

# OMEGA ZONE 8, ST HELENS Omega St Helens Ltd / T. J. Morris Limited



Document Title ES Vol. 2 Appendix 1.1 EIA Scoping Report Document No. OPP DOC.11.18a



**Miller Developments** 

# **OMEGA ZONE 8**

Information to Support a Scoping Opinion Request

# **Miller Developments**

# **OMEGA ZONE 8**

## Information to Support a Scoping Opinion Request

**TYPE OF DOCUMENT (VERSION) PUBLIC** 

PROJECT NO. 70060349 OUR REF. NO. 70060349

DATE: OCTOBER 2019

## **Miller Developments**

# **OMEGA ZONE 8**

## Information to Support a Scoping Opinion Request

WSP

8 First Street Manchester M15 4RP

Phone: +44 161 200 5000

WSP.com

# QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3	Revision 4
Remarks	Initial draft	Second draft	Final draft	Minor amendments	Figures updated
Date	Jul 2019	Sep 2019	Oct 2019	Oct 2019	Oct 2019
Prepared by	Rebecca Dipoti	Martin McLaughlin	Rebecca Dipoti	Rebecca Dipoti	Rebecca Dipoti
Signature					
Checked by	Hywel Roberts	Hywel Roberts	Martin McLaughlin	Martin McLaughlin	Martin McLaughlin
Signature					
Authorised by	Mike Denny	David Hoare	David Hoare	David Hoare	David Hoare
Signature					
Project number	70060349	70060349	70060349	70060349	70060349
Report number					
File reference					

# CONTENTS

115

1.	INTRODUCTION	1
1.1.	BACKGROUND	1
1.2.	DEFINITION OF AN EIA	1
1.3.	REQUIREMENT FOR EIA	1
1.4.	PURPOSE OF THE REPORT	2
2.	DESCRIPTION OF THE NATURE AND PURPOSE OF THE PROJECT	3
2.1.	NEED FOR THE PROJECT	3
2.2.	PROJECT LOCATION	3
2.3.	PROJECT DESCRIPTION	5
3.	APPROACH TO EIA	9
3.1.	INTRODUCTION	9
3.2.	CONSULTATION	9
3.3.	GENERAL ASSUMPTIONS AND LIMITATIONS	9
3.4.	DEFINING THE STUDY AREA	10
3.5.	ESTABLISHING BASELINE CONDITIONS	10
3.6.	APPROACH TO MITIGATION	10
3.7.	ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS	11
3.8.	ASSESSMENT OF HEAT AND RADIATION	11
3.9.	COORDINATION OF ASSESSMENTS	11
3.10.	STATEMENT OF AUTHORITY	12
4.	ENVIRONMENTAL FACTORS SCOPED OUT	13
4.2.	POPULATION AND HEALTH	13
4.3.	CLIMATE	15
4.4.	MATERIAL ASSETS	16

5.	AIR QUALITY	17
5.1.	CONSULTATION	17
5.2.	STUDY AREA	17
5.3.	BASELINE CONDITIONS	18
5.4.	MITIGATION	22
5.5.	DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	22
5.6.	PROPOSED ASSESSMENT METHODOLOGY	23
6.	NOISE AND VIBRATION	29
6.1.	CONSULTATION	29
6.2.	STUDY AREA	29
6.3.	BASELINE CONDITIONS	29
6.4.	MITIGATION	30
6.5.	DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	30
6.6.	OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT	32
6.7.	PROPOSED ASSESSMENT METHODOLOGY	32
7.	CULTURAL HERITAGE	35
7.1.	CONSULTATION	35
7.2.	STUDY AREA	35
7.3.	BASELINE CONDITIONS	35
7.4.	MITIGATION	37
7.5.	DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	37
7.6.	OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT	40
7.7.	PROPOSED ASSESSMENT METHODOLOGY	41
8.	BIODIVERSITY	45
8.1.	CONSULTATION	45
8.2.	STUDY AREA	45
8.3.	BASELINE CONDITIONS	46

MITIGATION	49
DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	50
OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT	51
PROPOSED ASSESSMENT METHODOLOGY	51
LANDSCAPE AND VISUAL	54
CONSULTATION	54
STUDY AREA	54
BASELINE CONDITIONS	54
MITIGATION	58
DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	58
PROPOSED ASSESSMENT METHODOLOGY	60
WATER	62
CONSULTATION	62
STUDY AREA	62
BASELINE CONDITIONS	62
MITIGATION	63
DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	64
OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT	66
PROPOSED ASSESSMENT METHODOLOGY	66
WFD ASSESSMENT	68
TRANSPORT	70
CONSULTATION	70
STUDY AREA	71
BASELINE CONDITIONS	71
MITIGATION	73
DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	73
PROPOSED ASSESSMENT METHODOLOGY	75
	MITIGATION DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT PROPOSED ASSESSMENT METHODOLOGY LANDSCAPE AND VISUAL CONSULTATION STUDY AREA BASELINE CONDITIONS MITIGATION DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS PROPOSED ASSESSMENT METHODOLOGY WATER CONSULTATION STUDY AREA BASELINE CONDITIONS MITIGATION DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT PROPOSED ASSESSMENT METHODOLOGY WFD ASSESSMENT TRANSPORT CONSULTATION STUDY AREA BASELINE CONDITIONS MITIGATION DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT PROPOSED ASSESSMENT METHODOLOGY WFD ASSESSMENT TRANSPORT CONSULTATION STUDY AREA BASELINE CONDITIONS MITIGATION DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS PROPOSED ASSESSMENT METHODOLOGY

12.	MAJOR ACCIDENT AND DISASTERS	80
12.1.	INTRODUCTION	80
12.2.	CONSULTATION	82
12.3.	STUDY AREA	82
12.4.	BASELINE CONDITIONS	82
12.5.	MITIGATION	83
12.6.	DESCRIPTION OF POTENTIAL VULNERABILITY TO MAJOR ACCIDENT AND DISASTER RISKS	83
12.7.	PROPOSED ASSESSMENT METHODOLOGY	85
12.8.	LIMITATIONS AND ASSUMPTIONS	86
13.	LAND AND SOILS	88
13.1.	CONSULTATION	88
13.2.	STUDY AREA	88
13.3.	BASELINE CONDITIONS	88
13.4.	MITIGATION	89
13.5.	DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS	90
13.6.	PROPOSED ASSESSMENT METHODOLOGY	90
14.	CUMULATIVE EFFECTS	92
14.1.	PROPOSED ASSESSMENT METHODOLOGY	92
15.	SUMMARY	94
15.1.	SCOPE OF THE EIA	94
15.2.	PROPOSED STRUCTURE OF THE ES	94

# TABLES

Table 1-1 - Information Required to Accompany a Request for a Scoping Opinion	2
Table 2-1 – Heights of Units within the Proposed Development Compared to Existing Un Within the Omega Business Park	its 8
Table 3-1 – Statement of Authority	12
Table 5-1 – St Helens Council Annual Mean NO <sub>2</sub> Concentrations ( $\mu$ g/m <sup>3</sup> ) – 2015 to 2017	' 20
Table 5-2 – Warrington Borough Council Annual Mean NO <sub>2</sub> Concentrations ( $\mu$ g/m <sup>3</sup> ) – 20 to 2017	15 21
Table 5-3 – Background Pollutant Concentrations (µg/m <sup>3</sup> ) – 2018 to 2020	21
Table 5-4 – Elements Scoped In or Out of Further Assessment – Air Quality	23
Table 5-5 – Impact Descriptors for Individual Human Receptors	27
Table 5-6 – Examples of Where the Air Quality Objectives Should Apply	28
Table 6-1 – Elements Scoped In or Out of Further Assessment – Noise and Vibration	31
Table 7-1 – Scheduled Monuments Located Within 2km of the Site	36
Table 7-2 – Grade II Listed Buildings Located Within 2km of the Site	36
Table 7-3 – Non-designated Assets Located Within 200m of the Proposed Development	37
Table 7-4 – Scheduled Monuments Scoped In or Out of Further Assessment	38
Table 7-5 - Grade II Listed Buildings Scoped In or Out of Further Assessment	39
Table 7-6 - Elements Scoped In or Out of Further Assessment – Cultural Heritage	40
Table 7-7 - Criteria Used to Determine Importance of Heritage Assets	43
Table 7-8 – Magnitude of Impact	44
Table 7-9 - Significance of Effect	44
Table 8-1 – Consistency of Significant Residual Effects in Accordance with CIEEM and Conversion for Consistency with the ES	53
Table 9-1 – Visual Receptors	58
Table 9-2 – Elements Scoped In or Out of Further Assessment – Landscape and Visual	60
Table 10-1 – Elements Scoped In or Out of Further Assessment – Water	65
Table 10-2 – Determining Receptor Sensitivity	67
Table 10-3 – Determining Magnitude of Impact	67
Table 10-4 – Significance Matrix	68
Table 11-1 - Consultation Undertaken to Date	70

Table 11-2 – Summary of Land Use Review	71
Table 11-3 – Receptor Sensitivity Review	72
Table 11-4 - Elements Scoped In or Out of Further Assessment - Transport	74
Table 11-5 - Determining the Magnitude of Transport Impacts	78
Table 11-6 - Significance Matrix	79
Table 12-1 – Key Terms and Definitions Relevant to Major Accidents and Disasters	81
Table 12-2 – Major Accident and Disaster Types Scoped In or Out of Further Assessme	ent84

## **APPENDICES**

APPENDIX A
FIGURES
APPENDIX B
CONTAMINATED LAND PHASE I DESK STUDY
APPENDIX C
PHASE 1 HABITAT SURVEY
APPENDIX D
PHASE 1 HABITAT SURVEY TARGET NOTES
APPENDIX E
PROPOSED STRUCTURE OF THE ES

## 1. INTRODUCTION

### 1.1. BACKGROUND

- 1.1.1. WSP has been instructed by Miller Developments (hereafter referred to as the 'Applicant') to produce information to support a scoping opinion request (hereafter referred to as the 'Scoping Report') to accompany a hybrid planning application for the proposed westwards expansion of the Omega Business Park, located south of the M62 approximately 1.6km west of the M62 Junction 8 at its closest point (hereafter referred to as the 'Site'). The Site location is shown in Figure 1: Site Location that accompanies this Scoping Report.
- 1.1.2. The hybrid planning application, subject to Environmental Impact Assessment (EIA), will include the following elements (hereafter referred to as the 'Proposed Development'):
  - Full Planning Permission for the erection of a B8 warehouse, with ancillary offices, associated parking, infrastructure, and landscaping; and
  - Outline Planning Permission for Manufacturing (B2) and Logistics (B8) development with ancillary
    offices and associated car parking, landscaping and infrastructure (detailed matters of
    appearance; layout and scale are reserved for subsequent approval).
- 1.1.3. The area of the full planning application extent and the outline planning application extent are shown on **Figure 10: Planning Extents**.
- 1.1.4. The purpose of this Scoping Report is to establish the scope of the Environmental Statement (ES) that will be prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the 'EIA Regulations 2017'), and will accompany the Applicant's planning application.
- 1.1.5. Construction of the Proposed Development is anticipated to commence for the full planning application in winter 2020 with completion in spring 2022.

## 1.2. DEFINITION OF AN EIA

1.2.1. The term 'Environmental Impact Assessment' ('EIA') describes a procedure that must be followed for certain types of project before it can be given 'consent'. The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects and the scope for avoiding, preventing, reducing or, if possible, offsetting them are properly understood by the public and the authority granting consent (the 'planning authority') before it makes its decision.

## 1.3. REQUIREMENT FOR EIA

- 1.3.1. The EIA Regulations 2017 require that, before consent is granted for certain types of development, an EIA must be undertaken. The EIA Regulations 2017 set out the types of development which must be subject to an EIA (referred to as Schedule 1 development) and other developments, which may require assessments depending on their location and / or if they have the potential to give rise to significant environmental effects (referred to as Schedule 2 development).
- 1.3.2. The Proposed Development does not fall under any of the types of development set out in Schedule1 of the EIA Regulations 2017. However, it may be considered to constitute Schedule 2



development, if judged to qualify as an 'Industrial estate development project' in accordance with Section 10(a). A development is considered to fall within Schedule 2 if:

- Any part of the development is carried out in a sensitive area; or
- Any applicable threshold or criterion in the corresponding part of column 2 of the table in Schedule 2 is exceeded or met in relation to the development.
- 1.3.3. The Site (186.4 hectares (ha)) is not considered to be located within a sensitive area, however it does exceed the threshold of being greater than 0.5ha in area specified in Part 10(a) the Schedule II of the EIA Regulations 2017. Following discussions between the Applicant and St Helens Council, the Applicant is of the view that the Proposed Development qualifies as EIA development and the Applicant will prepare an ES to accompany the hybrid planning application.

### 1.4. PURPOSE OF THE REPORT

- 1.4.1. The purpose of this Scoping Report is to ensure that the ES is focused on the key impacts likely to give rise to significant adverse effects upon the environment, and to obtain agreement on the approach and scope of the assessments. As well as identifying elements to be discussed in the ES, this Scoping Report also identifies those elements that are not considered necessary to assess further. This approach is in line with the general aim to undertake proportionate EIA, as advocated by industry best practice.
- 1.4.2. Whilst this Scoping Report seeks to establish the overall framework for the EIA in relation to the environmental factors and associated effects upon the environment, the exact scope of the EIA will be influenced by the scoping opinion received, the on-going design evolution of the project, and through on-going baseline data collection (e.g. field surveys etc.).
- 1.4.3. **Table 1-1** below sets out what information the EIA Regulations 2017 state that a request for a scoping opinion must include and where this information can be found in this Scoping Report.

Information Required	Location within this Scoping Report	
A plan sufficient to identify the land	Figure 1: Site Location	
A description of the nature and purpose of the development, including its location and technical capacity	Chapters 2 – 4	
An explanation of the likely significant effects of the development on the environment	Chapters 5 – 13	
Such other information or representations as the person making the request may wish to provide or make	Chapters 5 – 13	

#### Table 1-1 - Information Required to Accompany a Request for a Scoping Opinion

## 2. DESCRIPTION OF THE NATURE AND PURPOSE OF THE PROJECT

## 2.1. NEED FOR THE PROJECT

- 2.1.1. St Helens Council has identified in their emerging Local Plan 2020-2035 (submission draft January 2019)<sup>1</sup> that the Borough has economic activity and employment rates, skill levels and average wages well below national averages. It has become clear that the existing availability of employment land and premises in St Helens is not sufficient to meet market requirements, leading to missed investment and job opportunities. However, St Helens Borough is well placed to provide new employment in a variety of locations to meet the needs of modern businesses, including helping to address the sub-regional need for large scaler logistics developments.
- 2.1.2. Omega Business Park has been identified as a major development area with potential to deliver significant economic, environmental and social benefits. The Business Park is seeing increased demand by logistics companies as a result of changes in shopping patterns through increased online shopping and trading. In addition, the excellent transport links in the area and access to a large workforce in and around St Helens, Warrington and the North West, makes this is an ideal location for employment development.

### 2.2. PROJECT LOCATION

- 2.2.1. The Proposed Development is located on arable land approximately 2km west of the M62 Junction 8 at its centre point (coordinates for the centre of the Site 355146, 390396 or National Grid Reference SJ 55146 90396). The Site is located approximately 5.2km north-west of Warrington town centre. See Figure 1: Site Location for the Proposed Development location and application boundary.
- 2.2.2. The main access to the Proposed Development will be gained via internal roads through the existing Omega Business Park, with direct access to Junction 8 of the M62 as shown on Figure 5: Traffic Routing. There is one Public Right of Way (PRoW) (Footpath 102) which crosses the Site at the western extent and runs north to south via a footbridge over the M62. As part of the Proposed Development, a shared pathway and cycleway will be created, which will provide a connection from the existing Omega Business Park via PRoW 102 through the Proposed Development.
- 2.2.3. The towns of Warrington and St Helens are the main urban areas near the Proposed Development with smaller hamlets or villages, such as Burtonwood, Abbotsfield, Clock Face and Bold Heath to the north and west.
- 2.2.4. Other proposed developments within or near to the Proposed Development that have been granted planning permission, include:
  - a housing development at the south-eastern extent of the Omega Business Park;

<sup>&</sup>lt;sup>1</sup> St Helens Borough Local Plan 2020-2035, Submission Draft January 2019. A Balanced Plan for a Better Future. https://www.sthelens.gov.uk/media/9525/local-plan-written-plan-web.pdf



- the creation of a new access road, footpath and drainage basin at the south-eastern extent of the Omega Business Park; and
- the erection of a B2 unit (88,200sq.m), north of the M62 approximately 1.4km west of Junction 8.
- 2.2.5. The baseline environmental features within a 2km buffer of the Site are presented in **Figure 4**: **Environmental Constraints.** This plan has been prepared following a review of online databases and initial site surveys.
- 2.2.6. The closest residential area is Lingley Green located 355m south of the Site, with four farms located 425m north-west, 530m west, 800m north and 1.5km east of the Site at their closest point.
- 2.2.7. The area surrounding the Site is predominantly arable to the north, south, and west with scattered farms and small businesses. The land to the east of the Site is in use by the Omega Business Park. Key features within the area surrounding the Site include:
  - Stepping Stones Day Nursery and Busy Nought to Fives Nursery, located immediately east and approximately 615m south-east of the Site respectively;
  - United Utilities head office, approximately 125m east of the Site;
  - Mersey Valley Golf and Country Club, approximately 350m south of the Site;
  - Barrow Hall College, approximately 670m south-east of the Site; and
  - Great Sankey High School, approximately 730m south-east of the Site.
- 2.2.8. An existing gas pipeline runs through a small portion of the service yard of the northern site. Penspen, on behalf of Essar, has confirmed that there is no objection in principle to the Proposed Development. An overhead electricity distribution line crosses the Site from north to south.
- 2.2.9. According to the Agricultural Land Classification map, the Site is situated on land classified as Grade 2 (very good) agricultural land<sup>2</sup>, with soil described as slowly permeable, slightly acid but base rich loamy and clayey.
- 2.2.10. The Site is not within an Air Quality Management Area (AQMA), however, the M62 immediately north-east of the Site is a designated AQMA for nitrogen dioxide (NO<sub>2</sub>).
- 2.2.11. There are 10 Grade II listed buildings within 2km of the Site, which includes: halls, houses, a railway station and a church. In addition, five Scheduled Monuments are also located within 2km of the Site.
- 2.2.12. An unnamed watercourse, which is a designated Main River<sup>3</sup> with associated areas of flood zone 2, runs from the north-west along the southern boundary of the Proposed Development to Booth's Wood, and through the southern end of the Site, continuing south for 330m before merging with the Whittle Brook (designated Main River). There are a further four Main Rivers within 2km of the Site which are situated 545m east, 1km north, 1.6km south and 1.7km east of the Site respectively at their closest point.

<sup>&</sup>lt;sup>2</sup> Natural England, Agricultural land Classification map North West Region

http://publications.naturalengland.org.uk/publication/144015?category=5954148537204736

<sup>&</sup>lt;sup>3</sup> According to the 'Designation of 'main rivers': guidance to the Environment Agency, a watercourse is designated as a Main River if: a significant number of people and / or properties are liable to flood; where there are vulnerable groups and areas where flooding can occur with limited time for warnings; where it can contribute to extensive flooding across a catchment or where it is required to reduce flood risk elsewhere.

2.2.13. There are two internationally designated sites within 10km of the Site, namely the Mersey Estuary Ramsar site and Special Protection Area (SPA), which are both located approximately 7.5km southwest of the Site. There are no statutory designated ecological sites within 2km of the Site. Booth's Wood Local Wildlife Site is the closest designated site, which is bound by the Site to the north, east and south-east.

### 2.3. PROJECT DESCRIPTION

#### PROPOSED LAND USE AND QUANTUM

- 2.3.1. The Site, shown by the red line boundary in **Figure 2: Site Boundary**, would occupy an area of 186.4ha.
- 2.3.2. The hybrid planning application is for the development of Zone 8 within the Omega Business Park, a general industrial (B2) and storage/distribution (B8) development, comprising the erection of three to six units, ancillary office space alongside access, car parking, utilities, landscaping and attenuation features (see **Figure 3: Masterplan** for further details).
- 2.3.3. Although the three to six units will be covered by the hybrid planning application, they will be split between a full planning application and an outline planning application. The proposed nature and land uses for each of the units are summarised below:
  - Full Planning Application:
    - Unit 1 B8 warehouse- comprises the northern half of the Site, 81,569sq.m, including twostorey offices with staff facilities and the following external features:
      - a total of 632 car parking spaces' (474 for warehouse staff and 158 for office staff);
      - 164 HGV parking spaces;
      - 96 dock levellers<sup>4</sup> for HGVs;
      - service yards;
      - an attenuation basin to the north-east and west of Unit 1; and
      - a link bridge between the staff car park and office facilities, accessed via escalators and lifts; and
      - inbound and outbound gatehouse.
  - Outline Planning Application:
    - up to 123,745sq.m of manufacturing (B2) and distribution/logistics (B8) (in a 30 per cent B2 to 70 per cent B8 ratio) over two five units. At this stage the number of units has not been finalised and will be subject to change as the design progresses.
- 2.3.4. The Proposed Development also includes the provision of two landscape and ecology mitigation buffer areas within the Site (see **Figure 3: Masterplan**). The first area is located west of Unit 1 and will cover an area of approximately 7ha. A walking and cycling connection to the existing M62

<sup>&</sup>lt;sup>4</sup> a form of loading bay equipment used to bridge the difference between the loading vehicle and warehouse floor

overbridge will be provided within this area. The second area will line the western boundary of the Site adjacent to Units 2 and 4 for approximately 730m.

#### PLANNING APPLICATION

- 2.3.1. The hybrid planning application will be submitted to St Helens Council as Planning Authority. However, justification for the Proposed Development is in part based upon development capacity already established through extant planning permissions on Omega South. Should the Proposed Development be granted planning permission, both St Helens Council and Warrington Borough Council will enter into a Section 106 agreement with the Applicant that will:
  - Address any planning obligations required as part of the Proposed Zone 8 Development;
  - Revoke the B1 floorspace (59,456sq.m) approved as part of 2017/30371; and
  - Provide an undertaking that Omega Warrington Ltd will not implement any further development associated with outline planning consent 2003/01449 (as amended) granted by Warrington Borough Council.
- 2.3.2. As this Section 106 agreement will only be implemented should the Proposed Development be granted planning permission and implemented, then the revocation of the B1 floorspace becomes by its nature part of the Proposed Development and the likely significant effects considered.
- 2.3.3. The removal of B1 floorspace from approved consent 2017/30371 will lead to a reduction in vehicle movements on the public highway that would otherwise be experienced. This reduction is likely to result in fewer total vehicle movements even when allowing for movements associated with the Proposed Development. At the scoping stage, detailed numbers of the change in vehicle movements are not available but will be provided in the ES and allowed for within the assessments that are dependent upon traffic data, namely air quality, noise and transport.
- 2.3.4. It is also likely that, should the Proposed Development be granted planning permission, that there will be a reduction in the total employment (envisaged in the application 2017/30371) in the future as B2 and B8 uses are typically less labour intensive than B1 uses. In addition, there is a lack of demand for B1 space over a sustained marketing period. However, as identified in greater detail in Section 4.4, neither the loss nor the gain in employment is likely to be significant and the socio-economic effects have accordingly been scoped out of the assessment.

#### **PROPOSED PHASING**

2.3.5. As a hybrid planning application, it is likely that the elements subject to the full planning application (see **Paragraph 2.3.3**) will be developed prior to those elements subject to the outline planning permission. To allow for a reasonable worst case within the ES, all assessments have assumed that the full application section of Proposed Development is fully operational in the opening year (by spring 2022). References therefore within this Scoping Report to the Principal Contractor relate to the Principal Contractor at the time of construction of any particular element.

#### PROPOSED DRAINAGE STRATEGY

2.3.6. The Proposed Development includes a drainage system based on Sustainable Drainage System (SuDS) principals whereby the surface water drainage is integrated to a series of blue-green

corridors<sup>5</sup> which in turn provide the opportunity for aesthetic and ecological benefits. All newly introduced impermeable areas, such as HGV manoeuvring areas and rooftops, will be drained to SuDS features which will treat and attenuate the flow of surface water, mimicking the way in which the Site would naturally drain. The network of SuDS will consist of a hierarchy of swales, ponds and wetlands to gradually filter surface water to an outfall at a rate that is equivalent to the existing greenfield. Further information, including an interim drainage strategy, will be submitted alongside the ES.

