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1 Introduction

1.1 Meadowhall Contracts Limited (the Applicant) is seeking outline planning permission for an employment-led development (the ‘Development’) on an area of land 5km to the north east of Sheffield city centre, within Sheffield City Council (SCC). The scheme is known as The River Don District (The RDD).

1.2 This document is a non-technical summary (NTS) of the findings of the Environmental Impact Assessment (EIA) which are reported on in the Environmental Statement (ES). The ES has been prepared in order to identify the environmental and socio-economic effects that could result from the demolition of the existing site buildings and construction of the Development or when the Development is completed and occupied.

1.3 The ES has been prepared in accordance with the requirements of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017\(^1\) (‘the EIA Regulations’).

Purpose of the Environmental Impact Assessment

1.4 EIA is a process by which the likely significant environmental and socio-economic effects of certain types of development projects on the environment are identified, assessed and reported upon. Mitigation is also identified as part of the EIA. The EIA process must be followed for certain size and types of development projects so that the likely significant environmental and socio-economic effects can be considered by the relevant competent authority before a decision is made on whether planning permission should be granted.

1.5 The Applicant recognises that the Development falls within Schedule 2, Category 10(b) of the EIA Regulations as it is an ‘urban development project’ which, owing to its nature, scale and location, has the potential to give rise to significant effects on the environment. The Applicant has therefore commissioned Quod to lead on the undertaking of an EIA for the Development.

1.6 The ES is prepared to inform readers of the nature of the scheme proposed, the likely significant environmental and socio-economic effects during demolition and construction and the subsequent occupation of the Development, and the measures proposed to prevent, reduce or improve these effects.

1.7 The NTS forms part of the ES and provides a summary of the findings of the ES in non-technical language, focusing specifically on any likely significant environmental and socio-economic effects.

1.8 The ES is structured as follows:

- **Volume I**: Environmental Statement Main Report;
- **Volume II**: Technical Appendices; and
- **Non-Technical Summary** (this document).

The Outline Planning Application

1.9 The Applicant is seeking outline planning permission with all matters reserved. This means that the Applicant is seeking to establish whether the scale and nature of the Development would be acceptable before detailed proposals are put forward. This type of planning application allows for fewer details about the proposal to be submitted. Once outline permission has been granted, approval of the details (reserved matters) is required before work can begin.

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\(^1\) Town and Country Planning (Environmental Impact Assessment) Regulations 2017
1.10 The details of the outline application for the Development include:

- demolition of existing buildings on site;
- remediation of the existing site, where required; and
- provision of up to 100,000m$^2$ Gross External Area (GEA) of flexible employment space including office, industrial use, storage and associated uses. Land uses will comprise primarily business, general industrial and storage/distribution.

1.11 The following possible uses will be provided, however, the overall gross floorspace of the scheme will not be more than 100,000m$^2$:

- retail, food and beverage, and leisure uses;
- a car showroom;
- hotel use;
- site access, car and car parking improvements including provision for multi-storey car parking;
- landscape and public realm, including areas for sustainable drainage and biodiversity enhancements; and
- associated works.

**Assessment Methodology**

**EIA Scoping**

1.12 The first stage of the EIA process involved undertaking an EIA scoping exercise. The purpose of scoping is to identify the potential environmental effects that could arise from the Development and therefore provide the focus of the EIA. The findings of the scoping exercise, along with details of the proposed methodology for the specialist impact assessments, were presented in an EIA Scoping Report. The EIA Scoping Report was submitted to SCC on 5 July 2018.

1.13 Feedback on the Scoping Report was provided by SCC and statutory consultees and a formal Scoping Opinion was issued by SCC in August 2018. This informed the environmental topic areas which needed to be considered by the EIA, and the approach to these assessments. Generally, SCC was satisfied that the scope of the EIA, as set out in the EIA Scoping Report, was appropriate.

1.14 Scoping is an iterative process and is usually based on preliminary scheme information, site visits and initial surveys. Therefore, the final scheme assessed as part of the EIA has evolved slightly from that presented within the Scoping Report at the scoping stage, namely through some additions to the Site boundary to accommodate highway improvements.

**Topics Included in the EIA**

1.15 Several environmental studies have been carried out as part of the EIA. The topic areas that have been addressed are:

- Socio-Economics;
- Human Health;
- Transport and Access;
- Air Quality;
- Cultural Heritage;
• Biodiversity; and
• Ground Conditions.

1.16 Each of the above topics is addressed in the ES within a dedicated chapter. For each topic, a description of the assessment methodology is given together with the current site or baseline conditions. Each topic identifies potential receptors within their area of interest that may be affected by the Development. This is followed by an assessment of the potential significant effects of the Development on the baseline conditions and receptors and the identification of any measures that need to be adopted to reduce or offset any significant adverse effects on the environment identified by the assessment.

1.17 As noted above, the ES provides assessments of potential environmental effects during demolition and construction and once the Development is complete and occupied. The assessment for each topic considers a range of different types of effects including direct effects and any indirect, secondary, cumulative, short-term, medium-term and long-term, permanent and temporary, beneficial and adverse effects. Effect scale and nature are identified both before and after any measures that need to be adopted to reduce or offset any significant adverse effects on the environment.

