2 Site and Local Context

2.1 Introduction

2.1.1 This chapter provides a description of the Site and its setting. Further details relevant to the proposed scope of the technical assessments are provided in Chapters 7 – 17.

2.2 Site Description

2.2.1 The Site is located north of Arborfield and east of Shinfield. The Thames Valley Science Park (TVSP) lies northwest of the site. The Site is within short distances to other main centres of employment in the locality, such as Reading International Business Park, approximately 3km northwest, and Green Park Business Park, approximately 4.5km northwest.

2.2.2 The Site is part of the Wider SDL, shown in Figure 1.1, which equates to approximately 732.57 ha. The location and extent of the Site is identified by the red line shown in Figure 1.2 LP01 LGV – Site Location Plan. In total, the Site covers an area of approximately 397 hectares (ha).

2.2.3 The Site is largely rural in character and the majority is comprised of farmland, along with semi-natural and amenity grassland, copses and woodland, and associated buildings.

2.2.4 The agricultural land quality of the Site varies between grade 2, 3a, 3b and 4 with the bulk of the development on Site being within the areas of subgrade 3a and 3b. Soil Resources are Scoped out of the ES, however the full Agricultural Land Classification and Soil Resources Report, produced by Reading Agricultural Consultants, is included at Appendix 2.1.

2.2.5 The M4 runs through the northern section of the Site. The University of Reading's *Centre for Dairy Research* ('CEDAR') is located at the centre of the Site. The Thames Valley Science Park is located to the north west of the Site beyond which is the built-up residential area of Shinfield. The Site is bounded by the A327 and the Gleeson Homes land along its southern boundary. The Hatch Farm Land Limited land and the settlement of Sindlesham, which is mainly of a residential nature with some industrial uses, are situated to the east of the site. Both the Gleeson Land and Hatch Farm Land Ltd. areas are part of the Wider SDL but do not form part of this application.

2.2.6 The Site topography has been strongly influenced by the River Loddon valley, which bisects the Site southwest to northeast through its centre. This has created a relatively low-lying, level area, especially adjacent to the northern side of the River. The landform gently rises beyond this, with Thames Valley Science Park and the settlement of Lower Earley beyond occupying a higher area. To the south of the River Loddon, the land also gently rises up the valley side, with Arborfield and the Mole Road corridor occupying a slightly more elevated terrace. Further localised variations within the site are created by features such as the Barkham Brook river valley.

2.2.7 Further to the south-east of the Site, the land continues to rise towards a distinct hill towards Barkham. This provides a good degree of visual enclosure from the wider area beyond. The site topography plan shows the gradual drop in site levels from Barkham towards the River Loddon valley. Proposed development, streets, drainage systems and green spaces will need to respond carefully to this topography during the detailed design stage.

2.2.8 Within the Site area there are three enclaves, i.e. land that is encircled by (but excluded from) the red line boundary (see Figure 1.2). The largest, to the east of the Site, consists of a

combination of residential dwellings, commercial and equestrian uses along Julkes Lane, Copse Barnhill Lane, Parkcorner Lane and Carters Hill Arborfield. The second is a smaller parcel of two residential dwellings to the east off Parkcorner Lane. The final area sits to the southwest of the Site, adjacent to Hall Farm and the CEDAR, and comprises the Arborfield Old Church Ruins.

2.2.9 Beyond the M4 and northern boundary of the Site is the established residential area of Earley. Reading town centre and train station are located approximately 5.12km further north west. Train stations are also located at Earley, Winnersh Triangle and Winnersh. To the east of the Site is the Bearwood Lakes Golf Club beyond which is the residential area of Woosehill.

2.2.10 To the south of the Site are the existing villages of Arborfield and Arborfield Cross. Further to the south is Arborfield Garrison; a strategic residential development of 3,500 homes comprising the development of a former army site. The delivery of Arborfield Garrison is well advanced with the building phase commencing in 2016. To the west of the Site is Shinfield, a village that has grown significantly in recent years as part of the 'South of the M4 Strategic Development Location', which was allocated in the previous Wokingham Borough Adopted Core Strategy Development Plan Document (January 2010).

Site Access and Public Rights of Way

2.2.11 The Site is well located in terms of existing highway infrastructure and benefits from good connections to the local and strategic highway networks, notably the M4 (Junction 11), approximately 1.5km north west of the Site.

2.2.12 The local area has a high level of pedestrian and cycle connectivity, due in part to the significant investment in new infrastructure that has been implemented over recent years in conjunction with the Thames Valley Science Park and south of the M4 developments.