#### PROPOSED ACCESS AND CIRCULATION

- 2.3.7. The Proposed Development will be accessed via an internal road from Skyline Drive. The Site will only be accessed by Heavy Goods Vehicles (HGVs) from the north via Skyline Drive which is the shortest route to the M62 (Route 1). This will avoid unnecessary impacts on the surrounding residential properties to the east and south of the existing Omega Business Park. Passenger cars will also be able to access the Site via Lingley Green Avenue (Route 2) (see Figure 5: Traffic Routing Plan for further details).
- 2.3.8. At the entrance to the Proposed Development a new roundabout will be constructed to provide direct access to Unit 1. A new internal south-north running road will provide access to the southern half of the Proposed Development subject to the outline planning permission.
- 2.3.9. A pedestrian and cycle route will be provided as part of the Proposed Development. It will run through the centre of the Site, south of the car parks associated with Unit 1, towards Booth's Wood and continue east through the landscape and ecology mitigation buffer area before connecting then existing M62 overbridge. The pedestrian and cycle route will circle around Unit 2 and will connect to an existing path at the northern extent of the Lingley Mere Business Park (see Figure 3: Masterplan).

#### PROPOSED BUILDING HEIGHTS AND FLOORSPACE

- 2.3.10. The maximum building height for Unit 1 will be 39m to the ridge, however the unit will only be this high at the eastern extent. The maximum building height for Units 2 4, as currently shown on Figure 3: Masterplan, is not known but for the purposes of the assessment will be no greater than 15m.
- 2.3.11. At this stage, the floorspace and number of units proposed within the outline planning application has not been finalised and will be subject to change as the design progresses. Figure 3:
   Masterplan shows four units, although planning permission will be sought, and the ES will consider, a maximum of five units and a minimum of two all with a combined floorspace of up to 123,745sq.m.
- 2.3.12. **Table 2-1** provides the maximum height and floorspace of the Units within the Proposed Development that will be considered within the ES. The height and floorspace of some existing units in the Omega Business Park have been provided for comparison.

<sup>&</sup>lt;sup>5</sup> Blue-green infrastructure aims to manage the risk of flooding while introducing a more natural water cycle into urban areas and, as a component of sustainable drainage systems, is designed to manage water quality and quantity while providing improvements to biodiversity and amenity.



# Table 2-1 – Heights of Units within the Proposed Development Compared to Existing Units Within the Omega Business Park

Unit	Maximum height (m)	Indicative Floorspace (sq.m)
	Proposed Development	
Unit 1	39	81,569*
Unit 2	15	TBC
Unit 3	15	TBC
Unit 4	15	TBC
Existing units		
Asda	31.8	50,900
Royal Mail depot	18.6	32,158
The Hut Group	Up to 20m	64,136

\* subject to change by the time of submission of the formal application.

## 3. APPROACH TO EIA

### 3.1. INTRODUCTION

- 3.1.1. This chapter sets out the overall approach that will be taken to the EIA for the Proposed Development.
- 3.1.2. The ES will contain the information specified in Schedule 4 of the EIA Regulations 2017. The approach to the assessment will be informed by current best practice guidance as appropriate.
- 3.1.3. A detailed overview of the guidance and methodology adopted for each environmental factor is provided within the respective environmental factor chapters of this Scoping Report.
- 3.1.4. The environmental factors listed within Article 3(1) of EU Directive 2014/52/EU are listed below.
  - Population and Human Health;
  - Biodiversity;
  - Land;
  - Soil;
  - Water;
  - Air;
  - Climate;
  - Material Assets;
  - Cultural Heritage; and
  - Landscape.

### 3.2. CONSULTATION

- 3.2.1. As part of the EIA process, consultation will be undertaken with a range of statutory and nonstatutory consultees. It is anticipated at this stage that consultees will include but not be limited to:
  - St Helens Council;
  - Warrington Borough Council;
  - Environment Agency;
  - Highways England;
  - Historic England; and
  - Natural England.
- 3.2.2. The Public Participation Directive 2003/35/EC, as part of the EIA Regulations 2017, provides opportunities for the public to be involved in the consenting process for certain activities, through access to information, justice and consultation on key documents.

### 3.3. GENERAL ASSUMPTIONS AND LIMITATIONS

- 3.3.1. Factor specific limitations and assumptions are set out in the relevant sections of this Scoping Report. The following key limitations apply to a number of factors:
  - At this stage of the design, there is uncertainty around certain design elements, particularly in relation to Units 2 – 4 proposed within the outline planning application. As such, the ES will define maximum design parameters (worst case scenario) when assessing the environmental impact (see Paragraph 2.3.15);



- A detailed description of the Proposed Development will be provided within the ES with sufficient information about the Site, design, size and scale of the Proposed Development such that St Helens Council can be satisfied that it has sufficient information for determination in full knowledge of the Proposed Development's likely significant effect on the environment;
- This Scoping Report is based on currently available information, and can be subject to change as the design progresses;
- Operational traffic accessing the Proposed Development will be 24/7, 363 days a year; and
- Absence of detailed information relating to HGV movements to and from the Proposed Development which will be available at the time of the publication of the ES.

### 3.4. DEFINING THE STUDY AREA

3.4.1. Study areas have been defined individually for each environmental factor, taking into account the geographic scope of the potential impacts relevant to that factor and of the information required to assess those impacts. The study areas are described within **Chapter 5 to 13** of this Scoping Report.

### 3.5. ESTABLISHING BASELINE CONDITIONS

- 3.5.1. Environmental impacts of the Proposed Development will be described in the ES in relation to the extent of changes to the existing baseline environment as a result of the construction and/or operation of the Proposed Development. The baseline environment will comprise the existing environmental characteristics and conditions, based upon desk-top studies and field surveys undertaken and information available at the time of the assessment.
- 3.5.2. Baseline conditions will be established by:
  - Site visits and surveys;
  - Desk-based studies; and
  - Modelling.
- 3.5.3. Baseline conditions, including future baseline scenarios as appropriate, will be set out within each assessment chapter.
- 3.5.4. Much of the information to inform the baseline environment used in the assessments will be based upon data obtained or surveys completed in 2019.
- 3.5.5. Some data obtained from third parties may be older. The origin of all third-party data will be clearly identified, alongside any limitations and assumptions.

## 3.6. APPROACH TO MITIGATION

- 3.6.1. Regulation 6(2)(e) of the EIA Regulations 2017 allows for the discussion and identification of project specific measures to avoid and/or prevent significant adverse environmental effects when a request for a screening opinion from an authority is made. Mitigation can be relied on to reduce any potential significant effects from the Proposed Development.
- 3.6.2. The mitigation hierarchical system is a tool used to ensure development projects achieve no overall negative impact on biodiversity. The sequential steps of the mitigation hierarchy are as follows:
  - Avoidance take measures to avoid creating impacts from the outset;
  - Minimisation measure taken to reduce the duration, intensity and extent of the impact if they
    cannot be avoided;



- Restoration measures taken to improve ecosystems following exposure to unavoidable impacts; and
- Offset measure taken to compensate for any residual impacts.
- 3.6.3. It is assumed that a Construction Environmental Management Plan (CEMP) will be prepared and implemented during the construction phase by each main construction contractor as appropriate. This will detail all the environmental controls and management measures to be adopted during the construction of the Proposed Development. An Outline CEMP will accompany the ES and will identify all the construction phase mitigation that is mitigation that has been identified within the ES. This Outline CEMP will therefore set the framework of mitigation within the CEMP that will be produced by the Principal Contractor.

### 3.7. ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS

- 3.7.1. This Scoping Report provides information on the factors that will be covered in the environmental assessment for the Proposed Development as follows:
  - Air quality;
  - Noise and Vibration;
  - Cultural Heritage;
  - Biodiversity;
  - Landscape and Visual;
  - Water;
  - Traffic;
  - Major Accidents and Disasters; and
  - Land and Soils.
- 3.7.2. The approach to the assessment of each of the above factors is detailed within **Chapter 5 to 13** of this Scoping Report.

### 3.8. ASSESSMENT OF HEAT AND RADIATION

- 3.8.1. Schedule 4, Part 5 of the EIA Regulations 2017 details the requirement for a description of the likely significant effects on the environment resulting from, amongst others, the emission of heat and radiation.
- 3.8.2. Due to the scale and nature of the Proposed Development, it is not anticipated that there will be any significant sources of heat or radiation either during construction or operation of the industrial units. The consideration of heat and radiation emissions has therefore been scoped out of the assessment and has not been considered further in this Scoping Report.

### 3.9. COORDINATION OF ASSESSMENTS

- 3.9.1. The Water Framework Directive (WFD) is relevant to the Proposed Development as there are Main Rivers within the Site, therefore an assessment of the potential works against the objectives of the WFD will be undertaken.
- 3.9.2. The need for a Habitats Regulations Assessment (HRA) is determined in accordance with the distance Natura 2000 sites are from the Proposed Development, with 2km being the cut-off for most sites. For locations for which bats are qualifying features, this distance is extended to 30km because of the long distance these animals can travel for foraging areas. However, due to the location of the



Proposed Development being approximately 7.5km from the nearest Natura 2000 site an HRA is not required.

## 3.10. STATEMENT OF AUTHORITY

3.10.1. This Scoping Report has been prepared by the following organisations.

	Table 3-1	- Statement	of Authority
--	-----------	-------------	--------------

Discipline	Author
Air Quality	WSP
Noise and Vibration	WSP
Cultural Heritage	WSP
Biodiversity	The Ecology Practice
Landscape and Visual	Barton Howe Associates
Water	WSP
Transport	WSP
Major Accidents and Disasters	WSP
Land and Soils	WSP

## 4. ENVIRONMENTAL FACTORS SCOPED OUT

4.1.1. As part of the EIA process and based on the information available to date, there are a number of environmental factors, as listed within Article 3(1) of EU Directive 2014/52/EU, for which it is considered an assessment as part of the EIA is not justified, and therefore will not be considered in the ES.

### 4.2. POPULATION AND HEALTH

- 4.2.1. The towns of Warrington and St Helens are the main urban areas near to the Proposed Development with smaller hamlets or villages, such as Burtonwood, Abbotsfield, Clock Face and Bold Heath to the north and west.
- 4.2.2. The Proposed Development is within the administrative boundary of St Helens Council; however, the Warrington Borough Council boundary is located immediately to the east of the Site. St Helens Council has a population of roughly 180,000 consisting of 16 wards<sup>6</sup>. The Site is located within the Ward of Bold which has a total population of 9,759 and a population density of 5.3 persons per hectare<sup>6</sup> which is higher than the North West (5.04) and England average (4.13) persons per hectare.
- 4.2.3. The Borough of Warrington comprises of 22 wards and has a total population of 209,700<sup>7</sup>, with 62.8% of the Borough's residents of working age (16-64). Of the working age population, 79% residents are economically active<sup>8</sup>. The wards of Westbrook, Whittle Hall and Great Sankey north are all located immediately east of the Site and have populations of 6,446, 12,154 and 6,339 respectively. Their respective population densities are 14.8, 25.4 and 47.9 persons per hectare, all of which are higher than the average for the North West (5.04) and England average (4.13) persons per hectare.
- 4.2.4. The economy in Warrington compromises a broad range of industries, with the Professional, Scientific and Technical Activities, Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles; and Administrative and Support Service Activities being the largest employment industries within the borough (16.3%, 15.6% and 14.1% respectively). The economy in St Helens comprises a broad range of industries, with the Wholesale and Retail Trade and the Repair of Motor Vehicles and Motorcycles; Administrative and Support Service Activities and Human Health and Social Work Activities being the largest employment industries within the borough (16.1%, 14.5% and 11.3% respectively).
- 4.2.5. There is a higher proportion of jobs available in Warrington (job density 1.14) compared with the national average (job density 0.86). There is a lower proportion of jobs available in St Helens (job density 0.65) when compared with the national average (job density 0.86).

<sup>&</sup>lt;sup>6</sup> NOMIS (2013) Usual Resident Population

<sup>&</sup>lt;sup>7</sup> Population based on 2017 mid-year estimates

<sup>&</sup>lt;sup>8</sup> NOMIS, 2018. Labour Market Statistics. Last accessed June 2019 [Link]



#### COMMUNITY FEATURES AND RESIDENTIAL AREAS

- 4.2.6. Sensitive receptors in proximity to the Site include:
  - Existing commercial and retail units of Lingley Mere Business Park (adjacent to the red line boundary));
  - Two nurseries (Stepping Stones Day Nursery and Busy Nought to Fives Nursery), located immediately east and approximately 615m south-east of the Site respectively;
  - A fire station, approximately 350m south-east of the Site;
  - A college (Barrow Hall College), approximately 670m south-east of the Site;
  - Residential dwellings of Lingley Green (approximately 700m south of the Site);
  - A high school (Great Sankey High School), approximately 730m south-east of the Site;
  - Residential dwellings of Bold Health (approximately 1.8km south west of the Site); and
  - Residential dwellings of Westbrook (approximately 2km east of the Site).

#### **OPEN SPACE AND RECREATION**

- 4.2.7. As stated in **Paragraph 2.2.2**, there is one PRoW (Footpath 102) which crosses the Proposed Development at the western extent.
- 4.2.8. The Mersey Valley Golf and Country Club is located approximately 350m south of the Proposed Development and is accessed via an unnamed road from Warrington Road and there is no common access with the Proposed Development.
- 4.2.9. Within the Warrington Borough Council Local Plan 2017- 2035 (Policy DEV4) and the St Helens Borough Local Plan Draft 2020- 2025 (Policy LPA04.1: Strategic Employment Sites), the Site has been identified as a key employment area and will continue to be a primary location for industrial, warehousing, distribution developments and other B Class Uses.

#### NON-SIGNIFICANT EFFECTS

#### **Construction phase**

- 4.2.10. The Proposed Development is not expected to introduce any aspects that will disproportionately impact specific genders, particular religious group(s) or belief(s), particular ethnicities or races, older people (70+) and persons with a long-term health problem or disability.
- 4.2.11. The Proposed Development will not provide any aspects that would directly affect children and young people.
- 4.2.12. Whilst limited elements of the construction phase may require the employment of specialist contractors, it is likely that the majority of direct, indirect and induced employment opportunities will be made available to employees in the local area, allowing the majority of construction workers to continue residing within their current locations. As such, there is unlikely to be a significant increase in demand for accommodation and community facilities (including open spaces and health facilities) local to the Proposed Development due to construction workers.
- 4.2.13. There is likely to be an increase in direct (i.e. on site), indirect and induced employment opportunities at the local (Warrington and St Helens) and regional level (North West). Whilst this is likely to result in a beneficial impact, given the scale of the Proposed Development (186.4 ha) and the likely construction duration, the effect is likely to be temporary and minor. As such, it is not considered that a significant beneficial effect will arise in relation to employment generation during construction.

# vsp

- 4.2.14. There is the potential for vandalism and theft of on-site equipment. Security arrangements will be in line with the requirements set out within the Construction (Design and Management) Regulations 2015 and appropriate security measures (CCTV/Personnel) will be provided on-site. As such, there is not anticipated to be a significant effect in relation to crime and safety.
- 4.2.15. There is likely to be temporary disruption to the use of PRoW 102 whilst the shared pathway and cycleway is created. However, this would only be a temporary disruption and no other recreational areas or facilities are impacted by construction of the Proposed Development.

#### **Operational phase**

- 4.2.16. The Proposed Development will provide both B2 and B8 industrial uses which may provide opportunities for apprenticeships and employment for young people which may have benefits to deprivation and wellbeing.
- 4.2.17. Employment opportunities will be provided as a result of the Proposed Development; therefore, it is likely that the adult population (18-74) will experience positive health and wellbeing effects associated with employment. In addition, employment opportunities are likely to benefit members of the community that are economically deprived and unemployed. These benefits will be discussed further within the Socio-economic Benefits Statement which will be submitted in support of the hybrid planning application.
- 4.2.18. It is likely that the majority of direct, indirect and induced employment opportunities will be available to employees in the local area; allowing the majority of operational workers to continue residing within their current locations. As such, there is unlikely to be a significant increase in demand for accommodation and community facilities (including open spaces and health facilities) local to the Proposed Development due to operational workers.
- 4.2.19. There is the potential for vandalism and use of the Site for anti-social behaviour. The Proposed Development will be lit and staffed during operational hours, and will have 24-hour CCTV coverage. Height restriction barriers and security gates will be provided at each entrance to manage access. As such, there is not anticipated to be a significant effect in relation to crime and safety.
- 4.2.20. The shared pathway and cycleway would be available for public use. This is likely to have a beneficial impact on the connection between the Proposed Development and land to the north of the M62 and a positive impact on recreational receptors. These benefits will be discussed further within the Socio-economic Benefits Statement which will be submitted in support of the hybrid planning application.

#### SUMMARY

4.2.21. The population and health impacts upon the existing and future populations as a result of the Proposed Development have been assessed as unlikely to cause any meaningful change among the local population. With this in mind there are no likely significant effects upon population and health and, accordingly, this factor can be scoped out of the ES.

### 4.3. CLIMATE

4.3.1. Schedule 4, Section 5(f) of the EIA Regulations 2017 requires consideration of the effects of a scheme on climate change and the vulnerability of a project to climate change.



- 4.3.2. During construction, it is considered unlikely that that a significant amount of greenhouse gases will be produced given the relatively small scale of the Proposed Development in the global context of climate change.
- 4.3.3. During operation, there will be a slight increase in traffic movements to and from the Proposed Development. However, this increase in traffic movement will not significantly contribute to climate change in relation to greenhouse gases.
- 4.3.4. The Flood Risk Assessment and Drainage Strategy will outline how flood risk from and to the Proposed Development will be assessed and mitigated and how surface water will be managed.

#### SUMMARY

4.3.5. Due to the size and nature of the Proposed Development, it is unlikely that it would give rise to a significant climate effect at a local, national or global scale. In addition, the Flood Risk Assessment and Drainage Strategy will cover climate change impacts in relation to flood risk. Therefore, it proposed that climate be scoped out of the ES.

#### 4.4. MATERIAL ASSETS

- 4.4.1. Materials will be required to construct the three to six proposed units, car and HGV parking areas, service yards, roads, two attenuation basins and mitigation areas, including drainage. The quantities of material required for the construction of the Proposed Development are small relative to material production rates and so no significant effect is predicted.
- 4.4.2. During operation, limited quantities of materials are anticipated to be required and so no significant effect is anticipated.

#### SUMMARY

4.4.3. A substantial amount of materials will not be required during the construction and operation of the Proposed Development that would give rise to any significant effects. Therefore, it is proposed that material assets be scoped out of the ES.

## 5. AIR QUALITY

### 5.1. CONSULTATION

- 5.1.1. At present, no formal consultation has been undertaken with St Helens Council (or Warrington Borough Council) with regard to the scope of assessment required for the Air Quality ES chapter.
- 5.1.2. Liaison with the respective Environmental Health Officers (EHOs) at St Helens Council and Warrington Borough Council will be undertaken to obtain the most recent local air quality management (LAQM) documents, in addition to existing local air quality monitoring data for the pollutants of concern, namely nitrogen dioxide (NO<sub>2</sub>) and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). These will be reviewed to establish baseline air quality conditions at, and in proximity to, the Proposed Development.
- 5.1.3. Further consultation on the Proposed Development will be undertaken with the relevant Local Authorities to agree the scope and approach to the assessment required for the ES Air Quality assessment.

### 5.2. STUDY AREA

5.2.1. The air quality study area for this Scoping Report is based around the confines of the Proposed Development redline boundary, as shown in **Figure 2: Site Boundary**. As the design of the Proposed Development is yet to be finalised for the purposes of the hybrid planning application, the defined study area will be kept under review as the consultation and design processes develops, and related assessment study areas are confirmed.

#### **CONSTRUCTION PHASE**

#### Dust and particulate matter assessment

- 5.2.2. The study area relating to the assessment of construction phase dust and particulate matter will be defined using guidance provided by the Institute of Air Quality Management (IAQM)<sup>9</sup>.
- 5.2.3. The IAQM construction dust guidance<sup>9</sup> document presents a specification that the study area in which an assessment should be carried out for is outlined below:
  - Human receptors within 350m of any boundary of construction works and within 50m of routes used by construction vehicles, up to 500 m from the Site entrance(s); and
  - Ecological receptors within 50m of any boundary of construction works and within 50m of routes used by construction vehicles, up to 500m from the Site entrance(s).

<sup>&</sup>lt;sup>9</sup> Institute of Air Quality Management (IAQM) (2016) Guidance on the assessment of dust from demolition and construction V1.1

#### **OPERATIONAL PHASE**

#### **Road Vehicle Exhaust Emissions**

- 5.2.4. The study area relating to the assessment of operational phase road vehicle exhaust emission will be defined using guidance provided by Environmental Protection UK (EPUK)<sup>10</sup> and the IAQM.
- 5.2.5. The following criteria will be used to specify the affected road link network, which will concentrate the study area within proportion:
  - A change of Light Duty Vehicle (LDV) flows of:
    - More than 100 AADT within or adjacent to the M62 AQMA; and
    - More than 500 AADT elsewhere.
  - A change of Heavy Duty Vehicles (HDV) flows of:
    - More than 25 AADT within or adjacent to the M62 AQMA; and
    - More than 100 AADT elsewhere.
- 5.2.6. The study area will encompass sensitive receptors at locations considered to represent worst case public exposure to changes in vehicle exhaust emissions adjacent to the affected road network, as identified from the criteria outlined above. Particular consideration will be given to those receptor locations that are situated within 10 m of the affected road link.

#### 5.3. **BASELINE CONDITIONS**

#### **INFORMATION SOURCES**

- 5.3.1. Information on air quality in the UK can be obtained from a range of data sources to establish baseline conditions including Local Authority Local Air Quality Management (LAQM) review and assessment documentation, national network monitoring sites and other published sources from recognised institutions such as the Department for Environment, Food and Rural Affairs (Defra) and the IAQM.
- For the purposes of this chapter, data has been obtained from: 5.3.2.
  - St Helens Council LAQM Annual Status Report for 2017<sup>11</sup>;
  - Warrington Borough Council LAQM Annual Status Report for 2017<sup>12</sup>;
  - Defra Air Quality Management Areas<sup>13</sup>; and
  - Defra Background Pollutant Mapping<sup>14</sup>.

#### SENSITIVE RECEPTORS

5.3.3. Sensitive receptor locations are places where the public or sensitive statutory ecological designations may be exposed to air pollutants arising from development led activities.

<sup>&</sup>lt;sup>10</sup> Environmental Protection UK (EPUK) and the IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality

<sup>&</sup>lt;sup>11</sup> St Helens Council (2017) 2017 Air Quality Annual Status Report (ASR) for St Helens Council

<sup>&</sup>lt;sup>12</sup> Warrington Borough Council (2017) 2017 Air Quality Annual Status Report (ASR) for Warrington Borough Council

 <sup>&</sup>lt;sup>13</sup> Defra (2019) Air Quality Management Areas [online] <u>https://uk-air.defra.gov.uk/aqma/</u>
 <sup>14</sup> Defra(2019) Background Mapping data for Local Authorities – 2017 [online] <u>https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2017</u>

# vsp

5.3.4. These will include locations sensitive to an increase in fugitive dust and particulate exposure because of on-site construction activities, and locations sensitive to exposure to atmospheric pollutants emitted from the exhausts of construction and operational traffic associated with the Proposed Development.