**Topics Excluded from the EIA**

1.18 The EIA Scoping process identified the environmental topic areas which are not likely to give rise to potential significant environmental effects and therefore would not need to be assessed as part of the EIA. These were as follows:

• Daylight, Sunlight and Overshadowing;
• Wind Microclimate;
• Noise and Vibration;
• Townscape and Visual Impact;
• Climate Change;
• Electronic Interference;
• Land Use (Aviation);
• Waste;
• Water Resources and Flood Risk; and
• Vulnerability to Major Accidents or Disasters.

1.19 Although not covered within the EIA (as likely significant effects were not anticipated), the planning application is accompanied by information relating to these specific topics, where relevant, so that the planning application requirements of SCC are met.

**The Baseline Conditions**

1.20 The assessment of whether a predicted effect is significant or not is undertaken against the known baseline conditions. In most cases, the baseline represents the environmental condition of the site and the surrounding area at the time of the assessment – in this instance, 2018. However, the Traffic and Transport, and Air Quality assessments also include a projected environmental condition in the future i.e. a future baseline condition. This is because, for these assessments, the recognised methodology for the assessment of predicted effects requires consideration of the Development at the year of opening. For the purposes of the EIA, 2028 has been taken as the future baseline year. This future baseline condition takes into consideration other developments in the surrounding area (referred to as ‘cumulative schemes’, see
Section 15). So, for example, the road traffic on the surrounding road network in the future baseline year of 2028 considers any road traffic generated as a result of any cumulative schemes.

**Defining the Significance of an Effect**

1.21 The assessments presented in the ES broadly consider the sensitivity of the receptors that could be affected by the Development and the magnitude of impact as a result of the Development on the identified receptor in order to define the scale of an environmental or socio-economic effect. The sensitivity of a receptor and the magnitude of an impact share common terminology i.e. very low, low, medium or high.

1.22 Generally, effects have been classified as either being negligible, minor, moderate or major unless a specific topic’s methodology has used alternative terminology according to their guidance. Effects can be adverse or beneficial in nature. Where no impact and resultant effect is anticipated, this is stated. Where possible, effects have also been assigned a geographic scale; for example, site-wide, local, district/borough, regional or national.

1.23 The ES identifies whether the effect is direct (i.e. resulting without any intervening factors) or indirect. The ES also identifies whether the effect is temporary or permanent.

1.24 In general, effects found to be of moderate or major significance are deemed to be significant effects. Effects found to be minor are considered to be not significant, although they may be a matter of local concern. Negligible effects are considered to be not significant and not a matter of local concern.

1.25 Where mitigation measures have been identified to either eliminate or reduce likely significant adverse effects, these have been incorporated into the Development; this could be either through the design, or translated into demolition and construction commitments or operational or managerial standards / procedures.

1.26 The ES then highlights the residual likely significant effects (those effects which remain following the implementation of suitable mitigation measures), and identifies whether these are significant or not in accordance with the terminology defined above.

1.27 For ease of reading, it should be noted that only likely significant residual effects have been detailed within this NTS. Likely effects which are not significant (i.e. those that are negligible or minor in scale) have not been detailed within the NTS, and can instead be found within the ES (Volumes I and II).

**Cumulative Effects**

1.28 Two types of cumulative effects have been assessed within the ES:

- Effects from the Development that could interact to jointly affect receptors at and surrounding the site. Potential effect interactions could include the combined effects of noise and dust during demolition and construction activities on a receptor; and

- Effects which are combined effects generated from the Development with other developments in the surrounding area (i.e. cumulative schemes). These cumulative schemes may generate their own individual effects not deemed significant but when considered together could amount to a significant cumulative effect, for example, combined built heritage, townscape and visual effects.
from two or more developments. The cumulative schemes for inclusion in the cumulative impact assessment was agreed with SCC as part of the EIA Scoping process.
2 Site and Setting

2.1 The Site is located within a predominantly commercial area. The Site has been previously developed, subsequently cleared of most buildings, and currently comprises hardstanding and a public highway. There are five buildings on site, some of which are derelict. The remainder of the Site is comprised of sparse vegetation including dense scrub, grassland, woodland and other habitats associated with previously developed land.

2.2 The Site’s location is shown in Figure 1.

Figure 1 Site Location

2.3 The Site covers an area of approximately 17.07 hectares (ha). The Site is bounded by Meadowhall Way, The River Don, Carbrook Street and Weedon Street.
Environmental Context

2.4 The Environment Agency’s (EA) flood map for the area shows that the Site is located within Flood Zone 2, where the probability of flooding is medium, due to its location next to the River Don.

2.5 The River Don forms the boundary of the Site to the west and north. The Car Brook and the Goit, both tributaries of the River Don, pass underneath the Site (in culvert).

Figure 2 Site sensitivities

2.6 The Site is well served by public transport. Meadowhall Passenger Transport Interchange is in close proximity to the Site which is served by the Supertram, bus, bus rapid transit and national rail.