2.2.13 The Site has several access points, including from the west (Shinfield Eastern Relief Road and South Avenue), the south (A327 Arborfield Road) and east (B3030 Mole Road).

2.2.14 Outside of but to the west, the Site benefits from the South of M4 SDL bus service which already routes into the Thames Valley Science Park, providing a frequent service to and from key destinations within Reading such as the rail station, town centre, the Royal Berkshire Hospital and the University of Reading's main campus at Whiteknights.

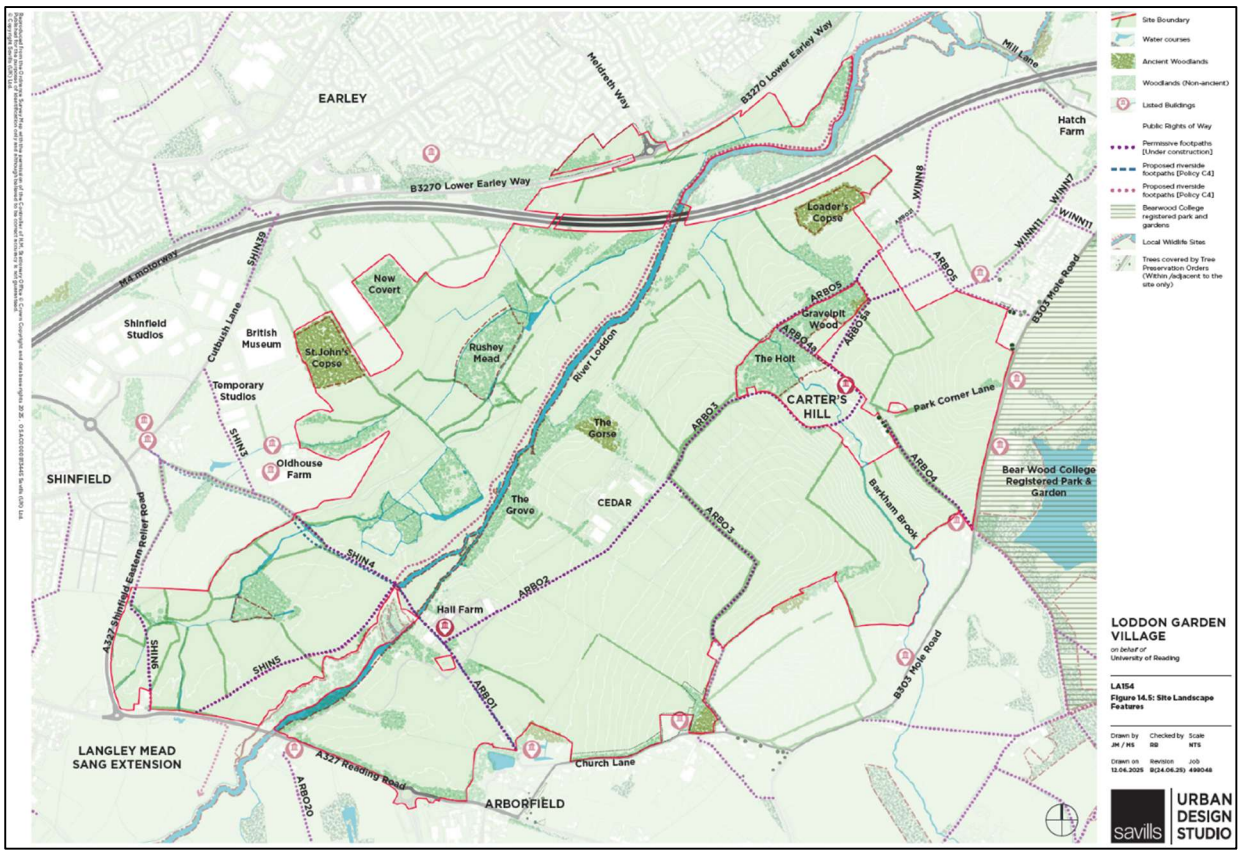
2.2.15 Other nearby bus links are accessible from Shinfield to the west, Sindlesham to the east, Arborfield and Arborfield Cross to the south and Earley to the north.

2.2.16 The nearest rail station is at Winnersh, approximately 3km to the northeast, which provides regular and frequent services operating between Reading and London Waterloo. Reading station, which forms an important hub on the national rail network, is circa 7km to the north while Green Park station is approximately 6km to the west.

