



Broad Street Mall Environmental Statement Non-Technical Summary

Prepared for:
McLaren (Broad Street Mall) Ltd and UREF III LP

Date:
January 2024



Trium Environmental Consulting LLP
The Whitehouse
Belvedere Rd, London
SE1 8GA
hello@triumenv.co.uk
www.triumenvironmental.co.uk

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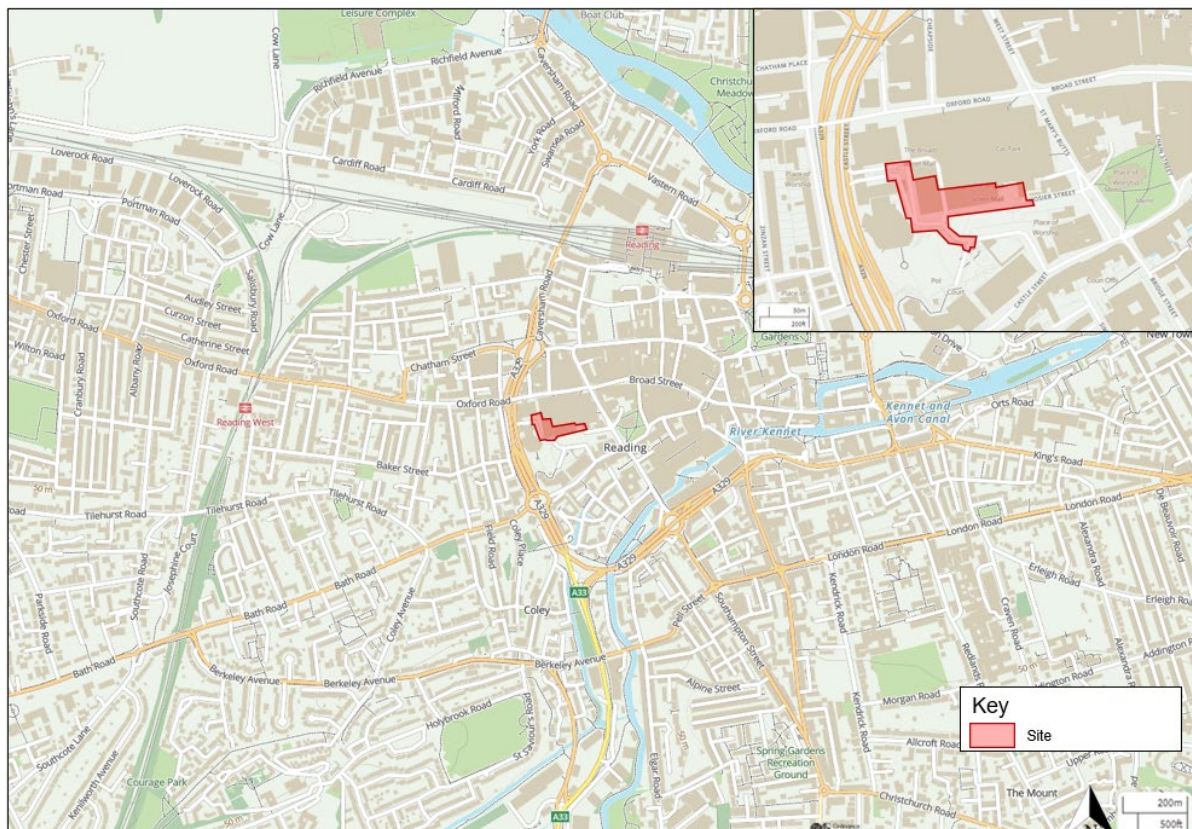
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INTRODUCTION

- 1 McLaren (Broad Street Mall) Ltd and UREF III LP are seeking full (detailed) planning permission for the re-development of part of the existing Broad Street Mall in Reading, as well as a temporary planning permission to facilitate the construction works with separate site boundaries.
- 2 The Proposed Development is located on the western side of Reading centre, adjacent to the A329. Both of the sites' are situated roughly halfway between the main Reading railway station to the north and the Oracle Shopping Centre to south. The site location is shown on Figure 1 below.
- 3 The Proposed Development (as part of the full (detailed) planning application) is for the part-demolition of existing retail units, car park and service areas, demolition and rebuild of car park ramp, and construction of a residential-led, mixed-use development across four new blocks fronting Queens Walk and Dusseldorf Way, including all necessary enabling and alteration works required. The Proposed Development will provide for a mixed-use development including residential and retail space. The temporary planning application covers changes to allow for construction routes, compounds and access to building facades for demolition and construction, to facilitate the construction of the Proposed Development.
- 4 This document is a Non-Technical Summary of the findings of the Environmental Impact Assessment which are reported on in the Environmental Statement. This Non-Technical Summary has been prepared to explain the development proposed, the likely significant environmental and socio-economic effects of the development and the measures proposed to protect the environment. The Environmental Impact Assessment has identified the effects that could result during the demolition and construction works and when the development is completed and in use.
- 5 The Environmental Statement has been prepared in accordance with the relevant regulations relating to Environmental Impact Assessment.

Figure 1 Site Location (comprising both application boundaries)



- 6 Four redline boundaries are being submitted; two boundaries per application at basement and ground level. These boundaries are shown in Figure 2 to Figure 5.