2.7 Local Authorities are required to assess air quality in their area and designate Air Quality Management Areas (AQMA) if improvements are necessary. The whole of the city administrative area of SCC is designated as an AQMA, owing to the potential for exceedances of nationally recognised objectives for nitrogen dioxide (NO₂) and a type of dust known as particulate matter (PM₁₀).
2.8 The Site is not within a sensitive area in terms of biodiversity, as defined by the EIA Regulations. The Site does not fall within, or close to, any statutory nature conservation sites. Part of the non-statutory Lower Don Disused Railway Local Nature Site lies within the Site boundary.

2.9 There are no World Heritage Sites, Registered Parks and Gardens or Registered Battlefields located within 1km of the Site boundary. The Site contains no statutory designated heritage assets, however, there are three scheduled monuments, one Grade II* listed building and 14 Grade II listed buildings, within 1km of the Site boundary.
3 Design Evolution and Alternatives

3.1 In line with the EIA Regulations, the ES provides an outline of the main alternatives studied by the Applicant and an explanation of the main reasons for the choice of the final scheme, taking account of environmental effects. The following section reviews those alternatives to the Development that have been considered by the Applicant, including:

- the ‘Do Nothing’ scenario;
- the Existing Consented Scheme; and
- alternative designs and design evolution.

Do-Nothing Scenario

3.2 The Do-Nothing scenario refers to the option of leaving the Site in its current state. If the Site was not developed, it would remain largely derelict with no development taking place. Adverse effects associated with the completed Development would not arise (e.g. through traffic and air pollution impacts). However, the beneficial effects associated with the opportunity to deliver new commercial space that provides new job opportunities would not be realised.

The Existing Consented Scheme

3.3 The Site and adjoining land is subject to an extant outline planning permission (Ref: 08/02594/OUT) for an employment and residential-led scheme, granted by SCC in May 2009. This planning permission allowed for between 800 to 1,300 residential units, up to 120,000m² of office space, a hotel, commercial and retail space, community, civic, and leisure uses, and associated amenity and parking facilities.

3.4 The Development is smaller in scale than the Existing Consented Scheme, and it is judged that there will be lesser significant environmental effects as a result. Annual Average Daily Trip (AADT) calculations have been undertaken by the transport consultant which show that the Development would generate approximately one half of the vehicle trips forecast and assessed in the Existing Consented Scheme. Across the assessed highway network this would translate to an approximate 5% reduction in 2028 traffic flows when the predicted trips for the Development are compared with the Existing Consented Scheme. Therefore, in overall terms it is considered that the Development is likely to result in less transport-related impacts than the Existing Consented Scheme.

3.5 Furthermore, a comparison has been made between the predicted air quality effects between the Development and those that would have occurred from the Existing Consented Scheme. The comparison shows that the difference in effects will be negligible at all but one receptor (R4 on Sheffield Road). The Development will not have as large an increase in NO₂, PM₁₀ and PM₂.₅ concentrations as the Existing Consented Scheme would have.

3.6 In conclusion, the predicted transport and air quality effects of the Development will be less than were the Existing Consented Scheme to be implemented.

Alternative Designs and Design Evolution

3.7 No alternative sites have been considered for the Development, due to the extant permission of the Existing Consented Scheme.

3.8 The design of the Development has evolved throughout the design process and in response to consultation feedback.
4 Description of Development

4.1 The Development consists of flexible employment space, including office, industrial use, storage and associated uses. Land uses will be comprised primarily of business, general industrial and storage/distribution uses. Other uses will include retail space, a hotel, a car showroom, and leisure and car parking facilities.

4.2 The planning application is an ‘outline’ planning application and so some matters (i.e. design details) are reserved for subsequent approval by SCC. The design details of the Development that are reserved will need to be approved by SCC in time through the submission and approval of ‘reserved matters applications’.

4.3 Design details relate to:

- the amount of development;
- layout;
- scale;
- appearance;
- landscaping; and
- means of access.

4.4 The floor area for each proposed land use is shown in Table 1.

Table 1: Proposed Land Uses and Amount of Development

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Maximum Floorspace (GEA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1/B2/B8</td>
<td>100,000m²</td>
</tr>
<tr>
<td>B1 (offices)</td>
<td>40,000m²</td>
</tr>
<tr>
<td>Retail (A1, A3, A4 and A5 Use)</td>
<td>2,495m²</td>
</tr>
<tr>
<td>Hotel (C1 Use)</td>
<td>7,500m²</td>
</tr>
<tr>
<td>Car showroom (sui generis)</td>
<td>3,240m²</td>
</tr>
<tr>
<td>Leisure (Class D2)</td>
<td>2,000m²</td>
</tr>
<tr>
<td>Car parking</td>
<td>1,774 spaces</td>
</tr>
</tbody>
</table>

Site Layout

4.5 The new buildings comprise a mix of heights, ranging up to an approximate maximum of 23 metres above ground level (55.30m above ordnance datum). The tallest building is expected to be a hotel. The Development will locate lower buildings toward the Grade II listed Sheffield Bus Museum and Sheaf Transport Garage.