#### LOCAL AIR QUALITY MANAGEMENT - REVIEW AND ASSESSMENT

- 5.3.5. The Proposed Development is situated within the jurisdiction of St Helens Council, although the eastern boundary lies adjacent to the administrative boundary of Warrington Borough Council.
- 5.3.6. The latest Air Quality Annual Status Report from St Helens Council<sup>11</sup> presents provided this narrative:
  - The trend shown by the data collated via the passive and continuous modelling is a downward trend since 2011. Three of the four continuous monitors located within AQMAs now show levels of nitrogen dioxide (NO2) below the National air quality objective;
  - No additional exceedances were identified outside the AQMAs;
  - No exceedances of the air quality objectives for PM10; and
  - St Helens Council anticipates that further additional measures not yet prescribed will be required in subsequent years to achieve compliance and enable the revocation of Borough Road AQMA.
- 5.3.7. St Helens Council has taken forward a number of direct measures during 2017 in pursuit of improving local air quality. These include the promotion of smarter driving techniques to the public, continuous upgrade of the council's fleet, workplace travel plans, securing transport enhancement funding and appointment of an active travel co-ordinator to improve active travel and installation of electric vehicle charging points at public locations.
- 5.3.8. The St Helens Air Quality Action Plan<sup>15</sup> includes a number of proposed actions to combat poor air quality in the borough such as active traffic management, vehicle idling and travel awareness campaigns as well as green taxi and council fleets.
- 5.3.9. A preliminary review of the latest publicly available LAQM review and assessment report produced by Warrington Borough Council<sup>12</sup>, the LAQM Annual Status Report 2017, provided the following narrative:
  - Whilst the majority of Warrington has good air quality, there remain areas close to major roads where NO2 levels are high and exceed national standards;
  - A number of new areas that exceeded the national objective for NO2 close to the arterial roads that lead into and around the town centre and led to the designation of a new Air Quality Management Area (AQMA) on 30 November 2016. The previous AQMAs at Parker Street and Sankey Green Island were revoked and those locations included within the new AQMA. The original Motorway AQMA remains in place; and
  - Current locations within AQMAs continue to show exceedances in the annual mean objective for relevant exposure and confirm the need for these areas to remain designated.

<sup>&</sup>lt;sup>15</sup> St Helens Council (2013) Air Quality Action Plan for St Helens Council [online] https://www.sthelens.gov.uk/media/2848/action\_plan.pdf



5.3.10. Warrington Borough Council has prepared a draft Air Quality Action Plan (AQAP)<sup>16</sup> to address air quality issues within its area of jurisdiction. The AQAP has been introduced to target improvements in the AQMAs and where possible, deliver wider betterment in levels across the town.

#### Air Quality Management Areas

- 5.3.11. The Proposed Development is not identified by St Helens Council as being within an AQMA, however, the northern edge of the Site is adjacent to the Motorways AQMA declared by Warrington Borough Council.
- 5.3.12. The Motorways AQMA comprises a continuous 50 m strip running along both sides of the M6, M62 and M56 motorway corridors and has been designated due to potential exceedances of the annual mean NO<sub>2</sub> objective, as a consequence of emissions from road traffic movements along the respective corridors.
- 5.3.13. The second AQMA (Warrington AQMA) declared by Warrington Borough Council which covers the major link roads in Warrington and the town centre ring road is unlikely to be significantly affected by the Proposed Development.

#### Air Quality Monitoring

- 5.3.14. To monitor air pollution in St Helens, St Helens Council has three continuous monitors and a network of 33 passive diffusion tubes which are analysed for NO<sub>2</sub>.
- 5.3.15. Two passive diffusion tubes are situated within 3km of the Proposed Development which are operated by St Helens Council and monitor for NO<sub>2</sub>. The results between 2015 and 2017 are presented in **Table 5-1**.

Table 5-1 –	St Helens	Council A	nnual Mean	NO <sub>2</sub> Concenti	rations (µg/m <sup>3</sup>	) – 2015 to 2	2017
-------------	-----------	-----------	------------	--------------------------	----------------------------	---------------	------

Cite ID	Location	Cite Temp	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> )					
Site ID	Location	Site Type	2015	2016	<b>2017</b> <sup>17</sup>			
T13	22 Union Bank Lane	Roadside	26.1	25.1	24.6			
Т30	4 Union Bank Lane	Roadside	23.5	22.6	22.8			
	Annual Mean Object	tive		40 µg/m³	· I			

- 5.3.16. The results indicate that there are no exceedances of the annual mean NO<sub>2</sub> objective between 2015 and 2017 for those locations operated by St Helens Council in proximity to the Proposed Development.
- 5.3.17. According to the 2017 ASR for St Helens Council<sup>4</sup>, there has been no exceedances of the PM<sub>10</sub> air quality objectives.

<sup>16</sup> Warrington Borough Council (2017) Warrington Borough Council Air Quality Action Plan, 2017 - 2022 [online] <u>https://www.warrington.gov.uk/download/downloads/id/14548/air-quality-action-plan---draft.pdf</u> <sup>17</sup> Monitoring data acquired for 2017

# vsp

- 5.3.18. Warrington Borough Council currently operates three automatic monitoring locations and approximately 45 NO<sub>2</sub> passive diffusion tube sites to monitor local air quality.
- 5.3.19. One passive diffusion tube is situated within 3km of the Proposed Development to monitor for NO<sub>2</sub>. The results between 2014 and 2016 are presented in **Table 5-2**.

Table 5-2 – Warrington Borough Council Annual Mean NO<sub>2</sub> Concentrations ( $\mu$ g/m<sup>3</sup>) – 2015 to 2017

Site ID	Location	Site Turne	NO <sub>2</sub> Annual Mean Concentration (µg/m <sup>3</sup> )				
Sile ID	Location	Site Type	2014	2015	2016		
DT17	WA86 Old Liverpool Road Roadside		30.1	36.8			
	Annual Mean Object	tive		40 µg/m³			

- 5.3.20. The results indicate that there are no exceedances of the annual mean NO<sub>2</sub> objective between 2014 and 2016 for those locations operated by Warrington Borough Council in proximity to the Proposed Development.
- 5.3.21. According to the 2017 ASR for Warrington Borough Council<sup>5</sup>, there has been no exceedances of the PM₁₀ air quality objectives.

#### **BACKGROUND POLLUTANT MAPPING**

- 5.3.22. Background concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> have been obtained from Defra background pollutant mapping website<sup>7</sup>, where estimated background concentrations have been mapped at a grid resolution of 1km x 1km for the whole of the UK for all years between 2017 and 2030.
- 5.3.23. **Table** 5-3 summarises the relevant background pollutant concentrations in the vicinity of the Proposed Development between 2018 and 2020. The available data indicates that concentrations are well below the relevant air quality objectives.

Table 5-3 – Background Pollutant Concentrations (µg/m<sup>3</sup>) – 2018 to 2020

Crid Deference	NO <sub>2</sub>			<b>PM</b> <sub>10</sub>			<b>PM</b> <sub>2.5</sub>		
Gha Reference	2018	2019	2020	2018	2019	2020	2018	2019	2020
St Helens Council									
354500 391500	12.8	12.3	11.7	11.8	11.7	11.6	7.5	7.4	7.3
355500 391500	13.7	13.0	12.4	11.9	11.7	11.6	7.6	7.5	7.4
354500 390500	17.5	16.7	15.8	13.6	13.4	13.3	8.5	8.4	8.2
354500 389500	12.6	12.0	11.5	11.8	11.7	11.5	7.7	7.6	7.5
Warrington Borough Council									
355500 390500	16.6	15.8	15.1	13.1	13.0	12.9	8.3	8.2	8.1



Crid Potoronoo	NO <sub>2</sub>			<b>PM</b> <sub>10</sub>			PM <sub>2.5</sub>		
Grid Reference	2018	2019	2020	2018	2019	2020	2018	2019	2020
355500 389500	14.0	13.5	13.0	11.0	10.9	10.7	7.5	7.4	7.3
Annual Mean Objective	40 μg/m³			40 μg/m³			25 μg/m³		

### 5.4. MITIGATION

#### **CONSTRUCTION PHASE**

#### Dust and particulate matter assessment

- 5.4.1. It is anticipated that mitigation measures will be implemented as part of a CEMP to address potential impacts during construction at the Proposed Development, subject to agreement with the relevant Local Authorities.
- 5.4.2. The level of air quality mitigation needed will depend on the outcome of the construction dust assessment, in accordance with IAQM guidance<sup>9</sup>. A detailed list of mitigation measures will be included in the ES Air Quality Chapter for inclusion within the Outline CEMP.

#### **OPERATIONAL PHASE**

#### **Road Vehicle Exhaust Emissions**

- 5.4.3. Although it is considered unlikely that there will be significant air quality effects associated with road vehicle exhaust emissions from the operational phase of the Proposed Development, mitigation measures may be specified to reduce any potential impact further.
- 5.4.4. It is possible that potential mitigation measures such as a workplace travel plan and the promotion of a cleaner fleet of delivery vehicles may need to be contained within the proposals as well as providing facilities such as increased electrical car charging points and additional cycle pathways to make it easier for people to make the transition to cleaner and greener modes of transport.

### 5.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS

#### **CONSTRUCTION PHASE**

- 5.5.1. The likely significant effects associated with the construction phase will potentially relate to:
  - Impacts associated with fugitive dust and particulate matter generated during the construction phase and the potential to cause nuisance and health impacts at nearby sensitive receptor locations; and
  - Impacts to local ambient air quality associated with emissions to air from construction vehicles accessing and leaving the Proposed Development. These emissions may result in increases to NO2, PM10 and PM2.5 concentrations.

#### **OPERATIONAL PHASE**

5.5.2. The likely significant effects associated with the operational phase of the Proposed Development are expected to relate to changes in local concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> associated with emissions from road vehicle movements generated by the Proposed Development.

#### ELEMENTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

5.5.3. **Table 5-4** outlines the various elements proposed to be scoped in and out of further assessment for the ES Air Quality Chapter.

Table 5-4 – Elements Scoped In or Out of Further Assessment – Air Quality

Element	Phase	Scoped In	Scoped Out	Justification
Emissions of fugitive dust and particulate matter during construction activities	Construction	~		Proximity of sensitive receptor locations nearby which may experience potential for localised increases of PM <sub>10</sub> / PM <sub>2.5</sub> and dust nuisance
Emissions of nitrogen dioxide (NO <sub>2</sub> ) and PM <sub>10</sub> from construction vehicles leaving and accessing the Proposed Development	Construction	~		At present, construction traffic volume and movements are not known. It is considered that the Site will generate fewer than 100 HDV movements per day however there may be potential for greater than 25 HDV per day to traverse through the nearby Warrington Motorway AQMA and therefore an assessment will be included in the ES Air Quality Chapter.
Effect on local air quality from traffic emissions associated with the Proposed Development once operational	Operation	~		Proximity of nearby sensitive receptors to a change in local air quality caused by the traffic generated by the Proposed Development.

### 5.6. PROPOSED ASSESSMENT METHODOLOGY

- 5.6.1. The assessment will consider the following legislative documents:
  - The EU Ambient Air Quality Directive (2008/50/EC);
  - Part IV of the Environment Act 1995;
  - The Air Quality (England) (Amendment) Regulations 2002; and
  - The Air Quality Standards Regulations 2010, as amended in 2016.
- 5.6.2. The air quality assessment will then be carried out in accordance with best practice guidance made available by EPUK, the IAQM and Defra. A summary of each publication referred to throughout this Scoping Report and considered for inclusion in the ES Air Quality Chapter is provided below:



#### NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

5.6.3. The Government's overall planning policies for England are described in the NPPF<sup>18</sup>. The core underpinning principle of the NPPF is the presumption in favour of sustainable development. A number of references are made to air quality namely paragraph 181 which states,

"Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas.

Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan."

# LOCAL AIR QUALITY MANAGEMENT REVIEW AND ASSESSMENT TECHNICAL GUIDANCE

5.6.4. Defra has published technical guidance<sup>19</sup> for use by local authorities in their review and assessment work. This guidance, referred to in this document as LAQM.TG16, will be used where appropriate in the assessment.

#### LAND-USE PLANNING & DEVELOPMENT CONTROL: PLANNING FOR AIR QUALITY

5.6.5. EPUK and the IAQM have published guidance<sup>20</sup> that offers comprehensive advice on: when an air quality assessment may be required; what should be included in an assessment; how to determine the significance of any air quality impacts associated with a development; and, the possible mitigation measures that may be implemented to minimise these impacts.

# GUIDANCE ON THE ASSESSMENT OF DUST FROM DEMOLITION AND CONSTRUCTION

5.6.6. This document published by the IAQM<sup>9</sup> was produced to provide guidance to developers, consultants and environmental health officers on how to assess the impacts arising from construction activities. The emphasis of the methodology is on classifying sites according to the risk of impacts (in terms of dust nuisance, PM<sub>10</sub> impacts on public exposure and impact upon sensitive ecological receptors) and to identify mitigation measures appropriate to the level of risk identified.

<sup>&</sup>lt;sup>18</sup> Ministry of Housing, Communities and Local Government (2018) National Planning Policy Framework [online]

https://www.gov.uk/government/publications/national-planning-policy-framework--2

<sup>&</sup>lt;sup>19</sup> Defra (2016) Part IV The Environment Act 1995 and Environment (Northern Ireland) Order 2002 Part III, Local Air Quality Management Technical Guidance LAQM.TG16 Updated in 2018

<sup>&</sup>lt;sup>20</sup> Environmental Protection UK (EPUK) and the IAQM (2017) Land-Use Planning & Development Control: Planning for Air Quality

# vsp

5.6.7. The exact scope of the air quality assessment should be determined during consultation with the EHO at St Helens Council. Notwithstanding this, the proposed scope of works and methodology outlined below is considered likely.

#### CONSTRUCTION PHASE

#### Dust and particulate matter assessment

- 5.6.8. An assessment of the likely significant impacts on local air quality due to the generation and dispersion of dust and PM<sub>10</sub> during the construction phase will be undertaken as part of the Air Quality Chapter, using the relevant assessment methodology published by the IAQM<sup>9</sup>, the available information for the Proposed Development and professional judgement.
- 5.6.9. The IAQM methodology<sup>9</sup> assesses the risk of potential dust and PM<sub>10</sub> impacts from the following four sources: demolition; earthworks; general construction activities and track-out i.e. the potential for dust on the road from construction vehicles. It considers the nature and scale of the activities undertaken for each source and the sensitivity of the area to an increase in dust and PM<sub>10</sub> levels to assign a level of risk. Risks are described in terms of there being a low, medium or high risk of dust impacts.
- 5.6.10. Once the level of risk has been ascertained, then site specific mitigation proportionate to the level of risk is identified, and the significance of residual effects determined.

#### Significance Criteria

- 5.6.11. The IAQM<sup>9</sup> assessment methodology recommends that significance criteria are only assigned to the identified risk of dust impacts occurring from a construction activity with appropriate mitigation measures in place.
- 5.6.12. The IAQM<sup>9</sup> states "For almost all construction activity, the aim should be to prevent significant effects on receptors through the use of effective mitigation. Experience shows that this is normally possible. Hence the residual effect will normally be 'not significant'.
- 5.6.13. There are no special conditions at the location of the Proposed Development to constrain the implementation of effective mitigation. Therefore, residual effects are expected to be not significant. It is anticipated that emissions associated with construction activities would be controlled through the implementation of a CEMP, a draft of which will be submitted in conjunction with the ES. The construction dust assessment, following the IAQM<sup>9</sup> guidance, will inform the measures required as part of CEMP.
- 5.6.14. For the assessment of the impact of exhaust emissions from plant used on-site and construction vehicles accessing and leaving the construction areas on local concentrations of NO<sub>2</sub> and particulate matter, the significance of effects would be determined using professional judgement and the principles outlined in the EPUK/IAQM<sup>20</sup> guidance. It is anticipated that the proposed embedded mitigation will mitigate any potential impacts and therefore residual effects are expected to be not significant.

#### **OPERATIONAL PHASE**

#### Road vehicle exhaust emissions assessment

5.6.15. For the operational phase, the quantitative prediction of road vehicle exhaust emission impacts will be carried out by using the atmospheric dispersion modelling program ADMS-Roads. The modelling


assessment will assess the predicted changes in traffic related pollutant emissions associated with the operation of the Proposed Development, focussed on NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>, and the associated effects on local air quality conditions at identified sensitive receptors adjacent to the affected road network.

- 5.6.16. The modelling assessment will be included for verification, which involves a review of modelled pollutant concentrations against corresponding monitoring data provided by St Helens Council and Warrington Borough Council respectively, to determine the performance and adequacy of the air quality model.
- 5.6.17. The guidance produced by EPUK/IAQM<sup>20</sup> for assessing air quality impacts from the Proposed Development will be referred to when undertaking the assessment of operational phase impacts.
- 5.6.18. Where changes in traffic flow, composition and volume due to the Proposed Development are found to meet the specified threshold criteria as specified in **Section 5.2**, pollutant concentrations of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> will be predicted at representative sensitive receptor locations within 200 m of those road links and compared with statutory national air quality objectives, as outlined in the Air Quality (England) Regulations 2000, the Air Quality (England) (Amendment) Regulations 2002 and the Air Quality Standards Regulations 2010 (amended in 2016).
- 5.6.19. Where significant adverse impacts are predicted, suitable mitigation measures will be recommended and discussed with the relevant Local Authorities and Client project team.

#### Significance Criteria

- 5.6.20. The approach provided in the EPUK/IAQM<sup>20</sup> guidance will be incorporated within the assessment to assist in describing the air quality effects of emissions resulting from Proposed Development once operational.
- 5.6.21. This guidance recommends that the degree of an impact is described by expressing the magnitude of incremental change in pollution concentration as a proportion of the relevant assessment level and examining this change in the context of the new total concentration and its relationship with the assessment criterion, as summarised in **Table 5-5** below:

Long Term Average	Change in Concentration Relative to Air Quality Assessment Level					
Assessment Year	1%	2% - 5%	6% - 10%	More than 10%		
75% or less of AQAL	Negligible	Negligible	Slight	Moderate		
76% - 94% of AQAL	Negligible	Slight	Moderate	Moderate		
95% - 102% of AQAL	Slight	Moderate	Moderate	Substantial		
103% - 109% of AQAL	Moderate	Moderate	Substantial	Substantial		
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial		

#### Table 5-5 – Impact Descriptors for Individual Human Receptors

#### <u>Notes</u>

AQAL = Air Quality Assessment Level, which for this assessment related to the UK Air Quality Strategy objectives. Where the % change in concentrations is < 0.5%, the change is described as *'Negligible'* regardless of the concentration.

When defining the concentration as a percentage of the AQAL, 'without development' concentration should be used where there is a decrease in pollutant concentration and the 'with development;' concentration where there is an increase.

Where concentrations increase, the impact is described as adverse, and where it decreases as beneficial.

5.6.22. Based on the impact descriptors presented in **Table 5-5**, the respective effects are considered nonsignificant when a predicted impact of negligible or slight is made. Conversely, a predicted impact of either moderate or substantial will constitute a significant effect on air quality.

#### **Construction Phase**

5.6.23. For the construction phase assessment, the IAQM<sup>9</sup> guidance outlines an area of up to 350m from the Site boundary and 50m from the Site traffic route(s) up to 500m of the entrance, within which there is the potential for nuisance dust and PM<sub>10</sub> effects on human receptors. Receptors within these distances will be identified and their sensitivity will be established with reference to the IAQM<sup>9</sup> guidance.

#### **Operational Phase**

5.6.24. Box 1.1 of LAQM TG16<sup>19</sup> provides relevant examples as to where relevant locations of public exposure to the air quality objectives may occur, as presented in **Table 5-6** 

Averaging Period	Objectives should apply at:	Objectives should not generally apply at:	
Annual Mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access; Hotels, unless people live there as their permanent residence; Gardens of residential properties; Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.	
Daily Mean / 8-Hour Mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location, where public exposure is expected to be short term	
Hourly Mean	All locations where the annual mean and: 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably expect to spend one hour or longer	Kerbside sites where the public would not be expected to have regular access.	

Table 5-6 – Examples of Where the Air	<b>Quality Objectives Should Apply</b>
---------------------------------------	--

5.6.25. It is envisaged that all considered receptor locations will be assessed with the same level of sensitivity, given that the air quality objectives are set for the protection of human health and that they would apply at identified locations of relevant public exposure.

## 6. NOISE AND VIBRATION

## 6.1. CONSULTATION

6.1.1. Liaison with the respective EHOs at Warrington Borough Council and St Helens Council will be undertaken to outline and agree the appropriate scope and approach to the assessments required for the Noise and Vibration ES chapter.

## 6.2. STUDY AREA

#### **CONSTRUCTION PHASE**

- 6.2.1. Construction noise arising from the Proposed Development will be assessed at suitable sensitive receptors within a study area of 300m of the Site boundary.
- 6.2.2. Construction vibration arising from the Proposed Development will be assessed at suitable sensitive receptors within a study area of 300m of the Site boundary.

#### **OPERATIONAL PHASE**

- 6.2.3. Operational noise from commercial activities and fixed plant will be assessed at selected sensitive receptors within a study area of 300m from the Site boundary.
- 6.2.4. Development generated road traffic noise will be assessed for the existing road network. The adopted study area will be all routes within the traffic model subject to an increase in noise of at least +1 dB due to the Proposed Development.

## 6.3. BASELINE CONDITIONS

- 6.3.1. A desktop review of the Site has identified the existing key noise sources around the Site and the closest noise sensitive receptors.
- 6.3.2. Existing noise sources include:
  - Road traffic noise from the M62 motorway;
  - Industrial / commercial noise from the existing Omega development; and
  - Road traffic noise from the local road network.
- 6.3.3. No clearly identifiable vibration sources have been identified by our desktop review.
- 6.3.4. A noise survey to establish the existing noise climate is proposed. The survey locations, which will be selected to be representative of sensitive receptors near the Proposed Development, will be agreed through consultation with the Local Authorities.

#### SENSITIVE RECEPTORS

- 6.3.5. Sensitive receptor locations are places where the public may be exposed to noise and vibration from the Proposed Development, including residential buildings and educational facilities.
- 6.3.6. Existing sensitive receptors include:
  - Stepping Stones Day Nursery, immediately east of the Site;
  - Dwellings on Bembridge Close, 350m south of the Site;
  - Isolated dwellings approximately 500m to the west of Site, including Old Bold Hall Farm and Old Hall Farm; and

Dwellings on Partisan Green adjacent to M62 Junction 8.

## 6.4. MITIGATION

## CONSTRUCTION PHASE

- 6.4.1. The need for mitigation measures will be determined as part of the assessment work to be undertaken, but where required, these would include adopting Best Practicable Means (BPM) (as outlined in Section 72 of the Control of Pollution Act 1974) and the recommendations of good practice presented in BS 5228:2009+A1:2014 Code of practice on noise and vibration control on construction and open sites: Part 1: Noise (BS 5228-1) and BS 5228:2009+A1:2014 Code of practice on noise and vibration (BS 5228-2).
- 6.4.2. It is anticipated that mitigation measures will be implemented as part of a CEMP prepared by the Principal Contractor to address potential impacts during construction, subject to agreement with the relevant Local Authorities.

### **OPERATIONAL PHASE**

- 6.4.3. Specific mitigation measures would be informed by the findings of the assessment. However, the following measures would be considered where required:
  - Environmental barriers In the form of earth mounding or acoustic fencing of various types, or a combination of the two. The use of noise reflective and absorptive barriers may be considered;
  - Masterplanning the use of good practice design layout measures to control and limit noise breakout from the proposed buildings and site; and
  - Traffic restrictions Specific traffic routing for HDVs in and out of the development is already considered as part of the Proposed Development.
- 6.4.4. The following measures would not be considered:
  - Speed restrictions Reducing the speed of vehicles going to and from the Proposed Development, and when on site, would not be considered. It is assumed that the speed limits will be appropriate and because the reduction in noise impact is limited given the relatively low speeds that are expected in and around the Site; and
  - Low-noise road surfacing The principal benefit of low-noise surfaces is the reduction of tyre noise at high speeds, above 75km / hr. They are less effective in reducing noise at lower speeds where engine noise, particularly from HDV, is dominant.

## 6.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS

#### **CONSTRUCTION PHASE**

- 6.5.1. The likely significant effects associated with the construction phase that are proposed for assessment are as follows:
  - Construction noise from the Proposed Development, e.g. site clearance, earthworks and building works; and
  - Construction vibration from the Proposed Development, e.g. piling and earth compaction works.

#### **OPERATIONAL PHASE**

6.5.2. The likely significant effects associated with the operational phase that are proposed for assessment are as follows:



- Development generated commercial and fixed plant noise, e.g. service yard operations and mechanical/fixed plant; and
- Development generated road traffic noise associated with traffic movements to and from the development once operational.

### ELEMENTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

6.5.3. The proposed scope for the Noise and Vibration Chapter is as follows:

#### Table 6-1 – Elements Scoped In or Out of Further Assessment – Noise and Vibration

Element	Phase	Scoped In	Scoped Out	Justification
Noise from Proposed Development	Construction	~		Proximity of sensitive receptors which may experience temporary increases in noise during construction.
Vibration from Proposed Development	Construction	~		Proximity of sensitive receptors which may experience temporary increases in vibration during construction.
Construction generated road traffic noise	Construction		~	Construction traffic would use the M62 motorway and Skyline Drive to access the Site. It is anticipated that insignificant noise changes would occur adjacent to these routes (due to the change in flows arising as a result of construction traffic being small). In addition, there are no sensitive receptors adjacent to Skyline Drive.
Development generated commercial / fixed plant noise	Operation	~		Proximity of sensitive receptors (including Stepping Stones Day Nursery) which may experience permanent noise impacts from the Proposed Development.
Development generated vibration	Operation		~	The industrial / commercial activities associated with the operational scheme are not expected to generate significant vibration levels.
Development generated road traffic noise	Operation	~		Proximity of sensitive receptors which may experience permanent noise impacts due to the Proposed Development.
Development generated road traffic groundborne vibration	Operation		~	Groundborne road traffic vibration is normally caused by HDVs travelling over uneven surfaces. The Proposed Development will introduce new smooth road surfaces within the Proposed Development boundary.
Development generated noise on industrial / commercial units	Operation		~	Industrial and commercial units, including the Proposed Development, are not considered sensitive receptors.



## 6.6. OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT

6.6.1. Opportunities for enhancing the noise and vibration environment will be explored within the noise and vibration assessment, where appropriate. However, it is noted that the proximity of a major noise source, i.e. the M62 motorway, the scale and nature of the Proposed Development, as well as the location of sensitive receptors; significantly limit the potential for noise and vibration enhancement.

## 6.7. PROPOSED ASSESSMENT METHODOLOGY

6.7.1. The assessment will consider the following legislative documents:

### NOISE POLICY STATEMENT FOR ENGLAND 2010 (NPSE)

- 6.7.2. The NPSE was published in March 2010 by Defra and is the overarching statement of noise policy for England. It applies to all forms of noise other than occupational noise, with paragraph 1.6 setting out the long-term vision of Government noise policy which is to "promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development".
- 6.7.3. The Explanatory Note to the NPSE introduces three concepts for use in the assessment of noise in England:
  - NOEL No Observed Effect Level This is the level below which no effect can be detected and below which there is no detectable effect on health and quality of life due to noise.
  - LOAEL Lowest Observable Adverse Effect Level This is the level above which adverse effects on health and quality of life can be detected.
  - SOAEL Significant Observed Adverse Effect Level This is the level above which significant adverse effects on health and quality of life occur.
- **6.7.4.** None of these three levels are defined numerically in the NPSE and for the SOAEL the NPSE makes it clear that the noise effect level is likely to vary depending upon the noise source, the receptor and the time of day and day of the week. The need for more research to investigate what may represent a SOAEL for noise is acknowledged and the NPSE asserts that not stating specific SOAEL values provides policy flexibility in the period until further evidence and guidance is published.

### NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

- 6.7.5. The NPPF sets out the following generic guidance relating to noise, which supports the long-term vision of the NPSE.
- 6.7.6. Under section 15 'Conserving and enhancing the natural environment', paragraph 170, it is stated that

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local

## vsp

environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans"

6.7.7. Under section 15, paragraph 180, it is stated that

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum, potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;

*b)* identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason,"

6.7.8. Notwithstanding the results of consultation, the proposed scope of works, including the assessment methodology is outlined below:

#### **BASELINE NOISE SURVEY**

6.7.9. An unattended noise survey will be completed at up to three locations, selected to be representative of existing sensitive receptors near the Proposed Development. The focus of the survey will be to determine the prevailing background and ambient noise levels. The survey will cover a 24-hour weekday at all locations and at least one location will include a full weekend survey.

#### **CONSTRUCTION PHASE**

- 6.7.10. Construction noise would be assessed using the guidance in BS 5228-1. The results of the baseline noise survey will be used to determine appropriate construction noise level thresholds, and predictions of noise from the construction of the Proposed Development will be calculated and assessed against these thresholds. Appropriate mitigation measures will be presented, including BPM and the good practice recommendations presented in BS 5228-1.
- 6.7.11. Construction vibration would be assessed using the guidance in 5228:2009+A1:2014: Code of practice on noise and vibration control on construction and open sites: Part 2: Vibration (BS 5228-2). For a sample of potential vibration generating activities (e.g. piling and earth compaction), vibration impact (human exposure) at a series of set-back distances will be determined. Appropriate mitigation measures will be presented, including BPM and the good practice recommendations presented in BS 5228-1 and BS 5228-2.

#### **OPERATIONAL PHASE**

6.7.12. Commercial and fixed plant noise would be assessed using the guidance in BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound* ("BS 4142"). It is assumed that precise details of fixed plant items and commercial operations will not have been confirmed by the time of submission of the ES. Predictions would include service yard operations based on WSP library data, including noise data adopted in previous assessment work within the Omega Business Park. Noise level limits would be determined based on BS 4142 and the result of the baseline noise survey. Where these limits are predicted to be exceeded, appropriate mitigation measures will be presented and residual effects determined.

6.7.13. Road Traffic noise level calculations will be undertaken for both 'with' and 'without' scheme scenarios in accordance with the methodology contained within the Department of Transport and the Welsh Office guidance document *Calculation of road traffic noise* (CRTN). The noise predictions would draw upon the traffic data, with consideration given to both the proposed year of opening and a future design year. The noise level changes due to the Proposed Development would be assessed using the impact magnitude scales set out in Design Manual for Roads and Bridges: Volume 11, Section 3, Part 7, HD 213/11 – Revision 1, *Noise and Vibration* (HD 213/11).

## SIGNIFICANCE CRITERIA

- 6.7.14. Noise and vibration effects will be determined and ranked in significance using the guidance set out in the NPSE.
- 6.7.15. It is noted that there is a discrepancy between the guidance set out in the NPSE compared to guidance documents which form the basis of the proposed assessment. Specifically, the NPSE requires consideration of health effects based in part on absolute levels, but in contrast, the assessment methodology presented in the guidance document is more reliant upon the magnitude of the noise level changes.
- 6.7.16. The significance criteria adopted within each assessment will be aligned with the NPSE 'effect levels', NOEL, LOAEL and SOAEL.

## 7. CULTURAL HERITAGE

## 7.1. CONSULTATION

7.1.1. No consultation has taken place to date, but as stated in **Paragraphs 7.3.1** and **7.7.7** consultation and data collation is proposed as part of the assessment.

## 7.2. STUDY AREA

7.2.1. An inner study area of approximately 200m from the Site has been applied for the identification of all types of heritage assets (designated, non-designated and potential). A second, wider study area, has been applied for the setting assessment of designated assets, and this extends up to 2km.

## 7.3. BASELINE CONDITIONS

- 7.3.1. The following sources of information have been consulted during the data collection process for the baseline conditions:
  - Merseyside Historic Environment Record (MHER);
  - Cheshire West and Chester Historic Environment Record (CHER);
  - National Heritage List for England (NHLE) as maintained by Historic England;
  - Historic maps including Ordnance Survey (OS); and
  - Online sources such as the North West Regional Research Framework, Historic Landscape Character Assessment (HLCA) and archive data on the Archaeology Data Service (ADS) website.
- 7.3.2. There are no designated heritage assets within the Site boundary. There are fifteen statutory designated heritage assets within the 2km study area comprising five Scheduled Monuments (Table 7-1) and 10 Grade II Listed Buildings (Table 7-2). Three non-designated heritage assets have been identified within the 200m study area (Table 7-3) comprising the possible location of a watermill, the site of medieval / post-medieval park, and medieval field boundaries and ridge and furrow earthworks. Of these, the site of medieval / post-medieval park is within the Site (see Figure 2: Site Boundary).
- 7.3.3. The use of land within the Site boundary is predominantly arable with areas of woodland. This has the potential to influence the scope of assessment as below ground archaeological sites, such as former areas of ridge and furrow and field boundaries, may be preserved in such conditions. The areas of woodland may preserve up-standing sites such as ponds and quarries. The M62 forms the northern boundary of the Site with further areas of arable beyond. To the east there is a mixture of developed land and arable fields. The south and west are arable farm land and pockets of woodland. Again, there is the possibility that below ground archaeological remains may be located in such conditions such as the possible location of a watermill (MME8648) and field boundaries and ridge and furrow (MME15540), both of which lie in the 200m inner study area. See **Figure 6: MHER Report** for the location of these assets.



### GAZETTEER OF HERITAGE ASSETS

NHLE Number	Name	Period	Value / Sensitivity
1019531	Site of Heavy Anti-aircraft gun, South Lane Farm	Modern	High/ national
1017582	Old Moat House Medieval Moat, Bold	Late Medieval	High / national
1020869	Pickett-Hamilton fort, south-east of Limekiln Farm	Modern	High / national
1013363	Barrow Old Hall moated site, Great Sankey	Multi-period	High / national
1010703	Old Bold Hall moated site, Bold	Multi-period	High / national

#### Table 7-1 – Scheduled Monuments Located Within 2km of the Site

#### Table 7-2 – Grade II Listed Buildings Located Within 2km of the Site

NHLE Number	Name	Period	Value/Sensitivity
1391236	Walled garden adjoining site of former Bold Hall	Multi-period	High / national
1230723	Church of St Mary, Great Sankey	Multi-period	High / national
1253233	Gate piers at Bold Old Hall	Post-medieval	High / national
1230624	Sundial at St Mary's Churchyard	Post-medieval	High / national
1031890	Farmhouse at former Bold Hall Estate	Industrial period	High / national
1393568	Mounting block	Industrial period	High / national
1230788	Sankey Railway Station	Industrial period	High / national
1230786	Milestone, Great Sankey	Industrial period	High / national
1253234	Bridge at Bold Old Hall	Post-medieval	High / national
1031889	Farm outbuilding, formerly Stables, at Former Bold Hall Estate	Multi-period	High / national

HER Number	Name	Period	Value/Sensitivity	Within Scheme boundary
MME8648	Possible location of a watermill, north-east of Old Bold Hall, Bold	Unknown date	Medium / regional	No
MME8654	Site of medieval and post- medieval park, Old Bold Hall and Bold Hall, Bold	Multi-period (medieval to post- medieval)	Medium / regional	Yes
MME15540	Field boundaries and ridge and furrow, Bold	Medieval	Low / Local	No

#### Table 7-3 – Non-designated Assets Located Within 200m of the Proposed Development

## 7.4. MITIGATION

- 7.4.1. Where physical impacts are expected upon any known archaeological remains, recommendations for further investigation will be proposed in the ES. This may comprise non-intrusive survey methods such as geophysical survey, followed by intrusive ground investigations such as trial trenching. A proportionate mitigation strategy can then be devised in consultation with the regional representative of Historic England and the Merseyside Planning Archaeologist, as appropriate.
- 7.4.2. The only known archaeological site within the Site boundary is the site of the medieval and postmedieval park (MME8654) which is associated with Old Bold Hall (SM1010703). Old Bold Hall is a Scheduled Monument located within the wider study area (Table 7-1) Cartographic evidence suggests that there is little physical evidence of the park itself with most of the buildings associated with it situated close to Old Bold Hall.

## 7.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS

7.5.1. There will be potential impacts during construction and operational phases of the Proposed Development which will be scoped into the assessment. Likely impacts during the construction and operational phase will include:

### CONSTRUCTION

- Earth moving;
- Ground investigation such as boreholes and trial pits;
- Site clearance including the removal of trees, vegetation, fencing and traffic movement;
- Drainage and recharge systems;
- Changes in noise, movement and light levels associated with construction-related traffic and plant potentially affecting the setting of heritage assets; and
- Construction compound operations.

### OPERATION

- 7.5.2. Likely impacts during the operation phase will include:
  - Groundworks and earthmoving associated with ongoing maintenance;
  - Changes in noise, traffic movements and light levels; and
  - Changes in historic views and the setting of heritage assets.



7.5.3. Within the outer 2km study area there if the potential for significant effects on the settings of the following designated assets (Table 7-4 and Table 7-5) (also refer to Figure 4: Environmental Constraints for the location of each asset). Where there are no likely significant effects are predicted on a given designated asset, these have been scoped out and a justification given in Table 7-4 and Table 7-5. A summary table (Table 7-6) has been included to outline the elements proposed to be scoped in or out of further assessment.

NHLE Number	Name	Likely Significant Effect?	Nature of Effects	Justification
1019531	Site of Heavy Anti-aircraft gun, South Lane Farm	Yes	Setting	There is little to no built development between the Proposed Development and this Scheduled Monument and there is limited intervening topography to break any views.
1017582	Old Moat House Medieval Moat, Bold	Yes	Setting	One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Scheduled Monument's setting.
1020869	Pickett- Hamilton fort, south-east of Limekiln Farm	No	Scoped out	The Proposed Development will not affect the setting of this Scheduled Monument due to there being no direct view due to topography and intervening development.
1013363	Barrow Old Hall moated site, Great Sankey	Yes	Setting	One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Scheduled Monument's setting
1010703	Old Bold Hall moated site, Bold	Yes	Setting	One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Scheduled Monument's setting.

	Table 7-4 –	Scheduled Mo	numents Scoped	l In or Out of Fu	urther Assessment
--	-------------	--------------	----------------	-------------------	-------------------

NHLE Number	Name	Likely Significant Effect?	Nature of Effects	Value/Sensitivity
1391236	Walled garden adjoining site of former Bold Hall	Yes	Setting	Part of Bold Old Hall. One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Grade II Listed Building's setting
1230723	Church of St Mary, Great Sankey	No	Scoped out	There is no view of this listed building from the Proposed Development as it is screened by existing residential development
1253233	Gate piers at Bold Old Hall	Yes	Setting	Part of Bold Old Hall. One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Grade II Listed Building's setting
1230624	Sundial at St Mary's Churchyard	No	Scoped out	There is no view of this listed building from the Proposed Development as it is screened by existing residential development
1031890	Farmhouse at former Bold Hall Estate	Yes	Setting	One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in north west England of a large number of moated sites in one township. Construction of the Proposed Development may affect the landscape of this Grade II Listed Building's setting
1393568	Mounting block	No	Scoped out	Screened by existing development
1230788	Sankey Railway Station	No	Scoped out	Screened by existing development
1230786	Milestone, Great Sankey	No	Scoped out	Screened by existing development
1253234	Bridge at Bold Old Hall	Yes	Setting	Part of Bold Old Hall. One of a group of five moated sites in the former township of Bold

#### Table 7-5 - Grade II Listed Buildings Scoped In or Out of Further Assessment

NHLE Number	Name	Likely Significant Effect?	Nature of Effects	Value/Sensitivity
				and is of importance because it represents a rare and unusual example in NW England of a large number of moated sites in one township. The Proposed Development will affect the landscape of the setting
1031889	Farm outbuilding, formerly Stables, at Former Bold Hall Estate	Yes	Setting	Part of Bold Old Hall. One of a group of five moated sites in the former township of Bold and is of importance because it represents a rare and unusual example in NW England of a large number of moated sites in one township. The Proposed Development will affect the landscape of the setting

7.5.4. All three non-designated heritage assets (see **Table 7-3**) have been scoped into the assessment due to their presence within, or very close to the Proposed Development boundary and any remains may therefore be present due to the imprecise details available as to their exact location.

## ELEMENTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

#### Table 7-6 - Elements Scoped In or Out of Further Assessment – Cultural Heritage

Heritage Asset	Phase	Scoped In	Scoped Out	Justification / Likely significant effect
Scheduled Monuments and Grade II Listed Buildings and their settings	Construction and Operation	~		Due to the form and scale of the Proposed Development, the setting of heritage assets may be significantly affected.
Known and unknown non- designated heritage assets comprising earthwork and buried archaeological remains	Construction	~		Ground disturbance work associated with construction has the potential to directly impact on earthworks and buried archaeological remains resulting in their total or partial loss.

## 7.6. OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT

7.6.1. Recommendations for enhancement of the settings of designated heritage assets will be applied in accordance with NPPF and Historic England's guidelines outlined in The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3. The principles of enhancement are that an "advantage can be secured if any effects on the significance of a heritage asset arising from

development likely to affect its setting are considered from the project's inception."<sup>21</sup> Enhancement may be achieved by the following:

- Removing or re-modelling an intrusive building or feature;
- Replacement of a detrimental feature by a new and more harmonious one;
- Restoring or revealing a lost historic feature or view;
- Introducing a wholly new feature that adds to the public appreciation of the asset
- Introducing new views (including glimpses or better framed views) that add to the public experience of the asset; or
- Improving public access to, or interpretation of, the asset including its setting.
- 7.6.2. If enhancement is required, this will be discussed with a regional representative of Historic England, where necessary. Any enhancement measures will be proportionate to the impact of the Proposed Development.

## 7.7. PROPOSED ASSESSMENT METHODOLOGY

- 7.7.1. The assessment within the ES will be informed by the information gathered and presented within a Desk Based Assessment (DBA). The DBA will detail the baseline environment within the Study Area, identify the resulting impact of the Proposed Development and propose suitable mitigation measures where it is necessary to do so. The Heritage chapter within the ES will summarise the assessment and findings within the DBA and identify whether there are any residual significant effects.
- 7.7.2. The DBA will be compiled in accordance with NPPF<sup>22</sup> and *The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3.* This assessment will comprise of an analysis of existing written, graphic, photographic and electronic information needed to identify heritage assets and their significance. To do this the character of the study areas, including a consideration of the settings of designated heritage assets, and the known or potential archaeological resource will be considered. The assessment will conclude with a consideration of the potential impact to the significance of the identified heritage assets and their settings as appropriate. An investigation / mitigation strategy will be presented as necessary (based on design data available to date).
- 7.7.3. In addition to comply with NPPF the DBA will be compiled in accordance with professional standards and guidance. The standards and guidance which relate to this assessment are:
  - Chartered Institute for Archaeologists (ClfA), 2014a, Code of Conduct;
  - ClfA, 2014b, Standards and Guidance for Consultancy Advice;
  - ClfA, 2014c, Standards and Guidance for Historic Environment Desk-based Assessment; and
  - Professional judgement will be applied throughout.
- 7.7.4. The NPPF states that sites of archaeological or cultural heritage significance that are valued components of the historic environment and merit consideration in planning decisions are grouped as 'heritage assets'. It goes on to state that "*heritage assets are an irreplaceable resource*" the

<sup>21</sup> Historic England, 2017 The Setting of Heritage Assets: Historic Environment Good Practice Advice in Planning Note 3, 14
<sup>22</sup> Ministry of Housing, Communities and Local Government, National Planning Policy Framework (February 2019)



conservation of which can bring "*wider social, cultural, economic and environmental benefits*". It also states that the "*significance of any heritage assets affected including any contribution made by their setting... should be understood in order to assess the potential impact*". In addition to standing remains, heritage assets of archaeological interest can comprise sub-surface remains and, therefore, assessments should be undertaken for a site with potential below-ground archaeological deposits.

- 7.7.5. The DBA will gain an understanding of the cultural heritage resource to achieve, where appropriate, the objectives stated below:
  - Assess the potential for heritage assets to survive within the Proposed Development;
  - Assess the sensitivity / value and cultural heritage significance of the known or potential heritage assets;
  - Identify the potential impact to the significance of the assets and their settings as a predicted impact of the Proposed Development, and similarly for positive effects;
  - Provide strategies for further investigation where the nature, extent or significance of the cultural heritage resource is not sufficiently well defined;
  - Review the evidence for past impacts that may have affected the archaeological sites of interest identified during the desk-based assessment;
  - Outline proposals for archaeological investigation and / or suitable mitigation measures where appropriate, and where possible, to avoid, reduce, or remedy adverse impacts; and
  - Suggest strategies to conserve the cultural heritage significance of the designated assets and their settings.
- 7.7.6. The relevant policy requirements influence the methodology in the following way. The level of harm to significance is often difficult to define, however substantial harm is taken to be 'total loss of significance of a heritage asset' which implies loss of the asset, loss of its heritage values and / or setting. NPPF Planning Policy Guidance<sup>23</sup> states that "even minor works have the potential to cause substantial harm" and "it is the degree of harm to the assets' significance that is to be assessed rather than the scale of the development". Consequently, this provides a baseline for varying levels of harm with less than substantial harm being harm, slight harm, or negligible.
- 7.7.7. The proposed level and scope of the assessment will provide a detailed assessment of the historic environment and will consider impacts from both construction and operation. The nature of potential impacts is described in **Table 7-6**. Additional data collection / surveys required to finalise the assessment will require consultation with Merseyside Environment Advisory Service and Cheshire Archaeology Planning Advisory Service as to the effect on the settings of Grade II Listed Buildings. Also, Historic England will be consulted on the effect of the Proposed Development on the settings of Scheduled Monuments. There will also be consultation of historic maps including Ordnance Survey. A setting assessment will be required for the designated assets within the 2km study area.

<sup>&</sup>lt;sup>23</sup> Ministry of Housing, Communities and Local Government, National Planning Policy Framework (February 2019)

## vsp

7.7.8. The specific significance criteria that will be adopted for the assessment within the ES with reference to the value / sensitivity of the heritage assets, the magnitude of impact, and the significance of the effect are provided in **Table 7-7** and **Table 7-8**.

Cultural Importance/ Sensitivity	Criteria
Very high (international)	World Heritage Sites; Sites of International Importance.
High (National)	Scheduled Monuments; All statutory designated Listed Buildings; Registered Parks and Gardens; Archaeological Notification Areas; Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments; Conservation Areas.
Medium (Regional/ County)	Locally listed buildings; Archaeological sites and remains which contribute to regional research objectives; Historic buildings/structures that contribute to regional character either through architectural interest or a specific function; Assets which contribute to regional or cultural understanding of the area.
Low (Local/Borough)	Archaeological sites and remains with a local or borough interest for education, cultural appreciation; Assets which contribute to local or cultural understanding of the area.
Negligible (Neighbourhood / Negligible)	Relatively numerous types of remains, of some local importance; Isolated findspots with no context; Areas in which investigative techniques have revealed no, or minimal, evidence of archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated.

Table 7-7 - Criteria Used to Determine Importance of Heritage Assets

7.7.9. The table above is a general guide to the attributes of cultural heritage assets and it should be noted that not all the qualities listed need to be present in every case and professional judgement is used in balancing the different criteria. It is also important to note that it may not be possible to determine the importance of a previously unidentified asset based upon current knowledge. Such an asset would be identified during a site walkover and is likely to be an isolated findspot, place name or cropmark identified on aerial photographs. In this event, its value cannot be defined and appropriate mitigation will be proposed to manage the impact.



Magnitude Category	Typical Descriptors
Very Large	Change to most or all key archaeological materials, such that the resource is totally altered. Comprehensive changes to setting.
Large	Changes to many key archaeological materials, such that the resource is clearly modified. Considerable changes to setting that affect the character of the asset.
Moderate	Changes to key archaeological materials, such that the asset is slightly altered. Slight changes to setting.
Slight	Very minor changes to archaeological materials, or setting.
Neutral	No change.

#### Table 7-8 – Magnitude of Impact

7.7.10. A matrix showing how the significance of the effect is identified is show in **Table 7-9** which is based upon the cultural importance and magnitude in. Where there are two effect ratings the rating will be determined from professional judgement.

 Table 7-9 - Significance of Effect

	Magnitude of Impact						
Cultural importance/sensitivity		Neutral	Slight	Moderate	Large	Very Large	
	Very High	Neutral	Slight	Moderate or Large	Large or very Large	Very Large	
	High Neutral Slig		Slight	Moderate or Slight	Moderate or Large	Large or very Large	
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large	
	Low Neutral N		Neutral or Slight	Neutral or Slight	Slight	Moderate or Slight	
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight	

### DETERMINATION OF SIGNIFICANT EFFECTS

7.7.11. The significance of effect is determined by combining the assessed importance or sensitivity of the heritage asset with the magnitude of impact from the Proposed Development, ranging from negligible to very high as detailed in **Table 7-7** and **7-8**. By using professional judgement, the adverse or beneficial significance of effect ranges from neutral to very large. Effects which are Moderate Adverse or above will be considered to be significant.