Figure 2 Planning Application Redline Boundary – Basement

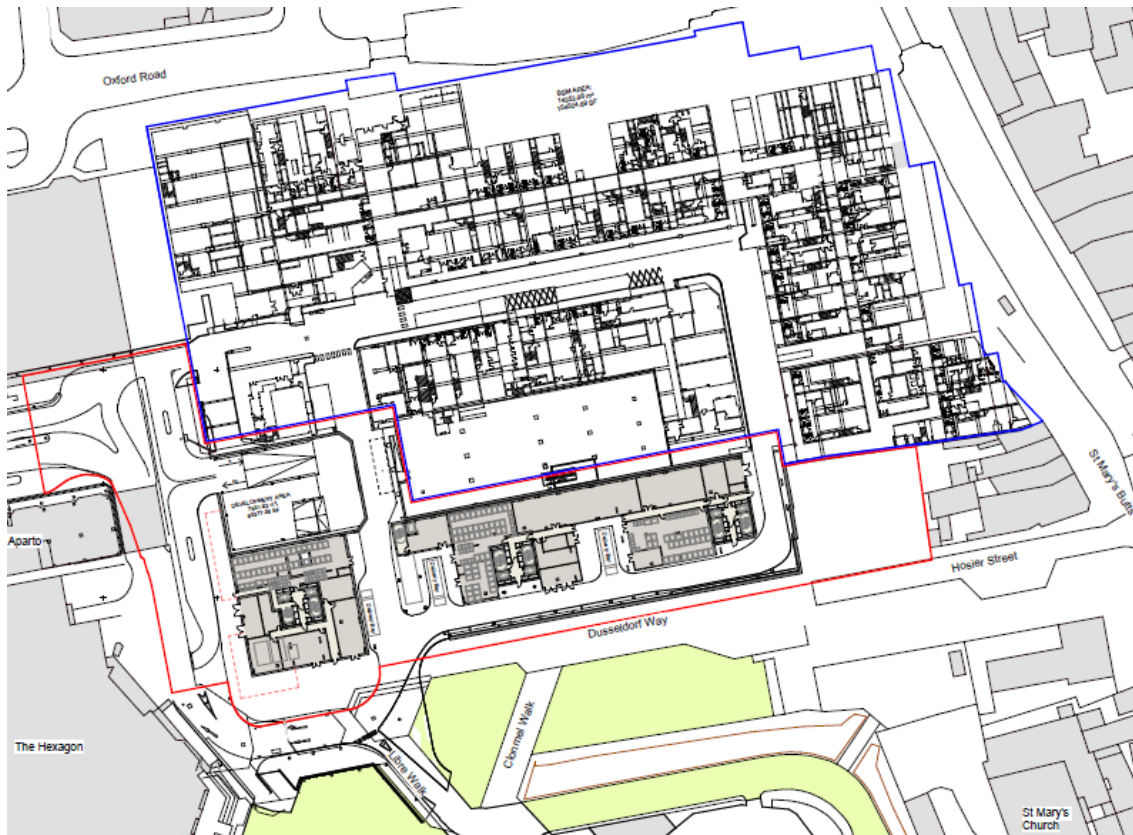


Figure 3 Planning Application Redline Boundary – Ground Floor



Figure 4 Temporary Construction Redline Boundary – Basement

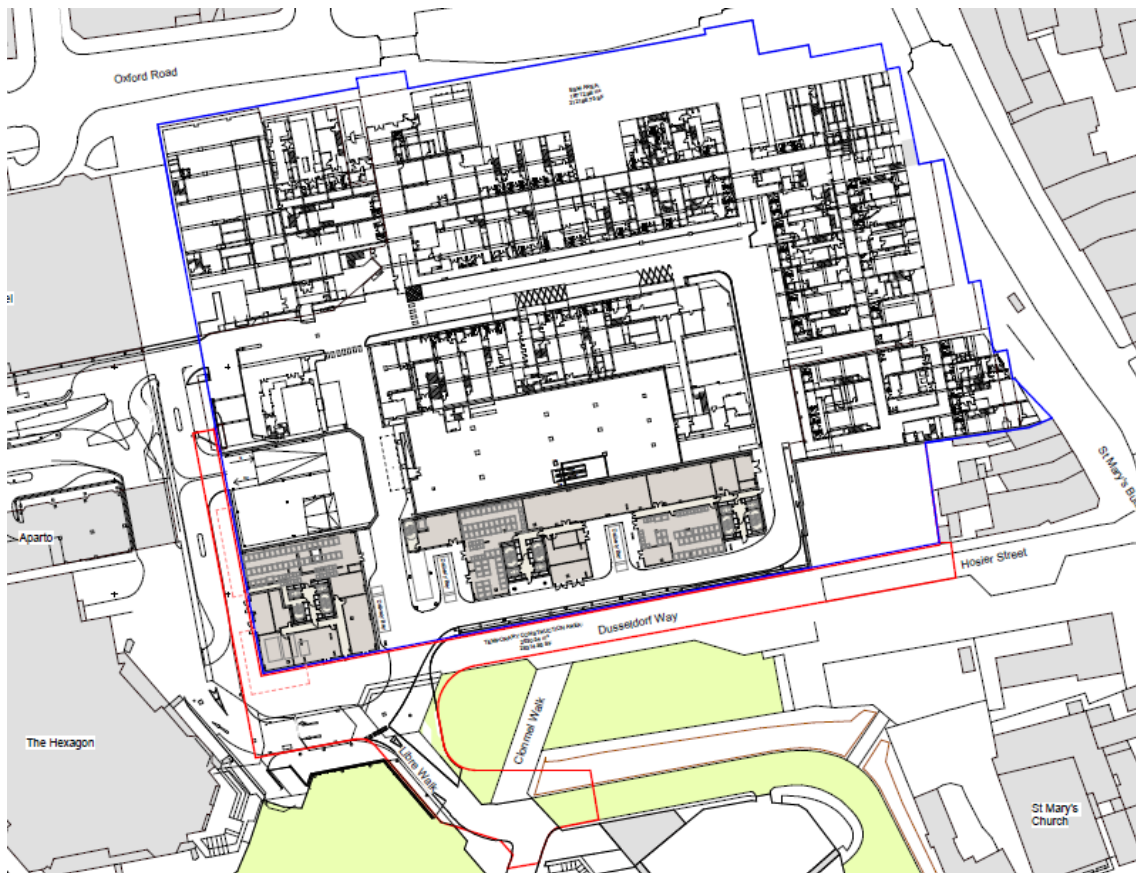


Figure 5 Temporary Construction Redline Boundary – Ground Floor



Purpose of the Environmental Impact Assessment and Non-Technical Summary

- 7 Environmental Impact Assessment is a process that allows the environmental and socio-economic effects of certain projects on the environment to be identified and reported upon. This is required by law and helps the local authority understand the environmental effects of a new development when they make their decision on whether to grant planning permission for it.
- 8 Measures to protect the environment, otherwise known as 'mitigation' have also been identified as part of the Environmental Impact Assessment process.
- 9 Trium Environmental Consulting LLP has undertaken the Environmental Impact Assessment for the development and have prepared the Environmental Statement and this Non-Technical Summary document.
- 10 The Environmental Statement is made up of a number of documents and so this Non-Technical Summary provides an overview of the Environmental Statement in non-technical language.

ASSESSMENT METHODOLOGY

Scoping

- 11 One of the first stages of the Environmental Impact Assessment process is referred to as 'Scoping'. Scoping identifies the possible environmental effects of a development and so the technical topics that need to be investigated further as part of the next stage of the Environmental Impact Assessment process.
- 12 Scoping is not a mandatory process under the EIA Regulations. The Applicant has not requested a Scoping Opinion from Reading Borough Council. Instead, a scoping exercise was undertaken by the Applicant's EIA team to define an appropriate scope for the Environmental Impact Assessment. The scope has been defined through consideration of all the technical topics cited within the EIA Regulations and with reference to the Environmental Impact Assessment that was undertaken for the previously consented scheme on the site (Ref: 182137). The following '*Site History*' section provides further detail on this consented scheme.
- 13 The Environmental Impact Assessment has proceeded in accordance with the scopes of work defined by the Applicant's own scoping exercise.

Technical 'Topics' Included in the Environmental Impact Assessment

- 14 Several environmental studies have been carried out as part of the Environmental Impact Assessment. The technical topic areas that have been covered are:
 - Demolition and Construction;
 - Socio-Economics;
 - Air Quality;
 - Noise and Vibration;
 - Climate Change;
 - Daylight, Sunlight and Overshadowing;
 - Wind Microclimate; and
 - Townscape, Built Heritage and Visual Impacts.
- 15 Each of the above technical topics are addressed in either their own chapter or volume of the Environmental Statement or through a technical report provided within the appendices to the

Environmental Statement.

Technical 'Topics' Not Included in the Environmental Impact Assessment

- 16** The Scoping process identified some technical topics where significant environmental effects would be unlikely and, therefore would not need to be assessed further as part of the Environmental Impact Assessment process. These were as follows:
- Archaeology;
 - Ecology;
 - Geoenvironmental (Land Contamination, Ground Conditions and Groundwater);
 - Health;
 - Highways and Transport;
 - Light Pollution and Solar Glare;
 - Project Vulnerability;
 - Waste and Materials; and
 - Water Resources and Flood Risk.
- 17** However, various documents are provided either as part of the Environmental Statement or separate documents submitted with the planning application to consider these technical topics in detail.

Impact Assessment

- 18** The environmental impact assessment process is undertaken in a number of stages, with each technical topic assessment following the same process.
- 19** Firstly, the 'baseline' is identified. The baseline considers the existing conditions of the area where the development will be located and includes both the site itself and the surrounding area. Where an area is subject to widespread, planned change, and is rapidly changing, a 'future baseline' is established. This future baseline makes reasonable predictions (based on published guidance, data, and professional knowledge / experience) of the likely change that may occur, across the area without the development that is proposed taking place.
- 20** Within the baseline conditions, a number of key environmental, social and economic aspects are identified, which are defined as 'receptors'. The sensitivity of the receptors is identified.
- 21** The impact of the Proposed Development is then identified and the size of the impact (impact magnitude) is considered against the receptors. Impacts are identified during the construction works and for when the development is completed and in use.
- 22** The size of the impact and how sensitive a receptor is to the impact defines the scale of an effect.
- 23** Effects can be defined as being either 'negligible', 'minor', 'moderate or 'major' in scale and 'neutral', 'beneficial' or 'adverse' in nature. Once the effect has been identified, the assessment then determines whether the effect is considered 'significant' or 'not significant'.
- 24** If a significant adverse effect is identified, measures are required to reduce or remove these effects; these measures are referred to as 'mitigation measures'. Once the mitigation measures have been identified, the effect is re-assessed to understand whether the scale of the effect has changed because of the mitigation measures.
- 25** Effects resulting from a combination of the Proposed Development and other surrounding development schemes are also assessed; in addition, the combination of lots of different effects from the Proposed Development on a single receptor.
- 26** All of the likely effects of the development are reported within the Environmental Statement, and the likely significant residual (after mitigation measures) effects are specifically highlighted.

