Langtree PP & Panattoni

Six 56 Warrington

Second Addendum to Environmental Statement

Part 1

Revision ~~B~~ C D ~~26th March 2019~~ ~~04 October 2020~~ 15th November 2021

This Environmental Statement is prepared in association with:

Revision Record

Revision Reference	Date of Revision	Nature of Revision	Author	Checked By
B	26th March 2019	Legal review	Gavin Winter	DR
C	4th October 2020	ES Addendum	Gavin Winter	DR
D	15th November 2021	Second ES Addendum	Gavin Winter	DR

This document now constitutes part of ~~an~~ Second Addendum to the Environmental Statement originally submitted to Warrington Borough Council (WBC) in April 2019 to accompany the outline planning application for a 'for warehouse development (Use Class B8 with ancillary B1 (a) offices) and associated infrastructure at the Application Site referred to as Six 56 Warrington.

Since the submission of the planning application, consultation responses have been received from key consultees and further discussions has taken place with the Council and their key consultees (namely WBC Highway Officers, Highways England (HE) and their consultants Atkins, WBC Environmental Protection Officers, Historic England and WBC Conservation Officer and Ramboll landscape designers acting on behalf of WBC).

Further clarification and information has been provided in line with requests by HE and WBC Highway's Officer relating to the design of the mitigation and the Warrington Multi Modal Transport Model WMMTM traffic model as part of the First Addendum submitted in October 2020.

WBC Environmental Protection expressed concerns with exposure to high noise levels that may be experienced at existing properties on Cartridge Lane and sensitive receptors within the site comprising Bradley Hall Cottages and Bradley View to potentially unacceptably high noise levels, even with mitigation in place, based on the worst case estimates of the proposals as illustrated on the submitted masterplan and parameters plans.

Landscape Consultants Ramboll's acting on behalf of the Council ~~have~~ also recommended further supplementary information, including an assessment of potential effects on the visual amenity of properties in the vicinity, in order to provide greater transparency to the LVIA and its findings and to aid WBC in its determination of the application.

Consequently, the illustrative masterplan and parameters plans ~~have~~ evolved to address comments raised by these key consultees to reduce the noise impacts on sensitive receptors within the site through the realignment of estate roads and other amendments including

provision of bunding and details of the highway access into the Site with minor changes to the location of the first roundabout into the site from the east to reflect the alignment of the estate road into the site were made and submitted as part of the First Addendum.

Further assessments were ~~have~~ also ~~been~~ undertaken in respect of noise and vibration and landscape and visual impacts and cultural heritage. ~~This~~ The First ES Addendum therefore include~~s~~d additional and updated information to address the comments raised by key consultees.

Since the submission of the First Addendum, further consultation responses have been received from Landscape Consultants Ramboll's acting on behalf of the Council in respect of the First Addendum LVIA. This raised concerns regarding the the scale of some the proposed buildings. Nothwithstanding these comments, this consultee response did outline information and requirements for inclusion in any future reserved matters applications, which could be controlled through planning conditions.

Following this consultee response, the Applicant has given consideration to the comments and concerns pertaining to the scale and massing of proposed buildings and has agreed to reduce some of the building heights outlined in the building zones illustrated on the Building Heights Parameters Plan, which are the highest and most dominant features of the proposals. A revised Heights Parameters Plan Drawing No. 16-194 P115 Rev H reduces the maximum building height in Zone B2 from 43.5m to ridge (40m clear internal height) to 30m to ridge (26.5m clear internal height), which relates to Plot 4 of the Illustrative Masterplan and Zone D1 and D2 from 24.5m to ridge (21m clear internal height) to 22m to ridge (18.5m clear internal height), which relates to Plots 2 and 3 of the Illustrative Masterplan. The Applicant considers this will help address any effects on landscape character or visual amenity and minimise any significant effects, alongside proposed landscaping which will also soften and screen development from neighbouring residential receptors and the wider landscape.

This Second Addendum provides an amended project description and description of development to incorporate the reduction in the building heights within certain building zones illustrated on the Building Heights Parameters Plan. All papers have therefore considered this revision to the project description and re-assessed the environmental impacts. This Second Addendum provides a further assessment includedin the LVIA ES Technical Paper 4 to consider

the landscape and visual impacts of reducing building heights on the Proposed Development and address representations received since the submission of the First Addendum.

This Second Addendum should however be read in conjunction with the original ES submitted to WBC in April 2019 and First Addendum submitted in October 2021 as all the other technical papers (Ground Conditions and Contamination; Flood Risk and Drainage, Ecology and Nature Conervation, Socio-economic, Noise and Vibration, Air Quality, Cultural Heritage and Archaelogy, Utilities, Energy, Waste and Agricultural Land and Soils) have not been amended or subject to change since the First Addendum and as such are not included within this Second Addendum, but still remain valid and still form part of the ES for the planning application. See **Appendix 18** of the ES Part 1 Second Addendum which provides Consultants confirmation that there are no changes to the significance of impacts in the Ground Conditions and Contamination; Flood Risk and Drainage, Ecology and Nature Conservation, Socio-economic, Noise and Vibration, Air Quality, Cultural Heritage and Archaeology, Utilities, Energy, Waste and Agricultural Land and Soils Technical Papers arising from the updated project description presented in this Second ES Addendum.

The table below confirms the amendments to the proposals, and the resulting amendments to technical papers and their figures and appendices, as well as any other matters addressed within this Second ES Addendum:

Amendment	**Reason for Amendment**	**Resultant Technical Paper Addendum**	**Resultant Amendments to the Technical Paper Figures and Appendices**
Outline Planning Application Description of Development	The outline planning application description of development now includes the removal of any change of use of Bradley Farmhouse to B1 (a) office use. This has now been removed from the description of development and any change of use of this building will be dealt with separately at a later date following the grant of any outline permission, once prospective uses of this building have been fixed. To mitigate any impact on any	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan
		ES Part 1 Report	-
		ES Non-Technical Summary	-

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
	residential amenity associated with noise emanating as a result of the proposed Six 56 employment development, the applicant will agree to cease use of this building for residential purposes on commencement of development. A commitment to cease this use can be controlled through a S106 Agreement.		
Updates to Illustrative Masterplan and Parameter Plans	The illustrative masterplan and parameters plans have evolved to address comments raised by these key consultees to reduce the noise impacts on sensitive receptors within the site, including re-alignment and location of landscape bunds around Bradley Hall Cottages and consequential changes to surface water drainage features and the number and function of replacement ponds in response to GMEU concerns. Realignment of estate roads and other minor amendments including details of the highway access into the Site with minor changes to the location of the first roundabout into the site from the east to reflect the alignment of the estate road into the site and proposed parking	Flood Risk & Drainage	Appendix 3.2 – Flood Risk Assessment and Drainage Strategy which includes revised drainage strategy plans.
		Transportation & Traffic	Appendix 2.1 Updated Transport Assessment which includes revised highways detail associated with access into the site.
		Ecology & Nature Conservation	Appendix 5.8 – Response to Ecology Consultation Comments (10682/R02a)
		Landscape and Visual Impact	Appendix 4.3 – Updated Landscape Photomontages which show changes to landscaping detail on key viewpoints as a result of the reduction in building heights
		Noise & Vibration	Table 7.2: Summary of Consultations and Discussions which references discussions with WBC Environmental Protection Officer regarding changes to the illustrative masterplan Appendix 7.3 – Acoustic Barrier Mitigation
		Cultural Heritage & Archaeology	Table 9.1: Summary of Consultations and Discussions which references discussions with Historic England regarding amendments to the illustrative masterplan

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
	ans service yard closet to Bradley View	ES Part 1 Report	Figure 4.4 Development Cells Parameters Plan (Updated to include changes to the proposals) Figure 4.5 Disposition Parameters Plan (Updated to include changes to the proposals) Figure 4.6 Height Parameters Plan (Updated to include changes to the proposals including reduced building heights) Figure 4.7 Green Infrastructure Parameters Plan (Updated to include changes to the proposals) Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals) Figure 4.9 Drainage Parameters Plan (Updated to include changes to the proposals) Figure 4.10 Acoustic Parameters Plan (Updated to include changes to the proposals) Figure 4.11 Heritage Parameters Plan (Updated to include changes to the proposals) Figure 4.12 Demolition Parameters Plan (Updated to include changes to the proposals) Appendix 3 – Means of Access Plan (Updated to include changes to the proposals) Appendix 4 – Illustrative Masterplan (Updated to include changes to the proposals) Appendix 5 – Proposed Parameter Plans (Updated to include changes to the proposals) Appendix 7 – Topographical Survey Plan and Cut and Fill Finished Levels Contour Plan (Updated to include changes to the proposals)
		ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans and photomontages to reflect reduction in building heights
	Amendments have been made to the mitigation package of works to	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
Detailed design of the mitigation for the M6 Junction 20 and the adjacent Grappenhall Lane/A50 roundabout and clarification and updates to the M6 Junction 20 Base Model	junction 20 of the M6, including rationalisation of lane markings; works to carriageway widths on the Grappenhall Lane/A50 roundabout and updates to the M6 Junction 20 Base Model to reflect discussions with HE and WBC Highways	ES Part 1 Report	Figure 4.4 Development Cells Parameters Plan (Updated to include changes to the proposals) Figure 4.5 Disposition Parameters Plan (Updated to include changes to the proposals) Figure 4.6 Height Parameters Plan (Updated to include changes to the proposals) Figure 4.7 Green Infrastructure Parameters Plan (Updated to include changes to the proposals) Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals) Figure 4.9 Drainage Parameters Plan (Updated to include changes to the proposals) Figure 4.10 Acoustic Parameters Plan (Updated to include changes to the proposals and Site Sections showing height of bunds for approval) Figure 4.11 Heritage Parameters Plan (Updated to include changes to the proposals) Figure 4.12 Demolition Parameters Plan (Updated to include changes to the proposals) Appendix 3 – Means of Access Plan (Updated to include changes to the proposals) Appendix 4 – Illustrative Masterplan (Updated to include changes to the proposals) Appendix 5 – Proposed Parameter Plans (Updated to include changes to the proposals)
		ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans which refer to highway mitigation amendments
Pedestrian and Cycle Routes and Public Transport	Updates to relevant sections of the Part 1 and Part sections of the Addendum to reflect agreements to providing commuted sums towards continuing shared	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan
		ES Part 1 Report	Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals)

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
	cycleway/footway beyond the Application boundary and safeguarding a section of the Applicants land, adjacent to Grappenhall Lane to facilitate any future road widening and improvements required on Grappenhall Lane. Agreement of a commuted sum of £600,000 towards improved bus services via a S106 financial obligation.	ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans which refer to highway mitigation amendments
Landscape and Visual Impact (LVIA) amendments	Amendments have been made to the LVIA following discussions with Ramboll Consultants, advising the Council on landscape matters. Changes include an additional baseline character and visual amenity analysis, consideration of the residual effects of lighting on landscape and visual effects and a Residential Visual Amenity Study (RVAS). Further assessment has been undertaken to reflect changes to proposed building heights outlined in the heights parameters plan.	Landscape and Visual Impact	Appendix 4.3 Landscape Photomontages Residential Visual Amenity Study (RVAS)
		ES Part 1 Report	Appendix 16 – Lighting Assessment (Updated to include changes to the proposals and the residual effects of lighting on landscape and visual effects
Socio-economic Impacts	Consideration has now been given to the socio-economic impact of automation on the logistic sector following discussions with WBC Officers	Socio-Economic	Table 6.1: Socio-economic policy context Table 6.2: Sources of socio-economic data and guidance
		ES Part 1 Report	-
		Non-Technical Summary	-

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
Alternative Sites Assessment (ASA)	Reference to additional information and evidence to assess a wider area of search for alternative sites beyond Warrington's boundaries and further assessment of the Fiddlers Ferry site which will be reported in the separate Replacement Planning Statement.	ES Part 1 Report	-
Cumulative Development	Updates have been provided in respect of the current planning position associated with the Eddie Stobart planning application and appeal at Barleycastle Lane, Warrington and clarification in respect of the cumulative development / number of dwellings proposed in the Garden Suburb site allocation to be delivered in the emerging Plan Period	Flood Risk & Drainage	Table 3.9 Cumulative Development
		Traffic and Transportation	Table 10.1 - Cumulative Development
		Ecology & Nature Conservation	Table 5.13: Cumulative Development
		Landscape and Visual Impact	Table 4.17: Cumulative Development
		Socio-economic	Table 6.27 Cumulative Development
		Noise & Vibration	Table 7.2: Summary of Consultations and Discussions
		Cultural Heritage & Archaeology	Table 9.12: Cumulative Development
		ES Part 1 Report	Table 9.1 Cumulative Developments (Updated)
		Non-Technical Summary	-

Table 0.1: Details within ES Addendum

The amendments to the scheme are identified through the Project Description (Section 2 and are detailed in the Design Evolution (Section 4.31) of this ES Part 1 Second Addendum Report.

In order to ensure the Second Addendum is understandable and to avoid extensive cross referencing, changes have been integrated within the original text of the ES and its technical papers to form a single Addendum to the ES. Wherever changes or additions have been made to the text of the original technical paper, the text has been underlined and anything that is no

longer relevant or valid has been struck through but retained within the text. For clarity, for the First Addendum this is undertaken in black and for the Second Addendum this is undertaken in red. A log is also included within the ES Part 1 Report Addendum (**Appendix 19**) and the appendices of each technical paper so that the text removed (i.e. the text struck through within the paper) is identified for the first addendum in black and second addendum in blue and a reason for its removal provided. As outlined earlier, this Second Addendum should ~~however~~ be read in conjunction with the original ES (April 2019) and First Addendum submitted in October 2021 as not all the technical papers have been subject to change or amendment and as such are not included in the Second Addendum, but still remain valid and still form part of the ES for the planning application.

The technical papers and their appendices that have been subject to amendment as part of the ES Second Addendum are as follows:

- ~~Traffic and Transportation~~
- ~~Water Quality and Drainage~~
- Landscape and Visual Impact
- ~~Ecology and Nature Conservation~~
- ~~Socio Economic~~
- ~~Noise and Vibration~~
- ~~Cultural Heritage~~

The technical papers that have not been subject to change as part of the ES Second Addendum are as follows:

- Ground Conditions and Contamination;
- Flood Risk and Drainage
- Ecology and Nature Conervation
- Socio-economic
- Noise and Vibration
- Air Quality
- Cultural Heritage and Archaelogy
- Utilities
- Energy

- Waste
- Agricultural Land & Soils

~~This Addendum should however be read in conjunction with the original ES submitted to WBC in April 2019 as the other technical papers (Ground Conditions and Contamination; Air Quality, Utilities, Energy, Waste and Agricultural Land and Soils) have not been amended or subject to change and as such are not included within this Addendum, but still remain valid and still form part of the ES for the planning application. See **Appendix 18** of the ES Part I Addendum which provides Consultants confirmation that there are no changes to the significance of impacts in the Ground Conditions and Contamination;, Air Quality, Utilities, Energy, Waste and Agricultural Land and Soils Technical Papers arising from the updated project description presented in this ES Addendum.~~

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Appendix 6 – Key Receptor Plans
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1. Introduction

1.1. This Environmental Statement (ES) Second Addendum has been prepared on behalf of Langtree PP & Panattoni to accompany the outline planning application for warehouse development (Use Class B8 with ancillary B1(a) offices) and associated infrastructure at the Application Site referred to as Six 56 Warrington.

1.2. The ES and its Addendums is prepared under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (referred to as the Amended 2017 Regulations hereafter) except for those parts of the 2017 Regulations amended by the temporary Town and Country (Development Management Procedure, Listed Buildings and Environmental Impact Assessment) (England) (Coronavirus) (Amendment) Regulations 2020 (referred to as the Amended 2020 Regulations hereafter).~~which commenced on 16 May 2017.~~ The Amended 2020 Regulations commenced on 14 May 2020 and make amendments to the 2017 EIA Regulations to allow an alternative approach to consultation during the current coronavirus pandemic. It should be noted that these Amended Regulations are temporary and will cease to have effect on 31 December ~~2020~~ 2021 at which point those parts of the 2017 EIA Regulations that were amended by the 2020 Regulations will come back into force. The Scoping Opinion was received from Warrington Council on 6th April 2018.

1.3. This ES is made up of three parts, the ES Part 1 Report, the ES Part 2 and the Non-Technical Summary.

1.4. ~~This~~ The original Part 1 Report and this Part 1 Report Second Addendum for the ES sets out the project description, the need for development and the alternatives considered. It includes an overview of the environmental impacts of the proposals with a summary of the mitigation measures proposed. It contains the methodology for assessing the significance of the environmental effects. It also includes an assessment of the interaction of effects and a summary of the cumulative impacts assessed as part of each of the technical areas. The Part 1 Report and its Second Addendum should be read in conjunction with the ES Part 2, which contains each of the Technical Papers and their Addendums. A separately bound Non-Technical Summary Second Addendum is also included as part of this ES, and summarises the ES in non-technical language.

1.5. A series of plans and illustrations are included within the text and appendices to help the reader understand the background to the proposals and the scheme. It also provides an understanding

as to how the development fits within the planning framework. Part I is important in establishing the context for the development allowing readers to understand the objectives of the proposed development. It sets out the framework for how significant impacts have been assessed.

Summary of Planning Application

1.6. The Application Site is 98.09 hectares (242.39 acres) and is located on Land at Junction 20 of the M6 Motorway and Junction 9 of the M56, to the southeast of Warrington (approximately 6 km (3.5 miles) from the town centre) in the North West of England as shown in the plan in **Appendix 2.** The site is predominantly within the authority area of Warrington with small section in the southeastern part of the site located within the Cheshire East administrative boundary. The National and Regional context is shown on the plan in **Appendix 1**.

1.7. The planning application is ~~to be~~ submitted as an outline application and the Proposed Development is detailed below.

The outline application (all matters reserved except for means of access) comprises the construction of up to 287,909m² (3,099,025ft²) (gross internal) of employment floorspace (Use Class B8 and B1(a) offices) ~~including change of use of Bradley Hall Farmhouse to B1 (a) office use (335m² (3,600ft²))~~, demolition of existing agricultural outbuildings and associated servicing and infrastructure including car parking and vehicle and pedestrian circulation, alteration of existing access road into site including works to the M6 J20 dumbbell roundabouts and realignment of the existing A50 junction, noise mitigation, earthworks to create development platforms and bunds, landscaping including buffers, creation of drainage features, electrical substation, pumping station, and ecological works.

1.8. All matters, except for the Means of Access are reserved for consideration at a later date. The updated Means of Access is shown on the plan at **Appendix 3**.

Summary of Proposals

1.9. Langtree PP and Panattoni is proposing to develop the site for warehouse development (Use Class B8 with ancillary B1(a) offices) and associated infrastructure.

1.10. The planning application ~~will~~ comprises the following:

- Up to 287,909m² (3,099,025ft²) (gross internal) of employment floorspace (Use Class B8 with ancillary B1(a) offices)
- ~~Change of use Bradley Hall Farmhouse, to B1 (a) office use ((335m²) (3600ft²))~~
- Alteration to the existing access into the site with two new roundabouts into the site from the B5356 Grappenhall Lane
- Works to the M6 J20 dumbbell roundabouts and realignment of the existing A50 roundabout
- Associated car parking and service areas
- Internal vehicle circulation roads
- Pedestrian and cycle circulation routes, including footpaths alongside roads and diversion of Public Rights of Way (route no.'s 23 and 28) which bisect the site
- Earthworks to create development platforms and bunds
- Drainage features, including attenuation areas and SuDs
- Landscaping including noise mitigation features
- Ecological works including wetland ponds
- Electrical Substation and pumping station

1.11. The following table summarises the development areas:

Development Type	**Number of Units**	**Total Area (hectares) (Approximate)**
Employment uses – B8 (up to 287,909m² (3,099,025ft2) (including ancillary B1(a) offices, car parking and service yards) ~~and change of use of the existing Bradley Hall Farm house ((335m²) 3600ft²)) to B1 (a) office use.~~	7 to 13 new buildings across the site (Zones A – D)	62.9 ha ~~64.74ha~~

Road Infrastructure	-	5.96 ha ~~6.25ha~~
Structural Landscaping / Buffers / Bunds	-	26.43 ha ~~23.87ha~~
Attenuation Areas / SUDs / Swales	-	2.7 ha ~~3.13ha~~
Proposed Substation	-	0.1ha
Total	**7 to 13**	**98.09ha**

Table 1.1: Development Areas

1.12. The plans included in **Appendices 1, 2, 3, 4 and 5** confirm the Site location (National, Regional, Local Context), Site boundary, Means of Access (updated to include changes to the proposals), Parameter Plans for the proposals (updated to include changes to the proposals) and Illustrative Masterplan (updated to include changes to the proposals) respectively.

1.13. The Parameter Plans are a series of plans detailing the parameters for the proposals including Development Cells, Disposition (including uses), Green Infrastructure, Access and Circulation, Noise, Drainage, Building Heights (including updates prepared as part of the Second Addendum) and finished floor levels and heritage (including buffers to heritage asset) (all updated to include changes to the proposals). The updated Illustrative Masterplan shows how the site could be developed, taking account of the updated Site Parameters. The updated Illustrative Masterplan and updated Parameter Plans for the Application Site are shown in **Appendix 4 and 5** respectively.

Environmental Impact Regulations, Screening and Scoping

1.14. The proposals do not fall within Schedule 1 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as "the 2017 EIA Regulations") where an Environmental Statement (ES) is mandatory. However, the proposals do fall within Schedule 2 paragraph 10 b of the EIA Regulations as an "Urban Development Project" in excess of one hectare of urban development which is not a dwelling house development / includes more than 150 dwellings / the overall area is in excess of five hectares.

1.15. Nevertheless, an Environmental Impact Assessment is not needed for every Schedule 2 project. The 2017 EIA Regulations (as amended by the temporary 2020 Regulations) and the PPG (Planning Practice Guidance) are clear that an Environmental Impact Assessment (EIA) is

required for Schedule 2 projects only if they are likely to give rise to "significant effects on the environment by virtue of factors such as its nature, size or location".

1.16. It has been agreed with Warrington Council that this development and its cumulative effects have the potential for significant effects on the environment and as such is considered to be EIA Development requiring an ES to be prepared as part of the EIA process.

1.17. In accordance with Part 4, Regulation 13, a Scoping Report was submitted to Warrington Council on 27 February 2018 (**Appendix 12**). This considered the range of environmental issues against which the proposals should be assessed as part of the Environmental Impact Assessment process. A Scoping Opinion was issued by Warrington Council on 6 April (**Appendix 13**).

1.18. The Scoping response from Warrington Borough Council (WBC) included responses from the following consultees:

- Greater Manchester Ecology Unit
- Warrington Council Asset & Flood Section LLFA (Lead Local Flood Authority)
- Environment Agency
- Highways England
- Cheshire Archaeology Planning Advisory Service (Total Environment), Cheshire Shared Services
- Warrington Council Public Heath Team
- Warrington Council Environment & Public Protection (Contaminated Land, Noise, Air Quality)
- National Grid
- Environment Agency
- Natural England
- United Utilities
- Warrington Planning Policy
- Warrington Highways Development Management
- Warrington Council Lighting
- Warrington Council Trees and Woodland Section

1.19. The main points of the Scoping Opinion are summarised below:

- The LPA consider that bearing in mind the proposed heights of the development proposed (and therefore the wide ranging visual impact), an assessment of the impact on the setting of the below heritage assets should be included within any subsequent EIA.
  - DCH1638 Yew Tree Farmhouse Grade II Listed Building 1139340
  - DCH1659 Beehive Farmhouse Grade II Listed Building 1139361

  - DCH1660 Booths Farm, Shippon On Left (North West) Side Of Farmyard Grade II Listed Building 1139362
  - DCH1934 Booths Farm Farmhouse Grade II Listed Building 1329740
  - DCH12753 Barn at Manor House Farm, Cartridge Lane, Appleton Locally Listed Building
  - DCH12869 Milepost at Gallows Croft, Knutsford Road, Lymm
  - DCH13677 Tan House Farm, Barleycastle Lane, Appleton
  - Barleycastle Farmhouse, Barleycastle Lane - DCH1329741
  - Tanyard Farm building, Barleycastle Lane - DCH1139363
- WBC consider that the cumulative impacts should be undertaken as a sub-Warrington basis, (rather than at the wider town level) given the broad levels of inequalities evident locally. Such an assessment should take into consideration the positive/negatives in terms of the socio-economic impacts for different areas/population groups and evidence should also be provided on how the proposed development would impact local residents that are in greatest need.
- WBC' Highways Section consider that the information contained within the Traffic & Transportation section of the Scoping Report is acceptable, subject to the assessment of the existing junctions (set out in the Scoping Report) being undertaken/re-assessed utilizing the information contained within Warrington Multi Modal Transport Model.
- Highways England (HE) consider that, given the wider proposals for a Garden Suburb in the Warrington Borough Council's Local Plan Preferred Development, the cumulative impacts of wider proposed development are not defined, and the necessary infrastructure improvements have not been determined. HE have concerns that, in the absence of a cumulative assessment of potential growth in the south-east Warrington area, the development's contribution to future network needs and infrastructure requirements cannot be determined at this stage. A cumulative assessment should therefore be included as part of any subsequent EIA in order to address such concerns.
- Further detail should be provided in the Transport Assessment in respect of how sustainable access to the site is proposed, with proposals for staff to access the site by non-car modes.
- The ES Scoping Report sought to scope out the assessment of arable/improved grassland and tall ruderal habitats, however in the light of advice contained in the NPPF and the government's recent 25 Year Environment Plan, that development should embed a net environmental gain, the LPA consider that these habitats should be included in any such calculations. Consequently, such matters should be scoped in to the final EIA.
- In relation to air pollution, the impacts on natural receptors (such as existing habitats/designated sites should also be assessed, as well as the impact on human health.
- The site boundary includes a large length of Bradley Brook and therefore WBC expect a riparian mammal survey to be carried out and included within the EIA to ensure that development does not impact these protected species.
- It is noted that Bradley Brook is culverted to the east of the site. Therefore the EIA should include measures to ensure no further culverting of this watercourse as this involves the destruction of river and bankside habitat and the interruption of a wildlife corridor, acting as a barrier to movement.
- The EIA submission should include details of the management of the demolition of buildings in respect of noise, vibration and dust controls required

- The EIA submission should include consideration of the existing dwellings located in the middle of the site, should they remain. Noise, odour and dust assessments are required for the demolition, construction and operational stages.
- Careful consideration is required regarding routes for vehicles and vehicle movements in respect to dwellings and assessment of any impacts from traffic noise and vibration for the demolition, construction and operational stages.
- In respect of Cultural Heritage and Archaeology, evaluation works, (in the form of a geophysical survey or non-intrusive techniques should be undertaken and submitted as part of any EIA.
- An assessment of the impact of the loss of high quality agricultural land should be scoped into the final EIA for the site.
- A full lighting assessment will be required for lighting both on and off site.
- The Scoping Opinion confirms that WBC have received a number of representations from local residents / parish councils / Councillors as part of the scoping opinion request and it will be very important to gauge their views/take into account their concerns before submitting any formal planning application/EIA.
- The Scoping Report also confirms that a local Ward Councillor has requested that the EIA will need to demonstrate that, in policy terms, the proposed development is not premature in the light of the status of the Local Plan and the current status of the land as green belt.

1.20. In summary, through the Scoping Opinion, Warrington Council confirmed that the information submitted was adequate for the Local Authority to agree the expected scope of the ES as set out in the Scoping Request. The points raised in paragraph 1.19, along with the comments raised by each of the consultees are addressed in more detail in each of the Technical Papers included within Part Two of this ES and its First and Second Addendum. The consultant team has continued to liaise with these and other key consultees during the evolution of the proposals and through the process of environmental assessment and where relevant, have continued to discuss and agree the scope of the ES.

Consultation Responses

1.21. A number of the consultees ~~have~~ approached the consultation in respect of the scope of the Environmental Statement as if it were a consultation upon a pre-planning application submission. What flows from that is that certain of the consultees have raised matters that are appropriate to be considered as material planning considerations but are out of the scope of any consideration of the environmental effects of the proposal.

1.22. A number of responses to the Scoping Report have been received from local residents / parish councils / Councillors, therefore the Council have requested that the Applicant engages with these stakeholders to take into consideration their concerns. Details of the consultation

undertaken in respect of the Application proposals with the community are described later in this section.

1.23. The Scoping Report confirms that a local Ward Councillor has requested that the EIA will need to demonstrate that, in policy terms, the proposed development is not premature in the light of the status of the Local Plan and the current status of the land as Green Belt. This will be addressed within the supporting Planning Statement that will accompany the planning application and is not a matter which is an environmental effect of the scheme, which will be considered within the Environmental Statement.

Alternatives

1.24. In relation to alternative sites, the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) provides advice in paragraph 2 of Schedule 4 as follows:

> *"A description of the reasonable alternatives (for example in terms of development, design, technology, location, size and scale) studied by the Developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*

1.25. The 2017 Regulations (as amended by the temporary 2020 Regulations) do not as such require a full consideration of alternatives, but only an indication of what has been considered. This is what this ES does (see Section 4). There ~~is a~~ are documents setting out an analysis of alternative sites which ~~is~~ are cross-referenced within the Environmental Statement and included within Appendix 10, but there will not be a full Environmental Impact Assessment of alternative sites because that is not a requirement of the 2017 Regulations (as amended by the temporary 2020 Regulations).