4.6 It is anticipated that vehicle and pedestrian access to the Site will be achieved via existing points off Meadowhall Drive, Carbrook Street, Weedon Street and a cycle path off Meadowhall Way.

4.7 The scheme does not include provision of a basement. Parking spaces will be provided in multi-storey car parks and surface car parks within the Site. The final car parking provision will be determined by the mix of uses, having regard to SCC’s car parking guidelines.
5 Demolition and Construction

5.1 Planning for enabling works, demolition and construction is broad at this stage, and may be subject to modification during the detailed planning of these works. The information presented as part of the ES is based on reasonable assumptions made by professionals and is suited to this stage of planning.

Programme of Works

5.2 The demolition and construction works will take up to an approximate ten years to complete. For purposes of the EIA, it is assumed that if construction commences in latter part of the year 2019, the Development will be fully occupied by the year 2028.

5.3 It is estimated that enabling and construction works will produce approximately 26 daily two-way vehicle movements at the peak construction periods.

5.4 It is anticipated that the core working hours for construction works will be as set out below:

- 07:00-18:00 hours weekdays;
- 07:30-14:00 hours Saturday; and
- working on Sunday will be subject to reasonable notice.

5.5 The construction programme will be designed to minimise disruption to nearby residents, the general public, and the environment. A principal contractor for the demolition phase will be appointed to develop a Construction Environmental Management Plan (CEMP). The CEMP will identify all the procedures to be adhered to through construction. Individual trade contracts will incorporate environmental control, health and safety regulations, and current guidance. This will ensure that all contractors involved with the demolition and construction phases are committed to agreed best practice.
6 Socio-Economics

6.1 The ES provides an assessment of the existing baseline and socio-economic effects of the Development including:

- Economic effects, such as loss of jobs and creation of new ones, and spending by new residents; and
- Effects arising from new employment population. These include demand for local schools, primary healthcare, open space.

6.2 The key areas of potential impact that have been considered as part of this assessment include:

- Effects arising from the construction phase of the Development. This includes construction job creation and indirect economic effects through the supply chain and spending by construction workers; and
- Economic effects such as employment creation and spending generation associated with the completed and operational Development.

6.3 It is estimated that the Development will generate an approximate monthly average of 170 full-time equivalent (FTE) construction jobs over the duration of the construction programme. Additional on-site construction employment would give rise to additional spending in the local area and bring supply chain benefits.

6.4 The completed Development would provide up to 100,000m² of commercial floorspace for a mix of uses. It is estimated that the Development would deliver between 3,090 to 4,810 new jobs. The effect of the Development in relation to employment is assessed to be a direct, permanent, major beneficial nature at the local level, as moderate beneficial at the district level, and negligible at the regional and national levels.

6.5 The new employees on site would have an indirect effect on the local economy through additional spending. The spending impact of net new employees is estimated to be between £7.2 million and £11.2 million per annum (dependent on actual final levels of employment). Therefore, the effect on the local economy is assessed to be of a direct, permanent, moderate beneficial nature at the local level and of a negligible nature at all other spatial scales.

6.6 Overall, the residual socio-economic effects of the Development are deemed to be negligible to major beneficial during the construction and operational phases.
7 Human Health

7.1 This chapter considers health effects where they could be directly affected or managed by development and matters within the control of the planning and environmental management regulatory systems in the UK.

7.2 Design and planning can facilitate behaviours and can play a role in health and wellbeing. They cannot, however, enforce how people ultimately use a development. The way that buildings and spaces between them are used is likely to be a key determining factor in how a Development impacts on human health. These ‘lifestyle factors’, which cannot be accurately quantified or controlled, are considered to sit outside the scope of the planning process and EIA.

7.3 This assessment presents the likely potential health effects arising from the construction and operation of the Development. Effects are determined through a qualitative appraisal of technical assessments including construction, socio-economics, traffic and transport, air quality and ground conditions. There is an emphasis on indicating whether or not adverse effects may be expected based on the findings of the technical assessments.

Socio-economics

7.4 Access to employment can be a significant contributing factor to increased health and well-being. Being in work can make it easier to pursue a healthy lifestyle, with income being one of the strongest indicators of health and disease in public health research. Unemployment is often related to an increased risk of poor physical and mental health and premature death.

7.5 The Development will create construction jobs and jobs once operational which would provide employment opportunities for a range of skills including people who were previously unemployed. The provision of employment is associated with positive effects on human health.

Traffic and transport

7.6 Traffic and transport impacts may have beneficial or adverse effects on health. Planning and development may result in effects that improve or reduce access to services, including health services, and to employment. It may provide or remove access to public transport, walking and cycling routes that support active lifestyles.

7.7 Changes to traffic volumes and type may impact on the frequency of accidents which would carry health effects.

7.8 The construction traffic associated with the Development is assessed as having a negligible to temporary, minor adverse effect (not significant). Following implementation of the proposed Construction Logistics Plan (CLP) this effect is considered to be negligible.