- 27 The Non-Technical Summary of the Environmental Statement (i.e. this document) is required to present a summary of the likely significant effects of the Proposed Development. A summary of the likely significant effects relating to the development are outlined in within this Non-Technical Summary and are discussed in detail in each relevant technical topic assessment of the Environmental Statement (Volume 1-3).

THE SITE AND SURROUNDING AREA

Site History

- 28 The site was the subject of a previous application for detailed planning permission in December 2018 (Planning Reference: 182137), for a residential-led development. The planning application was granted consent in December 2021.
- 29 Since this approval, the site was subsequently sold to the Applicant. As the consented scheme posed technical and deliverability challenges, the Applicant is proposing a new Proposed Development, which is the subject of a new planning application accompanied by this Environmental Statement (including this Non-Technical Summary).
- 30 An area located within the southeastern corner of the site was also subject to a planning application for a Hotel scheme (Planning Reference: 182054). The planning application was permitted 4 November 2019. This planning application has since lapsed.
- 31 These consented planning applications have been a consideration in the design development of this Proposed Development.

Site Description and Surrounding Environmental Context

- 32 The site comprises part of the existing Broad Street Mall shopping centre, and the multi-storey car park. The site and surrounding main environmental features are listed below in Table 1.
- 33 The site areas for each are as set out below, and which overlap for the basement and ground floor levels:
- Proposed Development – Basement: 7,931.83m²;
 - Proposed Development – Ground Floor: 6,238.61m²; and
 - Temporary Construction Scheme – Basement and Ground Floor levels, each cover: 2,630.54m².

Table 1 Outline of Site and Surrounding Environments Key Features and Designations

Environmental Topic	Key features and designations
Traffic and Transport	The existing multi-storey car park comprises 700 car parking spaces spread across three floors. The site is located to the east of (approximately 70m) the A329, which is mostly a dual carriageway ring road that encircles the town centre of Reading; The site is located 750m walking distance of Reading Station which provides links to London, Gatwick Airport, Bristol and the South West, Birmingham and Southampton. Numerous bus stops are accessible via a short walk which are served by approximately 30 routes which have frequencies in the range of 1 per hour to 8 per hour; and The site is well served by local and national cycle routes.
Air Quality	The site is located within an Air Quality Management Area (the whole of Reading town centre has been designated on the basis of exceedances of the annual mean objective for concentrations of nitrogen dioxide).
Water	The site is located within the Flood Zone 1¹ (regarded as a low probability of flooding, according to the Environment Agency Flood Map). The site is not at risk of surface water flooding.

¹ Land having a less than 1 in 1,000 annual probability of river or sea flooding.

Environmental Topic	Key features and designations
	The underlying Seaford and Newhaven Chalk Formation is designated as a Principal Aquifer, which provides a high level of water storage. They may support water supply and/or river base flow on a strategic scale. The site is not located within a Nitrate Vulnerable Zone². The site lies within a Drinking Water Safeguard Zone (surface water)³. The River Kennet lies approximately 300m to the southeast of the site.
Ecology	The site is not located within a 'sensitive area' (as defined in Part 1 of the EIA Regulations) and does not fall within the boundaries of any statutory or non-statutory sites, including Special Areas of Conservation; Special Protection Areas, Ramsar sites, Sites of Special Scientific Interest, National Nature Reserves and Local Nature Reserves; There are no Sites of Importance for Nature Conservation or sites of local importance for nature conservation within 2km of the site. There is one statutory nature conservation designation located within a 2km radius of the site; Lousehill Copse Local Nature Reserve (approximately 2km west). There are three non-statutory designated sites (Local Wildlife Sites) within a 1km radius: • Holy Brook (approximately 490m south); • River Kennet / Kennet and Avon Canal (approximately 780m south) • Cow Lane Depot (approximately 880m northwest)
Heritage	There are no statutory designations (listed buildings, conservation areas, scheduled ancient monument or world heritage sites) that fall within the site. The site sits adjacent to the northwest of the St Mary's Butts and Castle Street Conservation Area. There are several listed buildings in proximity, including but not limited to: • The Allied Arms (Grade II, adjacent to the site to the east); • 55 and 55A St Mary's Butts (Grade II, adjacent to the site to the east); • 3 and 5, 7 and 9 Castle Street (Grade II, adjacent to the north); • Several buildings to the south of Hosier Street, including the Church of St Mary, 15, 17, 19 Castle Street (Grade II*), the Sun Inn (Grade II), 33-37 and 39 St Mary's Butts (Grade II), and properties along the south side of Castle Street; and • Church of St Mary, St Mary's Butts (Grade I).
Archaeology	The site is located in close proximity to an Area of Archaeological Potential as defined by the Reading Borough Council. The Area of Archaeological Potential extends around the northern and eastern boundaries of the site and continues from Hosier Street to the south west, with the closest point located approximately 25m south of site.
Socio-Economics	A number of educational facilities, including nursery schools, primary schools and secondary schools, medical facilities and open/play spaces are located in the surrounding areas.

Sensitive Receptors

- 34 The receptors that have been considered within the Environmental Impact Assessment are very varied and include the receptor 'groups' identified in Table 2. Individual sensitive receptors are detailed in the Environmental Statement (**Volume 1: Chapter 2, EIA Methodology**).

Table 2 Sensitive Receptors

Topic	Key Receptor Groups
Socio-Economics	• Existing employment and additional expenditure; • Employment and local expenditure, both during construction and operation; • Capacity of social infrastructure, including primary and secondary education, playspace, open space and healthcare; and • Availability of housing and household expenditure.
Air Quality	• Existing residential properties; and • Locations within the Proposed Development.

² Designated areas of land that drain into nitrate polluted waters, or waters which could become polluted by nitrates.

³ Are a catchment area that influence the water quality for their respective Drinking Water Protected Area (Surface Water), which are at risk of failing the drinking water protection objectives. These non-statutory Safeguard Zones are where action to address water contamination will be reviewed

Topic	Key Receptor Groups
Noise and Vibration	- Residential, hotel and leisure (theatre) uses within close proximity to the site; - Locations within the Proposed Development; and - The Broad Street Mall shopping centre.
Wind Microclimate	- On-site thoroughfares, entrances, car parks, amenity areas and balconies; and - Off-site thoroughfares, entrances and amenity areas.
Daylight, Sunlight and Overshadowing	- Existing residential, student accommodation and religious properties in proximity to the site; and - Amenity areas.
Townscape Character Areas	A number of areas with distinct character and intrinsic qualities which have been designated as Townscape Character Areas are located within the area surrounding the site.
Built Heritage	Above ground heritage features
Views	Key short, medium and long-distance views to and from the site.
Climate Change	The global climate.

ALTERNATIVES AND DESIGN EVOLUTION

- 35 The Environmental Impact Assessment Regulations require an Environmental Statement to summarise the alternatives to the development that is proposed and to also describe the design process (the design evolution of the development). The following sections of this Non-Technical Summary explain the alternative sites considered, the option of not developing the site and the design process.

Alternative Sites

- 36 No alternative sites were considered for the project.
- 37 The Applicant owns the site and is keen to continue the redevelopment of the site and introduce a mixed-use development on-site. Additionally, the site has been identified in local policy (Minster Quarter Area Development Framework) as suitable for residential provision.

