td colspan="3">ES Chapter 8: Air Quality</td></tr>
<tr><td colspan="3">Clarifications</td></tr>
<tr><td>AQ1</td><td>Paragraph 8.15 of the ES refers to eleven modular boiler units, but goes on to specify only four units. This apparent discrepancy should be clarified to confirm that all potentially relevant combustion plant have been included.</td><td>The boiler plant that will be included within the Proposed Development and which has been considered within the assessment is as follows: 11 x 254 kW modular boilers (comprising 3 x WM254/762V units and 1 x WM254/508V units, i.e. there are eleven boiler modules but four boiler units.</td></tr>
<tr><td>AQ2</td><td>Clarification should be provided to confirm that the proposed dust mitigation measures are relevant to the construction dust risks identified in Table 8.11. If necessary, the range of construction phase mitigation measures should be expanded to include all relevant mitigation measures specified in the relevant guidance.</td><td>Table 8.11 (ES Chapter 8 – Air Quality (Volume 1)) identifies the construction phase of the Proposed Development as being High Risk for both dust soiling and human health for all construction sources (i.e. demolition, earthworks, construction and trackout), in accordance with LBS' technical guidance on demolition and construction works (2016). As stated in P8.107, this risk category (i.e. High Risk) has been used to determine the mitigation measures that are set out in the Air Quality Technical Appendices (Annex 7), as informed by the relevant GLA's 'Control of Dust and Emissions from Construction & Demolition' SPG (2014) and the LBS guidance, and based on further information taken from the IAQM (2018) 'Guidance on Monitoring in the Vicinity of Demolition and Construction Sites'.
The following mitigation measure was missed from the GLA guidance and should be included:
Regarding preparing and maintaining the site: provide showers and ensure a change of shoes and clothes are required before going off-site to reduce transport of dust.</td></tr>
<tr><td>AQ3</td><td>Paragraph 8.124 of the ES indicates that a forecast "moderate severity" impact due to emissions from the Energy Centre can be considered as having an "insignificant" effect. Discussion of the options for mitigating this moderate severity impact should be provided, together with further clarification of this conclusion in the light of the number and extent of receptors potentially affected.</td><td>Paragraph 8.124 of the ES (ES Chapter 8 – Air Quality (Volume 1)) states that the likely effects of plant emissions are 'not significant'; no moderate impacts have been predicted as a result of the proposed energy centre. As described in Paragraphs 8.114 to 8.126 (ES Chapter 8 – Air Quality (Volume 1)) the combined nitrogen dioxide emissions contribution of the proposed CHP, boiler and life-safety generator plant are:
• well below the annual mean screening criteria for existing sensitive receptors, therefore, long-term impacts will be negligible (see Paragraphs 8.116 and 8.117 and Table 8.12);
• below the 1-hour mean screening criteria at all but one of the identified worst-case sensitive receptors (E1) (see Paragraph 8.119 and Table 8.13) AND an assessment of the maximum short-term nitrogen dioxide concentrations at receptor E1 in the earliest year that the Proposed Development will be operational (i.e. 2023) demonstrated that concentrations will be below the 1-hour mean objective (see Paragraphs 8.120 to 8.123); and
• well below the 1-hour mean objective at locations within the Proposed Development itself (see Paragraphs 8.126 and 8.126 and Table 8.14).
As all impacts are negligible / below the relevant screening criteria, the conclusion that the overall effect of the proposed plant will be 'not significant' is appropriate. As such there should be no requirement for further mitigation.</td></tr>
<tr><td>AQ4</td><td>Clarification of the energy efficiency assumption used to calculate NOx emissions from standby generator plant should be provided</td><td><u>650 kVA Capacity Tenants Life Safety Generator</u>
The assumed gross electrical output efficiency: 34.7% (this is typical for a generator of this size).
In the derivation of the emission rate, the electrical output (approx. 520 kWe) has been derived from the capacity of the proposed generator (i.e. approx. 650 kVA) by multiplying by a power factor of 0.8 (typical for generators of this type). The calculated NOx emission rate (1.33 g/s) has, therefore, been derived from the calculated electrical output (approx.. 520 kWe) and the assumed emission factor (9,200 mg/kWh).</td></tr>
</table>

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<tr><th colspan="3">LUC ES REVIEW RESPONSE TABLE</th></tr>
<tr><th>Ref Number</th><th>Nature of Query</th><th>Trium Response</th></tr>
<tr><td colspan="3">Potential Regulation 25 Information</td></tr>
<tr><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td colspan="3">ES Chapter 7: Traffic and Transport</td></tr>
<tr><td colspan="3">Clarifications</td></tr>
<tr><td>TR1</td><td>Include details of cycle usage on St Thomas Street as part of the Baseline Conditions based on classified counts included as part of Transport Assessment.</td><td>The raw data relating to cycle usage was included in the Transport Assessment within Appendix B (Video Survey Data) (refer ES Volume 3 – Traffic and Transport; Annex 1) submitted with the planning application. The raw data within Appendix B was a video survey that was undertaken between Tuesday 13th and Monday 19th November 2018 to understand vehicle flows on St Thomas Street. The cycle movements are summarised below:
<table>
<tr><th></th><th colspan="2">Morning Peak (08:00 – 09:00)</th><th colspan="2">Evening Peak (17:00 – 18:00)</th><th colspan="2">24 Hour</th></tr>
<tr><th>Direction of Travel</th><th>West Bound</th><th>East Bound</th><th>West Bound</th><th>East Bound</th><th>West Bound</th><th>East Bound</th></tr>
<tr><td>Tuesday 13th</td><td>34</td><td>9</td><td>20</td><td>19</td><td>244</td><td>216</td></tr>
<tr><td>Wednesday 14th</td><td>24</td><td>15</td><td>17</td><td>22</td><td>223</td><td>228</td></tr>
<tr><td>Thursday 15th</td><td>31</td><td>11</td><td>13</td><td>13</td><td>213</td><td>185</td></tr>
<tr><td>Friday 16th</td><td>29</td><td>6</td><td>19</td><td>20</td><td>219</td><td>186</td></tr>
<tr><td>Saturday 17th</td><td>2</td><td>0</td><td>10</td><td>12</td><td>163</td><td>132</td></tr>
<tr><td>Sunday 18th</td><td>6</td><td>3</td><td>6</td><td>1</td><td>102</td><td>102</td></tr>
<tr><td>Monday 19th</td><td>36</td><td>11</td><td>19</td><td>21</td><td>193</td><td>138</td></tr>
<tr><td>Average</td><td>23</td><td>8</td><td>15</td><td>15</td><td>194</td><td>170</td></tr>
</table></td></tr>
<tr><td colspan="3">Potential Regulation 25 Information</td></tr>
<tr><td>N/A</td><td>N/A</td><td>N/A</td></tr>
</table>

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
		traffic associated with nearby Committed Developments would form part of this baseline. Based on this, a judgement that the overall cumulative effect of operational traffic will be 'not significant' is appropriate.
Potential Regulation 25 Information		
AQ8	It is considered that an assessment of 1 hour NO2 concentrations at potentially relevant locations against the 1 hour NO2 air quality objective should be provided	An assessment of whether the 1-hour mean nitrogen dioxide objective is predicted to be exceeded has been undertaken for both locations within the Proposed Development ((ES Chapter 8 – Air Quality (Volume 1)), see Paragraphs 8.125 and 8.126 and Table 8.14) and for existing sensitive locations in the local area where it is not possible to screen out short-term impacts based on the EPUK / IAQM screening criteria (see Paragraphs 8.120 to 8.124).
ES Chapter 10: Wind Microclimate		
Clarifications		
WM1	Clarification is sought as it is unclear where the 0.07 m/s value has come from and how this conclusion was reached. The chapter has reference to the supporting technical appendix, however no information was found with regards to this conclusion.	The reference to 0.07 m/s within the ES Chapter 10 – Wind Microclimate (Volume 1) is made at para 10.126, as part of the consideration of 'Climate Change'. This paragraph refers to the 'Climate Projects Report' published by UK Climate Projections 2009 (UKCP09) (refer website: https://www.metoffice.gov.uk/research/collaboration/ukcp) presented the probable changes in wind speeds. Reference within the paragraph also refers to Climate Change Technical Note presented within ES Volume 3: Appendix – Supporting Technical Information. Unfortunately the technical note was not provided within the Appendix in error – for completeness, the technical note referred to is provided as part of this response (refer Appendix A) in o rder to clarify the origin of the reference to 0.07 m/s.
Potential Regulation 25 Information		
WM3	In order to satisfy requirements with regards to wind microclimate classification around the proposed development, mitigation measures should be tested in a boundary wind tunnel assessment with the cumulative developments outlined in Scenario B and Scenario C.	Wind tunnel testing of the Proposed Development has been undertaken corresponding with the cumulative assessment scenarios B and C as presented the submission of the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019). The wind tunnel test was undertaken following the submission of the 'Further Information – Cumulative Assessment'. The wind tunnel testing addressing these scenarios was conducted with the wind mitigation measures and landscaping scheme applied to the Proposed Development, as described for the assessments presented in ES Chapter 10 – Wind Microclimate (Volume 1). However, wind mitigation measures (including landscaping) relating to surrounding Committed Developments were not included within the wind tunnel assessment of Scenarios B and C, representing a 'worst case' scenarios in terms of the results. It is considered that any application of mitigation / landscaping measures applied to these surrounding Committed Developments (for the purpose of addressing their own on-site impacts) is likely to have a corresponding impact on the results for the wider area in terms of calmer conditions. The results of the wind tunnel test are presented in the same format as for the 'Further Information – Cumulative Assessment', and is presented (together with figures) in Appendix B.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
		250 kVA Capacity Tenants Life Safety Generator Electrical output efficiency: 36.0% In the derivation of the emission rate, the electrical output (approx. 200 kWe) has been derived from the capacity of the proposed generator (i.e. approx. 250 kVA) by multiplying by a power factor of 0.8 (typical for generators of this type). The calculated NOx emission rate (0.51 g/s) has, therefore, been derived from the calculated electrical output (approx. 200 kWe) and the assumed emission factor (9,200 mg/kWh).
AQ5	Further clarification on the potential for cumulative air quality impacts due to construction traffic should be provided to confirm the study findings that any such impacts would not be significant.	The air quality assessment considers the potential for cumulative construction traffic air quality impacts within the ES Chapter ((ES Chapter 8 – Air Quality (Volume 1)) - see Paragraphs 8.154 and 8.155) and further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), both of which conclude that the impacts will be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment', the Proposed Development will generate a small volume of construction traffic relative to the existing volume of traffic on the local road network, and all construction phase Heavy Duty Vehicles (HDVs) and Light Duty Vehicles (LDVs) associated with the development will meet Euro VI / Euro 6 emissions criteria respectively; this is a requirement that will also apply to demolition and construction vehicles associated with committed schemes that are located within the London Borough of Southwark. As such, it is considered that the cumulative air quality impacts arising from emissions due to construction traffic will be 'not significant'.
AQ6	Further clarification on the potential for cumulative air quality impacts due to energy centre emissions should be provided to confirm the study findings that any such impacts would not be significant.	Further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), which concluded that the impacts will be likely to be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment', the air quality assessment demonstrates that annual mean process contributions from the Proposed Development will be sufficiently low that any impacts can be screened out as being negligible regardless of existing baseline conditions (any emissions from plant associated with nearby committed schemes would form part of this baseline). The air quality assessment also demonstrates that short-term process contributions from the Proposed Development will be sufficiently low that any impacts can be screened out as being negligible regardless of existing baseline conditions at most locations (i.e. all but one of the worst-case identified receptors). Where it is not possible to screen out the short-term impacts, impacts have still been found (as described within the ES Chapter, (ES Chapter 8 – Air Quality (Volume 1)) paragraph 8.120) as being 'not significant'. It should be noted that the process contributions are dominated by the emergency generators, which will be operated only occasionally for testing, but which have been assumed within the assessment to be continuously operating (refer assumptions - ES Volume 3: Appendix - Air Quality (Annex 1), Paragraph A1.12); this is an extremely conservative assumption resulting in a very conservative assessment of the short-term impacts of the Proposed Development. On the basis of the above, it is judged that the overall cumulative impacts of emissions from energy plant will be 'not significant'.
AQ7	Further clarification on the potential for operational phase cumulative air quality impacts due to traffic emissions should be provided to confirm the study findings that any such impacts would not be significant.	Further clarification has been provided with the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document (dated March 2019), which concludes that the impacts will be 'not significant'. As outlined by the 'EIA – Further Environmental Information – Cumulative Effects Assessment' document, the operational traffic generated by the Proposed Development falls below the screening criteria for within an Air Quality Management Area (AQMA) as set out by the EPUK / IAQM guidance. As such, any impacts associated with operational traffic generated by the Proposed Development can be screened out as being negligible regardless of existing baseline conditions (any emissions from operational

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
Potential Regulation 25 Information		
DSO2	Provide window maps, at least for the properties identified in the ES as experiencing more than a negligible effect, in order to aid identification of the relevant windows.	Provided within Appendix C – Daylight and Sunlight – Window Maps.
ES Chapter 12: Archaeology		
Clarifications		
ARCH1	The Applicant is to provide further information on the significance of these deposits and to assess the impact to them, including in cumulative terms.	The scope of the archaeological assessment within the EIA was primarily to identify the potential for buried heritage assets, which has been undertaken within the desk-based assessment and also as part of the archaeological fieldwork, all of which has been undertaken in accord with relevant standards and guidance- as outlined within all relevant documents (i.e. reports, ES Chapter) submitted within the ES pertaining to the consideration of archaeology as part of the EIA. The report for the evaluation ('Written Scheme of Investigation for an Archaeological Evaluation') in particular clearly outlines the proposed aims and objectives (i.e. Section 3, and Appendix 1 – section 4). The consideration of paleoenvironmental and/or geoarchaeological potential was not included as part of the scope of work. It is commented that from the evaluation that the presence of alluvial deposits was confirmed and is suggested that such deposits commonly have paleoenvironmental and/or geoarchaeological value, however this appears to be a general comment and not in accord within the aim and objective of the assessment undertaken (as discussed above). It is considered that no further information is required to be submitted for ES purposes.
ARCH3	The Applicant is to clarify the predicted scale of (pre-mitigation) effect to the post-medieval remains within the site (and whether the negligible entry in the table is a typographical error).	There is a typographic error in Table 12.5 (ES Chapter 12 – Archaeology (Volume 1)) where High Potential in Post Med Occupation in Scale of Effects (Significance) should read minor / moderate. This clarifies the predicted scale of pre mitigation effect.
Potential Regulation 25 Information		
ARCH2	The Applicant is to provide further information of the role of setting to the potential archaeological assets' heritage significance and any potential effects to this.	The historical review of the site and the surrounding area within all relevant documents (i.e. reports, ES Chapter) submitted within the ES pertaining to the consideration of archaeology as part of the EIA all draw reference that subsequent development over the many years has provided a degree of disturbance to any use of the site that preceded it (i.e. refer ES Appendix 3 – Archaeology – DBA - para 8.7, which states '*Undoubtedly, the last phase of buildings in the 19th century will have caused extensive damage to the remains of the earlier buildings*'), which is considered not unusual for a urban development site within London. It is therefore considered that the setting of the archaeological heritage assets, in this instance, is a degraded (in archaeological terms), modern urban landscape, and the setting has no bearing on the significance of the archaeological heritage assets. The Proposed Development will have 'negligible impact' as defined by Table 12.2 (ES Chapter 12 – Archaeology (Volume 1)). No additional information is required to be submitted for ES purposes and as such this does not constitute 'further information' under Regulation 25 – this should therefore be 'downgraded' to an clarification.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
ES Chapter 11: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare		
Clarifications		
DSO1	Confirm which buildings are based on floor plans and which are based on assumed room layouts and uses.	Floor plans have been used in full or in part for the following properties: - 16 Melior Street - 14 Melior Street - 8 Melior Street - The Glasshouse - 26 Melior Street - 8-20 Snowsfields - 1-15 Guiness Trust - 37 Snowsfields - 40 Snowsfields - 41 Snowsfields - 54 Weston Street All other properties are modelled on assumed (industry standard dimensions) layouts
DSO4	Clarify the statement in paragraph 11.124 of the ES that "any development" would result in adverse daylight conditions.	This is in relation to the property 8-20 Snowfields and its direct and channelled view over the site as well as overhanging walkway at 1st floor level which serves to restrict the level of light to these windows and enforce their reliance of light directly over the siteof the Proposed Development. Should any 'meaningful' development take place on site of the Proposed Development, due to the reasons above, it would likely result in adverse daylight conditions.
DSO5	Clarify whether any additional assessments "without balconies" were run and whether the results demonstrate that the balconies are the main factor in the relative light losses.	These were not run and submitted within the ES chapter. No balcony assessments have been previously carried in relation to 8-20 Snowsfields. It is likely that if the balconies were removed, the VSC values following implementation of the Proposed Development would be similar, if not greater, than the VSC values in the existing condition.
DSO6	Clarify what is being explained in NTS paragraph 1.111 and the missing paragraph number 1.110.	The description provided at para 1.111 of the NTS is referring to a summary of the conclusions of the cumulative assessment presented within the ES Chapter 11 – Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution (Volume 1). It is identifying that in terms of daylight, the cumulative assessment presented within the ES Chapter identified 6 properties where the modelled results registered a difference from the assessment of the Proposed Development within the baseline context. Of the properties identified, only the property 16 Melior Street resulted in a change in the likely effect identified (from 'minor adverse' to 'major adverse'). In relation to sunlight and overshadowing, the assessment results do not differ from those reported the assessment of the Proposed Development within the baseline context. To confirm, the absence of para 1.110 from the NTS is a formatting error.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
ES Chapter 15: Mitigation and Monitoring		
Clarifications		
N/A	N/A	N/A
Potential Regulation 25 Information		
MM1	The Applicant is requested to include details of the mitigation and monitoring within the NTS.	Please see the updated NTS submitted alongside this response document.
ES Volume 2: Townscape and Visual		
Clarifications		
TVIA2	Clarification should be provided to explain why the adverse changes (relating to change in scale) highlighted in the assessments for viewpoints 24 and 25 are not acknowledged in the townscape assessment. The Applicant should also clarify whether both adverse and beneficial effects have been taken into account in the townscape assessment.	Viewpoints 24 and 25 are acknowledged in the townscape assessment (see ES Volume 2: Heritage, Townscape and Visual Impact Assessment, paragraphs 9.23-9.24). The effect on visual receptors and townscape receptors are necessarily discrete and separate considerations. GLVIA3 defines townscape as resource in its own right. This comprises the "built-up area, including the buildings, the relationships between them, the different types of urban open spaces, including green spaces, and the relationship between buildings and open spaces". The assessment of visual effects considers specific views and on the general visual amenity experienced by people. In townscape assessment, views are used to help inform and demonstrate the effect on the townscape character area, i.e. the townscape receptor. The views do not determine the overall effect on townscape receptors, but are a contributing factor.
TVIA4	Clarification in relation to Paragraph 1.172 "The proposed development does not have the potential to impact any other views identified for assessment". Should this read "the proposed development does not have the potential to impact any other views identified in the London View management Framework"?	The comment regarding clarity in relation to paragraph 1.172 of the Non-Technical Summary (NTS) has been noted. Please see the updated NTS submitted alongside this response document.
Potential Regulation 25 Information		
TVIA1	Provide an overlay of the ZTV (Figure 2.1) with viewpoints and justify why viewpoints have not been selected for any areas of visibility not already covered by a viewpoint – for example the foreshore of Custom House Quay and Hardwidge Street.	An overlay of the ZTV with viewpoints has been prepared by visualisation consultants (refer Appendix D – Annex 1). A model view from Hardwidge Street is provided with this submission (as per TVIA3) (refer Appendix D – Annex 4). The aim of the ZTV is to provide an initial guide on visibility for further detailed analysis to take place. The ZTV demonstrates the visibility of the Development from a viewing height of between 1.5m and 1.65m above ground level. The data used would primarily comprise Z-map (or equivalent), although may utilise Digital Surface Model (DSM) data that is topographically referenced data of the earth's surface, including the built environment only e.g. excluding trees and foliage.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
ES Chapter 13: Effect Interactions Actions		
Clarifications		
EI1	The Applicant is requested to provide reference to the EC guidelines used in the assessment approach.	Paragraph 13.2 of ES Chapter 13 – In-Combination Effects / Effect Interactions (Volume 1) references the EC guidelines as a tool which assisted in the development of the approach to determining the potential for effects interactions. This can be cross-referenced to paragraph 2.35, second bullet point, within ES Chapter 2 – EIA Methodology (Volume 1) which states the legislation, guidance and case law that has been adhered to when preparing the ES. For further clarity, please see the below reference to the EC guidelines that were used in the assessment approach for determining the potential for effects interactions: http://ec.europa.eu/environment/eia/eia-support.htm and refer to the following document: 'Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions'.
EI2	The Applicant is requested to provide further clarity regarding the criteria used to choose the receptor groups.	Paragraph 13.3 of ES Chapter 13 – In-Combination Effects / Effect Interactions (Volume 1) advises that the approach to defining effect interactions involves tabulating the residual effects of the Proposed Development against receptors or, where more appropriate, receptor groups to identify the potential for in-combination effects or effect interactions. The identification of the receptors / receptor groups presented within ES Chapter 13 has been derived from the individual technical topic ES Chapters, for where residual effects that are beneficial or adverse in nature and that are minor, moderate or major in scale have been identified.
Potential Regulation 25 Information		
N/A	N/A	N/A
ES Chapter 14: Likely Significant Effects and Conclusions Actions		
Clarifications		
LSEC1	The Applicant is requested to include a location plan to easily identify the sensitive receptors to aid the ease of understanding of the likely significant effects.	Presenting the location of the sensitive receptors graphically is considered to be best left within each of the relevant ES Chapters for ease of reference. It is not considered that collectively presenting all the locations of the receptors on a single location plan would be of benefit to the reader given the variety of technical topics to be conveyed, the nature of effect (representing both adverse and beneficial), and the spatial nature of the receptors themselves (i.e. discrete location such as a single property, or a general, diffuse type of receptor, such as climate change or pedestrians and cyclists).
LSEC2	The Applicant is requested to include/clearly identify the 'conclusions' of the EIA as implied by the chapter title.	Noted. Whilst not clearly labelled as 'conclusions', the section entitled 'Summary of Likely Significant Environmental Effects' should be taken as the conclusions of the EIA.
Potential Regulation 25 Information		
N/A	N/A	N/A

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
	proposed scheme (paragraph 2.3) and it is requested that further rationale for the scoping in/ out of these assets is provided.	
BH6	The Applicant is to add keys to Figures 2.1 and 2.9 and provide clarification on what part of the development is being shown in Figure 2.1.	A key has been added to Figures 2.1 and 2.9 in the material which accompanies this response (refer Appendix D – Annex 2). It is clarified that the entirety of the Proposed Development is being shown in Figure 2.1.
BH7	The Applicant is requested to provide clarification on which guidance has been used for the historic environment assessment and the criteria and guidance used for assessing heritage significance.	The guidance which has been used for the historic environment assessment is listed below: • National Planning Policy Framework (February 2019) • National Planning Practice Guidance (published online) • Historic Environment Good Practice Advice in Planning Note 1: Managing Significance in Decision-Taking in the Historic Environment (Historic England, March 2015) • Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second Edition, December 2017) • Historic England Advice Note 1: Conservation Area Appraisal, Designation and Management (Historic England, February 2019) • Historic England Advice Note 4: Tall Buildings (Historic England, December 2015) • Recent case law, in particular Barnwell (2014), Palmer (2016) and Bohm (2017). The guidance which has been used for assessing heritage significance is listed below: • National Planning Policy Framework (February 2019) • National Planning Practice Guidance (published online) • Historic Environment Good Practice Advice in Planning Note 1: Managing Significance in Decision-Taking in the Historic Environment (Historic England, March 2015) • Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (Historic England, Second Edition, December 2017) • Historic England Advice Note 1: Conservation Area Appraisal, Designation and Management (Historic England, February 2019) • Conservation Principles (Historic England, 2008) • Principles of Selection for Listed Buildings (Department for Digital, Culture, Media and Sport, November 2018) • List entry descriptions • Conservation area appraisals • Listing selection guides published by Historic England
BH9	The construction effects to the railway viaduct are later stated in Table 8.1 to be negligible. The Applicant should clarify what the predicted effect is.	The likely effect from Demolition and Construction on the railway viaduct is presented in Table 8.1 as 'Negligible' (see row 54, column 7 - refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment). This is the resultant likely effect when Moderate/High sensitivity is combined with a 'Negligible' magnitude of impact.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
		The method for identifying the study area has been reaffirmed by Site observations, a desk-based review of designations and characterisation studies. The study area has also been informed by building locations and heights, topography and townscape features and an understanding of the scale of the Development. As part of the baseline stage of assessment, the heritage receptors which will be subject of a full assessment have been refined to only those which are likely to experience effects. The judgement is taken on the basis of: • The extent to which setting contributes to the heritage value of the receptor; • The particular setting relationship between the heritage receptor and the Site; and • The analysis of theoretical visibility presented in the ZTV. In the instances where the ZTV indicates that the Proposed Development will be invisible from the Site, or where there is a considerable separating distance between the Site and the receptor, including the foreshore of Custom House Quay that is afforded riparian views that includes tall and large development, that receptor is excluded from full assessment. The magnitude of effect to the value of the heritage receptor being None and the likely effect None. The viewpoint locations were agreed with the LBS during the pre-application process.
TVIA3	Provide full height visualisations from viewpoints 20 and 25 (even if model views) and include an additional model view from Hardwidge Street to show the impact from this angle.	Full height model visualisations from viewpoints 20 and 25 have been prepared for completeness (refer Appendix D – Annex 5). These should be viewed alongside the accurate visual representations of the same viewpoints contained within ES Volume 2: Heritage, Townscape and Visual Impact Assessment, which represent the field of view experienced by the observer. In addition, a model view from Hardwidge Street has been prepared by Miller Hare. The views are provided as 'full height', although a white line denotes the field of view experienced by the observer. The views do not give rise to any greater effects to townscape receptors than that identified by the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment).
ES Volume 2: Built Heritage		
Clarifications		
BH1	The function of the ES chapter is to provide an objective assessment of the effect on the heritage significance of assets. It is therefore requested that the Applicant remove all references in the chapter and the built heritage section of the NTS to public benefit and the discussion of 'balance'.	As presented, the ES chapter (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment) does provide an objective assessment of the effect on the heritage significance of assets in line with ES methodology. The references to public benefits and the discussion of balance do not undermine or influence the objectivity of the assessment, which is always undertaken first before any policy-related discussion. The references to policy are intended to translate the effect on heritage assets, in ES terms, into the relevant policy context in order to assist the decision-maker in their consideration of the proposals. The decision-maker is invited to consider the effect, once it has been objectively assessed, in terms of the level of harm – substantial or less than substantial – and then take into account the wider considerations, including public benefits and balance.
BH5	It is stated that data has been collated from within a 400m study area informed by building locations and heights, topography and townscape features and an understanding of the scale of the Development (paragraph 2.5). This is very small for a development of 19 storeys. It is understood that receptors beyond the study area also being assessed if they are inter-visible or have the potential to be impacted by the	The extent of the study area has been informed by Site observations, a desk-based review of designations and characterisation studies. It has been reaffirmed by a review of the ZTV. The ZTV confirms that the extent of visibility of the proposed development is largely confined to 400m due to topography and interposing development. Where particularly sensitive receptors beyond the study area have the potential to be impacted these have been assessed. Whilst every ES should provide a full factual description of the development, the emphasis of Schedule 4 of the 2017 Regulations is on the "main" or 'significant' environmental effects to which a development is likely to give rise. The ES should be proportionate and not be any longer than is necessary to assess properly those effects.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
Potential Regulation 25 Information		
BH2	There is no reference to whether any consultation has been undertaken with the local Conservation Team and Historic England. The Applicant should clarify what historic environment consultation has been undertaken and provide details of any advice provided and how it has been actioned.	The Applicant has undertaken detailed engagement with the Council, including senior members of the Conservation and Design team. Pages 6-8 of the Planning Statement (submitted with the application, December 2018) provide an overview of the consultation undertaken. Details of the wider consultation with stakeholders is described in the Statement of Community Involvement. Historic England were not consulted on the application prior to submission. Their consultation responses to the application are being fully considered during determination.
BH3	The Applicant should provide clarification on the data sources used and review the GLHER data to ensure that no heritage receptors have been omitted.	The data sources used to identify heritage receptors are as follows: • National Heritage List for England for the identification of: listed buildings, Scheduled Monuments, Registered Park and Gardens, Battlefields, Protected Wreck Sites and World Heritage Sites and their buffer zones • London Borough of Southwark conservation area designations and appraisals • GLHER • Site visits (to identify any other non-designated heritage receptors) • Pre-application consultation with the London Borough of Southwark (as above) It is confirmed that the GLHER data has been reviewed to ensure no built heritage receptors have been missed by the assessment.
BH4	A separate (tabulated) assessment of non-designated assets in close proximity to the site should also be provided.	Non-designated heritage assets within close proximity to the site fall within the Bermondsey Street CA. The impact of the Proposed Development on those assets is provided as part of the assessment of the CA and, in particular, sub-area 3 Weston Street/Snowsfields. Paragraph 5.17 states that: "*A large number of the buildings within this sub-area [sub-area 3] are identified as making a positive contribution to the CA, and their heritage value is derived from their character and appearance as a collection of historic buildings around the early street pattern. This is captured in the sub-area*".
BH8	The Applicant should revisit their assessment criteria to ensure they are appropriate for explaining the scope of value of heritage assets under discussion, the kinds of change (incl. direct loss) they may experience and the resulting effects to their significance. Its application should also be reviewed to ensure that the criteria are fully met and applied consistently. They should provide further information on how each asset is susceptible to physical change to their form, fabric and setting (where it contributes to their heritage significance). In light of this, the ensuing assessment may require revisiting, to ensure that it is internally consistent and provides sufficient information for the decision-maker in a	The criteria for the value and assessment of heritage receptors follows guidance and best practice. It is not considered necessary to revisit this criteria. Furthermore, it is considered that the criteria are applied consistently, mindful that the quantitative measures set out in the methodology and applied to the assessment always require qualitative, professional judgements to support the assessments made. In accordance with the methodology, the susceptibility of each receptor to the type of change arising from the Proposed Development has been described as part of the assessment of likely effects on each heritage receptor at Section 8.0 of the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment). The judgement of susceptibility is based on the way in which the Proposed Development would affect the form, fabric and setting of the receptor. With the exception of the Bermondsey Street CA and the non-designated heritage receptor at 9 Fenning Street there will be no effects on the form and fabric of the heritage receptors which are assessed: the effects are setting effects only. Mindful of the above, it is not considered that any aspect of the heritage assessment requires revisiting.

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
BH10	The Applicant should provide clarification as to whether they consider 9 Fenning Street to make a neutral or positive contribution to the conservation area as it is described as being both. If they consider it to be a neutral contributor they need to provide further rationale on why, as the conservation area appraisal indicates that it is a building that positively contributes.	In the assessment of Bermondsey Street CA and 9 Fenning Street in Section 5.0 of the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment - Baseline: Heritage Receptors) it is clear that it is the judgement of the CA Appraisal that the building makes a positive contribution to the CA. The Applicant accepts that the building has some local heritage value derived from aspects of its warehouse aesthetic such as exposed brick, pitched roof and remnants of industrial character (loading bays on the west elevation, Crittal windows). These features are not present on the later extension to the north which is excluded from the CA designation. Overall, the building is in a poor condition and its detailing is unexceptional. It is not a fine example of warehouse of its type, even when compared against other examples in the CA. It has been subject to later alterations which have diminished its aesthetic quality, and it is appreciated as part of the area of later development and around Fenning Street which is excluded from the CA. It is for this reason it is judged to have a Very Low heritage value.
BH11	The Applicant is to clarify how the loss of the non-designated 9 Fenning Street – a building that contributes positively to the conservation area 'will not have a material effect on the character and appearance of the conservation area'.	The full quote at paragraph 8.19 of the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment) states: "The loss of the building will not have a material effect on the ability to appreciate the character and appearance of the CA which is primarily defined by the historic townscape of Bermondsey Street". Read together with paragraphs 8.20-8.23, the impact of the loss of the warehouse results in the overall judgement that there will be a Minor Adverse likely effect on the CA.
BH13	Where effects have been considered in the round the Applicant is to provide a breakdown of the beneficial and adverse effects and their significance. This would be best presented in a table where by the assets value, sensitivity, impact, and significance of effect is included.	The effect on each receptor identified in the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment) – heritage, townscape and visual – are already presented in tables which set out the value, sensitivity, impact, likely effect and significance of effect: • Table 8.1 on pp. 87-88 for heritage receptors • Table 9.1 on page 94 for townscape receptors • Table 10.0 on pp. 98-100 for visual receptors The qualitative assessment contained within the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment) identifies the beneficial and adverse effects arising from the scheme as a whole for each receptor, which is in accordance with best practice guidance and planning policy.
BH16	The Applicant is to clarify their design evolution and what consideration, if any, has been given to the retention of the non-designated asset within the site.	It was determined at an early stage in the design development process that it would not be feasible to retain the non-designated heritage asset within the site at 9 Fenning Street. This was part of the pre-application discussions with the LBS.
BH18	Table 1 in the NTS incorrectly states that there are no built heritage assets on the site. Similarly the effect to the listed railway viaduct arches is reported to be minor beneficial at paragraph 1.148 and major beneficial in the table at paragraph 1.51. For the sake of clarity on what the significant effects of the proposed development are the Applicant should correct these inconsistencies.	Please see the updated NTS submitted alongside this response document.

APPENDICES

LUC ES REVIEW RESPONSE TABLE		
Ref Number	**Nature of Query**	**Trium Response**
	fully transparent way. Any revised assessment is best presented in a table.	
BH12	There is no discussion of the potential for vibration effects to nearby heritage assets, and whether it is intended that the potential for such effects would be monitored. The Applicant should provide further information on this, as vibration could potentially cause buildings to become structurally unsound resulting in significant effects.	The application submission is accompanied by a report prepared by structural engineers, AKT II. It is stated: *Mitigation measures will be put in place in order to protect the surrounding buildings from the potential excessive vibration levels caused during construction works such as piling, heavy vehicle movements or demolition of existing structures. Some of these measures will be implemented during the design stage by means of selection of less intrusive construction techniques, such as bored piles over driven piles. During construction stage these measures will include the use of low vibration equipment and control of plant tracking maintaining a minimum clearance distance to the surrounding buildings.* *Any necessary monitoring regime and method statement will be discussed with the contractor to ensure that all third parties requirements are met.*
BH14	The rationale for beneficial effects appears to be based solely on townscape and visual considerations. The Applicant is requested to either provide further information on how beneficial effects to heritage assets arise, based on how the proposed development alters the heritage significance of assets, or the ability to appreciate that significance, or to revisit their assessment findings regarding beneficial effects.	The beneficial likely effects on the three heritage receptors at the west end of St Thomas Street and the listed Railway Viaduct Arches are primarily based on townscape and visual considerations because the effect of the Proposed Development is to do with the change to their setting, i.e. the area in which the receptor is experienced (the townscape) and seen and appreciated (views). There are no historical associations or other setting relationships between these heritage assets and the site. The assessment of the effect on significance arising from the change to the setting of the heritage asset has been undertaken in accordance with Historic England's guidance – Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (December 2017). It is considered that the assessment of these receptors at Section 8.0 is clear on the way in which the Proposed Development is considered to have a beneficial effect on the heritage value of the receptor in line with guidance and best practice.
BH15	It is requested that the Applicant revisit their assessment of cumulative effects in light of the other requests relating to their assessment e.g. BH13 and BH14 and that in particular they provide further information on the cumulative effects to the conservation area.	In terms of BH13, the cumulative likely effect on heritage receptors are included in Table 8.1 (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment). In terms of BH14, the assessment is of likely effect on heritage assets, particularly in terms of setting considerations, is considered to be robust and undertaken in accordance with guidance and best practice. The same is true of cumulative effects. The cumulative effects on the significance of heritage assets is presented at paragraphs 8.187-8.201 (pp.85-86) of the HTVIA (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment). A rationale for the assessments (and additional assessments) identified at BH13 and BH14 is provided above. The assessment within the HTVIA remains extant and as such no further information is required.
BH19	There is no mention of 9 Fenning Street beyond the effect that its loss would have on the conservation area. Since its demolition results in a significant effect this should be summarised.	The effect on 9 Fenning Street as a non-designated heritage receptor in its own right, i.e. as an entity which is separate to the CA, is assessed at paragraphs 8.24-8.31 (refer ES Volume 2: Heritage, Townscape and Visual Impact Assessment).
BH20	The NTS should be updated to accurately reflect the findings of the built heritage assessment following the actioning of the requests herein.	Please see the updated NTS submitted alongside this response document.

APPENDIX A - Climate Change Technical Note

TRIUM

Climate Change

Technical Note

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Policy and Guidance 13

1. Introduction

1.1 This technical note describes a future climate scenario which has been developed using the future climate projections data published by the Met Office (UKCP18) in November 2018. UKCP18 projections consider the climate effects arising from a series of 'Representative Concentration Pathways' (RCP) emissions scenarios.

1.2 The purpose of this technical note is to present projection data for the future climate and to provide guidance to the EIA technical team on how to consider whether the effects of the Proposed Development (defined under the current climate conditions) may alter under the future climate scenario. In the context of the future climate condition, consideration needs to be given to:

- the change in the magnitude of impact of the Proposed Development;
- receptor vulnerability;
- vulnerability of the Proposed Development; and
- resilience of the Proposed Development.

Climate Projections

1.3 UKCP18 gives probabilistic projections[1] for a number of atmospheric variables, with different temporal and spatial averaging, for several future time periods, under four different future RCP emissions scenarios.

1.4 In general, the longer the lifetime of a development, the greater the uncertainty about the impact of climate change over time. Uncertainty is dealt with by presenting projections which are probabilistic in nature, and which give the probability of different climate outcomes.

1.5 To make use of the probabilistic projections, an emissions scenario and percentile outcome (i.e. the likelihood of the change in climate occurring) needs to be identified.

1.6 Once the emissions scenario and probabilistic projection have been identified, then this future climate projection should be used by all technical disciplines contributing to the Environmental Impact Assessment (EIA), to ensure consistency in approach.

1.7 The emissions scenario and climate projection utilized for this EIA are detailed within this document.

Emission Scenarios

1.8 The RCP emission scenarios represent four distinct pathways (RCP2.6, RCP4.5, RCP6.0 and RCP8.5) developed for long-term and near-term climate modelling and provide time-dependant projections of atmospheric greenhouse gas concentrations. These pathways were developed based on a literature review of current climate modelling research and have been chosen to represent the full range of climate outcomes presented within the literature.

1.9 The emission scenarios represent assumptions in terms of climate policy, land use and technological development, with RCP2.6 representing the 'optimum' emission scenario (i.e. measures aimed at achieving the maximum reduction in GHG emissions).

1.10 At the other end of the scale, RCP8.5 assumes the highest emission scenario. It assumes that technological development will slow and that there will be little to no decarbonization of world power from new technology. It also assumes that no further climate mitigation or regulations to reduce climate change or air pollution will be implemented. Whilst this is possible, it is unlikely considering current global trends towards more rigorous climate policy and regulation and the progress in technological innovation and efficiency. RCP8.5 assumes that several long-term trends reverse or change significantly, for this reason RCP8.5 is not considered a reasonable scenario.

[1] Probabilistic projections give a range of possible climate change outcomes and their relative likelihoods i.e. unlikely, likely or very likely ranging across 10th to 90th percentiles.

1.11 More information on the RCPs can be found in the UKCP18 Guidance: Representative Concentration Pathways[2].

Adopted Emissions Scenario: RCP6.0

1.12 RCP6.0 has been used in the climate projections presented in this technical note as it represents the most reasonable emissions scenario with regards to climate policy, land use, and technological development.

1.13 The Intergovernmental Panel on Climate Change (IPCC)[3] reports between 2.0 and 3.7°C increase in temperature by 2100 for RCP6.0. Considering that current climate policies indicate 3.4°C of warming by 2100[4], and global trends are moving towards better climate mitigation, policy and technology, this RCP has been identified as the most reasonable emission scenario for identifying future climate change projections.

[2] UKCP18 Guidance: Representative Concentration Pathways https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-guidance-rcp.pdf

[3] Intergovernmental Panel on Climate Change AR5 WG1 http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf

[4] CAT warming projections https://climateactiontracker.org/global/cat-thermometer/

TRIUM

2. Approach to Assessment

1.14 These steps provide a guide to assessing climate change within the EIA. More information and guidance can be found in references listed in appendix C.

Step 1: Define the Future Climate Condition

1.15 Within the ES chapter template, towards the end of the chapter you will see a section titled 'Climate Change'. Within this section of the chapter, firstly identify the climate variables that are relevant to your assessment. So, for example, the variables of relevance might be 'wind', 'temperature', 'humidity' etc.

1.16 The next stage is to determine how these variables change under the future climate scenario based on the information presented in appendix A. The future climate condition should be discussed in terms of the 50% probability level, but also acknowledge the predicted extremes at the 10% and 90% probability levels.

1.17 This stage defines the future climate condition that is relevant to your assessment.

Step 2: Define Receptor Vulnerability

1.18 Receptors that have been identified for inclusion within the technical assessment need to be considered in terms of their vulnerability[5] (i.e. susceptibility or resilience to change) to changes in the future climate. The vulnerability of the resource / receptors (including identifying individual receptors / sub-groups) should be defined using the definitions provided below.

1.19 Vulnerability of a receptor should generally be defined as follows and presented in tabular format:

- **High vulnerability**: the receptor is directly dependent on existing and/or prevailing climatic factors, and reliant on these specific existing climate conditions continuing in future (e.g. river flows and groundwater level); or only able to tolerate a very limited variation in climate conditions.
- **Moderate vulnerability**: the receptor is dependent on some climatic factors, but able to tolerate a range of conditions (e.g. a species which has a wide geographic range across the entire UK).
- **Low vulnerability**: climatic factors have little influence on receptors.

1.20 Table 1 provides an example of receptor sensitivity and vulnerability presented within a table.

[5] Please note that 'receptor sensitivity' is different to the consideration of 'vulnerability'. Reference to **sensitivity** of a resource / receptor in the EIA assessment reflects the receptor's **value** in terms of its quality or condition, and expresses its **proneness** to being potentially impacted through a change in the existing environment (i.e. existing climate conditions) in which is resides, as a result of the implementation of a Proposed Development.
Vulnerability is defined as a receptor's **susceptibility** or **resilience** to a change in climate (i.e. change in the existing environment).
By way of an example to highlight this difference, a highly sensitive receptor does not mean that it is highly vulnerable to climate change, while conversely a low sensitive receptor may be highly vulnerable to climate change.
Taking account of receptor vulnerability within the assessment requires consideration of whether climate change will alter the existing environment (i.e. existing climate conditions) within which the resource / receptor resides, and as a result, making a judgement as to whether climate change will alter the magnitude of the impact (defined under the current climate conditions) experienced by the resource / receptor (based on its vulnerability) because of the implementation of the Proposed Development.
The higher the vulnerability of an individual resource / receptor to climate change, the greater the change in the magnitude of the impact.
For example, climate change alters the environment and for a high vulnerability receptor, results in amplifying the impact (of the Proposed Development) experienced by the receptor.
Conversely, an individual resource / receptor with a greater resilience (low vulnerability) to changes in the existing climate conditions is not likely to experience a change in the impact experienced as a result of the Proposed Development (i.e. no change in the magnitude of impact).
Please also note that there may be instances when a broad description of a resource / receptor group may comprise of sub-groups which may vary in their vulnerability to climate change. Where relevant, individual resource / receptors may need to be identified and considered as part of the climate change assessment.

Table 1. Summary of Receptor Sensitivity and Vulnerability for Assessment

Resource / Receptor *(include as groups or as individual receptors as relevant)*	Sensitivity *(as per standard EIA criteria)*	Vulnerability *(as per the criteria cited above)*

Step 3: Magnitude of Impact, Nature and Scale of Effects and Effect Significance

1.21 Consider whether the magnitude of impact and resultant nature and scale of the effects of the Proposed Development (as defined earlier on in your chapter) during the operational phase will be worse or improved under the future climate conditions, and whether the changes alter the overall significance of effects identified for the Proposed Development, without climate change.

1.22 In most cases, there is likely to be an absence of published, accepted quantifiable methods for considering climate change effects for technical topics.

1.23 As such, this 'assessment' is likely to be qualitative and based on professional opinion which draws on the information available and acknowledges the level of uncertainty surrounding climate change projections.

1.24 Present your assessment as a narrative. Tables and supporting figures can be presented if helpful but are not essential. Appendix B gives examples of calculating the effect.

Step 4: Identify any Mitigation Needed

1.25 If you identify any adverse significant effects (as a result of the impact of climate change), you will then need to identify appropriate mitigation.

1.26 When considering the adoption of mitigation to address any significant effects arising from changes in climate, consideration should be given to when the mitigation might be most usefully implemented over the duration of the scheme.