Interaction of Effects and Cumulative Impact

1.26. The European Commission identifies cumulative impacts as *'impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project.'*

1.27. In respect of the assessment of the interaction of effects, Regulation 4 (2) of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) requires a description and

assessment in an appropriate manner, of the direct and indirect significant effects of the proposed development on the interaction of the factors assessed within the ES (i.e. population and human health; biodiversity; land, soil, water and climate; and material assets, cultural heritage and the landscape).

1.28. The Scoping Report identified a series of sites/projects that were to be considered as part of the Cumulative Assessment, in line with Schedule 4 of the EIA Regulations (2017) (as amended by the temporary 2020 Regulations). These sites / projects are referenced in Section 9 of this Environmental Statement Part One Second Addendum Report.

1.29. Excluded from our cumulative assessment within the Scoping Report were sites that are not existing development or do not have planning permission, such as allocated development sites or emerging allocations. This was due to the uncertainty of these coming forward for development in the future, and/or the unknown nature and scale of the development, which therefore renders them to be 'not reasonably foreseeable' in terms of the environmental assessment. In respect of emerging allocations, Warrington Borough Council is currently undertaking a Local Plan review and there was public consultation on a Preferred Development Option (PDO) Document under regulation 18 of the Local Plan regulations in July 2017. That consultation was the subject of very extensive representations and objections. Consultation on a Proposed Submission Version Local Plan under regulation 19 of The Town and Country Planning (Local Planning) (England) Regulations 2012 was held between April and June 2019. An updated Proposed Submission Version Local Plan (2021) has been subject of a further six-week period of public consultation from the 4th October to the 15th November 2021.

1.30. The Council's Scoping Opinion subsequently confirmed that Highways England consider that, given the wider proposals for a Garden Suburb in the consultation version of Warrington Borough Council's Local Plan Preferred Development, the cumulative impacts of wider proposed development are not defined, and the necessary infrastructure improvements have not been determined. Highways England have concerns that, in the absence of a cumulative assessment of potential growth in the south-east Warrington area, which would deliver around 7000 new homes (as referenced in the Council's PDO Document) and 117 ha of new employment development over a 20 year period, the development's contribution to future network needs and infrastructure requirements cannot be determined at this stage.

1.31. Warrington Council's Scoping Opinion (6 April 2018) subsequently confirmed the need to consider the Warrington Garden Suburb as part of the cumulative assessment in respect of

'Traffic and Transport' as a result of Highway England comments. A cumulative assessment should therefore be included as part of any subsequent EIA in order to address such concerns.

1.32. It was the Applicants opinion, and the opinion of the Applicants legal advisors, Gateley Plc, that consideration of this emerging allocation within the cumulative assessment is an exercise which was neither required, nor appropriate, as part of the environmental assessment for this project.

1.33. The requirement to assess, even on a cumulative basis, is specifically limited by the overarching test of reasonableness and the availability of current knowledge. There is very little current knowledge about the overall effects of the wider Garden Suburb proposal due to the very early stage of its preparation. The proposal referenced in the Council's Local Plan Preferred Development ~~is~~ was at a broad masterplanning level with indicative quantities of development which has not been fully tested, therefore there are limitations in respect of environmental assessment.

1.34. Despite these reservations, the Applicant ~~has~~ reached an agreed position with the Council to undertake a cumulative assessment of the Garden Suburb, based on assessment of only the quantum of development and phases of the Garden Suburb expected to be delivered in parallel with the phasing and delivery of the Six 56 Application proposals, as referenced in the Project Description (Section 2) of this ES Part One Second Addendum Report. The quantum of development and uses assessed are detailed in Section 9 of this ES Part One Second Addendum Report. Correspondence with the Council confirming this approach is included in Appendix 17 of this ES Part One Second Addendum Report.

1.35. This email correspondence confirms the following assumptions have been made as part of this cumulative assessment.

- Due to the limited information available in respect of the Garden Suburb, the Six 56 Warrington Cumulative Assessment will be a non-spatial assessment.
- Due to the delivery timeframe for the Six 56 Warrington Application proposals, the cumulative assessment will be based only on the phases of the Garden Suburb development expected to be delivered in parallel with the Six 56 proposals set out in the Council's Local Plan Preferred Development.
- Traffic and Transportation, Noise and Vibration and Air Quality cumulative assessments will be undertaken using the information available from Warrington Council's Highway modelling work produced for the emerging Local Plan and will therefore be based on the assumptions made within this model in terms of timing of delivery and distribution of traffic on the network.

- Agricultural Land and Socio Economic cumulative assessments will be based on only the phases of the Garden Suburb development expected to be delivered in parallel with the Six 56 proposals.

- There is not sufficient information available in terms of spatial delivery for cumulative assessments to be undertaken in respect of the other technical areas, which include Geology and Ground Conditions; Flood Risk and Drainage; Landscape and Visual Impact; Ecology and Nature Conservation; Cultural Heritage and Archaeology; Utilities; Waste; and Energy. As such it is not possible to undertake a cumulative assessment in respect of these technical areas.

1.36. It should be noted that since the original ES was prepared and submitted the Council ~~have~~ published their Proposed Submission Version Local Plan (March 2019), which state~~d~~ that the Garden Suburb will deliver around 7,400 homes, with around only 5,100 of these homes to be delivered within the Plan Period, up to 2037. This version of the Plan did ~~has~~ not ~~yet~~ progress~~ed~~ to publication version. The Council announced in October 2020 that they ha~~d~~v~~e~~ temporarily paused work on their Local Plan to assess the impact of Covid-19, the Government's proposed planning reforms and national guidance on calculating housing need. Work re-commenced following confirmation of changes to the Government's housing methodology at the end of 2020. The Council updated its evidence base to re-establish Warrington's future development needs and subsequently re-assessed the Plan's spatial strategy and potential allocation sites. Changes include: a reduction of the Plan's housing requirement; the allocation of the Fiddlers Ferry site for employment and housing, following closure of the power station in March 2020; the removal of some of the previous Green Belt allocation sites; and the reduction in size of the South East Warrington Urban Extension (previously known as the Garden Suburb), which will deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period. The Council's updated EDNA has re-confirmed the scale of employment land that the Council needs to plan for and the Plan makes provision to meet the full requirement of 316.26 ha of employment land. The Application site remains an allocated site and forms part of the South East Warrington Employment Area (137 ha). An updated Proposed Submission Version Local Plan (2021) which captures these changes has now been subject of a further six-week period of public consultation from the 4th October to the 15th November 2021.

1.37. ~~They~~ The Council now expect to review the implications of these matters following consultation and expect to progress their Local Plan to Submission stage in ~~Summer~~ March 2022 ~~2021~~. On this basis the cumulative assessment undertaken as part of the original ES

provides a robust assessment and despite there being a reduction in size of the South East Warrington Urban Extension (previously known as the Garden Suburb), which will now deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period, there is no reason or evidential basis on which to change the approach to the cumulative assessment.

Consultation

1.38. The Application Proposals have been subject to significant consultation with both public and statutory undertakers. The consultant team have been liaising with Warrington Council and surrounding authorities in formulating the proposals. The consultant team has been facilitated by a specialist communications company, Newgate, who have produced a Statement of Community Involvement which supports this Application.

1.39. This section identifies the consultation undertaken.

Consultation with Local Authority and Stakeholders

1.40. Engagement has been undertaken with Warrington Council. This has included a number of meetings and close liaison with the Planning Team as part of a DTM (Development Team Management) process. The meetings have considered the principles for development as well as highlighting concerns and agreeing approaches to collating supporting information.

1.41. Consultation has also been undertaken with a range of statutory and non-statutory bodies including the neighbouring local authority (Cheshire East Council).

1.42. The Applicant have also met with the Leader and Deputy Leader and Chief Executive of the Council and a range of stakeholders including the Cheshire and Warrington LEP, Warrington and Co. and the Construction Industry Training Board (CITB) to discuss the proposals in advance of the submission of this planning application.

1.43. Following the submission of the planning application in April 2019, feedback has been received from WBC and responses have been received from key consultees. The comments that have been addressed through the revisions to the proposals and as such addressed through this ES First and Second Addendum are summarised in the table below:

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
Outline Planning Application Description of Development	The outline planning application description of development now includes the removal of any change of use of Bradley Farmhouse to B1 (a) office use. Any change of use of this building will be dealt with separately following the grant of any outline permission, once prospective uses of this building have been fixed. To mitigate any impact on any residential amenity associated with noise emanating as a result of the proposed Six 56 employment development, the applicant will agree to cease use of this building for residential purposes. This can be agreed through a S106 Agreement.	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan
		ES Part 1 Report	-
		ES Non-Technical Summary	-
Updates to Illustrative Masterplan and Parameter Plans	The illustrative masterplan and parameters plans have evolved to address comments raised by these key consultees and reduce the noise impacts on sensitive receptors within the site, including re-alignment and location of landscape bunds around Bradley Hall Cottages and consequential changes to surface water drainage features and the number and function of replacement ponds in response to GMEU concerns. Realignment of estate roads and other minor amendments including details of the highway access into	Flood Risk & Drainage	Appendix 3.2 – Flood Risk Assessment and Drainage Strategy which includes revised drainage strategy plans.
		Transportation & Traffic	Appendix 2.1 Updated Transport Assessment which includes revised highways detail associated with access into the site.
		Ecology & Nature Conservation	Appendix 5.8 – Response to Ecology Consultation Comments (10682/R02a)
		Landscape and Visual Impact	Appendix 4.3 - Landscape Photomontages which show changes to landscaping detail on key viewpoints
		Noise & Vibration	Table 7.2: Summary of Consultations and Discussions which references discussions with WBC Environmental Protection Officer regarding changes to the illustrative masterplan Appendix 7.3 – Acoustic Barrier Mitigation

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
	the Site with minor changes to the location of the first roundabout into the site from the east to reflect the alignment of the estate road into the site and location of service and parking areas closest to Bradley View. The height parameters plan has also been amended as part of the Second Addendum to address concerns regarding scale and massing, reducing the building zones proposed heights from 43.5m (to ridge) to 30m (to ridge) and some of the buildings zones proposed at 24.5m high (to ridge) to 22m high (to ridge).	Cultural Heritage & Archaeology	Table 9.1: Summary of Consultations and Discussions which references discussions with Historic England regarding amendments to the illustrative masterplan
		ES Part 1 Report	Figure 4.4 Development Cells Parameters Plan (Updated to include changes to the proposals) Figure 4.5 Disposition Parameters Plan (Updated to include changes to the proposals) Figure 4.6 Height Parameters Plan (Updated to include changes to the proposals, including reduction in some building heights) Figure 4.7 Green Infrastructure Parameters Plan (Updated to include changes to the proposals) Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals) Figure 4.9 Drainage Parameters Plan (Updated to include changes to the proposals) Figure 4.10 Acoustic Parameters Plan (Updated to include changes to the proposals) Figure 4.11 Heritage Parameters Plan (Updated to include changes to the proposals) Figure 4.12 Demolition Parameters Plan (Updated to include changes to the proposals) Appendix 3 – Means of Access Plan (Updated to include changes to the proposals) Appendix 4 – Illustrative Masterplan (Updated to include changes to the proposals) Appendix 5 – Proposed Parameter Plans (Updated to include changes to the proposals) Appendix 7 – Topographical Survey Plan and Cut and Fill Finished Levels Contour Plan (Updated to include changes to the proposals)
		ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans and photomontages
	Amendments have been made to the mitigation package of works to	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
Detailed design of the mitigation for the M6 Junction 20 and the adjacent Grappenhall Lane/A50 roundabout and clarification and updates to the M6 Junction 20 Base Model	junction 20 of the M6, including rationalisation of lane markings; works to carriageway widths on the Grappenhall Lane/A50 roundabout and updates to the M6 Junction 20 Base Model to reflect discussions with HE and WBC Highways	ES Part 1 Report	Figure 4.4 Development Cells Parameters Plan (Updated to include changes to the proposals) Figure 4.5 Disposition Parameters Plan (Updated to include changes to the proposals) Figure 4.6 Height Parameters Plan (Updated to include changes to the proposals including reduction in some building heights) Figure 4.7 Green Infrastructure Parameters Plan (Updated to include changes to the proposals) Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals) Figure 4.9 Drainage Parameters Plan (Updated to include changes to the proposals) Figure 4.10 Acoustic Parameters Plan (Updated to include changes to the proposals and Site Sections showing height of bunds for approval) Figure 4.11 Heritage Parameters Plan (Updated to include changes to the proposals) Figure 4.12 Demolition Parameters Plan (Updated to include changes to the proposals) Appendix 3 – Means of Access Plan (Updated to include changes to the proposals) Appendix 4 – Illustrative Masterplan (Updated to include changes to the proposals) Appendix 5 – Proposed Parameter Plans (Updated to include changes to the proposals)
		ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans which refer to highway mitigation amendments
Pedestrian and Cycle Routes and Public Transport	Updates to relevant sections of the Part 1 and Part sections of the Addendum to reflect agreements to providing commuted sums towards continuing shared	Traffic and Transportation	Appendix 2.1 Updated Transport Assessment Appendix 2.2 Updated Travel Plan
		ES Part 1 Report	Figure 4.8 Access and Circulation Parameters Plan (Updated to include changes to the proposals)

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
	cycleway/footway beyond the Application boundary and safeguarding a section of the Applicants land, adjacent to Grappenhall Lane to facilitate any future road widening and improvements required on Grappenhall Lane. Agreement on a commuted sum of £600,000 towards improved bus services via a S106 financial obligation.	ES Non-Technical Summary	Updates to illustrations and plans including illustrative masterplan and parameters plans which refer to highway mitigation amendments
Landscape and Visual Impact (LVIA) amendments	Amendments have been made to the LVIA following discussions with Ramboll Consultants, advising the Council on landscape matters. Changes to the First Addendum include an additional baseline character and visual amenity analysis, consideration of the residual effects of lighting on landscape and visual effects and a Residential Visual Amenity Study (RVAS). Changes to the Second Addendum reflects comments made by Ramboll Consultants in respect of the First Addendum and also re-assesses the landscape and visual impact as a result of the reduction in some of the proposed buildings heights.	Landscape and Visual Impact	Appendix 4.3 Landscape Photomontages Residential Visual Amenity Study (RVAS)
		ES Part 1 Report	Appendix 16 – Lighting Assessment (Updated to include changes to the proposals and the residual effects of lighting on landscape and visual effects
Socio-economic Impacts	Consideration has now been given to the socio-economic impact of automation on the logistic sector following discussions with WBC Officers	Socio-Economic	Table 6.3: Socio-economic policy context Table 6.4: Sources of socio-economic data and guidance
		ES Part 1 Report	-
		Non-Technical Summary	-

Amendment	Reason for Amendment	Resultant Technical Paper Addendum	Resultant Amendments to the Technical Paper Figures and Appendices
Alternative Sites Assessment (ASA)	Reference to additional information and evidence to assess a wider area of search for alternative sites beyond Warrington's boundaries and further assessment of the Fiddlers Ferry site which will be reported in the separate Replacement Planning Statement.	ES Part 1 Report	-
Cumulative Development	Updates have been provided in respect of the current planning position associated with the Eddie Stobart planning application and appeal at Barleycastle lane, Warrington which was dismissed and clarification in respect of the cumulative development / number of dwellings proposed in the South East Urban Extension (formerly known as the Garden Suburb) site allocation to be delivered in the emerging Plan Period	Flood Risk & Drainage	Table 3.9 Cumulative Development
		Traffic and Transportation	Table 10.1 - Cumulative Development
		Ecology & Nature Conservation	Table 5.13: Cumulative Development
		Landscape and Visual Impact	Table 4.17: Cumulative Development
		Socio-economic	Table 6.27 Cumulative Development
		Noise & Vibration	Table 7.2: Summary of Consultations and Discussions
		Cultural Heritage & Archaeology	Table 9.12: Cumulative Development
		ES Part 1 Report	Table 9.1 Cumulative Developments (Updated)
		Non-Technical Summary	-

Table 1.1a: Consultation – Summary of post application submission consultation responses/comments addressed in ~~this~~ the First and Second Addendum

Consultation with the Community

1.44. This section identifies the community consultation undertaken. A more detailed summary of the Community Engagement undertaken is provided within the Statement of Community Involvement (SCI) included with this planning submission.

1.45. The first workshop events were held over two days at Grappenhall Community Centre in October 2018. The two workshops were attended by around 180 people. The workshops were extremely helpful in highlighting the issues that are most important to local people. The Applicant have also worked with Warrington Borough Council officers and other consultees to ensure that the solutions developed for the site work for the whole of Warrington and the surrounding area.

1.46. Following the consultation events in October 2018, further technical and design work was undertaken to consider those key matters and evolve the scheme. This included addressing the highways impacts, landscaping, maximum building heights (the specific design details of the buildings is not being applied for, but the scheme is guided by parameters, which set a maximum building height). Further detailed traffic modelling and design work has been undertaken to address and mitigate off site highway capacity concerns.

1.47. A meeting was also held with three local ward Councillors on the 4th March 2019 to present and discuss the proposals in advance of the March consultation events and submission of the planning application.

1.48. The second events were held on Thursday 7th March, 2-7pm at Grappenhall Community Centre and Friday 8th March, 12-5.30pm at the Customer Information Point, Golden Square Shopping Centre, Warrington. Further information regarding the proposals and the technical information supporting the proposals was displayed, providing the opportunity for members of the community discuss any issues and provide feedback, which would be considered by the Applicants consultant team and where appropriate inform any changes to the proposals prior to submission of the planning application.

1.49. Many people recognised the additional highways, environmental and technical mitigation that has been brought forward since the October 2018 consultation.

1.50. A record of all the comments and issues raised during the consultation events is included within the SCI submitted with the Application.

1.51. In summary, the consultation strategy adopted has given an opportunity for the development team to explain and present information to the community concerning the proposals and allowed the needs of Langtree PP and Panattoni, Warrington Borough Council and the local

community to be considered in a balanced manner. The feedback from the community has been valuable and has directly influenced the scheme evolution as identified above.

Approach to Environmental Statement

1.52. All proposals for projects that are subject to the European Environmental Impact Assessment (EIA) Directive 2014/52/EU must be accompanied by an Environmental Assessment (ES). The legislation has been transposed into UK law through the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended by the temporary 2020 Regulations) which are the EIA Regulations for England only (referred to hereafter as 'the Amended 2020 EIA Regulations').

1.53. The ES has been undertaken to allow a robust and transparent assessment of the proposals. It has been prepared in the context of the EIA Amended Regulations and accompanying legislation. The aim is to enable an objective assessment of the environmental impacts of the development.

1.54. The consultant team has followed the approach outlined in Schedule 4 of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) for the assessment:

- Description of development
- Description of the reasonable alternatives studied
- Description of the relevant aspects of the current state of the environment and likely evolution without the development
- Description of the aspects of the environment likely to be significantly affected by the development
- Description of the likely significant effects of the development on the environment
- Description of the forecasting methods or evidence, including details of any difficulties in compiling the required information
- Description of mitigation measures and any monitoring
- Where relevant a description of the expected adverse effects of the development on the environment from the vulnerability of development or risks of major accidents and/or disasters
- A non-technical summary

1.55. The ES is presented in two Parts. This Part 1 and Second Addendum (this report) as described above, provides the background and the summary analysis of environmental effects relating to

the project and the Part 2 Second Addendum contains the technical reports and the assessment of significant impacts. A separately bound non-technical summary Second Addendum is also provided.

Environmental Statement Part 1

1.56. Part 1 of the ES and this Second Addendum sets out the updated project description, the need for development and alternatives considered. It includes an overview of the environmental impacts of the proposals with a summary of the mitigation measures proposed and any monitoring that will be necessary. It contains the methodology for assessing significant environmental impacts as set out and agreed with WBC during the Scoping stage. The Part 1 and this Second Addendum will also include an assessment of the interaction of effects and a summary of the cumulative impacts assessed as part of each of the technical areas.

1.57. This Part contains a series of plans and illustrations to help the reader understand the background to the proposals and the scheme. It also provides an understanding as to how the development fits within the planning framework. Part 1 is important in establishing the context for the development allowing readers to understand the objectives of Langtree PP & Panattoni. It also sets out the framework for how significant impacts have been assessed.

1.58. A Glossary and Abbreviations list is included at **Appendix 14.**

Environmental Statement Part 2

1.59. The second Part to the ES sets out the individual technical reports. Using the methodology outlined in Part 1, these reports have been compiled over many months and will describe the environmental impacts of the development. The 2017 EIA Regulations (as amended by the temporary 2020 Regulations) state these reports only need focus on the significant impacts, however they will also briefly assess the issues which are not considered significant and have been 'Scoped Out'. Importantly, this part of the ES will outline the mitigation measures required to offset the environmental impacts. The technical chapters included within Part 2 are:

- Geology and Ground Conditions
- Traffic and Transportation (and the First Addendum to this Paper)
- Flood Risk and Drainage (and the First Addendum to this Paper)

- Landscape and Visual Impact (and the First and Second Addendum to this Paper)
- Ecology and Nature Conservation (and the First Addendum to this Paper)
- Socio Economic (and the First Addendum to this Paper)
- Noise and Vibration (and the First Addendum to this Paper)
- Air Quality and Dust
- Cultural Heritage and Archaeology (and the First Addendum to this Paper)
- Utilities
- Energy
- Waste
- Agricultural Land & Soils

Non-Technical Summary

1.60. A separately bounded Non-Technical Summary and Second Addendum of the ES is provided. This document is provided so that the public can understand the ES and its main findings.

1.61. As required by the 2017 EIA Regulations (as amended by the temporary 2020 Regulations), it includes a description of development, an outline of the main alternatives studied, a description of the aspects of the environment likely to be significantly affected by the development and the likely significance of the effects, and the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

Consultant Team

1.62. The applicants have taken professional advice from a competent development team and supplementary information has been prepared in support of this ES by the following consultants:

- Environmental Assessment Co-ordination - Spawforths
- Planning - Spawforths
- Masterplanning – Stephen George & Partners
- Geology and Ground Conditions – Cundall
- Traffic and Transportation – Curtins Consulting
- Flood Risk and Drainage – Cundall
- Landscape and Visual Impact – Layer Landscape Architects

- Ecology and Nature Conservation – Tyler Grange LLP
- Socio Economic – Amion Consulting
- Noise and Vibration - Cundall
- Air Quality and Dust – RPS Group
- Cultural Heritage and Archaeology – BWB Consulting
- Utilities – Ridge & Partners LLP
- Energy – Ridge & Partners LLP
- Waste – RPS Group
- Agricultural Land & Soils – Patrick Stephenson Arable Advisor

1.63. A statement confirming the relevant experience and qualifications of the development team is provided at **Appendix 15** in line with the 2017 EIA Regulations (Part 5, Regulation 18(5b)) (as amended by the temporary 2020 Regulations).

2. Project Description

2.1. This section identifies the site's location and context and describes the Proposed Development.

Site Location and Context

2.1. The Site is located in the North West of England, predominantly within the local authority area of Warrington.

2.2. The Site is located to the southeast of the town of Warrington (approximately 6 km (3.5 miles) from the town centre) and between the cities of Liverpool and Manchester (approximately 22km (13 miles) and 31km (19 miles) respectively). It is also located approximately 16km (10 miles) from Manchester Airport.

2.3. The M56 Motorway and M6 Motorway interchange (Junction 20 and 20A of the M6 and Junction 9 of the M56 Motorways) is located adjacent to the south east of the Site, with the M56 Motorway running east-west to the south of the Site, providing links to Cheshire and Greater Manchester; and the M6 Motorway running north-south to the east of the Site, provide links to Lancashire, Staffordshire and Greater Manchester, as well as the M62 Motorway at Junction 22A of the M6 Motorway to the north, which provides links east-west to Liverpool, Greater Manchester and Yorkshire.

2.4. The Site is shown on the national and regional context plans below and on a larger scale on the plans within **Appendix 1**.

Figure 4.1: National Context Plans

Figure 4.2: Regional Context Plan

2.5. The Site relates to an area of land of approximately 98.09 hectares (242.39 acres) in extent and is irregular in shape.

2.6. The Site is bound by the B5356 Grappenhall Lane and the A50 Cliff Lane to the north and motorway slip road to the east. Appleton Thorn Trading Estate, Barleycastle Trading Estate and Stretton Green Distribution Park are located to the west and Bradley Brook runs east-west to the southern boundary. The Site is predominantly farm land (arable and pastoral for cattle), with a series of hedges and trees to field boundaries. Bradley Hall Farm consists of a farm house and a series of farm buildings as well as a further residential property. There are a number of other neighbouring residential properties that are adjacent to, but outside the Application Site, including the Bradley Hall Cottages, which are all retained. The farm buildings adjacent to the Bradley Hall Farmhouse will be demolished as part of the proposals (as shown on the Demolition Parameter Plan in **Appendix 5**). Bradley Hall moated site is a Scheduled Ancient Monument (SAM) located within the Site boundary, to the eastern part of the site, adjacent to the farm buildings. It comprises the buried and earthwork remains of a medieval moated site for a medieval manor house, which is to be retained. The moated island is partly occupied by the farm house associated with Bradley Hall Farm, which is excluded from the Scheduling. ~~but which will be retained and converted to B1a office use as part of the Proposed Development.~~ Bradley Hall Farm and its curtilage buildings will be retained as part of the Proposed Development, however the Applicant will agree to terminate the use of the buildings for residential purposes on the commencement of any development associated with the grant of outline planning permission to avoid any impacts on residential amenity, given the proximity of this building to proposed employment uses. This can be controlled through a S106 Agreement. The future re-use and conversion of this building will be subject of a separate change of use application. Any subsequent application will give further consideration to the impact any change of use will have on the setting of this heritage asset and the SAM.

2.7. Beyond the northern boundary of the Site (within the triangle of land outside of the Application Site to the south of Cliff Lane) is a residential property and associated outbuildings, which is accessed from the A50 Cliff Lane via the same access as Bradley Hall Farm. There are Grade II* and Grade II Listed Buildings located beyond the south of the Site and to the north of Barleycastle Lane (Tanyard Farm Building and Barleycastle Farm House). There are other listed buildings within the wider area (see Cultural Heritage section).

2.8. There are some wooded areas and wooded outcrops within the Site, including Bradley Gorse and Wrights Covert within the south east of the Site. A series of field boundaries consisting of hedgerows and trees and a number of ponds (ten in total) and ditches are located across the Site.

2.9. The character of the area is generally rural, with farms and agricultural land beyond the boundaries of the Site, predominantly to the north and south. However this is interrupted with the Strategic Highway Network and further industrial/logistic uses, most notably those beyond the Site boundary to the south, south west and east.

2.10. The Site in its local context is shown on the plan below and in **Appendix 2.**

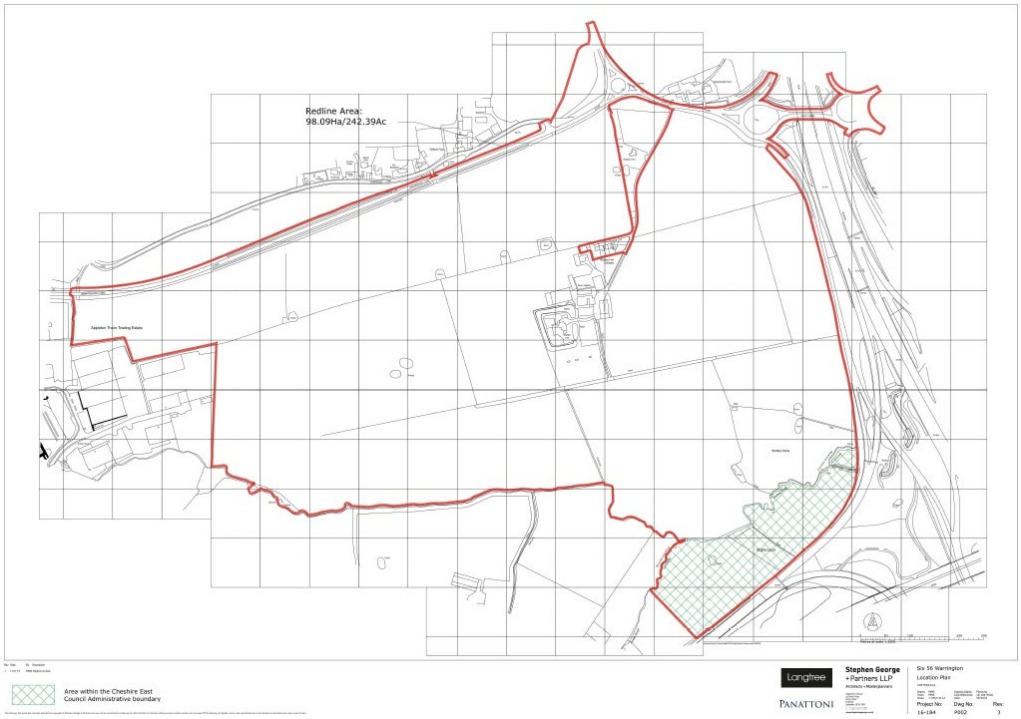


Figure 4.3: Application Site Boundary

2.11. Vehicular access to the Site is currently via Bradley Hall Farm from the A50 Cliff Lane, which has direct access to Junction 20 of the M6 Motorway, as well as Junction 9 of the M56 Motorway. There are also four field access points available from the Site's 1.15km long frontage to the B5356 Grappenhall Lane.

2.12. There are three designated Public Rights of Way across the Site, all of which are Footpaths. Footpath No 28 runs between the residential properties adjacent to Bradley Hall Farm in the east and Appleton Thorn Trading Estate in the west, however no actual connection is available on foot into the trading estate at its western end. Also, Footpath No's 31 and 23 run north-south across the site along the route of the main site access between Howshoots Farm to the north-east and Barleycastle Lane to the south of the Site.