2.2.17 The Site contains eleven public rights of way within its extent as listed below and shown in Figure 2.1 (see separate '*Figure 2.1 LA154 Figure 14.5: Site Landscape Features*' to view full size drawing):

- SHIN FP 6 II
- SHIN FP 5 I
- SHIN FP 4 II
- ARBO FP 1 I-II
- ARBO FP 2 I-II
- ARBO BW 3 I-II
- ARBO BW 4A I - II
- ARBO BW 4 I
- ARBO FP 5A I-II
- ARBO FP 5B I
- ARBO BW 5 I-II

Figure 2.1 Existing Public Rights of Way



Ground Conditions

2.2.18 A review of historical maps indicates that since 1872 the land has predominantly been within agricultural use with a number of drains/ ditches, gravel pits and ponds located across the Site. From 1971 the M4 motorway and subsequently the B3270 have been constructed on the northern side of the Site.

2.2.19 The superficial deposits are designated as Secondary A Aquifer (River Terrace Deposits and Alluvium) or Secondary B aquifer (Brickearth). The bedrock is designated an Unproductive Aquifer. A various assemblage of superficial deposits is present beneath the Site which include: Brickearth; River Terrace Deposits 2, 3, 4 and 5; and Alluvium.

2.2.20 The Site is not indicated to be located in a groundwater Source Protection Zone (SPZ).

2.2.21 Localised areas of Made Ground are also recorded within the Site, indicated to be mainly associated with highway construction and an isolated area within Oldhouse Farm. The bedrock comprises the London Clay Formation.

Archaeology and Built Heritage

Archaeology

2.2.22 The Scheduled Monument of St Bartholomew's Church is the only statutorily designated archaeological asset within the Site. The remains of this church are also Grade II listed.

2.2.23 Various sections of the Site are located within an area of high archaeological potential as defined by the adopted WBC Planning Policies and Constraints Map (2010). This includes areas in the centre of the Site at St John's Copse, and a section of land in the north east of the Site, south of the M4.

Built Heritage

2.2.24 There are three designated built heritage assets within the Application Boundary of the Site[1]. Within a 1km search radius of the Site there are fifty-four listed buildings: all at Grade II except one Grade I listed building and one Grade II* listed building. There are also several buildings meriting consideration as non-designated heritage assets, either having been identified on WBC List of Buildings of Traditional Local Character or on the Berkshire Historic Environment Record (HER) or as a result of the application of professional judgement during the Site walkover undertaken in April 2022. One Grade II* registered park and garden falls within this search radius as do two conservation areas.

2.2.25 Within 1km of the Site boundary there are twenty-three built heritage assets as listed below: Cutbush (Grade II listed) (NHL ref. 1118135) (Plates 23-24);

- Barn adjoining Cutbush (Grade II listed) (NHL ref. 1136129 (Plate 23-24);
- Shinfield Grange is identified on the HER and merits consideration as a non-designated heritage asset (HER ref. WK15636) (Plate 25);
- Oldhouse Farm (Grade II listed) (NHL ref. 1118136), (Plate 26);

[1] These are Hall Place Farmhouse (Grade II listed) (NHL ref. 1135961) (Plates 28-29); Simonds Family Tomb (Grade II listed) (NHL ref. 1319095); and The Church of St Bartholomew (Grade II listed) (NHL ref. 1135983) (Plates 35-37).