1.27 Mitigation measures include identifying appropriate resilience and adaptive management measures.

1.28 Resilience measures include design features (e.g. habitable rooms within residential units located above the flood level which accounts for climate change) and construction materials (e.g. materials resistant to increases in temperature), to provide an appropriate resilience to changes in the existing climatic conditions, as well as occurrences of extreme weather.

1.29 Adaptive management measures allow for the uncertainty surrounding climate change and its impact to be accounted for. Consideration should be given as to whether there are opportunities to introduce mitigation measures later into the project when there is more certainty over future climate projections. These measures could be secured through a commitment to prepare a management plan / strategy (or equivalent) which would periodically review the need for such measures and their integration into the scheme if / when required.

1.30 Where mitigation is proposed, consideration of the effectiveness of the measures should be taken into account, with reference to the resulting magnitude of impact and the resulting residual effect and its significance.

TRIUM

3. The Future Climate Condition for EIA

1.31 A summary of the future climate projections based on RCP6.0 is presented in appendix A and described below for the climatic variables temperature, precipitation, and total cloud cover. Table 2 provides a breakdown of the data provided for each climatic variable in appendix A. UKCP18 data for wind is not yet available, so UKCP09 data has been presented.

Table 2. Climatic variables for which future climate projection data is provided

Climatic Variable	Climate Projection	Variable	Temporal Average
Temperature	**UKCP18 RCP6.0**	Mean	Annual
			Seasonal
		Mean Daily Max	Annual
			Seasonal
		Mean Daily Min	Annual
			Seasonal
Precipitation	**UKCP18 RCP6.0**	Mean	Annual
			Seasonal
Wind*	**UKCP09 A1B**	Mean	Annual
			Seasonal
Total Cloud	**UKCP18 RCP6.0**	Mean	Annual
			Seasonal

***Note**: UKCP18 probabilistic data for wind is not available, nor any RCP6.0 data for wind through alternative projections. For this reason, UKCP09 wind data has been presented for the A1B scenario, as it is comparable to RCP6.0.

Future London Climate Condition

1.32 The following description provides a high level overview of the future climate in London in 2100 under the UKCP18 using RCP6.0. Appendix A provides the data underlying this description.

Temperature[6]

1.33 Changes in temperature can have implications for the built and natural environment, built infrastructure, and human health. Increases in temperature can lead to impacts on human health, especially in urban areas such as London, where buildings can retain heat, leading to increased night-time temperatures. This is of particular interest when assessing developments within London, with its urbanised character and high population density.

1.34 The projected trends of climate changes in the 21st century indicate a move towards warmer, wetter winters and hotter, drier summers. Probabilistic projections show that there will be more warming in the summer than in the winter.

1.35 In summer, there is a pronounced north / south contrast when considering temperature changes, with greater increases in maximum summer temperatures over the southern UK compared to northern Scotland.

Precipitation[7]

1.36 Precipitation can have significant socioeconomic impacts on various timescales, and can have implications related to pluvial or surface flooding as surface run-off inundates the urban landscape. Flooding is one of the most socially and economically disruptive hazards within the UK, and has impacts on energy supply, transport and infrastructure.

[6] UKCP18 Factsheet: Temperature (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-temperature.pdf
[7] UKCP18 Factsheet: Precipitation (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-precipitation.pdf

1.37 Year to year, a high level of variability in precipitation has been observed, with a slight overall increase in UK winter precipitation over the last few decades.

1.38 Probabilistic projections show that while the probability of dry summers increases, the probability of wet summers reduces only slightly. Trends indicate drier summers, with reductions in rainfall largest in the south of England.

Wind [8]

1.39 Wind data is not available for RCP6.0, nor probabilistic projections for any of the RCP emissions scenarios. UKCP09 A1B data has been presented in appendix A.

1.40 UKCP18 guidance reports no significant trends in 'storminess', which is determined by maximum gust speeds, from the UK over the last four decades. Global projections over the UK suggest an increase in near surface wind speeds for the half of the 21st century during the winter. An increase in frequency of winter storms is also predicted. It should be noted that the increase in wind speed is modest compared to the variability observed.

Summary

1.41 This note provides a future climate condition for the technical assessment of the Proposed Development in relation to climate change. It has been developed to ensure consistency across the technical topics covered in the EIA.

1.42 The data provided within this technical note is up to date to 5th December 2018. It is acknowledged that more information will become available on the UKCP18 interface, and revision of this note shall be provided as appropriate.

[8] UKCP18 Factsheet: Wind https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-factsheet-wind.pdf

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Appendix A: Future Climate Projection Data

Table 3. UKCP18 Future Climate Projections: RCP6.0 Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Mean Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	1.51	2.94	4.53	11.96	13.39	14.98
Winter Average	0.91	2.48	4.2	5.53	7.10	8.82
Spring Average	0.75	2.13	3.52	9.94	11.32	12.71
Summer Average	1.48	3.9	6.43	18.16	20.58	23.11
Autumn Average	1.32	3.11	5.01	12.53	14.32	16.22
Maximum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	1.34	3.1	5	15.45	17.21	19.11
Winter Average	0.91	2.41	3.98	8.23	9.73	11.30
Spring Average	0.64	2.43	4.21	13.83	15.62	17.40
Summer Average	1.32	4.45	7.84	22.50	25.63	29.02
Autumn Average	0.85	3.21	5.89	15.69	18.05	20.73
Minimum Air Temperature	°C	°C	°C	°C	°C	°C
Annual Average	1.22	2.89	4.77	7.84	9.51	11.39
Winter Average	0.76	2.58	4.62	2.58	4.40	6.44
Spring Average	0.67	2.26	4.05	5.72	7.31	9.10
Summer Average	1.5	3.6	5.88	13.43	15.53	17.81
Autumn Average	1.03	3.19	5.53	8.60	10.76	13.10
Precipitation	%	%	%	mm / day	mm / day	mm / day
Annual Average	-6.21	-0.53	5.21	1.64	1.74	1.84
Winter Average	-2.51	16.23	36.76	1.69	2.02	2.37
Spring Average	-13.82	-5.95	2.61	1.41	1.54	1.68
Summer Average	-56.46	-26.31	5.52	0.74	1.26	1.80
Autumn Average	-1.97	6.69	15.83	1.88	2.04	2.22
Total Cloud Anomaly	%	%	%	(0-1)	(0-1)	(0-1)
Annual Average	-12.43	-6.22	0.04	0.60	0.64	0.68
Winter Average	-2.21	0.93	4.06	0.71	0.74	0.76
Spring Average	-11.24	-5.1	1.17	0.60	0.64	0.69
Summer Average	-32.67	-15.21	2.12	0.44	0.55	0.6
Autumn Average	-12.3	-5.25	1.31	0.58	0.63	0.67

Table 4. UKCP09 Future Climate Projections for Wind: A1B Emissions Scenario

Climate Variable	Predicted Change from Baseline 2080s			Absolute Values 2080s		
	10th Percentile	50th Percentile	90th Percentile	10th Percentile	50th Percentile	90th Percentile
Wind	n/a	M s-1[2]	n/a	n/a	n/a	n/a
Annual Average	n/a	-0.065	n/a	n/a	n/a	n/a
Winter Average	n/a	-0.052	n/a	n/a	n/a	n/a
Spring Average	n/a	-0.154	n/a	n/a	n/a	n/a
Summer Average	n/a	-0.01	n/a	n/a	n/a	n/a
Autumn Average	n/a	-0.044	n/a	n/a	n/a	n/a

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Appendix B: Examples of Defining Effect 'Scale within an EIA

Receptor Sensitivity	Magnitude of Impact			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

Example 1

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = Low
(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
Magnitude of Impact = Low
Resultant Effect = Moderate

Example 2

'Normal EIA'
Receptor A = High Sensitive
Magnitude of Impact = Low
Resultant Effect = Moderate

Climate Change
Receptor A = High Sensitive
Vulnerability = High
(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
Magnitude of Impact = High
(*qualitative judgement*)
Resultant Effect = Major

Example 3

'Normal EIA'
Receptor A = Low Sensitive
Magnitude of Impact = Low
Resultant Effect = Negligible

Climate Change
Receptor A = Low Sensitive
Vulnerability = Low
(*climate change has little influence on receptor as resilient to changes in existing environment / climate, so climate change unlikely to alter the magnitude of impact*)
Magnitude of Impact = Low
Resultant Effect = Negligible

Example 4

‘Normal EIA’	Climate Change
Receptor A = Low Sensitive	Receptor A = Low Sensitive
Magnitude of Impact = Low	Vulnerability = High
Resultant Effect = Negligible	(*receptor directly dependent on existing environment / climate, so change is likely to alter the magnitude of impact, i.e. change in the environment as a result of the Proposed Development)*
	Magnitude of Impact = High
	(*qualitative judgement*)
	Resultant Effect = Moderate

Appendix C: Policy and Guidance

Policy and Guidance

- EU Guidance on Integrating Climate Change and Biodiversity into the Environmental Impact Assessment (2013)[9]
- IEMA Environmental Impact Assessment Guide to Climate Change Resilience and Adaptation (Nov 2015)[10]
- UK Climate Change Risk Assessment Evidence Report (2017)[11]
- 2017 EIA Regulations[12]

[9] EU Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessments http://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf
[10] IEMA EIA Guide to Climate Change Resilience and Adaptation https://www.iema.net/assets/templates/documents/iema_guidance_documents_eia_climate_change_resilience_and_adaptation%20(1).pdf
[11] UK Climate Change Risk Assessment (2017) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/584281/uk-climate-change-risk-assess-2017.pdf
[12] EIA 2017 Regulations http://www.legislation.gov.uk/uksi/2017/571/introduction/made

APPENDIX B - Wind Microclimate Assessment Note and Figures

- Annex 1 – Updated EIA – Further Environmental Information – Cumulative Effects Assessment
- Annex 2 – Wind Tunnel Assessment Results (figures)
    - Figure A – Configuration 4: Proposed Development with Cumulative Surrounding Buildings (Windiest season) (Scenario B)
    - Figure B – Configuration 4: Proposed Development with Cumulative Surrounding Buildings (Summer season) (Scenario B)
    - Figure C – Configuration 5: Proposed Development with Cumulative Surrounding Buildings and Beckett House (Windiest season) (Scenario C)
    - Figure C – Configuration 5: Proposed Development with Cumulative Surrounding Buildings and Beckett House (Summer season) (Scenario C)

VINEGAR YARD

Annex 1 – Updated EIA – Further Environmental Information – Cumulative Effects Assessment

Wind Microclimate

Scenario A

1.248 In October 2018 wind tunnel testing was undertaken for the Proposed Development and the following 3 model configurations were tested within the wind tunnel and results presented in the 2018 ES:

- Configuration 1: Existing Site with the Existing Surrounding Buildings;
- Configuration 2: Proposed Development with the Existing Surrounding Buildings; and
- Configuration 3: Proposed Development with the Existing Surrounding Buildings and Committed Developments.

1.249 At the time of testing, Committed Developments within the 360m extents of the site were:

- Capital House, 40 – 46 Weston Street; and
- Guinness Court, Snowsfields.

1.250 Subsequent to the testing of the above configurations, a wind mitigation workshop was undertaken in November 2018 to develop and assess wind mitigation measures (i.e. landscaping) to improve wind conditions in and around the site. The application of the wind mitigation measures was applied to both Configurations 2 and 3, and the results (and residual effects) were presented within the 2018 ES.

Demolition and Construction

1.251 During the period of demolition and construction works at the site, the potential wind conditions would be expected to gradually adjust from those of the existing site to those of the completed Proposed Development.

1.252 It was considered that the Committed Developments would not likely to have a material impact on the wind microclimate at the site given the relative distance and location (in a non-prevailing wind direction) between the developments.

1.253 It was concluded that the wind conditions during the demolition and construction works at the site and surrounding area would represent a likely negligible effect (not significant).

Completed Development

Initial Testing

1.254 Wind conditions were initially assessed and presented in the 2018 ES devoid of landscaping in order to assess a worst-case (i.e. windy) scenario.

1.255 The results identified conditions during the windiest season being windier than in Baseline Condition (Configuration 1), ranging from suitable for sitting use to strolling use at ground floor level during the windiest season.

1.256 During the summer season, wind conditions at ground floor level would range from suitable for sitting to strolling use. At roof terrace level conditions would range from suitable for sitting to standing use.

1.257 Areas identified that required mitigation included:

- On-Site Entrances: at the north-western corner and on the western elevations of the Proposed Development (minor adverse);
- Off-Site Entrances: to the north of the site, the entrance to an existing railway vault unit on St. Thomas Street (minor adverse);
- Off-site public amenity space to the west of the site bound by Fenning Street and Melior Street (minor adverse);
- Occurrence of strong winds occurring at
  - the southern portion of the site, at the corner of Fenning Street and Melior Street),
  - the western side of the Main Building; and
  - at corner of Fenning Street and St Thomas Street.

1.258 All other areas both on and off-site recorded microclimate conditions that were considered either suitable for the intended use (negligible) or an improvement (minor to moderate beneficial).

Testing – Wind Mitigation

1.259 Wind conditions at the site during the windiest season, accounting for landscaping and wind mitigation measures in the context of the cumulative assessment, would range from suitable for sitting to strolling use during the windiest season. During the summer season wind conditions at ground floor level would range from suitable for sitting to standing use.

1.260 Overall, the effectiveness of the provision of landscaping and mitigation would result in conditions across the site and surrounding area being suitable for the target condition (negligible effect (not significant)), with instances of calmer conditions (minor beneficial), at on-site entrances, road crossings, and on-site roadway.

1.261 There would be no instances of winds exceeding 15m/s for more than 0.025% of the time (approximately two hours per year).

Scenario B

1.262 Under Scenario B, consideration of the potential impacts in connection with the below schemes, which are within the 360m radius of the wind tunnel model, has been made in addition to those considered under Scenario A. Schemes outside this radius would not be expected to substantially change wind conditions beyond that of the surrounding development.

Sellar

1.263 The Sellar scheme proposes the erection of 2no. new buildings of ground floor and up to part-4 and part 9 storeys and ground floor and 16 storeys.

Capital House

1.264 The site upon which the current application is proposed is also subject of an extant planning permission, for a scheme known as 'The Quill', which is for the erection of a 21 and 31 storey building. This scheme was accounted for within the cumulative assessment for the 2018 ES.

1.265 The new application for the Capital House scheme alternatively proposes a 45-storey building, incorporating 1,028 student units (sui generis) together with a museum (Use Class D1) of up to 1,589 sqm floorspace (GIA).

New City Court

1.266 The New City Court scheme proposes a 37-storey building (including ground, mezzanine and two storeys of plant at roof level) extending to 144m AOD, providing office and retail floorspace.

1.267 The scheme is located beyond 360m from the site and so has not been accounted for within the assessment.

2-4 Melior Place

The Melior Court scheme proposes a 7-storey mixed use building containing 8 residential units and a commercial art gallery (116 sqm) at ground floor (use class A1).

Cumulative Assessment

Approach

Under Scenario B, wind conditions at the Proposed Development have been assessed in the context

of the proposed landscaping scheme, wind mitigation measures and the above schemes in addition to cumulative schemes included within the 2018 ES using wind tunnel testing methods as discussed in Chapter 10: Wind Microclimate (Volume 1) of the 2018 ES.

Landscaping and wind mitigation measures for the Proposed Development, as detailed in 'Mitigation and Monitoring' section of Chapter 10: Wind Microclimate (Volume 1) of the 2018 ES, have been included at the site to assess the effectiveness of these measures at improving wind conditions at the Proposed Development in the context of the surrounding cumulative schemes. Ground level landscaping and wind mitigation measures for the surrounding cumulative schemes has not been included on the wind tunnel model (representing a 'worst case' scenario).

Demolition and Construction

During the period of demolition and construction works at the site, the potential wind conditions would be expected to gradually adjust from those of the existing site to those of the completed Proposed Development.

Due to the relative distance and location (in a non-prevailing wind direction) between the other developments accounted for as part of Scenario B, these schemes are not considered likely to substantially change the wind microclimate in and around the site. While wind conditions during construction would be expected to be suitable at the site, the potential off-site wind conditions likely along thoroughfares (suitable for walking use) and at entrance locations (suitable for strolling use) during the windiest season would represent a minor adverse (significant) effect.

Instances of strong winds causing distress to pedestrians, has the potential to occur in areas with wind conditions suitable for walking use.

Completed Development

Wind conditions in and around the site under the cumulative assessment Scenario B, would range from suitable for sitting to strolling use during the windiest season (refer Figure A). During the summer season (Figure B), wind conditions would range from suitable for sitting to standing use with sitting use conditions at roof terrace levels.

Pedestrian Comfort

Thoroughfares

Wind conditions on both on- and off-site thoroughfares would be suitable from strolling use or calmer (negligible (not significant)) during the windiest season (Figure A). Strolling use conditions would be acceptable for pedestrian thoroughfares and therefore suitable for the intended pedestrian use. These wind conditions would represent a likely **negligible** effect (not significant).

Entrances

Entrances to the Proposed Development would have wind conditions during the windiest season (Figure A) suitable for strolling use (one category windier than suitable – **minor adverse** (significant)) in the following area:

- at entrances on the eastern elevation of the site (measurement location 80);

Remaining entrances to the Proposed Development would have conditions suitable for standing or sitting use (acceptable or one category calmer than required – **negligible** to **minor beneficial** (not significant)).

Off-site entrances would have wind conditions suitable for strolling use (one category windier than suitable – **minor adverse** (significant)) during the windiest season in the following area:

- Entrances to the units at the railway arches along the northern side of St Thomas Street (measurement location 16).

Wind conditions at remaining off-site entrance locations would be suitable for standing use or calmer (acceptable for the intended use – **negligible** (not significant)) during the windiest season (Figure A).

Ground Floor Amenity Space

Wind conditions in the public square between the Main Building and the Pavilion would be suitable for standing use during the summer season (Figure B). Standing use conditions would be one category windier than suitable (**minor adverse** (significant)) should seating provision be provided within the area. As the intended use of this space will be as a market and events space (standing use conditions would be required for the intended use as a market and events space), wind conditions suitable for standing use would be acceptable (**negligible** (not significant)) during the summer season.

Existing spill out seating to the east of the site on the eastern side of Snowsfields (measurement location 37) would be one category windier than in the baseline scenario, being suitable for standing use (one category windier than suitable – **minor adverse** (significant)) during the summer season.

Off-site amenity spaces to the west of the site (area bound by Fenning Street and Melior Street) and in the beer garden of the Horseshoe Bar, to the south of the site, would have conditions suitable for sitting use during the summer season (Figure B), similar conditions to those in the baseline scenario (**negligible** (not significant)).

Roof Terrace Amenity Space

Wind conditions at roof terrace level would be suitable for sitting use during the summer season (Figure B), acceptable conditions for the intended occupant use, and would therefore represent a **negligible** (not significant) effect.

Strong Winds

Winds exceeding 15m/s for more than 0.025% of the time (approximately two hours per year) would have the potential to be a safety concern for cyclists and more vulnerable pedestrians. Instances of strong winds would occur at the following areas:

- On Snowsfields (measurement location 39), to the south of the site, and
- In the public square between the main building and the pavilion (measurement location 82).

There is the potential for strong winds on Snowsfields to the south due to the presence of the Sellar scheme (*note - mitigation measures related to the Sellar scheme have not been applied for this assessment – worst case*) introduced as part of Scenario B, and not due to the presence of the Proposed Development – this is deduced from the results of the main assessment within ES Chapter 10 – Wind Microclimate (Volume 1) and cumulative assessment Scenario A (i.e. no occurrence of strong winds in these areas).

Strong winds at location 82 may also occur, for the same reasons, in the public square between the Main Building and the Pavilion. The application of wind mitigation measures (i.e. Sellar scheme), as discussed above, would be expected to reduce the occurrence of these strong winds.

Scenario C

Under Scenario C, consideration of the potential impacts in connection with the below schemes has been made in addition to those considered under Scenario B.

Threadneedle

The scheme proposes new buildings which will comprise a seven storey above ground across the width of the northern part of the site, with a 24 storey above ground towards the north east of the Site. The proposed height is approximately 105m AOD.

Cumulative Assessment

Approach

Wind conditions at the site under Scenario C have been using wind tunnel testing methods as discussed in Chapter 10: Wind Microclimate (Volume 1) of the 2018 ES. To avoid repetition, the same approach adopted for Scenario B has been also been adopted for Scenario C, which now also takes into consideration the massing and layout proposed by the Threadneedle scheme (as for the other cumulative schemes – no landscaping or wind mitigation assumed).

Demolition and Construction

During the period of demolition and construction works at the site, the potential wind conditions would be expected to gradually adjust from those of the existing site to those of the completed Proposed Development.

Due to the relative distance and location (in a non-prevailing wind direction) between the other developments accounted for as part of Scenario C, these schemes are not considered likely to substantially change the wind microclimate at the site. While wind conditions during construction would be expected to be suitable at the site, the potential off-site wind conditions likely along thoroughfares (suitable for walking use) and at entrance locations (suitable for strolling use) during the windiest season would represent a minor adverse (significant) effect.

Instances of strong winds causing distress to pedestrians, has the potential to occur in areas with wind conditions suitable for walking use.

Completed Development

Wind conditions in and around the site under the cumulative assessment Scenario C, would range from suitable for sitting to strolling use during the windiest season (refer Figure C). During the summer season (Figure D), wind conditions would range from suitable for sitting to standing use with sitting use conditions at roof terrace levels.

Pedestrian Comfort

Thoroughfares

Wind conditions at the south-eastern corner of Beckett House (measurement location 64) would have uncomfortable conditions during the windiest season (Figure C). Uncomfortable conditions would be two categories windier than suitable for a thoroughfare location (**moderate adverse** (significant)).

Wind conditions on the Fenning Street (measurement location 122) and the Snowsfields (measurement location 39) carriageways would be suitable for walking use during the windiest season (Figure C). These wind conditions would be acceptable as pedestrians would not be expected to linger in these areas. Remaining thoroughfares through and surrounding the site would have conditions suitable for strolling use or calmer during the windiest season, acceptable conditions for pedestrian thoroughfares (**negligible** (not significant)).

Entrances

Entrances to the site would have wind conditions during the windiest season (Figure C) suitable for strolling use (one category windier than suitable – **minor adverse** (significant)) in the following area:

- south-eastern elevation (measurement location 80).

Remaining entrances to the site would have conditions suitable for standing or sitting use (acceptable or one category calmer than required – **negligible** to **minor beneficial** (not significant)).

Off-site entrances would have wind conditions suitable for strolling use (one category windier than suitable – **minor adverse** (significant)) during the windiest season in the following areas:

- Entrances to units at the railway arches along the northern side of St Thomas Street (measurement locations 9 and 16).

Wind conditions at remaining off-site entrance locations would be suitable for standing use or calmer (acceptable for the intended use – **negligible** (not significant)) during the windiest season (Figure C).

Ground Floor Amenity Space

Wind conditions in the public square between the Main Building and the Pavilion would be suitable for standing use during the summer season (Figure D). Standing use conditions would be one category windier than suitable (**minor adverse** (significant)) should seating provision be provided within the area. As the intended use of this space will be as a market and events space (standing use conditions would be required for the intended use as a market and events space), wind conditions suitable for standing use would be acceptable (**negligible** (not significant)) during the summer season.

Existing spill out seating to the east of the site on the eastern side of Snowsfields (measurement location 37) would be one category windier than in the baseline scenario, being suitable for standing use (one category windier than suitable – **minor adverse** (significant)) during the summer season.

Off-site amenity space in the beer garden of the Horseshoe Bar, to the south of the site, would have conditions suitable for sitting use during the summer season (Figure D), similar conditions to those in the baseline scenario (**negligible** (not significant)).

Roof Terrace Amenity Space

Wind conditions at roof terrace level would be suitable for sitting use during the summer season (Figure D), acceptable conditions for the intended occupant use, and would therefore represent a **negligible** (not significant) effect.

Strong Winds

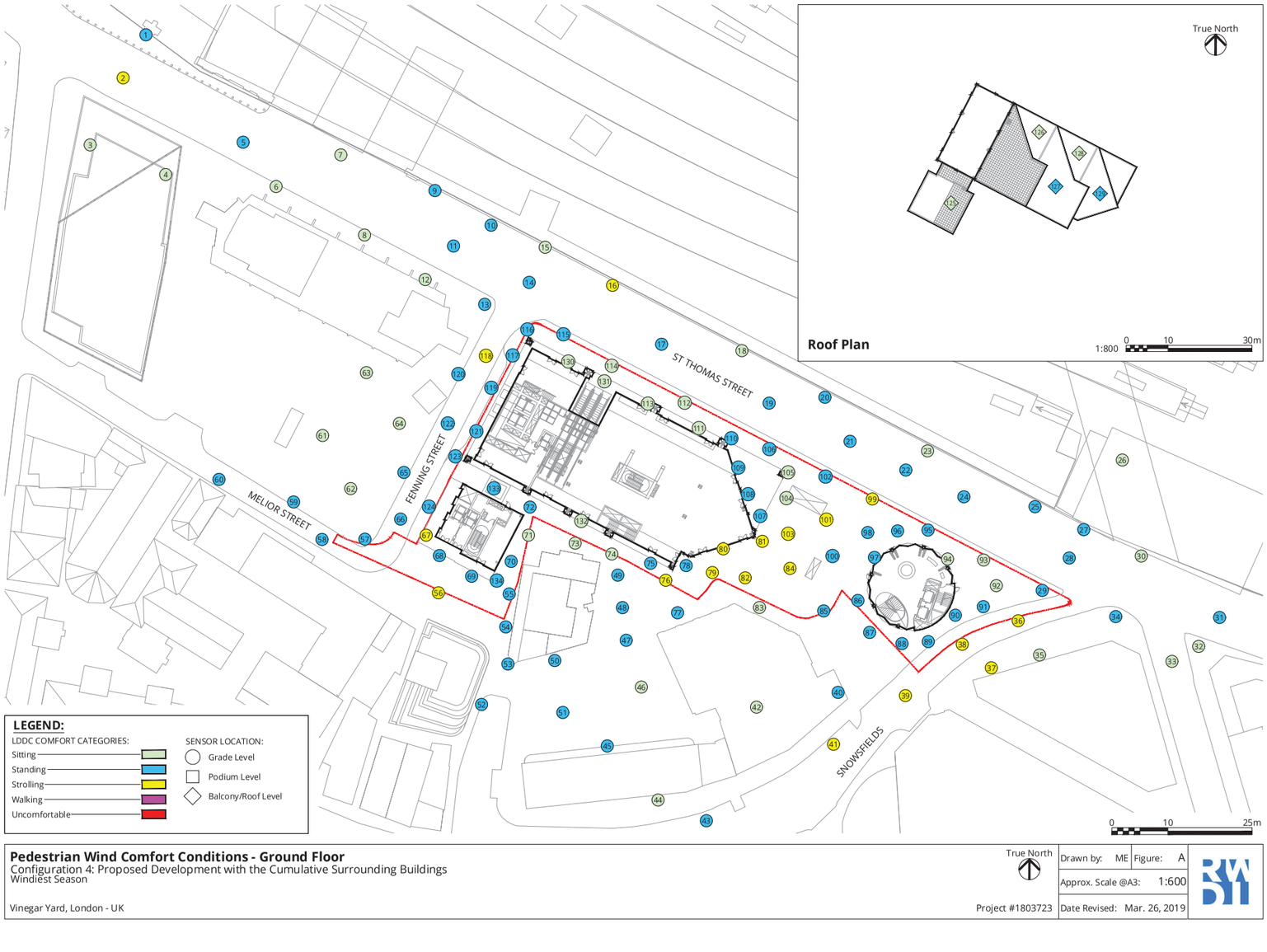
Winds exceeding 15m/s for more than 0.025% of the time (approximately two hours per year) would have the potential to be a safety concern for cyclists and more vulnerable pedestrians. Instances of strong winds would occur at the following areas:

- On Snowsfields (measurement location 39), to the south of the site,
- On Fenning Street, to the west of the Proposed Development (measurement locations 118, 119 and 122;
- At the south-eastern corner of the Threadneedle scheme (measurement location 64);
- Entrances to units at the railway arches along the northern side of St Thomas Street (measurement location 9);
- On the pedestrian route from Fenning Street to the public square (measurement location 79); and
- in the public square between the Main Building and the Pavilion (measurement location 82).

There is the potential for the occurrence of strong winds on Snowsfields – as for Scenario B.

The results on St Thomas Street and at the south-eastern corner of the Threadneedle scheme would be expected as a result of the additional massing (and worst case, with no landscaping or mitigation for other schemes accounted for), and it is considered that these conditions would be expected in the absence of the Proposed Development. The potential for strong winds on Fenning Street and in the public square between the main building and the pavilion of the Proposed Development would be anticipated under this cumulative scenario. The application of landscaping / wind mitigation measures (i.e. to the other development schemes), as discussed above, would be expected to reduce the occurrence of these strong winds.

Annex 2 – Wind Tunnel Assessment Results (Figures)



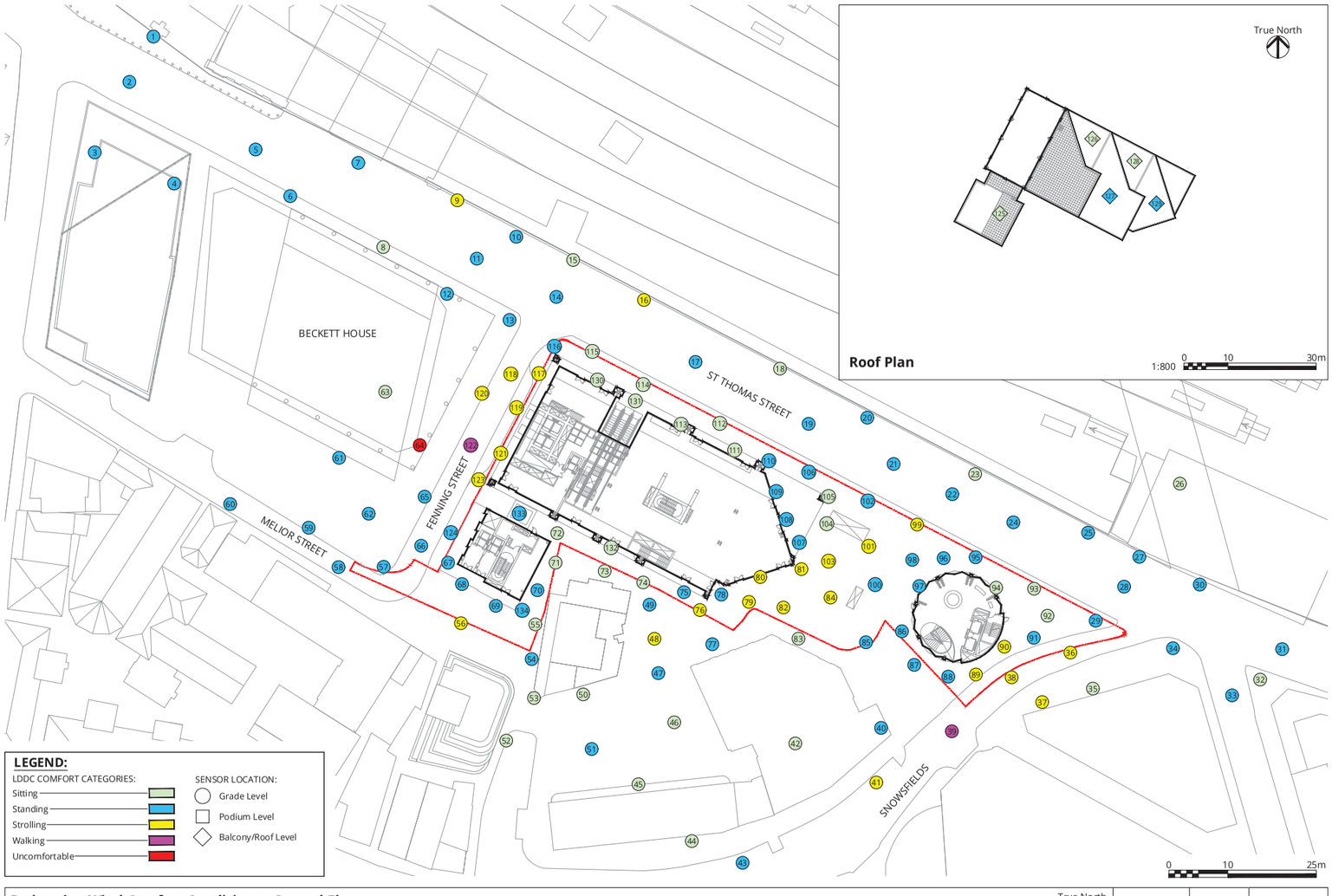
Pedestrian Wind Comfort Conditions - Ground Floor
Configuration 4: Proposed Development with the Cumulative Surrounding Buildings
Windiest Season

Vinegar Yard, London - UK

True North

Project #1803723

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Approx. Scale @A3:	1:600		
Date Revised:	Mar. 26, 2019		



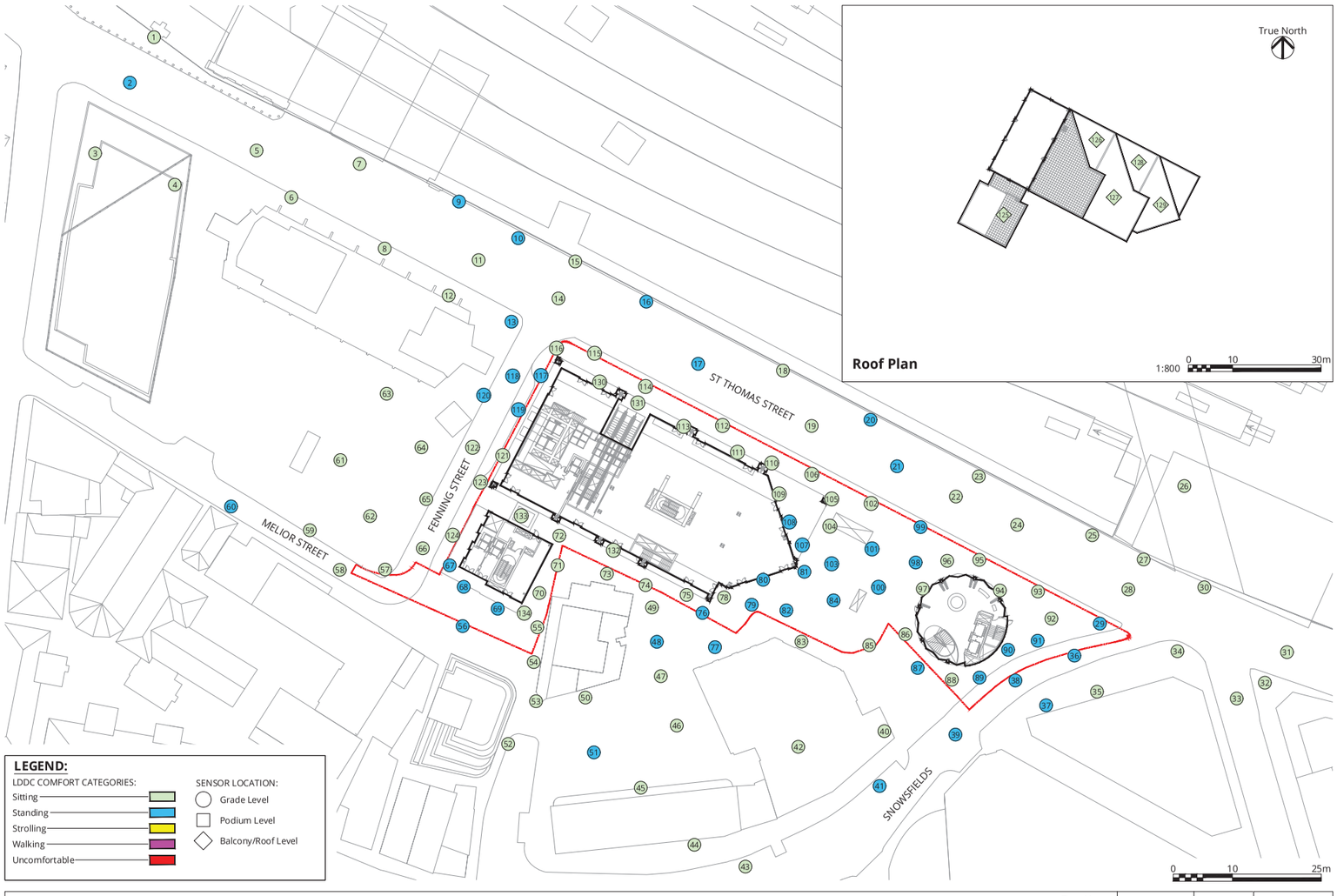
Pedestrian Wind Comfort Conditions - Ground Floor
Configuration 5: Proposed Development with the Cumulative Surrounding Buildings and Beckett House
Windiest Season

Vinegar Yard, London - UK

True North

Project #1803723

Drawn by:	ME	Figure:	C
Approx. Scale @A3:	1:600		
Date Revised:	Mar. 26, 2019		



Pedestrian Wind Comfort Conditions - Ground Floor
Configuration 4: Proposed Development with the Cumulative Surrounding Buildings
Summer Season

Vinegar Yard, London - UK

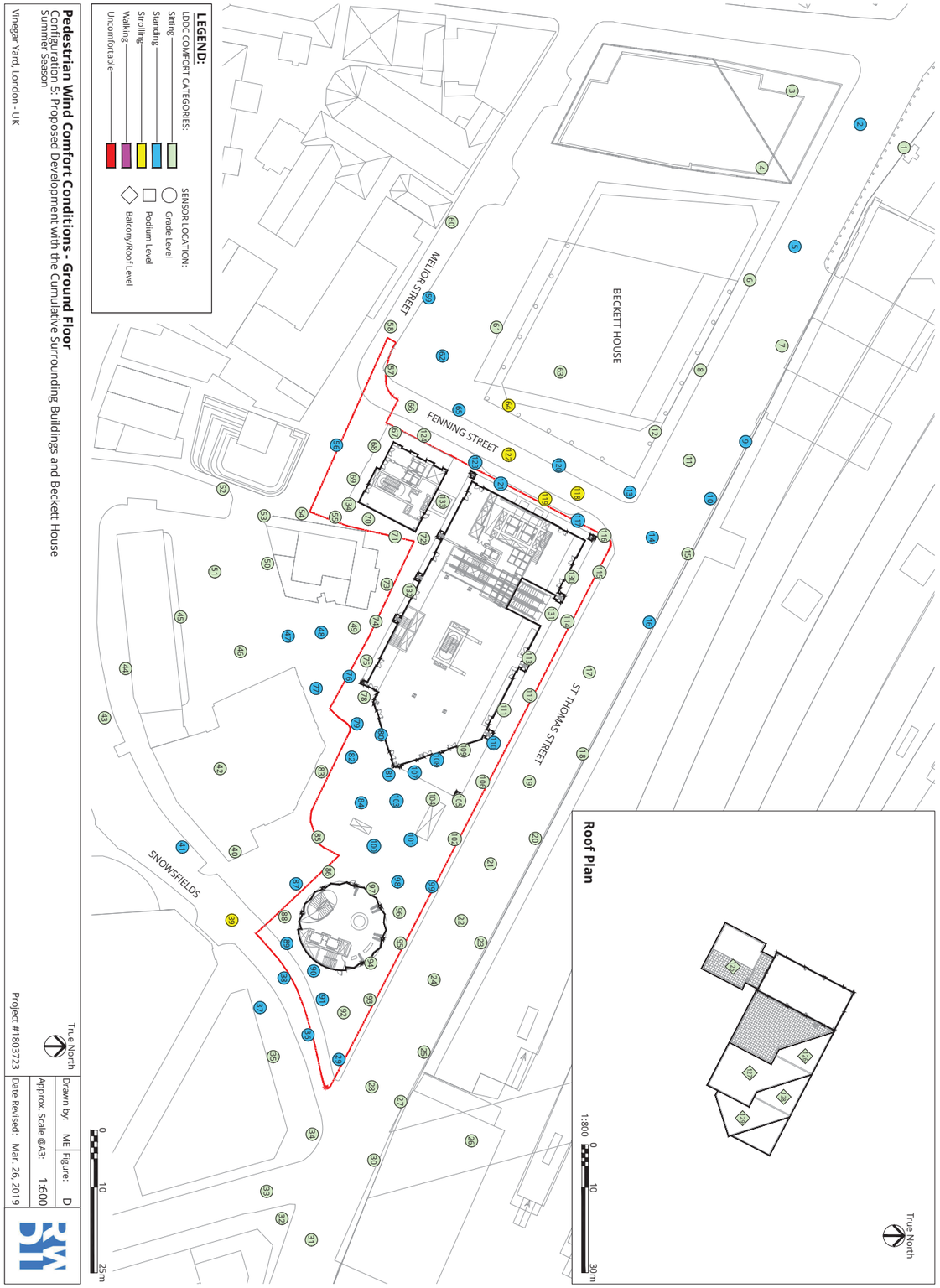
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Project #1803723

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Date Revised:	Mar. 26, 2019		

APPENDIX C – Daylight and Sunlight – Window Maps

- Annex 1 – Window Maps



Pedestrian Wind Comfort Conditions - Ground Floor
Configuration 5: Proposed Development with the Cumulative Surrounding Buildings and Beckett House
Summer Season

Vinegar Yard, London - UK

True North	
Drawn by:	ME
Figure:	D
Approx. Scale @A3:	1:600
Date Revised:	Mar. 26, 2019
Project #1803723	