2.13. The Site's topography is generally level, although it has two distinct areas of topography that are separated by a ridgeline running east to west. The northern plateau is a relatively flat area and the southern plateau becomes more undulating, with occasional ponds and depressions.

2.14. The Site is currently designated as Green Belt within the adopted Local Plan Core Strategy (July 2014) and Saved Proposals Map. The Site however forms part of a wider area identified for future growth in the form of the South East Warrington Urban Extension previously known as the Garden Suburb within the emerging new Local Plan ~~(Preferred Options Consultation (July 2017) and~~ Submission Version of the Local Plan ~~(March 2019~~September 2021~~)~~. The Site is identified for employment development which can be delivered independently of the South East Warrington Urban Extension ~~Garden Suburb~~.

2.15. Consideration of various planning designations and considerations is summarised in the table below:

Planning Designations / Considerations	**Site Address / Proximity to the Site**
Conservation Areas	The Site is not in or adjacent to a Conservation Area
Listed Buildings	Grade II Listed Barleycastle Farmhouse and Grade II* Tanyard Farm Farmbuilding are located approximately 650m to the south of the Site.
Locally Listed Buildings	Bradley Hall and Barn are locally listed buildings located at the centre of the Site
Scheduled Ancient Monuments (SAMs)	Bradley Hall Moated Site is Scheduled Ancient Monument located at the centre of the Site (list entry number 1011924).
Tree Preservation Orders	There are no Tree Preservation Orders on the Site

Planning Designations / Considerations	Site Address / Proximity to the Site
AONB or Landscape Designation	None
SSIs/SSSIs	None
Ecological Designations	There are no statutory ecological designations on or neigbouring the Site. Rixton Clay Pits Special Area of Conservation (SAC) is the nearest, located 5.5km northeast
Flood Risk Zone	The Site is located within Flood Risk Zone 1 (Low Risk of Flooding)
Air Quality Management Area (AQMA)	AQMA No. 1 is partly located within the Site, with a 50 m continuous strip running along both sides of the M6, M62 and M56 Motorway corridors
Rights of Way (including PROW, bridleways etc.)	PROW Appleton 3L, Appleton 28, and Appleton 3 run through the Site from the north, west, and south respectively, meeting at the north-east corner of Bradley Hall Farm toward the centre of the Site.

Table 1.2: Planning Designations Table

Development Description

The Development

2.16. The application will be an outline planning application as described below:

> *The outline application (all matters reserved except for means of access) comprises the construction of up to 287,909m² (3,099,025ft²) (gross internal) of employment floorspace (Use Class B8 and B1(a) offices) including ~~change of use of Bradley Hall Farmhouse to B1 (a) office use (335m² (3,600ft²)),~~ demolition of existing agricultural outbuildings and associated servicing and infrastructure including car parking and vehicle and pedestrian circulation, alteration of existing access road into site including works to the M6 J20 dumbbell roundabouts and realignment of the existing A50 junction, noise mitigation, earthworks to create development platforms and bunds, landscaping including buffers, creation of drainage features, electrical substation, pumping station, and ecological works.*

2.17. All matters, except for the Means of Access are reserved for consideration at a later date. The updated Means of Access is shown on the plan at **Appendix 3**.

2.18. Warrington Borough Council's Preferred Development Option Regulation 18 Consultation (July 2017) and Submission Version of the Local Plan (~~March 2019~~ October 2021) identifies the Site for redevelopment for Employment Use. The evidence based prepared to inform the previous Preferred Development Option Regulation 18 Consultation Document and Regulation 19 Submission Version relevant to the Application Site, includes The South Warrington Urban Extension Framework Plan Document (SWUEFP) (June 2017) and Warrington Garden Suburb Development Framework Document (March 2019) produced on behalf of Warrington Borough Council which also classifies the Site for redevelopment for Employment Use.

2.19. The Council have also recently consulted ~~are seeking to consult~~ on the next stage of their Local Plan, the Proposed Submission Version Local Plan ~~from~~ in October 2021 ~~April 2019,~~ for a period of ~~8~~ 6 weeks. This Submission Version of the Local Plan was presented to Full Council Board on them13th September 2021 ~~25th March 2019~~, seeking approval to commence public

consultation. Details of the Submission Version Local Plan are provided in Section 5 Plans and Policies in this ES Part One Second Addendum Report.

Parameters

2.20. During the evolution of the proposals, a number of parameters have been fixed, and form the basis of the environmental assessments. These parameters have subsequently evolved following submission of the Application, in response to issues raised from key statutory consultees.

2.21. The Illustrative Masterplan (updated to include changes to the proposals) shows how the site could be developed, taking account of the updated Site Parameters. See **Appendix 4** for updated Illustrative Masterplan alongside the previous version of this Illustrative Masterplan.

2.22. The parameters that inform the proposals for the Site have been generated from the key drivers identified within the SWUEFP and Garden Suburb Development Framework (March 2019). From this starting point, the arrangement of the Site has been heavily influenced by the presence of the Scheduled Ancient Monument on Site, the neighbouring land uses, including the sensitive residential receptors, the strong transport links and facilities that establish a series of hard boundary conditions, site topography and geological features, and substantial landscape features including Bradley Gorse and Bradley Brook to the immediate South East of the Development Site.

2.23. The scheme's evolution ~~will be~~ was influenced by a sequence of development plateaus relating to their immediate and wider context arranged around access routes through the Site. The scope of development of each of the plateaus is directly related to that of its immediate neighbours and the associated boundaries of that plateau. Environmental testing has also influenced the scheme evolution.

2.24. These parameters are grouped into a series of themes and are identified across the suite of Parameter Plans (updated to include changes to the proposals), included at **Appendix 5**. These themes are as follows:

- Development Cells – Developable areas across the site and associated site areas.
- Disposition – Land use and disposition of uses across the site, number of units, building heights, finished floor levels, floor space and car parking provision.
- Green Infrastructure – strategic landscaping, open green corridor, ecological mitigation, buffers and bunds, retained vegetation

- Access and Circulation – points of access into the Site, improvements to A50 junction and M6 J20 dumbbell roundabouts including existing, proposed and diverted footpaths and cycleways and areas safeguarded for potential highway improvements.
- Drainage – including details proposed drainage strategy
- Noise – including areas identified for noise mitigation
- Building Heights – zonal areas identifying maximum building heights across the site
- Heritage – buffers to Heritage Asset
- Demolition – buildings proposed for demolition

2.25. Updates to the Parameters Plan include minor realignment of one of the access points into the Site from the east to reflect the alignment of the estate road into the site and the estate road which traverses the green corridor, minor amendments to the location of the surface water drainage features and amendments the location of landscape bunds and attenuation barriers to address comments raised by key consultees and reduce the noise impacts on sensitive receptors within and adjacent to the site.

2.26. Since the submission of the Second Addendum, consultation responses have been received from Landscape Consultants Ramboll's acting on behalf of the Council in respect of the first addendum LVIA. This raised concerns regarding the scale of some the proposed buildings.

2.27. Following this consultee response, the Applicant has given consideration to the comments and concerns pertaining to the scale and massing of proposed buildings and has reduced some of the building heights outlined in the building zones illustrated on the Building Heights Parameters Plan, which are the highest and most dominant features of the proposals. This reduces the maximum building height in Zone B2 from 43.5m to ridge (40m clear internal height) to 30m to ridge (26.5m clear internal height), which relates to Plot 4 of the Illustrative Masterplan and Zone D1 and D2 from 24.5m to ridge (21m clear internal height) to 22m to ridge (18.5m clear internal height), which relates to Plots 2 and 3 of the Illustrative Masterplan.

2.28. Each of these are discussed in more detail below:

Development Cells

2.29. The Proposed Development is to provide a maximum developable area of 62.9 ~~64.74~~ hectares (~~159.97~~ 155.42 acres) This will be provided across 4 development cells, located west to east across the site, as follows:

- Zone A – 2.33 hectares (5.76 acres)
- Zone B – 32.84 ~~32.51~~ hectares (81.14 ~~80.33~~ acres)
- Zone C – 5.06 ~~5.47~~ hectares (12.51 ~~13.51~~ acres)
- Zone D – 22.67 ~~24.43~~ hectares (56.02 ~~60.37~~ acres)

2.30. These are shown on the updated plan below, also included at **Appendix 5**:

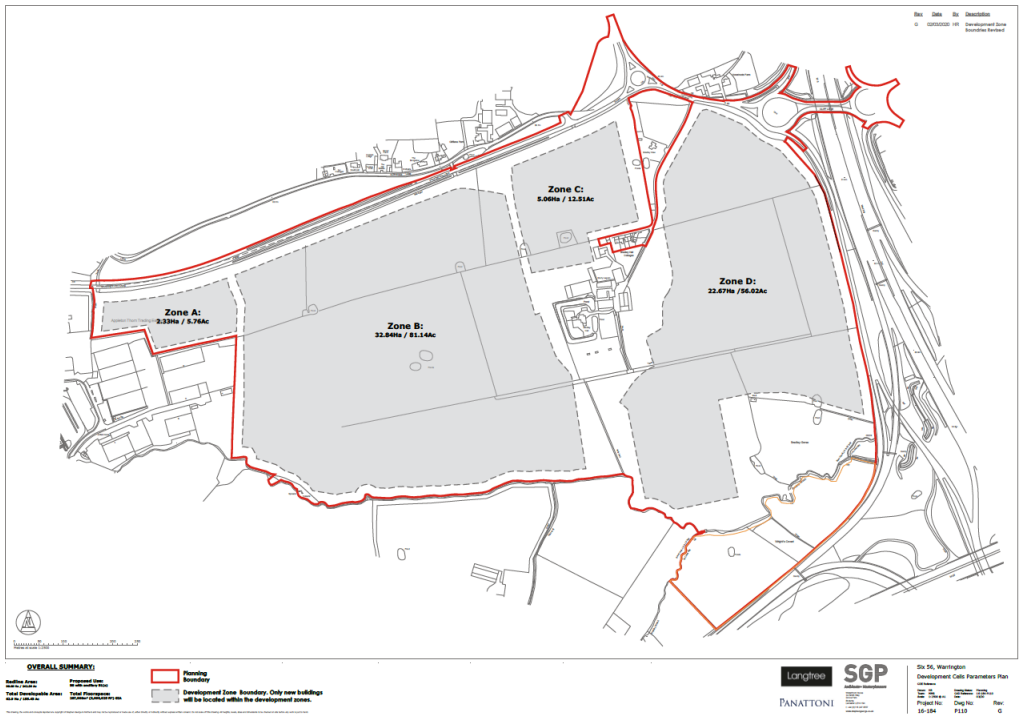


Figure 4.4: Development Cells Parameters Plan (updated to include changes to the proposals)

Disposition

2.31. The Proposed Development will provide up to 287,909m² (3,099,025ft²) of floor space across the site. This will be accommodated within 7 to 13 new buildings across the site, covering B8 uses with ancillary B1(a) office use ~~and a change of use of the existing Bradley Hall Farm house and cessation of its use for residential purposes ((335m²) 3600ft²)) to B1 (a) office use.~~ Only new buildings are proposed within these development cells.

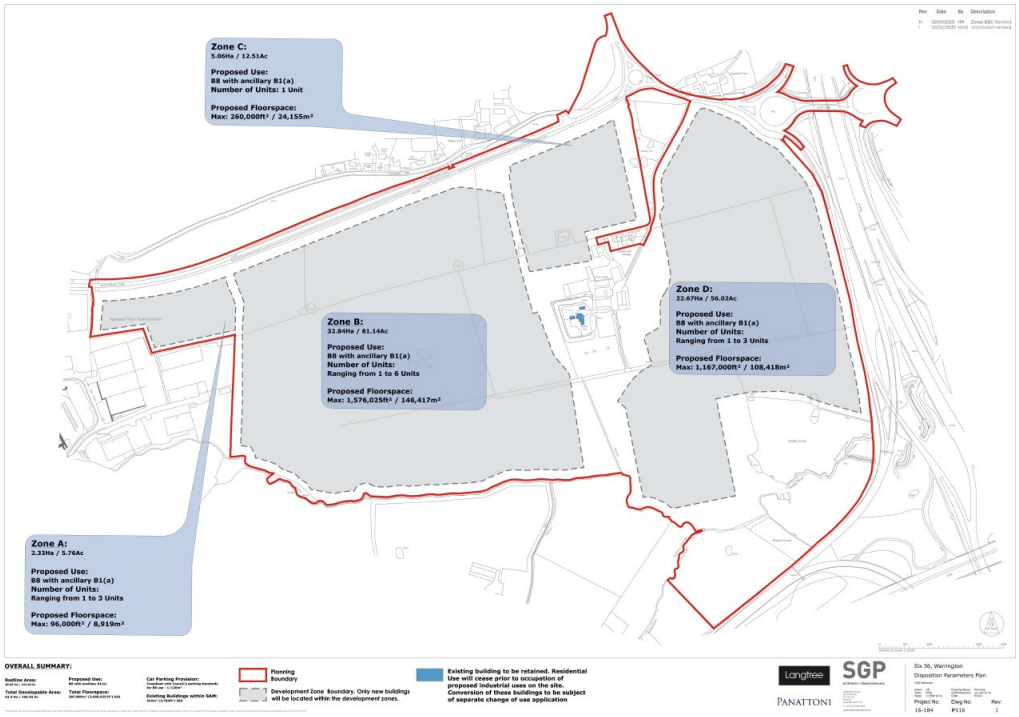


Figure 4.5: Disposition Parameters Plan (updated to include changes to the proposals)

2.32. Finished Floor Levels (FFL) will fluctuate across the site to reflect the cut and fill exercise that will create the development platforms, illustrated on the finished levels contour plan with a FFL in Zone C (60.25 AOD) and D (D2: 55.50 AOD and D1: ~~57~~ 56.50 AOD) to the east of the site, compared to Zone A (~~83.50~~ 65.50 AOD) and B (B1: 63.50-65.50 AOD, B2: ~~55.50 to 60.50~~ 61.50 AOD) to the centre and east of the site.

Heights

2.33. Across the Site, built form will range from 12.5m to 26.5 ~~40m~~ to haunch and 16m to 30m ~~43.5m~~ to ridge. The upper range of building heights will be located to the east and south of the site

and the lower range to the north and west of the site. Zone A will have a maximum of 16m (to ridge) above FFL. In Zone C and the northern part of Zone B there will be a maximum of 18.5m (to ridge) above FFL. In the southern part of Zone B there will be buildings ranging from a maximum of 30m ~~43.5m~~ to 22m ~~24.5m~~ (to ridge) above FFL and in Zone D a maximum of 22m ~~24.5m~~ (to ridge) above FFL.

2.34. These are maximum unit heights but the final unit heights could be lower and will ultimately be determined by end user requirements that are driven by commercial demand.

2.35. This is also on the plan included at **Appendix 5**:

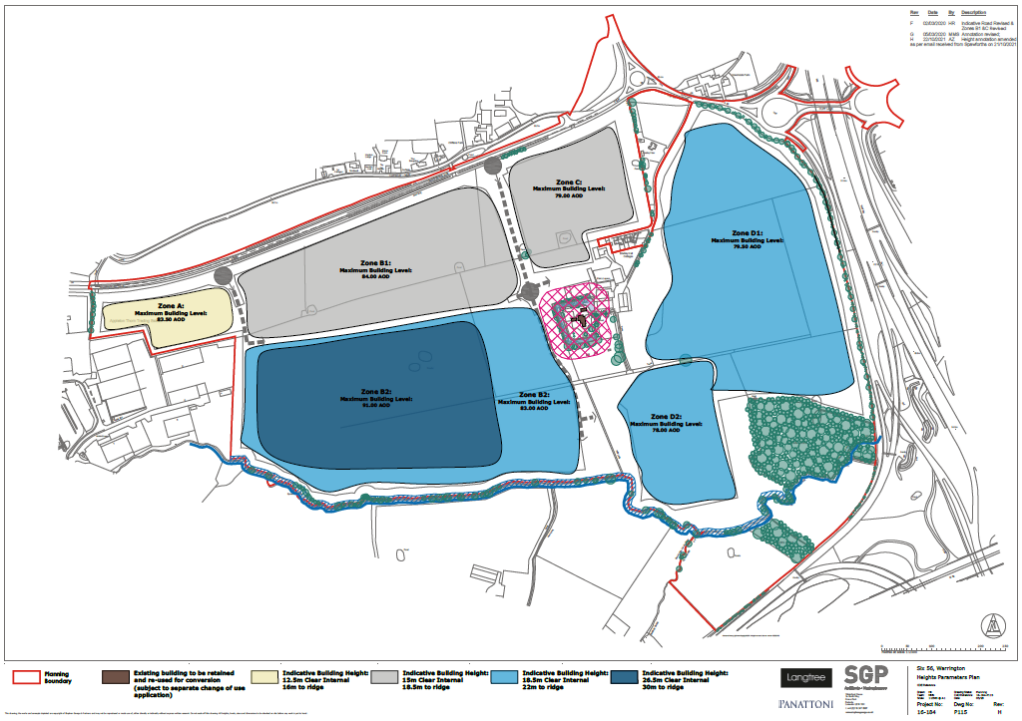


Figure 4.6: Height Parameters Plan (updated to include changes to the proposals, including reduction in building heights in Zone B2, D1 and D2)

Green Infrastructure

2.36. Strategic landscaping will be provided around the boundary of the Site. This will also enable the retention of existing trees and vegetation to the outer Site boundaries. Bradley Gorse and Wrights Covert to the southeastern extent of the Site are to be retained, as are the trees within and around the Bradley Hall moated site to the centre of the Application Site.

2.37. The two access corridors into the Site from the B5356 Grappenhall Lane will sit within the proposed strategic landscaping areas.

2.38. A Green Corridor will be provided from north to south within the Site to retain an open corridor around the Bradley Hall moated site and through the Site. Any proposed estates roads through this Green Corridor will be constructed and built into the level of the site to mimimise any impact of views through this corridor and impacts on the setting of the SAM.

2.39. A 15m standoff from built development will be retained to Bradley Brook, which runs east to west along the southern boundary of the Site. No new buildings are proposed within these areas of green infrastructure identified on the updated Parameters Plan. Bradley Hall Farm House and curtilage buildings, located within the SAM will all be retained. The Applicant will agree through the grant of any outline planning permission to cease use of these buildings for residential purposes on the commencement of any proposed development on the site, to remove any impact on residential amenity. A commitment to cease the use of Bradley Hall Farm House for residential purposes can be agreed under a S106 Agreement. Future change of use applications will be required to determine future uses of these buildings and ensure uses are complementary to the setting of these locally listed buildings and the setting of the SAM.

2.40. An area of ecological mitigation is to be provided to the south of Bradley Brook, around Wrights Covert. The ecological mitigation area can accommodate a total of seven replacement ponds, based on the principle of 2:1 replacement of GCN breeding ponds, and 1:1 replacement of other ponds to enhance aquatic breeding habitat for Great Crested Newts (GCN).

2.41. To raise the provision of new wetland habitat towards a 2:1 replacement of all ponds, two of the proposed attenuation basins, adjacent to Plot 1 and Plot 2 on the updated Illustrative Masterplan (Appendix 4) and Updated Drainage Parameters Plan (Figure 4.9) can be designed so that they will permanently hold water. Where possible, ponds selected for this treatment will be those closely linked to the proposed Green Infrastructure and Bradley Brook watercourse corridor and will be landscaped to maximise benefits for wildlife. Other attenuation features included across the scheme which are likely to be dry most of the time will be appropriately landscaped to provide a contribution towards additional terrestrial habitat for GCN and other wildlife using the site.

2.42. Habitat within the ecological mitigation area will include rough grassland for foraging with hedgerows and scattered scrub for cover and hibernation. It is likely that the existing grassland

habitat can mostly be enhanced through an appropriate management regime of periodic cutting, rather than habitat creation. New hedgerow and scattered scrub (throughout the site) will include native species and those which provide flowers or fruit resources through the year will also provide benefit for other wildlife.

2.43. This is also shown on the plan included at **Appendix 5**:

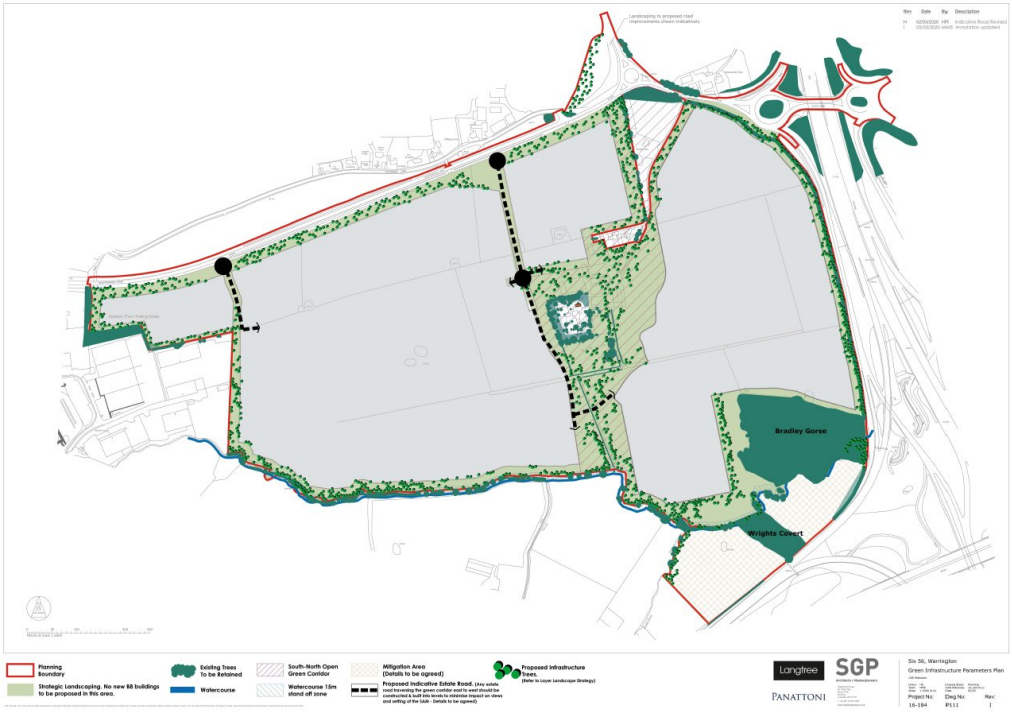


Figure 4.7: Green Infrastructure Parameters Plan (updated to include changes to the proposals)

Access and Circulation

2.44. Two points of access are to be taken from the B5356 Grappenhall Lane to the north of the Site via two new roundabouts. Minor changes have been made to the realignment of the first access point as you approach from the Cliff Lane roundabout, as illustrated on the updated Access and Circulation Parameters Plan. This is to reflect the alignment of the estate road into the site which has moved c. 45.5m to the east and which will alleviate noise impacts on residential properties.

2.45. An extensive package of mitigation works is proposed at the A50/Cliff Lane roundabout and M6 J20. The package includes:

- Relocation of the A50 Cliff Lane roundabout to the west of its existing location to enhance the storage capacity of the link between the roundabout and the motorway;
- Full signalisation of a new realigned A50 Cliff Lane roundabout with widening of all approach arms and reduction of the exit arm onto the A50 to one lane;
- Widening of the A50 link between the A50 Cliff Lane roundabout to provide two lanes for much of the links length;
- Partial signalisation of the two M6 J20 dumbbell roundabouts;
- Widening of the M6 Northbound off-slip;
- Widening of the circulatory carriageway on the two M6 J20 dumbbell roundabouts and rationalisation of the lane markings / directional arrows, implementation of a yellow box and installation of queue detectors; and
- ~~Incorporating MOVA delay management (or equivalent technology) and appropriate queue detection; and~~
- Widening on the eastern approach to the dumbbell roundabouts.

2.46. A footway and cycleway is proposed along the length of the Site's northern boundary and frontage with the B5356 Grappenhall Lane. This should be a 3.5m shared cycleway/footway 1.2km in length along this road corridor. Following comments raised by WBC Highways in their consultee response the Applicant has agreed to commit to providing a commuted sum to the Council towards continuing this shared cycleway/footway beyond the Application boundary extending the footway to the Grappenhall Lane / Broad Lane roundabout to provide better pedestrian permeability and connections. This would be implemented by the Council. This would necessitate an additional 175m of footpath on existing highway land to the south of Grappenhall Lane to continue the pedestrian/cycle infrastructure to the Broad Lane roundabout. The presence of street furniture and vegetation in this area and the width of the adopted verge may require a reduction of the 3.5m width to achieve this. It is understood that WBC would also like to see a new pedestrian/cycle crossing facility at the Broad Lane

roundabout. This would further enhance connectivity with Broad Lane in the north and/or the southern section of Grappenhall Lane to connect with Barleycastle Lane. This would be a distance of circa 220m. The Applicant is able to commit towards providing a commuted sum towards these improvements. The delivery of circa 1.5km of new pedestrian and cycle infrastructure and upgrades to the existing PROW network, would offer significant benefits over the existing situation. This infrastructure will enhance connectivity between the site and existing/proposed residential areas to the west and connectivity to Broad Lane. The enhanced PROW connections through the site and existing infrastructure at J20 does also provide a continuous link of connectivity to the M6 Junction 20 and beyond in the east and connectivity to the A50 Knutsford Road. Commuted sums towards these improvements will be agreed through a S106 Legal Agreement.

2.47. The Applicant has also agreed with WBC to safeguard a section of land, which will be landscaped (but not built upon) within the Application boundary extending from Grappenhall Lane to facilitate any future road widening and improvements required on Grappenhall Lane. This will ensure the protection of a 25m corridor along Grappenhall Lane can be achieved utilizing the existing adopted highway and a small part of the Applicant's land.

2.48. Footpath 31 follows the line of the current farm access into the Site from the A50 Cliff Lane and continues past the Bradley Hall moated site and to the south of the Site as Footpath 23. It is proposed to retain Footpath 31 in its general extent, and may require a minor variation to the alignment to provide a safe crossing point across an internal estate road.

2.49. Footpath 28 runs east-west across the site from Footpath 23 and 31, to the north of the Bradley Hall Cottages, across the fields, before terminating at the field boundary to the western extent of the Site. Footpath 28 will be diverted as part of the Proposed Development. Its diverted route will run along the northern boundary of the site, parallel with the B5356 Grappenhall Lane at the point of the proposed eastern access point. It will then re-enter the site alongside an internal estate road and rejoin Footpath 23.

2.50. Circulation within the Site is to be detailed at the Reserved Matters stage.

2.51. This is also shown on the plan included at **Appendix 5**:

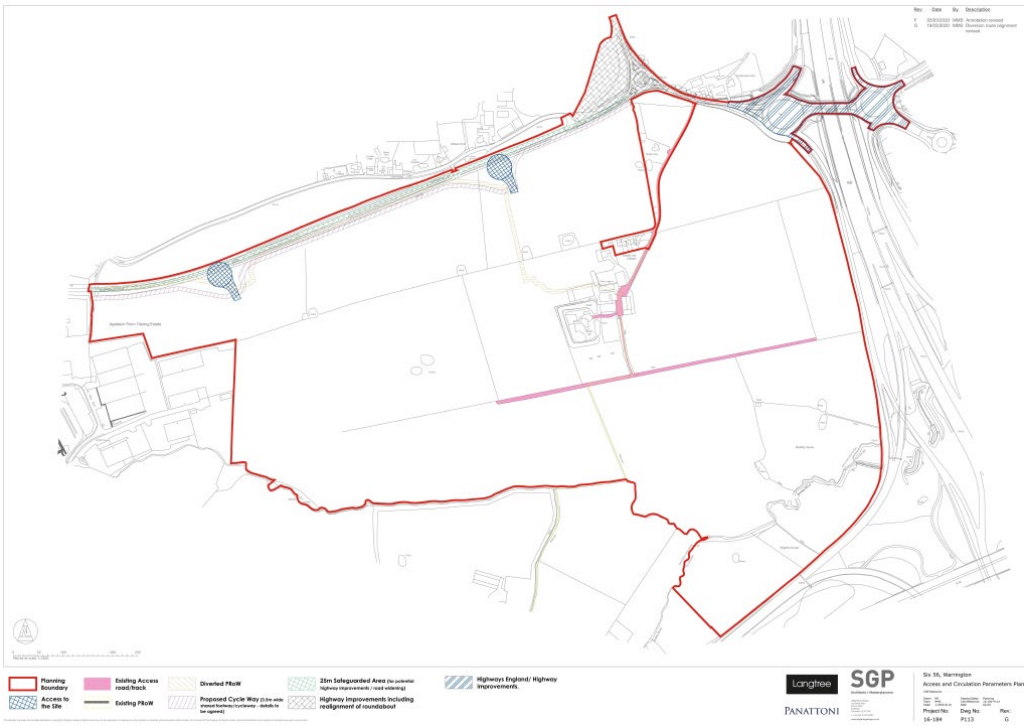


Figure 4.8: Access and Circulation Parameters Plan (updated to include changes to the proposals)

Drainage

2.52. Ultimately, each development plot will have its own surface water drainage strategy as well as attenuation of the associated and immediate public realm. A strategy is being developed for plot level and site wide drainage.

2.53. Sustainable drainage systems will be used along with greenfield runoff rates for surface water drainage. The areas illustrated on the Parameters Plans are those areas safeguarded for surface water drainage.

2.54. Minor changes have been made to the location of these attenuation basins and swales which have been revised to reflect the updated earthworks model.

2.55. A number of these basins can be used as permanent ponds and can also provide habitat for a variety of wildlife (rather than specific GCN breeding habitat). Any attenuation areas that are likely to be dry most of the time, can still contribute to terrestrial habitat for wildlife.