## 8. **BIODIVERSITY**

## 8.1. CONSULTATION

- 8.1.1. Consultation via email communications in May 2019 with Merseyside Environmental Advisory Service confirmed that the appropriate ecological surveys are being, and have been, undertaken at the Site.
- 8.1.2. Additionally, it was advised that non-breeding winter bird surveys will be required as Stage One Screening to support a HRA due to the relative proximity of Mersey Estuary SPA and Ramsar.
- 8.1.3. It was also agreed with Merseyside Environmental Advisory Service that dormouse surveys can be scoped out of the EIA process due to a lack of records in the St Helens area.

## 8.2. STUDY AREA

8.2.1. Study areas have been defined by habitat and species of concern, following the best practice guidelines as detailed in **Section 8.3** and have therefore varied as per the relevant subject.

#### DESK STUDY

8.2.2. A desk study included a data trawl of all protected and notable species within 2km of the Site boundary, Statutory Designated Sites within 5km of the Site boundaries, Non-Statutory Sites within 2km of the Site boundary, and Priority Habitats within 1km of the Site boundary.

#### **FIELD SURVEYS**

- 8.2.3. Field surveys for the following have been undertaken at appropriate locations within and around the Site boundary for up to 50m, with the exception of great crested newts where all suitable waterbodies within 500m have been considered:
  - Habitats;
  - Bats;
  - Badger;
  - Great crested newt;
  - Reptiles;
  - Breeding birds;
  - Water vole;
  - Aquatic invertebrates, including White clawed crayfish; and
  - Fish.

### PHASE 1 HABITAT

8.2.4. The Phase 1 Habitat Survey (see **Appendix C: Phase I Habitat Survey**) assessed all habitat within the application boundary. A Phase I habitat map (see **Figure 7: Phase I Habitat Survey Map**) and target notes (see **Appendix D: Phase I Habitat Survey Target Notes**) has been provided.

#### BATS

8.2.5. A ground level tree assessment (GLTA) of all trees on Site and within 30m of the Site boundary was undertaken. Additional endoscope (with nocturnal emergence where trees are too unsafe to climb) and transect surveys are ongoing within this survey area.

### BADGERS

8.2.6. Evidence of badgers was searched for within the Site boundary, extending 30m off site where necessary.

#### **GREAT CRESTED NEWTS**

8.2.7. All waterbodies within 500m of the Site boundary, not separated by a barrier to the movement of great crested newts, and where access was granted, were included within the study (see Figure 8: GCN eDNA Ponds).

#### REPTILES

8.2.8. Reptile habitat and surveys were undertaken within the Site boundary.

#### **BREEDING BIRDS**

8.2.9. Breeding bird surveys were undertaken within the Site boundary.

#### WATER VOLE

8.2.10. All suitable water vole habitat within the Site boundary was assessed. Where possible, surveys extended 50m up-/down- stream of the Site boundary.

#### AQUATIC INVERTEBRATES

8.2.11. A walkover assessment for aquatic invertebrate habitat was conducted on the main watercourse within the Site. Surveys extended 100m upstream and 400m downstream of the extremities of the proposed watercourse realignment.

#### WHITE-CLAWED CRAYFISH

8.2.12. All potential on-site white-clawed crayfish habitat was assessed. Where possible, assessments extended 50m up-/down- stream.

#### FISH

8.2.13. A walkover assessment for fish habitat was conducted on the main watercourse within the Site. Surveys extended 100m upstream and 400m downstream of the extremities of the proposed watercourse realignment.

### 8.3. BASELINE CONDITIONS

8.3.1. The baseline conditions have been established via desk and field studies, following best practice guidelines, and based on the nature of the Proposed Development. The baseline environment will be frequently reviewed throughout the preparation of the ES as required.

### DESK STUDY

- 8.3.2. All records on protected and notable species were obtained from two sources; Merseyside BioBank Records<sup>24</sup> (St Helens) and RECORD LRC<sup>25</sup> (Warrington/Cheshire). Additional information pertaining to locally designated sites was also obtained from these sources.
- 8.3.3. The government interactive mapping website MAGIC Maps<sup>26</sup> was utilised to collect information relating to Statutory Sites, Non-Statutory Sites and Priority Habitats.

## FIELD STUDY

- 8.3.4. Informed by the desk study and site visits, the following studies have been undertaken, or are currently being undertaken, and have been used to determine baseline conditions at the Site. These studies will inform the assessment to be presented in the ES:
  - Habitat a Phase 1 habitats assessment has been undertaken following Joint Nature Conservation Committee 2010<sup>27</sup>. Priority Habitat (broadleaved woodland) was identified on Site, in addition a Local Wildlife Site (LWS) (Booth's Wood) was identified immediately west of the Site but access was not available for a field survey. Hedgerows were assessed in accordance with Defra 2007<sup>28</sup>. No hedgerows were considered to be 'Important', however, all hedgerows qualify as Priority Habitat.
  - Bats in accordance with Collins, J. 2016<sup>29</sup>, a ground level tree assessment has been undertaken across the Site to identify potential bat roosting features. Bat endoscope and nocturnal surveys have identified one (1) bat tree bat roost on site (Duck Wood), and two (2) tree bat roosts off site near to the southern and eastern site boundaries, respectively. A considerable amount of bat foraging habitat has been identified on and near to the Site, namely in the form of woodland. Monthly transects from April to October identified a small number of common bat species using the Site for foraging and commuting, including the unnamed watercourse which runs through the Site. All bat surveys are now complete.
  - Badgers in accordance with Cresswell et al 1990<sup>30</sup>, a badger survey was undertaken on the Site and within 30m of the Site boundary where access allowed. No recent signs of badger activity were recorded on, or immediately adjacent, to the Site.
  - Great crested newts following Biggs et al. 2014<sup>31</sup>, all ponds with approved access and within 500m of the Site boundary, not separated by a major barrier, were assessed and tested for great crested newt eDNA. All ponds sampled were returned with a negative score for presence, confirming great crested newts are not present in these waterbodies. Of the 37 ponds identified within contiguous habitat within 500m of the Site boundary, access was granted to 29. Four of the un-sampled ponds are in unsuitable GCN habitat, and all 29 ponds that were sampled returned

<sup>24</sup> https://activenaturalist.org.uk/mbb

www.record-Irc.co.uk
 https://magic.defra.gov

https://magic.defra.gov.uk
 Joint Nature Conservation Committee 2010 Handbook for Phase I habitat survey: a technique for environmental audit. JNCC, Peterborough

<sup>28</sup> Defra 2007 Hedgerow Survey Handbook: A standard procedure for local surveys in the UK. Defra, London

 <sup>&</sup>lt;sup>29</sup> Collins, J. (3<sup>rd</sup> ed) 2016. Bat surveys for professional ecologists: Good practice Guidelines (3<sup>rd</sup> edition). Bat Conservation Trust, London

<sup>&</sup>lt;sup>30</sup> Cresswell, P., Harris, S. and Jefferies, D., J. 1990. The history distribution status and habitat requirements of the badger in Britain. Nature Conservancy Council

<sup>&</sup>lt;sup>31</sup> Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.



negative (no GCN) results, it is considered highly unlikely that GCN are present in the unsampled ponds.

- Reptiles in accordance with Gent & Gibson 2003<sup>32</sup>, reptile surveys were undertaken within areas of suitable habitat within the Site Boundary. Limited, poor terrestrial habitat is present on Site. Reptile surveys were discontinued after 5 visits due to no species being observed.
- Breeding birds in accordance with Bibby et al 2000<sup>33</sup>, bird breeding surveys were undertaken in April and June 2019. Common and notable breeding birds have been recorded using the Site. Notable species include; lapwing, yellowhammer, house sparrow, song thrush and grey partridge. No specially protected species (e.g. EPS) were recorded.
- Wintering birds The Mersey Estuary SPA & Ramsar is located approximately 7.5km to the southwest of the Site. Whilst there will be no direct impact upon Mersey Estuary SPA & Ramsar, indirect impacts may prevail on SPA qualifying species (wintering birds) on Site through noise impacts or loss of satellite habitat. Limited suitable wintering bird habitat is present on Site and therefore a wintering bird survey is scheduled for October 2019 March 2020, inclusive, in line with Natural England Standing Advice and as approved in September communication with Merseyside Environmental Advisory Service to determine whether wintering birds are using the Site. A negative result by the December 2019 survey inclusive will be regarded as sufficient evidence that the Site is not supporting SPA qualifying species.
- Water vole following Strachan et al 2011<sup>34</sup>, all suitable habitat on Site was surveyed for water vole presence. No evidence of water vole has been recorded.
- White-clawed crayfish in accordance with Peay 2003<sup>35</sup>, the Site was assessed for its suitability to support white-clawed crayfish. No suitable habitat was found on site. No records exist for white-clawed crayfish within 2km of the Site.
- Invasive species Himalayan balsam, a plant listed under Schedule 9 of the Wildlife and Countryside Act, 1981, has been recorded across the Site.

## ECOLOGICAL RECEPTORS

- 8.3.5. Ecological receptors have been identified where an ecological feature is legally protected (i.e. bats), or where the feature is considered to provide considerable ecological value and national/local policy and best practice dictates due consideration to the protection of that feature (e.g. Local Wildlife Site). Information gained from the desk study and field studies to date have identified the following ecological receptors:
  - Habitats broadleaved woodland (Priority Habitat), ponds (local Habitat Action Plan), hedgerows (Priority Habitat) and the unnamed watercourse;
  - Bats and their roosts;
  - Bat foraging/commuting habitat;
  - All breeding birds, their nests, eggs and habitat;

<sup>&</sup>lt;sup>32</sup> Gent, T. and Gibson, S. 2003. Herpetofauna Workers Manual. JNCC, Peterborough

Bibby, C. J., Burgess, N. D., Hill, D. A. & Mustoe, S. 2000. Bird Census Techniques. Second Edition. Academic Press, London

<sup>&</sup>lt;sup>34</sup> Strachan R., Moorhouse, T. and Gelling, M. 2011. Water Vole Conservation Handbook, 3<sup>rd</sup> Edition. Wildlife Conservation Research Unit (WildCRU), Oxford University

<sup>&</sup>lt;sup>35</sup> Peay, S. 2003. Monitoring the White-clawed Crayfish Austropotamobius pallipes. Conserving Natura 2000 Rivers Monitoring Series No. 1. English Nature, Peterborough



- Booth's Wood (Local Wildlife Site). Features of nature conservation importance within Booth's Wood include; single species dominant swamp, marshy grassland, standing water, English bluebells and locally rare species of rush;
- Wintering birds and their habitat (indirect effects on Mersey Estuary SPA and Ramsar); and
- Invasive species (Himalayan balsam).

## 8.4. MITIGATION

8.4.1. The mitigation hierarchy of avoid, mitigate or compensate will be adopted within the ES. Direct impacts will be avoided where possible through the development and evolution of the layout of the Proposed Development. The principles of Net Gain that are enshrined in the National Planning Policy Framework will guide the way in which mitigation and/or compensation is delivered, following guidance in CIEEM 2019<sup>36</sup>. The following mitigation measures are also likely to be proposed should significant effects impacts be identified.

#### HABITAT

- 8.4.2. Loss of habitat (including Priority Habitat) will be mitigated on site, where possible. Where further habitat compensation is required, this may be provided off site.
- 8.4.3. An assessment of the likely impacts to biodiversity will be undertaken with respect to diversion of the watercourse.

#### BATS

- 8.4.4. The Proposed Development will be designed to avoid direct impacts upon bats and their roosts. Where this is not possible, a bat licence will be required for any loss or damage to a bat roost, obstruction to a bat roost, or disturbance to bats while in a resting place or roost.
- 8.4.5. Bat foraging and commuting habitat will be created via the detailed landscaping plan.
- 8.4.6. Bat boxes may be installed on site post-construction to compensate for loss of roosting habitat/enhance roosting conditions.
- 8.4.7. Site design during construction and operation will be such to avoid disturbance and/or damage to bats and their roost and remaining foraging/commuting habitat. This will include a detailed lighting plan following the Bat Conservation Trust's advice on bats and lighting.

#### **BREEDING BIRDS**

- 8.4.8. Removal of bird breeding habitat is to take place outside the bird breeding season (1<sup>st</sup> March 31<sup>st</sup> August, inclusive). Where bird breeding habitat requires removal within this period, a Method Statement for habitat removal will need to be approved in writing by the Local Planning Authority.
- 8.4.9. Bird breeding habitat will be incorporated into the detailed landscaping proposals.

<sup>36</sup> Chartered Institute for Ecology and Environmental Managers January 2019 (eds. Baker, J., Hoskin, R. & Butterworth, T.) Biodiversity Net Gain. Good Practice Principles for Development. Part A: A practical guide. CIRIA C776a RP1048. ISBN: 978-0-86017-791-3



### LOCAL WILDLIFE SITE (LWS)

8.4.10. Where possible, the Proposed Development should avoid unnecessary impacts on Booth's Wood LWS, and as a minimum safeguard ecological features identified within the LWS. This will include ensuring the LWS is not illuminated.

#### WINTERING BIRDS

8.4.11. Where wintering birds are found to use the Site, mitigation will be designed to a) reduce disturbance during construction, and b) compensate for loss of habitat.

#### **INVASIVE SPECIES**

8.4.12. A Method Statement will be produced as part of the CEMP that will detail methods of removal of invasive species.

### 8.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS

8.5.1. Where residual effects are likely to be present following mitigation measures, these are listed below.

#### CONSTRUCTION

#### Habitat

8.5.2. The likely significant effects upon the loss of woodland, ponds, hedgerows and other potentially valuable habitats, possibly including the unnamed watercourse, during the construction phase will be considered in the ES.

#### Bats

- 8.5.3. The likely significant effects upon bats during the construction phase that will be considered in the ES are:
  - Bat roost loss through tree removal;
  - Bat roost obstruction;
  - Noise/vibration disturbance to bats and/or their roosts;
  - Lighting disturbance to bats and/or their roosts; and
  - Loss of foraging and commuting habitat (namely woodland, ponds, and during watercourse diversion).

#### **Breeding Birds**

- 8.5.4. The likely significant effects upon breeding birds during the construction phase that will be considered in the ES are:
  - Loss/damage to breeding habitat; and
  - Loss/damage to wild birds, their nests or eggs.

#### Wintering Birds

- 8.5.5. The likely significant effects upon wintering birds during the construction phase that will be considered in the ES are:
  - Loss/damage to wintering bird habitat; and
  - Disturbance to species associated with Mersey Estuary SPA and Ramsar.

#### Local Wildlife Site

- 8.5.6. The likely significant effects upon Booth's Wood (LWS) during the construction phase to be considered in the ES are:
  - Damage to and/or loss of LWS habitat;
  - Damage to and/or loss of species/habitat qualifying LWS designation.

#### OPERATION

#### Habitat

8.5.7. The likely significant effects upon the permanent loss of woodland, ponds, hedgerow and other valuable on-site habitats during the operational phase will be considered in the ES.

#### Bats

- 8.5.8. The likely significant effects upon bats during the operational phase that will be considered in the ES are:
  - Bat roost obstruction through design;
  - Noise/lighting disturbance to bats and/or their roosts;
  - Permanent loss of roosting habitat;
  - Population fragmentation and disconnecting bats to the wider landscape; and
  - Permanent loss of extensive foraging and commuting habitat.

#### **Breeding Birds**

8.5.9. The likely significant effects upon permanent bird breeding habitat loss during the operational phase will be considered in the ES.

#### **Wintering Birds**

8.5.10. The likely significant effects upon permanent wintering birds' habitat loss during the operational phase will be considered in the ES.

#### Local Wildlife Site

8.5.11. The likely significant effects upon the permanent loss of Booth's Wood LWS habitat during the operational phase will be considered in the ES.

## 8.6. OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT

8.6.1. Opportunities for ecological enhancement are yet to be identified and will be considered during the design process, the detail of which is yet to be determined.

### 8.7. PROPOSED ASSESSMENT METHODOLOGY

#### SIGNIFICANCE CRITERIA

8.7.1. The assessment will be undertaken in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and



Ireland' (2018)<sup>37</sup> (herein referred to as the 'CIEEM Guidelines'). The CIEEM Guidelines represent the current best practice for assessing the ecological impact of development projects.

- 8.7.2. The assessment of likely significant environmental effects as a result of the Proposed Development will consider the construction and operational phases.
- 8.7.3. The duration of the effect will be assessed as either 'short-term', 'medium-term' or 'long-term'. Short-term is considered to be up to 1 year, medium-term is considered to be between 1 and 10 years and long-term is considered to be greater than 10 years.

#### **DETERMINING IMPORTANCE**

8.7.4. The CIEEM guidelines state that ecological features should be considered within a 'defined geographical context' (i.e. spatial scale), with International importance being the highest level, followed by International and European; National; Regional; Metropolitan, County, vice-county or other local authority-wide area; River Basin District; Estuarine system/Coastal cell; and Local importance representing the lowest level. Assigning importance to ecological features is based on professional judgement informed by available guidance and information and expert advice.

#### DETERMINING SIGNIFICANCE OF EFFECTS

- 8.7.5. The ES assessment will use the CIEEM methodology to describe all significant effects on features of ecological importance. The CIEEM guidelines define a significant effect in the context of an ecological impact assessment as "an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general". Significant effects, as defined by the CIEEM guidelines, are determined by assessing any deviation in the baseline conditions of a feature of ecological importance that may occur as a result of individual and cumulative impacts during the construction and operational phases of the Proposed Development. These effects will be expressed in terms of geographical scale, however the geographical scale at which an effect is significant can vary from the geographical importance of the ecological feature being assessed and in accordance with the CIEEM guidelines, this will be a function of the assessment.
- 8.7.6. In addition, consideration will also be given to EIA terminology and significance will be concluded for both beneficial and adverse effects as negligible, minor, moderate or major, with significant effects determined through professional judgement, as outlined in **Table 8-1**.

<sup>&</sup>lt;sup>37</sup> CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

## Table 8-1 – Consistency of Significant Residual Effects in Accordance with CIEEM and Conversion for Consistency with the ES

Geographical scale at which the residual effect is assessed as being significant following the CIEEM EcIA guidelines	Category of significant residual effect used in Summary and Conclusions Section of ES
International, European, national or regional	Major
Regional, metropolitan, county, vice-country or other local authority-wide area, River Basin District; Estuarine system/Coastal call	Moderate
Local	Minor

- 8.7.7. The following terms have been used to define the significance of the effects identified and these can be 'beneficial' or 'adverse':
  - Major effect: where the Proposed Development is likely to cause a considerable change from the baseline conditions and the receptor has limited adaptability, tolerance or recoverability or is of the highest sensitivity. This effect is considered to be 'significant';
  - Moderate effect: where the Proposed Development is likely to cause either a considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recoverability or a less than considerable change at a receptor that has limited adaptability, tolerance or recoverability. This effect is considered more likely to be 'significant' but will be subject to professional judgement; and
  - Minor effect: where the Proposed Development is likely to cause a small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance or recoverability or is of the highest sensitivity or a considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change. In the context of this ES, residual effects which have are 'significant at the Local level' and converted to a 'Minor' effect, are unlikely to be assessed as 'significant' overall.

## 9. LANDSCAPE AND VISUAL

## 9.1. CONSULTATION

9.1.1. No consultation with regard to the Landscape and Visual assessment has taken place in the preparation of this Scoping Report.

## 9.2. STUDY AREA

- 9.2.1. A study area has been identified on the basis of potential landscape and visual effects arising from the Proposed Development and in accordance with the principles set out within paragraph 5.2 of the 'Guidelines for Landscape and Visual Impact Assessment, 3<sup>rd</sup> Edition: Landscape Institute and Institute of Environmental Management & Assessment (2013)'.
- 9.2.2. The potential area of visual influence, based upon appropriate desk study and preliminary field inspection, extends some 2km to the north of the Proposed Development site boundary (to Gorsey Lane), 2.5km to the west (to Sutton Manor); 1.5km to the south (to Warrington Road), and 1km to the east (to within the ongoing development at Omega Business Park). This study area is illustrated at **Figure 9: LIVA Study Area and Key Receptors**.
- 9.2.3. The study area would be refined during detailed site inspections to inform the future Landscape and Visual Impact Assessment (LVIA) for the ES.

## 9.3. BASELINE CONDITIONS

## **EXISTING CONDITIONS**

- 9.3.1. The Site, 186.4 ha, is illustrated at Figure 2: Site Boundary.
- 9.3.2. Existing land use within the Site area is primarily agricultural primarily arable, formed of irregular, medium sized fields. A number of field boundaries are open; however, some hedgerows are present, linking woodland blocks of varying size and shape. The agricultural land, including the Site, is generally low lying and flat with ditches and small ponds a common feature. An overhead electricity distribution line crosses the Site from north to south passing along the eastern edge of Booth's Wood.
- 9.3.3. Currently, the Site is bounded to the north by the M62 motorway, to the west by an assemblage of mature woodland blocks, hedgerows and agricultural land (primarily arable), to the south by further woodland blocks/agricultural land, and to the east by a linear belt of woodland/hedgerow that forms a boundary to the existing Omega development and Lingley Green Business Park.
- 9.3.4. Further woodland blocks lie immediately beyond the Site boundary, these include Duck Wood to the west and South Park Plantation to the south. There are smaller, linear woodland blocks to the eastern edge of the Site. Hedgerows link these linear woodlands, north to south terminating at Finch's Plantation to the southern boundary of this area.
- 9.3.5. The 'grain' of the landscape is typically orientated north west/south east with a field pattern of irregular shapes. In contrast, occasional bankside trees are present to the south of the watercourse, from Finch's Plantation in the south through Booth's Wood to the west.
- 9.3.6. The wider landscape is characterised by a swathe of agricultural land bounded by the settlements of Warrington to the south-east, Widnes to the south-west and St Helens to the north. The fringes of

these settlements tend to be residential areas however, there are notable exceptions including the extensive commercial development both north and south of the M62 corridor at Omega together with the Gemini Retail Park and Winwick Quay further east. The intervening land is criss-crossed by highways, including the M62, and railways (including disused lines).

## LANDSCAPE DESIGNATIONS

- 9.3.7. There are no specific landscape designations in the Study Area.
- 9.3.8. Booth's Wood is identified as a Local Wildlife Site (reference LWS 114) in the emerging draft of the Local Plan, however ecological sites per se would not constitute a particular receptor in a LVIA, being assessed separately within an ecological appraisal; in the context of an LVIA, Booth's Wood would be considered as a mature woodland landscape resource.

## LANDSCAPE CHARACTER: NATIONAL LANDSCAPE CHARACTER

- 9.3.9. The Site is located wholly within National Character Area (NCA) 60: 'Mersey Valley' (Natural England; 2013). The Mersey Valley character area is described as a wide, low-lying, river valley landscape focussed on the River Mersey, its estuary, associated tributaries and waterways. The landscape is noted to be varied, extending from mosslands near the Manchester Conurbation in the east to the wide estuary with intertidal mudflats/sand flats and saltmarsh to the west.
- 9.3.10. Key characteristics are noted to be:
  - The landscape is low-lying, focusing on the broad linear valley of the River Mersey; it is estuarine in the west and has extensive areas of reclaimed mossland in the east;
  - Underlain by Triassic sandstone, the surface geology is principally drift material: marine and river alluvium in the valley bottom, extensive areas of till, pockets of glacial sands and gravels, with peat in some drainage hollows;
  - The Mersey Estuary is a defining element in the landscape, with expansive intertidal mudflats/sand flats and low exposed cliffs;
  - The River Mersey flows from east to west, joined by associated tributaries, although the Mersey itself is often obscured from view;
  - Trees and woodland are mainly associated with settlements, occasional parkland and isolated woodland blocks; and in recent years new community woodlands have been planted;
  - Large-scale, open, predominantly flat, high-quality farmland occurs between developments, with primarily arable farming to the north of the valley and a mixture of arable and dairying to the south;
  - The field pattern is regular and large scale, often defined by hedgerows with isolated hedgerow trees; many hedgerows are intermittent and have been replaced by post-and-wire fencing, while field boundaries on the mosses are marked by ditches;
  - A range of important wetland habitats remain, including estuarine mudflats/sand flats and fringing salt marshes in the west, remnants of semi-natural mosslands and pockets of basin peats in the east, with the broad river valley in between;
  - The predominant building material is red brick though some sandstone construction remains, and some survival of earlier timber frame;
  - There are densely populated urban and suburban areas, with major towns particularly at the river crossings, including Runcorn, Widnes and Warrington;
  - There is large-scale, highly visible industrial development, with docks, chemical works and oil refineries; and

• The river valley has a dense communication network with motorways, roads, railways and canals running east–west, and power lines are also prominent.