1 MELIOR PLACE



1 MELIOR PLACE



1-15 GUINNESS COURT



1-15 GUINNESS COURT



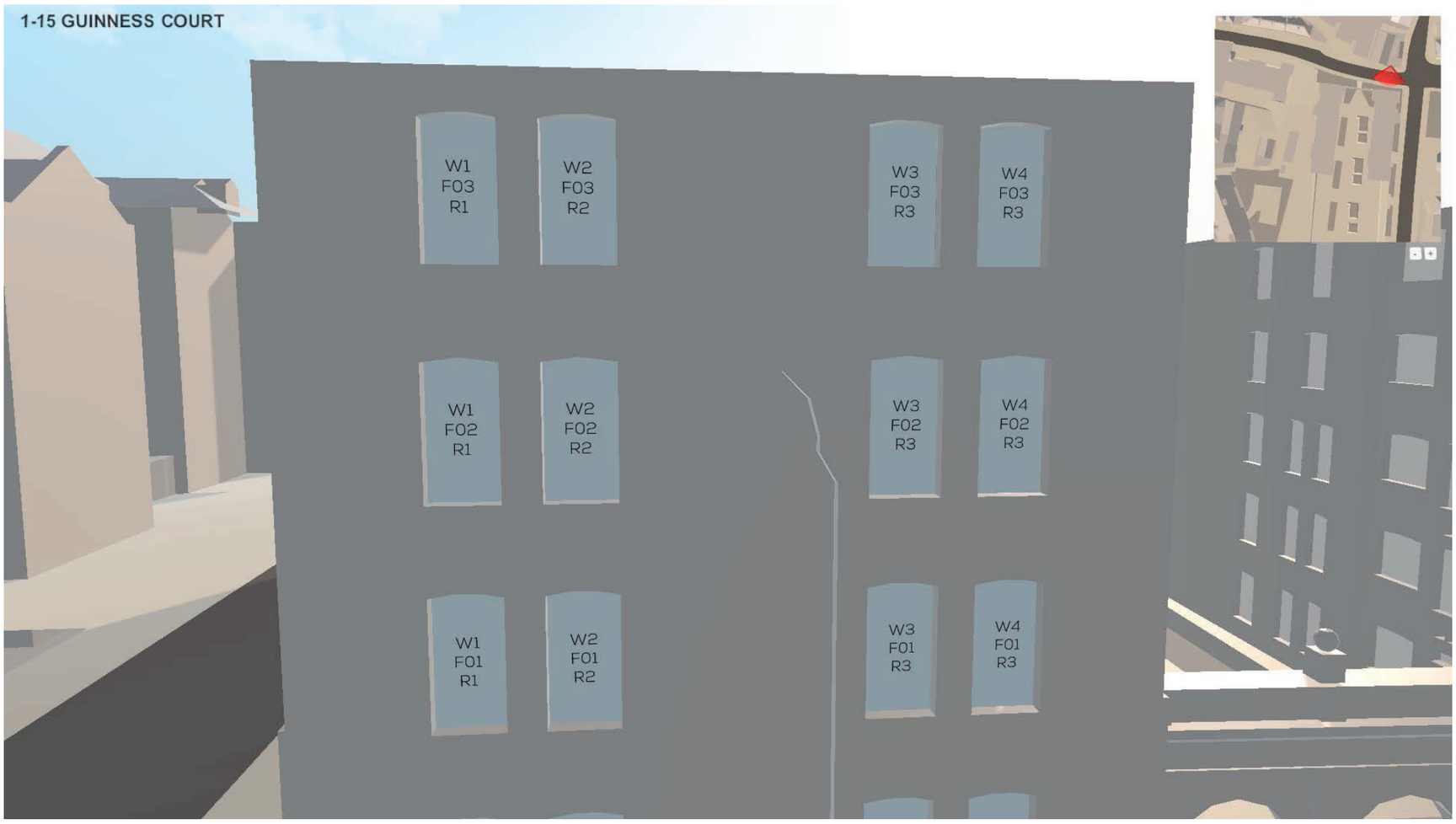
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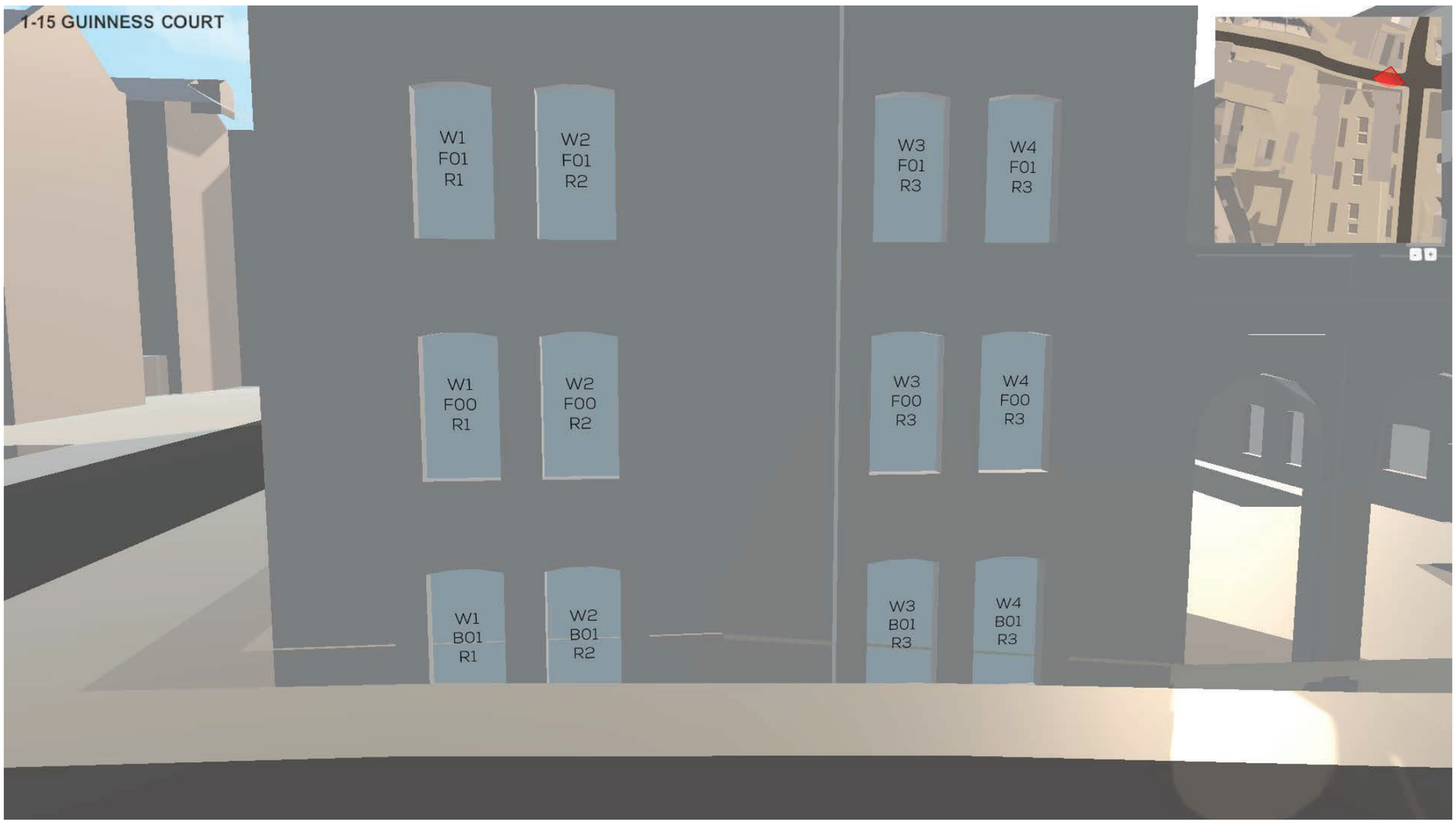
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1-15 GUINNESS COURT



1-15 GUINNESS COURT



3-5 HARDWIDGE STREET



3-5 HARDWIDGE STREET

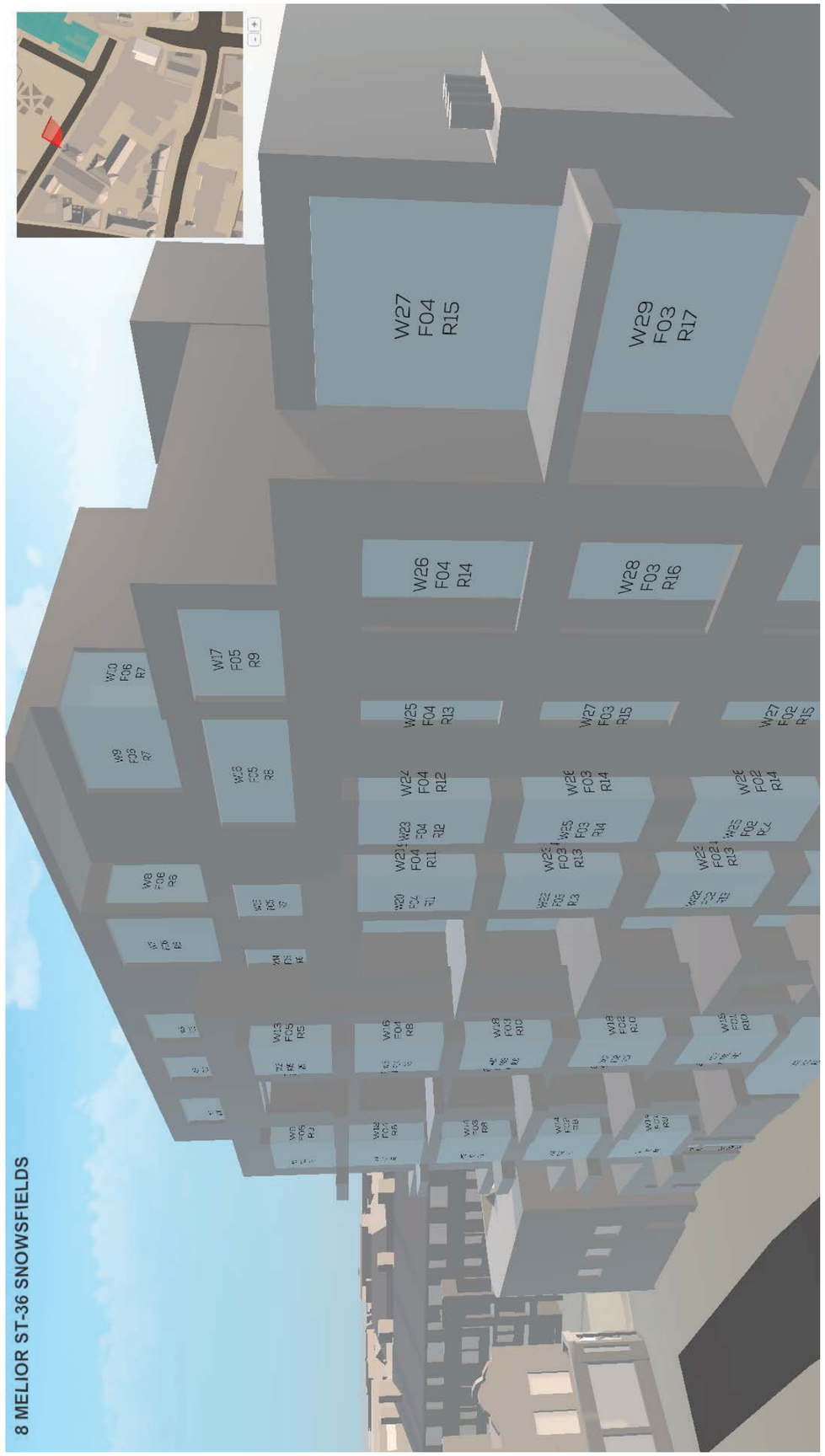


3-5 HARDWIDGE STREET



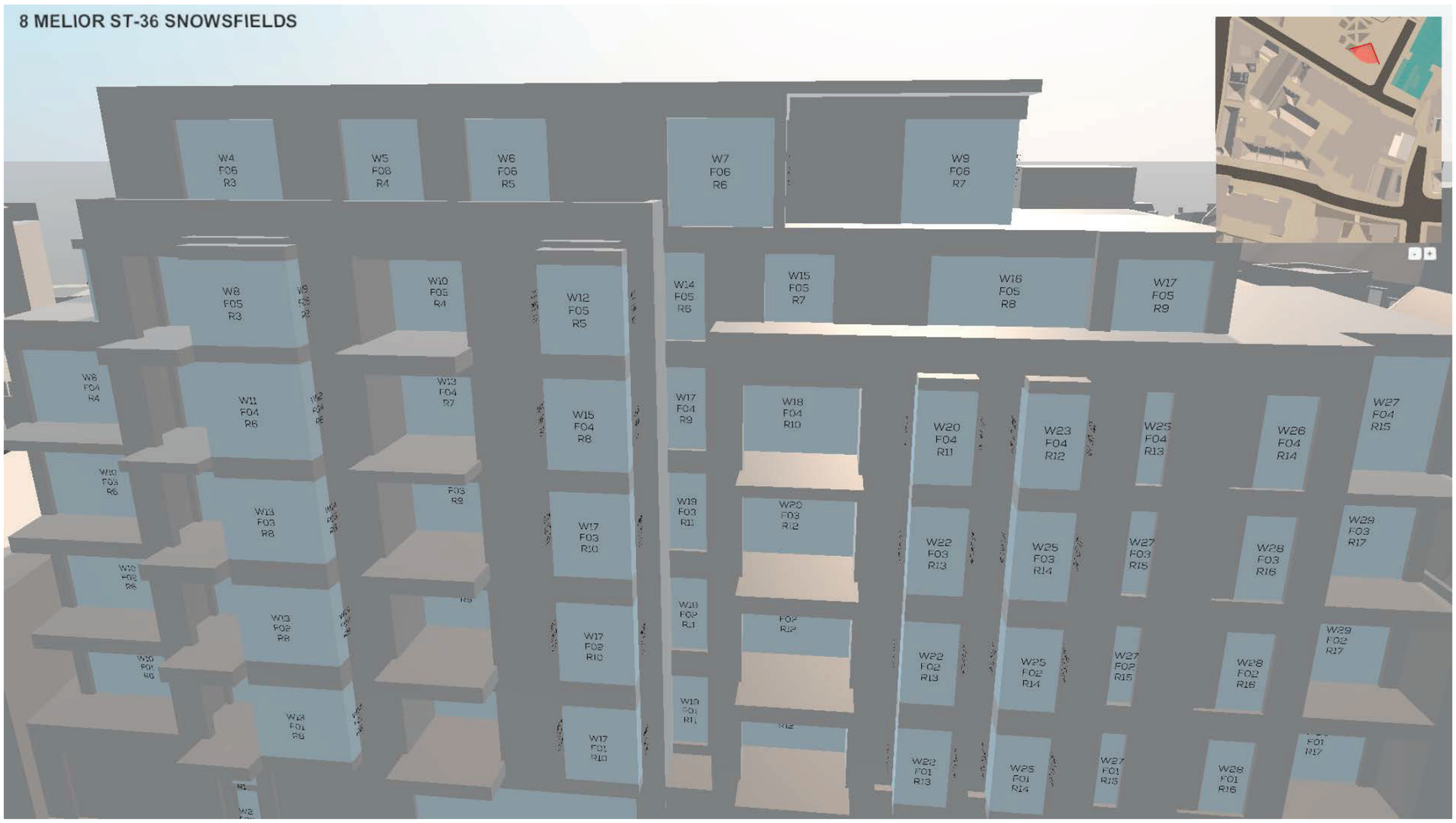
3-5 HARDWIDGE STREET



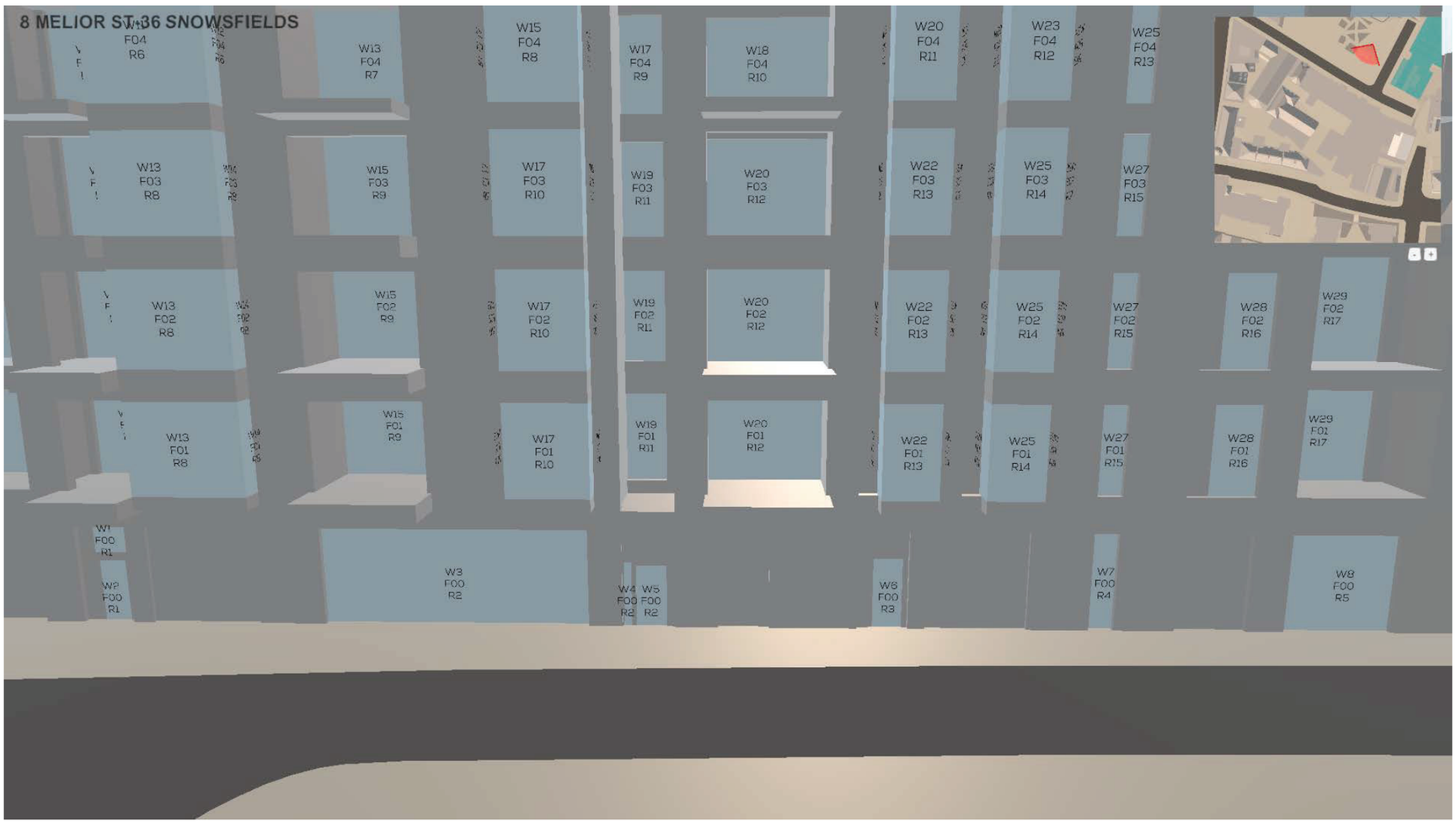

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8 MELIOR ST-36 SNOWSFIELDS

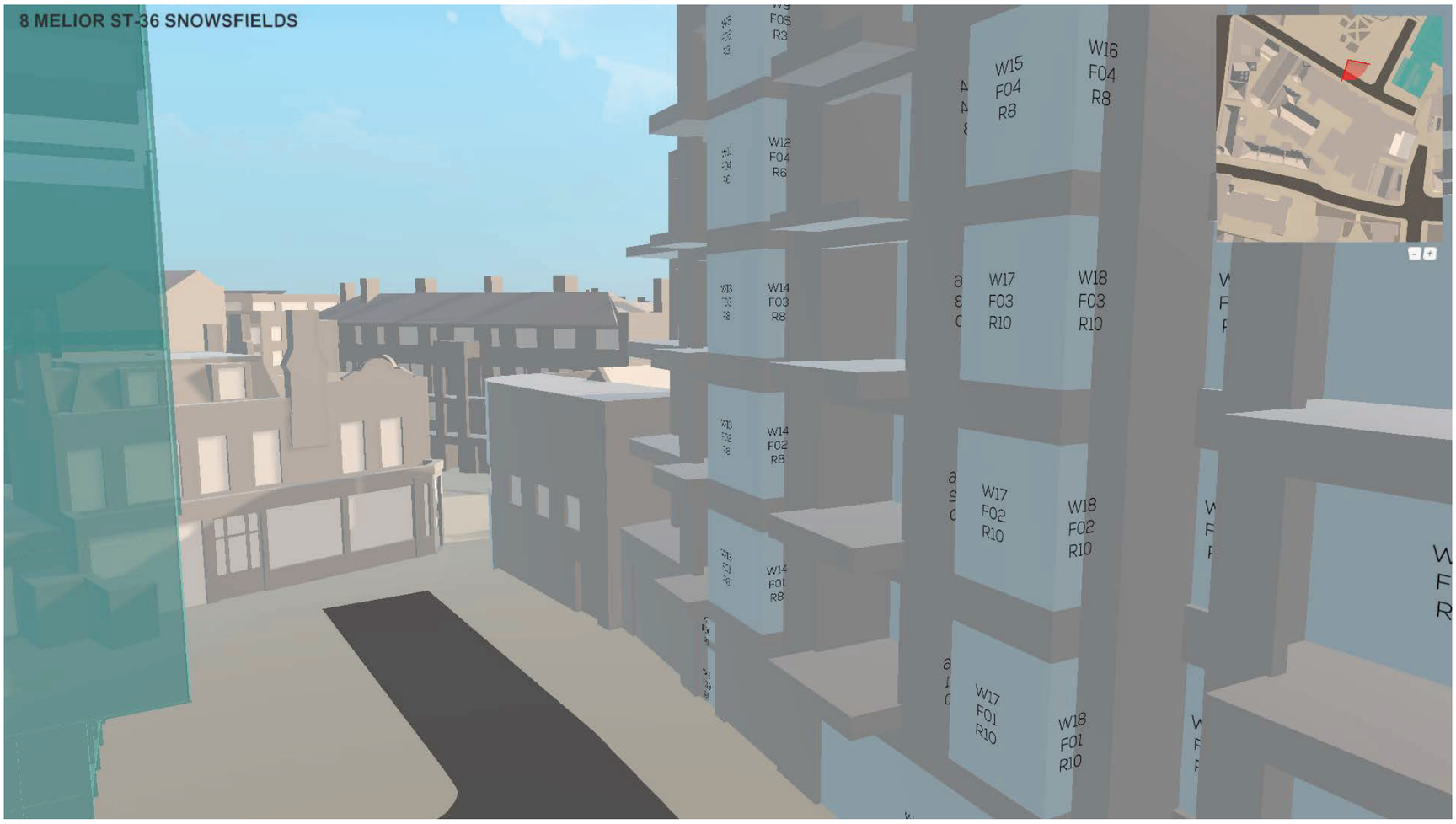

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8 MELIOR ST-36 SNOWSFIELDS

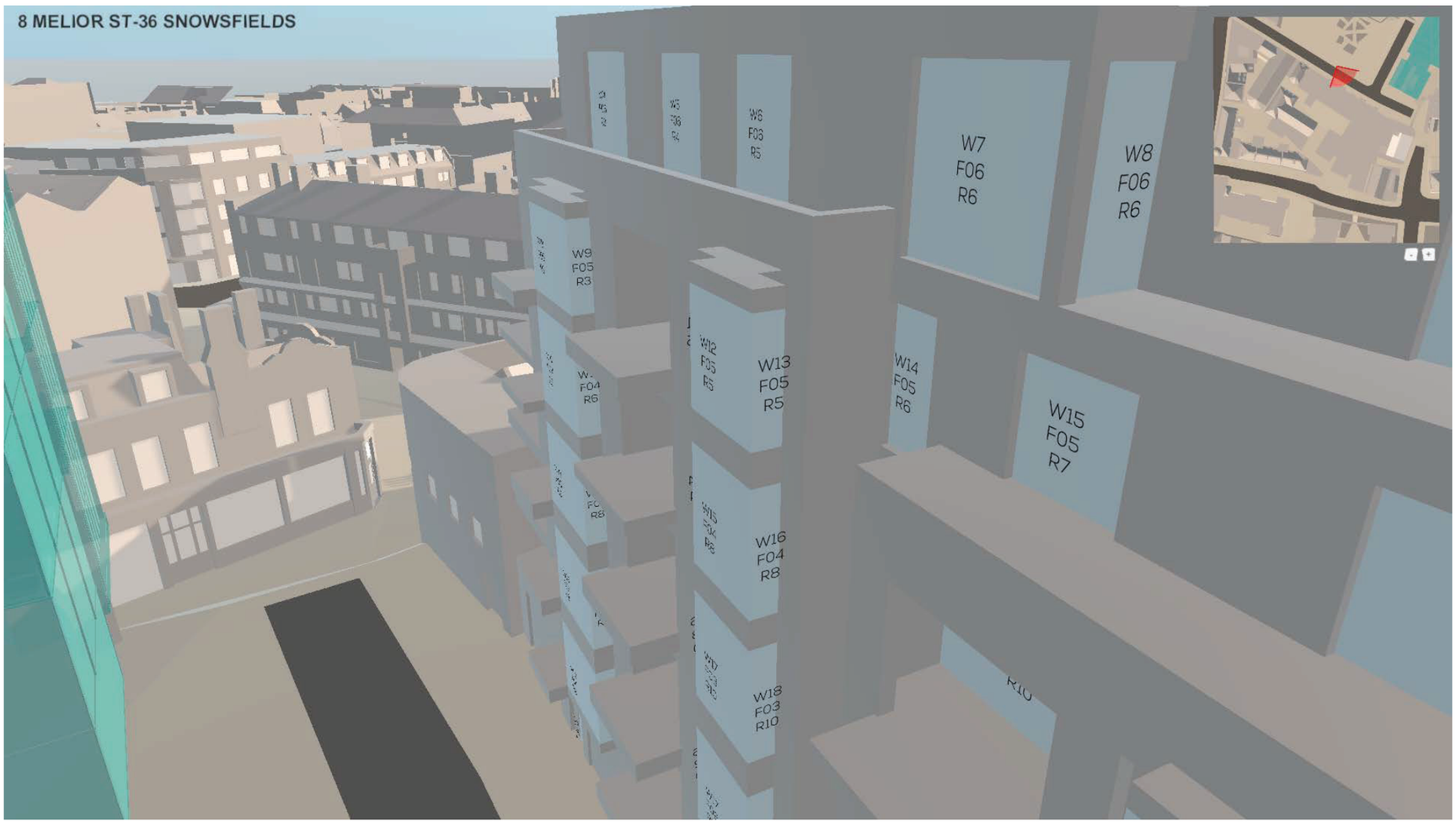
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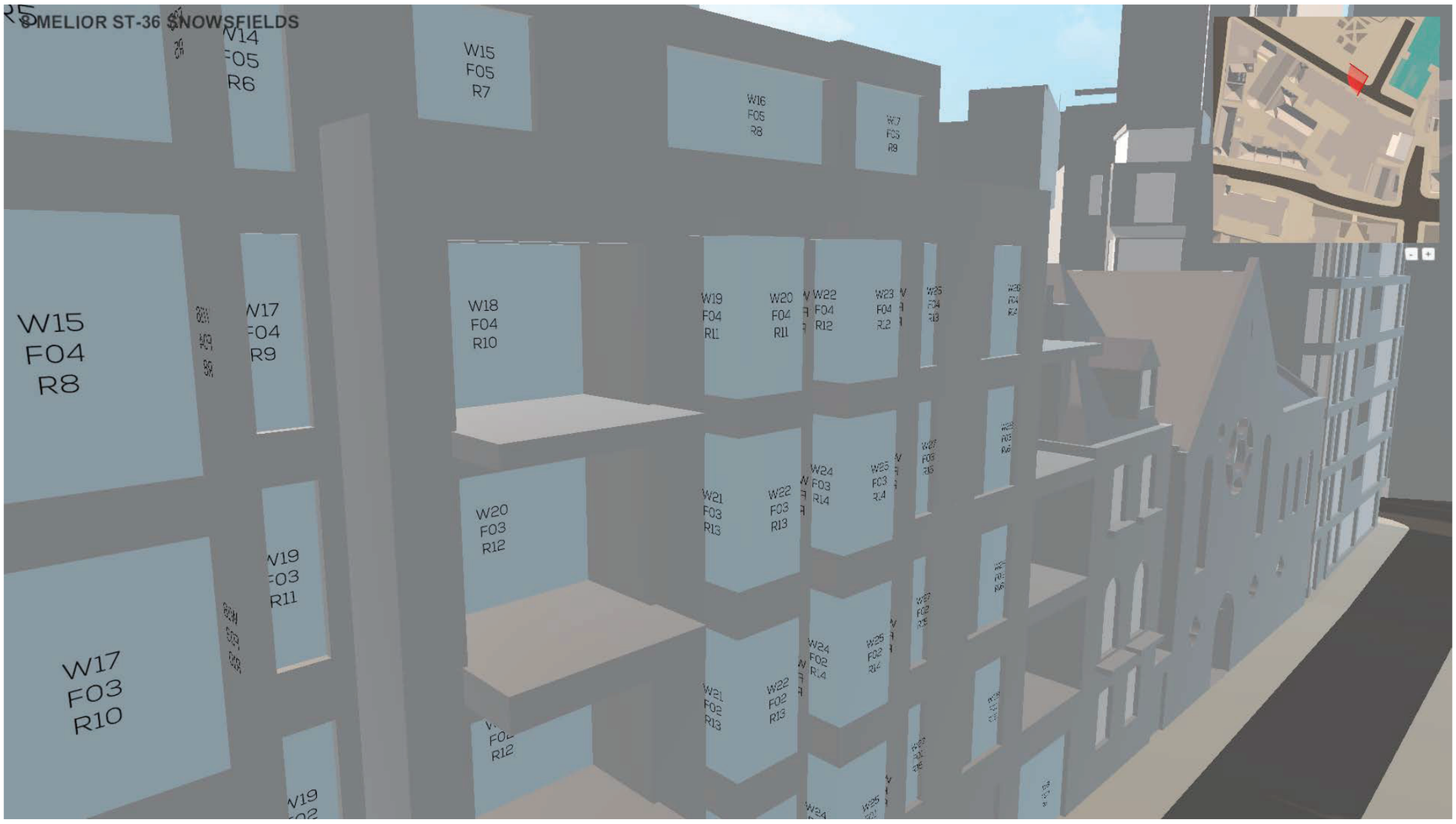


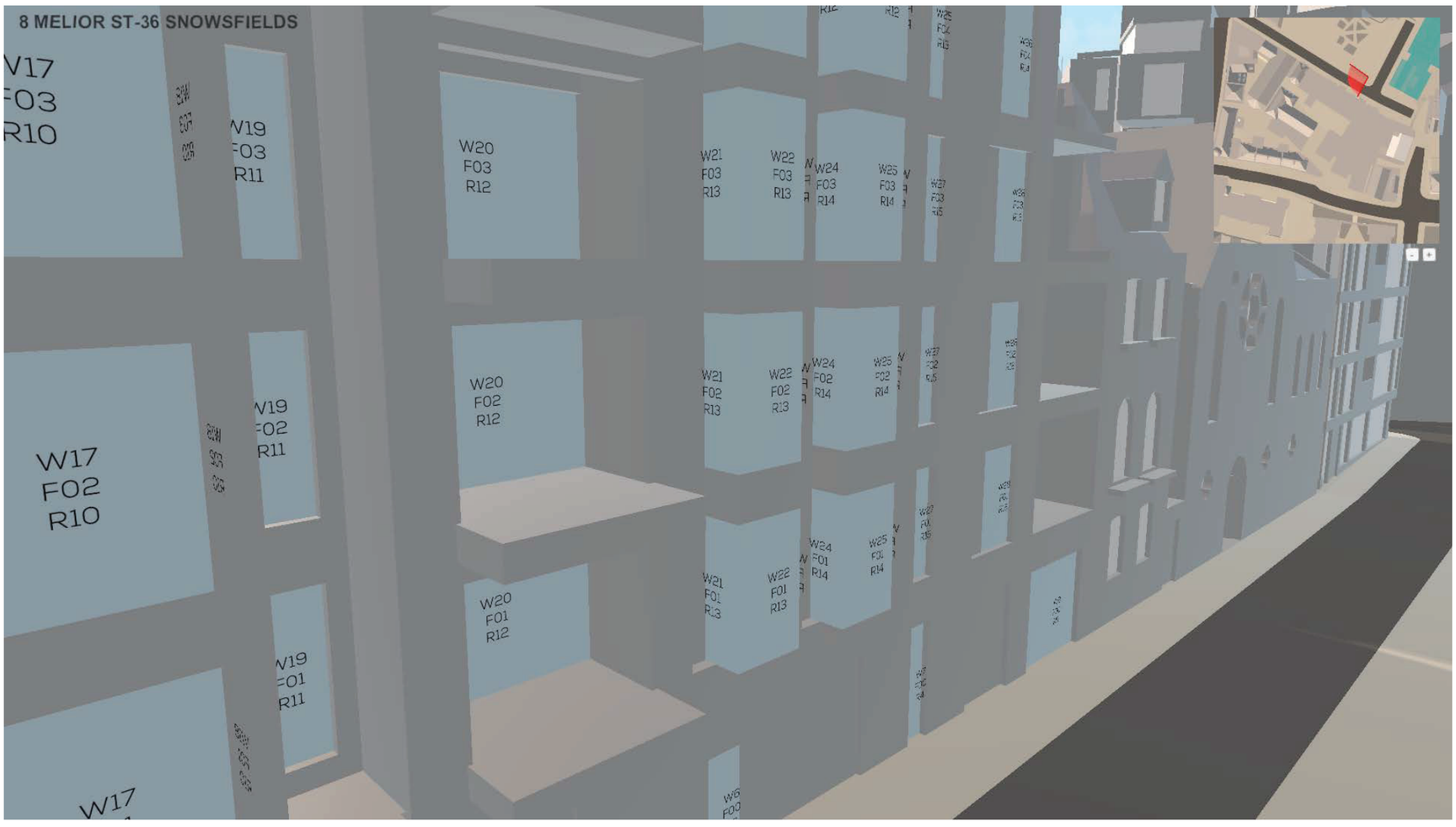
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8 MELIOR ST-36 SNOWSFIELDS
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8 MELIOR ST-36 SNOWSFIELDS
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8 MELIOR ST-36 SNOWSFIELDS
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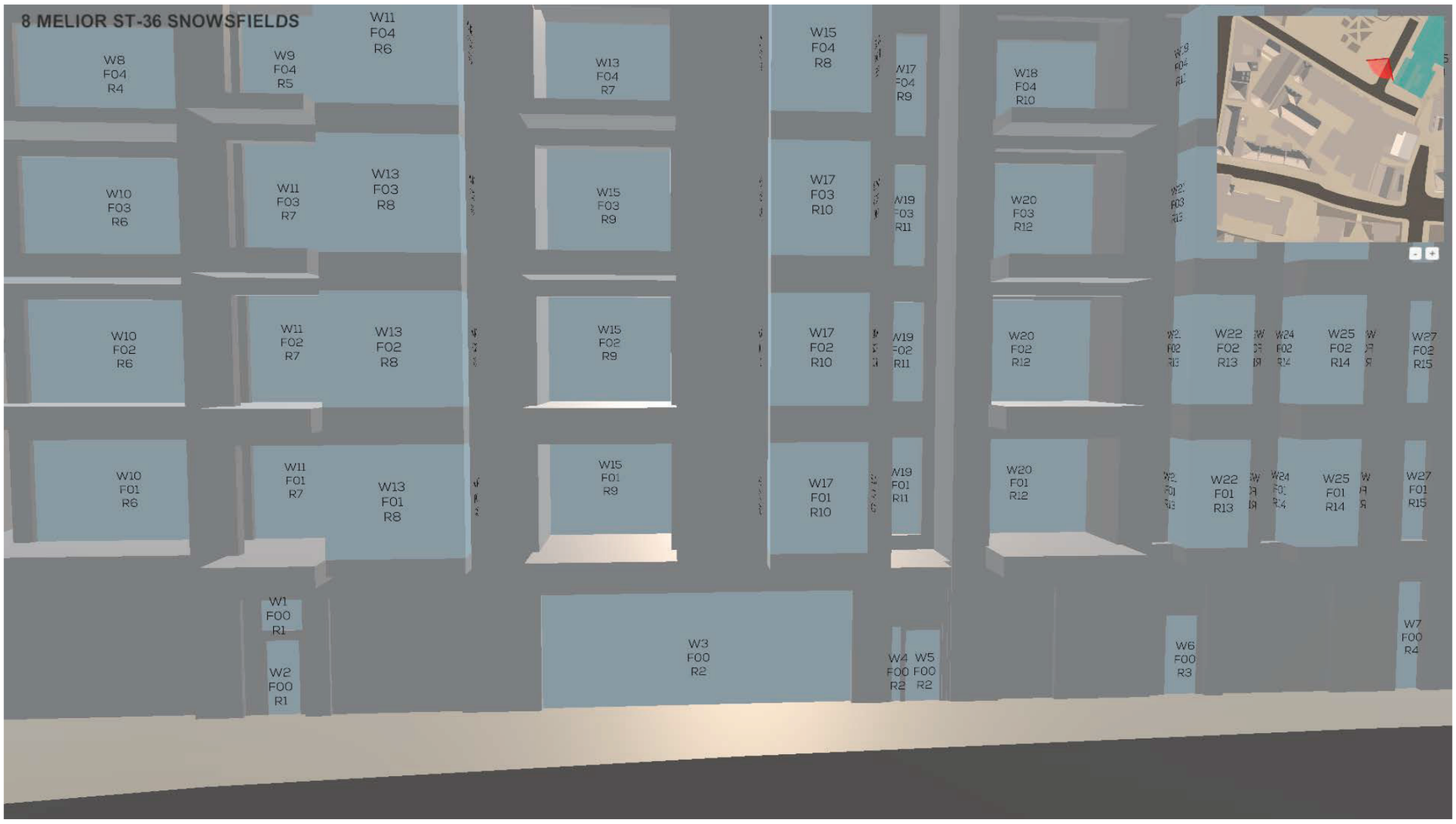

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8 MELIOR ST-36 SNOWSFIELDS



8 MELIOR ST-36 SNOWSFIELDS




8 MELIOR ST-36 SNOWSFIELDS
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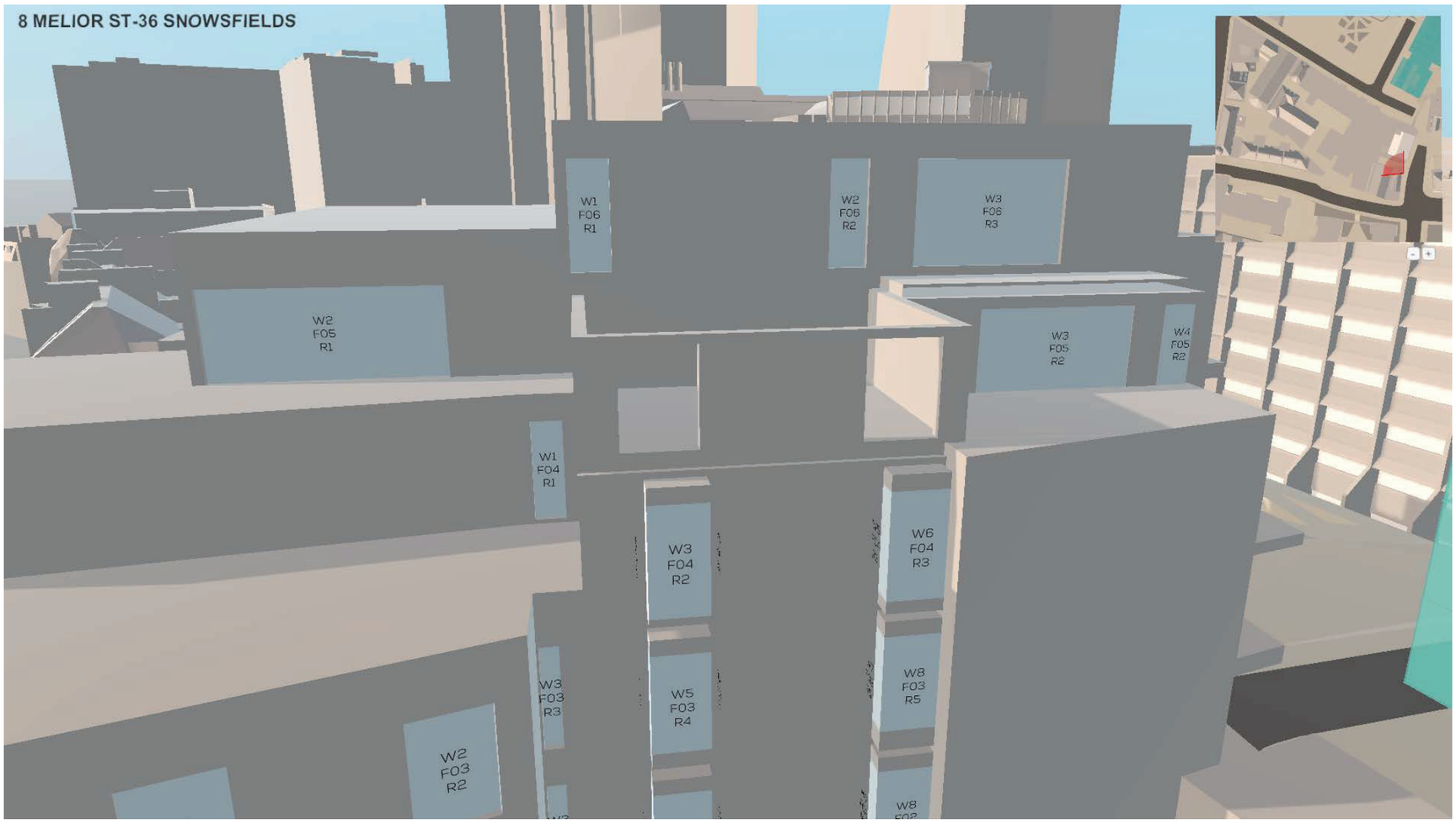

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W13 F03 R8
W14 F04 R8
W16 F03 R10
W10 F02 R6
W12 F02 R8
W13 F02 R8
W16 F02 R10
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W16 F01 R10

8 MELIOR ST-36 SNOWSFIELDS





8 MELIOR ST-36 SNOWSFIELDS

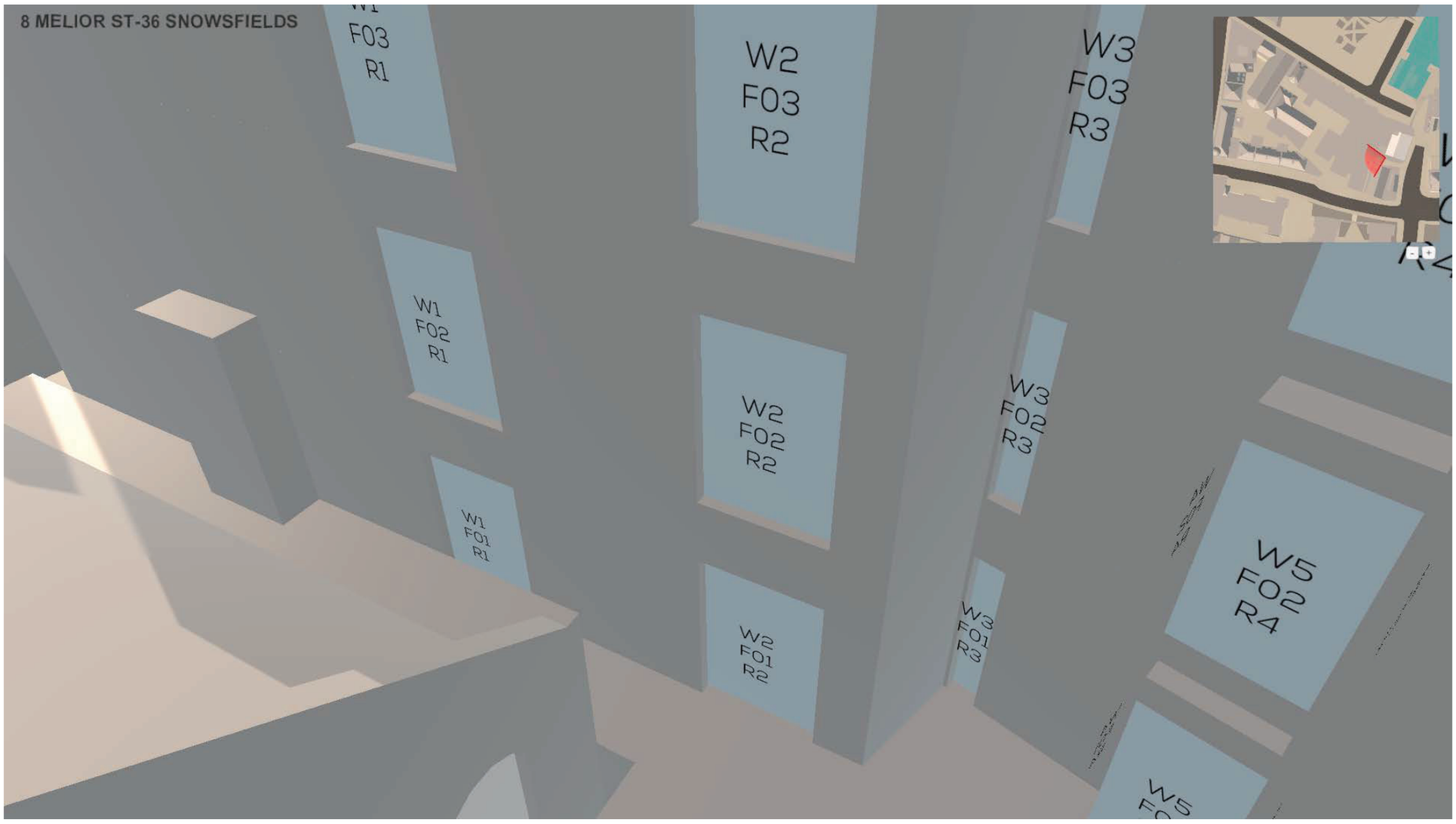


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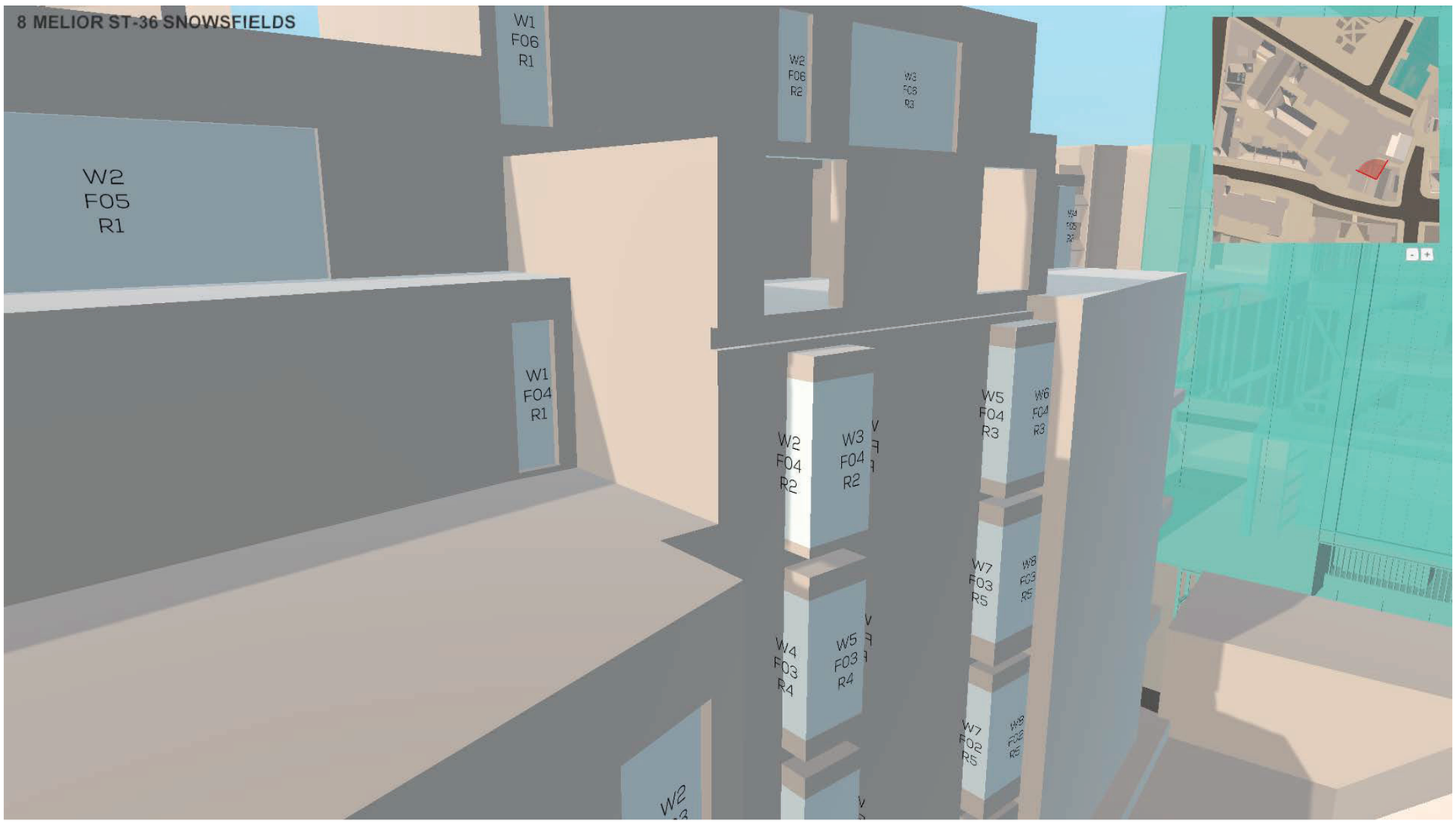