2.56. Foul water will be pumped to meet United Utilities sewers from a new pumping station within the site.

2.57. This is also shown on the plan below included at **Appendix 5**:

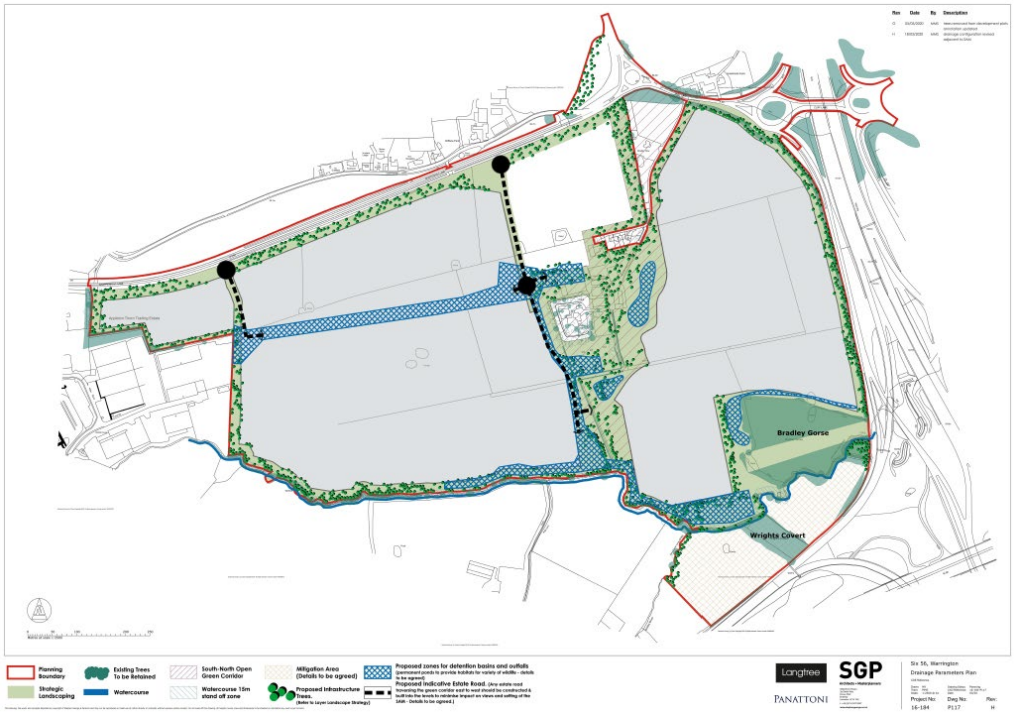


Figure 4.9: Drainage Parameters Plan (updated to include changes to the proposals)

Acoustics

2.58. The updated Acoustics Parameter Plan identifies areas closest to boundaries with residential properties and where external service plant or other noise generating equipment should not be placed, unless it can be demonstrated that appropriate mitigation can be put in place to avoid significant adverse effects on the noise receptors. It details that in these areas, delivery/loading bays should be orientated away from the Site boundaries and the neighbouring residential properties.

2.59. The updated Acoustics Parameter Plan will ensure appropriate noise mitigation is in place to attenuate noise levels that will be experienced during the operational phase of the development at existing properties on Cartridge Lane and sensitive receptors within the site comprising

Bradley Hall Cottages and Bradley View. The realignment of the proposed roundabout access into the site shown on the updated Access and Circulation Parameters Plan (Figure 4.8), including the proposed location of bunds illustrated on the updated Acoustics Parameter Plan will reduce noise levels from road traffic and proposed service yards and docking bays to an acceptable level. The removal and realignment of any proposed estate road on the site carrying operational traffic away from Bradley Hall Cottages will also reduce noise levels adjacent to the Cottages to an acceptable noise level. The reconfiguration of landscape bunds will also retain a sense of openness around the Cottages and green corridor. This also results in revisions to the number and location of bunds adjacent to Bradley Hall illustrated on the updated Acoustic Parameter Plan and proposed Site Sections.

2.60. ~~It also details the location of bunds to attenuate noise egress from the site during the operational phase.~~ Additional acoustic barrier screening has also been carefully considered at roadside and bund locations adjacent to Bradley Hall Cottages~~, which~~. The bunds will have maximum 1:3 gradient slopes to a maximum height of approximately 5m, facing the Cottages with 2.5-3m ~~2-3m~~ high acoustic fencing on parts of the bunds separating ~~around~~ Bradley Hall Cottages and Zone ~~B~~ C and D. The side of the bund facing the proposed employment units will be more vertical, formed from Gabion walls or similar. The gabion wall will be within 1m of the car park edge and will continue around the perimeter of the car park to accommodate the bund. These bunds shown on the Updated Acoustic Parameters Plan and Site Sections will be created during the site enabling phase of construction works.

2.61. This is shown below and on the plan included at **Appendix 5**:

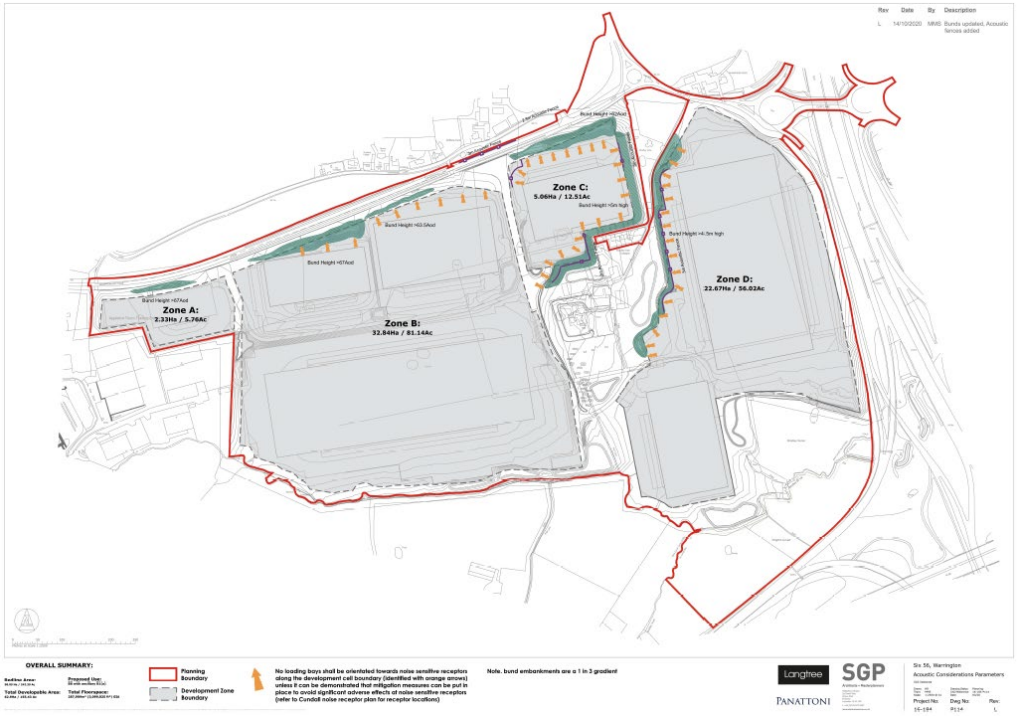


Figure 4.10a: Acoustic Parameters Plan (updated to include changes to the proposals)

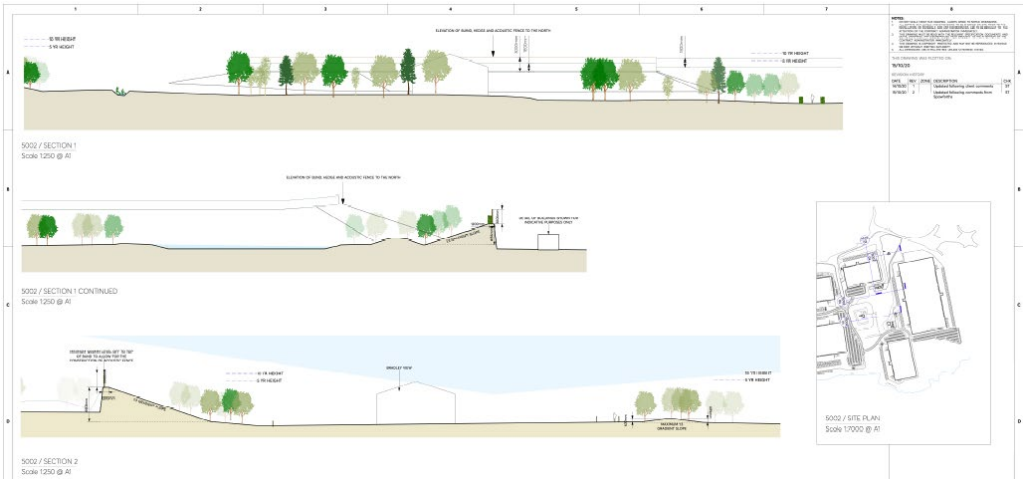


Figure 4.10b: Site Sections to show noise mitigation

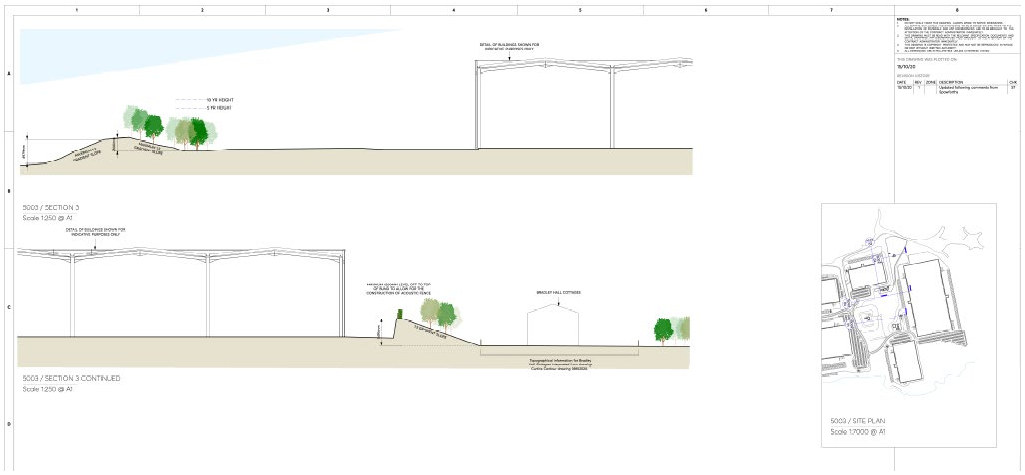


Figure 4.10c: Site Sections to show noise mitigation

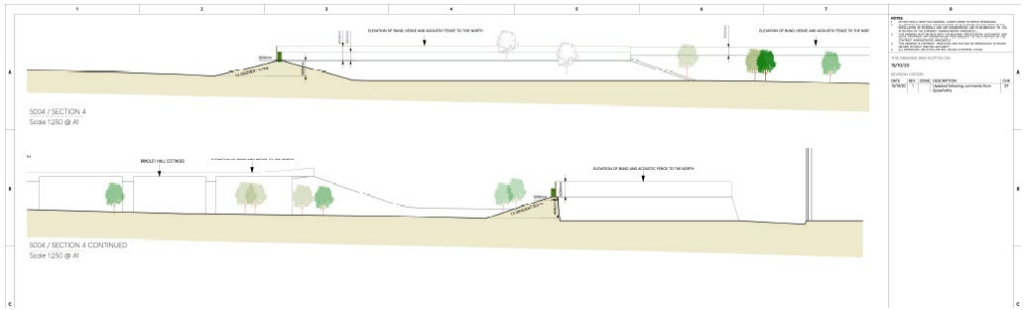


Figure 4.10d: Site Sections to show noise mitigation

Heritage

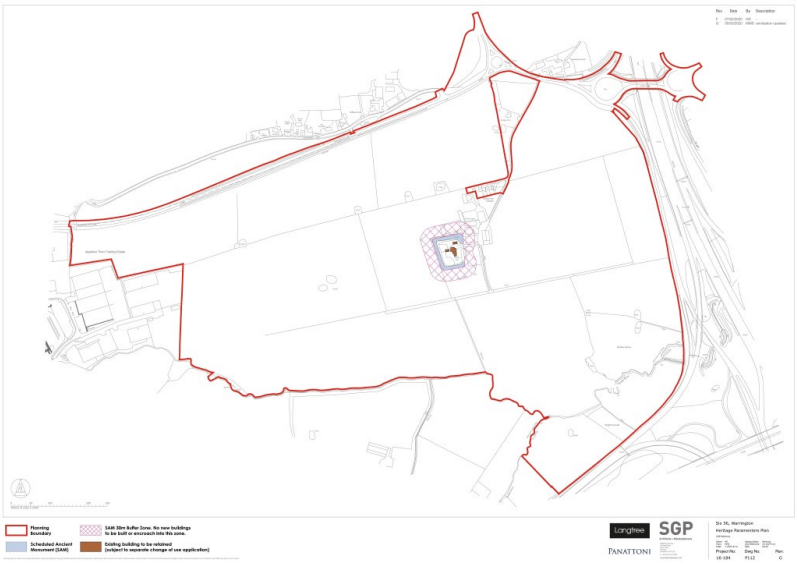


Figure 4.11: Heritage Parameters Plan (updated to include changes to the proposals)

2.62. Bradley Hall moated site is a Scheduled Ancient Monument (SAM) located within the Site boundary, to the eastern part of the site, adjacent to the farm buildings. It comprises the buried and earthwork remains of a medieval moated site for a medieval manor house, which is to be retained. The moated island is partly occupied by the farm house associated with Bradley Hall Farm, which is excluded from the Scheduling, but which will be retained. ~~and converted to B1a office use as part of the Proposed Development.~~ This Heritage Parameter Plan seeks to identify a 30m stand-off and buffer between any built development and the moat which is a heritage asset. The existing Bradley Hall Farm building, which is a locally listed building (non-designated heritage asset), will be retained ~~and converted for B1a office use.~~ No new buildings will be built or encroach within the 30m stand-off and buffer.

2.63. The Applicant will agree through the grant of any outline planning permission to cease use of the existing Bradley Hall Farm building, for residential purposes on the commencement of development on the site, to remove any impact on residential amenity. This will be agreed through a S106 Legal Agreement. Further change of use applications will be required to determine future uses of these buildings and ensure uses are complementary to the setting of these locally listed buildings and the setting of the SAM. These are also shown on the plan included at **Appendix 5**:

Demolition

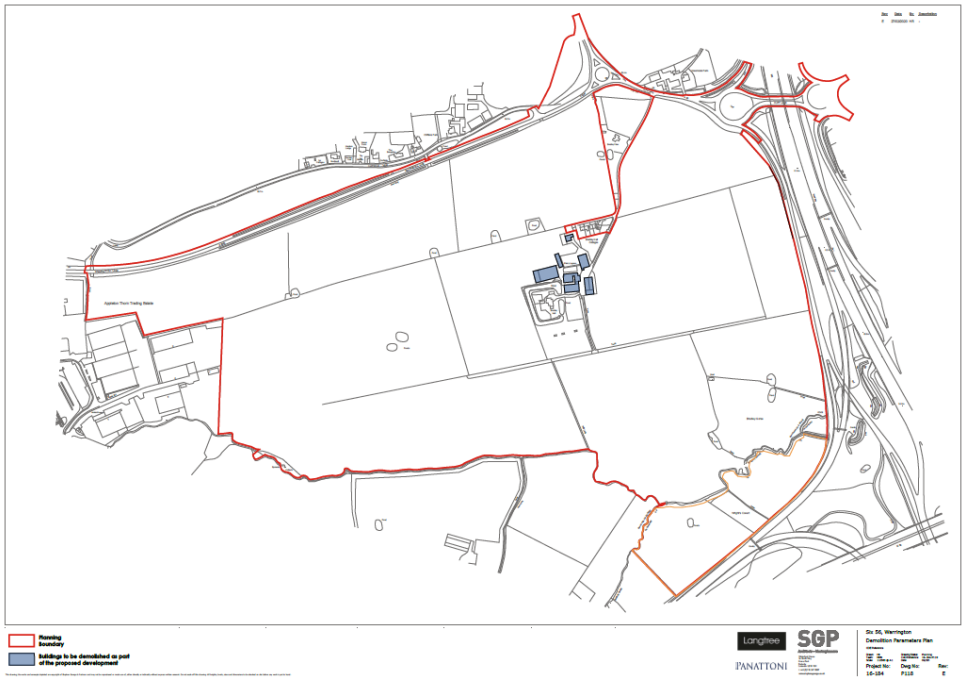


Figure 4.12: Demolition Parameters Plan

2.64. This Demolition Plan identifies the extent of the existing buildings on site proposed for demolition on site. These comprise the complex of farm outbuildings associated with Bradley Hall Farm.

2.65. The consultee response from the WBC Conservation Officer expressed initial concerns regarding the demolition of some of the farm outbuildings. A further structural investigation and heritage evaluation of these outbuildings has now been undertaken. This assessment which forms part of the updated Cultural Heritage and Archaeology Addendum Technical Paper confirms that these farm buildings have been subject of various alterations and re-building, which has significantly affected the historical character and integrity of the original complex of buildings. The poor structural architectural condition of the buildings has also diminished the significance of these buildings and the removal of many of the original features has degraded the building further. Given the significant amount of disturbance to the original structure and the diminishing structural integrity of the buildings, these buildings are not suitable for conversion therefore the assessment confirms they are proposed for demolition on the Demolition Parameters Plan.

2.66. Following this further investigation and assessment, it was accepted by Officers that these buildings have undergone alteration and extension to a degree that they are not suitable for conversion and therefore the demolition of these outbuildings is supported subject to agreement that these buildings should be recorded, prior to demolition.

2.67. These are also shown on the plan included at **Appendix 5**.

Infrastructure Arrangements and Ground Conditions

2.68. This section details service arrangements, drainage and flood risk, access and highways and ground conditions.

Existing Services Arrangements

2.69. The existing Site has the following services that will either be disconnected and / or diverted to facilitate the proposed development:

- Electrical services (Low Voltage only)

- Telecommunication services
- Water services

2.70. The existing electrical services comprise an overhead low voltage cable that runs south from the B5356 Grappenhall Lane, across the site to Barleycastle Lane. The cable serves Bradley Hall, an on-site telephone mast, adjacent to Bradley Gorse, and properties on Barleycastle Lane.

2.71. The Electrical supplies to the existing site will be disconnected and the existing services on Barleycastle Lane shall be re-fed from new supplies to the south of the Site. Should the residential properties adjacent to Bradley Hall Farm be retained, new services will be installed.

2.72. The telephone mast will be re-fed by a new supply via underground cabling from the proposed development.

2.73. The existing telecommunications services feed the existing residential properties adjacent to Bradley Hall Farm, these services will be disconnected back to B5356 Grappenhall Lane or new services installed to the residential properties.

2.74. The existing water services feed the existing residential properties adjacent to Bradley Hall Farm, these services will be disconnected back to B5356 Grappenhall Lane or new services installed should the residential properties.

2.75. The existing Gas, Electric and Telecomms services running along Grapenhall Lane / A50 are not envisaged to be affected by the re-aligned roundabout at the junction of Grapenhall Lane / A50.

2.76. The existing Water service running along Grapenhall Lane / A50 will require re-routing to facilitate the re-aligned roundabout at the junction of Grapenhall Lane / A50.

Proposed Services Arrangements

2.77. New Utilities services will be installed for the proposed development including electric, telecommunications, water and gas services.

2.78. The proposed electrical supplies to the proposed development will comprise a new 33kV primary sub-station to be located within the Proposed Development Site, this primary sub-station will feed a number of 11kV sub-stations located adjacent to the units. The capacity applied for the proposed development supply is 20Mva.

2.79. The proposed telecommunications services to the Proposed Development Site will comprise an infrastructure of below ground ducts and wire ways to each unit. The ducts will connect back to the telecommunications primary network on B5356 Grappenhall Lane.

2.80. The proposed water service to the Proposed Development Site will derive from the existing water main on B5356 Grappenhall Lane, and will distribute throughout the Site to serve each unit and fire hydrants. A pumping station is envisaged to be required at this stage to meet the required flow rates. The existing water mains infrastructure requires upgrading to support the Proposed Development. The capacity applied for the proposed development is 13.39 l/s.

2.81. The proposed gas supply to the Proposed Development will be derived from the existing 180PE M/P main, located near to the junction of Barleycastle Lane and Grappenhall Lane, the new gas main will run underground along Grappenhall Lane to the Proposed Development Site, this distance is approximately 900 meters. The new gas supplies for the Proposed Development will run underground to each unit location terminating into a dedicated gas meter per unit. The currently applied for gas load is 26,500 kWh. The existing network is unlikely to require reinforcement; confirmation of this is required from the asset owner following a full network study which will be carried out during detailed design analysis.

Drainage and Flood Risk

2.82. The Site is wholly within Environment Agency Flood Zone 1 land, classified as land that has a low probability of flooding.

2.83. A main EA river network is present on the southern boundary of the Site. A tributary of Bradley Brook originates from Barleycastle Lane flowing west to east before joining Bradley Brook prior to being culverted under the M6. The river continues north through Lymm with eventual connection to the Manchester Ship Canal network.

2.84. There are no groundwater abstraction points or primary aquifers within 1km of the Proposed Development.

2.85. There are no formal foul or storm artificial drainage connections offsite from the development. The existing drainage assets are limited to the farm house, cottages and field drainage. The waste from the existing properties is collected within an underground system and discharges to a series of local artificial cess pits which are emptied at regular intervals. The storm water drainage from the properties and surrounding infrastructure is collected and conveyed to a

combination of ground and overland routes with eventual collection in the Bradley Brook network on the southern boundary. Artificial drainage from the agricultural fields is also present with discharge to various ditches throughout the Site.

2.86. The closest adoptable sewer network is located in the industrial estate to the west, under the responsibility of United Utilities (UU). The closest adoptable sewer network with available connection to processing plants is found further south-west within the outer regions of Appleton.

2.87. The natural drainage patterns on the Site indicate mainly greenfield runoff toward Bradley Brook. There are also a series of onsite ponds which collect and store water for sub-catchments without positive artificial connections. Bradley Gorse also has an independent natural drainage network which includes ponds and overland connectivity with eventual connection back to Bradley Brook.

2.88. The proposed foul drainage strategy is to collect and convey waste via gravity to a central pumping station. This will then be pumped within a rising main west and south along the B5356 with connection to the United Utilities sewer network.

2.89. The foul water rising main will be laid in a dedicated trench within the existing road. It will exit the site by the site entrance roads into Grappenhall Lane (B5356). It will continue in the pavement of Grappenhall Lane, past the junctions of Broad Lane and Barleycastle Lane, to the centre of Appleton Thorn village at the crossroad junction of Lumb Brook Road, Arley Road and Grappenhall Lane.

2.90. The rising main will meet the existing UU sewer at this junction. The rising main will be laid at a typical depth of 1.1 to 1.2 metres. The trench will be located typically 1.0 metre off the kerbline / edge of the road to ensure there are no stability issues to adjacent properties. The trench is likely excavated using road saws, 5 – 13 T excavators with rubber wheels/tracks, dumper truck, and filled by grab and compacted by hand held rammer. Asphalt will be re-laid by hand and compacted by single drum vibrating roller.

2.91. The proposed storm water drainage strategy will see the Site with eventual discharge direct to Bradley Brook at Greenfield Runoff Rate (GRR). Storm water will be restricted to GRR from each plot and conveyed to a central Sustainable urban Drainage Systems (SuDS) corridor where

discharge from the road network will also discharge. Treatment levels will be provided both on plot and in the public realm.

2.92. In order to provide flood risk protection to the Site and to the surrounding neighbourhood to manage the limited storm water discharge, onsite attenuation will be provided both in the main infrastructure and within the plots. This will be to the required return periods as required by the LLFA including allowances for climate change in accordance with the Framework. All storm water flows for the 1 in 30 year storm events will be contained below ground with all flows for the 1 in 100 year events plus climate change allowance of 40% being contained safely within the site boundaries overland and/or underground.

2.93. Proposed detention basins, ponds and surface water features are included within the scheme as part of the proposed development stormwater attenuation requirement.

2.94. All new impermeable surfacing (roads, car parks, roofs etc.) will be drained to the new storm water drainage network and conveyed to new outfalls to Bradley Brook. As part of the main network, SuDS have been included to improve water quality prior to the discharge to the receiving waters. SuDS will naturally filter the water and remove pollutants and solids prior to discharge.

2.95. Swales are proposed to drain the access road where levels allow. All impermeable areas from the proposed Development plots, along with the water from the main highway will then pass through detention basin systems. In addition to this, on plot SuDS will be required for each development unit.

2.96. A series of Key Receptor Plans are included in **Appendix 6**.

Access Arrangement and Highway Works

2.97. The Site currently benefits from five access points along the B5356 Grappenhall Lane, including one main Site access into Bradley Hall Farm, between the A50 Cliff Lane / Grappenhall Lane roundabout and the western roundabout of the M6 Motorway Junction 20, plus four field accesses along the Site's frontage to Grappenhall Lane.

2.98. The main Site access into Bradley Hall Farm also forms part of the Public Right of Way Network (Footpath No 31), which allows a connection through the Site to Barleycastle Lane to the south (where the route becomes Footpath No 23).

Proposed Access

2.99. The proposed development will be accessed via two new roundabouts on Grappenhall Lane. Minor changes have been made to the alignment of the first roundabout access from the east to reflect realignment of the estate road access into the site and will alleviate noise impacts on residential properties. The principal roundabout will be at a point approximately 380m to the west of the A50 Cliff Lane / Grappenhall Lane roundabout and a secondary roundabout 350m to the east of the existing Broad Lane / Grappenhall Lane / Barleycastle Lane roundabout.

The roundabouts will be designed in full accordance with design standard TD16/07 of the Design Manual for Roads and Bridges and will accommodate the swept path manoeuvres of high volumes of large HGV vehicles.

Internal Roads

2.100. Internally, the initial section of the proposed Site access road served from the principal roundabout will feature a dual-carriageway road, which will lead to an internal network of roads with minimum 7.3m carriageway width and 2m footways.

2.101. The secondary roundabout to the west of the site will create a two lane entry and exit from the site which will connect into an internal estate road which links with the primary access into the site. This internal estate road and link between the two roundabouts will allow buses to penetrate the site with provision of a bus stop within the site.

2.102. Changes have been made to the illustrative masterplan to remove any proposed estate road close to Bradley Hall Cottages in order to reduce noise levels adjacent to the Cottages to an acceptable noise level. This will result in realignment of an estate road which provides vehicular access into proposed industrial units in Zone D of the updated Disposition Parameters Plan to the south of the SAM. Any proposed estates road and associated street furniture and lighting in this location will be constructed and built into the levels on the Site to mimimise any impact of views through this green corridor which separates Zone B and D on the Disposition Parameters Plan and any impacts on the setting of the SAM. This can be controlled through planning conditions.

Pedestrian and Cycle Routes

2.103. A footway and cycleway is proposed along the length of the Site's northern boundary and frontage with the B5356 Grappenhall Lane. This should be a 3.5m shared cycleway/footway 1.2km in length along this road corridor. Suitable pedestrian and cycle provision will be catered for within the internal Site layout as part of the development of a detailed scheme layout.

2.104. The Applicant has also agreed to commit to providing a commuted sum towards continuing this shared cycleway/footway beyond the Application boundary extending the footway to the Grappenhall Lane / Broad Lane roundabout to provide better pedestrian permeability and connections. This would necessitate an additional 175m of footpath on existing highway land to the south of Grappenhall Lane to continue the pedestrian/cycle infrastructure to the Broad Lane roundabout. This commuted sum will be agreed through a S106 Legal Agreement.

2.105. The presence of street furniture and vegetation in this area and the width of the adopted verge may require a reduction of the 3.5m width to achieve this. It is understood that WBC would also like to see a new pedestrian/cycle crossing facility at the Broad Lane roundabout. This would further enhance connectivity with Broad Lane and connect with Barleycastle Lane. The Applicant is able to commit towards providing a commuted sum towards these improvements. The delivery of circa 1.5km of new pedestrian and cycle infrastructure and improvements to the existing PROW network through improved surface treatments and realignment through formal PROW diversion, would offer significant benefits over the existing situation. This infrastructure will enhance connectivity between the site and existing/proposed residential areas to the west, connectivity to Broad Lane. The enhanced PROW connections through the site and existing infrastructure at J20 does also provide a continuous link of connectivity to the M6 Junction 20 and beyond in the east and connectivity to the A50 Knutsford Road.

2.106. The Applicant has also agreed with WBC to safeguard a section of land, which will be landscaped (but not built upon) within the Application boundary extending from Grappenhall Lane to facilitate any future road widening and improvements required on Grappenhall Lane. This will ensure the protection of a 25m corridor along Grappenhall Lane can be achieved utilizing the existing adopted highway and a small part of the Applicant's land.

2.107. The existing Public Right of Way, Footpath 31 follows the line of the current farm access into the Site from the A50 Cliff Lane and continues past the Bradley Hall moated site and to the south of the Site as Footpath 23. It is proposed to retain Footpath 31 in its general extent, although it may require a minor variation to the alignment along an ~~to provide a safe crossing point across an~~ internal estate road and around the SAM before it rejoins the existing route of this footpath.