7.9 The traffic arising from the completed Development is assessed as having a negligible to minor adverse effect (not significant). Following implementation of the proposed Framework Travel Plan, Car Park Management Plan, Walking and Cycling Strategy, and Public Transport Strategy this effect is considered to be negligible.

7.10 These strategies would have potential indirect beneficial effects on health through promoting physical activity.
Air quality

7.11 Air quality is a key influence in the quality of the environment in which a population lives, with implications for long-term health. Dust and emissions from transport and construction processes are the main potential source of pollutants in the context of this Development. Poor air quality is associated with negative health outcomes such as chronic lung disease, heart conditions and asthma, particularly among children.

7.12 Planning and development influence land use and, therefore, may influence the quantity and type of emissions produced – either reducing or increasing them.

7.13 The construction is assessed as having a potential risk of increasing dust at sensitive receptors which is considered to be negligible following implementation of a dust management plan adhering with relevant guidance and regulations.

7.14 Once operational, the assessment has shown that concentrations for all pollutants at relevant receptors arising from traffic associated with the Development are well below air quality objectives. The effects of traffic on human health receptors is therefore assessed to be not significant.

Ground Conditions

7.15 The risks to health associated with ground conditions include exposure to asbestos, ground gases, hydrocarbons and general land and water contamination. Exposure to such contaminants could result in temporary and permanent health impacts.

7.16 With respect to indirect effects on human health arising from ground conditions, the assessment demonstrates that the Development would have mitigation measures in place through the CEMP and would adhere to the relevant guidance and regulations.

Summary

7.17 In summary, there are no likely significant adverse effects on human health arising from effects on socio-economics, transport and traffic, air quality, or ground conditions.

7.18 Beneficial health effects may be generated by the creation of new jobs and economic opportunities and sustainable travel.
8 Traffic and Transport

8.1 The Traffic and Transport assessment deals with the effects of the increased traffic associated with the proposals in terms of construction, completed development and cumulative impacts on traffic flows and sensitive receptors in the vicinity of the site.

8.2 Baseline conditions have been assessed for the study area, and comprise an assessment of traffic surveys undertaken for this Development set against traffic and movements forecasts which have been discussed with SCC and HE through the scoping process.

8.3 The method of assessment uses standard criteria set out in the IEMA (Institute of Environmental Management and Assessment) Guidelines for Environmental Impact Assessment (IEMA, 2004) and Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Assessment (now IEMA), 1993). Reference is also made to the Design Manual for Roads and Bridges (Highways Agency et al.), Guidance on Transport Assessment (Department for Transport (DfT), 2007) and Planning Practice Guidance – Travel Plans, Transport Assessments and Statements (Department for Communities and Local Government (DCLG), 2014). Use has been made of SCC’s Aimsun model, which covers the Sheffield highway network including the Development Site and surrounding area.

8.4 The construction activities associated with the proposals will lead to an increase in the number of construction operatives and construction and delivery vehicles travelling to and from the Development Site. The Transport Assessment and the ES have shown that the increase will be sufficiently small that there will be no significant effect on the capacity of the existing highway network and junctions. The effect of construction traffic on severance, pedestrian delay and amenity, and fear and intimidation are found to be negligible. The construction of the Development is not significant in EIA terms and will result in a negligible effect on accident risk at existing accident cluster locations.

8.5 The assessment of the completed development focuses on the community as a sensitive receptor and addresses the traffic and transport effects in terms of severance, pedestrian delay and amenity, fear and intimidation, driver delay, and road safety that may result from an increase in traffic volumes in close proximity to sensitive receptors, post construction (assessed for the year 2028).

8.6 The assessment finds that the increase in traffic flows on the local road network and associated severance, delay and amenity effects, will be negligible and there will be no significant adverse effects in terms of road safety. The effect on traffic delay across the assessed network is not expected to be greater than 6-7 seconds per vehicle per kilometre travelled, the effect of which is considered to be negligible.

8.7 The Development will be accompanied by a Framework Travel Plan, Construction and Logistics Plan, Car Park Management Plan, Walking and Cycling Strategy and a Public Transport Strategy. The Development will include improvements to the pedestrian and walking facilities across the Meadowhall Road / Jenkin Road junction to improve crossing facilities, where it is considered the improvements would change the effect of the completed Development to minor beneficial for cyclists and pedestrians in terms of severance, delay and amenity, and accidents and road safety.

8.8 An assessment of cumulative effects has been carried out in this assessment which takes account of committed developments and highways works. The assessment finds that cumulative effects will be negligible.
9 **Air Quality**

9.1 An assessment of the air quality effects has been carried out focusing on the potential impacts caused by changes in nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM₂.₅) concentrations and dust deposition that will be generated by construction activities and additional traffic from the Development.

9.2 Air quality monitoring data have been collected and reviewed to inform the assessment, including monitoring undertaken by SCC, Highways England, local community groups and other published sources. The project’s air quality consultants also undertook a 12-month monitoring study at five locations around the Site from March 2015 to April 2016.