8 MELIOR ST-36 SNOWSFIELDS
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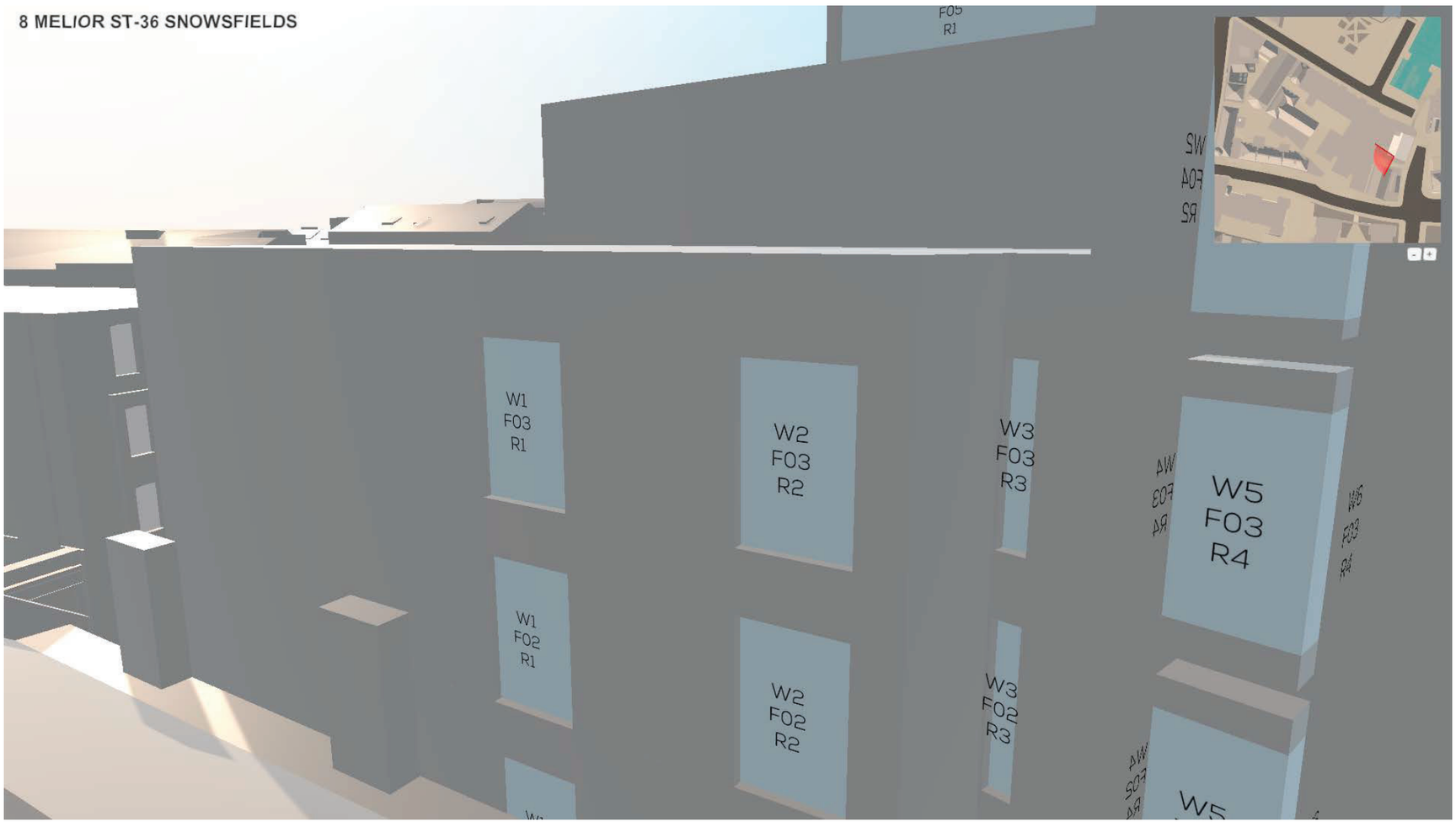
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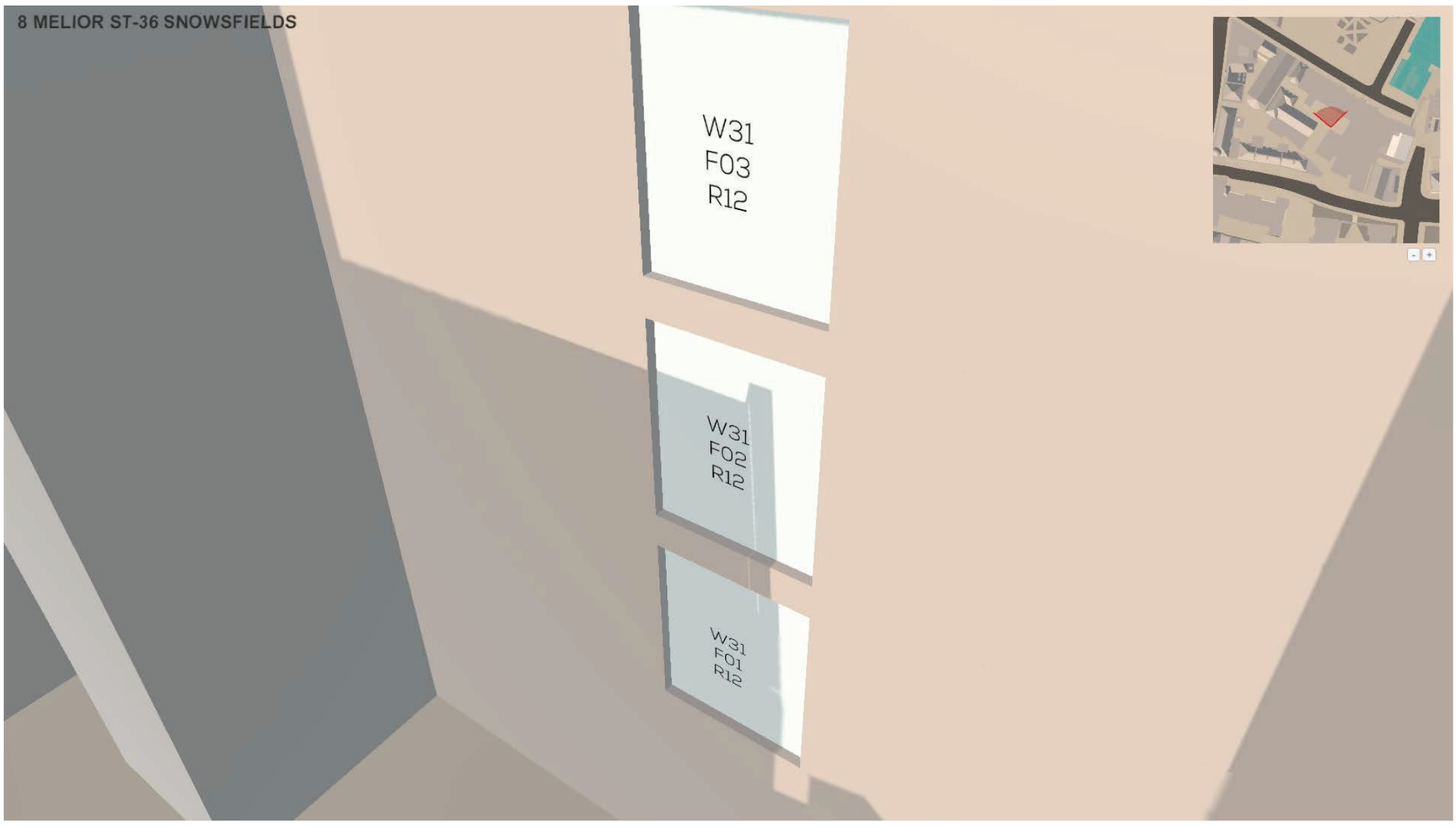
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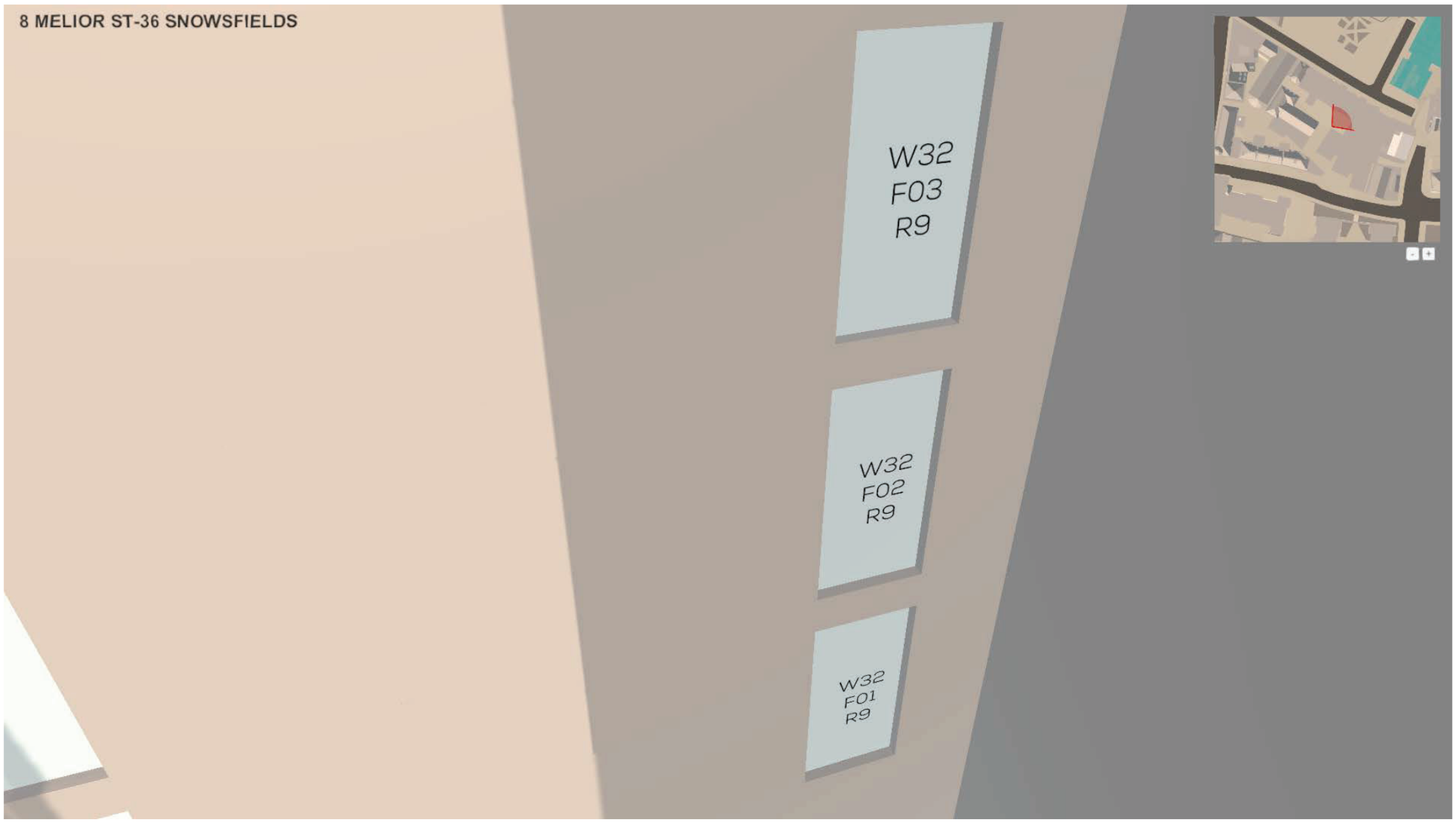

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8 MELIOR ST-36 SNOWSFIELDS
W1
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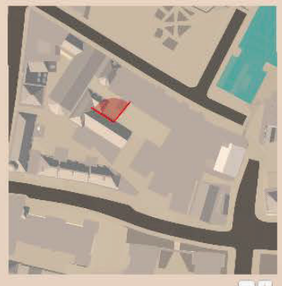

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8 MELIOR ST-36 SNOWSFIELDS



8 MELIOR ST-36 SNOWSFIELDS

8 MELIOR ST-36 SNOWSFIELDS



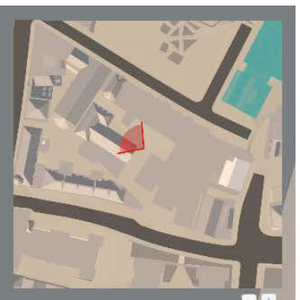
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8 MELIOR ST-36 SNOWSFIELDS



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F01
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8 MELIOR ST-36 SNOWSFIELDS



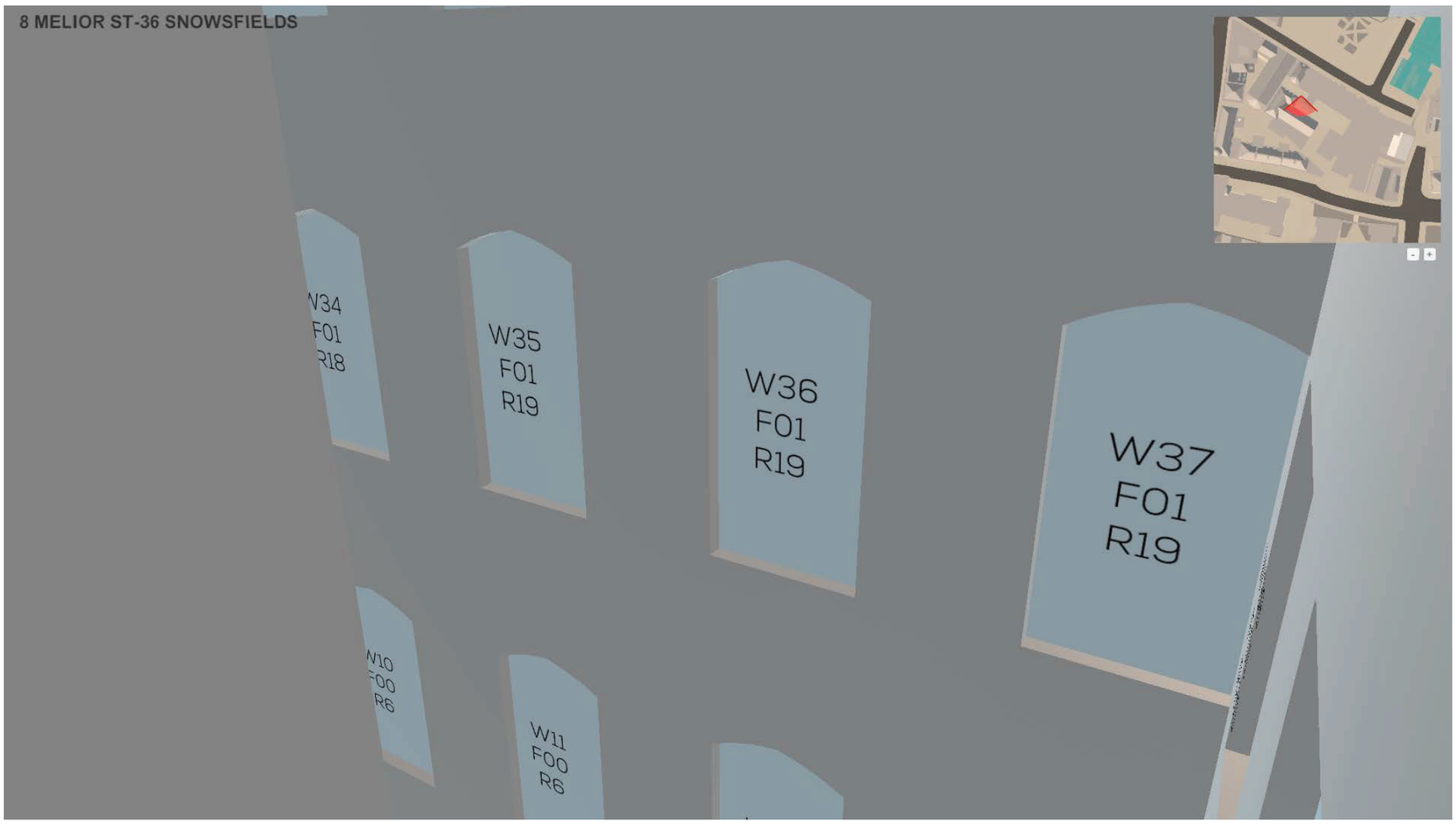
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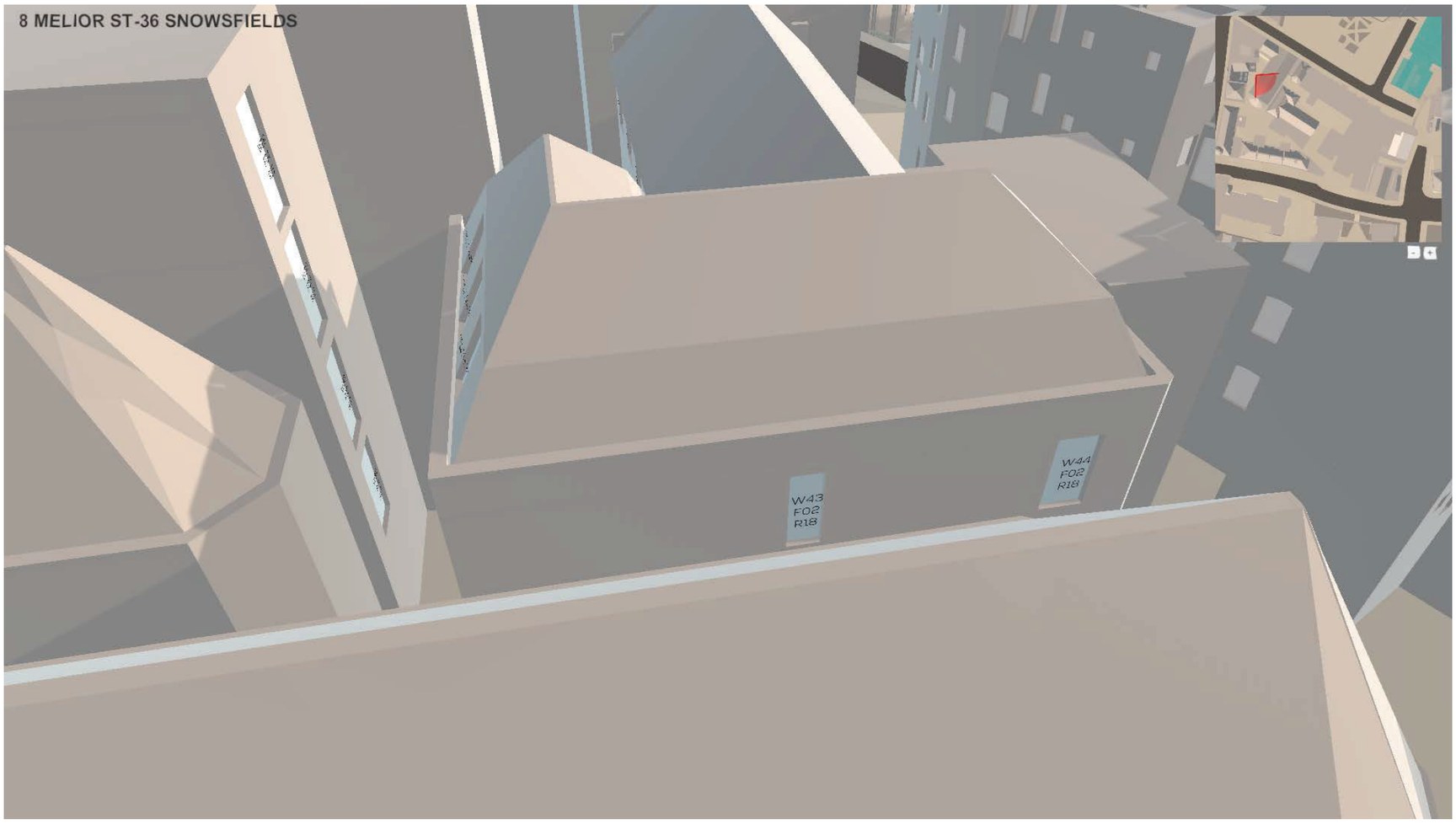
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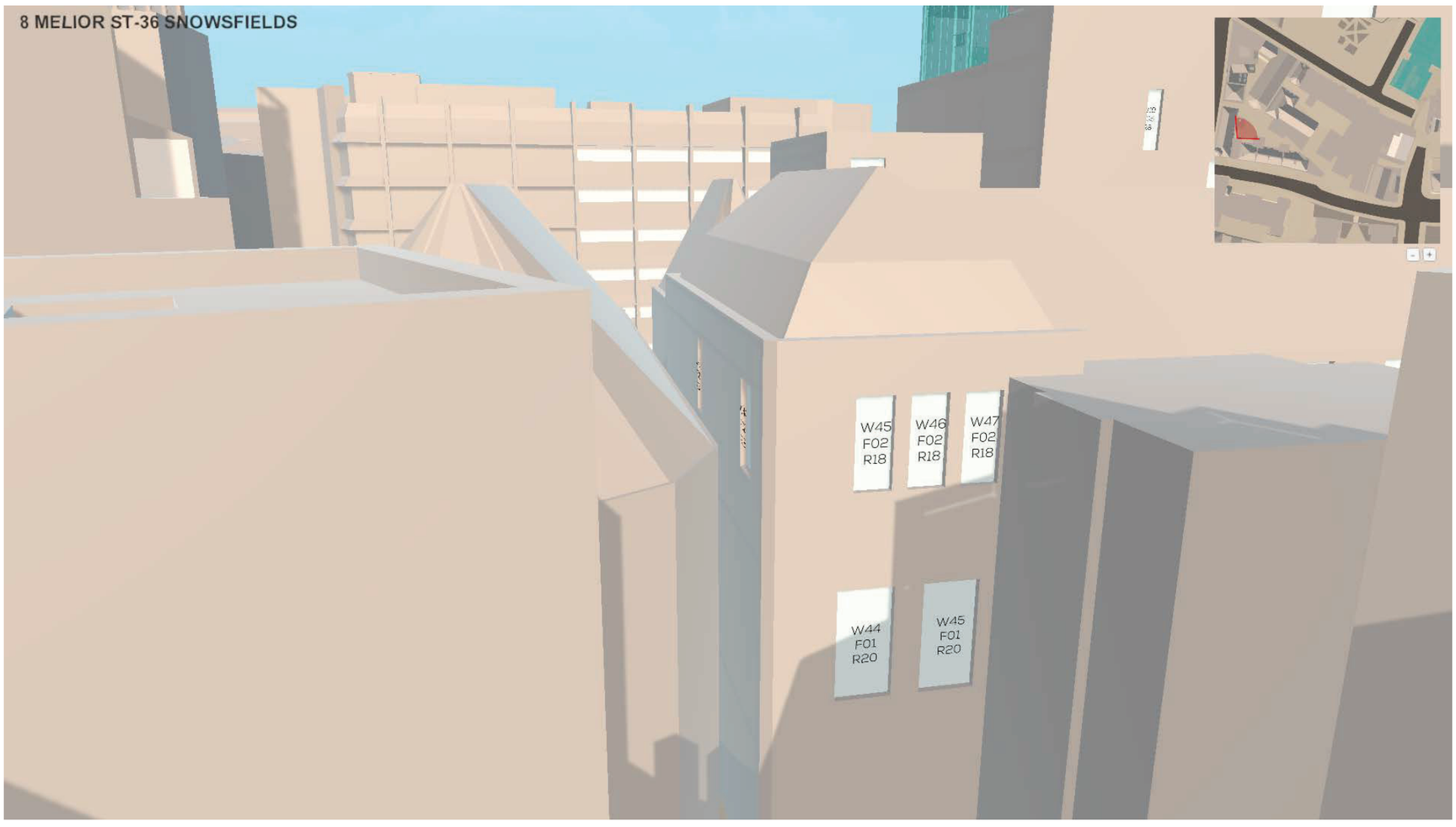
8 MELIOR ST-36 SNOWSFIELDS



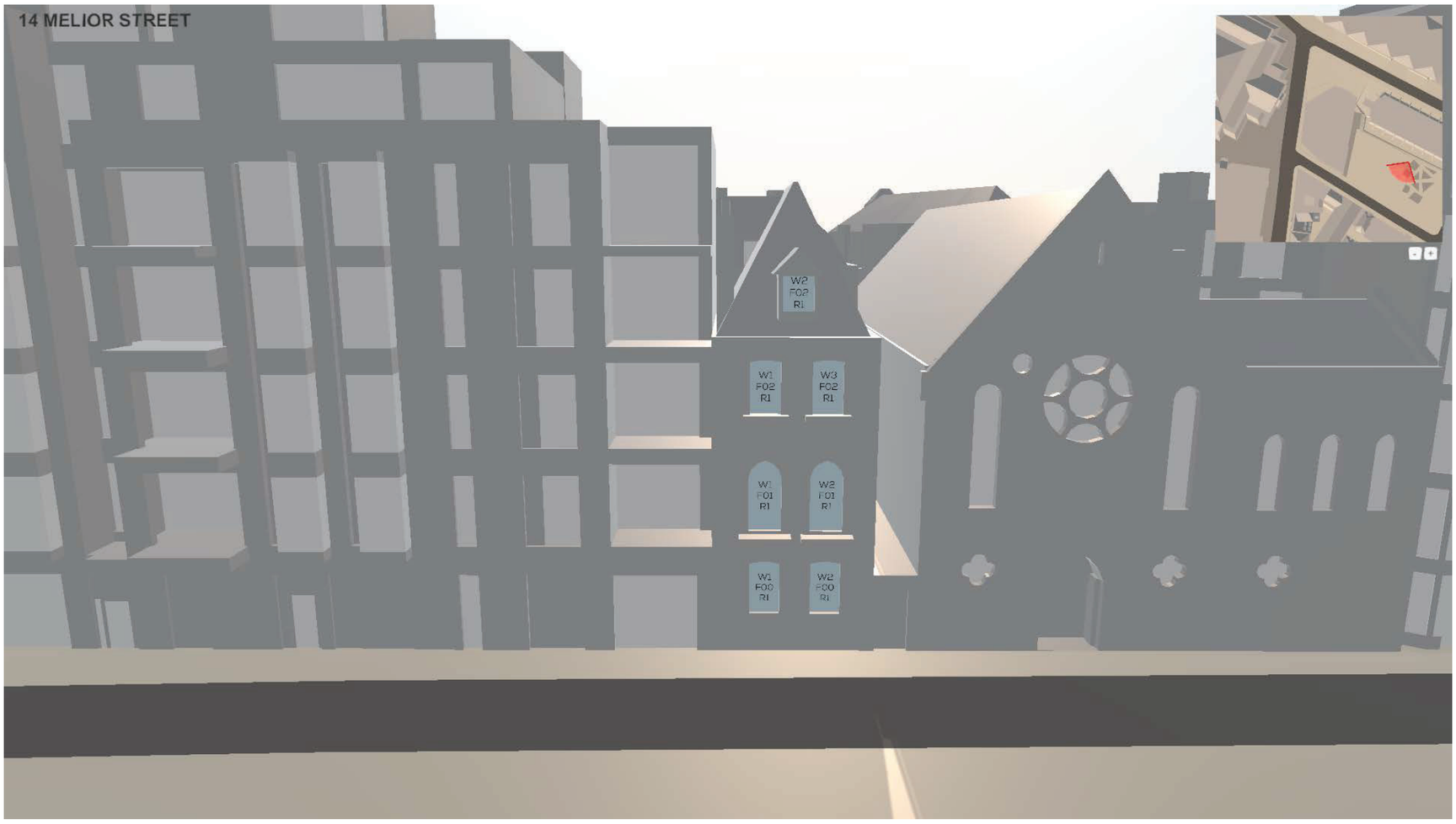
8 MELIOR ST-36 SNOWSFIELDS



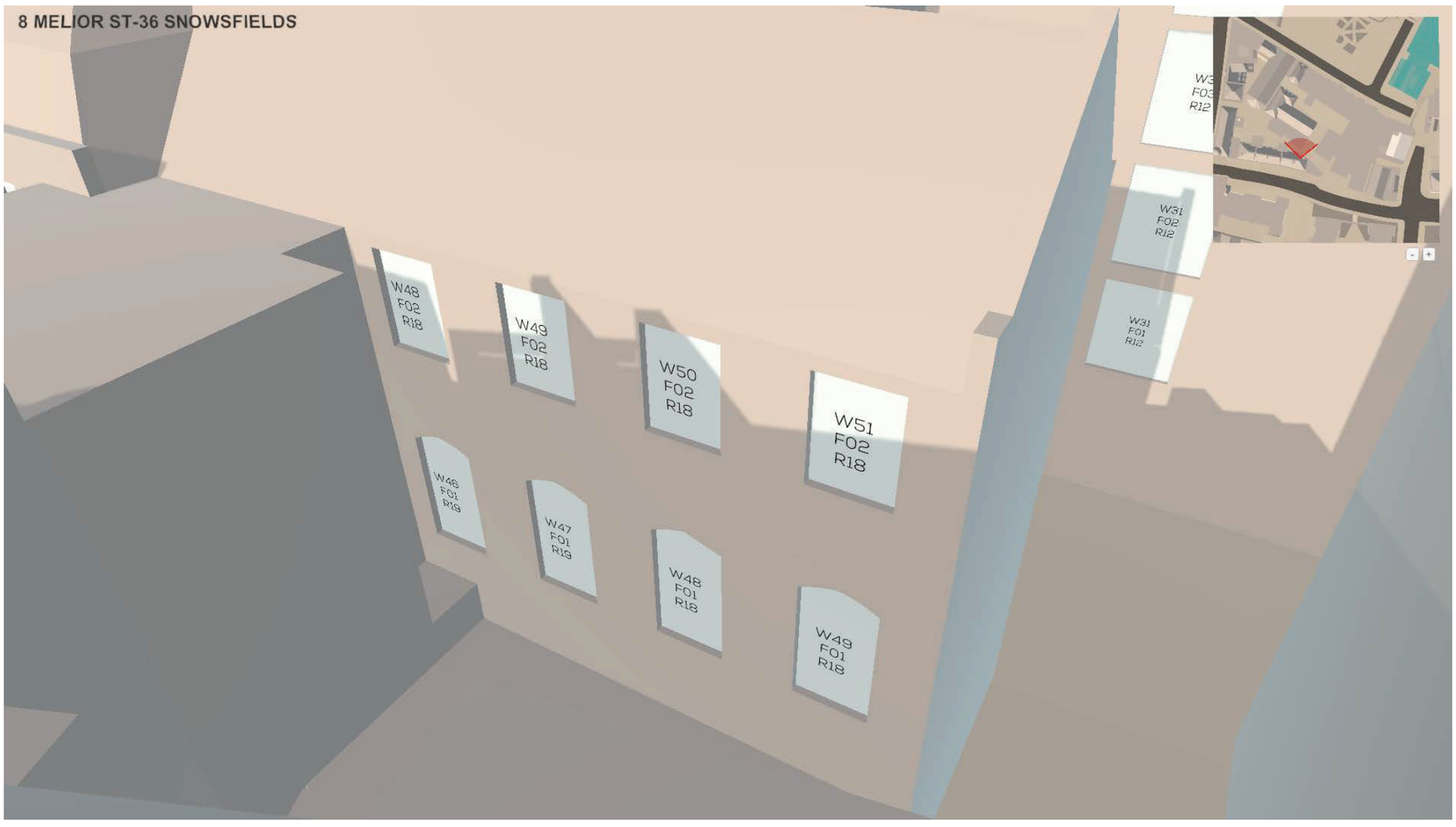
8 MELIOR ST-36 SNOWSFIELDS



14 MELIOR STREET



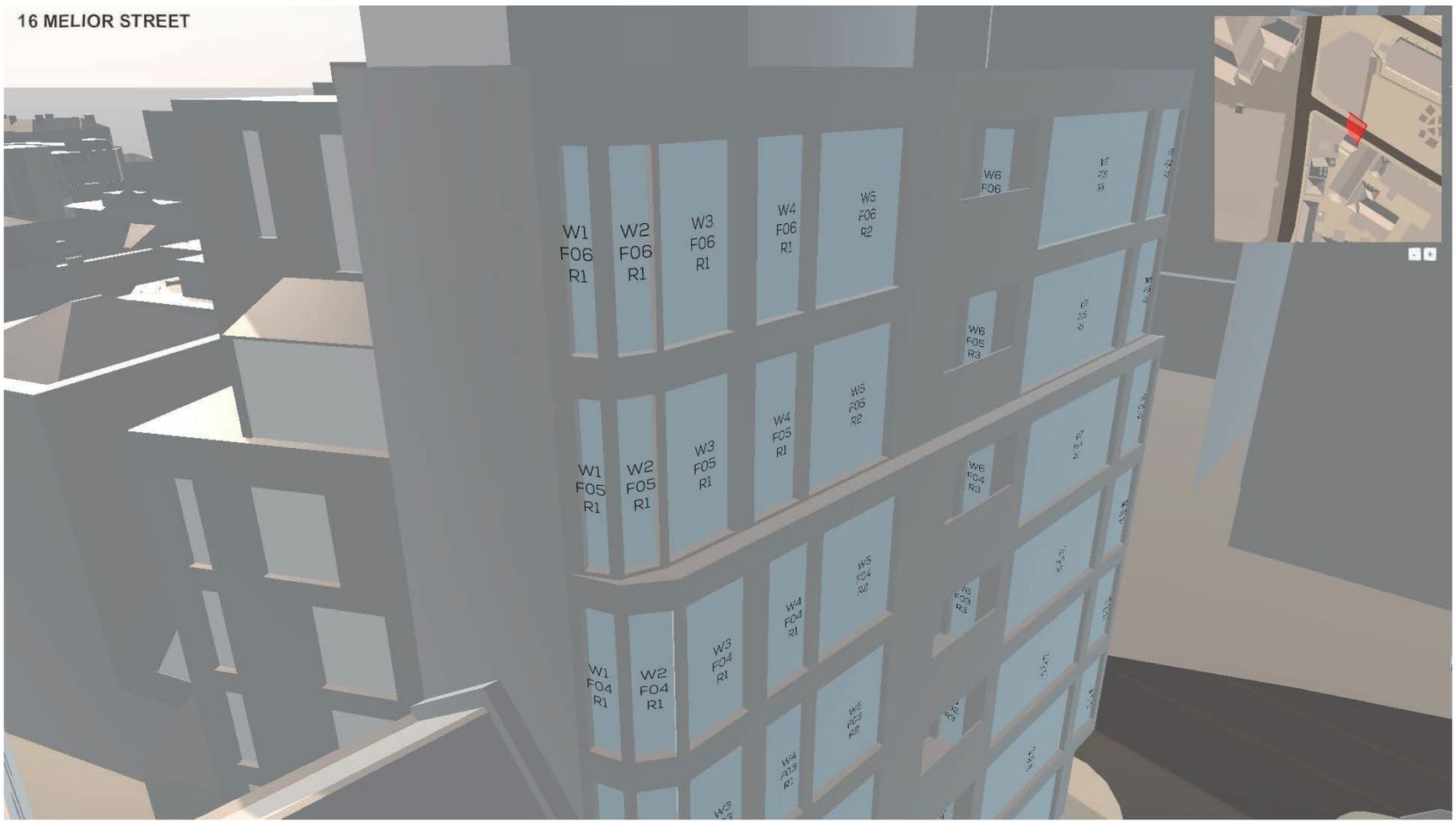
8 MELIOR ST-36 SNOWSFIELDS



16 MELIOR STREET



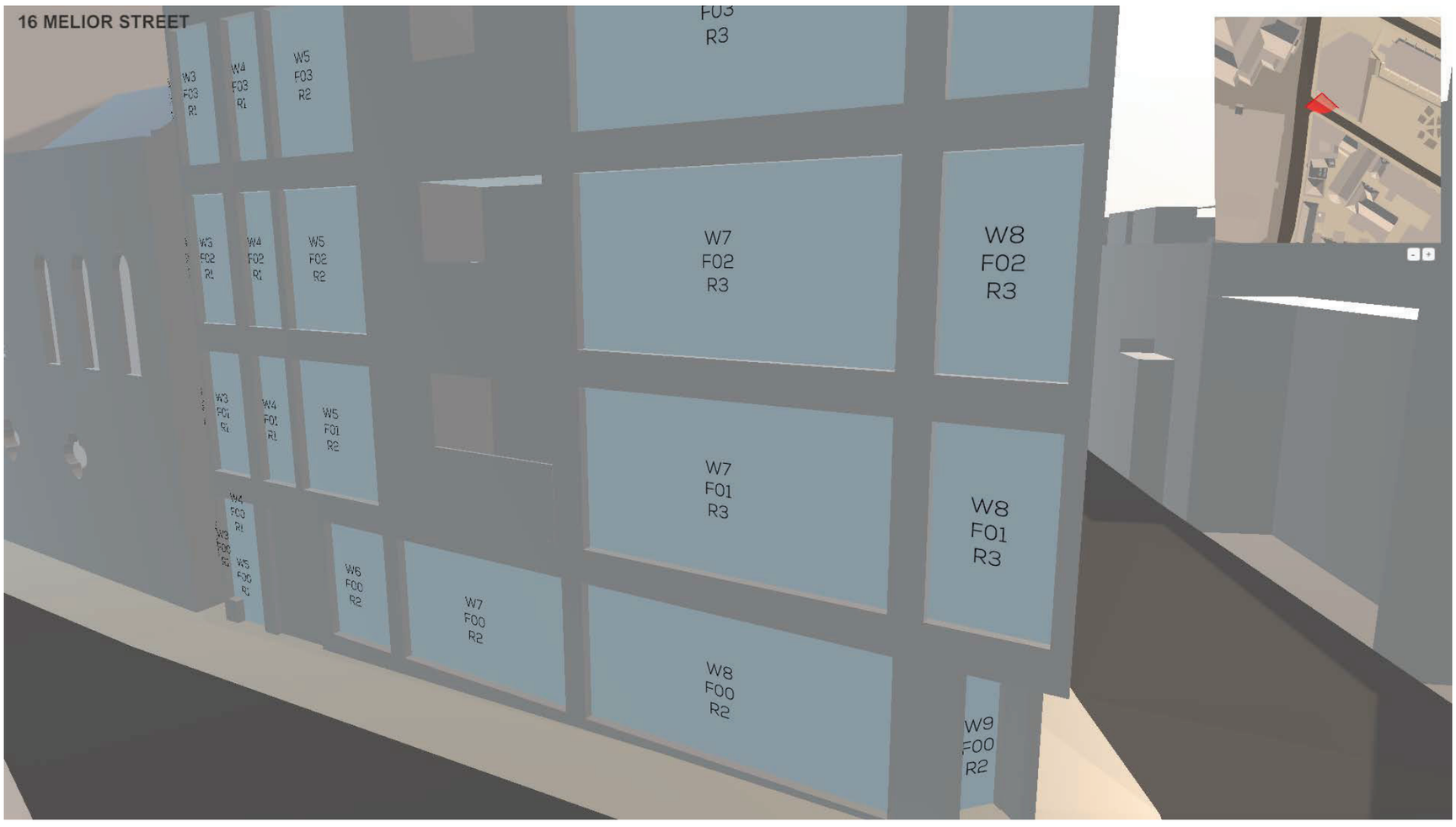
16 MELIOR STREET



16 MELIOR STREET



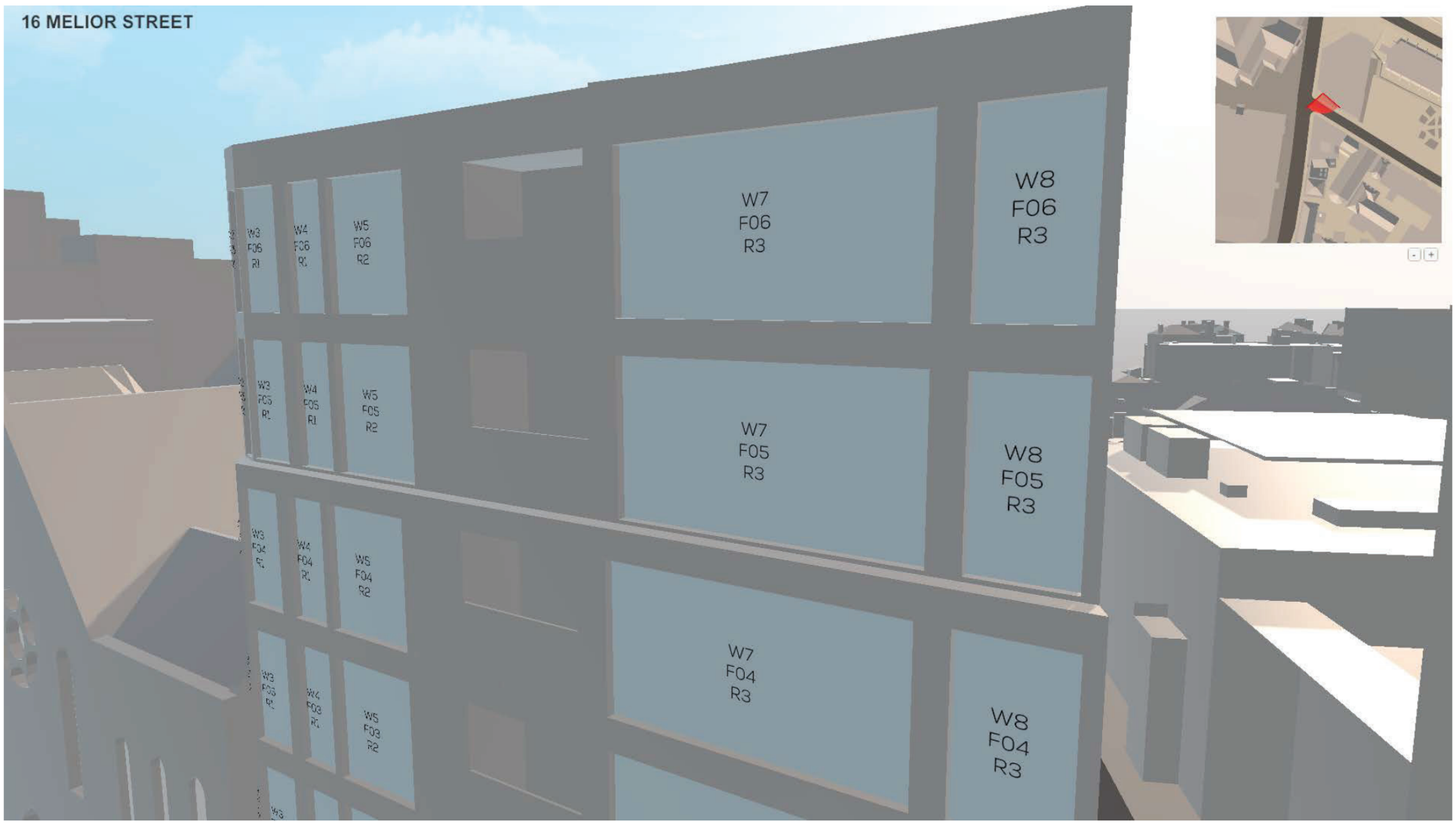
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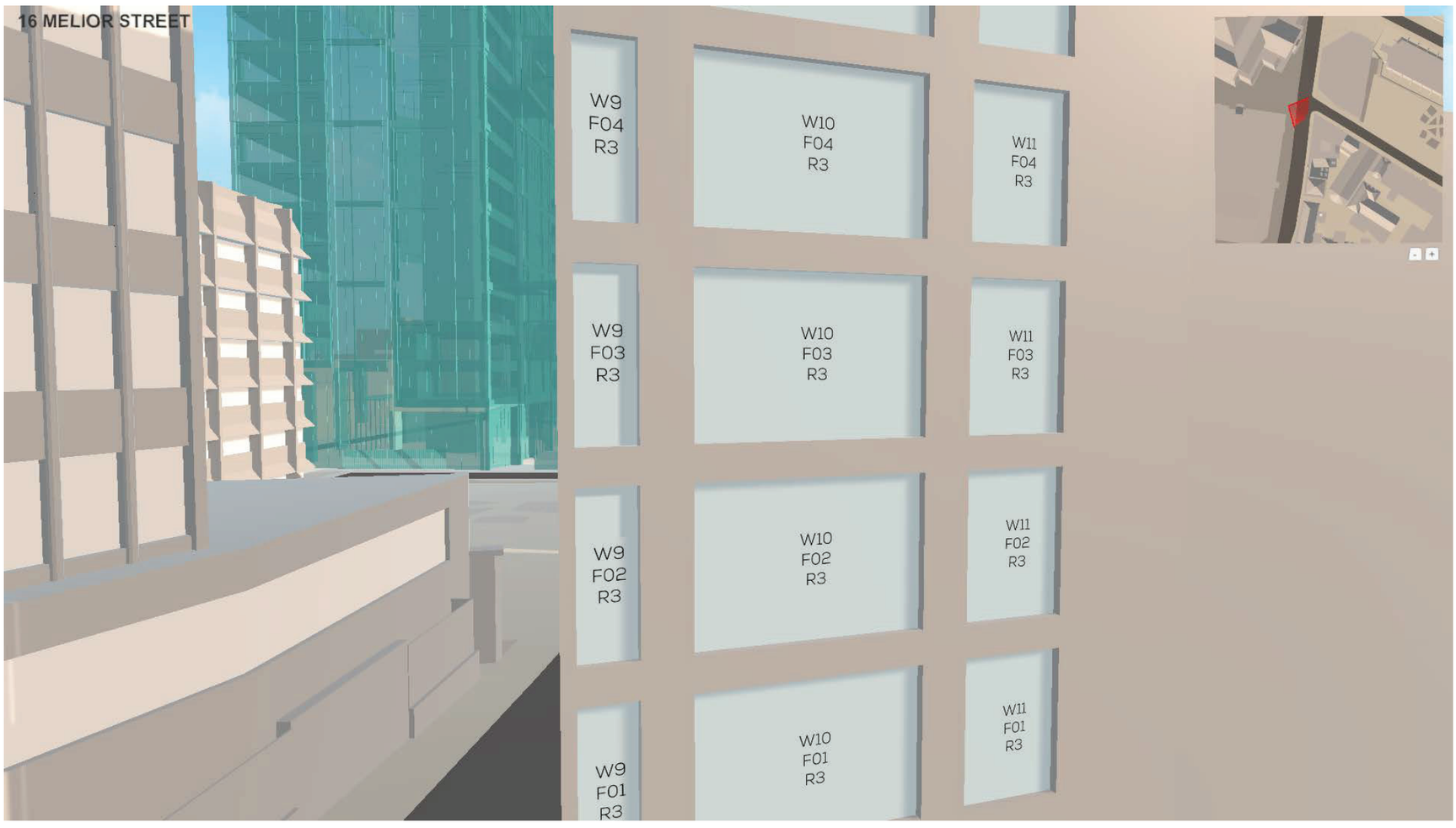
16 MELIOR STREET