2.108. Footpath 28 runs east-west across the site from Footpath 23 and 31, to the north of the Bradley Hall cottages, across the fields, before terminating at the field boundary to the western extent of the Site. Footpath 28 will be diverted as part of the Proposed Development. Its diverted route will run along the northern boundary of the site, parallel with the B5356 Grappenhall Lane at the point of the proposed eastern access point. It will then re-enter the site alongside an internal estate road and rejoin Footpath 23. A series of improvements are required to the A50 Cliff Lane / Grappenhall Lane roundabout and the two 'dumbbell' roundabouts at the M6 Motorway Junction 20 ~~(see paras 2.115– 2.104)~~ ~~(see paras 2.116– 2.117)~~ (see paras 2.117–2.118).

Public Transport

2.109. The accessibility of the proposed development via public transport is considered in detail as part of the Transport Assessment and ES.

2.110. In terms of access by sustainable modes, the Site is located within the typical preferred maximum 2km walking distance of Appleton Thorn Village, which includes facilities characteristic of its scale and nature.

2.111. The Site is also within the typical maximum 8km cycle distance of a range of areas including Daresbury to the west, central Warrington to the north-west, Warburton to the north-east, and Arley to the south.

2.112. The nearest bus stops to the site are situated in Appleton Thorn Village some 2.3km walk distance from the centre of the Site. Currently, the bus stops in Appleton Thorn are served by the No's 8/8A/8E & 7 services, which (combined) provide an hourly service to Warrington / Stockton Heath. This reflects the semi-rural location of Appleton Thorn in the Borough.

2.113. The potential to improve the accessibility of the Site by public transport will be set out in a Travel Plan Framework submitted as part of the planning application. The internal estate road and link between the two roundabouts will allow buses to penetrate the site with provision of a bus stop within the site. Setting aside the potential significant improvements to public transport that could be brought about by the Warrington Garden ~~City~~ Suburb allocation, there is already a commitment to improve bus services to the west of the Site. It is understood that Warrington Borough Council (WBC) have recently secured circa £500,000 via a S106 financial obligation from the HCA in connection with their three recently-approved residential schemes

near Appleton, and that the obligation relates to the improvement of the no.8 bus service provision along Stretton Road (which becomes Grappenhall Lane further towards the Site).

2.114. Following further discussions with WBC following their consultation response the Applicant and Council agreed that a commuted sum of £600,000 towards improved bus services via a S106 financial obligation would be acceptable. This level of funding is comparable to the contribution Stobart agreed on their application which was to fund three shuttle buses from different directions (Warrington, Runcorn and Cadishead).

2.115. The nearest railway stations are in Warrington (Warrington Bank Quay and Warrington Central), both situated some 6.5km crow-fly distance from the Site. The stations lie within 8km cycle distance from the Site, making a longer journey by rail / cycle a possibility.

2.116. Both stations are collectively served by a large number of train services that route to a wide variety of destinations across the entire country at a high frequency. Whilst it is not intended to exhaustively list each destination, selected destinations include Manchester, Liverpool, Blackpool, London, Glasgow, Edinburgh and Llandudno.

Off Site Highway Impacts

2.117. An extensive scoping exercise has been undertaken with Highways Officers at Warrington BC, and Highways England. As a result of these discussions a number of junctions have been identified and considered as part of the Transport Assessment and ES.

2.118. Traffic counts have been undertaken at these locations and capacity assessments have been completed. As a result of this work, it is considered that an extensive package of mitigation works is proposed at the A50/Cliff Lane roundabout and M6 J20. The package includes:

- Relocation of the A50 Cliff Lane roundabout to the west of its existing location to enhance the storage capacity of the link between the roundabout and the motorway;
- Full signalisation of the new realigned A50 Cliff Lane roundabout with widening of all approach arms and reduction of the exit arm onto the A50 to one lane;
- Widening of the A50 link between the A50 Cliff Lane roundabout to provide two lanes for much of the links length;
- Partial signalisation of the two M6 J20 dumbbell roundabouts;
- Widening of the M6 Northbound off-slip;
- Widening of the circulatory carriageway on the two M6 J20 dumbbell roundabouts and rationalisation of the lane markings / directional arrows; implementation of a yellow box and installation of queue detectors; and
- ~~Incorporating MOVA delay management (or equivalent technology) and appropriate queue detection; and~~

- Widening on the eastern approach to the dumbbell roundabouts.

2.119. These improvements as set out within the Transport Assessment and Transport Assessment Addendum will all be in place by completion of the construction of the proposed development and maybe implemented in phases.

2.120. The Transport Assessment (TA) and Travel Plan and Addendum reports will provide a full assessment of the accessibility of the Site by non-car modes, all improvements that are to be included as part of the application and an assessment all transport & highway-related facets of the proposals.

2.121. The TA and Travel Plan and supporting Addendums will inform the traffic and transport environmental assessment and will be appended to the ES Traffic and Transportation Paper and its Addendum.

2.122. A plan of the Key Receptor Plan is included in **Appendix 5.**

Ground Conditions

2.123. The site is recorded as being undeveloped historically, aside from the curtilage of Bradley Hall. The inferred historical land uses are agricultural. In addition, it is known from the Unexploded Ordnance (UXO) assessments that part of the Site was used as a decoy during World War II.

2.124. Ground conditions at the Site are anticipated to comprise a downward sequence of topsoil, glacial till (clay) and sandstone. Depths to rock are expected to be shallow in the western third of the Site. No contamination is anticipated, though locally soft / unconsolidated soils may be present where any ponds or old watercourses have been infilled.

2.125. It is anticipated that the glacial till and sandstone would be suitable for re-use on Site as part of enabling works to create a development platform. Treatment for contamination is not anticipated. Topsoil is not suitable for re-engineering so any surplus topsoil will be accommodated in the landscaping on the Site.

2.126. Any soft / organic soils associated with infilled ponds etc. would also not be considered suitable for engineering purposes, therefore this material would require treatment and accommodated

in landscaped areas, on Site. It should be noted that the volumes of material associated with infilled ponds etc. is not considered significant in the wider development context.

2.127. A detailed Agricultural Land Classification Survey of the agricultural land quality of the Site has been undertaken, including a survey of the soils. The detailed hand held auger survey showed that all the top soils are either sandy clay loam or clay loam and located to a depth of between 250 and 400 mm. Sub-soils ranged from coarse sands, coarse sandy loams to clay loams. 27% of the total site area is classified as agricultural Grade 3a and is typically defined by 350 mm of sandy clay loam to sandy loam top soil over sandy or coarse sands and gravels. 68% of the Site area is classified as Grade 3b and the soils are sandy clay loam to clay loam topsoil up to 250-350 mm over coarse sandy clay loams. In summary the majority of the land is classified as good to moderate agricultural land and not the 'best and most versatile' land.

2.128. As the Site is greenfield with no significant sources of contamination identified, and there is no requirement for a significant import of materials to form finished levels, the Site is considered to not represent a significant environmental risk during either the construction or operational phases.

2.129. The proposed Site levels will form a cut and fill balance across the site and tie in to existing boundary levels where possible. Cut and fill will be required to create the unit development platforms.

2.130. A plan of the Key Receptor Plan is included in **Appendix 5**

Ecology and Landscape

Ecology and Nature Conservation

2.131. There are no statutory designated sites within the Site, or within the study area. Four locally designated non-statutory sites are present within 2km of the Site, but no impacts to these are expected.

2.132. An 'extended' Phase I habitat survey undertaken in November 2016 identified features of ecological importance comprising:

- Broadleaved Woodland
- Hedgerows

- Ponds
- Scattered Trees
- Watercourses (Bradley Book and tributary adjacent to Site boundary)

2.133. Other habitats comprise improved grassland and arable fields, scrub and tall ruderal. Walkovers of the site have been undertaken since the initial Phase 1 habitat survey in November 2016 and the conditions on site remain the same as the initial survey.

2.134. Habitats of ecological importance will be retained wherever possible. Where losses are unavoidable, compensation will be made through the inclusion of replacement planting of similar species within the landscape design including enhancement of boundary features and replacement planting to provide green buffers and open space throughout the Site.

2.135. Based on the findings of the Phase I habitat survey and a desk-based study, a series of detailed species surveys have been undertaken, ~~or will be completed prior to submission of the outline planning application~~. These surveys comprise:

- Badger survey (April 2017) and additional land parcel for highway improvements (December 2018)
- Bat Activity Survey (May – October 2017)
- Bat Preliminary Roost Assessment (PRA) of Buildings (March 2018)
- Bat and Barn Owl Preliminary Roost Assessment (PRA) of Trees, and follow-up aerial inspections (June 2018 – preliminary ground inspections June 2018 followed by some aerial inspections September 2018 and February 2019)
- Bat and Barn Owl Roost Surveys of Buildings to be demolished ~~(June – September 2018)~~ preliminary ground inspections June 2018 followed by some aerial inspections (September 2018 and February 2019)
- Breeding Bird Survey (April – June 2017)
- Great Crested Newt (GCN) Survey (April - June 2017)
- Otter and Water Vole Survey (June and September 2018)
- Wintering Bird Survey (October 2017 – March 2018)

2.136. A small population of GCN is present in one pond within the Site boundary. A small population of GCN was also recorded in an off-site pond to the south. A mitigation strategy and Natural

England licence will be required prior to undertaking works, detailing measures to avoid killing/injury of GCN, and mitigation for losses of breeding and terrestrial habitat.

2.137. A three hole badger sett, and other evidence of badger activity has been recorded within the Site. Surveys for breeding birds identified a range of common passerine species; barn owl was also heard calling within the vicinity of the Site during the GCN surveys but no other evidence of this species has been recorded during detailed surveys of the farm buildings and trees. Bat activity surveys identified bats using the woodland, hedgerows and watercourse corridor for foraging and commuting, and two non-maternity ~~a~~ bat roosts were ~~was~~ recorded within two ~~one~~ of the farm buildings scheduled for demolition. Surveys for otter and water vole found no evidence of these species along the watercourses adjacent to the site boundary.

2.138. ~~Based on surveys undertaken to date, it is anticipated that compensation for losses to bat and bird habitats can be accommodated within the landscaping design, as described above.~~ Mitigation for losses to bat and great crested newt habitat and hedgerow nesting birds can be accommodated on site within the designated mitigation area and overall landscaping design, while it is proposed that impacts to ground nesting birds can be mitigated through an agreed contribution to the management of off-site habitats within the local area.

Landscape and Visual Impact

2.139. 'The Character of England' produced by Natural England places the Site within the Mersey Valley: National Character Area 60. To the south of the Site, the study area is placed within National Character Area 61: Shropshire, Cheshire and Staffordshire Plain.

2.140. Warrington Borough Council's Landscape Character Assessment (2007) places the majority of the Site within the Landscape Type 1b Undulating Enclosed Farmland – Appleton Thorn. The southern tip of the Site lies within the Landscape Type LFW 3: Arley Character Area identified by Cheshire East Council (2008).

2.141. The Site is predominantly a rural, pastoral landscape of small to medium-scale fields bounded by mature hedgerows with occasional hedgerow trees. Tree cover includes small woodland blocks and copses, including Wrights Covert and Bradley Gorse. The well-vegetated Bradley Brook runs along the southern boundary of the Site. There are several field ponds within the northern part of the Site with mature trees and scrub. To the centre of the Site lies Bradley Hall Farm with the remains of Bradley Hall moated site, a Scheduled Ancient Monument, to the west of the farm. Immediately to the north of the farm are several small private dwellings and

circa 150m further north, Bradley View, a larger private dwelling. Grappenhall Lane lies along the northern Site boundary linking fast moving traffic including HGVs from Barleycastle Trading Estate to the west, to the J20 M6/M56 Motorway Interchange east of the Site.

2.142. The baseline Arboricultural Survey and Assessment carried out in February 2019 (which will be appended to the Landscape and Visual Impact Technical Paper 4 and its First and Second Addendum) has established that the tree stock across the Site is broadly made up of either moderate (Category B) or high landscape value (Category A) trees, which are generally in a good condition. The report recommends that buffer zones should be placed between new development and landscape features including Wrights Covert, Bradley Gorse and Bradley Hall moated site. Managed hedgerows both within and along the boundaries of the Site are generally mature and appear to be in a good condition.

2.143. The existing trees and mature hedgerows within the Site will be retained and enhanced where possible. Retained trees and woodlands blocks, particularly along the Site boundaries, will form an important part of mitigating the potential impacts of new development. The landscape proposals will include new woodland belts on earth mounding along the Site boundaries and internal roads which with the Sustainable Urban Drainage Scheme will aim to enhance site-wide biodiversity and create new wildlife corridors.

2.144. The landscape philosophy accepts that the landscape character of the Site will change, from a rural, pastoral landscape heavily influenced by the established visual and audible presence of the nearby motorways and Barleycastle Trading Estate, to a landscape of large scale, coarse grain built form with associated infrastructure. The landscape proposals aim to deliver a robust scheme that over time will develop to mitigate the adverse nature of the impacts through the implementation of new native woodlands and tree cover; with the long-term goal of improving biodiversity, developing new ecological habitats, and establishing wildlife connections with the wider landscape to enhance the local area.

Zone of Theoretical Visibility

2.145. A desktop study has been carried out using a computer model of the 2km study area to produce a Zone of Theoretical Visibility (ZTV) based on the topographical OS data for the study area. The ZTV is used to ascertain locations from within the study area where the Proposed Development is theoretically visible from an observer's eye level. A digital ZTV has been derived

from using landform and bare earth data. The bare earth view represents a worse case scenario as it is based only on terrain modelling and does not account for buffers such as buildings and existing vegetation. To refine the ZTV, field studies were undertaken and viewpoints have been selected and agreed with the LPA to demonstrate where some or all of the Proposed Development is likely to be visible, as well as to clarify where it will not. For views from distances greater than 2.0 kilometres, it is likely that development of the size and type being considered will exert a less than dominant feature in the landscape to the naked eye. See the Second Addendum LVIA Technical Paper for futher detail of the ZTV.

~~The ZTV was run using three different building heights for the Proposed Development with the following results:~~

~~**ZTV**~~

- ~~14-17m High Units: **69.62%** theoretically visible within the study area.~~
- ~~14-22m High Units: **72.94%** theoretically visible within the study area.~~
- ~~14-40m High Units: **73.01%** theoretically visible within the study area.~~

~~The ZTV analysis was then modified to take into account intervening screening by woodland (nominal 10m height) and buildings (nominal 7.5m height) with the following results:~~

~~**ZTV (Modified)**~~

- ~~14-17m High Units: **23.68%** theoretically visible within the study area.~~
- ~~14-22m High Units: **29.66%** theoretically visible within the study area.~~
- ~~14-40m High Units: **35.29%** theoretically visible within the study area.~~

2.146. A plan of the Key Receptor Plan is included in **Appendix 4**.

Air Quality, Dust and Odour

2.147. The main source of emissions to air at the Application Site is traffic-related pollution from the M6 Motorway, the M56 Motorway and the surrounding roads. There are no other nearby significant sources of emissions to air.

2.148. For the operational phase, arrivals at and departures from the Site may change the number, type and speed of vehicles using the local road network. Changes in road vehicle emissions are the most important consideration during this phase of the development.

2.149. For the construction phase of the Site the key pollutant is dust, covering both the PM_{10} fraction that is suspended in the air that can be breathed, and the deposited dust that has fallen out of the air onto surfaces and which can potentially cause temporary annoyance effects.

2.150. There are a number of Air Quality Management Areas (AQMAs) within close proximity of the site. AQMA No. 1 is a 50 m continuous strip on both sides of the M6, M62 and M56 Motorway corridors in WMB. A small part of the Proposed Development is within this AQMA. AQMA No. 2 is located approximately 5.5 km northwest of the Proposed Development and covers an area of central Warrington bounded by Parker Street, Wilson Pattern Street, Bold Street, Museum Street, Winmarleigh Street and Sankey Street.

2.151. A plan of the Air Quality Management Area in relation to the Site is shown on the plan below in orange:

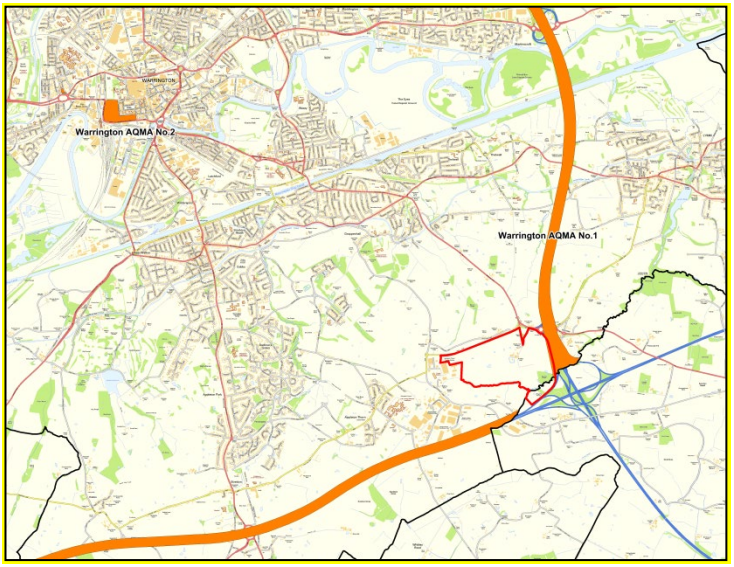


Figure 4.13: Air Quality Management Area (AQMA) Plan

2.152. A plan of the Key Receptor Plan is included in **Appendix 6**.

Noise and Vibration

2.153. Baseline noise monitoring has identified that the prevailing noise climate around the Site is dominated by traffic noise from the adjacent M6 and M56 Motorways, with contributions from the B5356 to the north. There are no other significant sources of noise which have been identified in close proximity to the Site. Furthermore, no existing sources of environmental vibration have been identified.

2.154. The nearest and most exposed noise sensitive receptors are Grappenhall Lodge, the residential dwellings on Cartridge Lane, the Bradley View Cottages and the Howshoots Farm to the north of the Site, and Tan House Farm and Barleycastle Farm on Barleycastle Lane to the south of the Site. Generally speaking, the existing noise climate at existing receptors is relatively high due to the proximity to the Motorway network.

2.155. Following concerns raised by WBC Environmental Protection regarding high noise levels that may be experienced at existing properties on Cartridge Lane and sensitive receptors within the site comprising Bradley Hall Cottages and Bradley View the illustrative masterplan and acoustic parameters plan has now evolved to reduce these noise impacts.

Baseline and potential traffic flow data, along with identified fixed and moving plant items and vehicles have been used to create a revised 3D acoustic model of the site, reflecting the updated illustrative masterplan and parameters plans, in order to predict the noise levels at the identified noise sensitive receptors and to advise on potential noise mitigation measures during the Construction and Operation phases of the Proposed Development.

2.156. A plan of the Key Receptor Plan is included in **Appendix 6**.

Cultural Heritage/Archaeology

2.157. A corpus of work has been undertaken to understand the Cultural Heritage Context of the Site including the historical built form including listed buildings, conservations areas, the archaeological resource and the historic landscape within which the Site sits.

2.158. The Cheshire Environments Records (HER) have identified a number of archaeological sites and findspots within the area. These have either been recorded through aerial photographs, evaluation/ mitigation or through chance discoveries.

2.159. Identified to the southeast of the Site is an elliptical enclosure which may have prehistoric origins. Found to the north of this near to Junction 9 of the M56 Motorway was a prehistoric stone shaft-hole axe. No other artefacts or monuments of this date are recorded within the study area.

2.160. Recorded within the northern extent of the Site is a Roman road which heads in an east west direction. Accounts state that it has been traced for over 12km with its alignment dictated by the crest-line of an escarpment of New Red Sandstone which overlooks the Mersey Valley to the north. Evidence for the road has been proven from the study of Tithe and estate maps, parish boundaries, hedge lines, place names, and observations of road material in plough fields.

2.161. A section through the road was excavated to the west of the site prior to the development of the adjacent industrial estate. At this point the road was found to be 13.5m wide. Accounts suggest that the road continued in use during the medieval period which is in part substantiated by the placement of a cross on the road near to Bradley Hall Medieval moated site.

2.162. Throughout the medieval and post-medieval periods the area was farmed as evident on the early Ordnance Survey map series. Depicted on the 1st edition Ordnance Survey map are a series of farms and barns some of which are recorded on the HER. This farming landscape evolved through the removal of a number of field boundaries to form larger fields in the late 19th and early to mid-20th century. Further change occurred with the construction of Stretton Airfield in World War II to the southeast of the Site and the development of the motorway infrastructure during the 1970s and 1980s.

Designated Assets

2.163. Located within the eastern part of the Site is Bradley Hall Moated Site which was designated a scheduled monument in 1991. It comprises the buried and earthwork remains of a medieval moated site for a medieval manor house. The moated island is approximately 70m by 55m and is grass covered in the areas not occupied by buildings. Excluded from the scheduling are the farmhouse which is locally listed, access drive, fences, hedged field boundaries and a telegraph pole.

2.164. The moat remains water filled and within the island are two occupation phases which survive beneath the present house and gardens. The moat surrounding the island is c. 10m wide and 2.5m deep. Part of the moat has been disturbed through the creation of an ornamental pond on its east side. Access is currently gained from a causeway also on the east side which replaced an earlier drawbridge.

2.165. The original hall within the moat was erected in the early 14th century. Documentary sources refer to it around this time with its first depiction on a map dating to 1735 which shows the hall to the northeast of its current position and the moat extending beyond its present location. The hall shown on the aforementioned map replaced that erected in the 14th century. Between the early 18th and the early 19th century the hall was considerably altered as was the location and extent of the moat. Analysis of later maps shows the addition of a number of outbuildings to the hall as well as a number of agricultural buildings immediately to the northwest of the moat. These outbuildings currently serve a number of functions including a dairy, cattle holding pens, barns, storage and a workshop. The buildings are non-designated and are not listed on the Cheshire Historic Environment Record or the Local List.

2.166. The outbuildings are conjoined in a U-shaped courtyard arrangement which is open on its west side. Associated with these are a number of lean-to structures, separate barns and sheds and other structures including portacabins, slurry tank and storage silos. This courtyard arrangement was formed by extensions to the original early 19th century buildings shown on the 1820 Map of Cheshire (Figure 4.13a) and the 1847 Tithe Map Figure 4.13b).

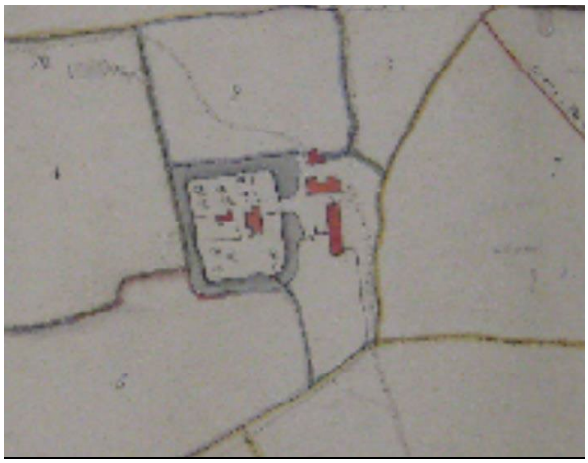


Figure 4.13a: 1820 Map of Cheshire showing first phase of Bradley Hall Farm

Figure 4.13b:*1847 Tithe Map showing Bradley Hall Farm*

2.167. Marked on the 1820 Plan of Cheshire is a rectangular structure which formed the southern part of the later mid-to late 19th century courtyard structure described above. To the north of this is a further structure whose position coincides with the later northern arm of the courtyard complex (see inset 1). South of these is a large rectangular building which is likely to have been associated. By the time the 1847 Tithe Map was published only the southern arm of the later complex is marked suggesting that the other two structures were demolished. Further re-configuration or re-building is evident on the 1877 Ordnance Survey map which shows the courtyard structure with central arched opening on its east side and lean-to structures on its northern arm. Smaller ancillary structures are also evident to the east and to the northeast, with the latter being the larger of the two. These structures did not last very long as in the late 1890s the larger one was replaced with a larger building and the other one demolished as shown on the 1899 edition.

Figure 4.13c:1899 Ordnance Survey map

2.168. Later OS maps show some further development with a rectangular structure built to the northwest of the farm sometime between the publication of the 1938 and 1954 Ordnance Survey maps. Further expansion occurred in the 1960s demonstrated by the addition of a number of lean-to structures to the interior and exterior faces of the courtyard structure and the construction of new barns to the east and a slurry tank to the north.

2.169. Many of the original features associated with the southern and eastern range have been replaced at some point in the 19th/ 20th century including the roof which comprises bolted trusses. The eastern gable of the southern range appears to have been rebuilt noted by the different material treatment below the eaves the insertion of mock tudor timbers in the interwar period and the insertion of a taking in door. These changes may have been undertaken to facilitate its use as a dairy. Similarly, the western aspect of the southern range has been punched through to allow cattle to access the dairy which is housed in the eastern end of the southern range.

2.170. In November 2009 National Museums Liverpool Field Archaeology Unit undertook a watching brief at Bradley Hall on behalf of Brewster Associates. This was undertaken during works to replace an early 20th century extension to the farmhouse. The watching brief revealed a poorly constructed cobbled surface which was deemed to be associated with the construction of the

present house. Underlying the cobbles was a layer of clay which was interpreted as the arising from the excavation of the moat. During the watching brief a number of finds were encountered including the base of a 14th -15th century jar and later 17th to 18th century pottery sherds.

2.171. A number of listed assets are recorded to the south of the site along Barleycastle Lane including Beehive Farmhouse, Booth Farmhouse, Barley Castle Farmhouse and Tanyard Farm. All of these are listed at grade II with the exception of Tanyard Farm which is listed at grade II*.

2.172. A plan of the Key Receptor Plan is included in **Appendix 6**.

Demolition and Construction

2.173. Construction hours will be between 0800 hours and 1800 hours on Mondays to Fridays, and 0800 hours to 1300 hours on Saturdays with no working on Sundays or Bank Holidays, unless first agreed with the Local Planning Authority.

2.174. The construction site office and laydown areas will be within the Site, but outside the landscape and ecological mitigation areas. All deliveries will be within the construction working hours.

2.175. It is anticipated that construction access will initially be gained from the existing farm access from the A50 Cliff Lane in order to form Site compounds and to construct the new Site entrance from the B5356 Grappenhall Lane. Once the access points and associated access roads from Grappenhall Lane are constructed, these will be utilised by construction traffic to develop the rest of the Site.

2.176. No contamination is anticipated on Site. Control measures will be put in place to avoid any new contaminants being introduced to the Site during construction, so that no new contamination that represents a risk either to Site users of the wider environment is present.

2.177. Subject to materials being assessed as suitable for processing and reuse during the detailed design phase, and subject to the appropriate environmental permits and controls being in place during the construction phase, demolition materials (such as brick and concrete) could be utilised to produce a 'product' in an engineering context. Any suitable site won demolition material such as aggregate, concrete or brick will be assessed and processed for re-use as part of the enabling works. Demolition arisings proving unsuitable will be removed from site. In

view of the lack of identified contamination risk on the Site the need to move materials off site is expected to be minimal.

2.178. The existing site topography slopes from 67.5m AOD in the north west corner to 51.0m AOD in the south east corner and is relatively gradual. Due to the platforms that are proposed to be created the slopes are pushed to the outer extremities of each plot boundary where majority of the earthworks is required. The proposed strategy is to achieve optimum floor levels on the building units which then cut into the existing slope on one side of the platform and require filling on the other. The new primary infrastructure on the site loosely follows the existing levels where possible with all proposed levels tying back into the existing levels on the boundary on the site.

2.179. Approximately 500,000m³ of material will need to be cut, moved and filled on the site to achieve a balance earthwork scheme. The earthworks strategy is to re-use all cut material as fill pending suitability and phasing requirements. Some material will be required to be removed from site if it falls outside of the suitability and phasing requirements. As part of the excavation of material, rock will be encountered with some excavation depths reaching up to 5m on the larger platforms.

2.180. Stockpiling locations for material to be retained for re-use on-Site is to be determined and the material is expected to be utilised within the Site shortly after excavation.

2.181. During construction, drainage features and flood prevention measures will be installed in the early phases of development. These will be required to limit the surface water run-off from the Site and provide flood storage areas with any required flow control measures to manage the storm water. Any required infrastructure for foul water including pumping stations, rising mains and offsite works will also be required for implementation prior to plot works occurring.

2.182. Given the Site's location, UXO (Unexploded Ordinance) banksmen will be required during construction to avoid encounters with previously unexploded ordnance, particularly during the bulk earthworks.

2.183. There are a number of existing buildings/structures associated with the current farm use that will be demolished as part of the proposals. As part of the demolition planning, pre-demolition surveys will be undertaken to gather the following information:

- The presence, location and condition of asbestos containing materials;

- The presence of any hazardous materials (e.g. agro-chemicals, fuel etc.);
- Constraints to demolition; and
- Pre-construction information.

2.184. The pre-demolition survey would also include an audit of the materials which make up the interior and exterior of the buildings to identify what materials could be reused or recycled. In the case of the farm house and farm buildings, the key demolition products are likely to be bricks, concrete and steel. Site clearance will also include the removal of fencing, necessary hedgerows, farm tracks, drainage and utilities to the farm house and farm buildings.

2.185. Where possible, material arising from demolition and Site clearance will be recycled and used on Site. Other types of waste likely to be generated during construction will be identified in the Waste Technical Paper 12 of the Environmental Statement.

2.186. Demolition works to drainage assets will be minor as the Site, to current understanding, only contains natural drainage depressions and localised relief drains for agriculture. Site outfalls to land boundaries are present however they will be maintained through the development of the Site.

2.187. During the construction phase of the development, the Site will be required to have the necessary safety and security lighting. The aiming of all lighting will be critical to minimise light trespass and sky glow. Light plants will be localized to the specific tasks to minimise any impacts. The lighting installed will be inspected, to ensure the aiming of all floodlights is appropriate and no lighting is being directed towards the residential properties, during the site set up and mobilization period.