- Barn approximately 50 metres south of Oldhouse Farmhouse (Grade II listed) (NHL ref. 1136136) (Plate 27);
- Hall Place Farmhouse (Grade II listed) (NHL ref. 1135961) (Plates 28-29);
- Remains of Old Church (Grade II listed) (NHL ref. 1313014) (Plates 30-31);
- Simonds Family Tomb (Grade II listed) (NHL ref. 1319095)
- Bridge House (Grade II listed) (NHL ref. 1118159) (Plate 32);
- The Old Rectory and The Rectory Close (Grade II listed) (NHL ref. 1319096) (Plates 33-34);
- The Church of St Bartholomew (Grade II listed) (NHL ref. 1135983) (Plates 35-37);
- Mole Bridge Farmhouse (Grade II listed) (NHL ref. 1118121) (Plate 38);
- The Glen (Grade II listed) (NHL ref. 1118161) (Plate 39);
- Bearwood College Registered Park and Garden (RPG) (Grade II* registered) (Register ref. 1000414 (Plates 40- 42-). Within this RPG are a number of separately listed buildings and structures including, notably the Grade II* listed Former Bearwood College (principal house) (NHL ref. 1135967) and the Bearwood College Chapel (Grade II listed) (NHL ref. 1118160). Several separately listed lodge buildings exist and a number of other buildings which merit consideration as non-designated heritage assets including Mole Lodge (former gas works) (HER ref. MRM17538), Farmhouse (HER ref. MRM17541) and Farm Cottages (1-5) (HER ref. MRM17542). All will be considered collectively under the Bearwood College RPG assessment (see Built Heritage Statement). Park Lodge, West Lodge and Mole Lodge will however be considered separately as this face directly onto the Site on the B3030. They will be considered collectively under the title Mole Road Lodges to avoid repetition.
- Park Lodge (Grade II listed) (NHL ref. 1118163) (Plate 43);
- West Lodge (Grade II listed) (NHL ref. 1136015) (Plate 44);
- Mole Lodge (Gas works) (HER ref. MRM17538) (Plate 45);
- Reading Room Cottage (Plate46);
- Arborfield Cross Conservation Area (Plates 47-49).
- Carter's Hill House (Grade II listed) (NHL ref. 1319098) (Plates 50-51);
- Oak Cottage (Grade II listed) (NHL ref. 1319149) (Plate 52);
- Sindlesham Mill (Grade II listed) (NHL ref. 1136288) (Plates 53-54);
- Berkshire Masonic Centre (Grade II listed) (NHL ref. 1136256) (Plate 55).
- Sindlesham Conservation Area (Plates 56-58).

2.2.26 Further details on built heritage assets, their settings and an assessment of their significance are provided within Chapter 9 – Built Heritage.

Flood Risk and Drainage

2.2.27 As well as the River Loddon that runs through the site flowing north under the M4 motorway and towards Reading, there are various tributaries of the River Loddon on both the western and eastern sides. Detailed modelling has been completed for the River Loddon and for these watercourses which seeks to cover both fluvial and pluvial (surface water) flooding potential.

2.2.28 With reference to the Environment Agency's online Flood Map for Planning, the majority of the Site is in either Flood Zone 1 or 2, although there are areas of Flood Zone 3 immediately adjacent to the River Loddon and Barkham Brook. There are also areas that are shown as having a high risk of surface water flooding predominantly along the eastern boundary and some central and southern areas of the Site. These constraints are recognised in the parameter plans submitted with the application.

Figure 2.2 Environment Agency Flood Risk Map (See Appendix 13.2 – Flood Risk Assessment)