9.3 Baseline information reveals that nitrogen dioxide concentrations are high close to the main road network in the vicinity of the Site where traffic volumes are high and roads are congested. Here, the concentrations exceed national air quality objectives set by the Government. The highest concentrations recorded are at Brightside Lane (Jenkin Road).

9.4 Construction phase traffic will not have a significant effect on pollutant concentrations as the levels of construction traffic, when averaged over a full-year period, are below thresholds for an assessment to be necessary.

9.5 During the construction phase, it is expected that standard practice construction methods, as part of the Construction Environmental Management Plan, will effectively manage dust emissions. These measures include a Dust Management Plan, logging complaints relating to dust, using screens and barriers around dust-causing activities and covering of stockpiles of potentially dusty materials. Emissions from construction plant and vehicles will be reduced through measures including: ensuring plant and vehicles are switched off when not in use, and the use of electricity or battery-powered equipment where practicable. With these measures in place, no significant air quality effects are expected to occur during the construction phase.

9.6 Sensitive receptor locations (such as houses, schools and hotels) were selected to assess the air quality impacts. These include four existing locations and one location within the proposed development site. An air quality modelling study was undertaken to predict concentrations of pollutants at these locations based on annual average traffic data provided by the transport consultants. The air quality model predicted concentrations in the baseline year of 2017 (as this is the year that has a complete set of air quality monitoring data) as well as in 2028, the year that Development will be complete and occupied. In 2028 the modelling has predicted the likely concentration of pollutants with and without the Development. Adjustments have been made to emission factors and background concentrations in the future-year model in order to account for uncertainty regarding future year emission projections.

9.7 In the baseline year of 2017, it is estimated that one of the locations will experience average nitrogen dioxide concentrations above the national air quality objective of 40µg/m³. In 2028, no locations are predicted to have concentrations above the objective. This general improvement in the future baseline conditions is mainly due to predicted improvements in vehicle emissions due to the introduction of Euro 6 / VI emission standards. There are no predicted exceedances of the PM₁₀ or PM₂.₅ objectives in any of the modelled scenarios.

9.8 The impact of the development traffic at all receptors is negligible when compared against the future baseline scenario.
9.9 Overall, given the magnitude of change in concentrations and the temporary nature of the effect, the effect of the Development on local receptors due to impacts associated with air quality is considered to be not significant.
10 Cultural Heritage

10.1 Known archaeological activity within the Site relates primarily to its use as an area of industrial activity during the late 19th and 20th centuries. This has included the dumping and levelling of up to 3m of made ground in some areas. Documentary evidence indicates potentially earlier medieval and post-medieval remains within Plot 1, however, earlier material has not been encountered during recent watching brief works associated with demolition within Plots 1 and 3. Receptors within the Site dating to the Industrial period onwards are judged to be of low sensitivity, and any remaining archaeological material from earlier periods is likely to be of medium sensitivity.

10.2 The location of the Site on alluvial floodplain deposits raises the possibility of the presence of early material; however, substantial development in more modern times means that these are only likely to survive at significant depths, greater than 2.5-3m due to the significant disturbance across the Site from the 18th century onwards.

10.3 Impacts to archaeology within the Site as a result of the Development will take place during the construction phase and are likely to be permanent in nature and of a high to medium magnitude of impact. These impacts can be mitigated by the implementation of a scheme of works, set out and agreed in a Written Scheme of Investigation, to be agreed in consultation with SCC. Areas of the Site truncated by the Development will be subject to preservation by record. Site-wide archaeological evaluation is advised to establish archaeological conditions across the Site, in advance of further excavation (if required). These records will then be available to access by stakeholders within the South Yorkshire Sites and Monuments Record, reducing the magnitude of impact to negligible and resulting in a negligible effect.

10.4 Following the implementation of mitigation as set out above, it is not expected that there will be any direct impact upon any heritage feature of archaeological interest during the operational life of the development.

10.5 An assessment of indirect impacts to receptors (during the operational phase) within a 1km study area surrounding the Site has concluded that no mitigation measures will be required as no significant effects will be produced as a result of the Development.
11 Biodiversity

11.1 Ecology survey work was carried out at the Site between 2006 and 2018. This includes desk-study research with Sheffield Biological Records Centre, an extended Phase 1 habitat survey, botanical survey, bat activity transects, building assessments for bats, dusk emergence bat surveys, breeding birds survey, invertebrate survey and reptiles survey. The ecological assessment process was undertaken with reference to the 2016 CIEEM guidelines for Ecological Impact Assessment in the United Kingdom.

11.2 The site comprises scattered and dense scrub, open mosaic habitat, species-rich grassland, sparsely vegetated bare ground and hardstanding and river.

11.3 There are no statutory sites of nature conservation interest within the Site. The River Don Local Nature Site (LNS) lies partially within the Site and the Lower Don Valley-Disused Railway LNS is located immediately adjacent to the northern Site boundary.