2.188. The details of the type and quantity of construction and earthworks plant/vehicles will be those typically expected for large construction development sites. Further details of these will be provided within the Noise and Vibration assessment.

2.189. During the construction phase of the development, noise and vibration impacts from the construction of the Site and the infrastructure associated with it will depend on the length, the location and the type of plant used for the works taking place during each construction phase, as well as the location of proposed construction traffic routes. The implementation of best practice noise and vibration mitigation measures will be necessary to minimise the impact on the nearest noise-sensitive receptors. Such measures could include regulating plant operating times, directing plant away from receptors wherever possible or proposing engineering controls

to effectively sound attenuate the plant and will be set out as part of the Noise and Vibration assessment. The acoustic barriers and bunds will also be created during the initial site enabling and infrastrufture works in the early phase of development.

2.190. For the construction phase of the Proposed Development the key emissions to air is dust, covering both the PM_{10} fraction that is suspended in the air that can be breathed, and the deposited dust that has fallen out of the air onto surfaces and which can potentially cause temporary annoyance effects. The quantity of this will be assessed through the Air Quality environmental assessment and reported in the ES.

2.191. A Construction Environmental Management Plan (CEMP) at **Appendix 9** will be produced to ensure measures are taken to reduce the effects of the construction phase, particularly in respect of noise, vibration, dust, site lighting, ecology and habitats, trees, drainage and flood risk. For example, run off of silts / clays etc. into the Bradley Brook; good construction practice to mitigate spillages / leaks from plant and egress of dust into the wider environment; control measures to prevent the introduction of new contaminants to the Site; tree protection measures; and appropriate mitigation for flora and fauna.

Operation

2.192. The end use of the Site is B8 (storage and distribution) with ancillary B1(a) office. As such the operations are likely to be 24 hours.

2.193. The residues and emissions from the Site are those associated with a typical B8 use including for water, air, noise and vibration, light and waste.

2.194. The SuDS features in the public realm will be managed and maintained by a private management company in accordance with maintenance schedules to be set out in the drainage strategy. All Site drainage generally will be under the split ownership of Warrington Borough Council, United Utilities and the plot developers.

2.195. The need for noise mitigation measures to minimise the noise impact on the nearest noise sensitive receptors will be assessed through the Noise and Vibration assessment and its Addendum.

2.196. For the operational phase, arrivals at and departures from the Proposed Development may change the number, type and speed of vehicles using the local road network. Changes in road vehicle emissions are the most important consideration for air quality during this phase of the development. This will be assessed through the Air Quality environmental assessment and reported in the ES.

2.197. The Proposed Development uses will generate commercial and industrial (C&I) waste, and this will be assessed through the environmental assessment of waste.

2.198. The key changes to the development with regards to light spill and sky glow will be from the car park and loading bay lighting, amenity lighting and pathway lighting. A lighting strategy is to be devised and this will be centered around a higher quantity, of lower power luminaires mounted closer to the area to be lit, as this will provide a scheme which is far less likely to cause light pollution compared with more powerful but fewer luminaires.

Decommissioning

2.199. Decommissioning of the Proposed Development is not relevant to this project, given the proposed end use for the site.

Phasing

2.200. The delivery of the Proposed Development will come forward in phases. This will ultimately be driven by the demand for the employment buildings, however for the purposes of the Environmental Assessment, the following timescales have been assumed, which represent a precautionary approach (and therefore a worst case scenario) by assuming a single continuous phase of site enabling works:

- Planning Submission – 2019 (late Q1)
- Planning Determination – ~~2019~~ 2021 ~~(Q3) (early Q3)~~ 2022 Q1
- Reserved Matters/Detailed Design – ~~2020~~ 2022
- Initial Site enabling and infrastructure works – ~~2020 (6 months – Q2 2020 to Q3 2020)~~ 2022 ~~(6 months – Q3 2022 to Q4 2022)~~ Q1 2023 to Q2 2023

- Development – ~~2020 to 2027 (6.5 years – Q4 2020 to Q1 2027)~~ ~~2022 to 2029~~ 2023 to 2030 ~~(6.5 years – Q4 2022 to Q1 2029)~~ (6.5 years - Q3 2023 to Q1 2030)

2.201. The Development stage is expected to take approximately 6.5 years, commencing with an initial enabling works phase. The delivery of the units will be phased across the 6.5 years, alongside the other infrastructure works which are likely to be developed on a plot by plot basis. This will be dependent on market demand.

3. The Need for Development

Development Need

3.1. The Application is made in the context of a significant shift in in economic evidence that is informing the emerging Local Plan for Warrington. The context to this Application in economic terms is set out in greater detail within Technical Paper 6 of the ES Part 2 (Socio economic) and its Addendum.

3.2. The need for economic development is particularly evident in the logistics sector and there is a significant need for new employment floorspace particularly for logistics in the UK. The logistics sector is a key growth area for the region and will be an important catalyst for further growth in the region. The Northern Powerhouse Strategy (2010) recognizes the logistics sector is a key enabler of growth and predicts the logistics sector will grow by 83% between 2013 and 2035. By expanding the logistics sector in Warrington, which has strong history of successful logistics investments due to its proximity to the motorway network, the Application Proposals will make an important contribution in achieving the Governments Northern Powerhouse ambitions.

3.3. There is a significant need for logistics floorspace to serve the North West and the Cheshire and Warrington sub-region occupies a strategic location with close links to Manchester, Liverpool and the Midlands, with unique cross border opportunities with the Mersey Dee Economic axis. The area is also well positioned to take advantage of the continued major investment in the Port of Liverpool, including the new Panamax container terminal. The locational advantage of Warrington to the logistics sector is also evidenced by the proven success of Omega, which enhances Warrington's reputation as a centre for logistics and distribution. Omega North is now substantially complete and occupied, therefore there is a need for new large scale sites, with similar locational advantages in the South of the Borough to meet the needs of logistics operators in the sub-region.

3.4. The EDNA (August 2021) confirms that the available land at Omega could be taken up within one year and that there are delivery challenges with the draft employment allocation at Fiddlers Ferry in Warrington, meaning that the Application Site must be brought forward now to allow existing demand to be met within Warrington.

3.5. The above conclusions of the Council's evidence base are supported by the findings of the Market Report produced by JLL (dated 2019) to supplement the Alternative Site Assessment) commissioned by the Applicant that formed part of the original ES Part 1 Report.. This has been updated further by evidence contained in JLL's Proof's of Evidence relating to logistics proposals on the former Parkside Colliery site, which lies in St Helen's but on Warrington border and the Omega West site which also lies in St Helens, but is on the border of Warrington. This evidence has been presented at the Called-In inquiries and remains relevant to the Application Proposals as it contains evidence on the need and demands for employment land and premises.

3.6. The JLL evidence sets out a detailed analysis of the national regional and local market for logistics; market trends; demand; supply; and employment land within Boroughs that adjoin St Helens (including Warrington). JLL's conclusions were that:-

- The logistics sector has developed from traditional storage and distribution uses expanding to include multi-channel retail which has caused an increase in demand for warehouse premises.

- The impact of Covid 19 on the sector nationally has accelerated the move from High Street retail to internet purchases among the general public with the e- commerce sector accounting for over 34% of the national take up of Grade A warehouses in Q1 – Q3 2020. It has increased occupier requirements due to social distancing. When combined with Brexit it has increased the need for resilience in the supply chain for all sectors.

- Regional Grade A take up to date in 2020 is 274,765 sq. m. This has exceeded both the five- and ten-year regional averages of 209,000 sq. m and 231,000 sq. m respectively. This is not the highest annual take up over the last ten years suggesting this is not a one-year spike.

- There are only 10 logistics buildings available or under construction totalling 171,026 sq. m in the North West - one of these is under offer. This equates to approximately 9 - 10 month's supply based on the ten- and five-year average take up respectively. There is an extremely limited development pipeline of units and suitable development sites. This is already having an adverse effect on the market with a lack of buildings going forward and will cause a lag in the availability of buildings to the market.

- There are approximately 49 industrial and logistics requirements currently in the North West for units over 9,292 sq. m. The total floor area requirement is between 1.043m sq. to 1.341m sq. The requirements are for a mixture of existing buildings or build to suit. There is a large imbalance between building supply and demand where current supply cannot satisfy demand. This is to the detriment of the economy.

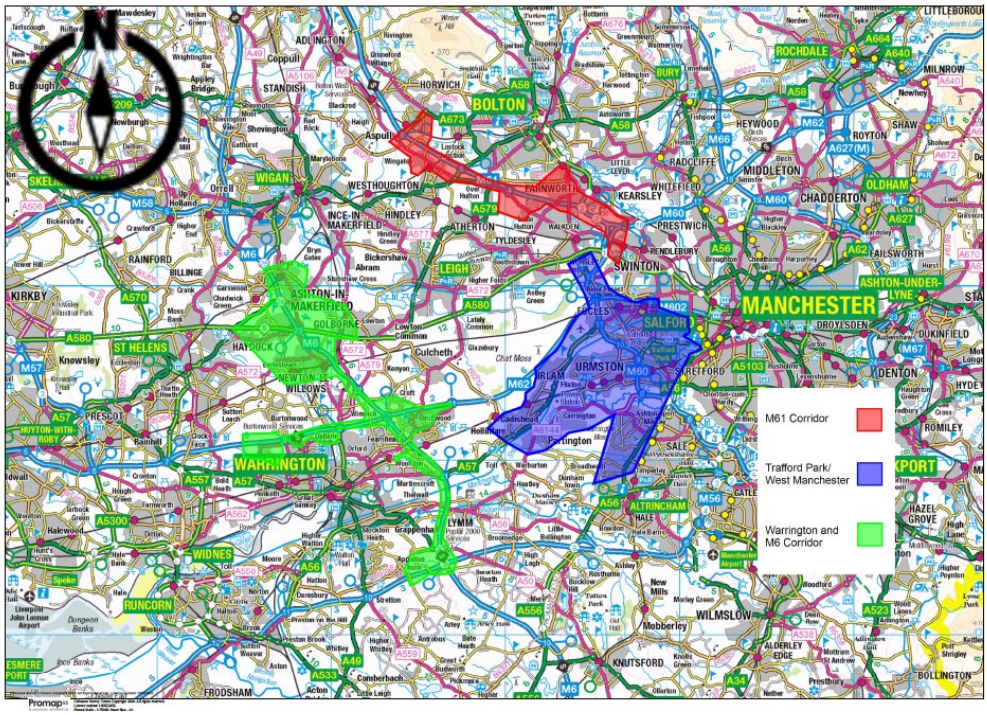
- Quantitatively and qualitatively there is a shortage of suitable development sites capable of accommodating the requirements within the region.

- Parkside is located in the wider Warrington/M6 corridor (junctions 20 – 25) market sector. This is a popular market location given the motorway intersections/connectivity. The majority of requirements in the North West are for buildings and sites in this market location. There have been four lettings of large floorplate units over 27,870 sq.m in this market sector totalling 149,067 sq. m in the last three years.

- In addition to Parkside there are three additional sites that have been considered at Call-In. There is sufficient demand and a need for a suitable land supply to develop all four sites which have a combined floor area of 452,423 sq. m.

- In summary there is an extreme shortage of available and deliverable sites to satisfy demand in the North West. If this planning consent is refused this will have an adverse impact on the regional economy. Companies will relocate to other regions where there is supply or operate inefficiently from existing facilities which will potentially put their businesses at risk. Parkside is located in an attractive location along the M6 corridor which is in demand and is deliverable in a realistic timescale

3.7. JLL's conclusions in respect of Parkside are equally valid for the Application Site. JLL set out a plan of the key logistics locations within their appendicies. They reference the "Warrington and M6 Corridor" as a key locational corridor which is attractive to the logistics market.



3.8. Similar evidence was presented to the other Call-in inquiries as each developer (and local authority) agreed with the broad conclusions that there is a chronic shortage of large scale strategic logistics sites to meet the demand. The Secretary of State accepted in the Parkside, Wingates and Symmetry Park decisions that supply is critically low. All Inspectors' Reports confirmed the over-riding need for employment land which the Symmetry Park Inspector noted in paragraph 10.26 as "based upon the foregoing, there is an evident and compelling planning policy imperative for high quality, logistics floorspace regionally, sub-regionally and locally". The "sub-regionally" reference is the subject of a footnote which confirms that this relates to the "M6 sub-market area is defined as the area between Junctions 20 and 26 and includes the local authority areas of Wigan, St Helens and Warrington". He also notes in paragraph 10.28 that "The M6 corridor is centrally located to supply chains and markets and has seen unprecedented levels of inward investment in the logistics sector over the last decade". With regard to supply, the Inspector confirms JLL's conclusion, noting in paragraph 10.31 that "due to the attraction of the M6 corridor for logistics operators, employment land supply has been unable to keep pace with demand and is now critically low, amounting to only around six months of supply based on annual average take-up rates. There is a similar situation in the wider North West region, with approximately nine months of supply".

3.9. It clear from the above that there is a significant need for more strategic employment sites within the North West and within the M6 corridor (including Warrington) in particular and that this conclusion has been recently endorsed by Planning Inspectors and the Secretary of State.

~~3.10. National agents JLL who were appointed to provide market advice on behalf of the Applicant state that in 2018, there was has been approximately 4.2 million sq ft (390,186 sq m) of large scale premises take up across the North West region. With total Grade A and Grade B space in 2018 totalling over 4.2 million sq ft, this is was the highest year on record up 30% on 2017 and up approx. 30% on the five year average (2014-2018).~~

~~3.11. Take up in 2020 has seen a strong start with 142,881 sq m (1,438,011 sq ft) of Grade A units let or contracted in the first seven months. This includes the letting of Haydock 525 (523,500 sq ft) to Kellogs, Evolution, Salford, (130,000 sq ft), Q110, Crewe (110,000 sq ft) let to AO.com, Magnitude, Middlewich 158,000 sq ft for Swizzells (build to suit), Icon 138, Manchester Airport (138,000 sq ft) and 375@Logistics North (375,000 sq ft) let to Dixons.~~

3.12. ~~623,000 sq ft or 43% of this take up are e-commerce / internet shopping related occupiers. Take up in 2019 was 3.4 million sq ft. The majority of the lettings were for Grade A and B existing units totalling 2.38 m sq ft with 573,000 sq ft of build to suit and 497,000 sq ft of speculatively built take up. This was due to the political uncertainties this caused a slow down in take up for the first 3/4 of the year with the last quarter providing a surge which ties in with the General Election and the decision to leave the European Union at a fixed date. The five year average take up of Grade A space is 2.1m sq ft and the ten year average is 2.3m sq ft.~~

~~3.13. Long term demand in terms of regional take up show the strength of the North West logistics and industrial sectors. The market has an average Grade A 10 year take up of 2.3 million sq. ft per annum. Demand in the region remains strong with over 1.4 million square feet of speculative build/build to suit units contracted in the first 7 months of 2020 in the North West.~~

~~3.14. On a regional basis there are eight speculative build units available with a total area of 1.259 million square feet. There are four units available under construction totalling 0.75 million square feet one of these units is currently under offer. There are two Grade A buildings available of totalling 0.557m square feet.~~

3.15. In terms of supply based on the five year average take up of 2.1 million sq ft there is 14 months' supply and on the ten year average take up of 2.3 million sq ft there is 13 months' supply.

3.16. In summary, the North West industrial and distribution market has had a consistent take up of speculative, Grade A units and build to suit sites despite the various economic and political issues of the last three years. The demand is driven by the expansion of new emerging sectors, the consolidation/expansion of established businesses and the impact on supply chains of the COVID 19 pandemic.

3.17. Design & build / speculatively built space accounted for 50% of all take up, which reinforces the need for further large scale development sites to accommodate future demand for new build accommodation. At the end of 2018 there were 14 large scale logistic units speculatively under construction in the North West totalling approximately 3 million sq ft, eleven of which have now reached or with practical completion being imminent.

3.18. In summary the Warrington M6 market can show a take up of 1.2 million square feet in the period Q2 2019 to end of Q1 2020 twenty of speculative build. This represents 32% of the total regional take up this shows the strength of the market and the sub regional location.

3.19. Warrington has a single speculative/Grade A unit available of 184,000 sq ft with a further two units (308,000 and 203,000 sq ft) under construction and planning consent for a further unit (225,000 sq ft). All four units are at Omega South.

3.20. Warrington is one of the premier North West M6 centric logistics locations. Its location at the intersection of the M6/M62 and M6/M56 motorways enables it to serve the Manchester and Liverpool conurbations in addition to the M6 corridor. Omega has been the most successful industrial and logistics development site in the North West with over 5 million square feet being built out or under construction. In the local Warrington area, there is only one Grade A building over 100,000 sq ft immediately available at Omega Mountpark Warrington (184,000 sq ft) and three Grade B buildings available. Two speculatively built units (307,807sq ft and 203,180 sq ft) are under construction at Omega with completion in January 2021, a further unit (225,000 sq ft) will be available in late 2020. All four units are at Omega South.

3.21. With the development of the above units, this will complete the development at Omega Warrington. The only available site with planning permission within the Warrington BC administrative area is at Barley Castle Lane, Stretton which was the proposed HQ/National

~~Distribution Centre for Eddie Stobart. The site has however now been called in by the Secretary of State.~~

~~3.22. Two properties have come to the market recently, the former Travis Perkins building (11.03 acres) and the former Shearings site (7.28 acres) at Stretton. The Travis Perkins site is an 'L'/irregular shaped site and has been purchased by a developer. The Shearings site is being marketed and it is reported that Government is taking an interest in it as an Import / Export document processing centre. . Neither of these sites can offer a building in excess of 250,000 sq ft.~~

3.23. In summary the Warrington area is one of the most successful logistics location in the North West. The Borough now has no immediately available sites that can accommodate large scale logistics development and a limited supply of Grade A buildings available.

~~3.24. Omega has been one of the most successful industrial and logistics development sites in the North West with over 5 million sq ft being built out at Omega.~~

~~3.25. With the completion of development at Omega Warrington, the only available site is at Barley Castle Lane, Stretton which was the proposed HQ/National Distribution Centre for Eddie Stobart~~

~~3.26. In summary the North West industrial and distribution market remains strong with take up of speculative/Grade A units and build to suit sites despite the various economic and political issues of the last three years. The ten year average take up remains in excess of 3m sq ft per annum.~~

3.27. ~~With the 10 year average new build take up of approximately 2.5m sq ft this is currently standing at just over 1 years supply. Should 2019 take up levels hit 2018 recorded levels of 4 million sq ft JLL expect to see many of these units let during 2019. With increasing numbers of businesses seeking sites for distribution and warehouse facilities in strategic locations, with easy access to the region's major transport networks this speculative supply will be quickly taken up by ongoing pent up demand.~~

3.28. A further review and assessment of comparable sites in the sub region and at a local level, along the principal motorway corridors, which are subject to an allocation in an adopted statutory development plan or have a planning permission, will be undertaken to inform part of the separate Replacement Planning Statement to support the Very Special Circumstances (VSC)

case to justify the application proposals with lie within the Green Belt. This has been ~~will be~~ undertaken following a request from the Council to extend the geographical area of search to surrounding local authority areas, to consider alternative sites driven by locational need and occupier interest.

3.29. Notwithstanding the above, this ES focuses on alternative sites within the Warrington Borough as is set out in the Section 4 - Alternative Options of this ES Part 1 Addendum Report. This reaffirms that there are no available alternative sites in the Warrington Borough that can be developed immediately to meet the needs for large-scale development for the logistics sector.

3.30. In terms of employment sites within Warrington Borough, with the exception of Barley Castle Lane, Warrington BC does not have any sites capable of providing a large building footprint with reasonable motorway access to meet the needs of the logistics sector. The former Fiddlers Ferry power station site will not be available for development for a number of years whilst decommissioning, demolition and remediation of site is undertaken. The site is also positioned to the west of Warrington town centre and is not well related to the strategic road network. It does not therefore meet the locational requirements of the logistics sector and is not therefore a suitable alternative to the Application Site.

3.31. Given the Application Site's proximity to the M6/M56 intersection the Site is attractive to occupiers and satisfies the criteria within NPPF paragraph 83 ~~82~~, which recognizes the need to address the specific locational requirements of different sectors, specifically storage and distribution operations in accessible locations.

3.32. In terms of the regional and sub-regional level, evidence already commissioned by Langtree and prepared by JLL as part of a proof of evidence for the Parkside Call-In inquiry, already set out in this ES Part 1 Second Addendum sets out a detailed analysis of the national regional and local market for logistics; market trends; demand; supply; and employment land within Boroughs that adjoin St Helens (including Warrington). This confirmed that there are only 10 logistics buildings available or under construction totalling 171,026 sq. m in the North West - one of these is under offer. This equates to approximately 9 - 10 month's supply based on the ten- and five-year average take up respectively. There is an extremely limited development pipeline of units and suitable development sites. There are approximately 49 industrial and logistics requirements currently in the North West for units over 9,292 sq. m. The total floor area requirement is between 1.043m² to 1.341m². The requirements are for a mixture of existing buildings or build to suit.

3.33. In addition to the Application Site, there are four additional sites which have or are being considered at Call-In and the JLL evidence confirms there is sufficient demand and a need for a suitable land supply to develop all these sites. In summary, other than those sites already referenced that have been subject to Call-In inquiries, there are no other locations within the Warrington sub-market or M6 corridor that can be developed immediately or if granted consent offer a large-scale development for the logistics sector. In terms of Warrington, there is Omega South, Barley Castle Lane (Eddie Stobart site subject of refusal), and Fiddlers Ferry. With the exception of Barley Castle Lane, Warrington Borough Council does not have any sites capable of providing a large building footprint with reasonable motorway access, other than the Application Site.

3.34. Both our independent assessment and the recent assessment by the Council as part of their evidence based (EDNA – August 2021) to support the Update Local Plan demonstrates that there are no non-Green Belt sites to meet the need.

3.35. The above confirms that there is still a chronic imbalance between supply and demand as logistics operators continue to seek sites for distribution and warehouse facilities in strategic locations with easy access to the region's major transport networks.

3.36. This demand for large scale employment sites in strategic locations within the Borough corresponds with the ambitions of the Council's Economic Growth and Regeneration Programme (Warrington Means Business) (2019) to grow the economy and the Council's Economic Development Needs Assessment (EDNA 2021), which identifies the future quantity of land and floorspace (in quantitative and qualitative terms) required for economic development use in Borough, which informs the emerging Local Plan and decisions on future land allocations.

3.37. The Study forecasts the role of logistics in the regional economy will continue to expand as the pent up demand in this sector continues. This translates into additional growth in jobs in this sector and employment floorspace requirements, with the EDNA reporting the need to meet this demand and the interest from stakeholders consulted as part of this Study by identifying further strategic scale sites in the Borough, particularly in South Warrington with access to the M56, which would require adjustments to Green Belt boundaries to meet the scale of the need.

3.38. Evidence in the Council's Updated Economic Development Needs Assessment (August 2021) ~~(2019),~~ which aligns itself with housing need concludes that the Borough has an employment

land need, of 316.26 ~~362~~ hectares to ~~2037~~ 2038 and that land will need to be released from the Green Belt to deliver ~~215~~ 277.39 hectares (in addition to the existing supply of 38.87 ha) of this employment need.

3.39. The Six 56 Application Site was identified in the Preferred Options Local Plan Document and now in the Proposed Submission Version of the Local Plan (~~April~~ March ~~2019~~ October 2021) as an employment location as part of the strategic employment site at Junction 9 of the M56 and Junction 20 of the M6 which forms a key component of the wider Garden Suburb and will meet the majority of Warrington's employment land requirement.

3.40. The Application Site meets with the locational requirements and site requirements for logistics operators. These locational characteristics and site requirements cannot currently be fully met at any other location within the Borough. The site is relatively flat and expansive with no topographic constraints. It is accessible to the supporting supply chain and it will be close to an established employment area and an area of population growth, given it is close to the South East Warrington Urban Extension, which will deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period. ~~it forms part of a Garden Suburb in which up to 7400 7000 additional houses are now proposed.~~ All these attributes are key drivers for logistics operators when making decisions on locations for new employment space. It is logical therefore for employment land to be allocated in this location which is attractive to the employment market and will continue the success in the Borough provided by Omega.

3.41. As set out in more detail within the Alternatives Section of this ES Part 1 (see Section 4 below), an Alternative Site Assessment has been undertaken which considers the availability of sites to accommodate the Proposed Development (Alternative Site Assessment Report_included at **Appendix 10**). This assessment considered a number of sites and concluded that there are no other sites available to deliver the Proposed Development in part or in whole. This further supports the need for the development of the Site for employment development to help meet the employment need in the Borough.

Regeneration Need

3.42. The delivery of this site as a strategic employment site is a fundamental element of the Council's regeneration programme and plans for economic growth set out in the Council's emerging

Local Plan which identifies the specific locational advantages of this site in terms of its size and close proximity to the strategic road network in identifying this as a preferred site for employment use. Delivery of high quality logistics floorspace on this site will act as a catalyst for urban regeneration and will aid delivery of the wider Garden Suburb, creating a well-balanced community by generating significant long term employment. The Application Proposals will help to support the regeneration of these neighbourhoods, providing a range of accessible jobs and working with organisations such as Warrington & Co., will help to ensure that the uptake of employment by economically inactive residents can be optimised.

3.43. There is also a wider regeneration need for the Borough. As set out in more detail in ES Addendum Technical Paper 6 – Socio Economic, in Part 2 of this ES Addendum. The Application proposals will help deliver the Council's regeneration ambitions and stimulate economic growth in the local and sub-regional economy and complement development elsewhere, helping to attract additional investment and business. The number of operational jobs that could be generated on-site as a result of the proposed development, based on the floorspace provided is 4,113 full time jobs.

3.44. It is also estimated that the Operational Phase of the Proposed Development would generate net additional GVA of around £210 million per annum within the Cheshire and Warrington LEP area.

3.45. The growing demand for a higher level and a broader range of skills within the logistics sector also presents opportunities for improving the pathways to work and career advancement, supporting people into decent, secure and well-paid jobs, and helping to tackle the barriers to both gaining employment and progression to higher wage occupations, in addition to job's which would be accessible to new entrants to the labour market and those who are currently unemployed. The Proposed Development will therefore have a significantly beneficial impact on the local labour market, and have regeneration benefits.

Delivery Need

3.46. The Development Need section above identifies the need for the development. To realise this need and the benefits the development will bring, there is a need for these Proposals to be delivered now. This is supported by the imbalance between supply and demand for logistics sites in strategic locations in the Borough evidenced in the emerging Local Plan evidence base

and verified by JLL who have prepared recent Proof's of Evidence which sets out a detailed analysis of the national regional and local market for logistics; market trends; demand; supply; and employment land within Boroughs that adjoin St Helens (including Warrington) ~~who have undertaken a report to support the planning application~~ to demonstrate need and supply in the north west logistics market.

3.47. The delivery of the Site will bring direct and indirect employment opportunities, in the short-term for construction and, as the Site is developed, longer-term employment opportunities. In turn the Proposals will also lead to in-ward investment and confidence in the market, bringing about further investment and development opportunities. This is all of direct benefit to the Borough and its regeneration.

Summary

3.48. There is a clear development, regeneration and delivery need for the Proposed Development that will be of benefit to the Site and its locality as well as the wider the Borough and sub region.

4. Alternative Development Options

4.1. Paragraph 2, Schedule 4 of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) states the need for inclusion of the following details:

> *"A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects."*

4.2. Section 3 has considered why a need exists for the Proposed Development. As part of the consideration of the alternatives, the most appropriate location and the consideration of sites for the Proposed Development have been considered. This is addressed fully within the Alternative Sites Assessment attached at Appendix 10 and summarised in the Alternative Sites Assessment sub-section below.

4.3. A series of alternatives associated with scheme design have also been considered as part of the evolution of the Proposed Development. These are as follows:

- Do nothing
- Preferred Option
- Preferred Option - Scheme Evolution

4.4. These are described in more detail below:

Alternative Sites Assessment

4.5. The Application Site is designated as Green Belt. In line with National Policy and the adopted Development Plan requirements, development that is identified as being 'inappropriate' in Green Belt should not be approved except in 'very special circumstances'. The case for 'very special circumstances' is set out as part of the planning justification within the Planning Statement. This will be updated within a Replacement Planning Statement. The Alternative Sites Assessment report (**Appendix 10**) considers whether there are potential alternative sites that could accommodate the Proposed Development in whole or in part. This is not in itself a 'test'

of national Green Belt policy, but where there is a lack of alternatives to accommodate a development, this may form a part of the case for development.

4.6. Warrington Borough Council has acknowledged through published 'needs' studies as part of the evidence base for its emerging Local Plan that to meet development needs in Warrington, particularly through large scale developments, there will be a need to use land that is currently in Green Belt.

4.7. The Alternative Site Assessment therefore considers whether there are any sites that are deliverable to meet the scale of needs accommodated within the Application Proposals. For robustness, the scope for disaggregation, based on the Proposed Development Cells (see Development Cells Parameter Plan, **Appendix 4**) for the Site, was also considered.

4.8. The geographical area considered within the Alternative Site Assessment is Warrington as the Proposed Development is being promoted in the context of meeting the needs of Warrington. The Warrington Proposed Submission Version of the Local Plan (September 2021 ~~(April 2019),~~ identifies a need for 316.26ha ~~362ha~~ of new employment land within Warrington of which some 277.39ha ~~215ha~~ is required to come from the Green Belt. This confirms the need for Green Belt release for employment uses within the Borough.