No Development Alternative

- 38 This refers to leaving the site in its current state and not building the development on this land. This has not been considered as the site represents an opportunity for the continued development of the existing shopping centre in a sustainable manner, which will be capable of providing new residential floorspace and new public realm. Regeneration of this nature will lead to employment opportunities and other direct and indirect socio-economic benefits that would otherwise not be realised should the site be left in its current state.

Alternative Designs

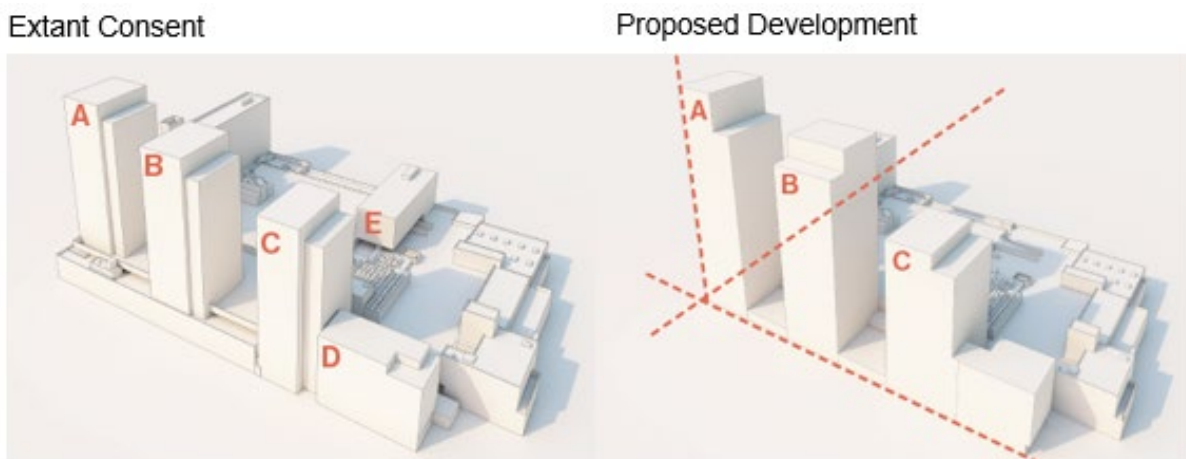
- 39 As set out above, the site received planning consent for a scheme which was approved in 2021 (referred to as the Extant Consent). Since this was granted, ownership of the site has transferred to the Applicant. Subsequent assessment of the Extant Consent revealed a number of technical failings and the Applicant consequently is proposing a new Proposed Development, and therefore the Extant Consent does not constitute a viable alternative design.
- 40 The site was also subject to an additional planning application which was approved in 2019 for a hotel, located in the east of the site. The planning consent for the hotel has now fallen away (as it was not implemented in accordance with the development conditions) leaving a vacant development plot. The plot has been incorporated into the site for the Proposed Development and incorporates the residential proposals to allow comprehensive regeneration of Dusseldorf Way and Hosier Street, and to meet the increased housing need within Reading Borough.

- 41 The design evolution of the Extant Consent has influenced the design of the Proposed Development.

Design Evolution

- 42 The design process has looked at various design options. The variations of the scheme developed in response to the consultation process as well as design development in response to the brief and the technical aspects of the development.
- 43 The site sits within the Minster Quarter Area Development Framework and the Reading Tall Building Strategy identifies that site is located within the Western Cluster. These policies provide guidance and parameters for the development of the area and were driving forces in the development of the design of the Proposed Development.
- 44 The height and massing of the Proposed Development has evolved over time to fit within the parameters of the Minster Quarter Area Development Framework and the Reading Tall Building Strategy. The height of the buildings has been designed to correspond with the heights of nearby buildings at the Station Hill Cluster and at Chatham Place. The principle of the descending height of the buildings was supported by the Design-Southeast Panel during consultation in July 2023. An increase in the height from 135.250m above ordnance datum to 142.855m was introduced after feedback from Reading Borough Council, which welcomed a height increase.
- 45 The layout of the Proposed Development was constrained by and developed to have least impact upon the existing retail provision of Broad Street Mall. Building A has been repositioned southwards to align with the frontages of Buildings B, C and D.

Figure 6 Comparison of Building A Position



- 46 Since the Extant Consent, Building E has been removed from the Proposed Development. It was considered that Building E was unable to be implemented due to the structure running through the Broad Street Mall Main Entrance from Oxford Road, which would have resulted in the Mall Entrance having to close during construction.
- 47 The Proposed Development has also included Building D within its design, which was not included in the Extant Consent. Building D is located in the east of the site, in the location of a plot of land that had a planning consent for a hotel scheme, which has now lapsed. Since the consent of the hotel scheme, the plot has been acquired by the Applicant and is subsequently included in the Proposed Development.
- 48 Further information regarding the Proposed Developments evolution can be found in the Environmental Statement (**Volume 1, Chapter 3: Alternatives and Design Evolution**).

THE PROPOSED DEVELOPMENT

- 49** As set out above, the Proposed Development is subject to two planning applications; a full (detailed) planning application for the Proposed Development and a temporary construction planning application, to facilitate the construction works. This section focusses on the full (detailed) planning application, with information relating to the temporary construction planning application included within the '*Demolition and Construction*' section.
- 50** The redevelopment of the site will comprise a new mixed-use development which will comprise of residential and commercial space. It will include the construction of four new blocks, and the replacement of the existing vehicle ramp, to access the existing multi-storey car park.
- 51** The Proposed Development consists of circa 55,262m² of gross internal floorspace and 644 residential units. The Proposed Development will be as follows (Figure 3):
- Building A – located on the western part of the site, providing 246 residential units;
 - Building B – located in the middle of the site, adjacent to Buildings A and C, providing 209 residential units;
 - Building C – located in the centre of the site, adjacent to Buildings B and D, providing 154 residential units; and
 - Building D – located in the eastern part of the site, providing 35 residential units.
- 52** The ground floor of all buildings will include commercial (use class E) floorspace. Below each of the buildings is an existing basement, which will be reconfigured as part of the Proposed Development. A total of 1,737m² commercial (use class E) gross internal floorspace will be provided.
- 53** The residential units will comprise a mix of 1, 2 and 3-bedroom units. 5.12% of the residential units will be wheelchair accessible and the Applicant currently proposes to deliver 7.5% of affordable housing as part of the proposed scheme, subject to viability testing.
- 54** It is proposed that the Proposed Development will allocate 100 car parking spaces within the existing multi storey car park for the residential units, for private residential lease.

Figure 7 The Proposed Development



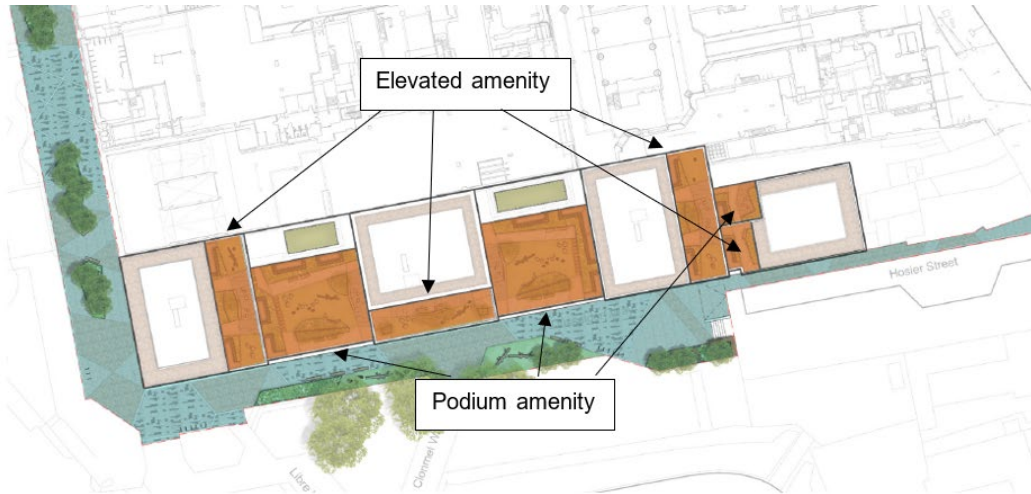
- 55 The Proposed Development will have a maximum height of 142.855m Above Ordinance Datum (AOD) at its tallest point, Building A (Figure 9). The heights of the Buildings is outlined in Figure 8.
- 56 The height of the Proposed Development has been designed taking the surrounding local context into account, with the buildings stepping down in height to the east, to reflect the prevailing building line and respect the setting and heritage of Reading Minster and the St Mary's Butts / Castle Street conservation area (for further details see **ES Volume 1, Chapter 3: Alternatives and Design Evolution**).