## LANDSCAPE CHARACTER: BOROUGH LEVEL

- 9.3.11. St Helens Council published the Landscape Character Assessment (LCA) for St Helens in January 2006<sup>38</sup>. This LCA assessed, and subsequently categorised, both the townscape and landscape of St Helens into a series of character types with sub-division into smaller areas. The LCA also described the over-arching issues that may affect the landscape including landscape quality, potential forces for change, sensitivity and capacity, and relevant strategies.
- 9.3.12. The Site is situated within landscape character type number 5 'Wooded Former Estate' (WFE), specifically landscape area WFE 4 Bold Hall. The LCA describes the over-arching characteristics of the 'Wooded Former Estate' character type as:
  - Number of character areas of varying size across the Borough, where the frequency and size of mature woodland groups associated with former estate landscapes is a principal feature. The preponderance of mature woodland creates a partially enclosed landscape which is draped over the agricultural landscape;
  - The woodland appears in a variety of forms, typically of mature deciduous woodland belts enclosing areas of farmland, but in addition remnants of tree avenues, lines and belts and single mature specimen trees within field are present. The changing character of the mature woodland creates a sense of grandeur and maturity to the landscape;
  - The strength of the former estates are reinforced by the presence of landscape features including prominent estate houses and building of similar construction and often in blonde sandstone quarried locally, stone walls and decorative entrance pillars;
  - Landform varies over the character type but is typically of a rolling undulating landform where the experience changes from being enclosed by adjacent topography to open wide views over the surrounding landscape only partially interrupted by the presence of woodland;
  - In many instance (sic) the underlying larger agricultural landscape has medium to large scale fields and associated with mature blocks of woodland creates a large scale landscape; and
  - Obvious aesthetic qualities to the landscapes, the place often form areas of interest for recreation.
- 9.3.13. The landscape character area at Bold Hall (WFE 4) offers the following description of the local area:
  - Unlike the rolling elevated topography of the estate landscape to the north, Bold character area is located on the flat expansive floodplain landscape to the extreme south of the Borough, at an average elevation of 25m above ordnance datum;
  - This rural landscape has an open, strongly horizontal composition which is interrupted by a number of mature woodland plantations and shelterbelts that break up the large scale field patterns. Whilst many of the hedgerow field boundaries are still intact the large scale of the fields still retain a dominating open character. Within this open landscape and wider woodland

<sup>&</sup>lt;sup>38</sup> St Helens Council, 2006. https://www.sthelens.gov.uk/media/5011/sthelens-landscape-character-assessment-final-report-january-2006.pdf



structure, a series of small field ponds are located in the field system, denoted by the associated small woodland groups which punctuate the horizontal landform;

- Located on the floodplain which subtly slopes south down to the River Mersey views are typically focused southwards reinforced by the prominent vertical towers of Fiddlers Ferry Power Station which are focal point in many views although the woodland blocks help to screen views at many locations. Views northwards are limited by the pronounced small scale hill features of the spoil heaps which seek to physically and visually separate this character area from the urban landscape to the north;
- The character area is further separated from the settled landscape to the north by the M62 road corridor which borders the area to the north. Running at partial grade on subtle embankments the route corridor reinforces the experience of separation by the spoil heaps from the wider Borough to the north;
- The character area is relatively uninhabited with a prominent cluster of vernacular buildings at Old Bold Hall Farm, access from the surrounding road network by track. Small settlement at cross roads of bold heath where the vernacular settlement of dark red brick buildings have been extended by more recent development; and
- Reinforcing the historical landscape character are remnant features of past estate use such as ornamental gates and stone walls, although the former estate does not have a strongly defined edge within which the woodland landscape sits.
- 9.3.14. It is noted within the LCA that landscape sensitivity for WFE 4 landscape character type is 'Medium to High', with a 'Medium' visual sensitivity, whilst the proposed Landscape Strategy of the LCA is defined as 'Conserve and Restore'.

#### **KEY RECEPTORS**

9.3.15. Key receptors identified at Scoping stage are illustrated at Figure 9: LIVA Study Area and Key Receptors.

#### **VISUAL RECEPTORS**

9.3.16. Visual receptors identified at Scoping stage are noted in **Table 9-1** below.



#### Table 9-1 – Visual Receptors

Receptor	Location			
Residential dwellings/areas	South Lodge/South Lodge Gatehouse/Park View Cottages/Bargyloo Cottage/Bargyloo (A57), Lingley Green (Park Road, Bembridge Close, Godshill Close), Park Farm, Old Hall Farm, Old Bold Hall Farm, New Crow's Nest/Bushell's Farm (A569), Home Farm, Moat House, and Moat House Farm.			
PRoW	Bold Heath Plantation to Gorsey Lane, Joy Lane, Clockface Road to Tibbs Cross Lane, Warrington Road to disused railway, and Warrington Road to Gorsey Lane.			
Recreation Areas	Clockface Country Park, and the Mersey Valley Golf and Country Club.			
Commercial Areas	Omega Business Park, Omega North, Lingley Business Park (including Stepping Stones Day Nursery), Ace of Hearts Garage (A57), Willow Park and Grisedale Drainage (A659).			
Highways	Gorsey Lane, Joy Lane, Lockheed Road, Skyline Drive, M62 motorway, Clock Face Road (A569), Warrington Road, Lingley Green Avenue, Omega Boulevard, and Orion Boulevard.			

#### LANDSCAPE RECEPTORS

9.3.17. Landscape receptors include the physical landscape features within the Site and the character of the landscape both within and without the Site.

### 9.4. MITIGATION

- 9.4.1. Landscape mitigation measures are likely to include suitable protection of the existing landscape features e.g. woodland, hedgerows to recognised standards i.e. BS 5837 2012: 'Trees in Relation to Design, Demolition and Construction; Recommendations' during construction to ensure that such features are retained and maintain future viability. Construction mitigation would be achieved through implementation of a suitable CEMP prepared by the Principal Contractor.
- 9.4.2. Potential mitigation of the Proposed Development is likely to consist of boundary screen planting to reduce visual impacts, and the provision of a new landscape infrastructure within the development proposals to further ameliorate visual effects and introduce features that may integrate with the existing landscape.
- 9.4.3. Landscape mitigation would also seek to increase biodiversity opportunities with proposed features considered in the context of parallel ecological surveys and mitigation proposals (if required).

## 9.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS

- 9.5.1. The Proposed Development may give rise to potentially significant effects
  - To visual receptors;
  - Upon the existing landscape within the Site boundary; and
  - Upon the local landscape character.
- 9.5.2. The scale of the proposed built form of the Proposed Development is such that a wider effect upon the setting of the Site and the wider landscape may occur.

- 9.5.3. The proposed LVIA will outline any likely significant effects, assessed in accordance with the methodology described in the following section, upon both visual and landscape receptors assessing the likely magnitude of effect against the identified receptor sensitivity. In accordance with current best practice, only publicly accessible viewpoints will be considered by the LVIA.
- 9.5.4. Where potential effects are identified these may be considered 'Beneficial', 'Neutral' or 'Adverse' being determined through a logical assessment process in respect of the Proposed Development and its associated mitigation measures. The assessment within the ES will examine both the construction and operational phases of the Proposed Development.
- 9.5.5. Potentially significant effects are summarised below:
  - Potential Construction Effects
    - Visual Amenity to a range of receptors including residential, PRoW, highways, recreation and commercial areas. Effects would be temporary for the duration of the works and vary in magnitude according to the progress made on site. Much of the works are likely to be a ground level and less visible to all but the closest receptors changing as the building structures are erected and the building mass takes on 'solidity' as the cladding is attached to the frame. Initial soil stripping operations and creation of soil stores may offer screening of some activities.
    - Landscape Character effects upon the existing landscape, including permanent loss of features e.g. hedgerows and woodland, during site clearance works and consequent potential effects upon landscape character arising from the change in land use and new built form. Such effects would persist through operation and would hence be considered permanent.
  - Operational Effects
    - Visual Amenity to receptors including residential, PRoW, highways, recreation and commercial areas. Effects would be permanent with some potential variation in magnitude according to the effect of primary mitigation i.e. landscape screening/integration. Potential effects upon the value of the view will also be considered. The effects of mitigation will influence residual impacts which should reduce over time.
    - Landscape Character effects upon the existing landscape, including permanent loss of features e.g. hedgerows and woodland and potential effects upon landscape character as a result of the change in land use and new built form. Mitigation may offset such effects through replacement of landscape features and elements that contribute to landscape character. Mitigation may also include related environmental features, typically habitats, and further contribute to landscape character elements.
- 9.5.6. A summary table (**Table 9-2**) has been included to outline the elements proposed to be scoped in or out of further assessment.



Element	Phase	Scoped In	Scoped Out	Justification
Landscape	Construction and Operation	~		Potential for direct physical impacts during construction and operation, upon landscape features/character.
Visual Amenity	Construction and Operation	~		Potential for visual effects to sensitive receptors both during construction and operation

#### Table 9-2 – Elements Scoped In or Out of Further Assessment – Landscape and Visual

## 9.6. PROPOSED ASSESSMENT METHODOLOGY

- 9.6.1. The methodology proposed for the LVIA is based upon current best practice, namely:
  - Guidelines for Landscape and Visual Impact Assessment, 3rd Edition: Landscape Institute and Institute of Environmental Management & Assessment (2013) (GLVIA3);
  - An Approach to Landscape Character Assessment: Natural England (October 2014); and,
  - Landscape Character Assessment: Landscape Institute Technical Information Note 08/2015 (2016).
- 9.6.2. GLVIA3 sets out a detailed and appropriate methodology for undertaking assessment. GLVIA3 states (at para 1.1) that, "LVIA is a tool used to identify and assess the significance of and the effects of change resulting from development on both the landscape as an environmental resource in its own right and on people's views and amenity." At para 2.21, GLVIA3 further states that, "the two components of LVIA are:
  - Assessment of landscape effects: assessing effects on the landscape as a resource in its own right;
  - Assessment of visual effects: assessing effects on specific views and on the general amenity experienced by people."
- 9.6.3. The two elements are inter-linked and both must be addressed by LVIA.
- 9.6.4. In support of the assessment of landscape effects, reference will be made to existing national and local landscape character assessments e.g. Landscape Character for St Helens (January 2006), supplemented by site specific landscape character assessment where appropriate to fully establish the detailed baseline.
- 9.6.5. In respect of the visual baseline, receptors within the study area will be identified and their sensitivity established (in accordance with GLVIA3). Representative views and photographs of the existing situation will be taken to support the assessment.
- 9.6.6. Based upon the development proposals, the potential magnitude of change during both construction and operational periods will be considered and, where appropriate, mitigation (primary) will be included within the Proposed Development to reduce or ameliorate likely significant effects upon the landscape and visual amenity. The likely significant effects arising from the Proposed Development will be identified and presented within the LVIA and ES.
- 9.6.7. The LVIA will also consider the cumulative effects arising from the addition of the new development to existing commercial development within the study area.

9.6.8. Where mitigation has been incorporated into the Proposed Development, a means by which to monitor the efficacy of such measures will also be considered together with appropriate methods by which the objectives of the mitigation will be maintained.


# 10. WATER

#### **10.1. CONSULTATION**

- 10.1.1. As part of the ES assessment, comments provided as part of the wider Flood Risk Assessment (FRA) and Drainage Strategy will be incorporated into the EIA process. Consultation will also be undertaken with the Environment Agency regarding the requirement and scope of a WFD assessment.
- 10.1.2. The wider project consultees include the following organisations:
  - Environment Agency;
  - United Utilities as water supply and sewerage undertaker; and
  - St Helens Council as Lead Local Flood Authority (LLFA).

### 10.2. STUDY AREA

- 10.2.1. Based on a high level review of the local area hydrology and the likely extent to which the Proposed Development could have significant effects upon the water environment, the proposed study area has been defined as follows:
  - Site boundary, incorporating all existing watercourses, land drains and ponds;
  - River corridor and riparian area downstream of the Proposed Development, extending downstream to the confluence with Whittle Brook;
  - The underlying Sherwood Sandstone aquifer;
  - Public sewer network (the exact extent to be identified during the assessment);
  - Private site/road drainage (the exact extent to be identified during the assessment); and
  - Potable water supply network.

# **10.3. BASELINE CONDITIONS**

#### BASELINE HYDROLOGY AND HYDROGEOLOGY

- 10.3.1. The existing Site hydrology will be established based on a desktop review of all reasonably available information, including OS mapping, a site visit, topographic survey, British Geological Survey mapping and Land Information Service (IS) Soil Maps. This review will characterise the area of the Proposed Development in terms of hydrology, size, current drainage catchments, points of discharge, surface coverage (i.e. grass, woodland), surface water features such as ponds, plus underlying groundwater and aquifers. It will also identify any man-made hydrological features, and any water resources present.
- 10.3.2. This information will be used to establish the current water environment, including drainage, regimes and how they behave under a variety of antecedent catchment conditions.
- 10.3.3. An initial review of OS mapping indicates the presence of an Environment Agency Main River draining from north west to south east through the southern part of the Site as shown on Figure 4: Environmental Constraints.
- 10.3.4. The Proposed Development is likely to entail realignment/diversion of the Main River running through the Site.

# vsp

10.3.5. An initial review of various source information (British Geological Survey and Environment Agency) reveals the Site is underlain by a major aquifer, the Sherwood Sandstone, though this does not outcrop at surface and is covered by several meters (or more) of glacial till.

#### **BASELINE FLOOD RISK**

- 10.3.6. The existing flood risk to the Site will be established based on a review of the Environment Agency flood risk mapping, which includes fluvial, surface water and reservoir flooding. The mapping will be verified by observations made on-site, and from the topographic survey.
- 10.3.7. Along with the flood risk mapping, public sewer records for the Site and immediately adjacent locations will be reviewed, and information requested from United Utilities relating to available capacity within the existing public sewer network.

# 10.4. MITIGATION

#### **CONSTRUCTION PHASE**

- 10.4.1. The Principal Contractor will produce a CEMP for the Proposed Development. This will include measures to manage sediment movement and disturbance during the construction phase, and how this may impact upon the local water environment (including water dependant receptors). It will also include a statement as to how surface water runoff from temporary areas will be managed, and how water supply and foul sewerage from temporary site cabins will be provided.
- 10.4.2. Proposals to realign/divert the Main River running through the Site will entail formulation of a bespoke Water Framework Directive Assessment and this process will entail significant engagement with the Environment Agency.
- 10.4.3. Proposed earthworks will be reviewed to ensure minimal impact on the water environment (including the underlying groundwater environment).

#### **OPERATIONAL PHASE**

- 10.4.4. The existing Site consists of a series of small land drains and informal overland flow paths providing surface water drainage. The proposed surface water Drainage Strategy will mimic these existing natural conditions by allowing as much infiltration and storage of surface water at surface level as feasible.
- 10.4.5. This will be achieved through providing a drainage system based on Sustainable Drainage Systems (SuDS) principals whereby the surface water drainage is integrated to a series of blue-green corridors which in turn provide other aesthetic and ecological benefits. All newly introduced impermeable areas will be drained to SuDS features which will treat and attenuate the flow of surface water, mimicking the way in which the Site would naturally drain. The network of SuDS will consist of a hierarchy of swales, ponds and wetlands to gradually filter surface water to an outfall to the unnamed watercourse, at a rate that is equivalent to the existing greenfield.
- 10.4.6. Through delivery of a drainage scheme outlined above, the quantity and quality of surface water leaving the Site will not adversely be impacted.
- 10.4.7. It is highly unlikely the proposed operation of the SuDS based drainage scheme will involve any interaction with the groundwater environment, but this possibility will be reviewed. Similarly, no interaction from the wider operation of the Proposed Development on the groundwater environment is anticipated, but again this will also be reviewed.



# **10.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS**

- 10.5.1. The following effects upon flooding and water resources will be considered in the Water chapter of the ES:
  - Increase in surface water runoff;
  - Contamination of surface water runoff;
  - Diversion/realignment of the Main River flowing through the Site;
  - Increased loading of foul and surface water; and
  - Increased potable water demand.

#### ELEMENTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

10.5.2. A summary table (**Table 10-1**) has been included to outline the elements proposed to be scoped in or out of further assessment.

Element	Phase	Scoped In	Scoped Out	Justification
Existing land drains	Construction and Operation	~		Due to the location and the predicted impacts of the Proposed Development, the increase in surface water runoff and contamination of surface water runoff from catchment surfaces is scoped into further assessment.
Existing pond and surface water features	Construction and Operation	~		Due to the location and the predicted impacts of the Proposed Development, the increase in surface water runoff and contamination of surface water runoff from catchment surfaces is scoped into further assessment.
Unnamed watercourse which drains the Site	Construction and Operation	~		Due to the location and the predicted impacts of the Proposed Development, which includes the proposed diversion of approximately 570m of existing watercourse, the increase in surface water runoff and contamination of surface water runoff from catchment surfaces is scoped into further assessment. The proposed diversion of a stretch of Main River also spawns the need to undertake a formal WFD assessment and this entails bespoke engagement with the Environment Agency.
Water utilities infrastructure	Construction and Operation	~		Additional demands upon utility services provided by Water Companies requires consultation and consideration regarding the provision of these services.
Potential impacts upon the water environment (both surface and groundwater)	Construction and Operation	~		The potential for the Proposed Development to interact both directly and indirectly with the water environment (both surface and groundwater) necessitates due assessment is provided. This is further exacerbated by the need to incorporate river diversion works.



# **10.6. OPPORTUNITIES FOR ENHANCING THE ENVIRONMENT**

- 10.6.1. As part of the wider planning application a FRA and Drainage Strategy will be undertaken which will outline how impacts will be managed. This will include identifying how flood risk and surface water will be managed, but will also identify what environmental enhancements are inherent to the Proposed Development. Any opportunities for wider benefits outside of those delivered as part of the Proposed Development will also be identified.
- 10.6.2. The requirements under a WFD assessment are separately covered in Section 10.8

# 10.7. PROPOSED ASSESSMENT METHODOLOGY

- 10.7.1. The Water ES chapter will be supported by a FRA and Drainage Strategy report which will outline how a) flood risk from and to the Proposed Development will be assessed and mitigated and b) how surface water will be managed.
- 10.7.2. The following receptors will be considered:
  - Existing land drains within and directly adjoining the Site;
  - Existing ponds within and adjacent to the Site;
  - The unnamed watercourse which drains the Site; and
  - Water resources and supply infrastructure.

#### LEGISLATIVE FRAMEWORK

- 10.7.3. The applicable legislative framework upon which the methodology is derived is summarised as follows:
  - The Water Environment (Water Framework Directive (2000/60/EC) (WFD)) (England & Wales) Regulations, 2003. These Regulations establish a framework for protecting the water environment, with the aim of achieving chemical and ecological water quality targets by 2015. The North West Basin District, within which the Site sits, has a River Basin Management Plan (RBMP), prepared under the WFD, which focuses on the protection, improvement and sustainable use of the water environment. The RBMP presents the current status classification of water bodies (groundwater and surface water) within the North West RBD and it is acknowledged that this is a baseline from which improvements and the 'no deterioration in status' objective for water bodies within the RBD will be measured;
  - Water Resources Act, 1991. Sets out the regulatory controls and restrictions that provide protection to the water environment through controls on abstraction, impounding and discharges as well as identifying water quality and drought provisions;
  - Land Drainage Act, 1991. Places responsibility for maintaining flows in watercourses on landowners; and
  - Water Act, 2003. Formalises the Government's commitment to the sustainable management and use of water resources.

#### DETERMINING RECEPTOR SENSITIVITY

10.7.4. **Table 10-2** details the assessment framework to be used to determine the sensitivity of water resources.

# vsp

Table 10-2 – Determining	Receptor	Sensitivity
--------------------------	----------	-------------

Sensitivity of Receptor	Definition of Magnitude	Typical Examples
Very High	Receptor has a high quality and rarity on a regional or national scale	EC designated salmonid / cyprinid fishery. Water Framework Directive water body class 'High'. Site protected / designated under EU or UK habitat legislation (SAC, SPA, SSSI, WPZ, Ramsar site). Groundwater Source Protection Zone 1. Flood Zone 3b (functional floodplain) or flood defence protecting more than 100 properties.
High	Receptor has a high quality and rarity on a local scale	Water Framework Directive water body class ' <high'. Major cyprinid fishery. Groundwater Source Protection Zone 2. Flood Zone 3a or flood defence protecting between 1 and 100 properties.</high'. 
Medium	Receptor has a medium quality and rarity on a local scale	Water body not classed under the Water Framework Directive but has significant water resource/environment function/value class 'moderate'. Groundwater source protection zone 3. Flood zone 2 or flood defence protecting land/industry.
Low	Receptor has a low quality and rarity on a local scale	Water body not classed under the WFD but has insignificant water resource/environment function/value class poor. Unproductive ground for groundwater. Flood Zone 1.

#### DETERMINING THE MAGNITUDE OF IMPACT

10.7.5. **Table 10-3** details the assessment framework to be used to determine the magnitude of impact upon water resources.

Гable 10-3 –	Determining	Magnitude of	Impact
--------------	-------------	--------------	--------

Level of Magnitude	Definition of Magnitude	Typical Examples
High	Results in loss of attribute and/or quality and integrity of the attribute.	<ul> <li>Loss or extensive change to a fishery;</li> <li>Loss or extensive change to a designated nature conservation site;</li> <li>Increased risk of whole catchment flooding and/or loss of functional floodplain that is likely to have an adverse impact on flood risk;</li> <li>Permanent deterioration of habitat quality due to a quantity or quality impact on a water body; and</li> <li>Major loss of, or extensive change to, the quality or quantity of a surface or groundwater resource.</li> </ul>
Moderate	Results in effect on integrity of attribute, or loss of part of attribute.	<ul><li>Partial loss in productivity of a fishery;</li><li>Partial loss or change to an aquifer,</li></ul>



Level of Magnitude	Definition of Magnitude	Typical Examples	
	Results in some measurable change in attribute's quality or vulnerability	<ul> <li>Increase in flood risk affecting the application site and its immediate vicinity;</li> <li>Moderate deterioration to the habitat quality due to a quantity or quality impact on a water body; and</li> <li>Severe temporary reduction in the quality or quantity of a surface or groundwater resource.</li> </ul>	
Low	Results in some measurable change in attribute's quality or vulnerability	<ul> <li>Minor increase in flood risk to the application site;</li> <li>Minor deterioration to habitat quality due to a quantity or quality impact on a water body; and</li> <li>Minor local scale reduction in the quality or quantity of a surface or groundwater resource, reversible with time.</li> </ul>	
Negligible	Results in effect on attribute, but of insufficient magnitude to affect the use or integrity	<ul> <li>Unlikely to affect the integrity of the water environment; and</li> <li>No appreciable impact on surface water drainage regime, existing flood risk or the quality or quantity of a surface or groundwater resource.</li> </ul>	

#### DETERMINING THE SIGNIFICANCE OF EFFECT

10.7.6. The combination of receptor sensitivity and magnitude of impact will be used to determine the significance of each effect by using the matrix in Table 10-4. Effects which are major / moderate or above will be considered to be significant.