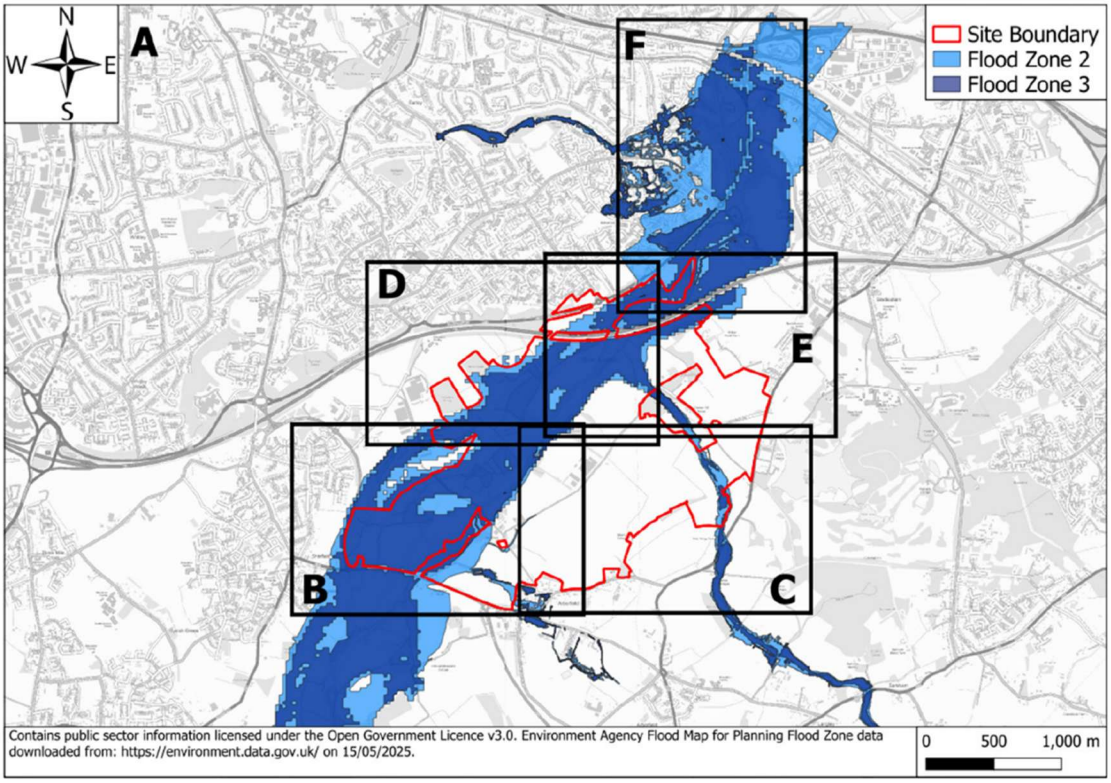
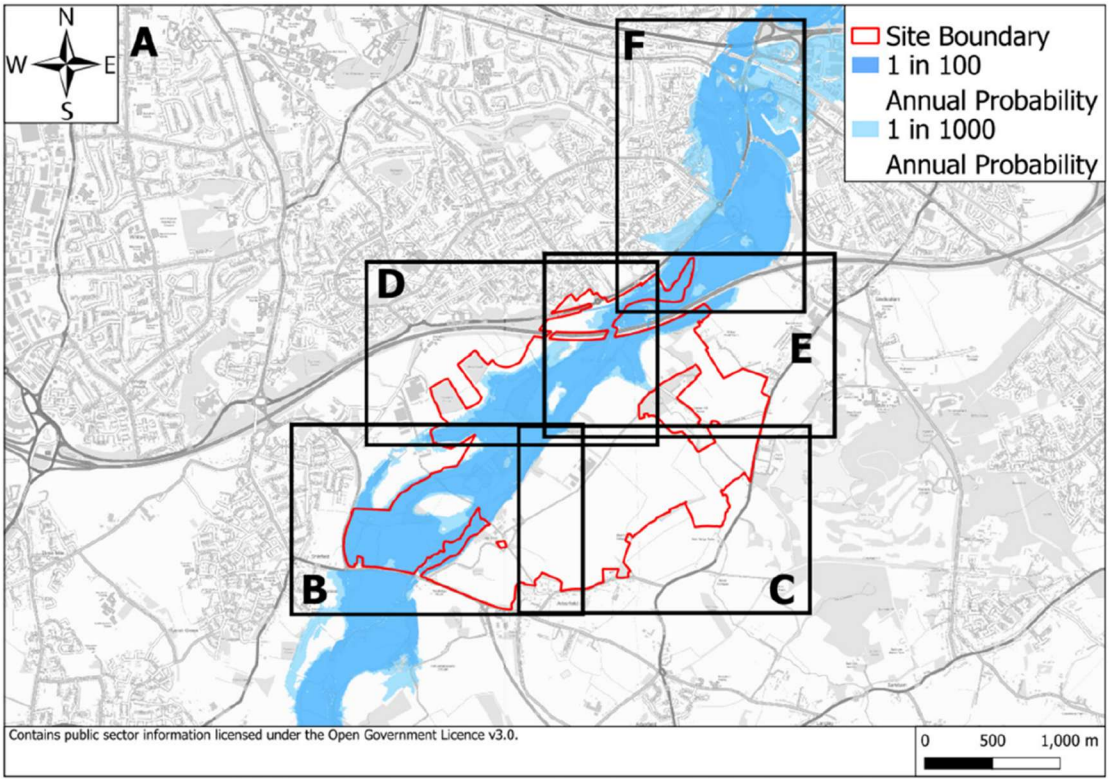


Figure 2.3 Environment Agency Surface Water Flood Risk Map (See Appendix 13.2 – Flood Risk Assessment)



2.2.29 Further details on hydrology, flood risk and drainage and their assessment are provided within Chapter 13 – Hydrology (including Flood Risk and Drainage).

Ecology and Nature Conservation

2.2.30 There are no statutory designated sites within the Site. The closest statutory designated sites of national importance are four Sites of Special Scientific Interest (SSSIs) all within 5km of the Site.