Table 3 Building Heights

Building	Height in meters AOD	Storeys
A	142.855	30
B	130.355	26
C	106.180	19
D	71.655	8

Figure 8 Proposed Development Heights

- 57 The Proposed Development will provide:
- 1,635m² of internal amenity space (residents lounge, gym, Wi-Fi lounge, private dining, cinema, etc.); and
 - 2,033m² of external amenity space (balconies, courtyard gardens and roof top terraces).
- 58 External amenity space will be provided at ground level and will be publicly accessible.
- 59 Private external amenity spaces for use by occupants of the Proposed Development will be provided at podium level (Level One) between Buildings A and B, Buildings B and C, and Buildings C and D.
- 60 Further private external amenity for use by occupants of the Proposed Development will be provided at roof level (Level Eight) at Building D, at Level 17 at Building C, Level 24 and Building B and Level 27 and Building A.

Figure 9 Proposed Amenity Space

Access

- 61** Vehicular access to the new Broad Street Mall multi-storey car park ramp and to the basement service and plant level is provided from:
- The Inner Distribution Road to the north; and
 - Castle Street to the south.
- 62** From the basement, vehicular egress is via the Inner Distribution Road. Hosier Street provides limited vehicular access from the east to service two of the retail units.
- 63** Pedestrian access to the retail units is provided along Dusseldorf Way. Pedestrian access to each of the residential buildings is also from Dusseldorf Way, with a main residential entrance in the centrally located Building B and secondary entrances to Buildings A, C and D.

External landscaping

- 64** The existing site contains nearly no landscaping and planting. The Proposed Development aims to increase the planting and landscaping on site. The landscape masterplan delivers a new high quality space that celebrates the heritage of this urban quarter and reinforces its identity as an arts and culture destination.
- 65** Through varied planting palettes, landscape character areas around the site would be established with consideration to species rich mixes that are beneficial for biodiversity and pollinators as well as being low maintenance species with low water demand.

Servicing

- 66** During the demolition and construction of the Proposed Development, temporary servicing arrangements for the existing retail tenants shall be put in place.
- 67** Once the Proposed Development is complete and operational, the current servicing arrangement for the Broad Street Mall Shopping Centre will be reinstated with the main vehicular loop around the basement area recreated.
- 68** All of the servicing, for both the residential and non-residential elements of the Proposed Development, will occur from the basement level to tie in with the existing Broad Street Mall Shopping Centre servicing strategy. Designated service bays have been designed for each Building to ensure the main vehicular circulation route is kept clear.

Waste Management

- 69** The residential waste management strategy involves the inclusion of separate waste and recycling storage within the individual residential apartments. Residents would then transport their waste and recycling to the basement of each building, where ventilated refuse and recycling rooms are located.

DEMOLITION AND CONSTRUCTION

Description Of Works and Programme

- 70** The site is currently comprised of part of the existing Broad Street Mall Shopping Centre.
- 71** The development will take approximately 60-months to build. For the purposes of the Environmental Impact Assessment, construction works are intended to commence in 2024 and complete in 2029.
- 72** The works required to build the development include:
- Site establishment – setting up the site ready for the construction works including site hoardings and construction site offices;
 - Demolition of part of the Existing Mall;
 - Demolition, excavation and temporary surfacing of Dusseldorf Way;
 - Demolition and construction of a New Ramp;
 - Internal Demolition – demolishing some floors and ceiling within the existing shopping centre;
 - Piling and substructure work for the building's foundations and basement;
 - Construction of the buildings;
 - Outside works to the buildings and podium;
 - Internal works to the buildings and testing of the technology and systems; and
 - Landscaping and other external works to the site.
- 73** Prior to the start of the demolition and construction works, discussions with Reading Borough Council and other relevant consultees (such as Thames Water) will be undertaken in relation to demolition and construction logistics, as well as site and environmental management.
- 74** Due to the location of the Proposed Development within the site of the existing Broad Street Mall, the communication with the existing retail tenants is very important. Prior to the start of any construction works, all existing retail tenants will be consulted, to ensure that there is no disruption to their stores and no interruption to the public access of their retail units
- 75** A number of management plans will be prepared and agreed with Reading Borough Council, including a Construction Management Strategy, a Construction Environmental Management Plan, and a Site Waste Management Plan. Specifically, these documents will explain how the works and the site will be managed including environmental management.
- 76** The likely construction working hours are:
- 08:00 – 18:00 hours between Monday and Friday;
 - 08:00 – 13:00 hours on Saturdays; and
 - No working on Sundays, Bank or Public Holidays (unless otherwise agreed with Reading Borough Council).

Road Vehicle Movements

- 77 It is likely that the average daily construction vehicles will peak at 20 heavy goods vehicles per day. A construction vehicle peak period is expected during the construction programme, between months 27 and 28, which are associated with the excavation, substructure and superstructure of Building A, and the excavation and substructure works for Buildings B, C and D.

ENVIRONMENTAL IMPACT ASSESSMENT

- 78 The following sections of this Non-Technical Summary present a summary of the environmental technical topic assessments that have been undertaken as part of the Environmental Impact Assessment. Further details can be found within the Environmental Statement (Volumes 1-3).

Socio Economics

- 79 The assessment undertaken has focussed on key social and economic considerations, specifically the potential loss of existing employment and job creation due to demolition and construction works associated with the Proposed Development. The assessment also considers the provision of new retail spaces within the completed development, local spending with the provision of new retail space including, the provision of housing, social impacts such as population increase and labour market, and the effect of the new residential population on the local social infrastructure including medical and educational facilities. The assessment also considered the provision of new open and play space within the Proposed Development.
- 80 The Proposed Development is not expected to have any other significant effects during construction and demolition or once the development is complete.
- 81 The Proposed Development will have a significant beneficial effect locally through the provision of housing supply which will provide residential 644 units, which will make a significant contribution to the housing supply.
- 82 The development will also have a significant adverse effect on the capacity of primary healthcare and primary schools. While Community Infrastructure Levy payments may alter the residual effects, a conservative approach has been taken as it is not possible to definitively confirm how these effects may improve at this time.

Table 4 Summary of the Significant Residual Socio-Economic Effects

Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Availability of housing	Provision of 644 new dwellings, a percentage of which will be affordable	Moderate Beneficial (Borough)
Capacity of primary healthcare	Addition of 1,674 new residents	Moderate Adverse (Local)
Capacity of primary schools	Addition of 78 new primary school pupils	Moderate Adverse (Local)

Air Quality

- 83 The assessment undertaken has considered the potential for both the construction works, and the operation of the development, to result in air quality impacts. The key considerations of this assessment have been dust emissions and emissions from heavy goods vehicles during construction, and road traffic emissions once the Proposed Development is in use.
- 84 The assessment has also considered whether the site is suitable for residential occupation, confirming that air quality levels are considered to be appropriate in accordance with relevant guidelines.