Table 10-4 – Significance Matrix					
Sanaitivity / Value of Decentor	Magnitude of Effect				
	High	Moderate	Low	Negligible	
Very High	Major	Major	Major/ Moderate	Moderate	
High	Major	Major/ Moderate	Moderate	Moderate/ Minor	
Medium	Major	Moderate	Moderate/ Minor	Minor	
Low	Major/Moderate	Moderate	Minor	Minor	

#### .... - -

#### 10.8. WFD ASSESSMENT

- 10.8.1. The Water Framework Directive (2000/60/EC) was transposed into UK legislation by the Water Environment (Water Framework Directive (2000/60/EC)) (England & Wales) Regulations, 2003. The purpose of the WFD is to prevent the deterioration of aquatic ecosystems and associated wetlands through reducing pollution of surface and ground water whilst contributing to flood mitigation. Under WFD legislation, no deterioration of relevant waterbodies is permitted.
- 10.8.2. The Proposed Development adjoins and incorporates an unnamed watercourse that is designated as a statutory Main River. A review of the Environment Agency Catchment Data explorer indicates

# vsp

this watercourse forms part of the Whittle Brook catchment which in turns forms part of the Mersey Estuary basin<sup>39</sup>. The watercourse is currently defined as having moderate ecological status.

- 10.8.3. Along with the presence of a Main River and therefore a WFD receptor, the current development proposals include the modification and realignment of this watercourse through the Site. The alignment is required to allow the formation of the various development plateaus on which the logistics buildings and warehouses will sit. The diversion will require approximately 570m of the watercourse to be diverted, and whilst the design of the channel will aim to replicate natural, good quality riparian, bed structure and channel morphology due to the significance of the diversion the impact upon the WFD receptor is required and a WFD assessment will accompany the ES.
- 10.8.4. An aquatic survey of the unnamed Main River within the Site will be undertaken as part of the ES including fish and aquatic invertebrates (see **Chapter 8: Biodiversity** of this Scoping Report).

<sup>&</sup>lt;sup>39</sup> http://environment.data.gov.uk/catchment-planning/WaterBody/GB112069060990

# 11. TRANSPORT

### 11.1. CONSULTATION

- 11.1.1. A Transport Assessment (TA) scoping meeting was held with St Helens Council, Warrington Borough Council and Highways England on 15 May 2019. This meeting covered various Transport Assessments and Technical Notes required for the Omega Business Park, including the Proposed Development at Omega Zone 8.
- 11.1.2. WSP followed up this meeting with a Transport Study Scoping Note on 27 May 2019 setting out the methodology for undertaking the relevant Transport Assessments and Technical Notes.
- 11.1.3. An update to the Transport Study Scoping Note, including clarifications, was issued by WSP on 21 June 2019, in response to written responses received from St Helens Council, Warrington Borough Council and Highways England.
- 11.1.4. The outcomes of this consultation process which are relevant to the EIA of the Proposed Development are presented in **Table 11-1** below.

<b>Body/Organisation</b>	Date of Consultation	Key Outcomes of Discussions	
St Helens Council	Meeting – 15 May 2019 WSP Transport Study Scoping Note - 27 May 2019 St Helens Council written response – 28 May 2019 WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019	Consideration of improvements to the existing PRoW across the M62 and opportunities to improve sustainable transport links to St Helens required. The study network within St Helens Council's authority will be confirmed once Warrington Borough Council and Highways England have confirmed their requirements.	
Warrington Borough Council	Meeting – 15 May 2019 WSP Transport Study Scoping Note - 27 May 2019 Warrington Borough Council written responses – 11 June 2019 & 14 June 2019 WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019	Consideration of improvements to the existing PRoW across the M62 is required. The impacts of the Proposed Development on M62 J8 need to be fully considered, and where appropriate, mitigation measures proposed. The following committed developments in Warrington are appropriate for consideration: Apollo Way (Outline 2007/11923) and Lingley Mere East (Outline 2016/27313).	
. Highways England	Meeting – 15 May 2019 WSP Transport Study Scoping Note - 27 May 2019 Highways England written response – 13 June 2019 WSP Transport Study Scoping Note Clarifications / Update – 21 June 2019	At least one additional site survey of an existing development, similar in size and use for the B2 aspect of the Proposed Development, is used to supplement the proposed survey undertaken at the Omega Dominos industrial unit, to derive a more robust trip generation for the B2 land use quantum.	

#### Table 11-1 - Consultation Undertaken to Date



# 11.2. STUDY AREA

- 11.2.1. Following scoping meeting discussions, the agreed study network comprises the following junctions:
  - Burtonwood Road/Lockheed Road roundabout;
  - M62 Junction 8 signalised gyratory;
  - Burtonwood Road/Charon Way signalised junction;
  - Burtonwood Road/Kingswood Road signalised junction;
  - Burtonwood Road/Westbrook Way roundabout;
  - Skyline Drive/Fairchild Road priority junction; and
  - Omega Boulevard/Catalina Approach roundabout.
- 11.2.2. In addition, an assessment of the M62 Junction 8 merge and diverge slip roads will be undertaken with reference to the Design Manual for Roads and Bridges.

### **11.3. BASELINE CONDITIONS**

#### **BASELINE TRAFFIC MOVEMENTS**

- 11.3.1. As agreed during scoping discussions (see **Paragraph 11.1.1**), traffic surveys (classified junction turning count surveys and queue surveys) have been carried out for the agreed study network on a weekday in June between the hours of 05:30-10:00 and 16:00-19:00.
- 11.3.2. This data will be used to derive the baseline traffic conditions for the study network, with 2019 traffic movements growthed to the year of opening (2022) (see **Paragraph 2.3.9** re project phasing) using National Trip End Model information and the Department for Transport's (DfT) TEMPro software.

#### **BASELINE ROAD SAFETY CONDITIONS**

11.3.3. Road traffic collision data will be sourced from DfT records for the most recently available three-year period.

#### **REVIEW OF LAND USES**

11.3.4. The land uses in the vicinity of the Proposed Development have been reviewed, to determine their influence on the scope of the assessment. **Table 11-2** summarises the conclusions of the land use review.

Site / Area	Land Uses	Influence on Scope
Omega North, Lockheed Road	Class B2/B8 (Manufacturing & Logistics)	Existing traffic movements within the agreed study network will be included in the baseline. Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).
Domino's, Skyline Drive	Class B2 (Manufacturing)	Existing traffic movements within the agreed study network will be included in the baseline. Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).

#### Table 11-2 – Summary of Land Use Review

WSP October 2019 Page 71 of 94



Site / Area	Land Uses	Influence on Scope
Omega Zone 7, Skyline Drive & Omega Boulevard	Class B2/B8 (Manufacturing & Logistics)	Existing traffic movements within the agreed study network will be included in the baseline. Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).
Royal Mail Depot, Orion Boulevard	Class B8 (Logistics)	Existing traffic movements within the agreed study network will be included in the baseline. Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).
Barrow Hall Primary School	Class D1 (Education)	Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).
Lingley Mere Business Park	Mixed-use	Existing traffic movements within the agreed study network will be included in the baseline. Users will be considered as receptors and potential impacts are reviewed in the 'Description of Significant Effects' section of this Scoping Report ( <b>Section 11.5</b> ).
Lingley Green District	Mixed-use (Residential-led)	Assessment of receptors scope out due to negligible predicted impact.
Westbrook District	Mixed-use (Residential-led)	Assessment of receptors scope out due to negligible predicted impact.
Old Hall District	Mixed-use (Residential-led)	Assessment of receptors scope out due to negligible predicted impact.

11.3.5. Based on the above review of land uses, the receptors within each land use area have been reviewed. An indicative overview of the sensitivity of each receptor type is provided in **Table 11-3**.

#### Table 11-3 – Receptor Sensitivity Review

Site / Area	Receptor Type	Sensitivity Level
	People at work	Negligible sensitivity
Omega North, Lockheed Road	People walking	Minor sensitivity
	People cycling	Minor sensitivity
Domino's, Skyline Drive	People at work	Negligible sensitivity
	People walking	Minor sensitivity
	People cycling	Minor sensitivity
Omega Zone 7, Skyline Drive & Omega Boulevard	People at work	Negligible sensitivity
	People walking	Minor sensitivity

Site / Area	Receptor Type	Sensitivity Level	
	People cycling	Minor sensitivity	
	People at work	Negligible sensitivity	
Royal Mail Depot, Orion Boulevard	People walking	Minor sensitivity	
	People cycling	Minor sensitivity	
Parrow Hall Drimon (Sabaal	Sensitive Location (Barrow Hill Primary Major sensitivity School)		
Barrow Hall Primary School	People walking	Major sensitivity	
	People cycling	Major sensitivity	
	Sensitive Location (Stepping Stones Day Nursery)	Major sensitivity	
Lingley Mere Business Park	People at work Negligible sensitivity		
	People walking	Minor sensitivity	
	People cycling	Minor sensitivity	

# 11.4. MITIGATION

#### **CONSTRUCTION PHASE**

11.4.1. The Principal Contractor will produce a CEMP for the Proposed Development. This will include measures to manage the movement of construction traffic to, from and on site.

#### **OPERATIONAL PHASE**

- 11.4.2. The Omega Business Park site currently enjoys an excellent network of sustainable travel infrastructure, in the form of segregated footways and cycleways, including through the green heart, together with a bespoke public transport service funded through Section106 contributions.
- 11.4.3. It is proposed to build upon the existing network of infrastructure, providing footways and cycleways as part of the masterplanning process, together with investigating additional and/or re-routed /extended public transport services. Discussions will be undertaken with both St Helens Council and Warrington Borough Council to determine the most appropriate provision of public transport services, ensuring that the Proposed Development is appropriately served by public transport.

# **11.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS**

- 11.5.1. Consideration of the following potential transport-related effects will be covered in the Transport Chapter of the EIA:
  - Severance;
  - Driver delay;
  - Pedestrian and cyclist delay;



- Pedestrian and cyclist amenity;
- Fear and intimidation; and
- Accidents and safety.
- 11.5.2. A number of the transport-related effects set out in the Institute of Environmental Management and Assessment (IEMA) *Guidelines on the Environmental Assessment of Road Traffic* (1993) (hereafter referred to as 'the IEMA Guidelines') are out of the scope of the Transport Chapter and they will be discussed and assessed in detail within other relevant chapters of the EIA; these include:
  - Road traffic noise;
  - Road traffic vibration;
  - Road traffic emissions; and
  - Construction related dust.
- 11.5.3. A review for each receptor identified in the study area has been undertaken to inform the scoping process. This is summarised below to show the likely significant effects of the Proposed Development.

#### ELEMENTS SCOPED IN OR OUT OF FURTHER ASSESSMENT

11.5.4. **Table 11-4** provides a summary of the effects review and outlines the elements which are proposed to be scoped in or out of further assessment.

Element	Phase	Scoped In	Scoped Out	Justification
Omega North, Lockheed Road	Construction and Operation	Driver Delay Accidents and safety	Severance Pedestrian and cyclist delay Pedestrian and cyclist amenity Fear and intimidation	The impacts of the Proposed Development on the study network will be assessed in detail. This will include Driver Delay and Accidents and safety. Given the location of the element, it is considered that the Proposed Development would have no direct impact on people walking or cycling.
Domino's, Skyline Drive	Construction and Operation	v		Potential for direct physical impacts based on routeing of construction and development phase traffic.
Omega Zone 7, Skyline Drive & Omega Boulevard	Construction and Operation	~		Potential for direct physical impacts based on routeing of construction and development phase traffic.
Royal Mail Depot, Orion Boulevard	Construction and Operation	~		Potential for direct physical impacts based on routeing of construction and development phase traffic.

#### Table 11-4 - Elements Scoped In or Out of Further Assessment - Transport

Element	Phase	Scoped In	Scoped Out	Justification	
Barrow Hall Primary School	Construction and Operation		~	Given the location of the element, the Proposed Development would have no impact.	
Lingley Mere Business Park	Construction and Operation		<ul> <li>Given the location of the element, the</li> <li>Proposed Development would have no impact.</li> </ul>		
Lingley Green District	Construction and Operation		~	Given the location of the element, the Proposed Development would have no impact.	
Westbrook District	Construction and Operation		~	Given the location of the element, the Proposed Development would have no impact.	
Old Hall District	Construction and Operation		~	Given the location of the element, the Proposed Development would have no impact.	

# 11.6. PROPOSED ASSESSMENT METHODOLOGY

- 11.6.1. The IEMA Guidelines suggest a screening process to limit the scale and extent of an assessment. It sets out two thresholds that may apply before the environmental effects of increases in traffic need to be assessed in greater detail.
- 11.6.2. The first threshold, Rule 1 suggests that a 30% increase in traffic or HGVs should be used in normal circumstances. This broadly relates to the potential impact on pedestrians from increases in traffic or the capacity performance of links and nodes.
- 11.6.3. The second threshold of a 10% increase in traffic is outlined in Rule 2 and is used in sensitive areas such as accident 'black spots', schools and links with high pedestrian flows.
- 11.6.4. It is not appropriate to consider links or nodes where traffic flows are forecast to change by less than 10% unless there are significant changes in the composition of traffic, such as a large increase in the number of HGVs.
- 11.6.5. The percentage change in traffic flows arising from a development is clearly a function of the level of base flows. In instances where low baseline flows are apparent a more subjective view is to be taken where magnitude of impact is considered against the absolute level.
- 11.6.6. The IEMA Guidelines refer to the Department of Transport's 'Manual of Environmental Appraisal' (DoT, 1983), which suggests that changes in traffic flow of 30%, 60% and 90% would be likely to produce 'slight', 'moderate' and 'substantial' impacts.
- 11.6.7. The above sensitive receptors (see **Table 11-4**) will be assessed within the ES where the impact of the Proposed Development is considered significant (>10%) for the following factors:
  - Severance;
  - Driver Delay;
  - Pedestrian Amenity and Delay;

- Cyclist Amenity and Delay;
- Fear and Intimidation; and
- Accidents and Safety.

#### PEDESTRIAN SEVERANCE

11.6.8. The IEMA Guidelines set out a range of indicators for determining the significance of impact on severance. Changes in the degree of traffic flow are regarded as producing 'slight', 'moderate' and 'substantial' changes. These indicators, together with specific local conditions such as the provision of crossing facilities and traffic signal settings, will be used to determine the significance of impact on severance.

#### DRIVER DELAY

#### **Development Trip Rates**

- 11.6.9. The Proposed Development will comprise a mix of B2 and B8 development and, in line with other industrial development within the Omega Business Park will be assessed as a maximum of 30% B2 development, with the remainder being B8 development.
- 11.6.10. It has been agreed to derive trip rates for the Proposed Development through surveys of existing B2 and B8 uses on the Omega Business Park. Classified vehicle arrival and departure surveys will be undertaken as follows to determine an Omega B2 and B8 trip rate:
  - B2 Development surveys will be undertaken of the Domino's industrial unit located to the south of Skyline Drive, accessed from Fairchild Road; and the Plastic Omnium B2 development located within Omega South, which will enable a blended B2 trip rate to be calculated; and
  - B8 development surveys will be undertaken of the Asda industrial unit located on Skyline Drive, together with a combined survey of Lockheed Road (serving numerous industrial units), to determine a blended B8 trip rate.
- 11.6.11. It is anticipated that the surveys will cover 05:00-19:00 to ensure the corresponding morning and evening peak hours are captured.

#### **Development Trip Distribution**

11.6.12. It is proposed to calculate the trip distribution pattern for cars and HGV's separately. For cars it is proposed to examine partial postcode data from employee travel plan surveys within the Omega Business Park. This will provide a good proxy for the likelihood of employee based travel to work, based on existing industrial uses within the Omega Business Park. For HGVs it is proposed to route all HGV movements to/from M62 Junction 8, via Catalina Approach to Skyline Drive and then distribute HGV movements in accordance with existing HGV turning proportions at Junction 8 to/from Skyline Drive, based on the propensity for existing HGV movements within the Omega Business Park to provide a good proxy for future HGV movements from the Proposed Development at Zone 8.

#### Assessment

11.6.13. Junction capacity and driver delay will be assessed using junction modelling software (Transyt or Linsig for signalised junction, Junctions 9 for priority junctions and roundabouts) where the impact of the Proposed Development is considered significant (>10%). These models will provide an assessment of the ratio of flow to capacity (RFC) during each time period as well as the expected level of queuing at each junction approach.

#### PEDESTRIAN DELAY

11.6.14. There is no formal or published guidance for the assessment of pedestrian delay. However, the IEMA Guidelines recommend assessors use their professional judgement to determine the significance of effects, and this will be undertaken in the assessment.

#### PEDESTRIAN AMENITY

11.6.15. The IEMA Guidelines suggest a screening threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is halved or doubled. In the absence of other criteria, this threshold will be applied in the assessment.

#### CYCLIST AMENITY AND DELAY

11.6.16. Cyclist amenity is, like pedestrian amenity, broadly the pleasantness of a journey, and can equally be affected by traffic volume and composition, cycleway width, distance between cycleway and carriageway. This is assessed qualitatively using judgement. Cyclist delay is considered in the context of additional junctions that would result in delays to cyclists.

#### FEAR AND INTIMIDATION

11.6.17. In the absence of commonly agreed thresholds for judging the significance of likely fear and intimidation effects, professional judgement will be applied. Considerations include volume of traffic, percentage of HGVs and the proximity of pedestrians to traffic. In addition, the speed of traffic, the number of turning movements, and the level of vulnerable groups will be considered.

#### TRAFFIC ACCIDENTS AND ROAD SAFETY

- 11.6.18. Consideration of the significance of likely traffic accidents and road safety effects include volume of traffic, percentage of HGVs and the proximity of pedestrians to traffic. In addition, the speed of traffic, the number of turning movements, the proximity of schools and the level of vulnerable groups will be considered.
- 11.6.19. In line with the IEMA Guidelines, where the impacts of the Proposed Development on a specific link or receptor are considered to be outside the scope of the significance criteria, the impact of the Proposed Development on that link or receptor is considered to be insignificant and therefore does not require detailed assessment.
- 11.6.20. To assist with assigning the magnitude of the impact upon the analysed receptors, the IEMA Guidelines sets out consideration and in some cases thresholds in respect to changes in the volume and composition of traffic to facilitate judgement on the significance of traffic effects.

#### DETERMINING THE MAGNITUDE OF TRANSPORT IMPACTS

11.6.21. **Table 11-5** details the assessment framework adapted from the IEMA Guidelines to be used in the assessment to determine the magnitude of transport impacts.

Impost	Magnitude of Impact					
impact	Negligible	Low	Medium	High		
Severance	Change in hourly traffic flows of less than 30%	Change in hourly traffic flows of 30% - 60%	Change in hourly traffic flows of 60% - 90%	Change in hourly traffic flows of over 90%		
Driver Delay	Junction capacity and driver delay have been assessed using industry standard junction modelling software. The complete assessment results are included in the Transport Assessment and a summary is provided in this chapter					
Pedestrian Delay	Two-way traffic flow < 1,400 vehicles per hour	A judgement based on the routes with two-way traffic flow exceeding 1,400 vehicles per hour in the context of their individual characteristics				
Pedestrian Amenity	Change in hourly traffic / HGV flows of less than 30%	Change of hourly traffic / HGV flows of 30% to 49%	Change of hourly traffic / HGV flows of 50% to 99%	Change of hourly traffic / HGV flows of 100% or more		
Cyclist Delay and Amenity	Change in hourly traffic / HGV flows of less than 30%	Change of hourly traffic / HGV flows of 30% to 49%Change of hourly traffic / HGV flows of 50% to 99%Change of hourly traffic / HGV flows of 100% or more				
Fear and Intimidation	Typically identified through assessments of Severance, Pedestrian Delay and Pedestrian Amenity					
Traffic Accidents and Road Safety	It is possible to estimate the effects of increased traffic on accidents and safety from existing accident records, national statistics, the type and quantity of traffic generated, journey lengths and the characteristics of the routes in question					

### Table 11-5 - Determining the Magnitude of Transport Impacts

# DETERMINING THE SIGNIFICANCE OF EFFECTS

- 11.6.22. The sections above set how the magnitude of impacts will be determined for each environmental effect. The sensitivity of receptors to each effect will be informed by the valuation of receptors. The combination of these two factors will be used to determine the significance of each effect in line by utilising the matrix illustrated in **Table 11-6**.
- 11.6.23. Effects which are of moderate significance or greater are deemed to be significant in EIA terms, whilst those below are deemed to be non-significant.

# vsp

# Table 11-6 - Significance Matrix

Receptor	Magnitude of Change					
Sensitivity	No Change	Negligible	Small	Medium	Large	
High	No Effect	Negligible	Moderate	Major	Major	
Medium	No Effect	Negligible	Minor	Moderate	Major	
Low	No Effect	Negligible	Minor	Minor	Moderate	
Negligible	No Effect	Negligible	Negligible	Negligible	Negligible	



# 12. MAJOR ACCIDENT AND DISASTERS

#### **12.1. INTRODUCTION**

- 12.1.1. The requirement for a Major Accidents and Disasters assessment is new to EIA practice in the UK, being introduced via the EIA Regulations 2017<sup>40</sup>.
- 12.1.2. The EIA Regulations 2017 require that the ES includes: 'A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and/or disasters which are relevant to the project concerned. Relevant information available and obtained through risk assessments pursuant to EU legislation such as Directive 2012/18/EU of the European Parliament and of the Council(c) or Council Directive 2009/71/Euratom(d) or UK environmental assessments may be used for this purpose provided that the requirements of this Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for and proposed response to such emergencies.'
- 12.1.3. This purpose of this chapter is to:
  - Identify the Major Accidents and Disasters topics and types that are proposed to be the subject of the environmental assessment – those topics that are "scoped in";
  - Eliminate those Major Accidents and Disasters topics and types not requiring further consideration and which would therefore not be taken further in the environmental assessment – those topics that are "scoped out"; and
  - Define the approach to, and methodologies for, identifying potential Major Accidents and Disasters events and their assessment.
- 12.1.4. The definition of key terms used in this chapter are given in **Table 12-1**. These definitions have been developed by reference to the definitions used in EU and UK legislation and guidance relevant to major accidents and/or disasters<sup>41,42,43,44,45,46,47,48,49,50,51</sup> as well as professional judgement in the context of the Proposed Development.

<sup>41</sup> Civil Contingencies Act 2004 (c36).

<sup>43</sup> The Seveso III Directive (Directive 2012/18/EU).

- necessary-guidance.pdf. <sup>47</sup> SEPA (2016a) CDOIF guideline "Environmental Risk Tolerability for COMAH Establishments" v2, accessed 3/3/18 from
- http://www.sepa.org.uk/media/219154/cdoif\_guideline\_environmental\_risk\_assessment\_v2.pdf.

<sup>51</sup> Oxford English Dictionary

<sup>&</sup>lt;sup>40</sup> Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 572).

<sup>&</sup>lt;sup>42</sup> HM Government (2013) Emergency Response and Recovery – Non-statutory guidance accompanying the Civil Contingencies Act 2004, Cabinet Office, 28 October 2013.

<sup>&</sup>lt;sup>44</sup> Control of Major Accident Hazards Regulations 2015 (SI 2015 No. 483) (COMAH).

 <sup>&</sup>lt;sup>45</sup> Health and Safety Executive (2015) The Control of Major Accident Hazards Regulations 2015: Guidance on Regulations, L111, Third Edition, June 2015.
 <sup>46</sup> "All Measures Necessary - Environmental Aspects", COMAH CA, accessed 3/3/18 at https://www.sepa.org.uk/media/219152/d130416\_all-measures-necessary-guidance.pdf.

<sup>&</sup>lt;sup>48</sup> Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009.

<sup>&</sup>lt;sup>49</sup> Department of Environment, Food and Rural Affairs (2011) Guidance: Major Accident Off-Site Emergency Plan (Management of Waste from Extractive Industries) (England and Wales) Regulations 2009. Mining Waste Directive: Article 6 Category "A" Waste Facilities. Department of Environment, Food and Rural Affairs, August 2011.