16 MELIOR STREET




16 MELIOR STREET
W11
F03
R3
W9
F02
R3
W10
F02
R3
W11
F02
R3
W9
F01
R3
W10
F01
R3
W11
F01
R3
W10
F00
R2
W11
F00
R2


16 MELIOR STREET
W9
F04
R3
W10
F04
R3
W11
F04
R3
W9
F03
R3
W10
F03
R3
W11
F03
R3
W9
F02
R3
W10
F02
R3
W11
F02
R3
W9
F01
R3
W10
F01
R3
W11
F01
R3

37 SNOWSFIELDS

W4
F03
R2

W5
F02
R2

W1

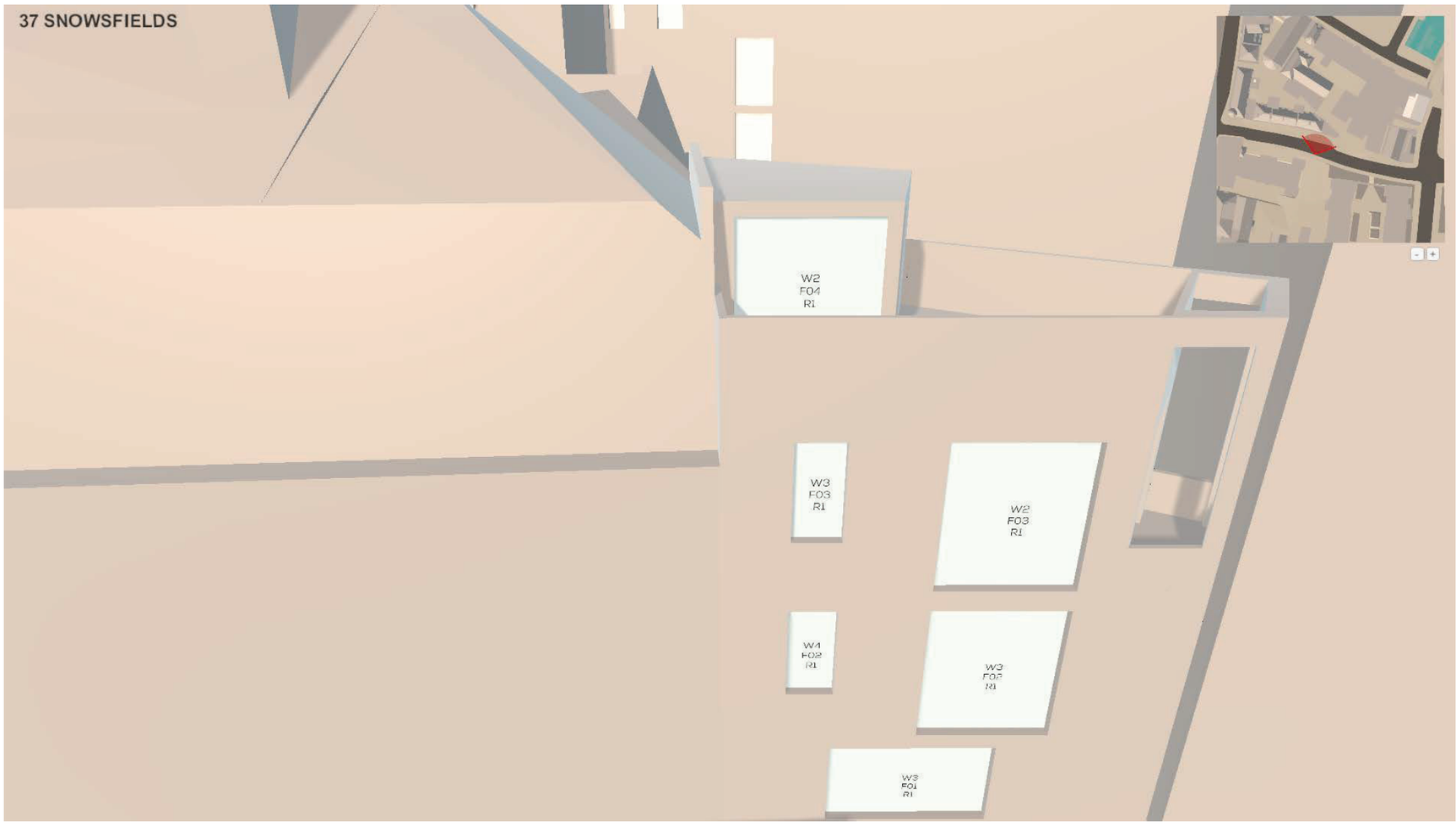
37 SNOWSFIELDS

W1
F02
R1

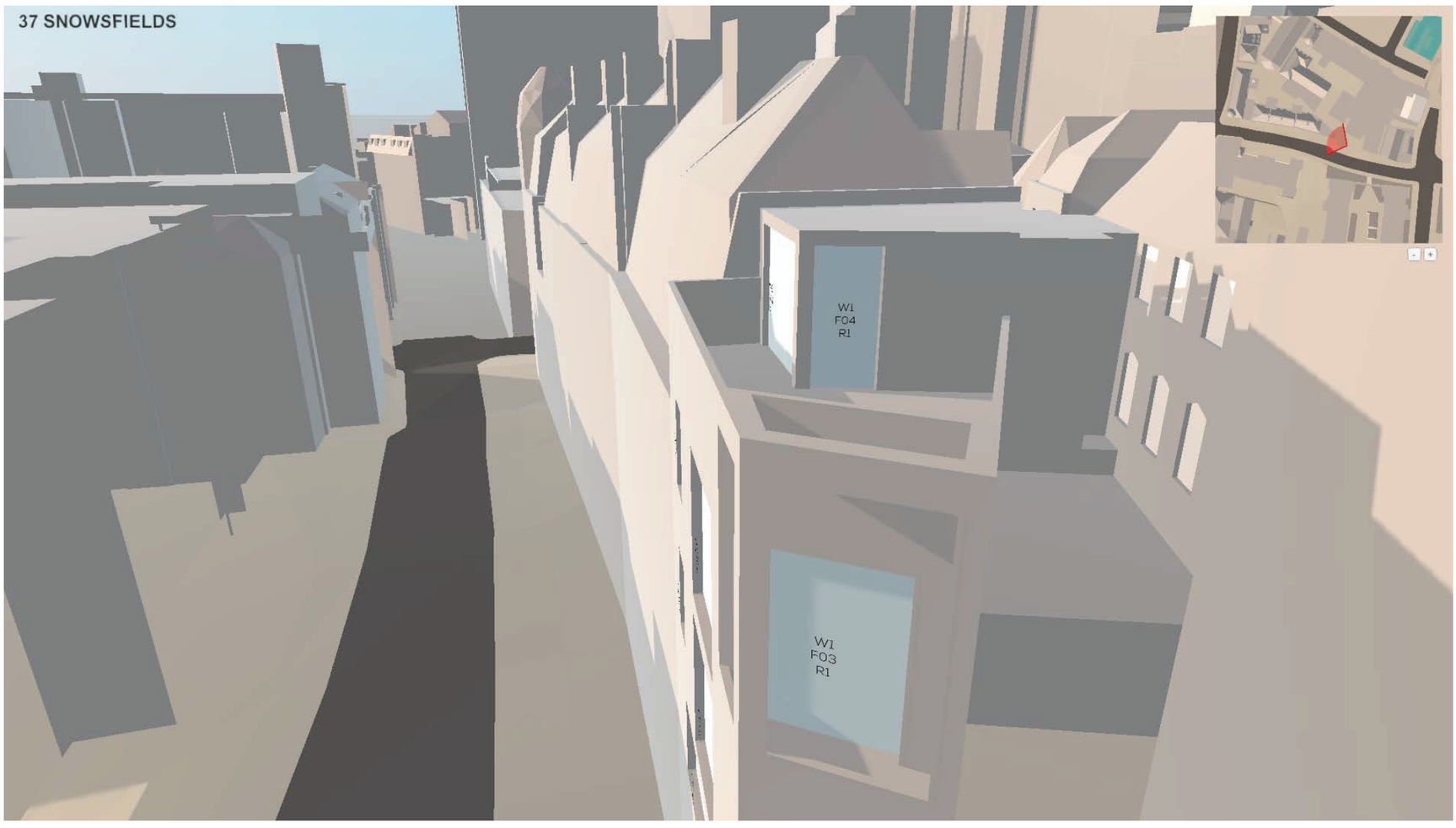
W1
F01
R1

W4
F01
R2

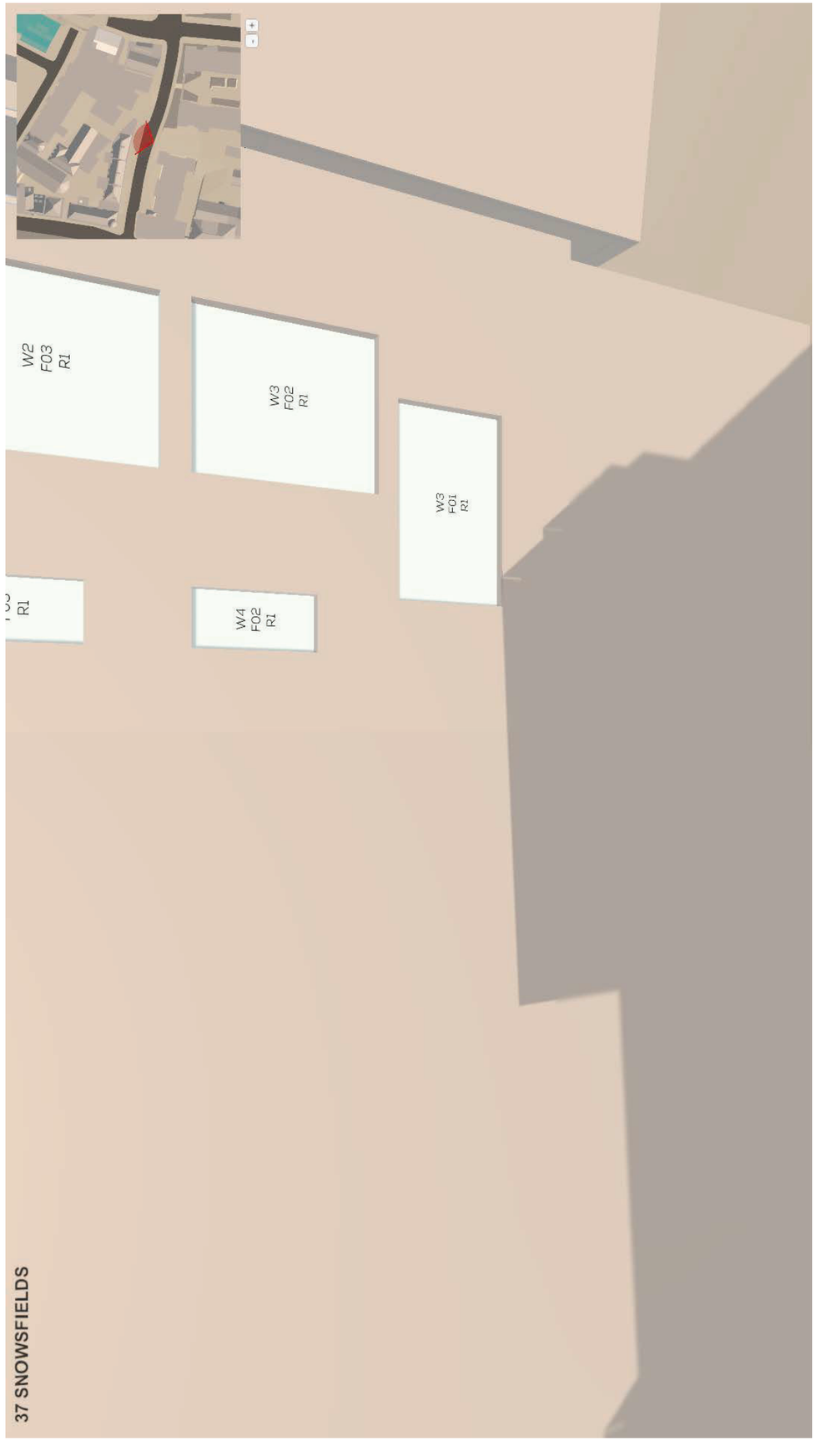
37 SNOWSFIELDS



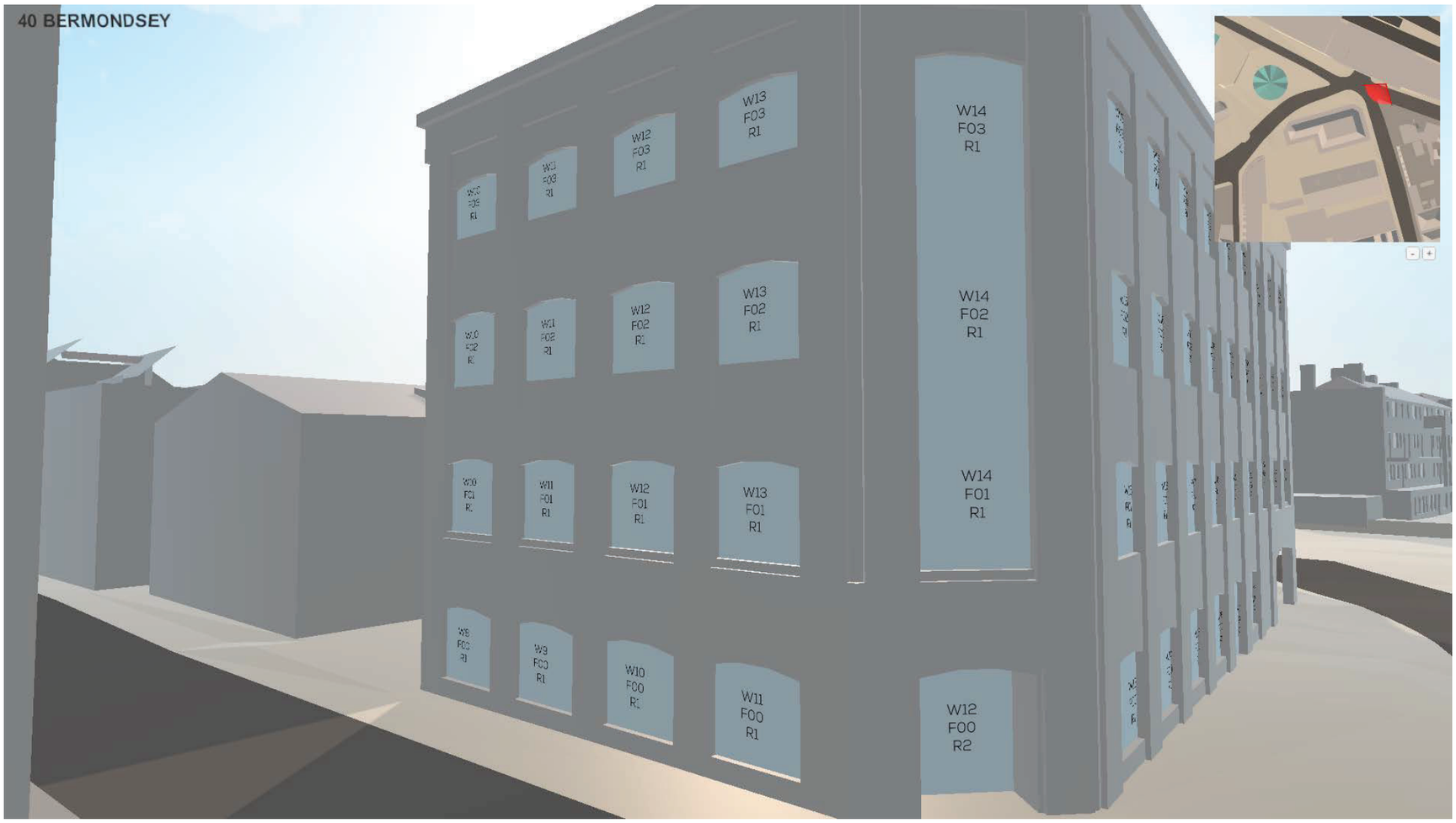
37 SNOWSFIELDS



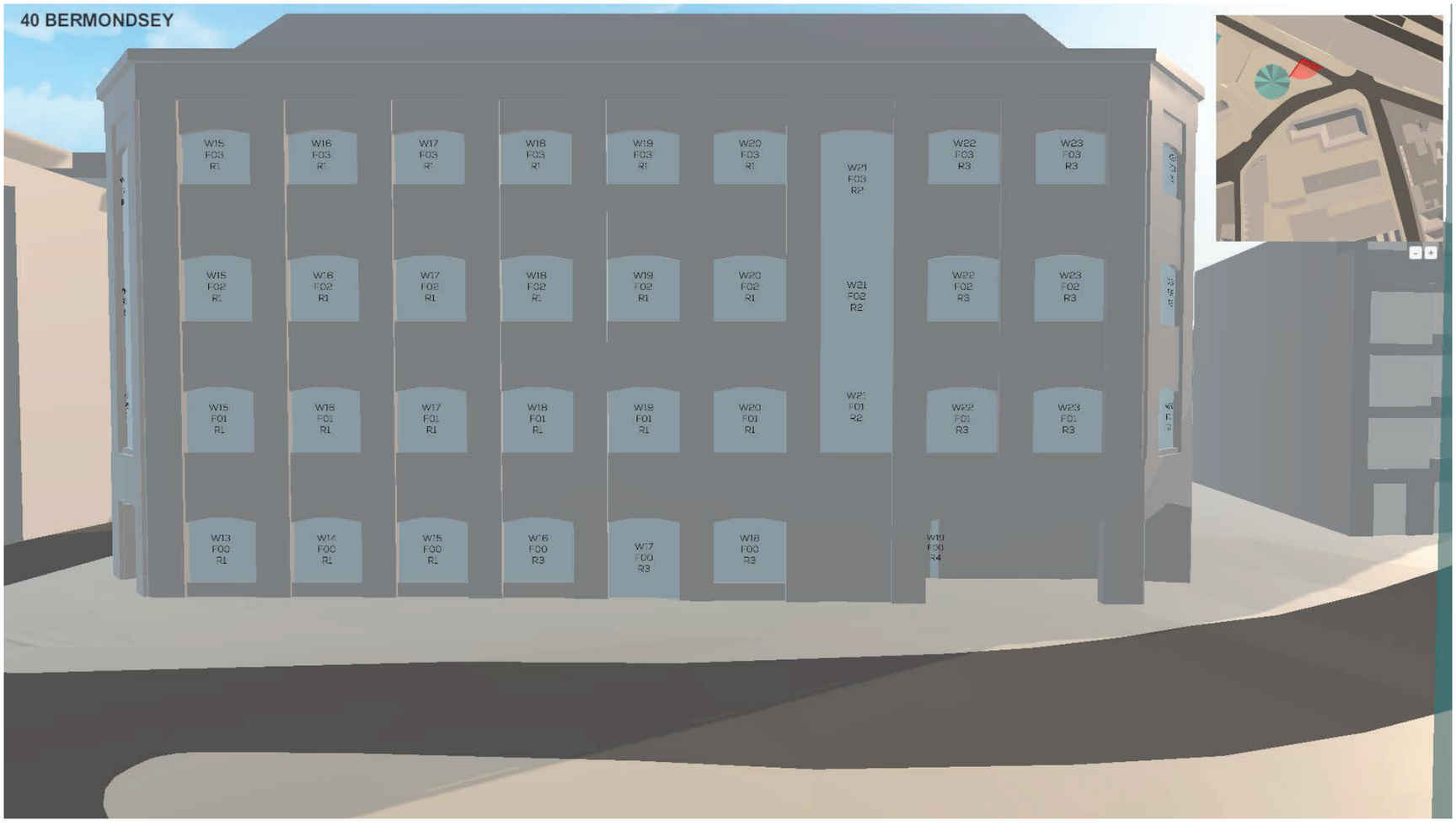

W1
F03
R1
W2
F02
R1
W2
F01
R1
37 SNOWSFIELDS


W2
F03
R1
W3
F02
R1
W3
F01
R1
W4
F02
R1
37 SNOWSFIELDS

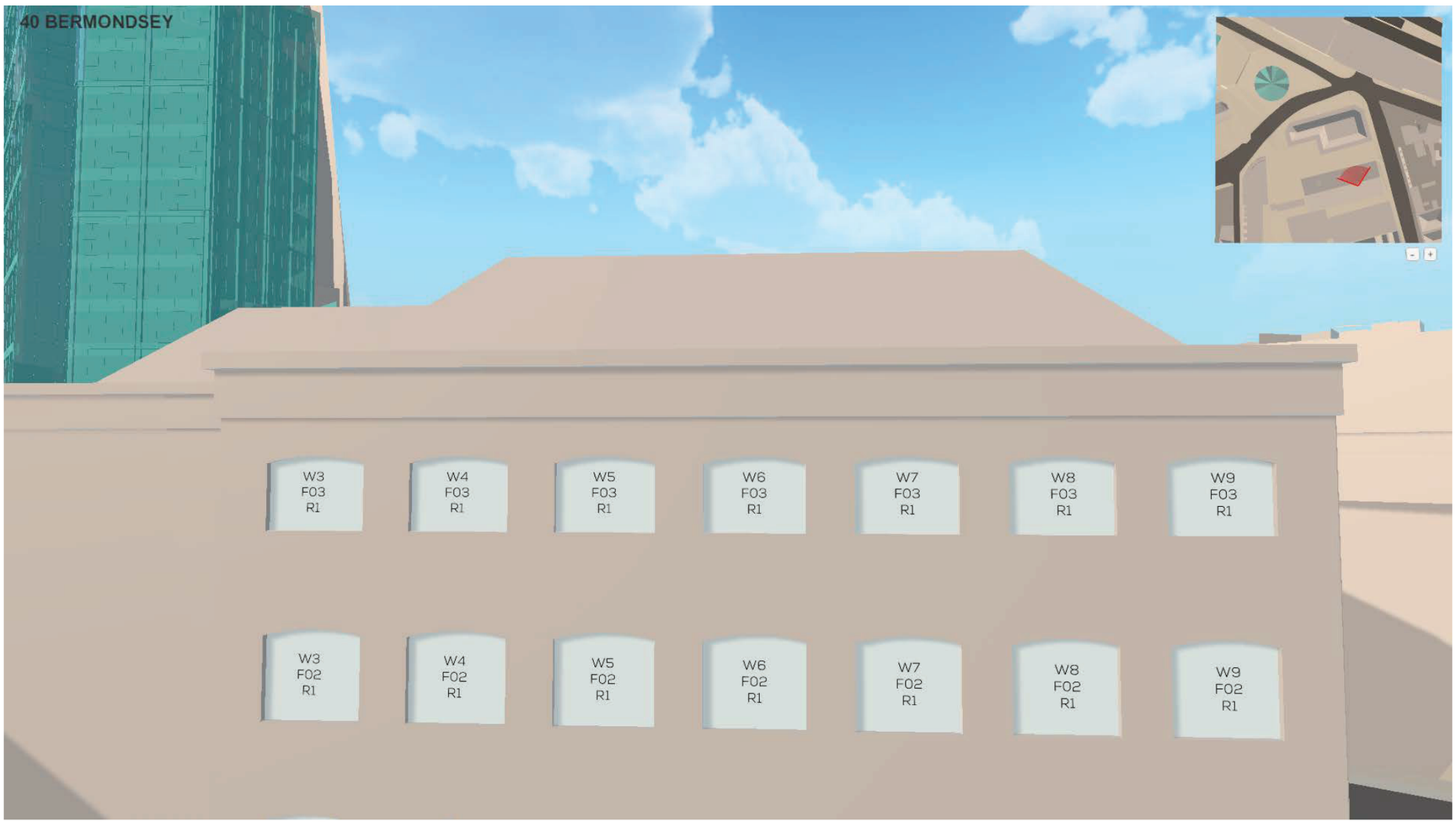
40 BERMONDSEY



40 BERMONDSEY




40 BERMONDSEY
W3 F03 R1
W4 F03 R1
W5 F03 R1
F03 R1
F03 R1
W3 F02 R1
W4 F02 R1
W5 F02 R1
W6 F02 R1
W7 F02 R1
W8 F02 R1
R1
W3 F01 R1
W4 F01 R1
W5 F01 R1
W6 F01 R1
W7 F01 R1
W8 F01 R1
W9 F01 R1
W1 F00 R3
W2 F00 R3
W3 F00 R3
W4 F00 R1
W5 F00 R1
W6 F00 R1
W7 F00 R1


40 BERMONDSEY
W3 F03 R1
W4 F03 R1
W5 F03 R1
W6 F03 R1
W7 F03 R1
W8 F03 R1
W9 F03 R1
W3 F02 R1
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W9 F02 R1

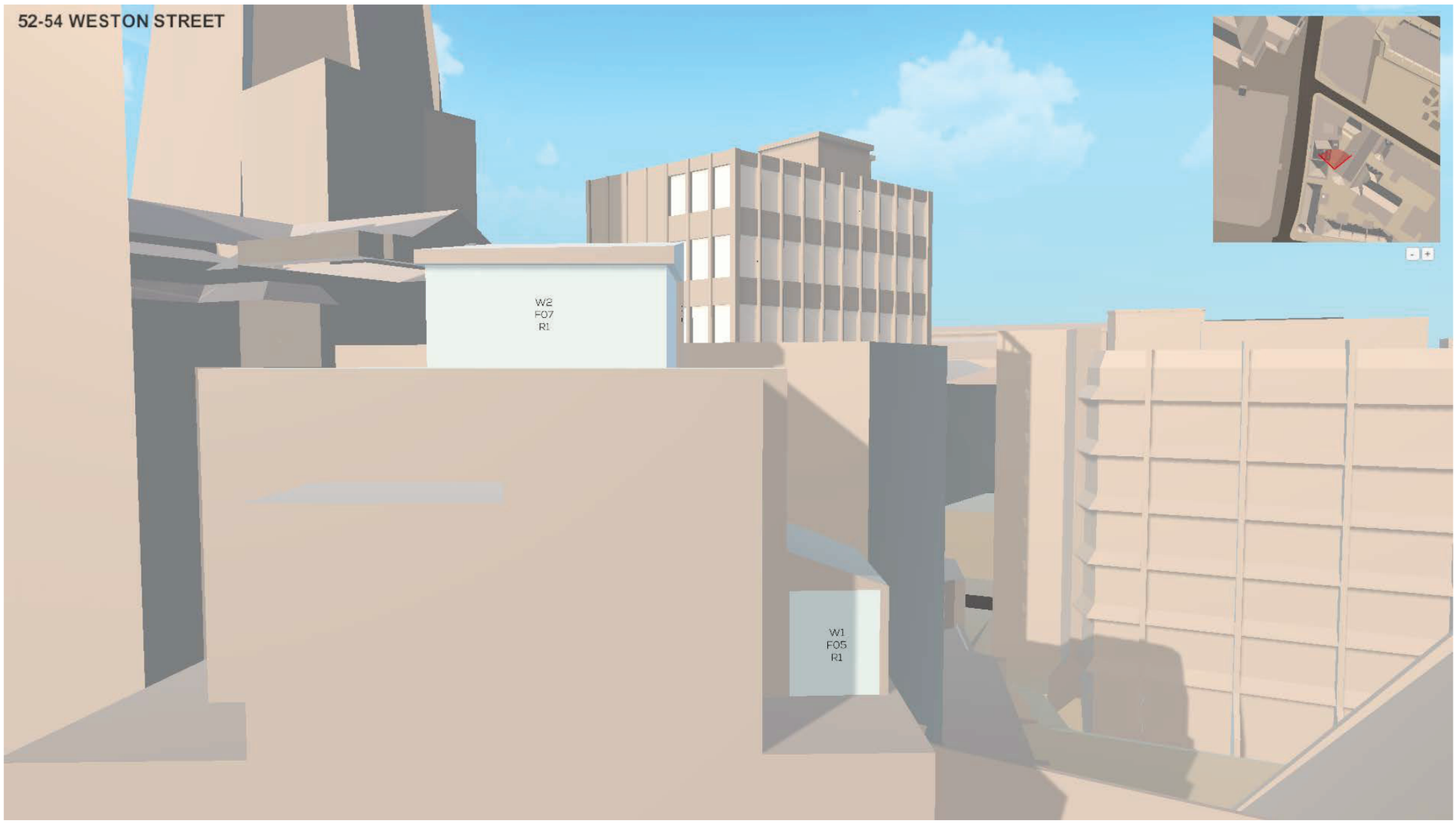
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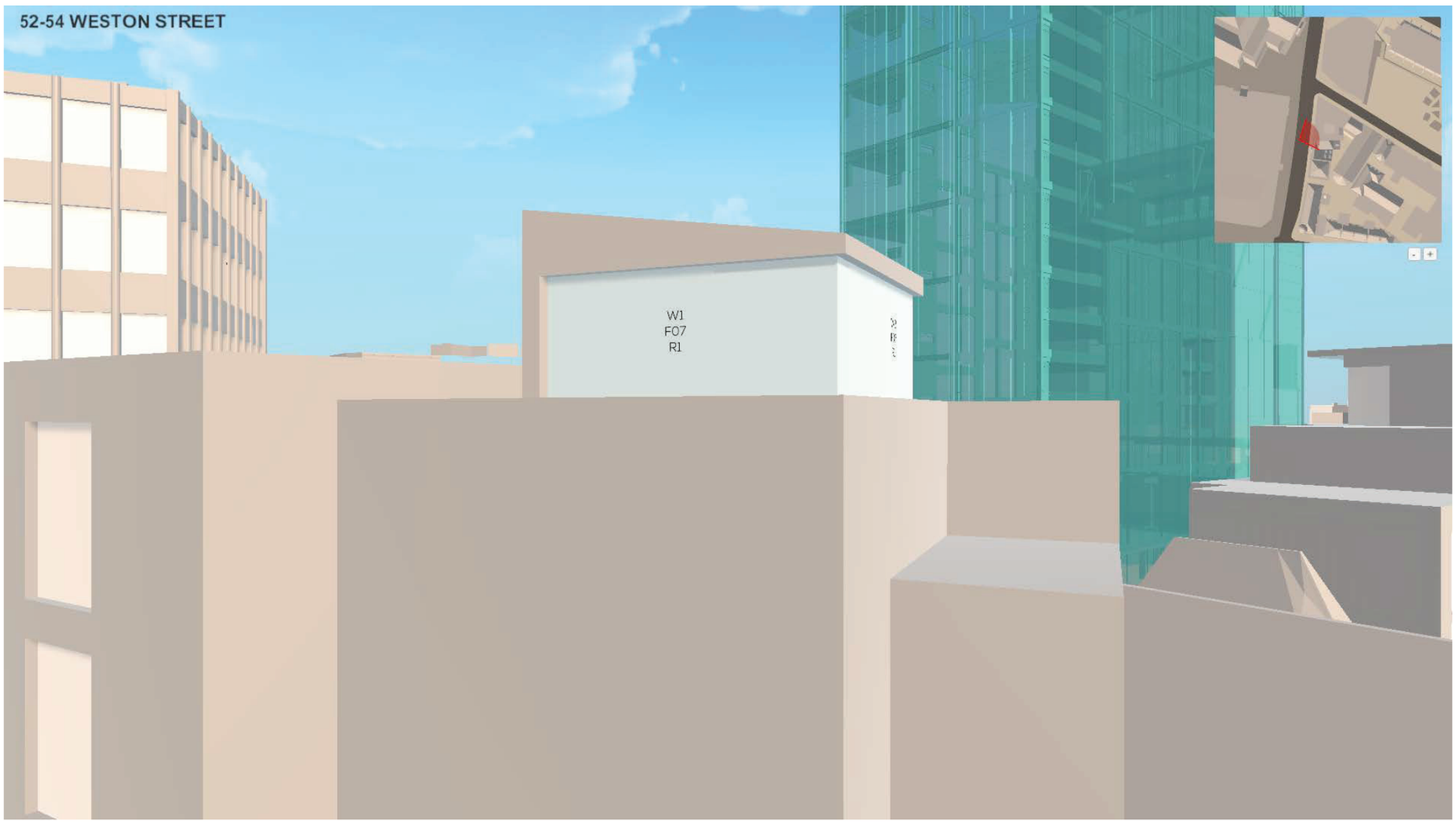
40 BERMONDSEY