- 85 The assessment has identified that the Proposed Development will not cause significant air quality impacts during either the construction works, or once completed and in use.
- 86 To minimise impacts to air quality, the design has incorporated the provision of pedestrian and cycle access into the development (including cycle parking), as well as being located in close proximity to local amenities and bus stops. These measures will encourage residents to use public transport options to get to and from the development. Additionally, the Proposed Development includes air source heat pumps to minimise local emissions of air pollutants.
- 87 To manage impacts to air quality during the construction works, a dust risk assessment was undertaken to determine the appropriate level of mitigation at the site. The Institute of Air Quality Management guidance is clear that, with appropriate mitigation in place, effects will not be significant. Mitigation measures will be integrated into a Construction Management Plan or Code of Construction Practice and will require monitoring.
- 88 No significant air quality effects have been identified.

Noise and Vibration

- 89 The assessment undertaken has focused on potential noise and vibration affects during demolition and construction, in particular construction road traffic (heavy good vehicles) and onsite works noise. The assessment has considered surrounding noise sensitive properties as the key receptors, principally surrounding residential properties and has also considered new residents living on site within the Proposed Development while construction works are ongoing across the remainder of the site. In addition, the assessment has considered noise from road traffic from the completed development and building services / plant noise.
- 90 The assessment has identified that a number of mitigation measures will be required to manage the noise associated with the demolition and construction works. This will include the use of “best practicable means”.
- 91 A Construction Environmental Management Plan which will include the appropriate noise and vibration management measures and a detailed Construction Method Statement shall be prepared and agreed with Reading Borough Council.
- 92 With noise and vibration control measures in place during the construction works, significant adverse effects during demolition and construction are not expected for the majority of receptors. However, significant adverse effects are still expected at Queens Court student residential and the existing theatre, as well as future occupants of Building C of the Proposed Development whilst Buildings A and B are being completed.
- 93 Once the development is built and in use, no significant adverse noise or vibration effects are expected as a result of road traffic generated by the development and from building services / plant.

Table 5 Summary of the Significant Residual Noise Effects

Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Existing Queens Court student residential (R8)	Construction activity noise	Major Adverse (Local)
Existing theatre (R11)		
Building C of the Proposed Development (R14)	Construction activity noise – whilst Buildings A and B are being completed	Moderate Adverse (Local)

Daylight, Sunlight, and Overshadowing

- 94 Potential daylight, sunlight and overshadowing effects associated with the Proposed Development are considered to involve temporary changes to the duration and quality of daylight and sunlight as well as the occurrence and duration of overshadowing experienced by surrounding sensitive receptors during the demolition and construction works and once the development has been completed.
- 95 During the construction works, a number of tall cranes are likely to be on-site. The presence of such machinery is temporary, and due their proportions, any impact upon daylight, sunlight or overshadowing is likely to be very minor, and imperceptible in nature.
- 96 The potential effects of the proposed development will gradually increase to the maximum effects identified for the completed development.
- 97 Daylight is the general amount of light (direct and indirect) which enters a room during the daytime. To identify potential effects to sensitive receptors, 691 windows, serving 366 rooms in 14 properties surrounding the site, have been assessed. In terms of daylight, significant adverse effects have been identified to McIlroys Building, 59-60 St Mary's Butts, 2-6 Castle Street, Church of St Mary and 16 Castle Street (a minor adverse effect) and 15 Queens Walk (Queens Court) (a moderate adverse effect). All other receptors experience a negligible and not significant effect.
- 98 In relation to sunlight, a total of 243 rooms have been assessed within 10 properties. In terms of sunlight, the majority of receptors experience a negligible and not significant effect. 15 Queens Walk (Queens Court) is the only receptor which experiences a significant adverse effect (specifically minor adverse) in relation to sunlight.
- 99 In relation to overshadowing, 6 amenity areas surrounding the Proposed Development have been assessed. 5 of the amenity areas assessed receive the recommended 2 hours of sunlight to over 50% of the amenity area and there do not experience a significant overshadowing effect. Only Queens Walk (a pedestrianised shopping street) falls short of the relevant guidelines for sunlight, and receives a minor adverse significant effect for both the transient overshadowing and sun hours on ground assessments.

Table 6 Summary of the Significant Residual Daylight, Sunlight and Overshadowing Effects

Effects		
Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Daylight		
McIlroys Building	Change in daylight amenity	Minor Adverse (Local)
59-60 St Mary's Butts		Minor Adverse (Local)
2-6 Castle Street		Minor Adverse (Local)
Church of St Mary		Minor Adverse (Local)
16 Castle Street		Minor Adverse (Local)
15 Queens Walk (Queens Court)		Minor to Moderate Adverse (Local)
Sunlight		
15 Queens Walk (Queens Court)	Change in sunlight amenity	Minor Adverse (Local)

Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Overshadowing		
21 March – Amenity Area 6	Transient overshadowing	Minor Adverse (Local)
21 June – Amenity Area 6		Minor Adverse (Local)
21 December – Amenity Area 6		Minor Adverse (Local)
Amenity Area 6	Overshadowing – sun hours on ground	Minor Adverse (Local)

Wind Microclimate

- 100** The wind microclimate assessment has focused on understanding whether any undesirable wind speeds would be created on site and in the and surrounding area as a result of the Proposed Development. Undesirable wind speeds may result in effects to pedestrian comfort and safety. Areas within and around the site have been considered and these include thoroughfare locations (including locations associated with the car park), building entrances and amenity areas such as the podium and terraces on the residential towers (located on the upper levels of the buildings). In addition, areas around other buildings surrounding the site, along roadways (St Mary's Butts, Oxford Road), bus stops and thoroughfares (Queen's Walk, Hosier Street, Dusseldorf Way) have been tested.
- 101** Computational fluid dynamic testing was undertaken initially to understand potential wind impacts of the Proposed Development, and include embedded mitigation measures within the design of the scheme.
- 102** A subsequent wind tunnel test was undertaken and wind speeds have been considered against the Lawson Comfort Criteria.
- 103** Prior to the implementation of further mitigation (i.e that which is not embedded into the design), the wind tunnel test identified a number of significant effects as a result of the Proposed Development. Locations T140, T142, T147 at podium level, and Building B roof terrace location T157, T158 and T160 will experience moderate adverse effects (significant) due to the anticipated wind conditions being one category windier than desired.
- 104** A strategy has been developed to enhance the soft landscaping measures on the podium and Building B's roof terrace, which reduces the scale of effect to not significant for locations T140, T142, T147, T157 and T160. T158 requires further mitigation to achieve a not significant effect, this requires further development and validation of the wind mitigation strategy.
- 105** Effects at the remaining receptors are identified as negligible and not significant.

Table 7 Summary of the Significant Residual Wind Microclimate Effects

Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Podium and Roof Amenity Levels (Summer) – Measurement location T158	Change in wind conditions	Moderate Adverse (Local)

Townscape, Built Heritage and Visual Impact Assessment

- 106** The assessment of townscape effects has considered how the Proposed Development will affect the character of the area. The assessment of the effects on built heritage has considered any impact of the development on designated and non-designated heritage assets (e.g. listed buildings and conservation areas). The visual assessment has considered the surrounding makeup and views likely to be experienced by people within the surrounding area.
- 107** The townscape character of the area has been defined through its history and a number of factors, including urban grain, building types, size and materials, arrangement of buildings, types of spaces and landscaping, types of streets or roads, trees or planting, the quality and condition of the built environment and the number, range and type of heritage assets. 23 viewpoints were considered to assess the range of ways the development may affect the existing character and quality of the surrounding townscape.
- 108** The built heritage surrounding the site includes listed buildings and conservation areas. The site is located close to the St Marys Butts / Castle Street Conservation Area, which contains a number of statutory listed buildings including: Church of St Mary (Reading Minster) (Grade I); Church of St Mary (Grade II*); Sun Inn (Grade II); Former Cottage at rear of No.8 Castle Street (Grade II); 8, 10 & 12 Castle Street (Grade II); The Allied Arms Inn (Grade II); 55 & 55A St Mary's Butts; Queen Victoria Jubilee Fountain (Grade II); and Jubilee Cross (Grade II).
- 109** The assessment has identified that the Proposed Development will not result in any adverse impacts to the views. The assessment identified beneficial effects, the most significant being of a scale of moderate relating to views located within Reading Town Centre. A significant adverse effect was identified for the Historic Core, with significant beneficial effects also identified for the Reading Town Centre and Civic Centre townscape character areas.
- 110** With regard to the potential impact on both the St Marys Butts Conservation Area and the setting of listed buildings, specifically the Church of St Mary, the Sun Inn and 35, 36 and 37 St Mary's Butts and the Horn Inn, the assessment concludes that a significant adverse effect will occur to these receptors.