<sup>&</sup>lt;sup>50</sup> International Federation of Red Cross and Red Crescent Societies, What is a Disaster? (http://www.ifrc.org/en/what-we-do/disaster-management/aboutdisasters/what-is-a-disaster/)

#### Table 12-1 – Key Terms and Definitions Relevant to Major Accidents and Disasters

Term	Definition
(Major) Accident	In the context of the Proposed Development, an event that threatens immediate or delayed serious damage to human health, welfare and/or the environment and requires the use of resources beyond those of the Applicant or its contractors to respond to the event. Serious damage includes the loss of life or permanent injury and/or permanent or long-lasting damage to an environmental receptor that cannot be restored through minor clean-up and restoration efforts. The significance of this effect will take into account the extent, severity and duration of harm and the sensitivity of the receptor.
Consultation zone	The Health & Safety Executive (HSE) sets a Consultation Distance around major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the major hazard. The area enclosed within the Consultation Distance is referred to as the consultation zone. The Planning Authority is notified of this Consultation Distance and has a statutory duty to consult HSE on certain proposed developments within the zone the Consultation Distance forms.
Disaster	In the context of the Proposed Development, a naturally occurring phenomenon such as an extreme weather event (for example storm, flood, temperature) or ground-related hazard events (for example subsidence, landslide, earthquake) with the potential to cause an event or situation that meets the definition of a Major Accident as defined above.
External Influencing Factor	A factor which occurs beyond the Proposed Development redline boundary that may present a risk to the Proposed Development, e.g. if an external disaster occurred (e.g. earthquake, COMAH site major accident) it would increase the risk of serious damage to an environmental receptor associated with the Proposed Development
Hazard	Anything with the potential to cause harm, including ill-health and injury, damage to property or the environment; or a combination of these
Internal Influencing Factor	A factor which occurs within the Proposed Development redline boundary that may present a risk to the Proposed Development.
Risk	The likelihood of an impact occurring combined with effect or consequence(s) of the impact on a receptor if it does occur.
Risk Event	An identified, unplanned event, which is considered relevant to the Proposed Development and has the potential to be a Major Accident and/or Disaster subject to assessment of its potential to result in a significant adverse effect on an environmental receptor.
Vulnerability	In the context of the 2014 EU Directive, the term refers to the 'exposure and resilience' of the Proposed Development to the risk of a major accident and/or disaster. Vulnerability is influenced by sensitivity, adaptive capacity and magnitude of impact.

# 12.2. CONSULTATION

12.2.1. No consultation with regard to Major Accidents and Disasters has yet taken place in the preparation of this Scoping Report.

# 12.3. STUDY AREA

- 12.3.1. The extent of the scoping study area is a 2.5km radius around the Site. Within the study area, accident and disaster groups and categories were considered both within and outside the boundary of the Site, along with potential external influencing factors, such as:
  - Natural Hazard categories, e.g.
    - Geophysical;
    - Hydrology;
    - Climatological and metrological;
    - Biological;
  - Technological or manmade hazard categories, e.g.
    - Societal;
    - Industrial and Urban accidents;
    - Transport accidents;
    - Utility failures;
    - Malicious attacks; and
    - Engineering failures and accidents.
- 12.3.2. Schedule 4 of the EIA Regulations 2017 advises the information to be included in an ES. As such, the scoping study has considered the following receptors:
  - Members of the public and local communities;
  - Infrastructure and the built environment;
  - The natural environment, including ecosystems, land and soil quality, air quality, surface and groundwater resources and landscape;
  - The historic environment, including archaeology and built heritage; and
  - The interaction between the factors above.
- 12.3.3. The study has been based primarily on information held by the Applicant and information developed as part of the Scoping Report by the WSP project team.

# **12.4. BASELINE CONDITIONS**

- 12.4.1. The baseline comprises:
  - Features external to the Proposed Development that contribute a potential source of hazard to the Proposed Development;
  - Sensitive environmental receptors at risk of significant effect; and
  - Current (without the Proposed Development) major accident and disaster risks for the existing locality.
- 12.4.2. Areas of the Proposed Development are within the Consultation Distance for a Major Accident Hazard pipeline operated by Essar.



### 12.5. MITIGATION

- 12.5.1. The Applicant has committed to constructing and managing the Proposed Development in accordance with, inter alia:
  - Environmental, Health & Safety Management systems;
  - Supplier management environmental, health & safety standards (e.g. Construction Skills Certification Scheme);
  - Risk management systems; and
  - Construction and Environmental Management systems (including a CEMP, a draft of which will be included with the ES).

# 12.6. DESCRIPTION OF POTENTIAL VULNERABILITY TO MAJOR ACCIDENT AND DISASTER RISKS

12.6.1. An initial review of the Accident and Disaster categories (**Paragraph 12.3.1**) identified in the study area has been undertaken to inform the scoping process. This is summarised in **Table 12-2** to show the potential vulnerability of the Proposed Development to the risk of a Major Accident and/or Disaster type. The ES will provide greater assessment and justification for the major accident and disaster types scoped in and out of the EIA, although at this scoping stage it is envisaged that hazards related to the Major Accident Hazard pipeline is the only likely category scoped in to the assessment.

Major Accident and Disasters group - categories	Phase	Scoped In	Scoped Out	Justification
Natural Hazards - Geophysical	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.
Natural Hazards - Hydrology	Construction and Operation		~	The Site is predominantly located within Flood Risk Zone 1 and addressed in Chapter 10: Water.
Natural Hazards – Climatological and metrological	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.
Natural Hazards - Biological	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.
Technological or manmade hazards - Societal	Construction and Operation		~	Proposed Development is not considered highly controversial and should not lead to high profile public demonstrations.
Technological or manmade hazards - Industrial/Urban Accidents	Construction and Operation	~		Parts of site overlap with Major Accident Hazard pipeline which makes the Proposed Development potentially vulnerable to the risk of a major fire/explosion.
Technological or manmade hazards – Transport accidents	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.
Technological or manmade hazards – Utility failures	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.
Technological or manmade hazards – Malicious attacks	Construction and Operation		v	The study area includes Burtonwood Airbase. Zetica Ltd report P7831-18-R1 dated Sept 2018 ( <b>Appendix B</b> ) stated that no records were found that indicated the Site was bombed and no other significant UXO hazard was identified. The site is therefore considered to be at low risk even during construction phase.
Technological or manmade hazards – Engineering failures and accidents	Construction and Operation		~	Proposed Development not vulnerable due to location or proposed use.

# 12.7. PROPOSED ASSESSMENT METHODOLOGY

- 12.7.1. The applicable legislative framework covering the design, construction, operation of the Proposed Development is summarised as follows:
  - EIA Regulations 2017, Schedule 4, Paragraph 8;
  - Health and Safety at Work etc. Act 1974<sup>52</sup>;
  - Construction (Design and Management) Regulations 2015 (CDM)<sup>53</sup>;
  - Control of Major Hazards Regulations 2015 (SI 2015 No. 483)<sup>54</sup>;
  - Management of Health & Safety at work regulations 1999 (SI 1999 No. 3242)<sup>55</sup>;
  - Occupier's Liability Act 1983 (c.3)<sup>56</sup>;
  - The Planning (Hazardous Substances) regulations 2015 (SI 2015 No. 627)<sup>57</sup>; and
  - Pipeline Safety Regulations<sup>58</sup>.
- 12.7.2. There is no published guidance for the application of the legal requirements to the assessment of Major Accidents and Disasters. However, selected relevant guidance for risk assessment methodologies is summarised as follows:
  - Defra (2011) 'Guidelines for Environmental Risk Assessment and Management<sup>59</sup>;
  - Chemical and Downstream Oil Industries Forum, (2013), Guideline Environmental Risk Tolerability for COMAH Establishments<sup>47</sup>; and
  - The International Standards Organization's ISO 31000: 2009 Risk Management principles and guidelines<sup>60</sup>.
- 12.7.3. Additionally, the following have been consulted to support the identification of potential Major Accidents and Disasters:
  - The Cabinet Office National Risk Register of Civil Emergencies (2017 Edition)<sup>61</sup>. This document is the unclassified version of the National Risk Register and it identifies the main types of civil emergencies that could affect the UK in the next five years. It is recognised, however, that this document does not provide an all-encompassing list of all potential accidents and disasters and its timescales are short term.
  - The International Federation of Red Cross & Red Crescent Societies Early Warning, Early Action (2008)<sup>50</sup>. This guidance looks to other countries including those in warmer climates, thereby identifying risks that the UK may encounter in the future in light of climate change and global warming.

<sup>&</sup>lt;sup>52</sup> Health and Safety at Work etc. Act 1974 (c. 37).

 <sup>&</sup>lt;sup>53</sup> Construction (Design and Management) Regulations 2015 (SI 2015 No. 15).
 <sup>54</sup> Control of Major Hazards Regulations 2015 (SI 2015 No. 483)

<sup>&</sup>lt;sup>55</sup> Management of Health & Safety at work regulations 1999 (SI 1999 No. 3242)

<sup>&</sup>lt;sup>56</sup> Occupier's Liability Act 1982 (c.3)

<sup>&</sup>lt;sup>57</sup> The Planning (Hazardous Substances) regulations 2015 (SI 2015 No. 627)

<sup>&</sup>lt;sup>58</sup> The Pipelines Safety Regulations 1996 (SI 1996 No. 825).

<sup>&</sup>lt;sup>59</sup> Defra (2011), Guidelines for Environmental Risk Assessment and Management: Green Leaves III, Cranfield University and Department for Environment, Food and Rural Affairs, November 2011.

<sup>&</sup>lt;sup>60</sup> The International Standards Organization's ISO 31000: 2009 Risk Management – principles and guidelines.

<sup>&</sup>lt;sup>61</sup> Cabinet Office, National Risk Register of Civil Emergencies, 2017 Edition.



- 12.7.4. The International Disaster Database<sup>62</sup>. This online source (http://www.emdat.be/) contains data covering over 22,000 mass disasters in the world since 1900 to the present day and aims to *"rationalise decision making for disaster preparedness, as well as provide an objective base for vulnerability assessment and priority setting"*
- 12.7.5. Whilst the scope of the assessment has been considered (Table 12.2) further justification will be afforded to the assessment scope in the ES through the adoption of a three tiered process:
  - Firstly, low likelihood and low consequence events are scoped out as these events are unlikely to result in significant adverse effects as they do not fall into the definition of a Major Accident and Disaster. Highly likely and low consequence events are also scoped out as they will not lead to significant adverse effects. Furthermore, high likelihood and high consequence events are also scoped out, as it is assumed that existing legislation and regulatory controls<sup>58</sup> would not permit the Proposed Development to be progressed under these circumstances.
  - The second component is in accordance with emerging EIA practice, whereby occupational health and safety (H&S) is scoped out of this factor (other health issues are covered in relevant sections of air quality and noise and vibration, and water). As such, human health impacts are "in combination" impacts and are considered under the Cumulative Effects assessment, as it is covered by detailed H&S legislation<sup>44,52,63,64,65</sup>.
  - The third component is the formation of the Initial Long List of all possible Major Accidents and Disasters. This is reviewed to rule out any potential accidents and disasters that are considered highly unlikely to occur due to the location of the Proposed Development, based on information provided by the environmental disciplines and use of information sources related to accidents and disasters<sup>50,62,66,67</sup>. Those Major Accidents and Disasters that cannot be screened out will form the In Scope Major Accidents and Disasters which will require further detailed assessment in the ES.
- 12.7.6. The process for those In Scope Major Accidents and Disasters for detailed assessment in the ES will include:
  - identifying risk events;
  - screening these risk events;
  - defining the likely worst case consequences (impact);
  - assessing the likelihood; and then
  - determining Major Accident and Disaster status and if relevant, 'as low as reasonably practical' status of the proposed mitigation measures.

# **12.8. LIMITATIONS AND ASSUMPTIONS**

12.8.1. To ensure transparency within the EIA process, the following limitations and assumptions have been identified:

<sup>62</sup> The International Disaster Database (http://www.emdat.be/).

<sup>&</sup>lt;sup>63</sup> Management of Health & Safety at Work Regulations 1999.

<sup>&</sup>lt;sup>64</sup> The Workplace (Health, Safety and Welfare) Regulations 1992.

<sup>&</sup>lt;sup>65</sup> The Dangerous Substances and Explosive Atmospheres Regulations 2002.
<sup>66</sup> British Geological Survey Geolo

 <sup>&</sup>lt;sup>66</sup> British Geological Survey Geo Index Onshore (<u>http://mapapps2.bgs.ac.uk/geoindex/home.html</u>).
 <sup>67</sup> Prevention Web Europe: Tsunamis Hazard Map (<u>https://www.preventionweb.net/english/professional/maps/v.php?id=3831</u>).

- The design of structures and infrastructure will be subject to relevant Hazard Identification (HAZID) studies and actions identified integrated into the final design to reduce risks to 'as low as reasonably practicable';
- The construction phase(s) of the Proposed Development will be managed through the implementation of the Construction Phase Plan (required under the CDM Regulations 2015) and CEMP, a draft of which will be included with the ES;
- The Proposed Development is being designed and its implementation guided by other industry standards and codes, many of which are mandatory. These require infrastructure and systems to be designed so that risks to people and the environment are either eliminated or reduced to levels that are 'as low as reasonably practical'; and
- It is considered highly unlikely that the Proposed Development would be demolished after its design life as it is likely to have become an integral part of the infrastructure in the area, therefore the demolition of the Proposed Development is scoped out.
- 12.8.2. Environmental effects associated with unplanned events that do not meet the definition of a major accident and/or disaster (e.g. minor leaks and spills that may be contained within the construction sites) are addressed in other assessment chapters as appropriate and not in this section. It is also recognised that the management framework for the Proposed Development is not fully defined at this stage; however, a presumption of standard practice and regulatory compliance within the adopted management framework has been assumed and will be developed following the appointment of the Principal Contractor<sup>68</sup>.

<sup>&</sup>lt;sup>68</sup> As defined in the Construction (Design and Management) Regulations 2015 (SI 2015 No. 15).

# 13. LAND AND SOILS

#### 13.1. CONSULTATION

13.1.1. No consultation with regard to the Land and Soils has taken place in the preparation of this Scoping Report.

#### 13.2. STUDY AREA

#### AGRICULTURE

13.2.1. The study area will consist of the agricultural land within the Site area.

#### CONTAMINATION

13.2.2. The study area considered in a May 2019 Phase I Desk Study (Appendix B) covered the majority of the Proposed Development area, with the exception of a triangular parcel of land in the north-western sector (delineated on Figure 3: Masterplan as 'Potential Landscape / Ecology Mitigation Buffer TBC') (hereafter referred to as the "Desk Study Site"). The Phase I Desk Study also considered an area 500m beyond the May 2019 Phase I Desk Study site boundary, which covers the current Site boundary under consideration in this Scoping Report.

# **13.3. BASELINE CONDITIONS**

#### AGRICULTURE

- 13.3.1. Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land (1988). Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 13.3.2. Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use, and Grade 5 is very poor-quality land, with severe limitations due to adverse soil, relief, climate or a combination of these. Grade 3 land is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Land which is classified as Grades 1, 2 and 3a in the Agricultural Land Classification (ALC) system is defined as best and most versatile agricultural land.
- 13.3.3. The Provisional ALC Map shows the Site as Grade 2, which is very good quality agricultural land. However, these maps cannot be used to assess the quality of individual sites due to limitations of scale and changes to the classification system since they were drawn. There is no existing detailed ALC data for the Site and a detailed soil and ALC survey will be required to establish the ALC.

#### CONTAMINATION

13.3.4. In May 2019, WSP undertook a Phase I Desk Study ref. 11191042-SI1-11158(002) (hereafter referred to as the "Desk Study") in line with the guidance outlined in CLR11 *'Model Procedures for the Management of Land Contamination*. The Desk Study was undertaken to determine the potential contaminated land and geotechnical constraints, which may adversely affect the proposed future site use. This Desk Study is presented in **Appendix B**.

- 13.3.5. The salient findings of the Desk Study are provided below:
  - The earliest available maps from 1849 indicate that the Desk Study Site comprised open fields, potentially used for agriculture with a number of ponds located across the Site. At this time the stream (now classified as a Main River) is present in the south west in addition to a plantation which both remain until present day. A track trends through the centre of the Desk Study Site in a north-south direction. Mapping history to 2016 indicates the Desk Study Site has remained undeveloped with no buildings shown;
  - Adjacent land to the east and north east was developed as Burtonwood Airfield by 1956. The historical mapping suggests that there have been no buildings or structures associated with the airfield positioned within the Desk Study Site. The airfield was disused by 1978 with the runway, taxiways and associated buildings in the southern part of the airfield (in close proximity to the Site) demolished by around the same time. The areas to the north east and south east of the Desk Study Site were subsequently redeveloped as Omega Business Park and Lingley Mere Business Park respectively;
  - On Site there are two possible areas of infilled land relating to former ponds, as indicated by OS mapping; one in the north along the most northern surface water drain and the other to the east along the Desk Study Site boundary with plot 7E/F of Omega South. The Envirocheck Report indicates a number of potentially infilled land (water) records within 250m of the Desk Study Site, located to the north east. The records relate to unknown filled ground (pond marsh, river stream etc) and were mapped between 1929 and 1954;
  - One historical landfill is indicated to be present within 500m (presumed influencing distance) of the Desk Study Site, located adjacent to the south east. The licence holder is the Royal Air Force and the licence is indicated to be cancelled. No other pertinent information has been provided. No waste treatment or disposal sites are located within 500m of the Desk Study Site boundary. The Desk Study Site is likely to be underlain by low permeability cohesive soils, which would likely limit mobile contaminant laterally and vertically and is classified by the Environment Agency as an undifferentiated aquifer and of low sensitivity;
  - The solid geology is shown to be undifferentiated Triassic rocks comprising interbedded sandstone and conglomerates and is classified by the Environment Agency as a Principal Aquifer and of high sensitivity. It is expected to be encountered at greater than 7.0m below existing ground level;
  - Risk posed by potential contamination onsite to controlled waters and future site users is considered to be low due to the presence of low permeability clay beneath the Desk Study Site and site end-use design which removes any potential contamination pathways (hardstanding);
  - Historical landfill operations in the wider area pose a potential source of offsite contamination; and,
  - The likelihood of ground gas being present is low as the number and small size of potentially infilled ponds containing gaseous materials is low.

# 13.4. MITIGATION

#### AGRICULTURE

13.4.1. Measures to mitigate damage to or loss of the soil resources include identifying the most appropriate re-use of the different types of soils and ensuring that the quality of soils is maintained by following best practice guidance on soil handling, as described in the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. For example, soils should only be handled when in a



dry and friable state to prevent smearing and unnecessary compaction. Compaction can also be avoided by ensuring that vehicles on site do not deviate from designated haulage routes.

#### CONTAMINATION

13.4.2. No potential for likely significant effects has been identified so no mitigation is proposed.

### **13.5. DESCRIPTION OF LIKELY SIGNIFICANT EFFECTS**

#### AGRICULTURE

13.5.1. The Proposed Development will require approximately 52ha of best and most versatile agricultural land. As Natural England requires consultation for planning applications where there will be loss of best and most versatile agricultural land of 20ha or more<sup>69</sup>, agricultural land quality is scoped into further assessment.

#### CONTAMINATION

13.5.2. Given that the Site has had a continuous agriculture use and that only localised pockets of Made Ground may exist where historical ponds were infilled, it is not considered that the Site has a significant potential to be contaminated with chemical compounds which would pose an unacceptable level of risk to controlled waters or human health. Therefore, it is proposed that contamination be scoped out of further assessment.

### 13.6. PROPOSED ASSESSMENT METHODOLOGY

#### AGRICULTURE

- 13.6.1. A detailed soil and ALC survey will be conducted which involves examining and recording the characteristics (depth of horizon, texture, colour, stone content etc) of soil profiles using a hand-held auger to a depth of 1.2m across the Site. There will also be a need to dig soil pits to examine and record subsoil structure and rooting depth. Samples will be taken for laboratory determination of particle-size analysis, pH, organic matter content and major nutrients.
- 13.6.2. The recorded observations will then be analysed according to the established ALC guidelines and criteria which would classify each observed soil profile, and a baseline report and maps would be prepared to show the distribution of soil resources and ALC grades.
- 13.6.3. The density of sampling recommended by Natural England for ALC surveys is one auger per hectare, such that approximately 72 auger points would be required. In addition, there are likely to be three pits required, and it is anticipated that a similar number of topsoil samples would need to be sent for laboratory analysis.
- 13.6.4. The assessment within the ES will be informed by the information gathered and in accordance with established policy and guidance in the National Planning Policy Framework (NPPF). The assessment of the impact of the Proposed Development will consider the quality and quantity of

<sup>69</sup> TIN049 edition 2 - Agricultural Land Classification: protecting the best and most versatile agricultural land. http://publications.naturalengland.org.uk/publication/35012

agricultural land that will be affected, and the nature of the soil resource and its susceptibility to long-term damage from handling and storage.

#### CONTAMINATION

- 13.6.5. Although contamination has been scoped out of further assessment, a detailed intrusive Ground Investigation is currently being undertaken, with completion expected at the end of October 2019. The Ground Investigation will target the localised potentially infilled ponds and assess the suitability of the soil across the wider Site for re-use within the Proposed Development. Upon completion of the Ground Investigation, an interpretive report will be completed which will highlight any exceedances of the prescribed Generic Acceptance Criteria and outline risks to human health or controlled waters.
- 13.6.6. Should exceedances be identified, a remediation strategy and subsequent validation report will be completed and submitted to the local regulatory authority (St Helens Council).

# 14. CUMULATIVE EFFECTS

# 14.1. PROPOSED ASSESSMENT METHODOLOGY

- 14.1.1. The cumulative effects assessment will be undertaken in accordance with the requirements of the EIA Regulations 2017.
- 14.1.2. There are two types of cumulative impact:
  - Cumulative impacts from a single project; and
  - Cumulative impacts from different projects (in combination with the project being assessed).
- 14.1.3. In the first type (cumulative impacts from a single project), the impact arises from the combined action of a number or different environmental factor-specific impacts upon a single receptor/resource.
- 14.1.4. In the second type (cumulative impacts from different projects, in combination with the project being assessed), the impact may arise from the combined action of a number of different projects, in combination with the project being assessed, on a single receptor/resource. This can include multiple impacts of the same or similar type from a number of projects upon the same receptor/resource.
- 14.1.5. The cumulative effects assessment in the ES will assess both types of cumulative impacts. Those from a single project (hereafter referred to as 'effect interactions') that occur where a resource or receptor is affected by different aspects of the Proposed Development, and cumulative impacts from different projects (herein referred to as 'in-combination effects'), that occur because of the likely impacts on a shared resource or receptor of the Proposed Development interacting with the impacts of 'other developments' in the vicinity.
- 14.1.6. The cumulative effects assessment will be primarily based on the results of technical chapters. Additional documents that will be used to inform the assessment include:
  - WFD Assessment; and
  - Transport Assessment
- 14.1.7. The cumulative effects assessment will be undertaken using the following methodology:
  - Identification of projects:
    - In order to inform potential committed developments, a high-level review of planning applications submitted to St Helens Council and Warrington Borough Council in the last 5 years will be undertaken to identify potential projects that could give rise to in-combination integration with the Proposed Development.
  - Identification of common receptors:
    - Common receptors will be evaluated in terms of their broad receptor category in accordance with regulation 4(2) of the EIA Regulations 2017. The specific receptors will then be identified and evaluated; ensuring that effect interactions are duly considered at the receptor level and a more detailed level of assessment is only undertaken where there is a common receptor and likely significant effect.
  - Assessment of in-combination effects:

- Once the receptors for in-combination assessment have been defined and considered, the incombination effects with the Proposed Development, including for the revocation of the B1 consent (see **Paragraph 2.3.4**) will then be assessed.
- 14.1.8. Each technical chapter of the ES will include consideration of relevant interactions which will be further reported in the cumulative effects assessment if significant cumulative effects are concluded. An assessment of in-combination effects will also be reported in the cumulative effects assessment.



# 15. SUMMARY

### 15.1. SCOPE OF THE EIA

- 15.1.1. It is proposed that the following environmental factors, as listed under Article 3(1) of EU Directive 2014/52/EU, are included in the scope of the EIA:
  - Air Quality;
  - Noise and Vibration;
  - Cultural Heritage;
  - Biodiversity;
  - Landscape and Visual;
  - Water;
  - Transport;
  - Major Accidents and Disasters; and
  - Land and Soils.
- 15.1.2. The factor-specific elements scoped in and out of further assessment are outlined in **Chapters 5 to 13** above.

# **15.2. PROPOSED STRUCTURE OF THE ES**

15.2.1. The proposed structure of the ES is set out in Appendix E.