52-54 WESTON STREET



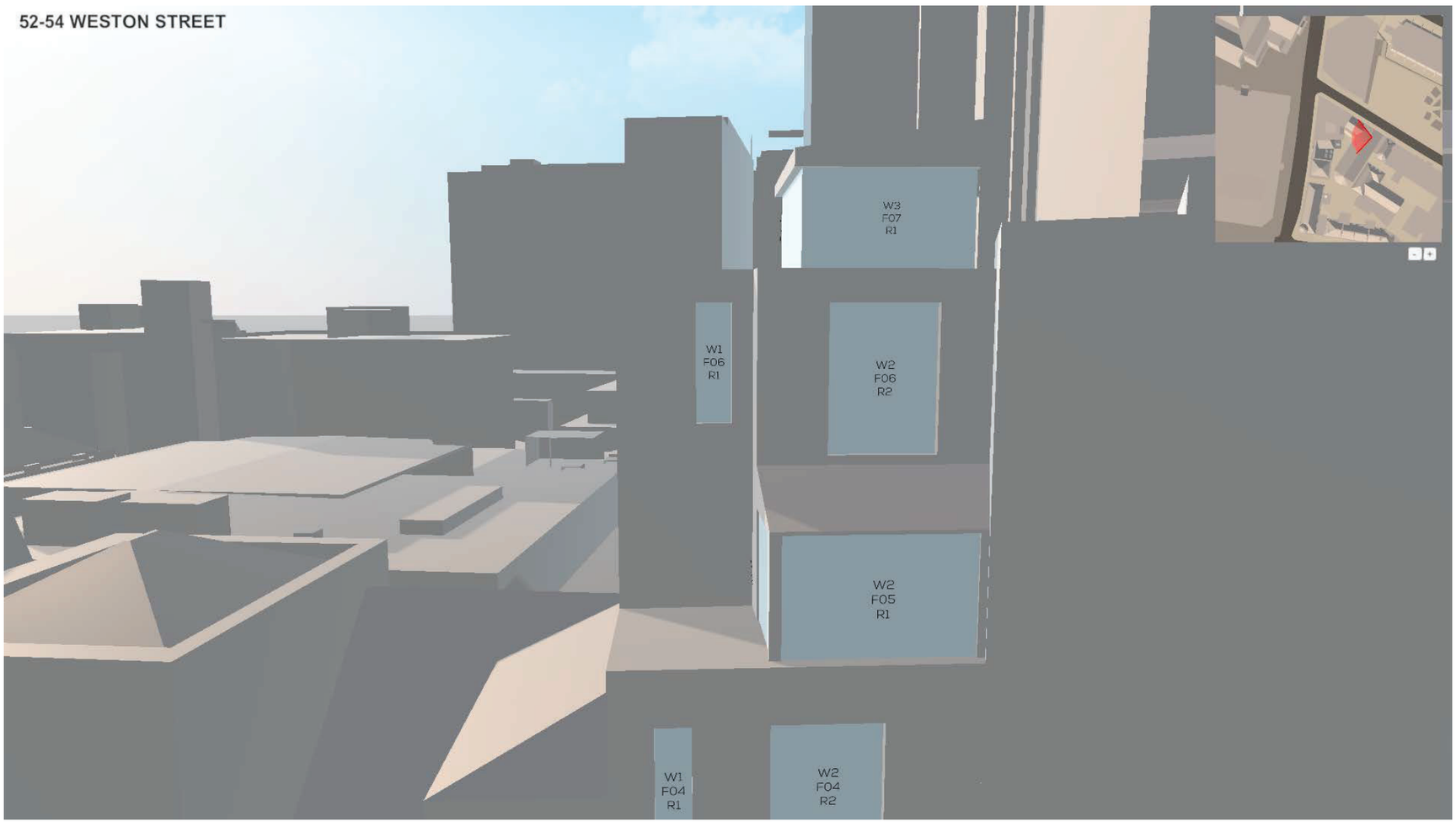
52-54 WESTON STREET



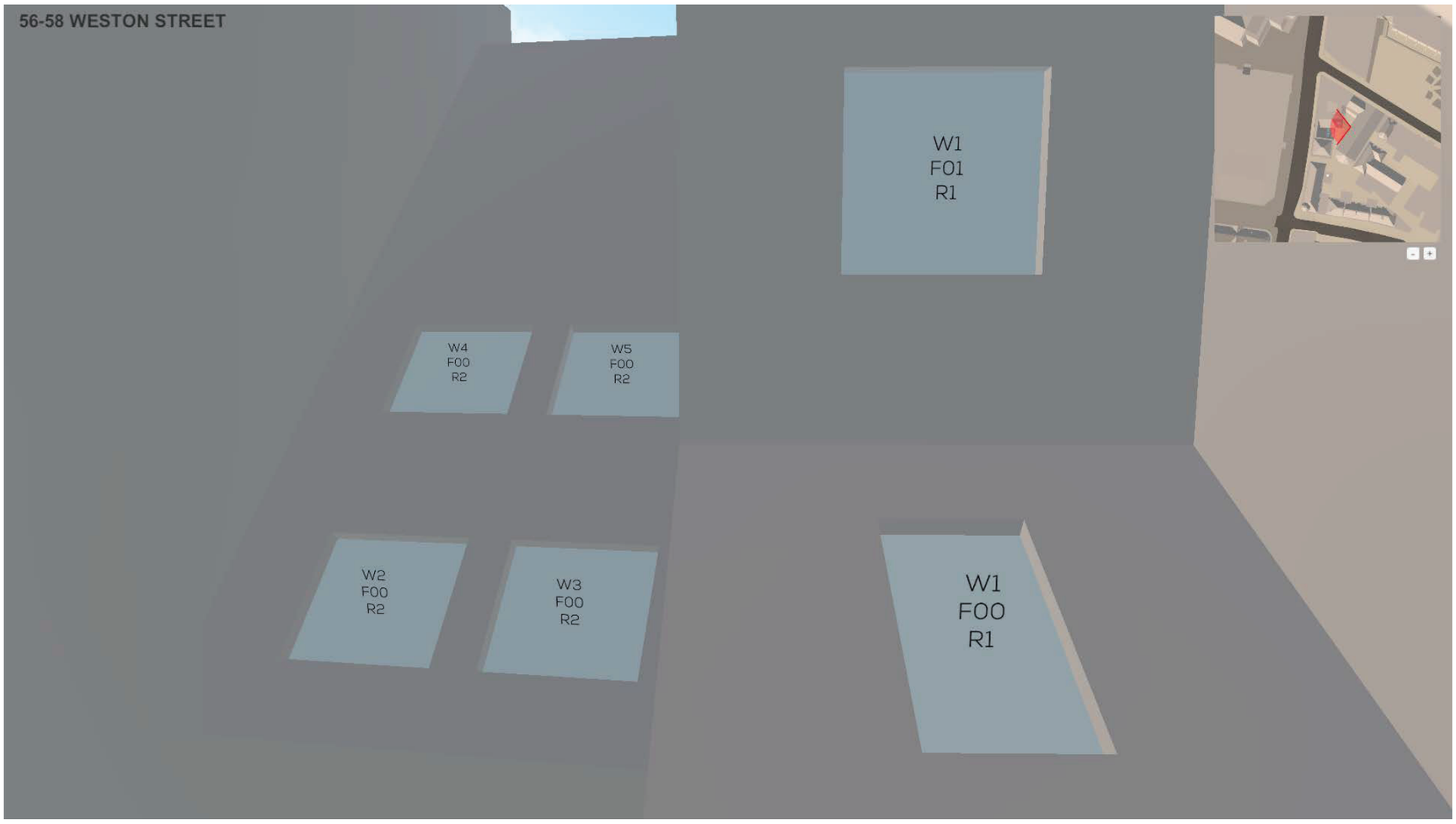
52-54 WESTON STREET



52-54 WESTON STREET



56-58 WESTON STREET



52-54 WESTON STREET



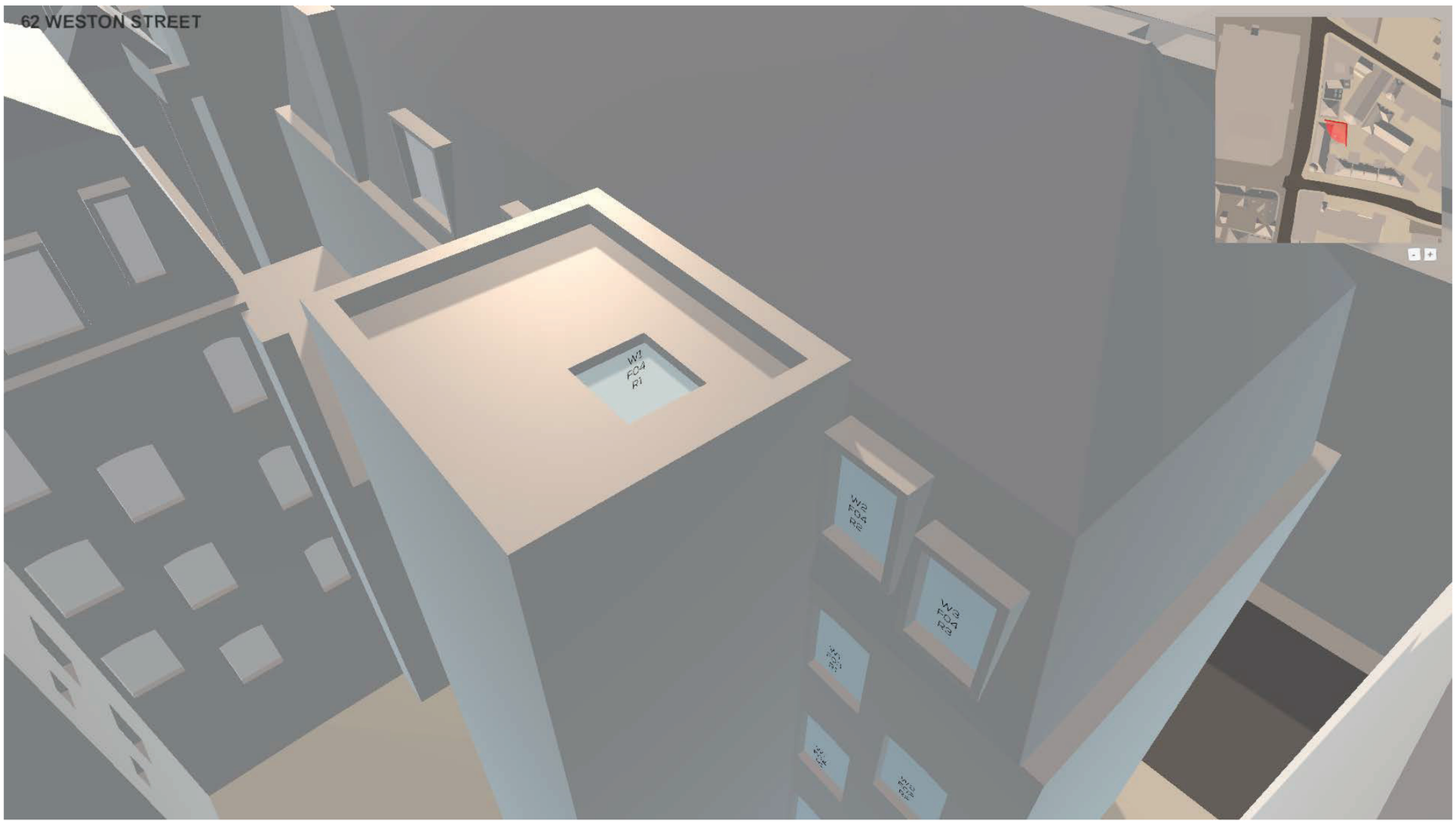

62 WESTON STREET
W2
F04
R2
W3
F04
R3
W1
F03
R1
W2
F02
R2
W1
F02
R1
W2
F01
R2


62 WESTON STREET
W2
F02
R2
W1
F02
R1
W2
F01
R2
W1
F01
R1
W2
F00
R2

103 -114 GUINNESS COURT



62 WESTON STREET



103 -114 GUINNESS COURT



103 -114 GUINNESS COURT



BECKET HOUSE

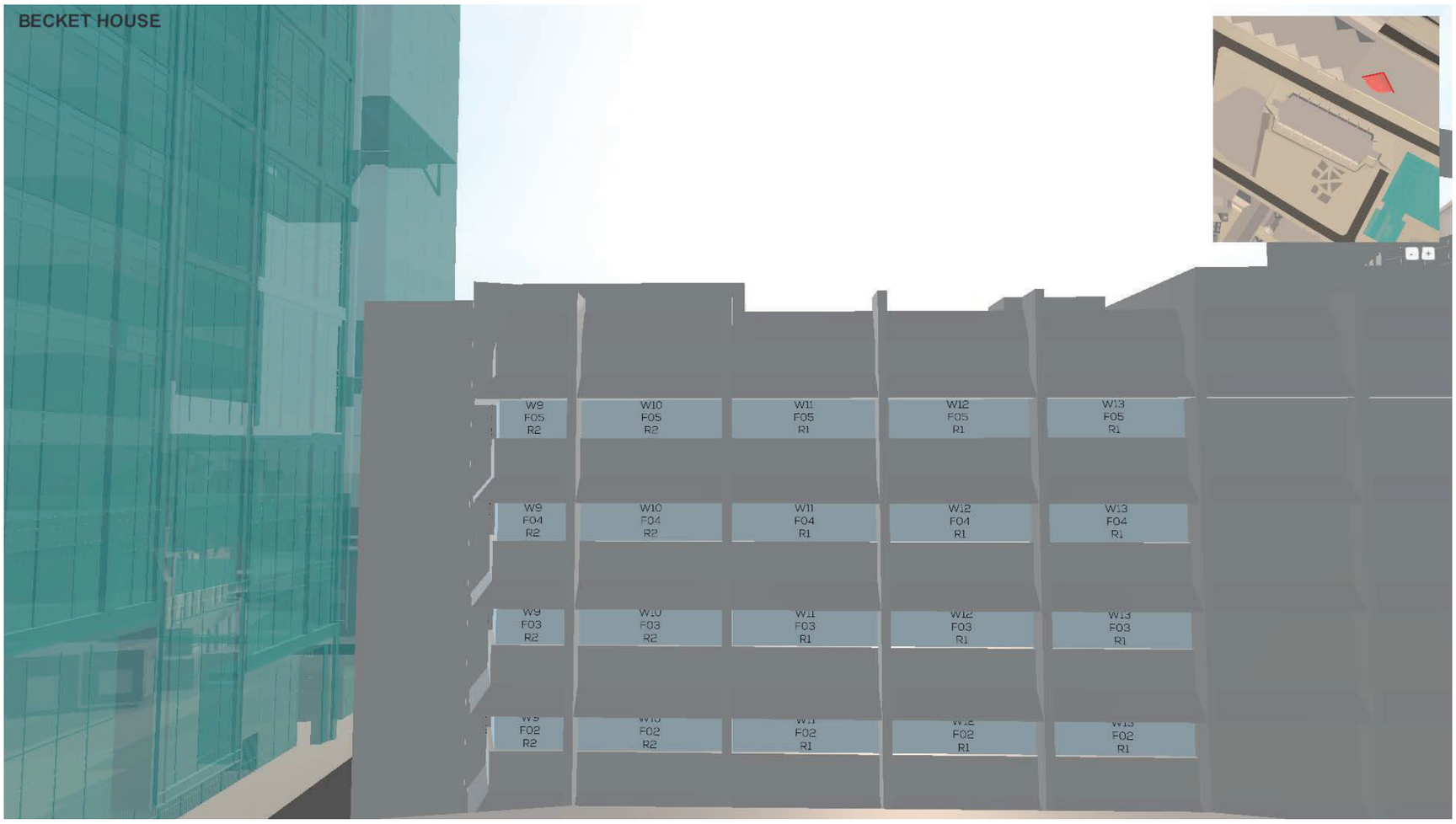


103 -114 GUINNESS COURT



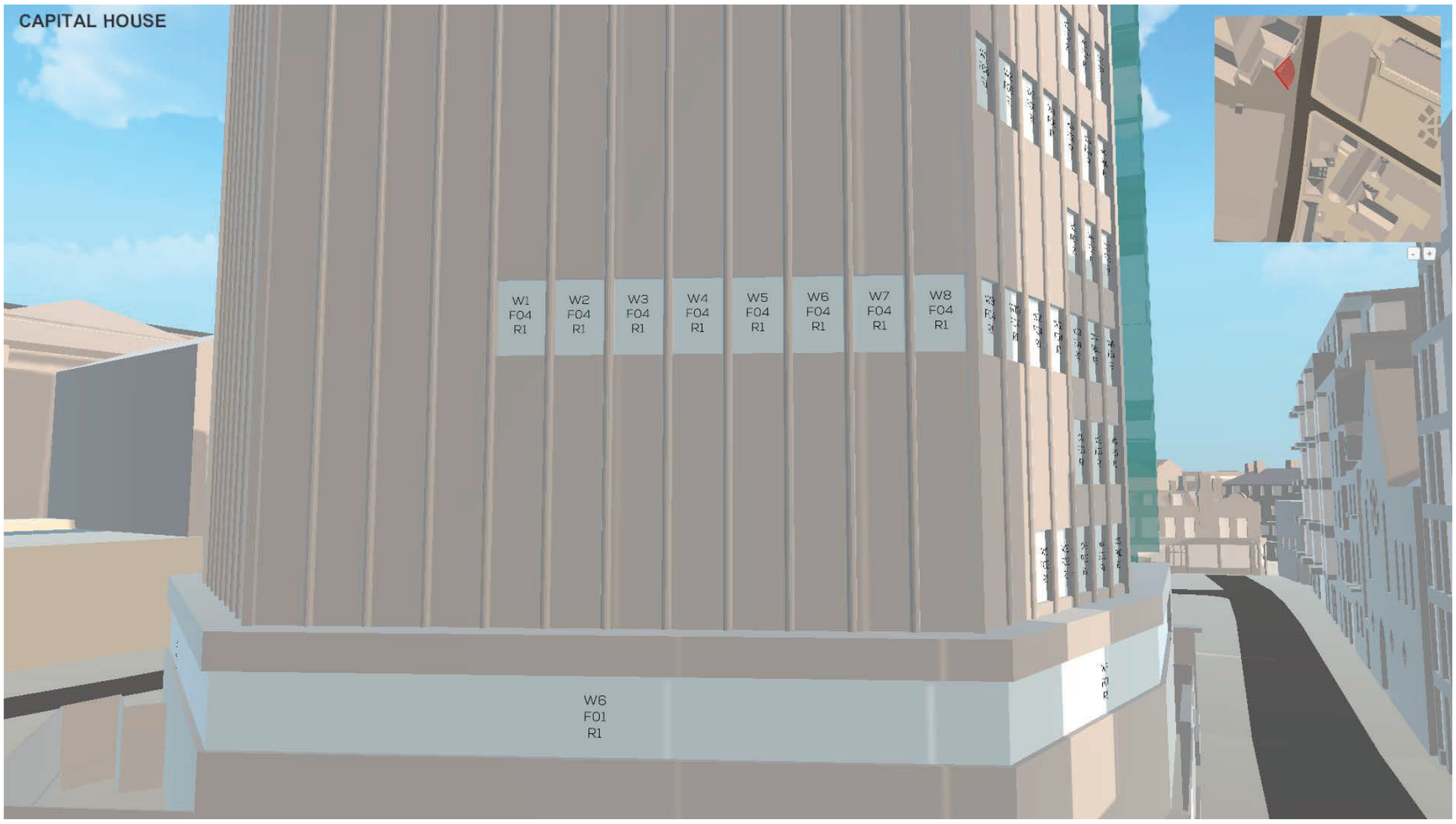

W7
F01
VR
W7
F00
VR
W8
F02
R2
W8
F01
R2
W8
F00
R6
R2
W6
F02
R2
W6
F01
R2
W6
F00
R3
R2
BECKET HOUSE


W7
F03
VR
W7
F02
VR
W7
F01
VR
W8
F04
R2
W8
F03
R2
W8
F02
R2
W8
F01
R2
F00
R6
W6
F04
R2
W6
F03
R2
W6
F02
R2
W6
F01
R2
F00
R3
BECKET HOUSE

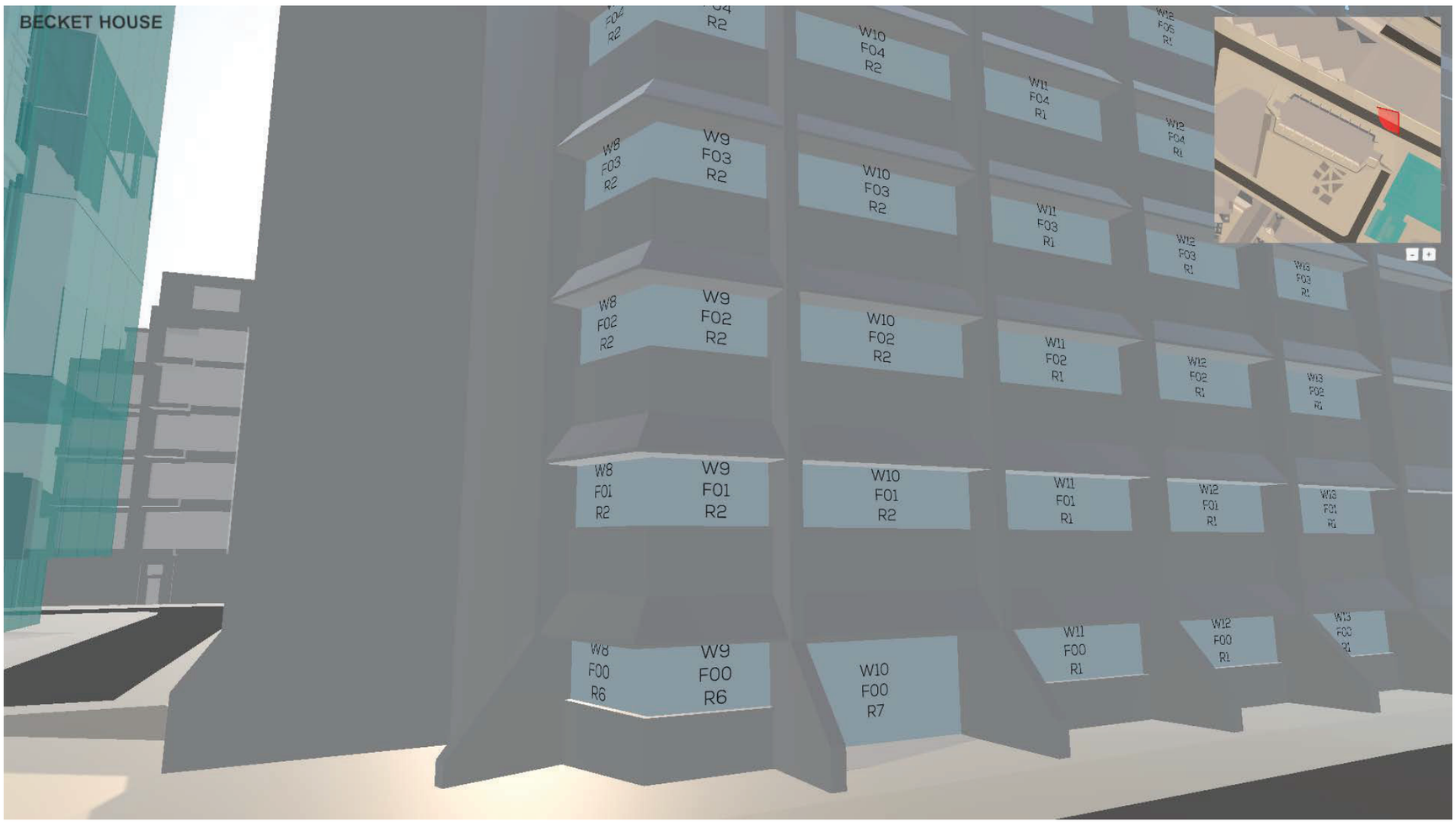

BECKET HOUSE
W9 F05 R2
W10 F05 R2
W11 F05 R1
W12 F05 R1
W13 F05 R1
W9 F04 R2
W10 F04 R2
W11 F04 R1
W12 F04 R1
W13 F04 R1
W9 F03 R2
W10 F03 R2
W11 F03 R1
W12 F03 R1
W13 F03 R1
W9 F02 R2
W10 F02 R2
W11 F02 R1
W12 F02 R1
W13 F02 R1


BECKET HOUSE
W1 F05 R1
W2 F05 R1
W3 F05 R1
W4 F05 R2
W5 F05 R2
W1 F04 R1
W2 F04 R1
W3 F04 R1
W4 F04 R2
W5 F04 R2
W1 F03 R1
W2 F03 R1
W3 F03 R1
W4 F03 R2
W5 F03 R2
W1 F02 R1
W2 F02 R1
W3 F02 R1
W4 F02 R2
W5 F02 R2
W1 F01 R1
W2 F01 R1
W3 F01 R1
W4 F01 R2
W5 F01 R2
W1 F00 R1
W2 F00 R1
W3 F00 R1
W4 F00 R2
W5 F00 R3
W1 B01
W2 B01
W3 B01
W4 B01
W5 B01

CAPITAL HOUSE



BECKET HOUSE



CAPITAL HOUSE

W1 F09 R1
W2 F09 R1
W3 F09 R1
W1 F08 R1
W2 F08 R1
W3 F08 R1
W1 F07 R1
W2 F07 R1
W3 F07 R1
W1 F06 R1
W2 F06 R1
W3 F06 R1
W4 F06 R1
W5 F06 R1
W6 F06 R1
W7 F06 R1
W1 F05 R1
W2 F05 R1
W3 F05 R1
W13 F04 R2
W14 F04 R2
W15 F04 R2
W9 F04 R1
W10 F04 R1
W11 F04 R1
W12 F04 R1

CAPITAL HOUSE

W1 F06 R1
W2 F06 R1
W3 F06 R1
W4 F06 R1
W5 F06 R1
W6 F06 R1
W7 F06 R1
W1 F05 R1
W2 F05 R1
W3 F05 R1
W9 F04 R1
W10 F04 R1
W11 F04 R1
W12 F04 R1
W13 F04 R2
W14 F04 R2
W15 F04 R2
W1 F03 R1
W2 F03 R1
W3 F03 R1
W1 F02 R1
W2 F02 R1
W3 F02 R1
W4 F02 R1
W5 F02 R1
W7 F01 R1

CAPITAL HOUSE



CAPITAL HOUSE



CAPITAL HOUSE



W4
F01
R1

W5
F01
R1

CAPITAL HOUSE

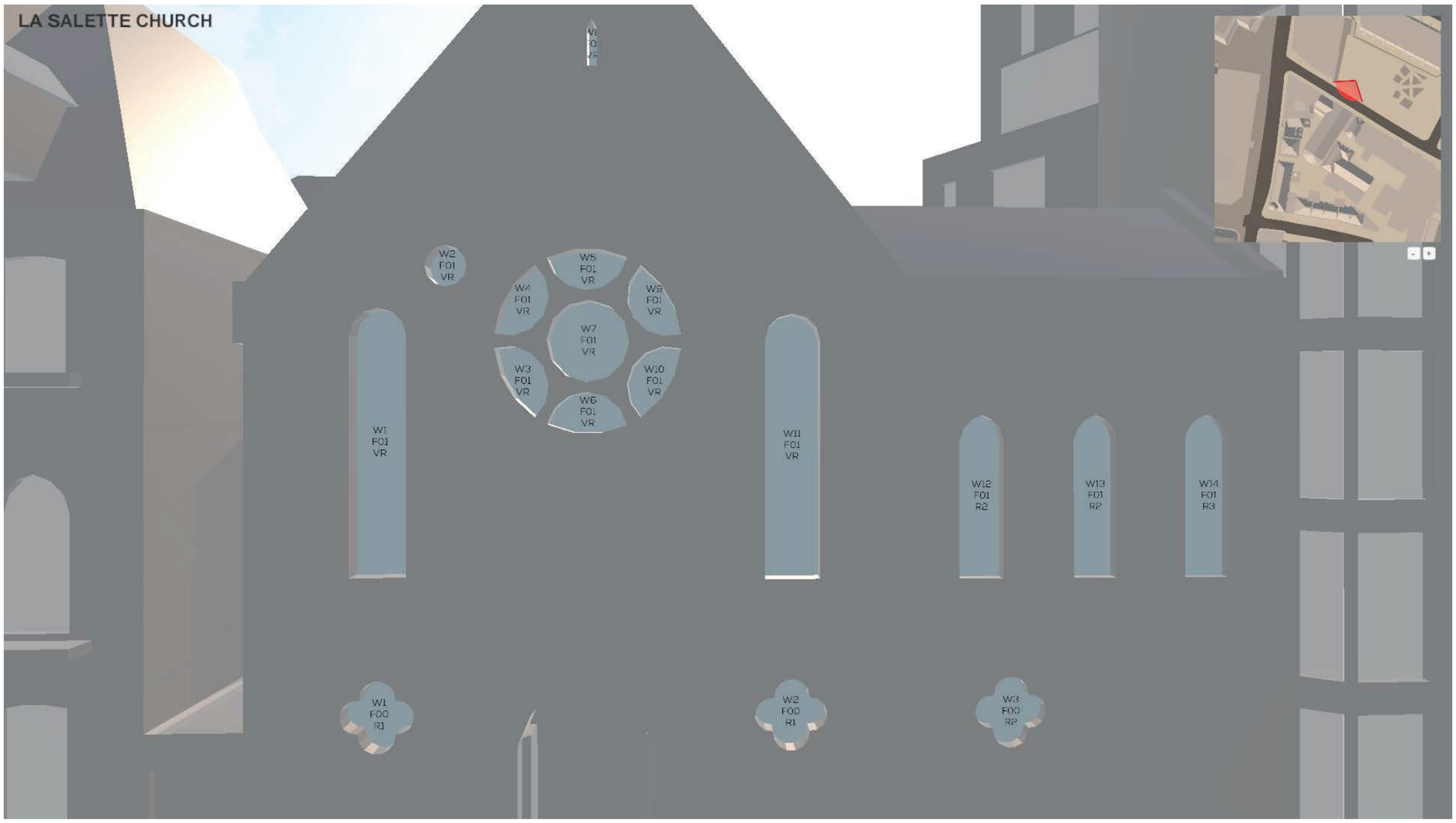


W1
F01
R1

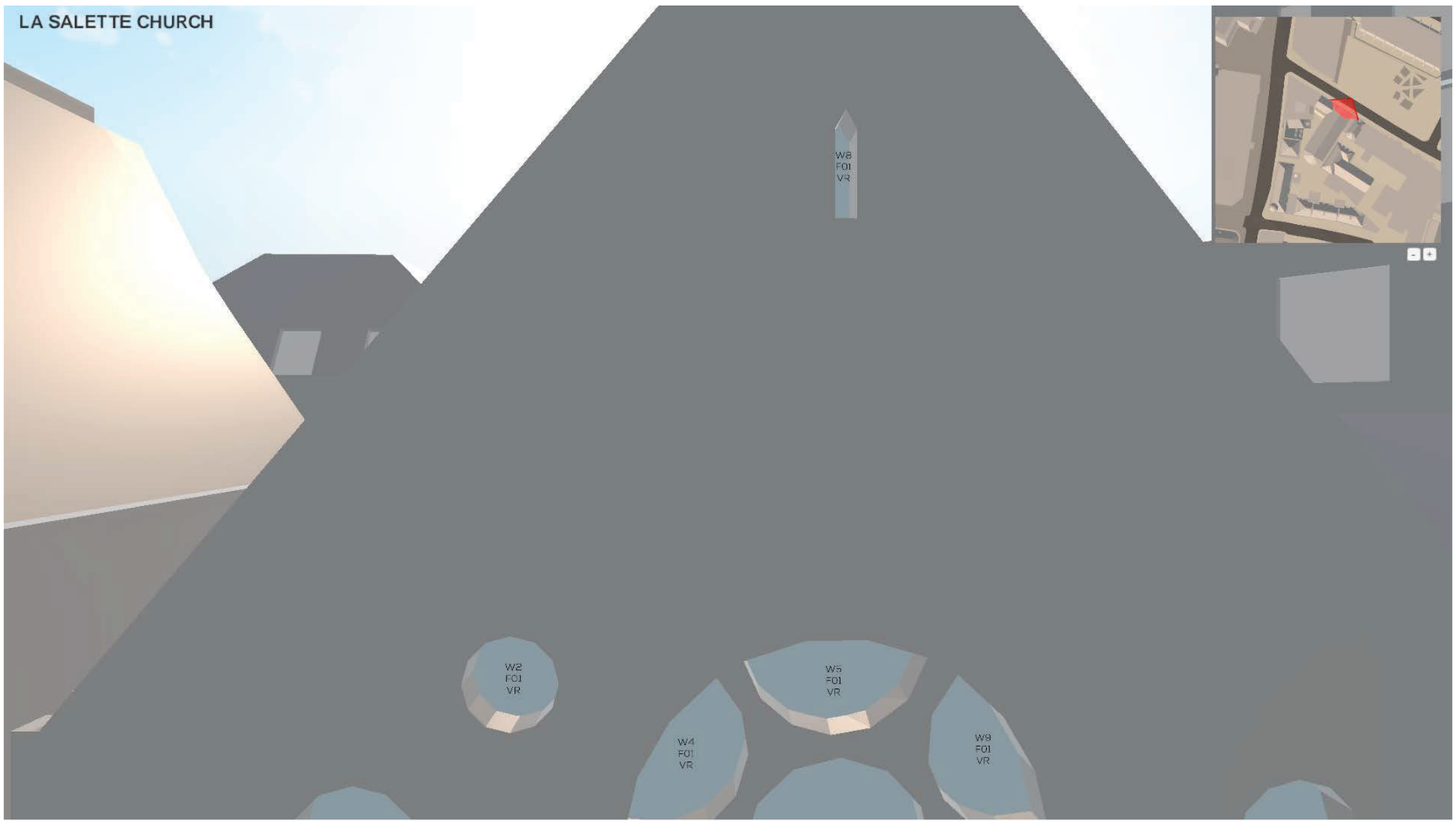
W2
F01
R1

W3
F01
R1

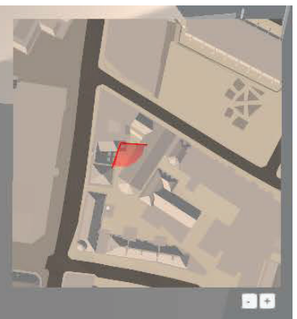
LA SALETTE CHURCH



LA SALETTE CHURCH



LA SALETTE CHURCH



W17 F01 VR

W18 F01 VR

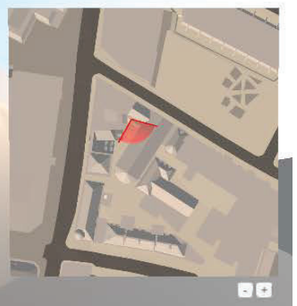
W19 F01 VR

W20 F01 VR

W21 F01 VR

W22 F01 VR

LA SALETTE CHURCH



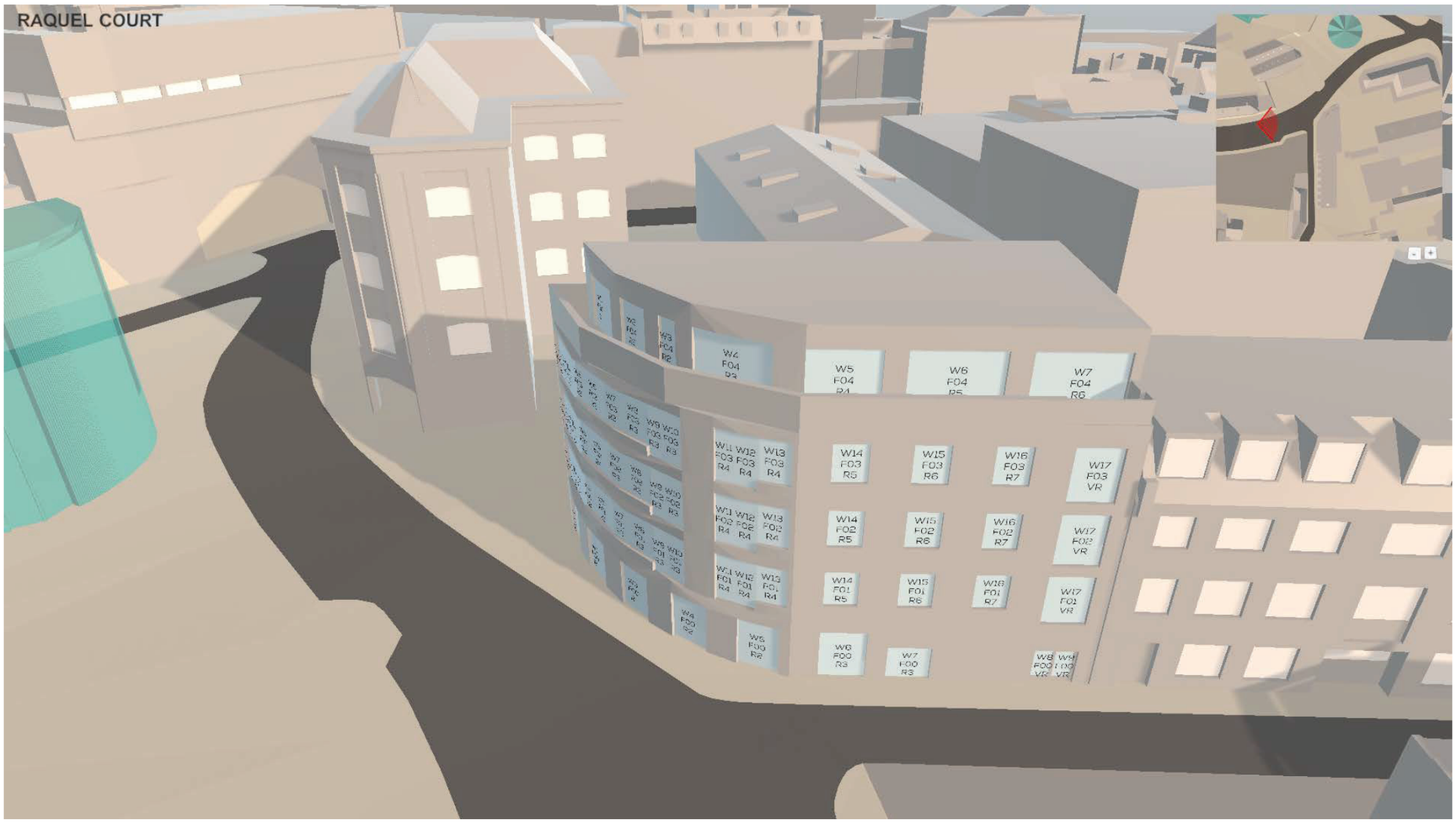
W15 F01 VR

W16 F01 VR

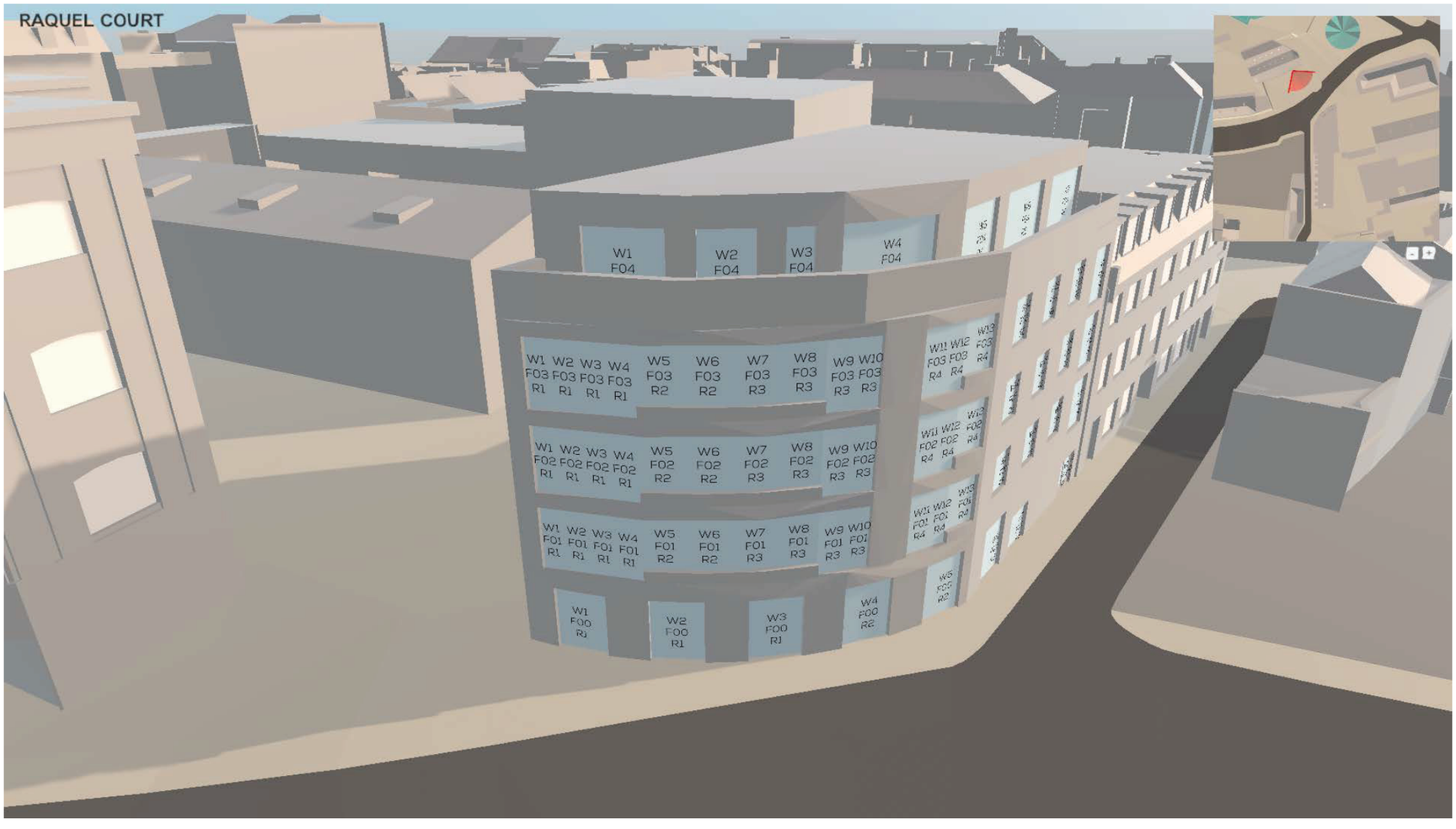
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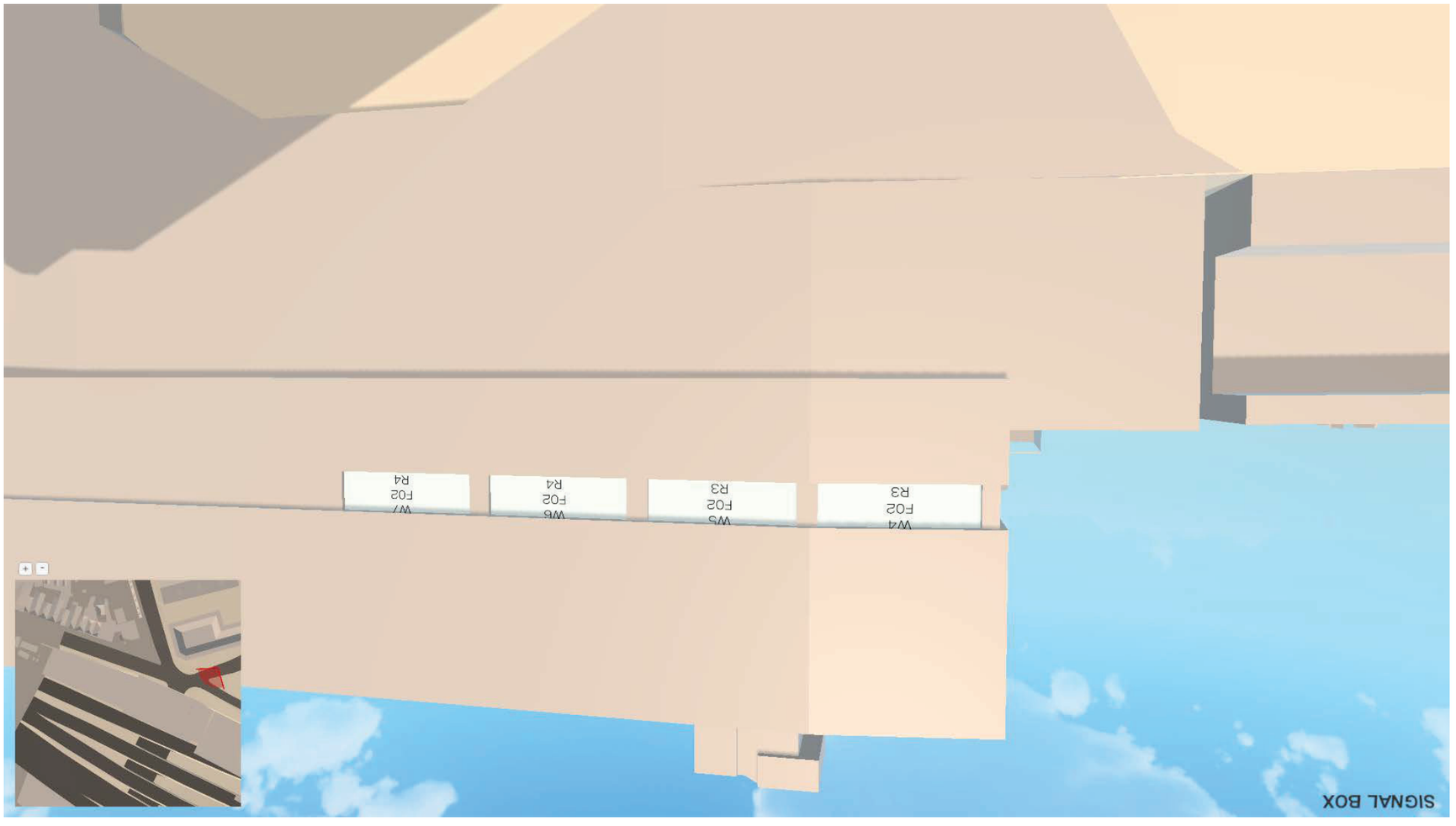
W18 F01 VR