Table 8 Summary of the Significant Residual Heritage, Townscape and Visual Effects

Summary of the Significant Residual Heritage, Townscape and Visual Effects		
Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Built Heritage		
Church of St Mary	Change in historic setting	Moderate Adverse (Local)
The Sun Inn		Moderate Adverse (Local)
35, 36 and 37 St Mary's Butts and the Horn Inn		Moderate Adverse (Local)
St Mary's Butts Conservation Area (CA)		Moderate Adverse (Local)
Townscape		
Reading Town Centre Townscape Character Area (TCA)	Change in townscape character	Moderate Beneficial (Local)
Historic Core		Moderate Adverse (Local)
Civic Centre TCA		Moderate Beneficial (Local)

Receptor	Description of Significant Effect	Scale and Nature of Residual Effect
Built Heritage		
Visual		
Pedestrians within Reading town centre	Change in visual amenity	Moderate Beneficial (Local)
Leisure / amenity users of Reading town centre		Major Beneficial (Local)

Climate Change

The Impact of Climate Change on the Development

- 111** Climate change has the potential to alter the current environment. To consider how the environmental and socio-economic effects of the Proposed Development might change under a different climate in the future, a future climate scenario has been developed using projections published by the Met Office. The projections consider the local climate effects arising from a series of different greenhouse gas emission scenarios (and the associated impacts to the climate).
- 112** As a result of climate change, several different environmental factors are likely to vary in the future. These include increase in average air temperatures, increase in yearly rainfall and sea level rise. Additionally, cloud cover could slightly decrease from the existing conditions.
- 113** Each technical topic assessment reviews the possible implications of a different climate in the future against the results and conclusions of the impact assessments for the Proposed Development. They confirm that likely effects identified for the technical topics are not expected to change or will not impact the Proposed Development as a result of climate change.

The Impact of the Proposed Development on Climate Change

- 114** A greenhouse gas emissions assessment has been undertaken to assess the potential greenhouse gas emissions from the demolition, construction and operation of the Proposed Development. greenhouse gases are gases in the atmosphere which have the potential to increase air temperatures.
- 115** The assessment of greenhouse gases during the demolition and construction phase considers emissions from transport vehicles and embedded greenhouse gas emissions; which are the emissions involved in creating the construction materials. Specific ways to reduce and avoid greenhouse gas emissions during the construction stage include measures to reuse material on site where possible, minimising waste to landfill and good practice measures to minimise energy use from construction activities.
- 116** The assessment of greenhouse gasses once the Proposed Development is complete and operational considers emissions from operational transport, energy consumption, water consumption and land use. Specific ways to reduce and avoid greenhouse gas emissions once the Proposed Development is complete and operational include cycle parking and electric vehicle charging points in line with the London Plan policies, measures to ensure highly energy efficient buildings, and on site measures to be lean, be clean and be green will lead to site wide reductions of greenhouse gas emissions.
- 117** The design of the Proposed Development has incorporated a number of measures to minimise the creation of greenhouse gases, including the following: the type of materials included within the design, construction site management, the building management system, low carbon technologies, and the provision of bicycle storage facilities.

- 118** Overall, the greenhouse gas emissions assessment identified that the Proposed Development will generate a small amount of greenhouse gas emissions, however these have been mitigated with best practice and relevant guidance and ensure the Proposed Development is compliant with relevant policies and UK's target for net zero carbon emissions by 2050. It is acknowledged that there is a need to apply a systematic, coordinated approach to climate change mitigation and adaptation on a larger scale beyond the individual project level. The Institute of Environmental Management and Assessment's overarching principles on climate change mitigation and environmental impact assessment state that the carbon dioxide emissions from all projects will contribute to climate change, thus making climate change the largest in-combination cumulative effect. It is expected that all cumulative schemes will carefully consider and embed appropriate mitigation measures to avoid, prevent, reduce or offset greenhouse gas emissions, as set out in the Reading Borough Council's Local Plan.
- 119** When considering the Proposed Development's contribution to local and national greenhouse gas emissions, a not significant effect was identified.
- 120** The residual cumulative greenhouse gas emissions from the 12 schemes and the Proposed Development will likely be small in the context of regional and national GHG emissions, and are considered to be not significant.