4.9. In reviewing the potential for alternative sites, consideration has been given to any allocated employment sites remaining in the adopted Core Strategy that are over 2.3 Ha in area and could accommodate a unit of 8,918.7m². This is based on the smallest unit and plot / development cell identified on the updated Parameters Plans and updated Illustrative Masterplan at **Appendix 4 and 5** of this ES Second Addendum Part One Report.

4.10. Sites with permission for employment development and built out with unoccupied units and sites that have been promoted and are identified in the emerging Local Plan are also considered.

4.11. A number of existing employment sites identified in both the adopted Core Strategy and referenced as available in the EDNA (August 2021) ~~(2019)~~ have been considered and discounted. The Alternative Sites Assessment report (**Appendix 10**) provides further commentary outlining the reasons these were discarded and discounted.

4.12. The assessment takes a series of stages. **Stage 1** is to establish whether the identified sites meet the minimum requirements for logistics development, namely proximity to the motorway

network, good access to this via A roads, public transport connectivity and ability to mitigate for sensitive uses where these are present.

4.13. **Stage 2** then considers a range of additional factors to establish the suitability of development such as site shape and proximity to workforce.

4.14. **Stage 3** then assesses the remaining sites and considers the approach taken by the Local Plan and Green Belt Assessment in 2016 and 2017. This approach has been agreed and accepted by the Council as it has assessed the Application Site in the Green Belt Assessment and concluded that it is suitable to take forward for development in the emerging Local Plan.

4.15. The Assessment considered nine sites. A plan of the sites is included within the Appendices of the Alternative Site Assessment at **Appendix 10** of this ES Second Addendum Part 1 Report.

4.16. Notwithstanding the geographical area agreed and scoped with the Council within the Alternative Site Assessment, at the request of the Council, the Applicant has subsequently agreed to extend the geographical area of search to surrounding local authority areas, considering alternative sites driven by locational need and occupier interest, based on market intelligence secured from Agents JLL instructed by the Applicant. The findings will be reported separately in the Replacement Planning Statement to inform the Very Special Circumstaces (VSC) case for development in the Green Belt.

4.17. This Alternative Site Assessment demonstrates that the Application Site is the most appropriate site in overall planning and regeneration terms within Warrington and as such the Proposed Development should be directed here and not elsewhere. Furthermore, no other site will provide the regenerative benefits delivered by the Application proposals.

Do Nothing

4.18. Having identified the preferred site for the Proposed Development, alternative uses were considered briefly.

4.19. To 'do nothing' with the Site would mean that the Site would remain as existing and therefore continue to be farmed and used for agricultural purposes. Whilst the Site would remain undisturbed, the 'do nothing' would not realise the significant economic, social and

environmental benefits that the Site's redevelopment would bring. This includes the job creation and inward investment that such development brings.

4.20. It is estimated that the Proposed Development would involve approximately £180 million of construction related expenditure. Based on the estimated level of construction expenditure, total construction employment generated by the Proposed Development could amount to some 1,762 person years. This would equate to an average per annum over a 6.5 year build period of 271 gross jobs.

To maximise the local economic impact that can be achieved through the Construction Phase, it is envisaged that a Local Employment Agreement will be established, drawing on best practice from previous and ongoing developments such as Omega. This will include measures to encourage and facilitate local businesses in bidding for supply chain contracts as well as working with local partners to enable people from nearby deprived communities to access the job opportunities, work experience and training that will be provided during the Proposed Development's Construction Phase. It is estimated therefore that the proposed development will support 180 new trainees over the 6.5 year construction period, based on approximately £180 million of construction expenditure.

4.21. In terms of net GVA, it is estimated that the Proposed Development would generate net additional GVA of around £74 million within the Cheshire and Warrington LEP area. This would equate to an average of £11.3 million per annum over the 6.5 year construction period, which is considered to be significant.

4.22. In the operational phase the proposed development will help address the employment levels within the Borough by creating 4,113 gross FTE (full time equivalent) jobs. This would represent a noticeable boost to the economy. The Planning Statement confirms that a Local Employment Agreement would continue into the operational phases and maximizing jobs for local people would be a key component of this phase. It is estimated that the proposed development would also generate net additional GVA of around £210 million per annum within the wider impact area of the Cheshire and Warrington LEP during the operational phase. This is significantly beneficial to the area. Once fully developed, the Proposed Development would generate an estimated £7.1 million of business rates revenue per annum which would go to Warrington Council.

4.23. The 'do nothing' scenario would not make effective and efficient use of this sustainable site, located on a strategic highway network site that is identified as an employment site and prime location for logistics development in the emerging Local Plan and its evidence base.

Preferred Option – Compliance with the Development Plan

4.24. The Planning justification is set out in full within the Planning Statement and only summarised here to provide context as to the Proposed Development's compliance with the Development Plan and other material planning considerations.

4.25. With regards to compliance with the Development Plan, the starting point is the consideration of the Development Proposals in the context of relevant local and national Green Belt policy, given its current designation in the Core Strategy Local Plan.

4.26. The Replacement Planning Statement will update the current Planning Statement and will assess the potential impact of the Proposed Development on the openness and purposes of Green Belt and ascribes weight to these conclusions. It will also identify any "other harm" that may emanate from the Proposed Development which is not related to Green Belt. It will then assesses any "other considerations" that may weigh in favour of the Proposed Development and finally it will draw conclusions as to whether these "other considerations" outweigh the Green Belt and non-Green Belt harm. The Replacement Planning Statement will show that this is the case and hence that Very Special Circumstances (VSC) have been shown to justify why the Proposed Development should be allowed in the Green Belt.

4.27. In summary, the preferred option can demonstrate that Very Special Circumstances exist to justify the Proposed Development in the form of the socio-economic benefits which will be realized throughout the temporary construction phase and the long term operational phases of the Proposed Development.

4.28. This conclusion supports the Council's own conclusion that "exceptional circumstances" exist to justify the removal of the Site from the Green Belt through the emerging Local Plan. We consider that significant material weight should be attached to the evidence base which supports the emerging Local Plan, which justifies the removal of the site from the Green Belt to meet an identified employment need in the Borough, the scale of which can only be met through release of land from the Green Belt.

4.29. The material weight to be applied to the emerging Local Plan and its evidence base is set out in Paragraphs 48 and 49 of the Framework, which advises that authorities may give weight in their decision making to relevant policies in emerging local plans, prior to adoption. Paragraph 48 of the Framework advises that the amount of weight the Authority can give to an emerging policy depends on the following three considerations:

- the stage of preparation of the emerging plan (the more advanced the preparation, the greater the weight that may be given);
- the extent to which there are unresolved objections to relevant policies (the less significant the objections, the greater the weight that may be given); and
- the degree of consistency of the relevant policies in the emerging plan to this Framework (the closer the policies in the emerging plan to the policies in the Framework, the greater the weight that may be given)

4.30. The Planning Statement has considered the emerging Local Plan and its supporting evidence base in the context of paragraph 48 of the Framework and it outlines the reasoned justification for the proposals, including its degree of consistency with the Framework and considers that whilst weight may be limited in respect of the emerging Plan itself, which is currently at submission stage, the evidence that has underpinned the emerging Plan and its approach to economic growth is highly material and significant weight can be ascribed to this evidence base as a material consideration. This justification will be updated within the Replacement Planning Statement.

4.31. As is shown through this ES and its First and Second Addendum, whilst the development will have impacts on the environment, some of which are adverse, their significance will be managed and where possible reduced through suitable mitigation and balanced by the significant benefits that the proposals will bring.

Preferred Option – Design Evolution

4.32. Following the confirmation of the preferred use for the site, the proposals have evolved, with consideration of the technical constraints and environmental impacts being key to the design evolution. The Development team is a long established team who has worked closely together to ensure the Proposed Development takes full account of the various matters that need to be addressed for each of the specific technical areas. This has also been heavily influenced by the Environmental Assessment as well as community and stakeholder engagement as detailed within

Section 1 of this report. The updated Parameters for the Development Proposals are included at **Appendix 5**, with an updated Illustrative Masterplan at **Appendix 4**.

4.33. The evolution of the design has taken account of the following to ensure the environmental impacts and their effects are managed and reduced as far as possible:

- Consideration of the Proposed Development in the context of the emerging Local Plan and its evidence base.
- The Development Proposals have evolved embracing the concept of maximizing material re-use on site. Development proposals have included developing a 'cut and fill' model that not only allows for 100 % of suitable materials to be re-used on the site, but also, has been designed to allow for the 'bulking' of materials which can occur following excavation (this can represent a volume increase of between 10 and 30 % depending on the mechanical characteristics of the source material).
- The Site access junction was at an earlier stage considered to be designed as a single roundabout. However, two junctions are now proposed to enhance permeability for buses to minimise car travel.
- With regard to off-site mitigation, amendments to the Cliff Lane roundabout and M6 Junction 20 Dumbbell roundabouts were always envisaged. Earlier iterations of the mitigation involved widening works at all junctions, but through discussions with WBC and HE it became clear that this may not be sufficient and may have unacceptable impacts with regard to pedestrian routes in the area. On this basis a revised mitigation scheme involving the realignment of the Cliff Lane roundabout and full signalisation was developed. The revised scheme is set out in more detail in the Traffic and Transport Addendum Technical Paper 2 in Part 2 of this ES.
- More traditional drainage methods were considered but the inclusion of proposed Sustainable Urban Drainage Systems (SuDS) have been specified to achieve higher levels of water quality and treatment for storm water following investigation into the wider area. Similarly, more traditional methods of road drainage were considered, such as gully to pipe or kerb drain to pipe to underground structure or even a free-flowing infrastructure. However, as storm water detention basins and swales have been included wherever space permits, some areas of traditional road drainage will not be required. Instead storm water will be able to discharge directly into swales and attenuation basins to improve water treatment. This is an improvement on standard schemes that may only concentrate on plot

developments (future reserved matters/detailed applications by building parcel). This was influenced by the investigation into the wider area, including the local flood risk and guidance document as well as LLFA and EA expectations. The existing uncontrolled foul discharge into the ditch in the north east of the Site and the cesspits at the agricultural and housing buildings will be designed out.

- Bradley Gorse woodland and the Ecological Mitigation Area in the south of the Site, which has habitat connections to key habitat features in the south have been safeguarded throughout the evolution of the illustrative masterplan. Inclusion of additional native tree planting will be included along the boundary of the Ecological Mitigation Area to screen the area from the motorway slip road to the southeast. Pond loss will be mitigated through the inclusion of ~~six~~ seven new ponds within the Ecological Mitigation Area, allowing translocation of the GCN population. These ponds will be positioned relatively close to each other so that close habitat links can be created between them and the two existing ponds retained within this area. The Ecological Mitigation Area will also connect to Bradley Gorse which contains another three of the ponds retained within the development thereby providing additional terrestrial habitat linkages.
- Although a development offset along the watercourse and the area around Bradley Gorse was also always in place, this has been increased to a minimum of 15m through the design process to ensure that impacts to these receptors are avoided during construction and operational phases. This buffer will form an important wildlife corridor.
- Retention of the locally listed building within the moat maintains the SAM and its historical integrity. The Landscape proposals have been carefully considered to develop a scheme which will result in minimal level changes. This is to aid in the retention of mature existing vegetation and landscape features, particularly surrounding the scheduled monument and along the southern boundary to limit the impact on the setting of listed buildings which lie either side of Barleycastle Lane. The existing site topography will be levelled to accommodate the proposed units with some areas reduced to soften the impact they have on their surroundings. The material generated will be used to create screening bunds to soften the edges of the units and to screen views of the proposed units.
- During the development of the scheme proposals, it was recognised that given the significance of the SAM a sense of openness needs to be maintained around the

asset to reduce the level of harm to the setting of the monument, to allow an appreciation of the monument and to enhance the heritage experience. In light of this an area of land has been set aside to accommodate this and a view cone will be maintained from the south. This will make provision for a wildflower meadowland in the centre of the site.

- In order to bring visitors into contact with the SAM the existing PROW FP23 will be moved to the west to bring users closer to the monument.
- Building heights, massing, orientation and proximity to the SAM have been considered to alleviate the impact on the setting of the monument.
- Immediately to the north and north east of the SAM are a number of agricultural buildings which currently diminish the setting and integrity of the moat. The structures re-use has been considered but improving the setting and intelligibility of the asset outweighed this option and the agricultural buildings will now be demolished.
- To alleviate impact on the setting of the SAM and those listed and non-listed buildings within the landscape, the design, style and materials will be carefully considered where feasible to limit any adverse impact and to enhance any receptors that will be affected.
- The proposed re-use of existing top soil on strategic landscape areas and bunds within the site. Top soil can take over 100 years to form a 25 mm deep layer and retaining the removed top soil is important in preserving this asset.
- The location and height of bunds have been refined to provide effective mitigation to attenuate noise egress from the site during the operational phase. Additional acoustic barrier screening has also been carefully considered at roadside and bund locations adjacent to Bradley Hall Cottages, which should result in a reduction in specific noise levels at these receptors. The bunds will have maximum 1:3 gradient slopes with 2-3m high acoustic fencing around Bradley Hall Cottages.
- The orientation and the location of loading bay / service yards has also been carefully considered in order to minimise noise impact at sensitive receptors. Earlier iterations of the Illustrative Masterplan and Parameters Plans included zones of potential noise generating activities (e.g. loading bays and service yards) facing key residential receptors. Due to the potential for increased noise effects at these receptors the masterplan and parameters plan has been amended to avoid this adjacency.

- If unsuitable soils are encountered during preparatory works, the options of either off-site disposal or on-site treatment for re-use on site have been considered. Where technically and economically feasible, the material would be remediated and re-used on Site.
- All services are to be installed within an agreed services corridor and installed underground within soft verge where possible, taking into account any existing natural environment and habitats within the Site.
- The proposed usage of the site facilities influenced the load capacities required from the local utilities infrastructure, and the locations of the Points of Connections.
- A number of options in respect of energy and technologies have been considered and discounted where these are not suitable or feasible for the Site or Proposed Development. These have been in respect of reducing the demand for energy and increase energy efficiency, renewable and low carbon technologies. This has influenced design and layout to maximise natural daylight and ventilation and reduce heat loss and air infiltration. This is however relevant at detailed design stage and will be considered further at this stage.

Post Submission Amendments

4.34. Since the submission of the planning application, consultation responses have been received from key consultees and further discussions have taken place with the Council and their key consultees (namely WBC Highway Officers, Highways England (HE) and their consultants Atkins, WBC Environmental Protection Officers, Historic England and WBC Conservation Officer and Ramboll landscape designers acting on behalf of WBC). This Addendum therefore includes additional and updated information to address the comments raised. This has included the following matters that have been addressed through the illustrative masterplan and parameters plan as part of the design proposals:

4.35. Amendments have now been made to the detailed design of the mitigation package of works to junction 20 of the M6, including rationalisation of lane markings; works to carriageway widths on the Grappenhall Lane/A50 roundabout and updates to the M6 Junction 20 Base Model to reflect discussions with HE and WBC Highways.

4.36. Minor amendments have been made to the Parameters Plan and updates to relevant sections of the Part 1 and Part sections of this ES Addendum to reflect agreements to provide a

commuted sum towards continuing the shared cycleway/footway beyond the Application boundary and safeguarding a section of the Applicants land, adjacent to Grappenhall Lane to facilitate any future road widening and improvements required on Grappenhall Lane. Agreement has also been reached with WBC Highways on a commuted sum of £600,000 towards improved bus services via a S106 financial obligation.

4.37. Minor amendments to the illustrative masterplan, Cut and Fill Finished Levels Contour Plan to illustrate amendments to the location of landscape bunds and proposed Parameter Plans have now been made to reduce noise levels adjacent to the Cottages to an acceptable noise level and consequential changes to other plans, including the green infrastructure, drainage and noise parameter plans to reflect concerns raised by the Council's Environmental Protection team and comments raised by GMEU regarding ecological mitigation and the number and function of replacement ponds.

4.38. A green corridor and view corridor will be maintained from north to south within the Site to retain an open corridor around the Bradley Hall moated site and through the Site and the updated illustrative masterplan and updated parameters plans highlight the need for proposed estates roads through this green corridor to be constructed to mimimise any impact of views through this corridor and impacts on the setting of the SAM.

4.39. Since the submission of the second addendum, consultation responses have been received from Landscape Consultants Ramboll's acting on behalf of the Council in respect of the first addendum LVIA. This raised concerns regarding the the scale of some the proposed buildings.

4.40. Following this consultee response, the Applicant has given consideration to the comments and concerns pertaining to the scale and massing of proposed buildings and has agreed to reduce some of the building heights outlined in the building zones illustrated on the Building Heights Parameters Plan, which are the highest and most dominant features of the proposals. This reduces the maximum building height in Zone B2 from 43.5m to ridge (40m clear internal height) to 30m to ridge (26.5m clear internal height), which relates to Plot 4 of the Illustrative Masterplan and Zone D1 and D2 from 24.5m to ridge (21m clear internal height) to 22m to ridge (18.5m clear internal height), which relates to Plots 2 and 3 of the Illustrative Masterplan.

5. Plans and Policies

5.1. Section 38 of the Planning and Compulsory Act 2004, states that applications should be determined in accordance with the development plan unless material considerations indicate otherwise.

5.2. Section 38 of the Planning and Compulsory Purchase Act 2004, states that applications should be determined in accordance with the development plan unless material considerations indicate otherwise.

Statutory Development Plan

5.3. The statutory Development Plan for the consideration of this application comprises:

- Adopted Local Plan Core Strategy (July 2014) (CS)

5.4. The High Court Challenge to the adoption of parts of the Warrington Local Plan Core Strategy was heard on 3 and 4 February 2015 with judgement given on 19 February by Mr Justice Stewart. The Judge ruled in favour of the council on six of the nine issues that the claimant challenged on. The outcome resulted in the removal of elements of the housing policies from the Local Plan.

5.5. The parts of the Plan which have been overturned are:

- The housing target of 10,500 new homes (equating to 500 per year) between 2006 and 2027; and
- References to 1,100 new homes at the Omega Strategic Proposal.

5.6. Not all of the Local Plan Core Strategy has been overturned. All other policies within the plan remain unaltered.

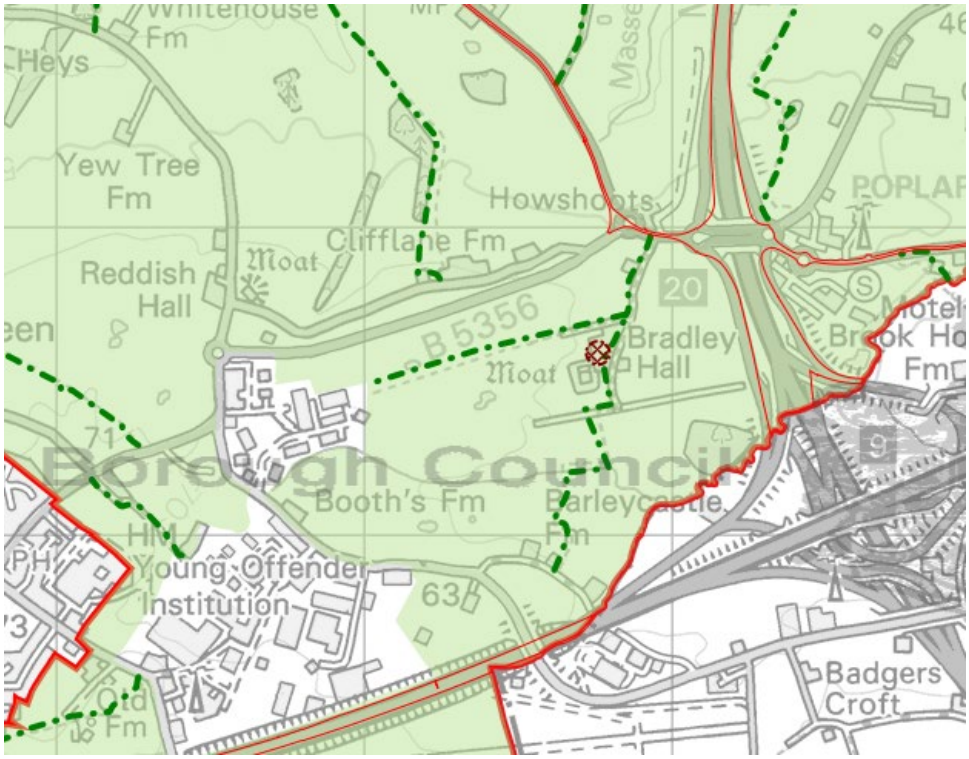
5.7. Consideration will also be necessary to the appropriate weight to be afforded to the development plan following the publication of the National Planning Policy Framework (hereafter referred to as 'The Framework'). This is also considered in the context of the National Planning Practice Guidance (hereafter referred to as 'PPG').

5.8. Each Technical Paper and their Addendum identifies the planning policies and other material considerations which are relevant to this Proposed Development and that specific technical area. This is contained in Section 2 (Documents Consulted) of each of the ES Technical Papers in Part 2 of this ES.

5.9. Below is an overview of the policy context and in particular the local planning policy context.

Site Specific Allocation

5.10. The Adopted Core Strategy Policies Map currently identifies the Site as Green Belt land.



5.11. The Adopted Local Plan Core Strategy sets out the overarching strategic policy document for the borough of Warrington.

5.12. The Local Plan Core Strategy policies relevant to the application proposals are identified in Section (Documents Consulted) of each of the Technical Papers in Part 2 of this ES.

National Planning Policy Framework (The Framework)

5.13. The ~~A revision to~~ National Planning Policy Framework was last updated and published on 20th July 2021 ~~19th February 2019~~, providing updated text to the Framework ~~adopted in~~ revised in July 2018 and updated in February 2019. The National Planning Policy Framework (The Framework) is a key material consideration as the statement of national policy and should therefore be taken into account and given appropriate weight when assessing this application.

5.14. Adopted as an expression of national planning policy, The Framework sets out the presumption in favour of sustainable development and the Government's key objective to help build a strong, responsive and competitive economy. Where relevant policies are out of date, it states planning permission should be granted.

5.15. In summary, the key elements of The Framework relevant to the proposals are:

- Achieving sustainable development
- Decision-making
- Building a strong, competitive economy
- Conserving and enhancing the historic environment

National Planning Practice Guidance (PPG)

5.16. The National Planning Practice Guidance (PPG) provides guidance to support the policies within The Framework, and in that sense does not provide additional policy but rather more detailed consideration of how policies within The Framework should be approached and met. The guidance covers all relevant planning policy areas under separate topics and will be updated online as and when required.

Other Relevant Policies

Emerging Local Policy and Evidence Base – Preferred Development Option Consultation

5.17. Warrington Council consulted on their Local Plan Preferred Development Option Regulation 18 documents in September 2017.

5.18. This preferred development option sets out the Borough's growth ambitions and housing and employment needs to reflect this aspiration. To achieve the growth ambitions and meet the need over the 20 year plan the Council recognizes that land will need to be released from the Green Belt to deliver at least 9000 homes and 252 ha of new employment space. This is underpinned by a range of evidence which provides a robust case for housing need and economic growth to be aligned. The Council believes planning for this level of growth provides a unique opportunity for Warrington to make the transition from a New Town into a New City.

5.19. The Preferred Development Options Document confirms that Warrington has significant ambitions for economic growth, as reflected in the Warrington Means Business regeneration programme, updated in December 2016 and in the scale of development proposed as part of the Cheshire and Warrington Devolution bid. The devolution bid figure has now been embedded in the Cheshire and Warrington Local Enterprise Partnership's (LEP) Strategic Economic Plan (SEP). The LEP has undertaken further work in preparing the SEP, working closely with the Council, to analyse the job growth figures across Cheshire and Warrington as a whole and specifically in respect of Warrington. The LEP and the Council are confident the level of growth proposed is achievable with the interventions set out in the SEP and the scale of public and private sector investment the LEP is seeking to secure. The Council is therefore making the positive decision to plan for this level of growth.

5.20. The evidence base within the Council's Economic Development Needs Assessment (EDNA) (2016) also confirmed the Objectively Assessed Need for employment states local needs requires a further land of 381 ha to 2037.

5.21. The Preferred Development Option identifies four main areas of growth – The City Centre, the Waterfront, a Garden City Suburb in the South East of the Borough (currently identified as Green Belt land) and a South West Urban Extension.

5.22. The south eastern extension of Warrington will create a new Garden City Suburb, providing the potential development of around 7,000 new homes to be delivered over the full 20 years of the Plan. The suburb will also provide a major new employment area as an extension of the existing Appleton Thorn / Barleycastle estates at the intersection of the M6 and M56. This includes the Application site which is identified for employment use. The Garden Suburb development option is also underpinned by the South Warrington Urban Extension Framework

Plan Document (SWUEFP) (June 2017) and Garden Suburb Development Framework (March 2019) produced on behalf of Warrington Borough Council.

5.23. The evidence base accompanying the Preferred Development Option included the following:

- Mid Mersey Strategic Housing Market Assessment (SHMA) Update - Warrington Addendum
- Warrington Local Plan - Review of Representations on Objectively Assessed Need (OAN)
- Mid Mersey Strategic Housing Market Assessment (SHMA) - January 2016
- Mid Mersey Strategic Housing Market Assessment (SHMA) Addendum - October 2016
- Economic Development Needs Assessment 2016
- Strategic Housing Land Availability Assessment (SHLAA) 2017
- Urban Capacity Statement Update 2017
- Warrington Interim Sustainability Appraisal Report
- Green Belt Assessment - Addendum following Regulation 18 Consultation
- Green Belt Assessment - Additional Site Assessments
- Green Belt Assessment - Original Report October 2016
- Green Belt Assessment - Original Report October 2016 - Appendix F
- Garden City Suburb - Development Concept
- Warrington Viability Review 2017
- Warrington Transport Summary 2017
- Strategic Economic Plan
- Review of Warrington Employment Targets to 2040

Emerging Local Policy and Evidence Base – Proposed Submission Version Local Plan (March 2019)

5.24. The Council ~~are seeking to~~ consulted on the next stage of their Local Plan, the Proposed Submission Version Local Plan ~~from~~ in April 2019, for a period of 8 weeks. This Submission Version of the Local Plan was presented to Full Council Board on the 25th March 2019, seeking approval to commence public consultation. ~~prior to formal consultation commencing.~~ Following consultation the Council ~~will then~~ are reviewing all of the representations made during the consultation prior to submitting the Plan for 'Examination in Public' to be carried out by an independent Inspector. The Council confirmed in October 2020 that they paused progress on their Local Plan until Summer 2021 to consider the implications of the Government's proposed planning reforms and national guidance on calculating housing need. This version of the Plan did not progress to publication version.

Emerging Local Policy and Evidence Base – Proposed Submission Version Local Plan (September 2021)

5.25. Work re-commenced following confirmation of changes to the Government's housing methodology at the end of 2020. Consultation on a Proposed Submission Version Local Plan under regulation 19 of The Town and Country Planning (Local Planning) (England) Regulations 2012 was held between April and June 2019. An updated Proposed Submission Version Local Plan (2021) has been subject of a further six-week period of public consultation from the 4th October to the 15th November 2021.

5.26. The Council has now updated its evidence base to re-establish Warrington's future development needs and subsequently re-assessed the Plan's spatial strategy and potential allocation sites. Changes include: a reduction of the Plan's housing requirement; the allocation of the Fiddlers Ferry site for employment and housing, following closure of the power station in March 2020; the removal of some of the previous Green Belt allocation sites; and the reduction in size of the South East Warrington Urban Extension (previously known as the Garden Suburb), which will deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period. The Council's updated EDNA has re-confirmed the scale of employment land that the Council needs to plan for and the Plan makes provision to meet the full requirement of 316.26 ha of employment land. The Application site remains an allocated site and forms part of the South East Warrington Employment Area (137 ha). ~~The Submission Version of the Local Plan (March 2019) continues to identify the Site for redevelopment for Employment Use (116 ha) as part of the Warrington Garden Suburb under emerging Policy MD2. The evidence based prepared to inform the Submission Version of the Local Plan (March 2019) includes the Warrington Garden Suburb Development Framework Document (March 2019) produced on behalf of Warrington Borough Council which also classifies the Site for redevelopment for Employment Use.~~

5.27. ~~Whilst the Submission Version of the Local Plan has not commenced formal consultation at the time of submission of this planning application, the Local Plan has been presented to Members at a Full Council Committee Meeting.~~ In summary, the Local Plan and its supporting evidence base confirms the following:

- The Council has updated its evidence base relating to housing, employment and retail needs to ensure the Plan is based on up to date evidence, meets the requirements of the NPPF (2021) ~~2019~~ and associated Planning Policy Guidance.

- The Council's updated Economic Development Needs Assessment (August 2021) ~~(2019)~~ has re-confirmed the scale of employment land that the Council needs to plan for. The Plan makes provision to meet the full requirement of 316.26 ha ~~362ha~~ of employment land ~~between 2017 and~~ up to 2038 ~~2037~~. This means there is a requirement for provision of around ~~215ha~~ 277.39ha of employment land through Green Belt release.

- In determining Warrington's housing requirement, the Council has followed the Government's Standard Housing Methodology and associated Planning Policy Guidance. The Updated Proposed Submission Version Local Plan proposes a housing requirement of 816 homes per annum, in line with the minimum requirement under the Government's methodology. This compares to a requirement of 945 per annum proposed in the Previous Proposed Submission Version Local Plan (2019), an almost 14% reduction. The amount of land proposed to be removed from the Green Belt is 580 hectares, equating to 5% of the total amount of Green Belt land in the borough. This is significantly lower than the 1,210 hectares proposed to be removed from the Green Belt in the previous Proposed Submission Version Local Plan which equated to 11% of the total amount of Green Belt in the borough.