RAQUEL COURT



RAQUEL COURT




W4
F02
R3
W5
F02
R3
W6
F02
R4
W7
F02
R4
SIGNAL BOX


W1
F02
R1
W2
F02
R2
W3
F02
R3
SIGNAL BOX

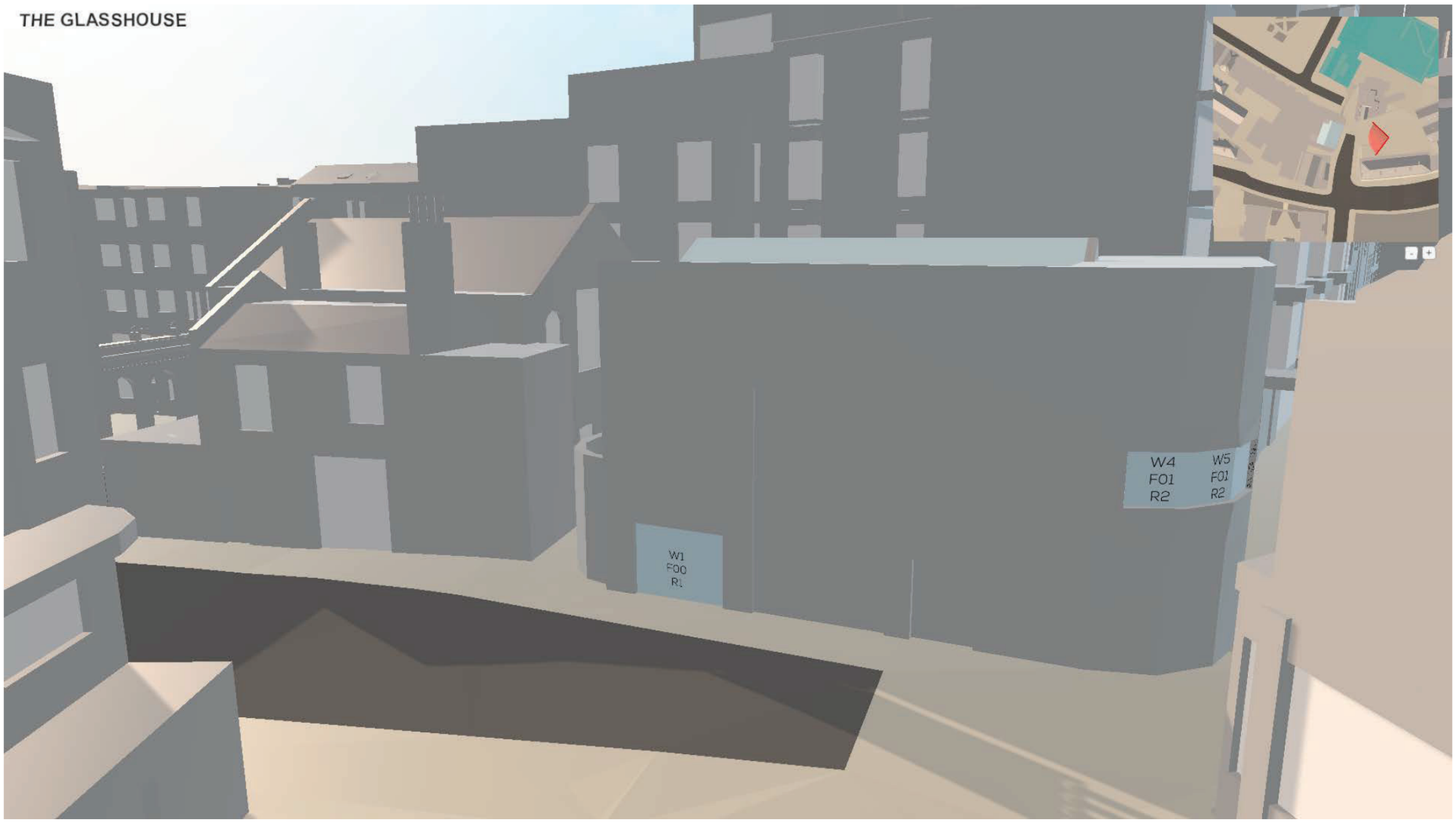
SNOWSFIELDS PRIMARY SCHOOL



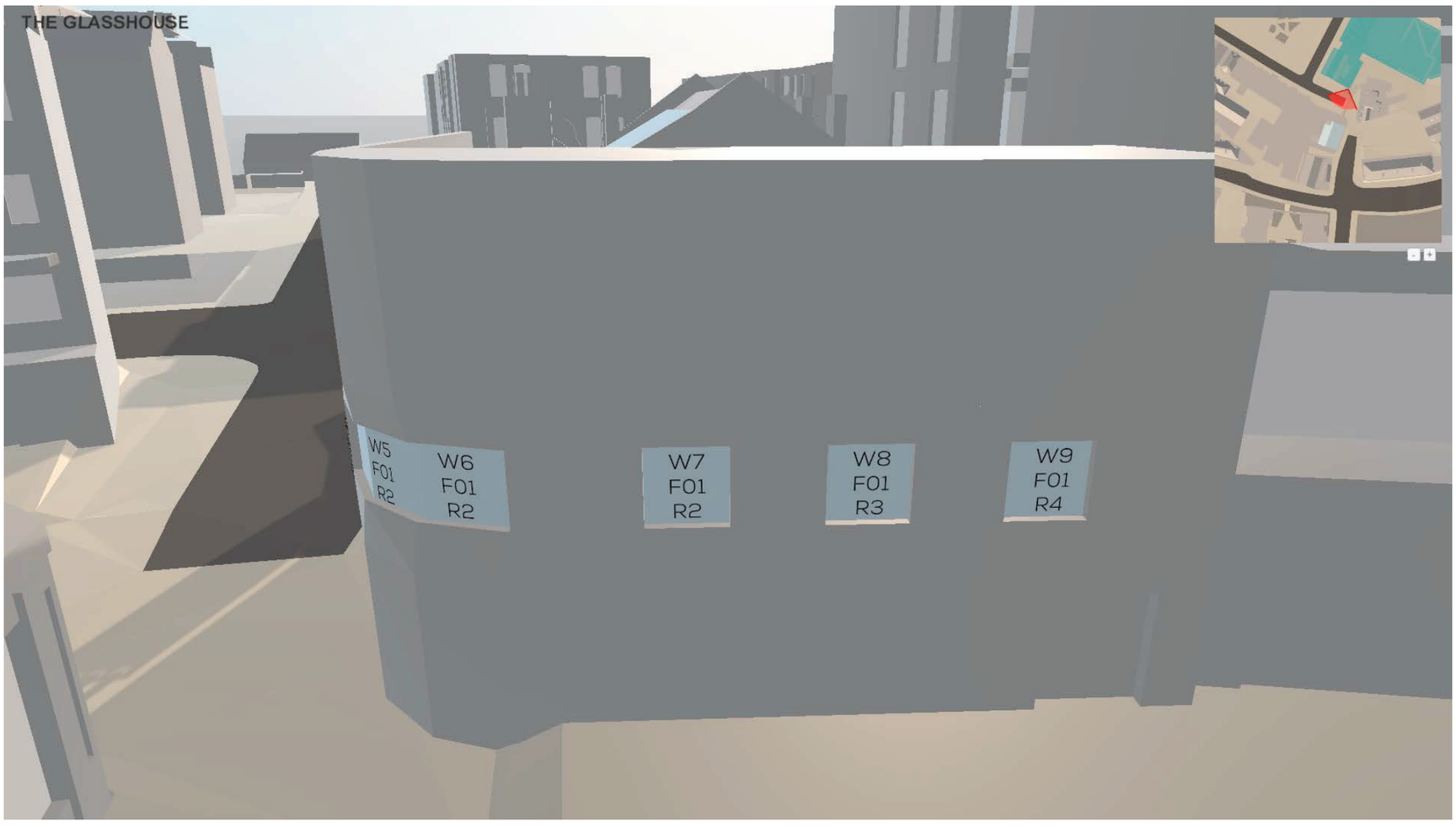
SNOWSFIELDS PRIMARY SCHOOL



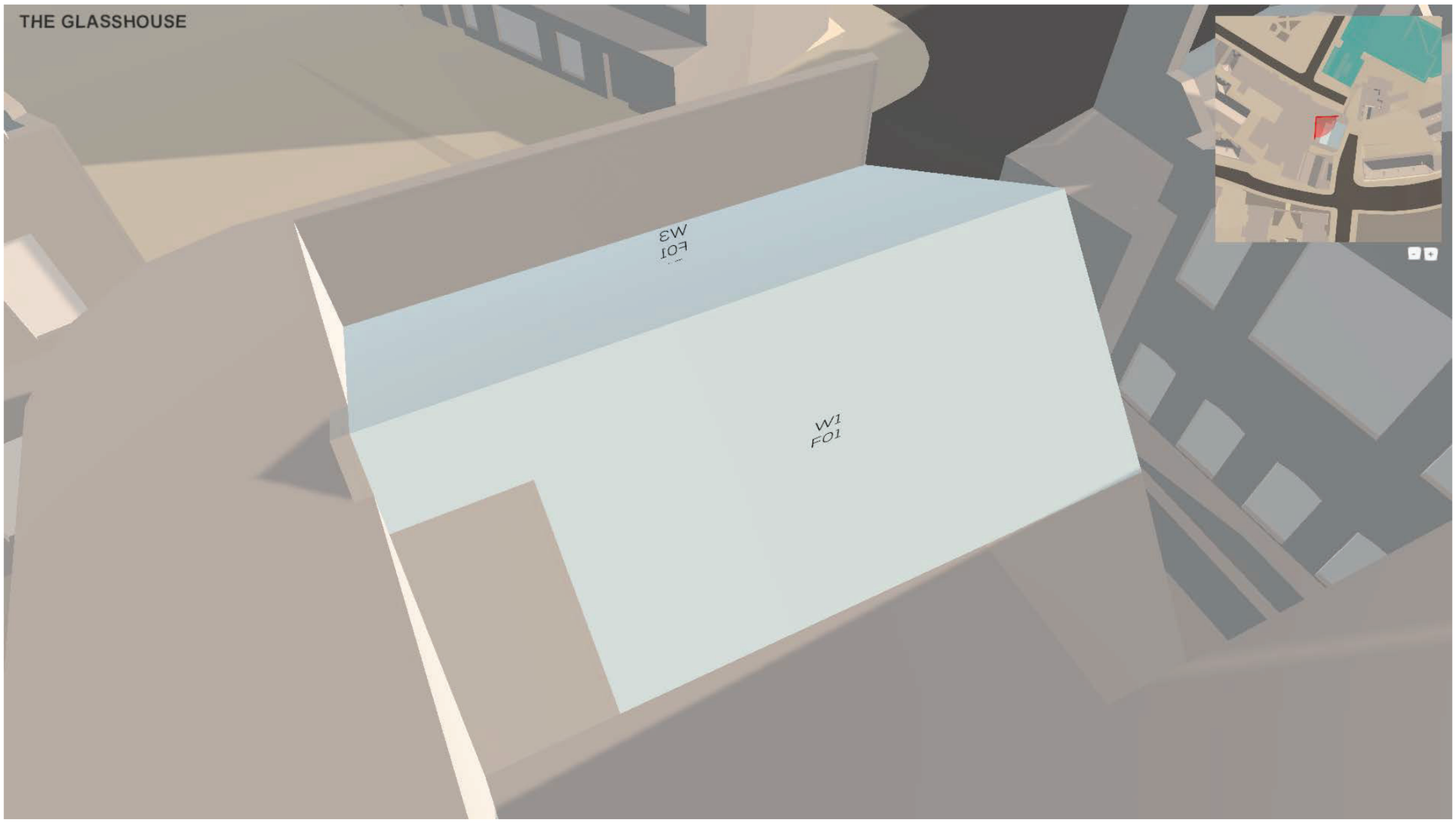
THE GLASSHOUSE



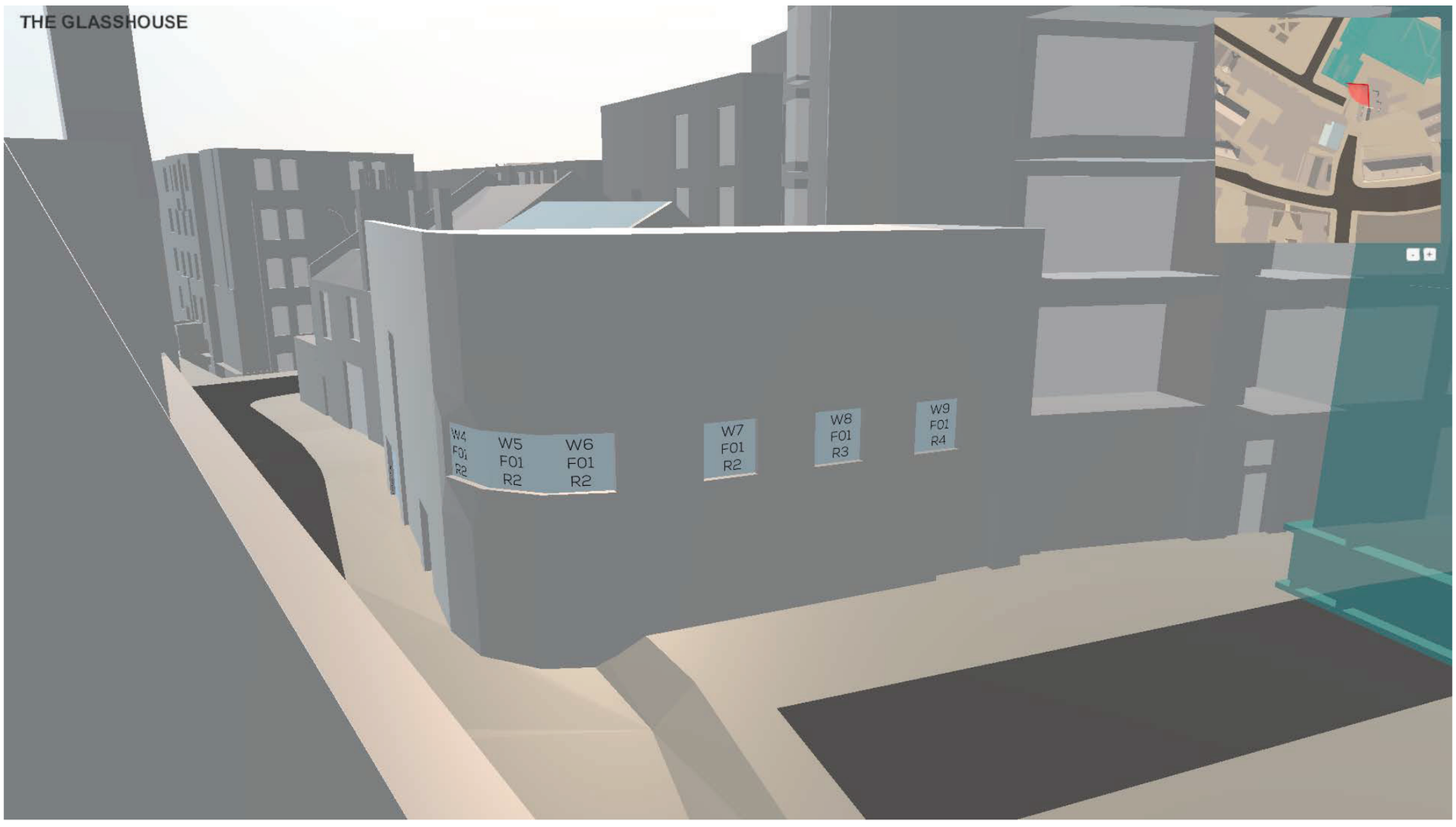
THE GLASSHOUSE



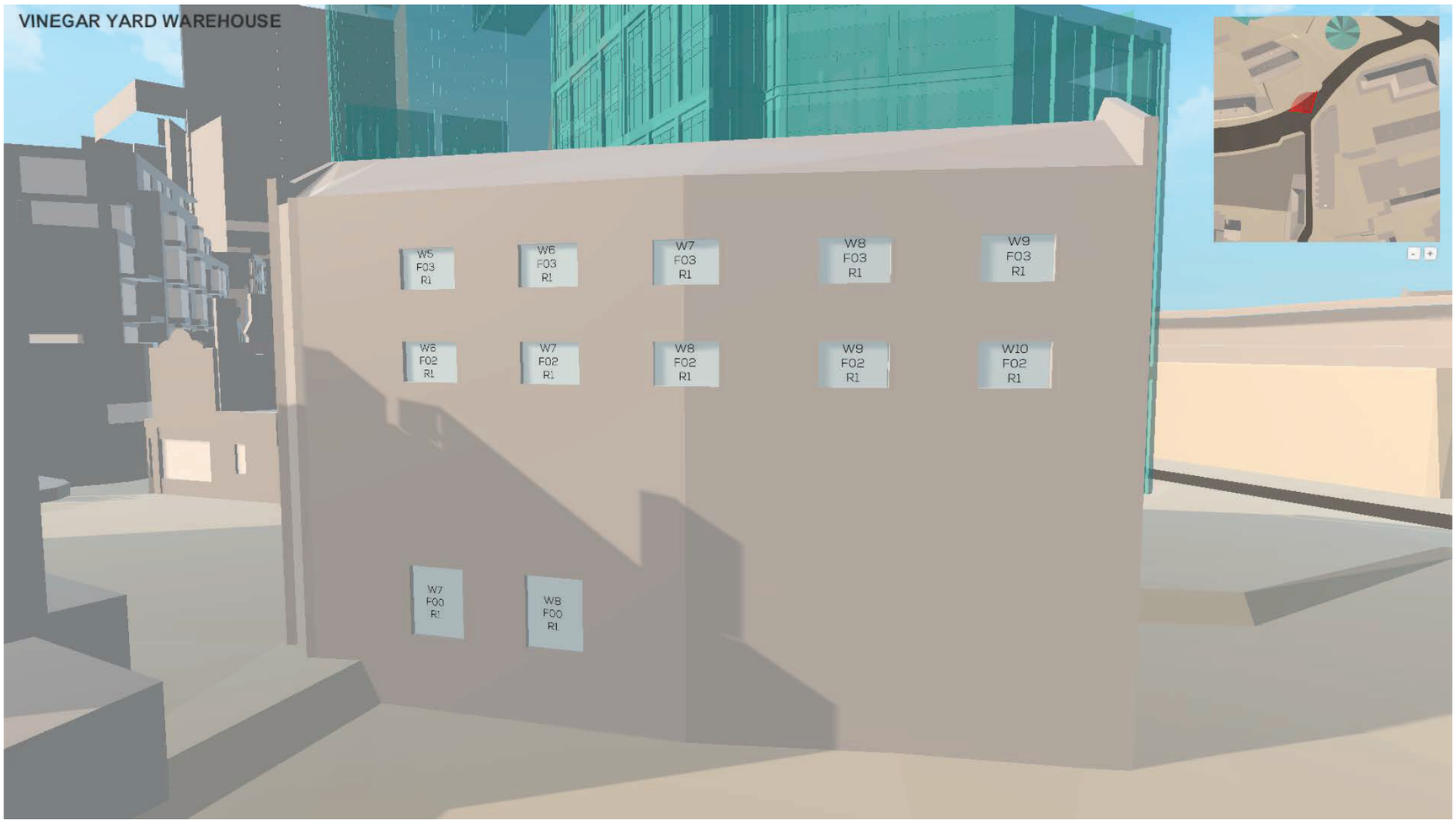
THE GLASSHOUSE



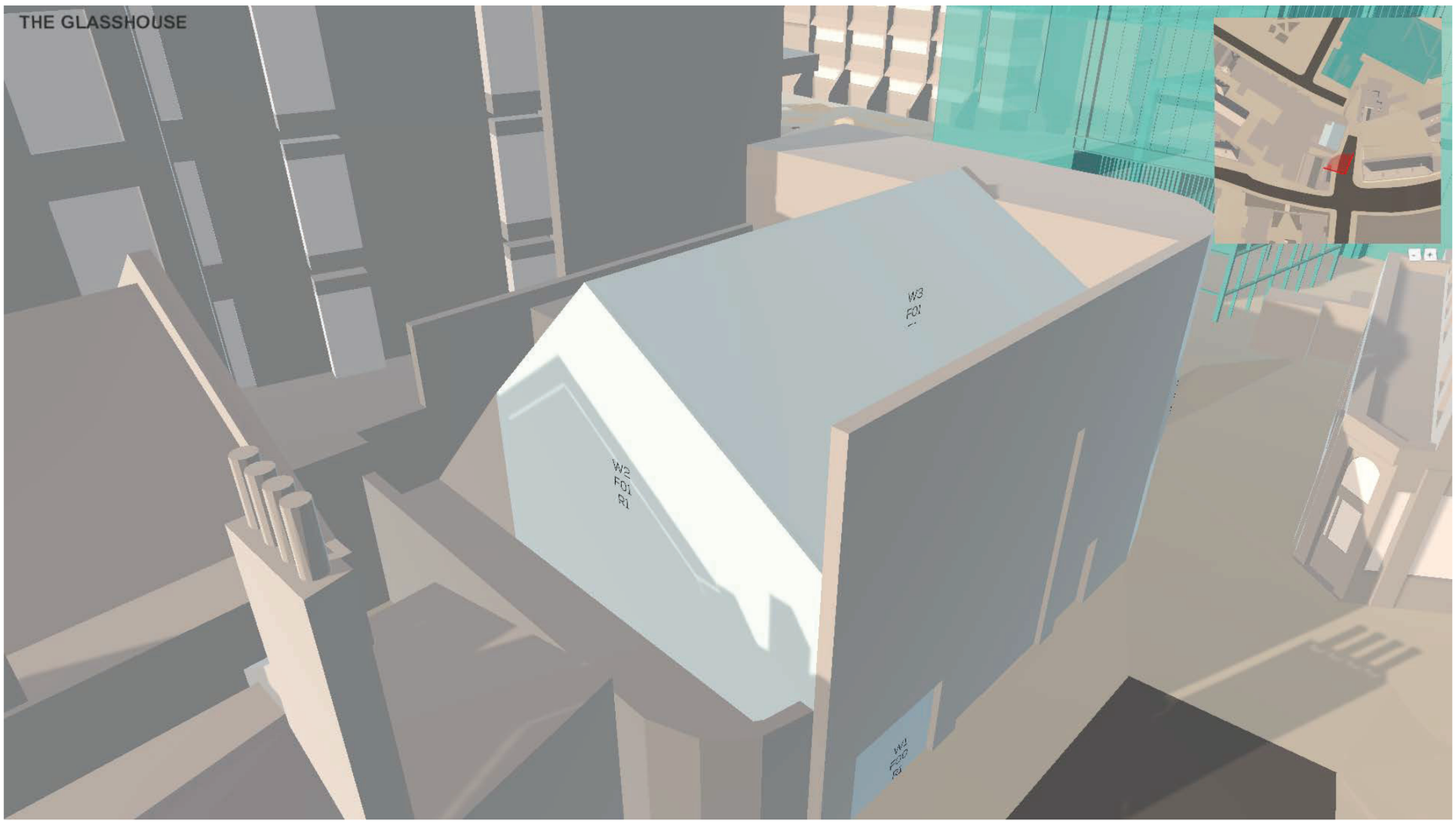
THE GLASSHOUSE



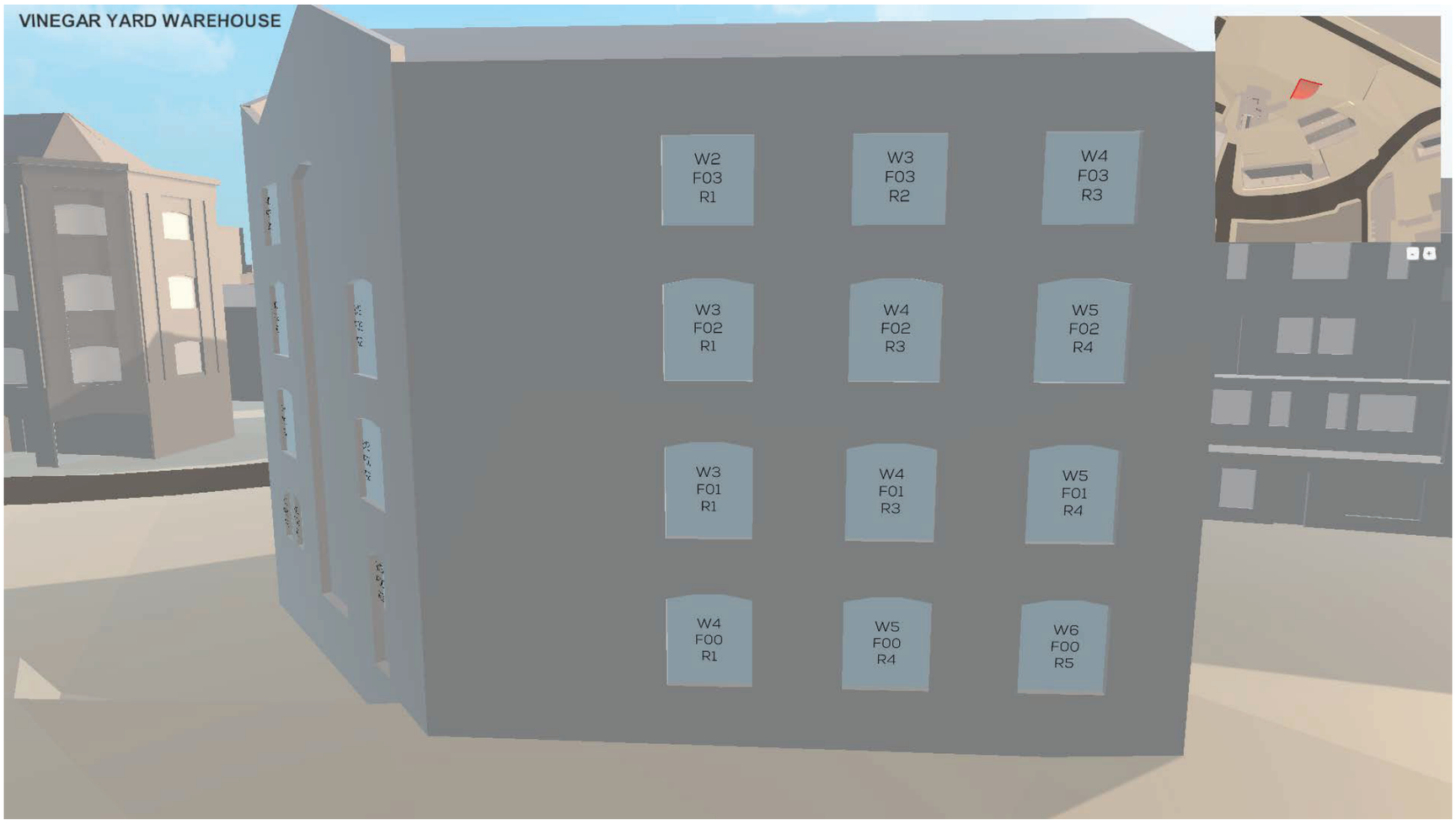
VINEGAR YARD WAREHOUSE



THE GLASSHOUSE



VINEGAR YARD WAREHOUSE



VINEGAR YARD WAREHOUSE



VINEGAR YARD WAREHOUSE

W14 F03 --
W13 F03 --
W12 F03 --
W11 F03 --
W10 F03 --

M13 F03
M18 F03
M17 F03
M16 F03
M12 F03

VINEGAR YARD WAREHOUSE

W15 F03 --
W16 F03 --
W17 F03 --
W18 F03 --
W19 F03 --

M10 F03
M11 F03
M15 F03
M13 F03

VINEGAR YARD WAREHOUSE



VINEGAR YARD WAREHOUSE



APPENDIX D – Heritage, Townscape and Visual Impact Assessment

- Annex 1 – Emerging Scheme Overview
- Annex 2 – Zone of Visual Influence
- Annex 3 – LVMF Views
- Annex 4 – Hardwidge Street Views
- Annex 5 – Views 20 and 25 (vertically extended)

VINEGAR YARD

Annex 1 – Emerging Scheme Overview

Annex 2 – Zone of Visual Influence

Appendices

A1 Details of schemes



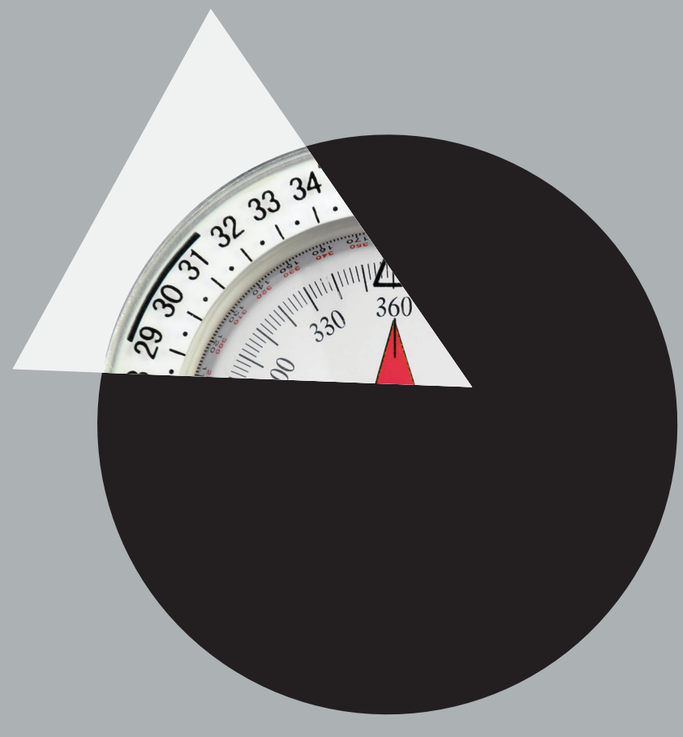
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The Vinegar Yard, Southwark, London SE1

Zone of Visual Influence

August 2019



millerhare

1 Zone of Theoretical Visibility Study

1.1 This study provides analysis of the visibility of the proposed scheme across the surrounding area.

1.2 The study uses the method of "shadow casting" whereby light sources are placed within a computer model of the proposals and its context. These lights then cast shadows onto the ground plane of the model. From these shadows diagrams of visibility are created.

1.3 This technique does not assess the amount of a development that is visible, only those areas where at least some part of a development is visible.

Methodology

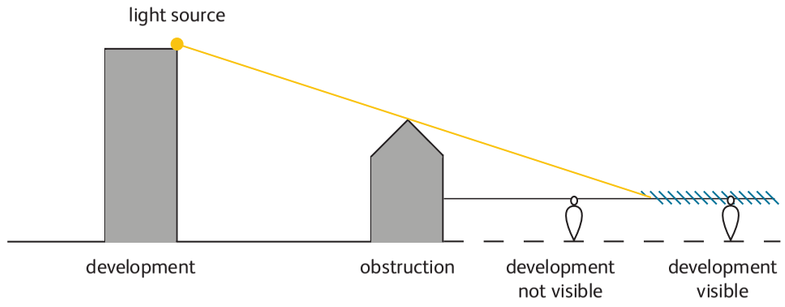
1.4 This study is generated using a simple computer model that combines an accurate massing of the proposed schemes with a highly simplified model of the surrounding context (with buildings shown to an accuracy of approx +/ – 1.5m).

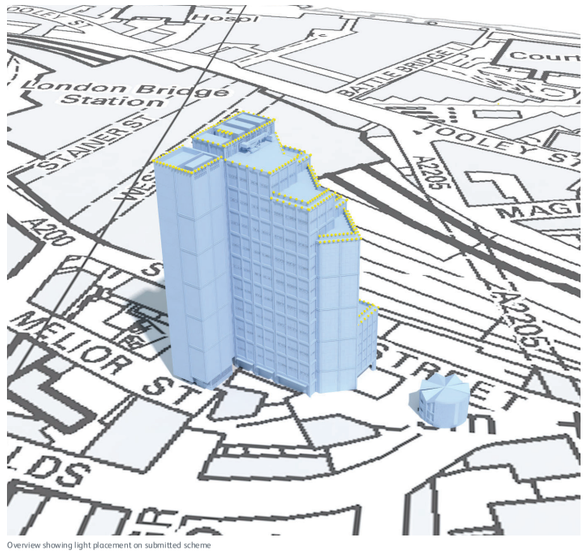
1.5 A test surface representing ground levels is raised by 1.6m, approximately the average eye height of a pedestrian. For the purposes of this study the impact of trees has been ignored.

1.6 Into this model a series of light sources are placed at the upper extremities of the taller elements of the schemes being studiesd. Low-rise buildings have not been included in this study.

1.7 From this model a plan view of the study area is generated showing the light sources casting shadows onto a surface raised 1.6m above the normal ground level. Any part of this surface that is exposed to one or more light sources will be shown in a light grey, indicating that at least some part of the scheme is visible from this position. Dark grey shading indicates positions from which no part of the scheme is visible.

1.8 It should be noted that this method will not produce reliable results where there is a discontinuity in the test surface such as at steps, retaining walls etc.





Overview showing light placement on submitted scheme

The Vinegar Yard, Southwark, London SE1
Zone of Visual Influence
August 2019

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Zone of Visual Influence - Proposed Scheme		3

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CIT Group Plc

Architect
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PA

Townscape Consultant
Montagu Evans

Visualisation
Millerhare

3886_8120 | 21 August 2019 11:13 AM

millerhare

millerhare

Zone of Visual Influence - Proposed Scheme

1.9 Plan view created using "shadow casting" technique whereby light sources were placed at the highest points on the development and a record made of the areas where this source cast light onto a test surface 1.6m above ground level.

1.10 A purple tone on the plan indicates areas from which the proposed development is likely to be visible.

1.11 The proposed development has been coloured yellow.

4063_9012



Plan diagram showing areas of visibility.coloured purple.



3886_0441 version 181206
The Vinegar Yard [2018] I View - LVMF SPG London Panorama from Parliament Hill to St Paul‰s Cathedral (Assessment Point 2A.1) - Existing

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VINEGAR YARD

Annex 3 – LVMF Views



3886_0446 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) - Cumulative

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3886_0445 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) - Proposed

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3886_0448 version 190815
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) - Cumulative scenario C

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3886_0447 version 190815
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) - Cumulative scenario B

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3886_4515 version 190815A
The Vinegar Yard [2018] I LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) -Zoom - Proposed

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3886_4511 version 181206
The Vinegar Yard [2018] I View - LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) -Zoom - Existing

millerhare



3886_4517 version 190815
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) -Zoom - Cumulative scenario B

millerhare



3886_4516 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) -Zoom - Cumulative

millerhare



3886_0451 version 181206
The Vinegar Yard [2018] I View - LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Existing

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3886_4518 version 190815
The Vinegar Yard [2018] I LVMF SPG London Panorama from Parliament Hill to St Paul&s Cathedral (Assessment Point 2A.1) -Zoom - Cumulative scenario C

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3886_0456 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Cumulative

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3886_0455 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Proposed

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3886_0458 version 190815
The Vinegar Yard [2018] I LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Cumulative scenario C

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3886_0457 version 190815
The Vinegar Yard [2018] I LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Cumulative scenario B

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3886_4415 version 190815A
The Vinegar Yard [2018] I LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Zoom - Proposed

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3886_4411 version 181206
The Vinegar Yard [2018] I View - LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Zoom - Existing

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3886_4417 version 190815
The Vinegar Yard [2018] | LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Zoom - Cumulative scenario B

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3886_4416 version 190815A
The Vinegar Yard [2018] | LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Zoom - Cumulative

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3886_0491 version 181206
The Vinegar Yard [2018] I View - LVMF SPG River Prospect from Tower Bridge upstream (Assessment Point 10A.1) - Existing

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3886_4418 version 190815
The Vinegar Yard [2018] I LVMF SPG London Panorama from Kenwood to St Paul&s Cathedral (Assessment Point 3A.1) - Zoom - Cumulative scenario C

millerhare



3886_0496 version 190410
The Vinegar Yard [2018] | LVMF SPG River Prospect from Tower Bridge upstream (Assessment Point 10A.1) - Cumulative

millerhare



3886_0495 version 190410
The Vinegar Yard [2018] | LVMF SPG River Prospect from Tower Bridge upstream (Assessment Point 10A.1) - Proposed

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3886_0498 version 190412
The Vinegar Yard [2018] | LVMF SPG River Prospect from Tower Bridge upstream (Assessment Point 10A.1) - Cumulative scenario C

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3886_0497 version 190412
The Vinegar Yard [2018] | LVMF SPG River Prospect from Tower Bridge upstream (Assessment Point 10A.1) - Cumulative scenario B

millerhare



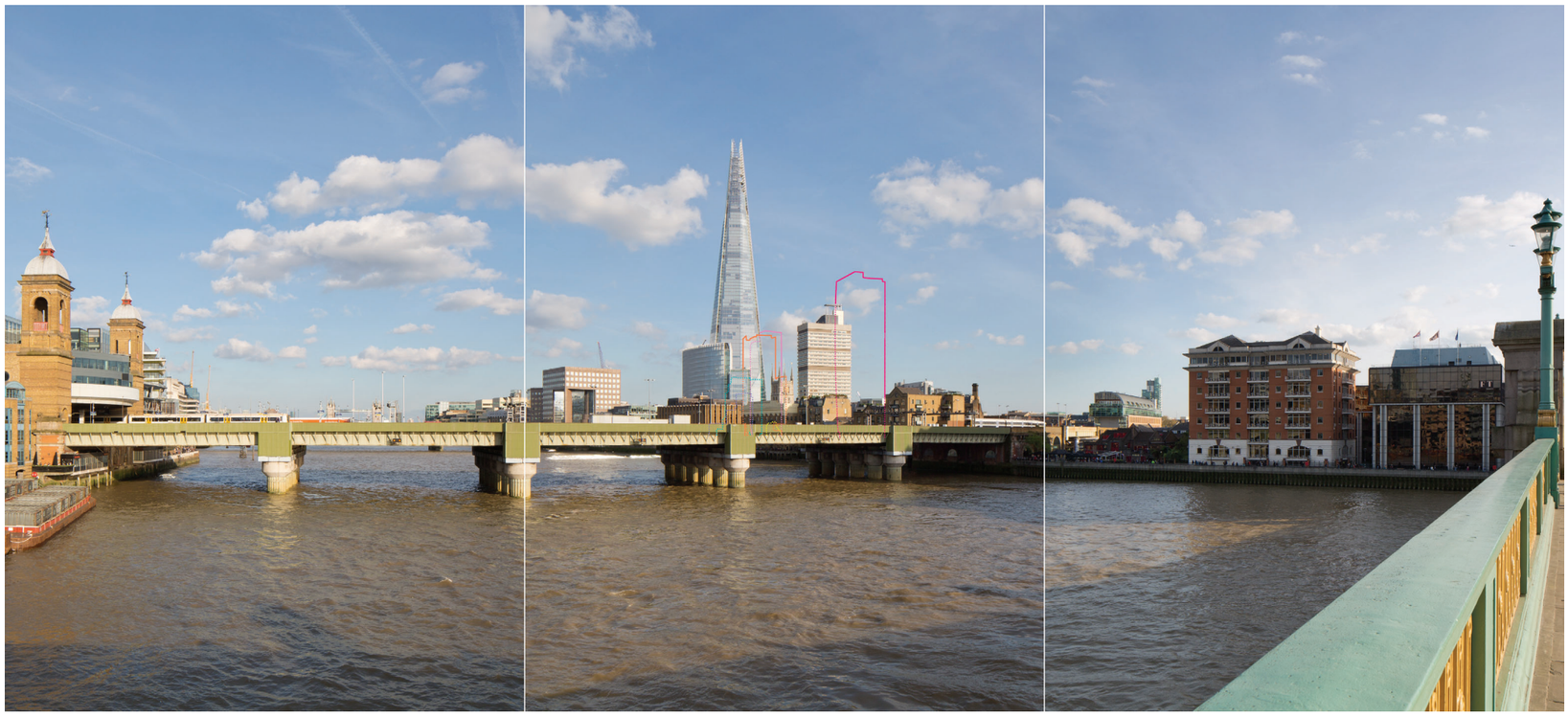
3886_5005 version 190815A
The Vinegar Yard [2018] I LVMF SPG River Prospect from Southwark Bridge downstream (Assessment Point 12B.1) - Proposed

millerhare



3886_5001 version 181206
The Vinegar Yard [2018] I View - LVMF SPG River Prospect from Southwark Bridge downstream (Assessment Point 12B.1) - Existing

millerhare



3886_5007 version 190815
The Vinegar Yard [2018] I LVMF SPG River Prospect from Southwark Bridge downstream (Assessment Point 12B.1) - Cumulative scenario B

millerhare

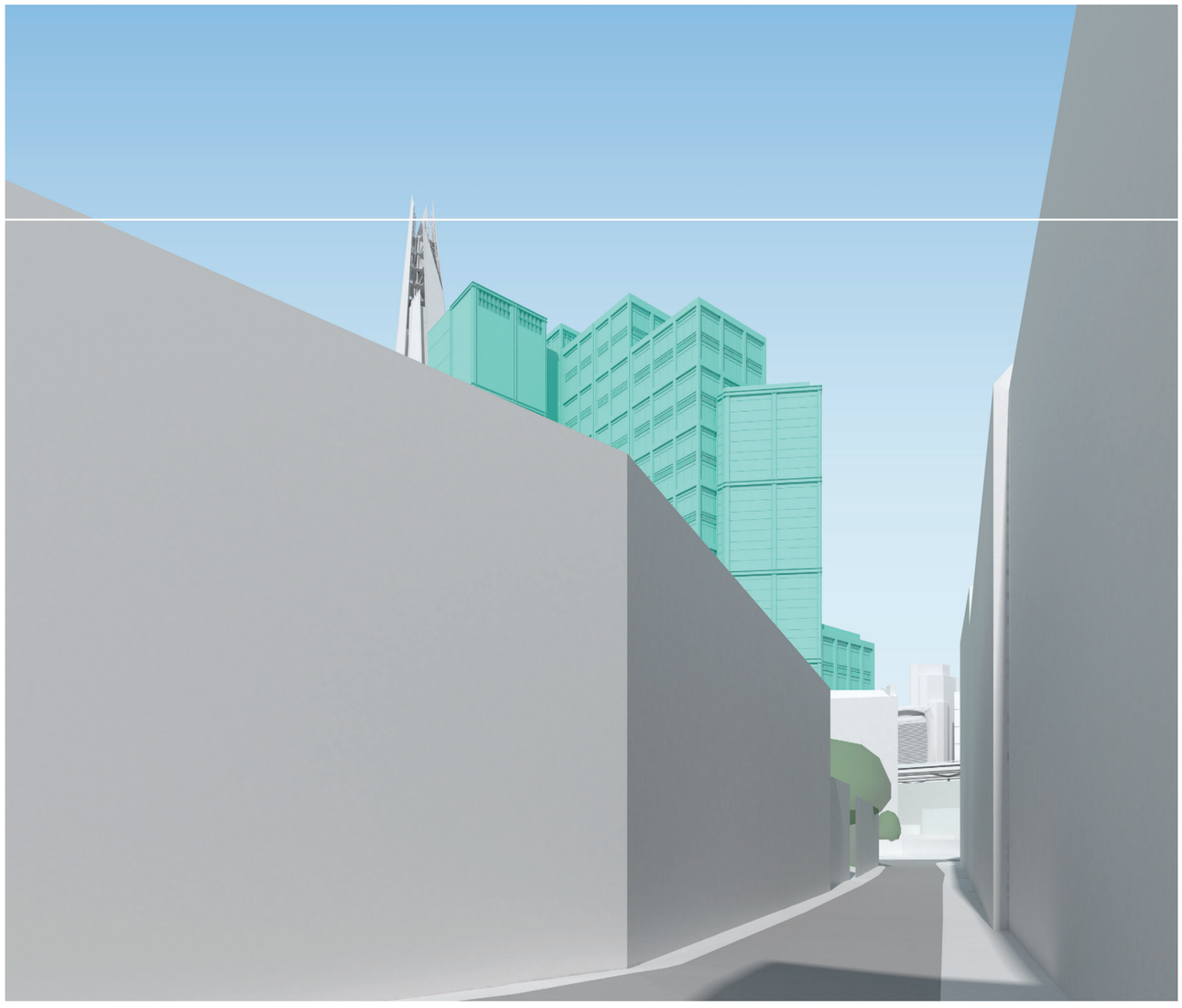


3886_5006 version 190815A
The Vinegar Yard [2018] I LVMF SPG River Prospect from Southwark Bridge downstream (Assessment Point 12B.1) - Cumulative

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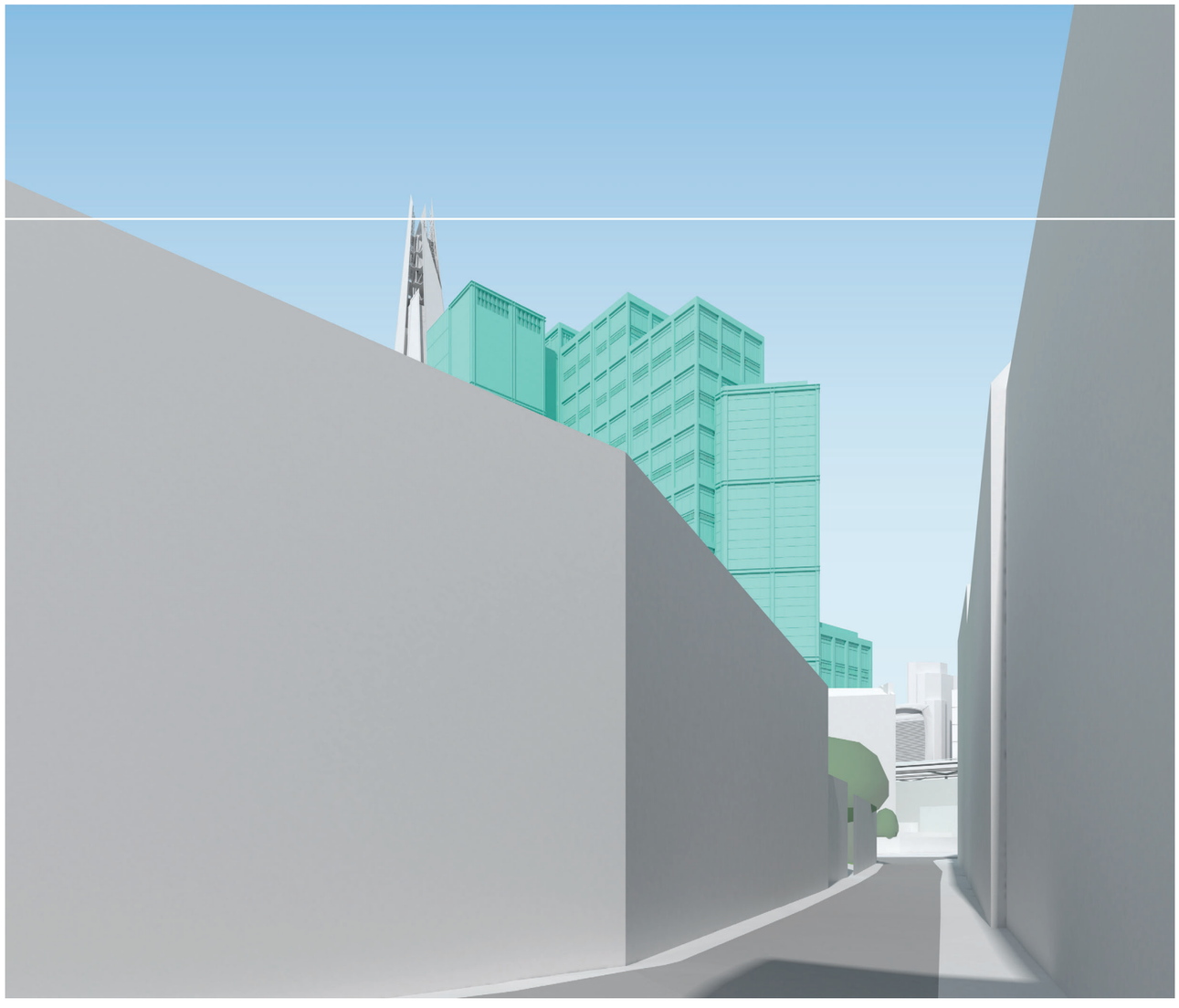
Annex 4 – Hardwidge Street Views





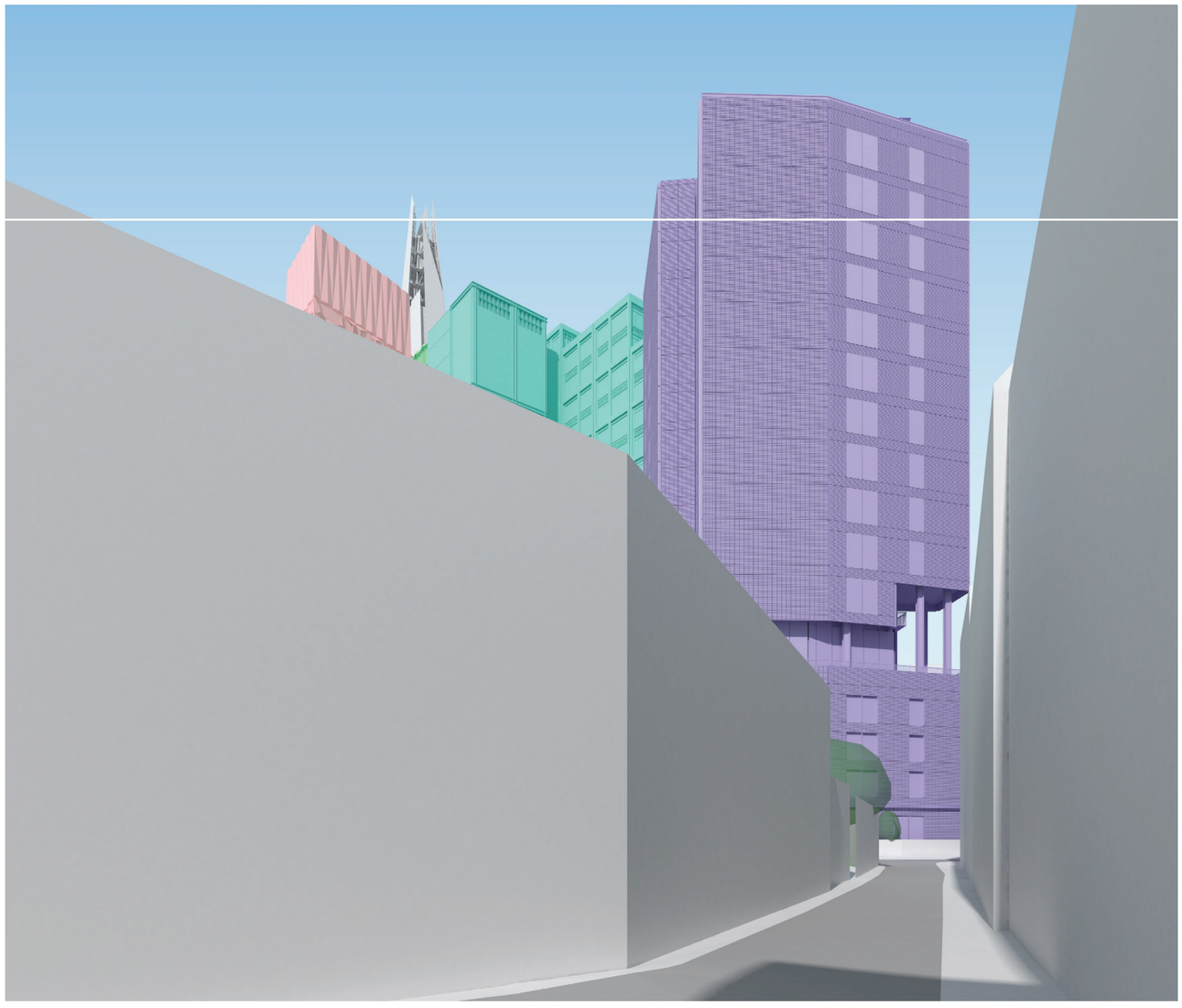
3886_0104 version 190821
The Vinegar Yard [2018] | Hardwidge Street (north) - Cumulative (model render)