11.4 Opportunities for nesting birds are associated with the woodland habitat (off-site) and scrub habitats. Very little bird activity was recorded from the areas of open mosaic habitat and sparsely vegetated areas.

11.5 The bat activity surveys recorded generally low levels of bat activity with three species identified: common pipistrelle, soprano pipistrelle and Daubenton’s bat. One building, Building 2, has been identified as supporting a small, non-breeding common pipistrelle bat roost.

11.6 The reptile surveys did not identify any reptiles on Site. The River Don is considered likely to support water vole and otter. Otter and water vole will not be affected by the Development as no direct impacts on the River Don are anticipated and the Development will incorporate a sensitive lighting scheme. The Site is assessed as being unlikely to support great crested newt and no evidence of badger has been recorded.

11.7 The open mosaic habitats and the Lower Don Valley-Disused Railway LNS (off-site) support an invertebrate community of local importance.

11.8 Ecological mitigation (including avoidance), compensation and enhancement measures are incorporated into the design of the Development with reference to the mitigation hierarchy set out within the National Planning Policy Framework and the CIEEM guidelines for Ecological Impact Assessment. Some of these incorporated measures include pre-commencement surveys for invasive species and badger and a sensitive lighting scheme.

11.9 Good practice measures will be detailed in the CEMP and additional mitigation, compensation and enhancement measures (with associated monitoring) will be provided in a Landscape and Ecological Management Plan at reserved matters stage.

11.10 The Development will result in the permanent loss of 5.5ha of open mosaic habitat and species-rich grassland, habitats which are of ecological importance in their own right and for their value for invertebrates.

11.11 With the creation of green roofs and appropriate landscaping, it is considered likely that there will be a neutral effect overall for species-rich grassland, open mosaic habitat and invertebrates at a local level.

11.12 The cumulative impacts, taking into account other committed developments within 1km of the Site, are not assessed to result in any additional positive or negative effects.
11.13 The Landscape and Ecological Management Plan will ensure the long-term positive management of the habitats that will be translocated, created and enhanced. This will include monitoring requirements to ensure the delivery of biodiversity benefits in the long term.

11.14 Given the mitigation, compensation, enhancement and precautionary compliance measures incorporated into the Development, it is considered that the Development conforms to relevant national and local planning policy and relevant wildlife legislation.
12 Ground Conditions and Contamination

12.1 The baseline conditions have been informed by a desk-based study and ground condition data from historical ground investigations. The assessment has focussed on how construction of the Development would affect human health and natural resources.

12.2 The geology of the Site comprises Made Ground (man-made material), underlain by Alluvial (river) deposits underlain by Middle Coal Measures – bedrock characterised by widespread coal deposits. The Alluvial deposits and coal measures support local groundwater.

12.3 Historical land uses include: metal works (iron and steel) and railway land (the tracks are raised on an embankment).

12.4 Intrusive ground investigations revealed concentrations of contaminants in soils that are considered to be negligible in respect of potential to harm human health for the proposed commercial use, with the exception of some localised hydrocarbons and asbestos fibres encountered in the Made Ground, likely to be associated with historical activities.

12.5 Lead and nickel were identified in the groundwater in all plots at concentrations above the screening criteria. Manganese and zinc were also identified at concentrations above the screening criteria on Plot 2. Dissolved concentrations of hydrocarbons above the limit of detection of 10ug/L and up to 1100ug/L were also recorded in all plots.

12.6 Ground gas was recorded on Plot 1 and gas protection measures for CS2 have been recommended.

12.7 Potentially adverse foundation conditions have been identified including compressible ground, former mine working (shaft on Plot 1), expansive slags and slope stability (embankment within the Infrastructure land).

12.8 Potential sensitive receptors at the Site were identified as human health, water resources (with the primary receptor of concern being surface water features including the River Don), and building / construction materials.

12.9 Adverse effects arising as part of the Development would be negligible on the basis of a number of standard mitigation measures being implemented. These measures include further site investigation, remediation (if required) and adherence to the CEMP which will outline the health, safety and environmental procedures to be adopted during the demolition / construction phases of the Development.

12.10 Potential effects from ground contamination will be addressed at the demolition / construction stages or through detailed design, such as the inclusion of ground gas protection for buildings or use of ‘clean’ soils for landscaped areas. Effects arising from ground conditions and contamination from the completed Development are therefore considered to be negligible.

12.11 Provided that the requirements of relevant policy and legislation related to land contamination and remediation are adopted in design and that appropriate mitigation measures are applied for each development, it is considered that the cumulative effects of the identified developments on ground conditions will be negligible during the demolition and construction phases.

12.12 It is considered that there should be a beneficial cumulative effect to the local environment as identified contamination will be managed as part of the Development. In addition, should remediation works, or the
removal of contaminated soils associated with the preparatory ground works and foundation excavations be carried out, this would be expected to result in a beneficial effect to the local environment.
13 **Effect Interactions**

13.1 An assessment has been carried out to assess the potential for ‘effect interactions’ based on the effects identified in the ES (i.e. those after mitigation). Effect interactions can arise where individual effects combine from the Development on particular sensitive receptors. Only residual effects classified as being of minor/moderate/major and of beneficial or adverse significance have been considered in relation to the potential for the combined effects of individual receptors.