- Lodge Wood and Sandford Mill SSSI, located approximately 4km north east – Designated for large populations of the rare Loddon Lily.
- Longmoor Bog SSSI, located approximately 3km south east – Designated for its main features being a well-developed carr of alder Alnus glutinosa, grey willow Salix cinerea, downy birch Betula pubescens and alder buckthorn Frangula alnus and an area of wet heathland dominated by purple moor-grass Molinia caerulea and cross-leaved heath Erica tetralix.
- Bramshill SSSI, located approximately 6.1km south – Designated for a series of shallow acid ponds and associated mire, which support a rich assemblage of dragonfly and damselfly, and rotationally felled conifer plantation, which provides habitat for internationally important populations of nightjar, woodlark and Dartford warbler.
- Stanford End Mill and River Loddon SSSI, located approximately 6.75km south west – Designated for a series of traditionally-managed seasonally waterlogged hay meadows, and a 4 km stretch of the River Loddon, a tributary of the River Thames. The Site is of interest particularly for nationally important populations of two rare plants: the fritillary Fritillary meleagris, a native bulb of unimproved damp meadows now mainly confined to scattered localities in southern Britain, and the Loddon pondweed Potamogeton nodosus,

a very rare aquatic species for which this length of the River Loddon is the national stronghold.

2.2.31 Twenty-nine Berkshire Local Wildlife Sites (LWS) are located within a 2km radius of the Site. Of these, five are located within the Site boundary, whilst an additional three are located immediately adjacent. Further detail is provided in **Figure 11.2** within Chapter 11 of the ES.

2.2.32 The Loddon Valley South Biodiversity Opportunity Area (BOA) runs across the western and northern parts of the Site. BOA's are considered to be areas of land where there is the greatest potential for habitat creation and restoration.

2.2.33 The southern section of the Site is located approximately 4.4km north of the designated Thames Basin Heaths Special Protection Area (SPA). The Thames Basin Heaths is designated because it supports populations of Dartford warbler Sylvia undata, Nightjar Camprimulgus europaeus and Woodlark Lullula arborea.

2.2.34 Further details on ecological sites and habitats are provided within Chapter 11 – Ecology.

Air Quality

2.2.35 Wokingham Borough Council (WBC) has designated 60m on both sides of the M4, throughout the Borough, as an Air Quality Management Area (AQMA) due to high levels of nitrogen dioxide (NO_2) pollution from road traffic. The AQMA was declared on 28 September 2001. The northern part of the Site is within this designated AQMA.

2.2.36 Further details on Air Quality and its assessment are provided within Chapter 7 – Air Quality.

Noise

2.2.37 There are a number of existing noise sources within the vicinity of the Site with main source of noise from road traffic from the M4 motorway and surrounding local road network including the A327 and Mole Road. In locations close to the M4 motorway, it is likely there will be very high existing road traffic noise levels. However, these are likely to be significantly reduced in areas of the Site to the south, away from the M4.

2.2.38 Further details on Noise and its assessment are provided within Chapter 16 – Noise and Vibration.

Utilities

2.2.39 The Site contains various utility infrastructure. This includes high voltage overhead power. 132kV cables run north south on the eastern side of the Site. 33kV cables are located on the western side of the Site, outside the area of the proposed development.

2.2.40 A medium pressure gas main is located through the middle of the Site, running from north east, crossing underneath the River Loddon. A second medium pressure main is located in Mole Road on the southern boundary of the Site, turns north west and crosses the Site. Records show it stops at Hall Farm and does not cross the River Loddon.

2.2.41 Full details of the existing utilities on and around the Site are provided within Appendix 3.6 – Utilities Assessment.

2.3 Summary of Sensitive Receptors

2.3.1 As described in the following technical chapters, a number of sensitive receptors have been identified that have the potential to be significantly affected either directly or indirectly by the Proposed Development.

- Occupiers of existing dwellings and commercial premises in proximity to the Site;
- The local population in respect of local services, schools, employment opportunities, etc.;
- The effects of built heritage assets, their setting and an assessment of their significance;
- Users of local roads, transport services and public rights of way both on and in proximity to the Site;
- Ecological habitats and species present both on and in proximity to the Site;
- Surface and groundwater regimes both on and in proximity to the Site, including Site drainage characteristics;
- The landscape character of the Site and its surrounding environs;
- Sensitive receptors that would be introduced to the Site as a result of the Proposed Development, including site workers and future residents, potentially school children, tenants and other site users who would be present during the later phases of construction; and,
- Effects on climate through GHG emissions during the construction and operation phase.

2.3.2 Consideration of whether these receptors are likely to be affected, and if so, to what extent, is provided in each technical assessment chapter (Chapters 7 – 17).