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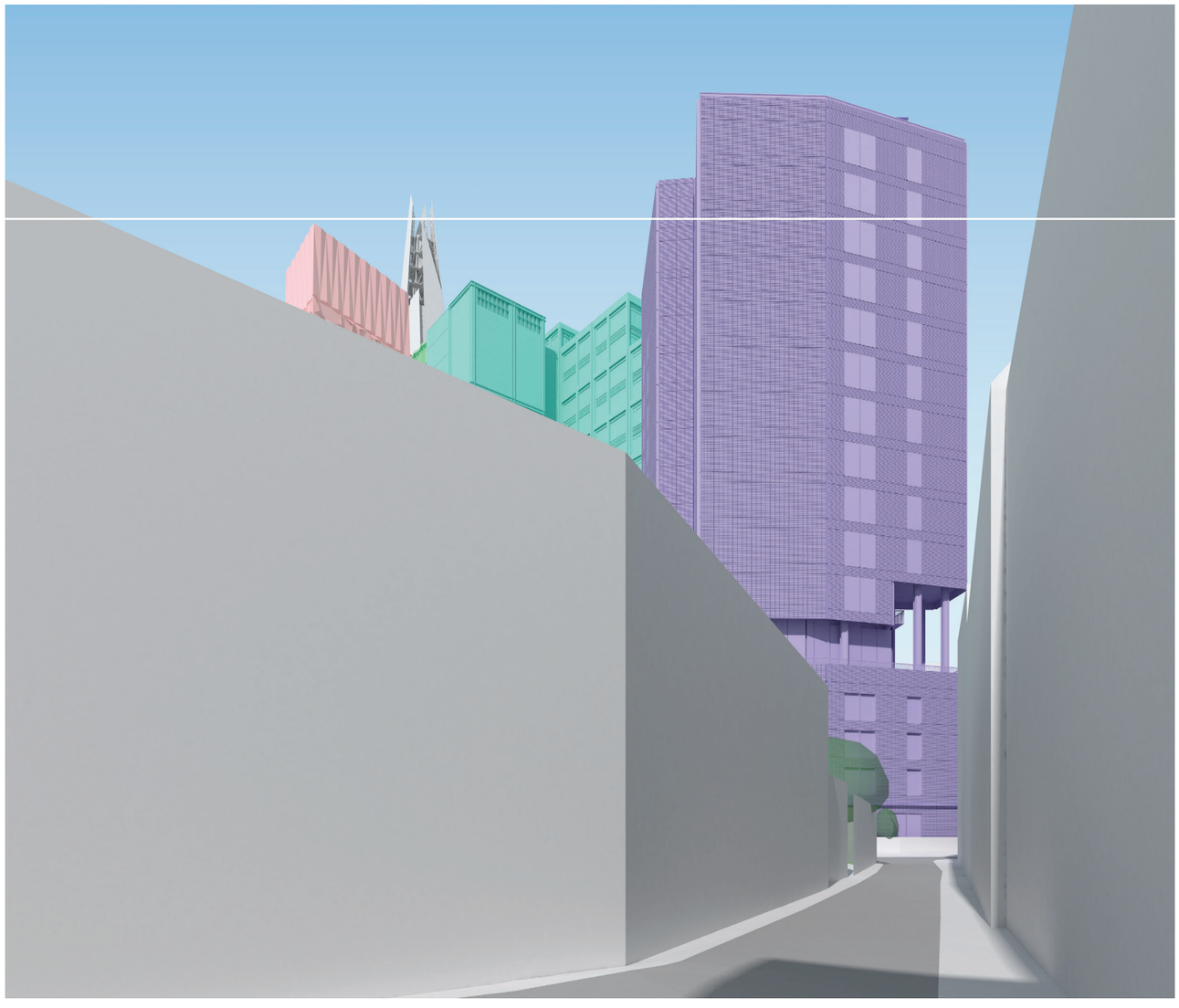
3886_0103 version 190821
The Vinegar Yard [2018] | Hardwidge Street (north) - Proposed (model render)

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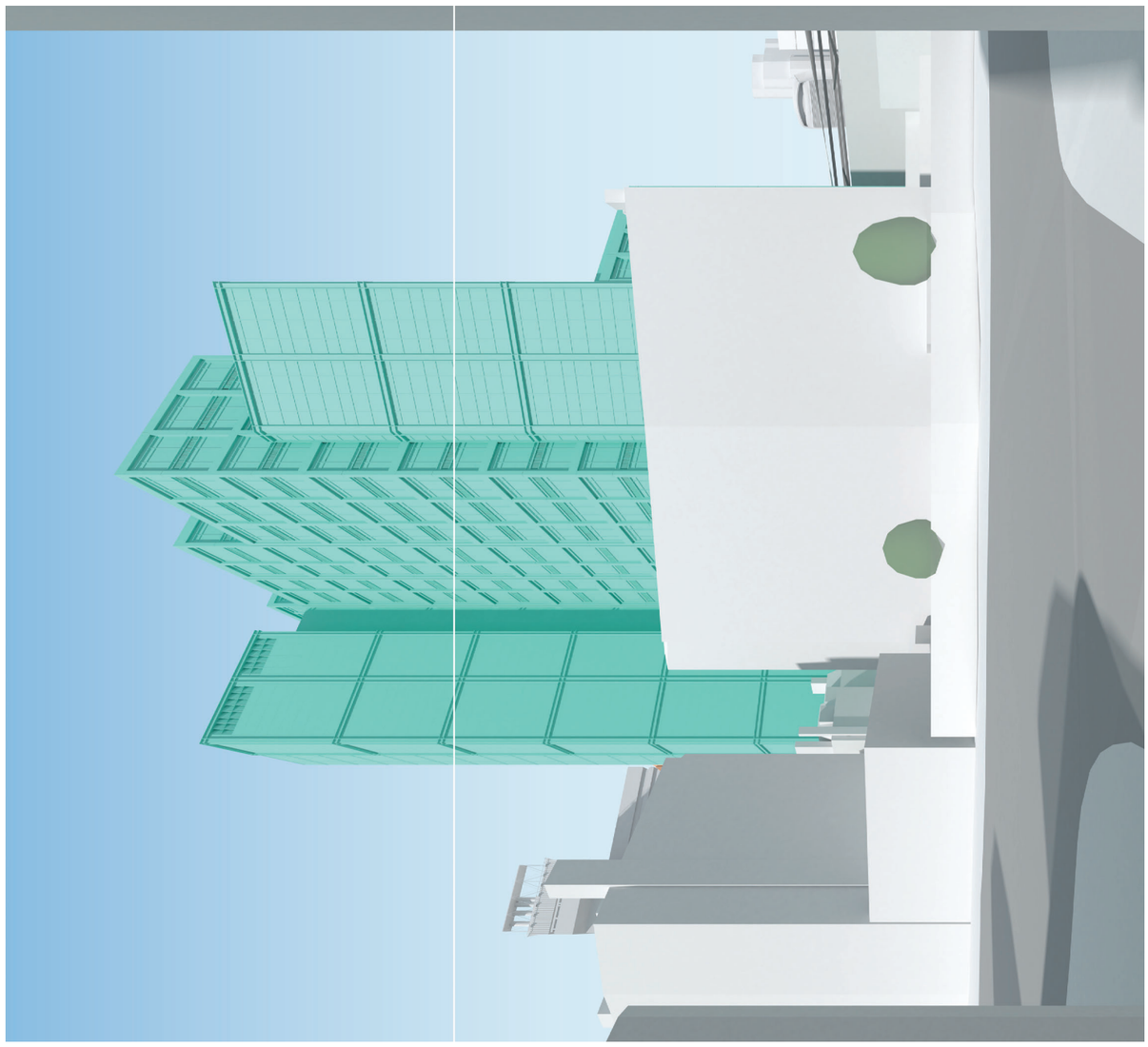
3886_0109 version 190821
The Vinegar Yard [2018] | Hardwidge Street (north) - Cumulative scenario C

millerhare



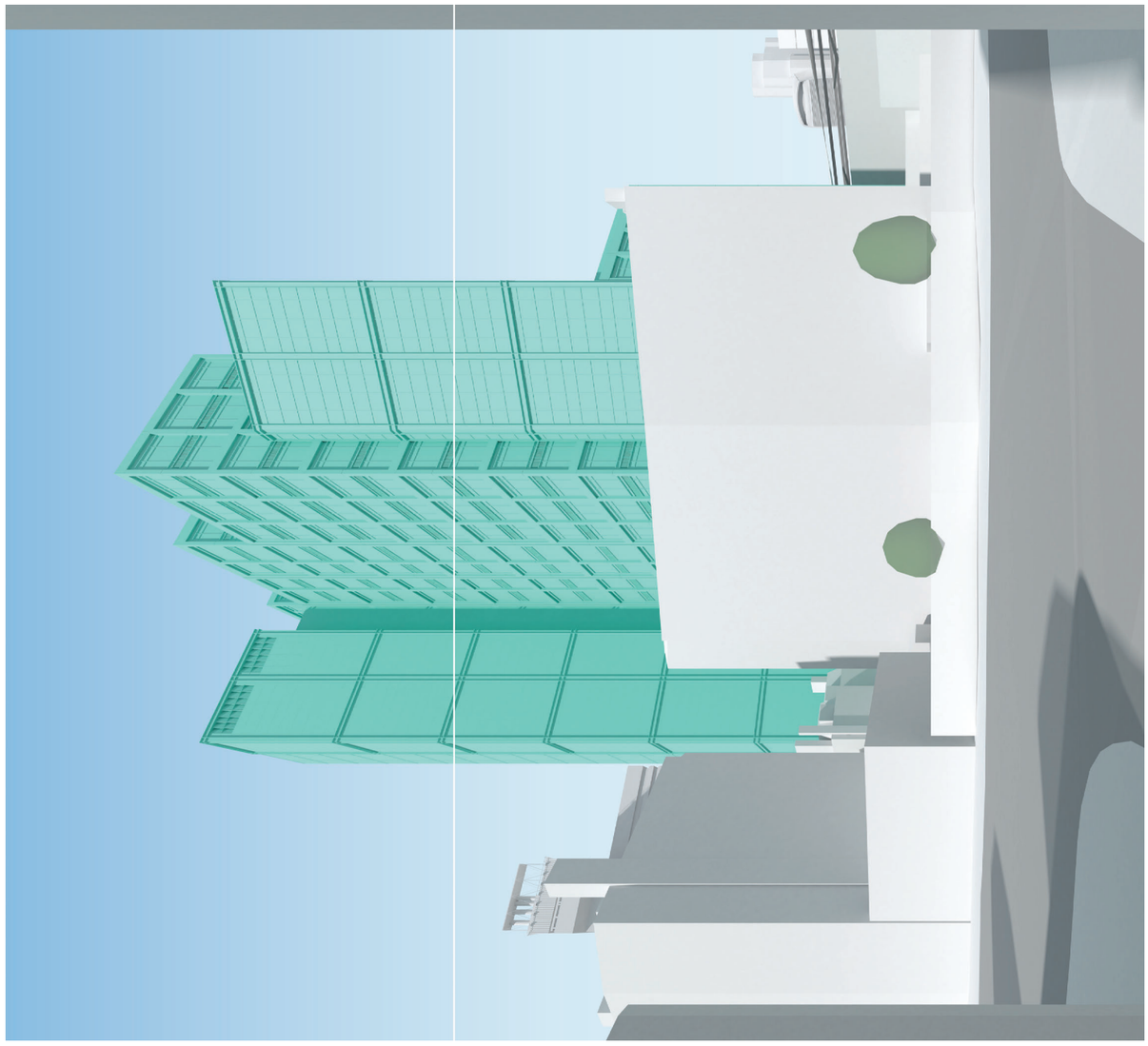
3886_0100 version 190821
The Vinegar Yard [2018] | Hardwidge Street (north) - Cumulative scenario B

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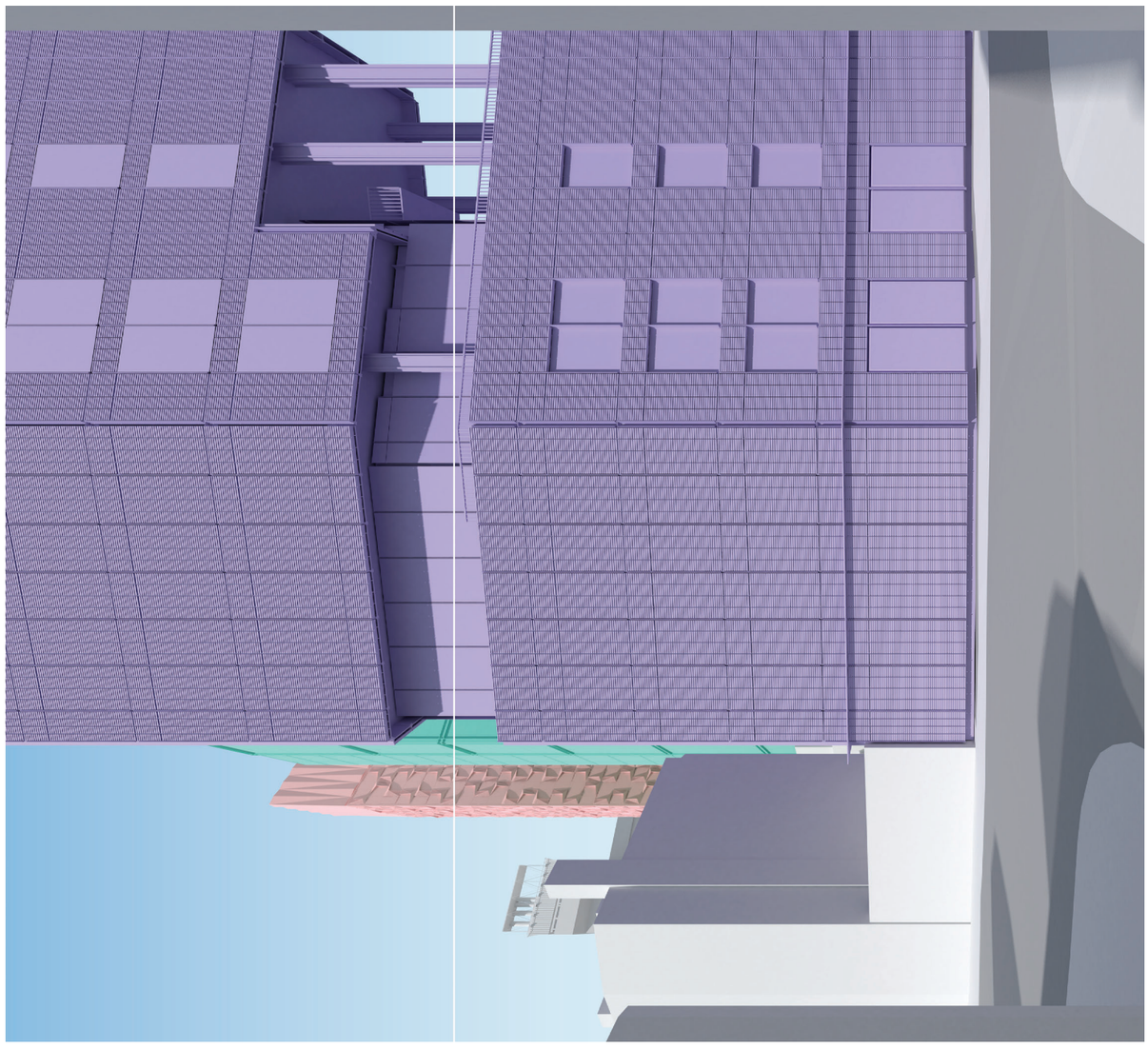
3886_0114 version 190821
The Vinegar Yard [2018] | Hardwidge Street (south) - Cumulative (model render)

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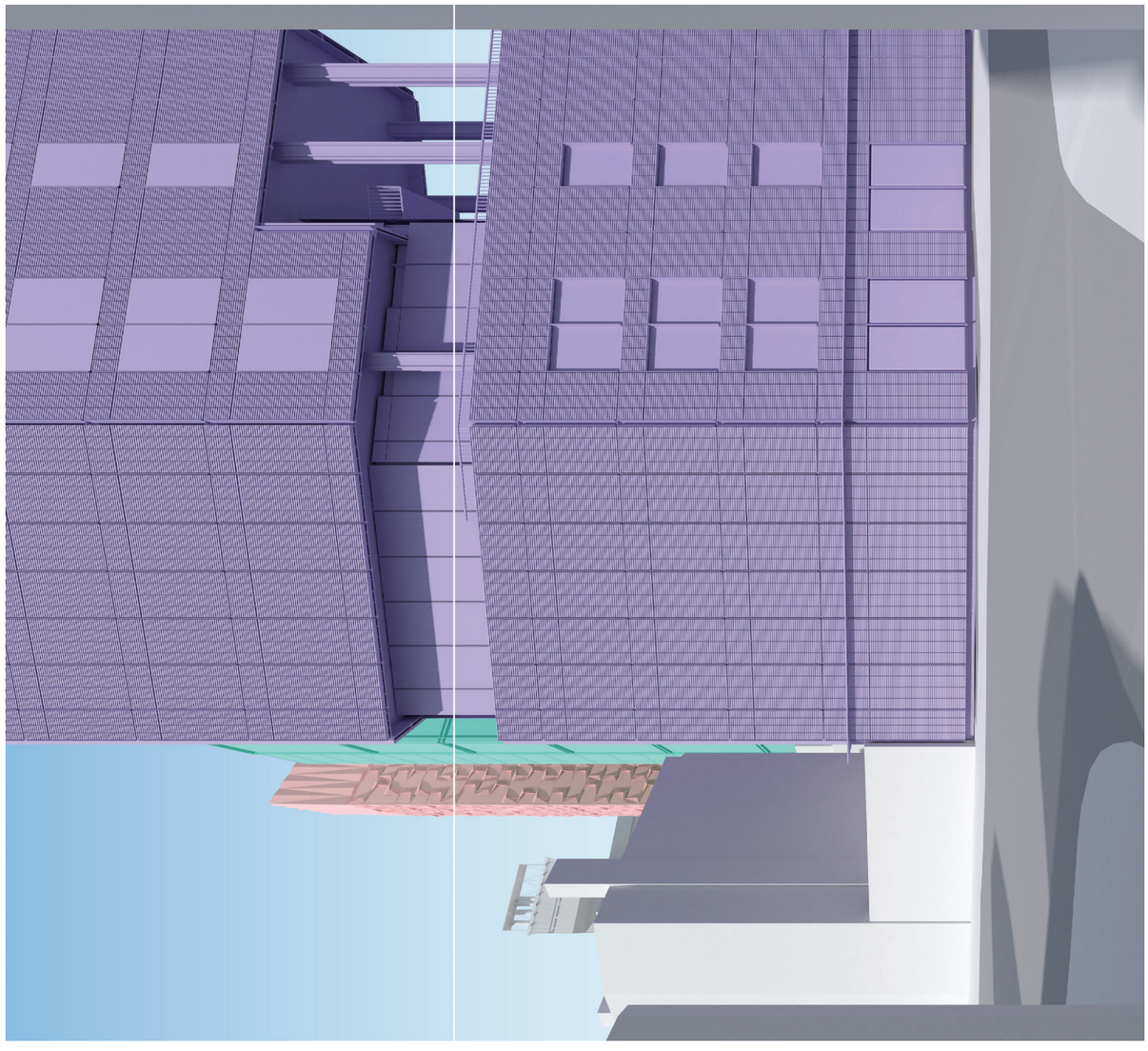
3886_0113 version 190821
The Vinegar Yard [2018] | Hardwidge Street (south) - Proposed (model render)

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3886_0119 version 190821
The Vinegar Yard [2018] | Hardwidge Street (south) - Cumulative scenario C

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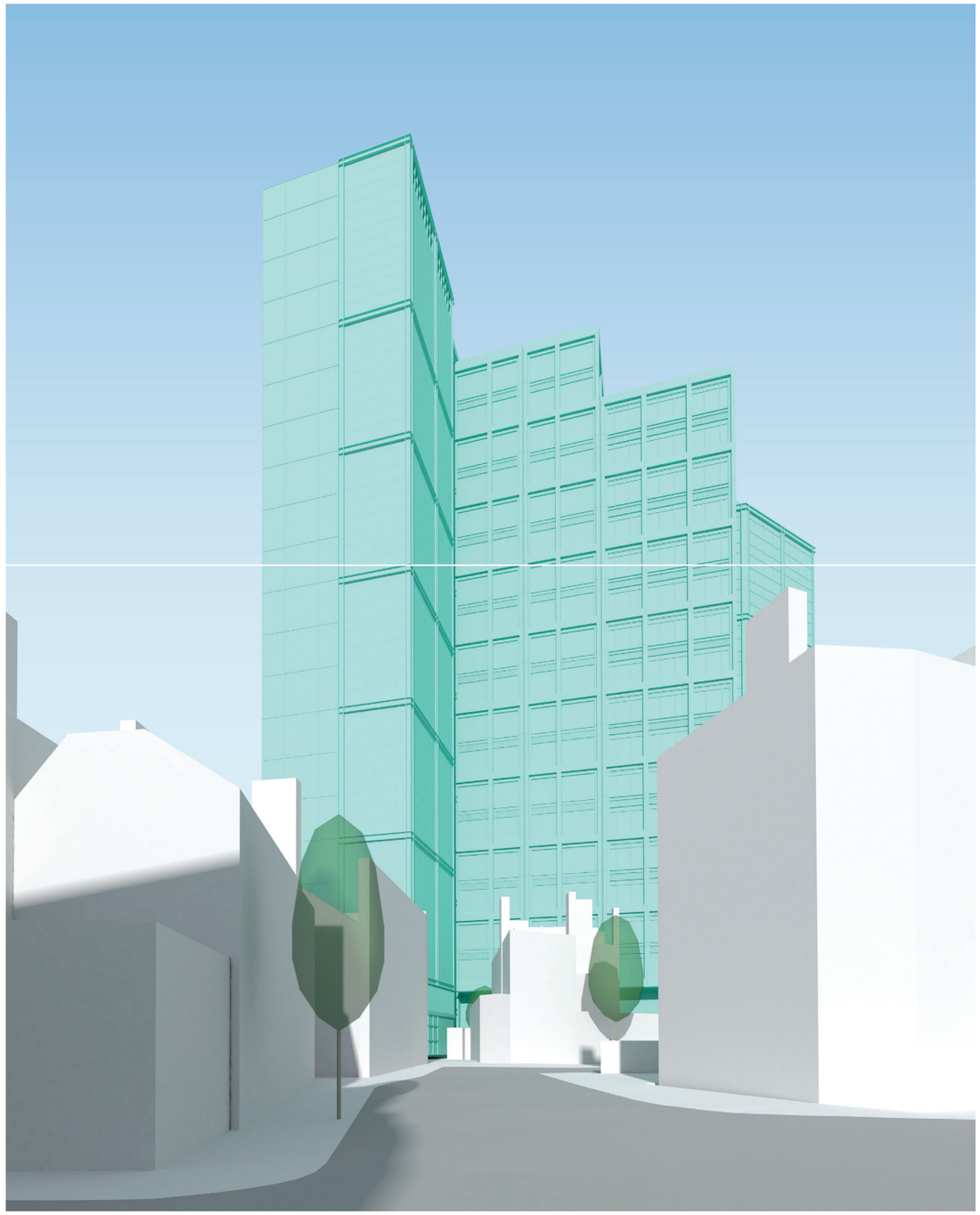


3886_0110 version 190821
The Vinegar Yard [2018] | Hardwidge Street (south) - Cumulative scenario B

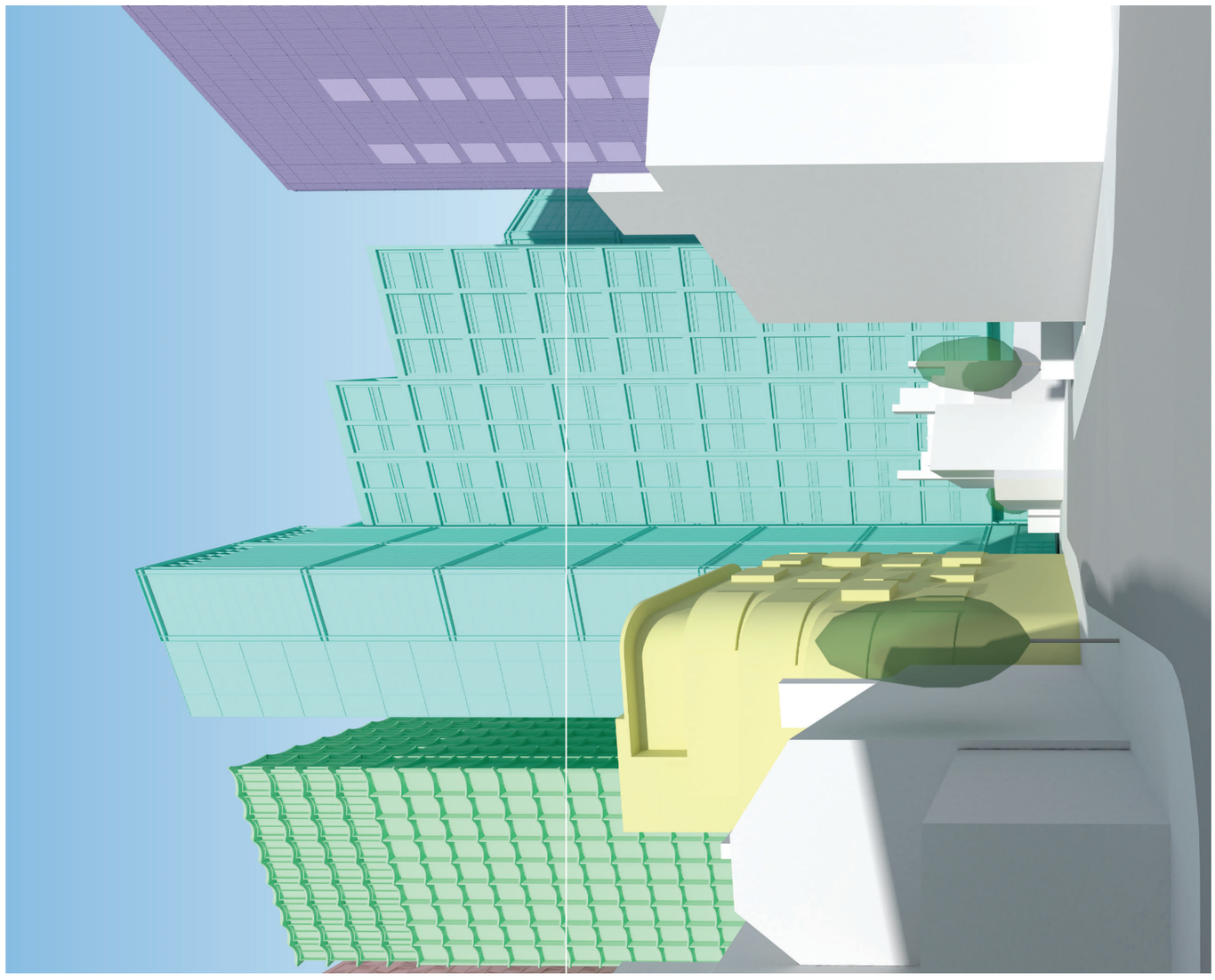
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Annex 5 – Views 20 and 25 (vertically extended)

3886_0613 version 190821
The Vinegar Yard [2018] |Kirby Grove - Proposed (model render)

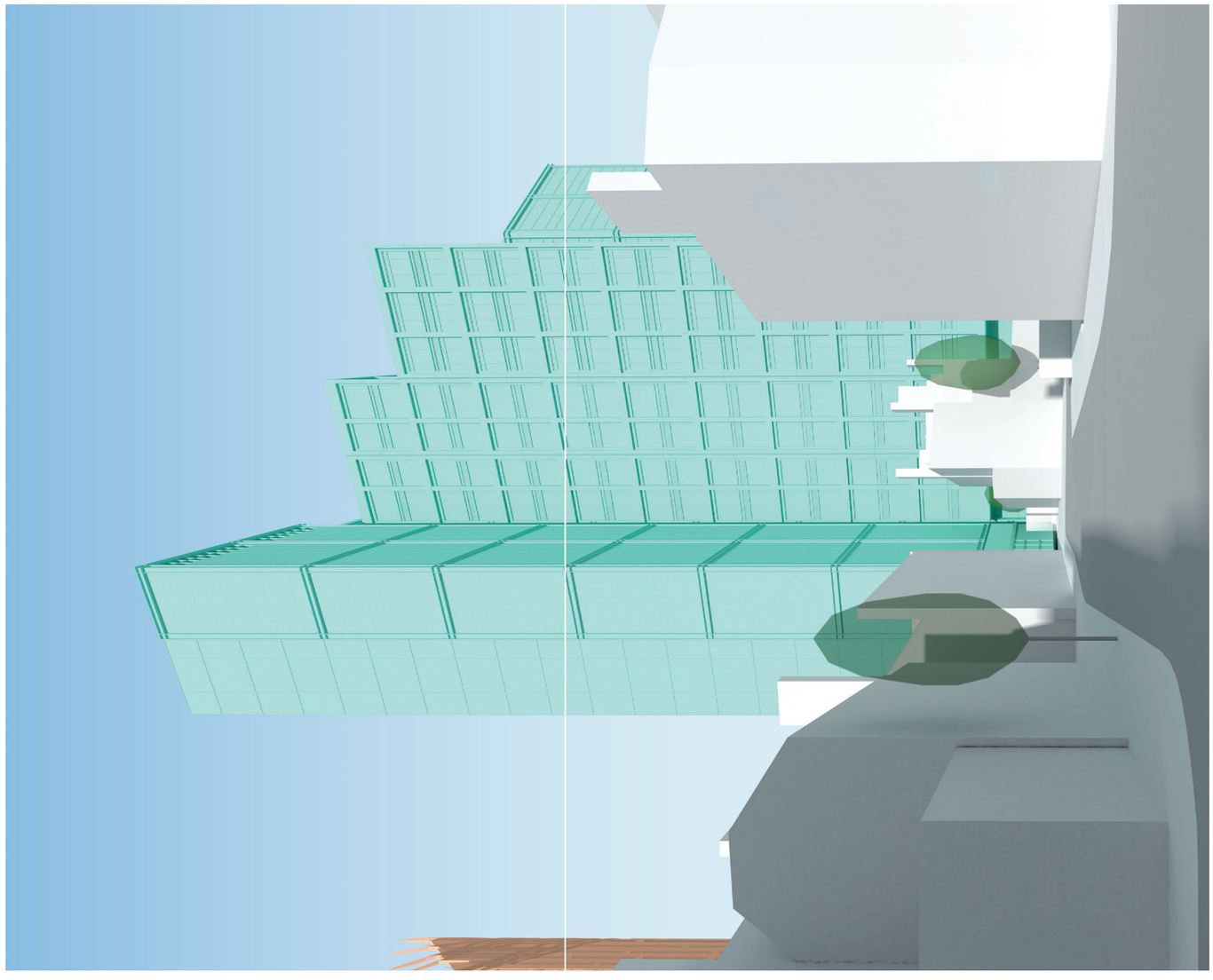


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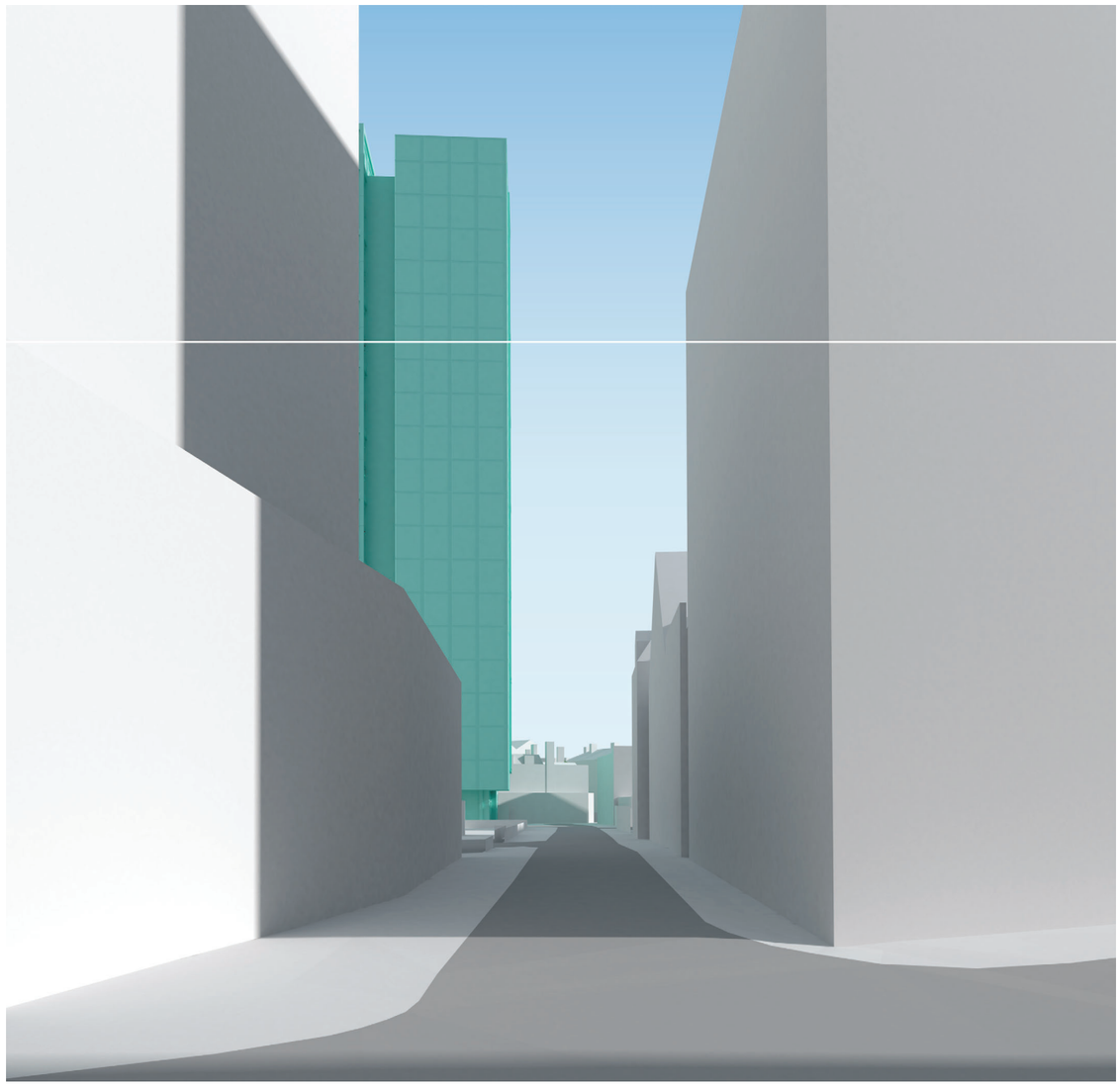
3886_0610 version 190821
The Vinegar Yard [2018] | Kirby Grove - Cumulative scenario B

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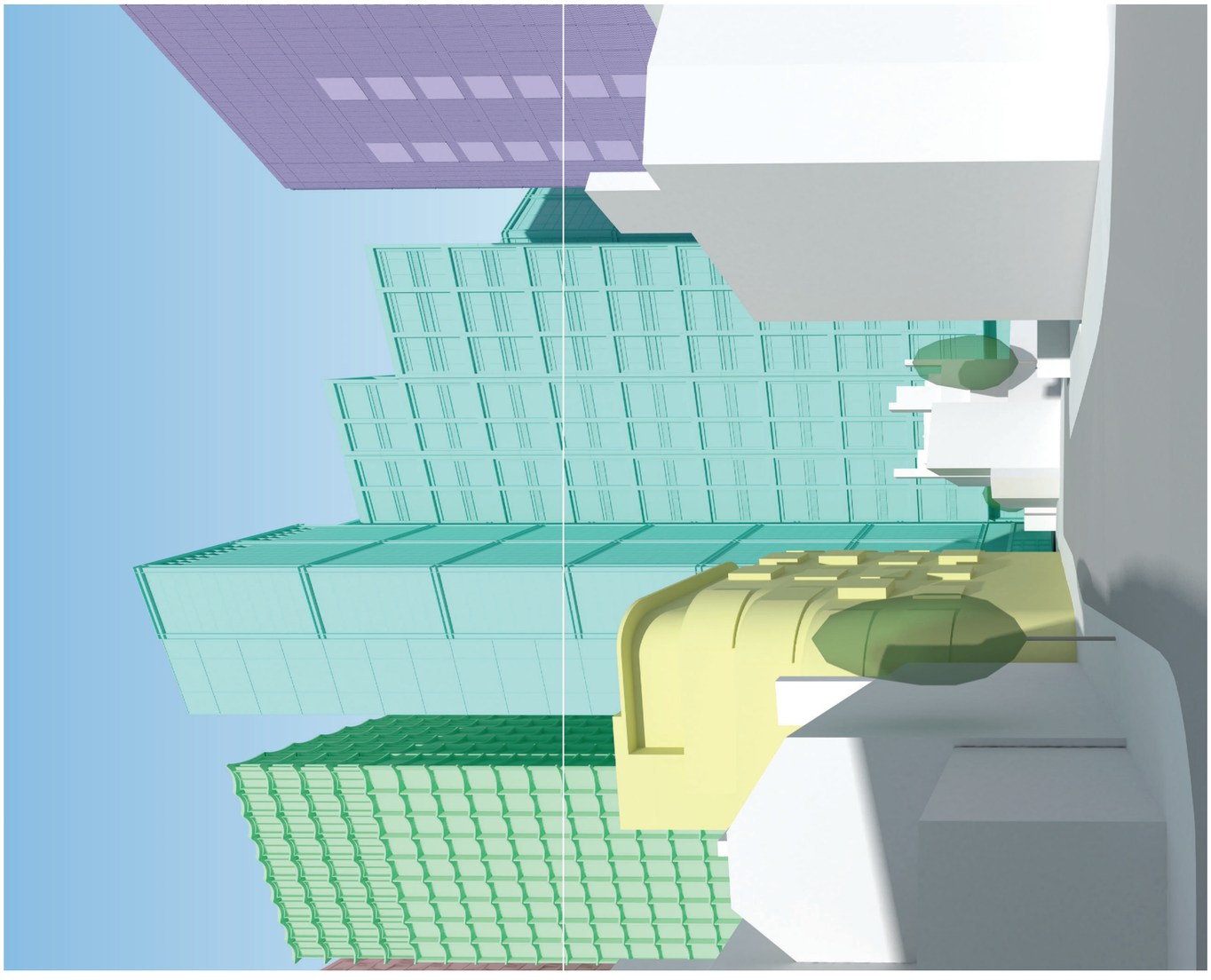
3886_0614 version 190821
The Vinegar Yard [2018] | Kirby Grove - Cumulative (model render)

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3886_3223 version 190821
The Vinegar Yard [2018] | Melior Street - Proposed (model render)

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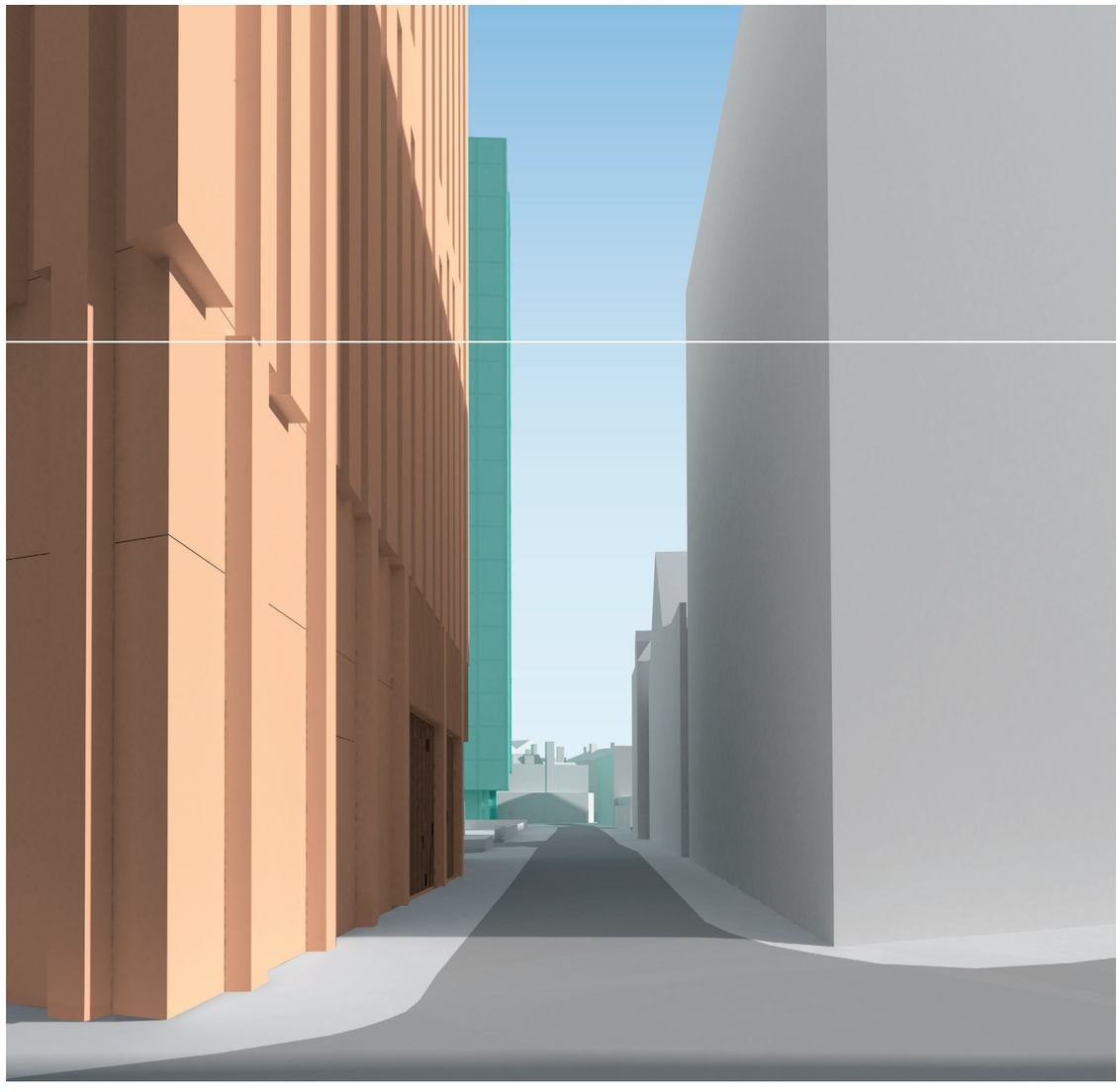
3886_0619 version 190821
The Vinegar Yard [2018] | Kirby Grove - Cumulative scenario C

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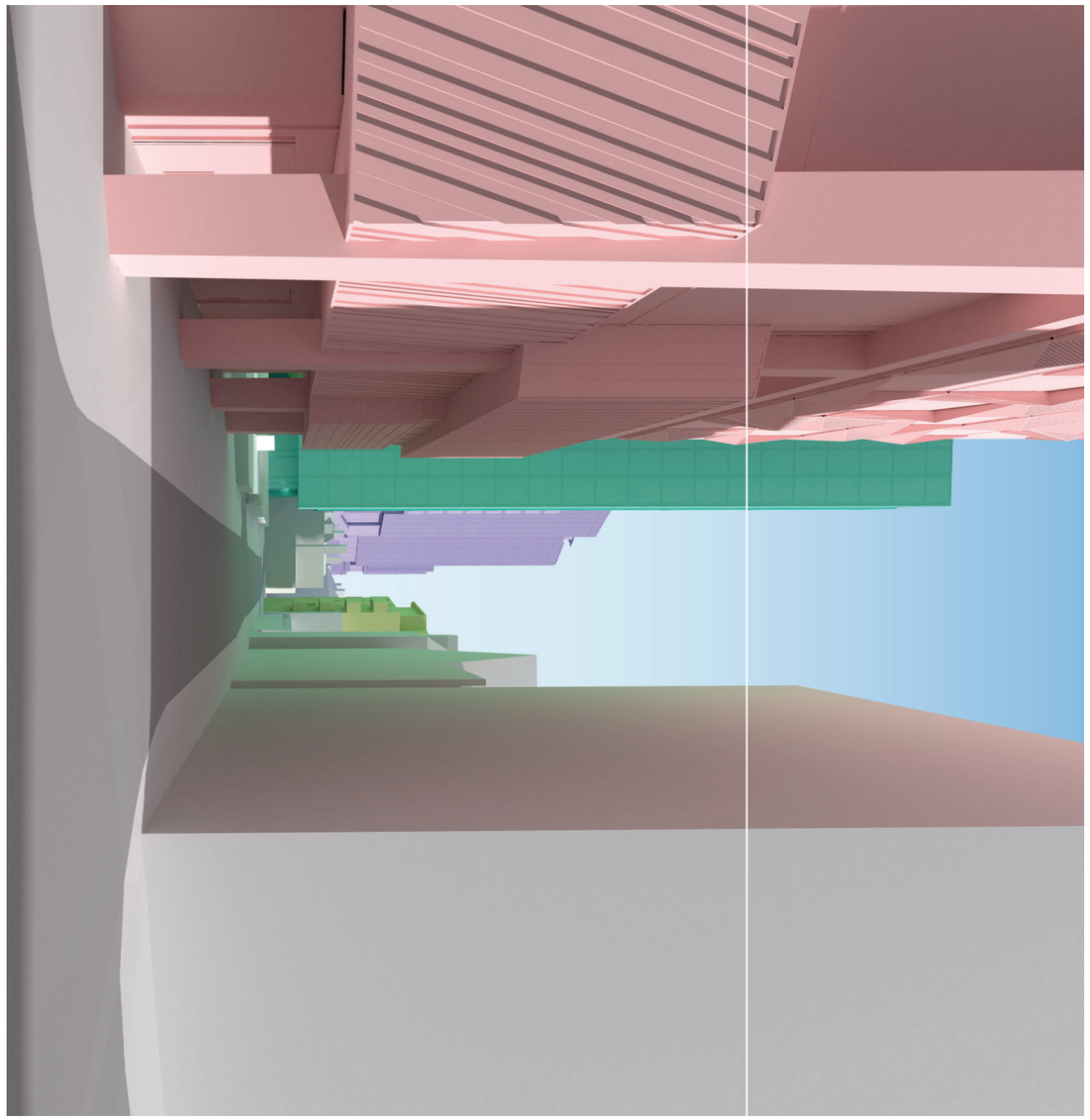
3886_3220 version 190821
The Vinegar Yard [2018] | Melior Street - Cumulative scenario B

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3886_3224 version 190821
The Vinegar Yard [2018] | Melior Street - Cumulative (model render)

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