13.2 For some environmental aspects, no interactions with other aspects can occur and as a result no combined cumulative effects could arise. Where there is considered to be no potential for impact interactions this is stated.

**Construction**

13.3 The assessment of effect interactions between individual residual effects on a receptor for the demolition and construction phase shows that the potential to interact largely relates to noise from the construction works. When these effects are combined they could potentially create adverse (albeit temporary) combined nuisance effects on the identified receptor groups. The most sensitive receptors are considered to be existing neighbouring residential properties, neighbouring commercial spaces, shoppers using Meadowhall, on-site workers, and pedestrians and cyclists using the cycle routes off Meadowhall Way, on Weedon Street and along the River Don which form part of National Cycle Network route 6. These effects will be temporary and localised within the proposed ten-year construction period as the type of activity and location on site changes through the construction programme. As a result, the potential in-combination effect is deemed not significant. Implementation of the CEMP would mitigate effects associated with the demolition and construction of Development as far as practicable.

**Completed Development**

13.4 The Development is likely to incur an effect interaction which is beneficial on the local community. This is due to the local population experiencing a beneficial effect interaction associated the creation of new employment floorspace, local pedestrian and cycle improvements to public highways and provision of ecological areas within the Site.
14 Cumulative Effects

14.1 A number of cumulative schemes which are under construction or have been submitted for planning are located within close proximity to the Site have been considered cumulatively.

14.2 The cumulative schemes identified are presented in Table 2 and Figure X. This list has been agreed with SCC.

Table 2: Cumulative Schemes

<table>
<thead>
<tr>
<th>Number</th>
<th>Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Waverley/Land at former Orgreave Open Cast Site</td>
</tr>
<tr>
<td>2</td>
<td>Sheffield City Heliport, Europa Court, Sheffield, S9 1XZ</td>
</tr>
<tr>
<td>3</td>
<td>Land Between Europa Link and Europa Court, Europa Link, Sheffield, S9 1XE</td>
</tr>
<tr>
<td>4</td>
<td>Former Tinsley Marshalling Sidings, Europa Link, Sheffield</td>
</tr>
<tr>
<td>5</td>
<td>Site of Don Valley Stadium, Worksop Road, Sheffield S9 3TL / Olympic Legacy Park</td>
</tr>
<tr>
<td>6</td>
<td>Outokumpu, Shepcote Lane, Sheffield, S9 2RA</td>
</tr>
<tr>
<td>7</td>
<td>Meadowhall, Meadowhall Way, Sheffield, S9 1EQ (Consented TLH Scheme)</td>
</tr>
<tr>
<td>8</td>
<td>Newhall Road Business Park And Former Attercliffe Steel Works, 58 Newhall Road, Sheffield S9 2QD / Sheffield City Centre Retail Quarter</td>
</tr>
<tr>
<td>9</td>
<td>Land Between Lock Lane and 303 Sheffield Road, Tinsley Sheffield, S9 2FY</td>
</tr>
</tbody>
</table>

14.3 The cumulative effects of these schemes coming forward in conjunction with the Development have been assessed for each of the technical topic areas presented above. The results of the cumulative impact assessment identify that no new likely significant environmental effects are expected from the combination of the cumulative schemes and the Development on the surrounding environment.
15 Conclusion and Summary of Likely Significant Effects

15.1 The Development consists of flexible employment space, including office, industrial use, storage and associated uses. Other uses will include retail space, a hotel, a car showroom, leisure and car parking facilities. The Development will range in height up to 15 metres (approximately five storeys).

15.2 The planning application is an ‘outline’ planning application and so some matters (i.e. design details) are reserved for subsequent approval by SCC. The design details of the Development that are ‘reserved’ will need to be approved by SCC in time through the submission and approval of ‘reserved matters applications’.

15.3 The EIA process has demonstrated that, during demolition and construction works, the likely significant effects range from negligible and not significant effects for all topics, with the exception of minor beneficial socio-economic effects.

15.4 Once the Development is fully complete and occupied, likely significant beneficial effects relate to new jobs and the impact of the Development on the local economy. In addition, there should be a beneficial cumulative effect to the local environment as identified contamination will be managed as part of the Development.
16 Environmental Statement Availability

16.1 The ES and all planning application documents are available for review at the planning offices of SCC. Additional copies of the full ES can be provided on request (at a reasonable fee). Alternatively, a CD version is available for a fee of £15. The Non-Technical Summary can be obtained free of charge upon request in hard copy or electronic copy. All ES documents are available by calling Quod at 020 3597 1000 or emailing reception@quod.com and quoting reference Q090206.

16.2 Comments on the planning application can be made online during the applicable consultation period via https://www.sheffield.gov.uk/content/sheffield/home/planning-development/search-view-comment.html.

16.3 Alternatively, comments can be addressed to:

Planning Department  
Sheffield City Council  
Town Hall  
Pinstone Street  
Sheffield S1 2HH