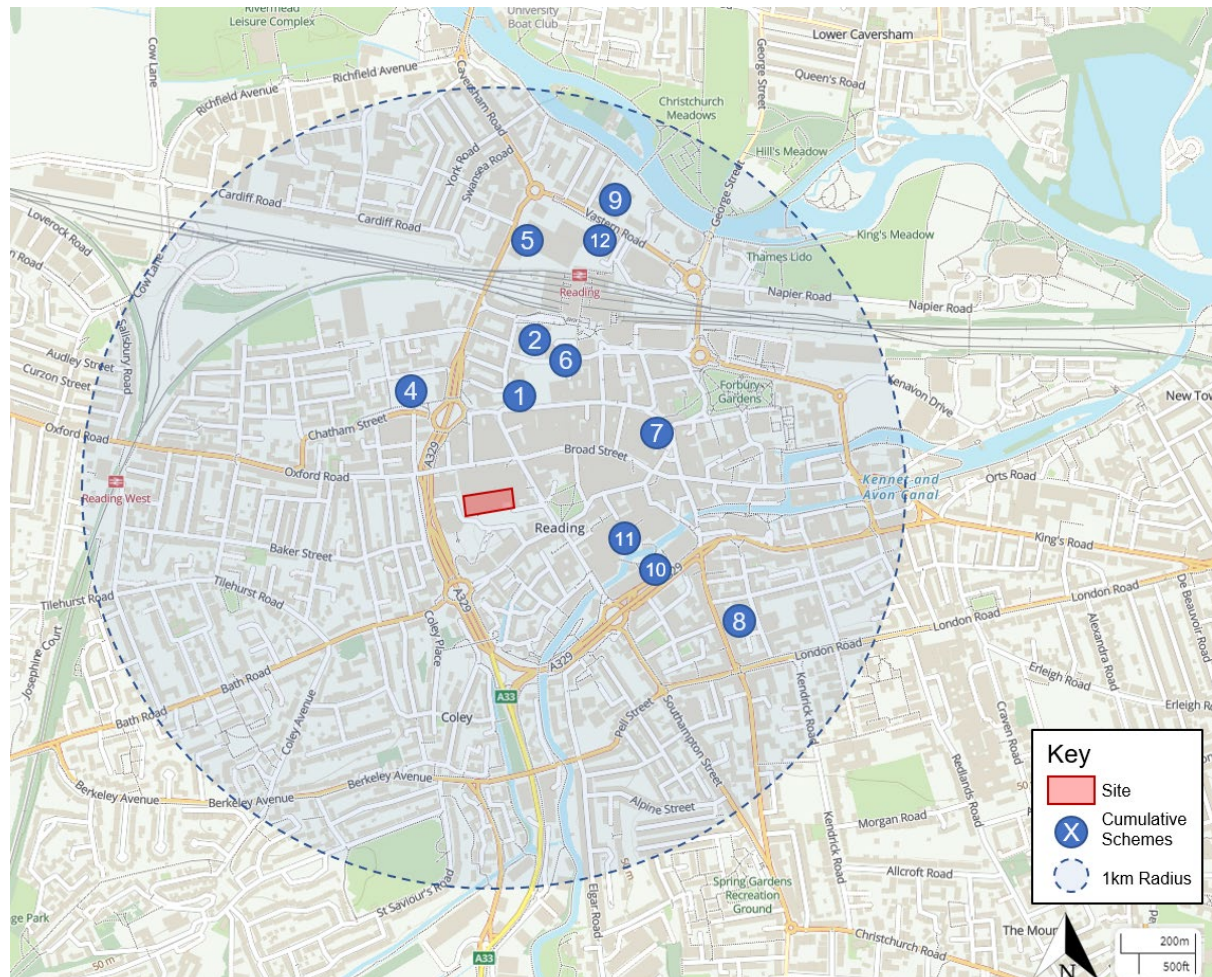
CUMULATIVE EFFECTS ASSESSMENT

- 121** A two-stage assessment has been undertaken to identify potential cumulative effects.
- 122** As outlined earlier within this document, the site is located within the area covered by the Minster Quarter Development Framework, which is a comprehensive masterplan and urban design framework which assists potential schemes coming forward in the future.
- 123** Given this framework, and parameters for potential future schemes, this has been considered as a separate cumulative scenario.
- 124** The cumulative assessment scenarios considered include:
- **Cumulative Scenario 1:** the Proposed Development + Cumulative Schemes; and
 - **Cumulative Scenario 2:** the Proposed Development + Minster Quarter Development Framework + Cumulative Schemes.
- 125** A number of other schemes have been assessed in order to understand the impact of the Proposed Development alongside these schemes. Relevant cumulative schemes are identified through professional judgement against specific criteria such as location within 1km of the Site (**Figure 11**).
- 126** The assessment has considered the following schemes (both those which have planning permission and those which have planning applications still to be decided) which were considered to have the potential to interact cumulatively with the Proposed Development:
- 1) 52-55 Friar Street Reading and 12 Greyfriars Road, RG1 1DX;
 - 2) Station Hill, Reading, including Plot E and Telecom House
 - 4) Land between Weldale Street and Chatham Street Reading;
 - 5) Former Sorting Office, Caversham Road / Vastern Road;
 - 6) 29 Station Road, Reading, RG1 1LG;
 - 7) Bristol & West Arcade Market Place Reading RG1 1JL;
 - 8) Former Car Park East Street Reading RG1 4QH;
 - 9) 55 Vastern Road Reading RG1 8BU;

- 10) Existing Vue Cinema Complex Land West of Yield Hall Place / London Road The Oracle Reading RG1 2AG;
- 11) Former Debenhams Department Store West of Yield Hall Place The Oracle RG1 2AS; and
- 12) Vastern Court Caversham Road Reading.

* Note reference 3 is not used.

Figure 10 Cumulative Schemes Map



Likely Significant Cumulative Effects

- 127 The following additional or different likely significant effects as a result of the cumulative impact assessment have been identified:

Completed Development

Socio-Economics:

- In terms of effects on housing provision, the cumulative schemes and the Proposed Development is expected to contribute 21% towards the Borough's housing target of 15,487 homes by 2026. Therefore, the cumulative effect on housing need is assessed to be direct, permanent, major beneficial (**significant**) at the borough level;
- The increased demand in secondary school spaces from the cumulative schemes (in conjunction with the Proposed Development) is expected to reduce the surplus and result in a moderate adverse (**significant**) effect at the borough level; and

- The new population generated by the cumulative schemes, with the Proposed Development, will result in the need for additional GP capacity within the local area. The cumulative effect on primary healthcare will be direct, permanent, and major adverse (**significant**) at the Borough level.

Effect Interactions

128 Effect interactions are the result of interactions of effects on an individual receptor (e.g. when both noise and dust affect a particular residential property).

129 The assessment identified the following:

- That there is the no potential for significant effect interactions during the demolition and construction works.
- That there is the potential for significant effect interactions between daylight, sunlight and townscape when the development is complete and operational on the existing residential occupants at 15 Queen's Walk.
- That there is the potential for significant effect interactions between daylight, heritage and townscape when the development is complete and operational at 16 Castle Street and the Church of St Mary.

SUMMARY OF THE LIKELY SIGNIFICANT EFFECTS

130 The significant effects associated with the development have been included in Table 8. Note that this table only includes the effects which have been identified as significant within each of the technical assessments and does not include the effects considered to be not significant.

Demolition and Construction

131 The EIA identified that there is the potential for significant adverse effects in terms of construction noise as a result of the demolition and construction works associated with the Proposed Development, to the existing Queens Court student residential, existing theatre receptors and future occupants of Building C of the Proposed Development.

Completed Development

132 Significant effects have been identified for socio-economics, daylight, sunlight and overshadowing, wind microclimate, and built heritage, townscape and visual when the scheme is complete and operational. These effects are considered to be permanent and long-term effects.

Table 9 Likely Significant Effects

ES Chapter	Receptor	Description of Residual Effect	Nature and Scale of Residual Effect
Demolition and Construction			
Noise and Vibration	Existing Queens Court student residential (R8)	Construction activity noise	Major Adverse (Local)
	Existing theatre (R11)		
	Building C of the Proposed Development (R14)	Construction activity noise – whilst Buildings A and B are being completed	Moderate Adverse (Local)
Completed Development			
Socio-Economics	Availability of housing	Provision of 644 new dwellings, a percentage of which will be affordable	Moderate Beneficial (Borough)

ES Chapter	Receptor	Description of Residual Effect	Nature and Scale of Residual Effect
	Capacity of primary healthcare	Addition of 1,674 new residents	Moderate Adverse (Local)
	Capacity of primary schools	Addition of 78 new primary school pupils	Moderate Adverse (Local)
Daylight	McIlroys Building	Change in daylight amenity	Minor Adverse (Local)
	59-60 St Mary's Butts		Minor Adverse (Local)
	2-6 Castle Street		Minor Adverse (Local)
	Church of St Mary		Minor Adverse (Local)
	16 Castle Street		Minor Adverse (Local)
	15 Queens Walk (Queens Court)		Minor to Moderate Adverse (Local)
Sunlight	15 Queens Walk (Queens Court)	Change in sunlight amenity	Minor Adverse (Local)
Overshadowing	21 March – Amenity Area 6	Transient overshadowing	Minor Adverse (Local)
	21 June – Amenity Area 6		Minor Adverse (Local)
	21 December – Amenity Area 6		Minor Adverse (Local)
	Amenity Area 6	Overshadowing – sun hours on ground	Minor Adverse (Local)
Wind Microclimate	Podium and Roof Amenity Levels (Summer) – Measurement location T158	Change in wind conditions	Moderate Adverse (Local)
Townscape and Visual Impact Assessment	Reading Town Centre Townscape Character Area (TCA)	Change in townscape character	Moderate Beneficial (Local)
	Historic Core		Moderate Adverse (Local)
	Civic Centre TCA		Moderate Beneficial (Local)
Built Heritage	Church of St Mary	Change in historic setting	Moderate Adverse (Local)
	The Sun Inn		Moderate Adverse (Local)
	35, 36 and 37 St Mary's Butts and the Horn Inn		Moderate Adverse (Local)

ES Chapter	Receptor	Description of Residual Effect	Nature and Scale of Residual Effect
	St Mary's Butts Conservation Area (CA)		Moderate Adverse (Local)
Visual	Pedestrians within Reading town centre	Change in visual amenity	Moderate Beneficial (Local)
	Leisure / amenity users of Reading town centre		Major Beneficial (Local)

Trium Environmental Consulting LLP
The Whitehouse
Belvedere Road, London
SE1 8GA
+44 (0) 20 3887 7118
hello@triumenv.co.uk
www.triumenvironmental.co.uk