- ~~The Proposed Submission Version Local Plan (2019) proposes a minimum housing requirement of 945 homes per annum, which equates to 18,900 new homes compared to the 1,113 per annum proposed in the Preferred Development Option. Around 7,000 of these homes through release of Green Belt land. This housing requirement is around 4% above the minimum housing requirement under the Government's Standard Housing Methodology (using the 2014 based Household Projections, in accordance with Government's Planning Practice Guidance).~~

- The proposed spatial strategy continues to identify a new urban extension ~~Garden Suburb~~ to the south east of the main urban area, (previously known as the Garden Suburb). The size and extent of the Urban Extension has been reduced from the Garden Suburb proposed in the Previous Proposed Submission Version Local Plan (2019) ~~which~~ and will deliver around 2,400 ~~5,000~~ homes ~~(including 4,200 through Green Belt release)~~ in the Plan period up to 2038 ~~2037~~, with a potential for a further 1800 ~~2,300~~ homes from Green Belt release beyond the Plan period.

- The South East Warrington Employment Area (137ha) ~~Garden Suburb Employment Area (116ha),~~ which includes the Proposed Development Site will meet a large proportion of the Borough's identified B8 requirement. The Submission Version of the Local Plan confirms that it will benefit from proximity to the South East Warrington Urban Extension ~~Garden Suburb's neighbourhood centre~~ and contribute towards planned improvements to road infrastructure. Proposed Policy DEV4 - Economic Growth and Development confirms that the Proposed Development Site will contribute towards meeting the Council employment land requirement.

- Key development requirements and principles of the South East Warrington Employment Area ~~Garden Suburb,~~ including details of phasing and the requirement for a delivery strategy, are set out in a Proposed Policy Allocation – Policy MD6 ~~MD2~~ - South East Warrington Employment Area ~~Warrington Garden Suburb~~ which provides a framework to deliver the ~~116~~ 137 hectares of employment land.

5.28. The adopted Core Strategy remains the statutory development plan until such time as the new Local Plan is adopted, however the emerging Local Plan evidence base is highly relevant to the Proposed Development.

5.29. Following the Examination in Public, the Inspector will issue a report setting out their recommendations, including any required modifications to the Plan. The Council must carry out a final consultation on any Main Modifications before formally adopting the Plan.

6. Methodology and Approach

Introduction

6.1. This section sets out the approach and methodology for assessing the environmental effects of this development. The ES and Second Addendum to the ES has been undertaken to facilitate the assessment of the proposed development by identifying existing baseline conditions and comparing the significant environmental effects of the proposal with appropriate legislative limits and guidelines.

Relevant Legislation and Guidance for Preparing and ES

6.2. All proposals for projects that are subject to the European Environmental Impact Assessment (EIA) Directive 2014/52/EU must be accompanied by an Environmental Assessment (ES). The legislation has been transposed into UK law through the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended by the temporary 2020 Regulations)which are the EIA Regulations for England only (hereafter referred to as 'the 2017 EIA Regulations (as amended by the temporary 2020 Regulations)').

6.3. The ES and Second Addendum to the ES has been prepared in the context of relevant legislation and guidance. Under the EIA Amended Regulations, a planning application must be accompanied by an ES in certain circumstances. The proposals fall under Schedule 2 of the Amended Regulations where an ES is required to be prepared where a development may have significant effects on the environment due to:-

- Size/scale of the environmental effects
- Sensitivity/vulnerability of the site/location concerned
- Nature/complexity of the environmental effects

6.4. In preparing the ES, the Study Team have taken account of guidance in the Town and Country Planning Act 1990 (Section 62), the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended by the temporary 2020 Regulations) and Planning Practice Guidance.

Study Team's Approach

6.5. The Study Team is aware of the legislative and guidance framework above. The Team has undertaken the approach outlined in Schedule 4 of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) for the assessment of the environmental effects of the proposal. This comprises:-

- Description of development
- Description of the reasonable alternatives studied
- Description of the relevant aspects of the current state of the environment and likely evolution without the development
- Description of the aspects of the environment likely to be significantly affected by the development
- Description of the likely significant effects of the development on the environment
- Description of the forecasting methods or evidence, including details of any difficulties in compiling the required information
- Description of mitigation measures and any monitoring
- Where relevant a description of the expected adverse effects of the development on the environment from the vulnerability of development or risks of major accidents and/or disasters
- A non-technical summary

6.6. As far as possible a common methodology was used as the basis for all technical papers; the importance of the receptor; the significance of effect; and confidence level. All technical papers conclude with an assessment of impacts and mitigation measures summarising the significance of effects in a tabular format.

Study Area

6.7. The Study Area, unless otherwise defined in the Technical Chapters, has comprised the application site. In several cases, however, there has been a need to look at wider areas, e.g. the immediate locality, or the District as a whole when considering certain impacts.

Difficulties in Compilation and Assessment

6.8. In line with Paragraph 7 of Schedule 4 of 2017 EIA Regulations (as amended by the temporary 2020 Regulations) this section identifies the difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information for the environmental assessment.

6.9. In respect of the cumulative assessment, the likely effects of the cumulative developments identified in Section 9 (Table 9.1) have been assessed where relevant for each technical area (Section 10 of each of the ES Addendum Technical Papers in Part 2 of this ES, with an overview provided in Section 9 of this ES Second Addendum Part 1 Report).

6.10. Warrington Council's Scoping Opinion confirmed the need to consider the Warrington Garden Suburb identified in the emerging Local Plan as part of the cumulative assessment in respect of 'Traffic and Transport.' The Garden Suburb (now referred to as the South East Warrington Urban Extension) has therefore been included as part of the cumulative assessment in order to address this.

6.11. The proposal referenced in the Council's Local Plan Preferred Development and Submission Version Local Plan (September 2021) ~~(March 2019)~~ is still at a broad masterplanning level with indicative quantities of development which has not been fully tested, therefore there are limitations in respect of environmental assessment.

6.12. We have previously reached an agreed position with the Council to undertake a cumulative assessment of the Garden Suburb (now referred to as the South East Warrington Urban Extension), based on assessment of only the quantum of development and phases of the Garden Suburb expected to be delivered in parallel with the phasing and delivery of the Six 56 Application proposals as referenced in the Project Description (Section 2) of this ES Part One Report and its Addendum. This trajectory is set out in evidence used to inform the Preferred Options Development Plan. The quantum of development and uses assessed are detailed in Section 9 of this ES Part One Report and its Second Addendum.

6.13. On this basis the cumulative assessment undertaken as part of the original ES provides a robust assessment. ~~and~~ Despite there being a reduction in size of the Garden Suburb (now referred to as the South East Warrington Urban Extension), which will now deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan

period, there is no reason or evidential basis on which to change the approach to the cumulative assessment.

6.14. Due to the limited information available in respect of the South East Warrington Urban Extension (formerly referred to as the Garden Suburb), the Six 56 Warrington Cumulative Assessment will be a non-spatial assessment.

6.15. Traffic and Transportation, Noise and Vibration and Air Quality cumulative assessments have been undertaken using the information available from the Council's Warrington Multi Modal Transport Model (WMMTM) produced for the emerging Local Plan and will therefore be based on the assumptions made within the WMMTM. Agricultural Land and Socio Economic cumulative assessments have been based on only the phases of the Garden Suburb development expected to be delivered in parallel with the Development Proposals.

6.16. There is not sufficient information available in terms of spatial delivery for cumulative assessments to be undertaken in respect of the other technical areas, which include Geology and Ground Conditions; Flood Risk and Drainage; Landscape and Visual Impact; Ecology and Nature Conservation; Cultural Heritage and Archaeology; Utilities; Waste; and Energy. As such a cumulative assessment has not been undertaken in respect of these technical areas.

6.17. Within the Cumulative Assessment, third party forecast traffic data has been used. The traffic data was obtained from the Council's WMMTM for future years of 2021 and 2031. This data was requested by Warrington Borough Council (WBC) so that Curtins could undertake a high-level assessment of the impacts across the wider network, including the emerging Local Plan allocations. The WMMTM includes all committed development and Local Plan allocations. This model data has also been used to inform the Traffic and Transport Technical Paper and transposed into the relevant format for the Air Quality and Dust and Noise and Vibration cumulative assessments.

6.18. As requested by WBC/Highways England (HE) prior to submission of the planning application ~~during recent discussions~~, a sensitivity test was ~~has also be~~ undertaken to take account of the potential 59,010m² logistics development scheme (promoted by Liberty Properties and Stobarts) to the west of the Site. This ~~is~~ was despite the fact that the submitted planning application was initially refused by WBC. This refused application was ~~is~~ subject of ~~an ongoing~~ an appeal and a further full planning application was submitted to the Council which has subsequently being approved in principle by members and referred to the SoS. On the 21st

May 2020 the SoS confirmed that he was Calling In this application to ~~and~~ will consider this jointly with the appeal scheme as they are effectively identical. ~~and the scheme currently has no committed status.~~ In the interests of being robust this approach was agreed. ~~, in view of the prospects that Liberty Properties and Stobarts may appeal or re-submit proposals on their Site.~~ The appeal scheme and Called in application have subsequently been dismissed by the SoS.

6.19. The data in the WMMTM has been analysed and assessed by Curtins. The results demonstrate that if the entire development came forward in 2021, impacts in the AM peak period would only be in excess of 5% at six locations. This includes the M6 J20 and Cliff Lane Roundabout to the east of the development which is to be expected given the proximity of the site to the motorway.

6.20. However, the modelling also predicts impacts at the Grappenhall Lane/Broad Lane roundabout, London Road/Lyons Road junction, Witherwins Lane/Lyons Lane roundabout and Church Lane/Broad Lane. These locations are to the north and west. This is not expected on the basis that conventional traffic forecasting set out in Curtins TA and the forecasting for the Liberty development suggested the vast majority of traffic would travel towards the motorway.

6.21. The results demonstrate that if the entire development came forward in 2021, impacts in the PM peak period would also be in excess of 5% at six locations. This includes the M6 J20 and Cliff Lane Roundabout to the east of the development. However, the modelling also predicts impacts at the Grappenhall Lane/Broad Lane roundabout, Stretton Road/Barleycastle Lane, Witherwins Lane/Lyons Lane roundabout and Church Lane/Broad Lane. As with the AM, these locations are to the north and west. Again, as with the AM this is not expected. This is counter intuitive given the location of the site adjacent to the M6 J20, and the fact that there are HGV restrictions to the west of the site.

6.22. Following discussions with Highways Officers at WBC prior to submission of the planning application it would appear that some of the HGV restrictions to the west of the site have not been included in this version of the WMMTM. The loading point (Access) for the Proposed Development is located to the south of the Broad Lane roundabout on Barleycastle Lane. This is much further to the west than in reality with the actual access being located on Grappenhall Lane to the east of then Broad Lane roundabout. The model does not also include consideration of any mitigation at the M6 J20.

6.23. The above explains the apparent bias towards the west, and the traffic flows predicted by the WMMTM at the M6 J20, Cliff Lane/A50 roundabout and A50/A56 junctions are all less than the flows predicted in the conventional traffic forecasting contained in the Curtins TA and ES Technical Paper and its Addendum. WBC Highways Officers ~~have~~ previously confirmed that the impacts to the west are likely to be significantly lower in the next iteration of the Local Plan modelling which will seek to address the above matters.

6.24. Notwithstanding the above, the Proposed Development will not be fully operational by 2021 and therefore the figures in the WMMTM also represent a significant overestimation of traffic flows in 2021, but does however provide an overly robust methodology for considering cumulative impacts.

6.25. The level of trips assessed by Curtins that could be generated by the scheme referenced in their Technical Paper in the ES Part 2 and in their TA were initially estimated through reference to average peak hour trip rates obtained from surveys of 'commercial warehousing' schemes from within the industry-standard TRICS Database. The level of assumed 'staff' vehicle movements has been calculated simply by deducting the estimated number of component HGV trips from the estimated total vehicle trips. Whilst this approach is considered by Curtins to be an acceptable methodology, WBC and HE requested consideration of Omega North trip rates. On this basis Curtins commissioned an ATC traffic survey at Omega North.

6.26. This represents a very worst case assessment of the likely trip rates expected as part of any Proposed Development as the Omega North trip rates are significantly higher than industry standard prediction methods.

6.27. The same highway data has been used to assess the noise impacts associated with peak operational road traffic flows on internal roads (based upon the Omega trip rates) combined with service yard operational noise sources on each development plot. BS 4142 acoustic feature corrections have then been added to the noise from all sources operating concurrently and compared against night-time background noise levels at nearby receptors. It should be noted that the current assessment can be considered an absolute worst-case assessment. In reality, the probability of all such sources operating concurrently is reasonably low and can only been assessed in detail once specific operators come forward with reserved matters applications. At this point, detailed mitigation measure requirements could be determined and implemented. In summary, using the Omega trip rates adopts an overly robust approach and

the impacts may indeed reduce at detailed stage, once assessments are undertaken based on specific operators and end users.

6.28. In terms of impacts on agricultural land, there has been no detailed land classification carried out on all the land to the north of the Proposed Development on land proposed as part of the Garden Suburb, considered as part of the cumulative assessment. The Provisional Agricultural Land Classification (ALC) survey 1968-1972 carried out by MAFF showed the agricultural land occupied by the Garden Suburb consists mainly of categories 2 and 3. Areas which have been assessed show grades 2, 3a, and 3b. It is not possible, therefore to accurately state how much of the 'best and most versatile' land would be lost. However, if we assume that the split of land grades is similar to the Proposed Development site, then the potential combined land loss of the two proposals could see a loss of around 800 ha of agricultural land. It would therefore be reasonable to assume that more than 200 ha could be 'best and most versatile' land.

6.29. The landscape and visual impact of the Proposed Development contained in Technical Paper 4 Second Addendum of the ES Part 2 has been based on an assessment of a series of design parameters contained within the Parameters Plan at Appendix 5 of this ES Part One Report and Second Addendum. The Height Parameters Plan has been updated as part of the Second Addendum and identifies a range of building heights across the site, which is subdivided in zones with a range of buildings from 12.5m to 26.5m ~~40m~~ (~~104.50~~ 91.00AOD) (to haunch). Whilst the LVIA has been assessed on a possible building which is maximum 26.5m to haunch and 30m ~~40m~~ in height to ridge across Zone B2, this represents a worst case assessment, which may not result in all sections of the building or any building within this zone being 30m ~~40m~~ in height. The size and scale of buildings will be driven by market demand and may not reach these upper limits tested within this ES. Only when specific operators have been identified and proposals come forward with reserved matters applications can detailed assessments be undertaken to determine true impacts and detail proposed mitigation measures.

6.30. The LVIA includes wireframe photomontages at 10 agreed view points in the study area. These wireframe models are of the proposed building units and include landscape proposals such as planting or other external infrastructure, to provide an accurate visualization to demonstrate how the proposed landscape mitigation in the form of bunds and trees will mature to reduce the impacts over a fifteen period post completion of the Proposed Development. The photomontages have been updated to reflect the reduction in some of the building heights

outlined in the updated Building Heights Parameter Plan and have been based on the Illustrative Masterplan, using the same approach agreed and adopted in the original LVIA.

Study Process

6.31. The Scoping Report set out the methodology that will be applied to the assessment within all the technical reports. The 2017 EIA Regulations (as amended by the temporary 2020 Regulations) stipulate that an ES should, where possible, identify, describe and assess the likely significant effects of the development on the environment. The methodology has three stages to identify the significant effects:

- Receptors
- Environmental Impacts
- Significant Effects

Receptors

6.32. The significance of an effect is relative to the sensitivity or quantity of a receptor. Receptors are set out in accordance with the magnitude of their importance. Some receptors are given relatively high levels of importance through legislation, such as designated conservation sites or world heritage sites. Determining the importance of other receptors can be more subjective. To maintain consistency in how receptors are considered, this Environmental Statement assesses each one in relation to the following hierarchy:

- International
- National
- Regional
- County
- Borough/District
- Local/Neighbourhood

6.33. Each environmental topic area within this Environmental Statement has outlined the relevant receptors and how they fit within the above hierarchy. The Environmental Statement provides an opportunity for consultees to have an input into the designation of each receptor. A plan of the Key Receptors is included as **Appendix 6.**

Environmental Impacts

6.34. This Environmental Statement adopts the standard approach of assessing the impacts of the relevant area of the proposals. These impacts have been developed giving due regard to the following, taking account of the environmental protection objectives established at Union or Member state level which are relevant to the project (including 92/43/EEC (Habitats Directive) and 2009/147/EC (Birds Directive)):

- Beneficial and adverse effects
- Short, medium and long term effects
- Direct and indirect effects
- Secondary effects
- Permanent and temporary impacts
- Cumulative impacts

6.35. Each of the impacts assessed is categorised as being:

- Neutral
- Negligible
- Minor
- Moderate
- High
- Substantial

6.36. These impacts are classified as being either positive or negative.

Significant Effects

6.37. Once the receptors and impacts have been established they need to be assessed against each other to provide the likely significant effects. Each of these will be considered in relation to the following:

- Extent and magnitude of the effect
- Effect duration (whether short, medium or long term)
- Effect nature (whether direct or indirect, reversible or irreversible)
- Whether the effect occurs in isolation, is cumulative or interactive

- Performance against environmental quality standards or other relevant pollution control thresholds
- Sensitivity of the receptor
- Compatibility with environmental policies

6.38. In order to define the magnitude of the effect the matrix below (Table 6.1) has been developed. An effect will be categorised as being either:

- Substantial — This **will** have a **significant** influence on decision making
- High — This **may** have a **significant** influence on decision making
- Moderate — This **will** have a **slight** influence on decision making
- Minor — This **may** have a **slight** influence on decision making
- Negligible — This **will not** have an influence on decision making
- Neutral — This **will not** have **any** influence on the environment.

6.39. The interaction or cumulative impact or nature of these effects is also important. In isolation the lower categories may not have a significant influence on decision making however in combination with a number of other effects, the significance may be increased.

Sensitivity Value of Receptor

Magnitude of Effect	International	National	Regional	County	Borough	Local
Positive: Substantial	Substantial Benefit	Substantial Benefit	Substantial Benefit	High Benefit	Moderate Benefit	Moderate Benefit
Positive: High	Substantial Benefit	Substantial Benefit	High Benefit	Moderate Benefit	Moderate Benefit	Minor Benefit
Positive: Moderate	Substantial Benefit	High Benefit	High Benefit	Moderate Benefit	Minor Benefit	Minor Benefit
Positive: Minor	Moderate Benefit	Moderate Benefit	Moderate Benefit	Minor Benefit	Minor Benefit	Minor Benefit
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
Negligible	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Negative Impacts: Minor	Moderate Adverse	Moderate Adverse	Moderate Adverse	Minor Adverse	Minor Adverse	Minor Adverse
Negative Impacts: Moderate	Substantial Adverse	High Adverse	High Adverse	Moderate Adverse	Minor Adverse	Minor Adverse
Negative Impacts: High	Substantial Adverse	Substantial Adverse	High Adverse	Moderate Adverse	Moderate Adverse	Minor Adverse
Negative Impacts: Substantial	Substantial Adverse	Substantial Adverse	Substantial Adverse	High Adverse	Moderate Adverse	Moderate Adverse

Significance Matrix

Table 6.1 Significance Matrix

Impact Prediction Confidence

6.40. It is also of value to attribute a level of confidence by which the predicted impact has been assessed. The criteria for these definitions are set out below:

Confidence Level	Description
High	The predicted impact is either certain i.e. a direct impact, or believed to be very likely to occur, based on reliable information or previous experience.
Low	The predicted impact and its levels are best estimates, generally derived from first principles of relevant theory and experience of the assessor. More information may be needed to improve confidence levels.

7. Summary of Environmental Impacts

7.1. This section provides a summary of the environmental impact of the proposals. As highlighted in the earlier parts of this ES there are a series of Part 2 technical reports and their Addendums which accompany this Part 1 document and its Second Addendum which have been produced across a range of topics and should be referenced to understand the impact of the proposals. Providing all the necessary ES information in one composite document was considered to be too lengthy and as a result this Part 1 document and its Second Addendum provides a summary of the environmental impact, key mitigation measures and an appraisal of cumulative and interaction of effects.

7.2. All key receptors associated with each of the technical areas are identified on the plan within **Appendix 6.**

7.3. **Table 7.1** below provides a summary of the environmental impact across all of the topic areas. The table is structured to consider the nature of the impact, the mitigation measures to be employed where appropriate and the resulting residual impact. It should be noted however that the ES and its Addendums should be read as a whole and the Part 2 of the ES and the Addendums to it should be consulted for a detailed review of specific environmental effects.

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Geology and Ground Conditions			
Construction Phase			
Migration of silts / soils into adjacent surface waters (Bradley Brook)	Minor Adverse	EA Pollution Prevent Guidelines (PPG), bunding and sealing of stockpiles	Neutral
Inhalation of dust by site workers	Minor Adverse	PPE and dust control	Neutral
Inhalation of dust by adjacent residents and other adjacent site users	Minor Adverse	Dust control	Neutral
Increased traffic movements due to disposal of unsuitable soils off site.	Minor Adverse	Careful control to minimize off-site disposal and use sheeted lorries.	Neutral
Inhalation of dust by construction workers, adjacent site users and adjacent residents due to disposal of unsuitable soils off site.	Minor Adverse	Careful control to minimize off-site disposal and use sheeted lorries.	Neutral

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Geology and Ground Conditions			
Operational Phase			
Phytotoxic effects	Neutral	Areas of landscaping will be completed with suitable topsoil to provide a growing medium.	Neutral
Zootoxic effects	Neutral	Areas of landscaping will be completed with suitable topsoil to provide a growing medium	Neutral

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Environmental Statement Part 2 – Traffic and Transport Technical Paper			
Construction Phase			
Increase in HGV traffic flows on the M6 may impact on driver delay due to construction traffic	Moderate Adverse	CEMP	Minor Adverse
Increase in HGV traffic flows on the M56 may impact on driver delay due to construction traffic	Moderate Adverse	CEMP	Minor Adverse
Increase in HGV traffic flows on the local highway network may impact on driver delay, road safety, pedestrian amenity and public transport	Moderate Adverse	CEMP	Minor Adverse
The HGVs associated with the construction process may result in increased dust and dirt	Minor Adverse	CEMP	Minor Adverse
The construction of the Site will create a number of construction jobs over a number of years. These workers may have an impact on the local network in terms of driver delay, pedestrian amenity, road safety and public transport	Minor Adverse	CEMP	Minor Adverse
The construction of the Site will create a number of construction jobs over a number of years. These workers may have an impact on key roads.	Minor Adverse	CEMP	Minor Adverse
The construction of the Site will create a number of construction jobs over a number of years. These workers will arrive from all over the region and therefore the additional traffic may have an impact on the M6 and M56 in terms of driver delay	Minor Adverse	CEMP	Minor Adverse

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Environmental Statement Part 2 – Traffic and Transport Technical Paper			
Operational Phase			
A50 Knutsford Road/A56 Chester Road			
Knutsford Road North	Negligible	No Specific Mitigation	Negligible
Chester Road East	Negligible	No Specific Mitigation	Negligible
Knutsford Road South	Negligible	No Specific Mitigation	Negligible
Chester Road West	Negligible	No Specific Mitigation	Negligible
A56 Chester Road /Church Lane			
Chester Road East	Negligible	No Specific Mitigation	Negligible
Church Lane	Minor Adverse	No Specific Mitigation	Minor Adverse
Chester Road West	Negligible	No Specific Mitigation	Negligible
Broad Lane/Stockton Lane			
Church Lane North	Minor Adverse	No Specific Mitigation	Minor Adverse
Stockton Lane	Negligible	No Specific Mitigation	Negligible
Church Lane South	Minor Adverse	No Specific Mitigation	Minor Adverse
Broad Lane/Church Lane			
Broad Lane North	Minor Adverse	No Specific Mitigation	Minor Adverse
Church Lane	Negligible	No Specific Mitigation	Negligible
Broad Lane South	Minor Adverse	No Specific Mitigation	Minor Adverse
Broad Lane/Grappenhall Lane			
Broad Lane	Minor Adverse	No Specific Mitigation	Minor Adverse
Grappenhall Lane East	Minor Adverse	No Specific Mitigation	Minor Adverse
Grappenhall Lane South	Negligible	No Specific Mitigation	Negligible
Barleycastle Lane/Grappenhall Lane			
Grappenhall Hall Lane North	Negligible	No Specific Mitigation	Negligible
Barleycastle Lane	Negligible	No Specific Mitigation	Negligible
Grappenhall Hall Lane West	Minor Adverse	No Specific Mitigation	Minor Adverse
Grapenhall Road Western Access			
Grapenhall Road East	Moderate Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Secondary Access	N/A	New Sustainable Transport Infrastructure and Highways Improvements	N/A
Grappenhall Road West	Minor Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Grapenhall Road Eastern Access			
Grapenhall Road East	Moderate Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Primary Access	N/A	New Sustainable Transport Infrastructure and Highways Improvements	N/A
Grappenhall Road West	Minor Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Knutsford Road/Cliff Lane/Grappenhall Lane			
Knutsford Road	Negligible	New Sustainable Transport Infrastructure and Highways Improvements	Negligible
Cliff Lane	Minor Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Grappenhall Lane	High Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
M6 J20			
Cliff Lane West	Minor Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
M6 Northbound OffSlip	Moderate Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
M6 Northbound OnSlip	High Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
M6 Southbound Offslip	High Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
M6 Southbound Onslip	High Adverse	New Sustainable Transport Infrastructure and Highways Improvements	Minor Adverse
Cherry Lane	Negligible	New Sustainable Transport Infrastructure and Highways Improvements	Negligible
Cliff Lane East	Negligible	New Sustainable Transport Infrastructure and Highways Improvements	Negligible
Cliff Lane/Lymm Services			
A50 Cliff Lane East	Negligible	No Specific Mitigation	Negligible
Lymm Services	Negligible	No Specific Mitigation	Negligible
Cliff Lane West	Negligible	No Specific Mitigation	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Drainage and Flood Risk			
Construction Phase			
Ground water ponding in excavations	Minor Adverse	Large holes avoided, covered then managed through PPG 5	Local
Increase in impermeable areas leading to increased flood risk	Minor Adverse	Haul road or matting used. Temporary drainage installed, attenuation installed early	Local
Existing flow routes cut off	Minor Adverse	Diversions put in place where required	Local
Existing cesspits may be ruptured leading to pollution to minor watercourses	Minor Adverse	Existing cesspits to be avoided until foul pump and tank to be installed early.	Local
Damage to existing foul drainage leading to pollution to minor waterourses	Minor Adverse	Heavy machinery routes to be kept away from existing properties.	Local
Pollution through conveyed storm water with silt/sediment	Minor Adverse	No untreated water to be discharged to existing systems (including treatment where required). Management of earthworks.	Local
Excessive ponding leading to raised groundwaters	Minor Adverse	Earthworks, excavation, potential treatment and conveyance procedures as all above.	Local

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Drainage and Flood Risk			
Operational Phase			
Overland flows originating offsite flooding the site	Minor Adverse	None required	Local
Increased development leading to increased flood risk offsite	Minor Adverse	All storm water conveyed, restricted and attenuated and afforded greater protection than the previous Site.	Local
Climate change impact on storm intensity	Minor Adverse	40% allowance to be made within the drainage system or overland storage.	Local
Increased storm and foul water flow to receiving waters	Minor Adverse	Flows to be restricted to equivalent Greenfield Runoff from site to mimic undeveloped state (existing drainage connections removed)	Local
Increased pollution to receiving waters due to increased industrial surfaces	Minor Adverse	SuDS treatment proposed including permeable paving, swales, ponds and detention basins to improve falling stormwater quality. Removal of existing leachate.	Local
Potential pollutants to below underlying aquifer	Minor Adverse	All impermeable areas are to be treated and conveyed direct to the brook system.	Local
Retention of existing flow waters through Phase 1 Development Site	Minor Adverse	Diversions / continuation to be put in place where necessary.	Local
Removal of existing uncontrolled drainage	Minor Benefit	None required	Local
Removal of existing cesspits	Minor Benefit	None required	Local
Removal of existing agricultural waste runoff	Minor Benefit	None required	Local
Developing over a groundwater recharge zone	Negligible	None required	Local

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Landscape and Visual Impact			
Construction Phase			
Scheduled Ancient Monument (SAM) Change to the surrounding landscape setting through loss of open agricultural fields	**Moderate/ Major**	Introduction of screen planting surrounding the SAM in order to filter views out towards the units. Lowering of existing topography within Plots 4, 5, 6, & 7 in order to order to create base FFL that are lowest possible levels in order to minimise the proposed units over shadowing effect. Limited maximum building heights for the Units immediately adjacent to the SAM to a maximum of 21m. 30m buffer zone surrounding the monument to retain sense of openness. Introduction of a wildflower meadow surrounding the SAM.	**Moderate/ Major**
Landscape Character The development will result in considerable change through clearance and earthworks with the introduction of large-scale buildings and associated construction plant via incremental changes.	**Moderate / Major**	Introduction of screen planting and bunding along the external boundaries of the Site, especially along the northern boundary within the early stages of development to allow maximum timeframe for establishment. The retention of Bradley Gorse and its surrounding tree planting in order to form an ecological mitigation area within the Site and maintain the mature vegetation featured within.	**Moderate/ Major**
Residential Relatively small numbers of residential properties directly affected by the development, however, those that are close to the Site will experience large and major size and scale of effects. These properties include Bradley Hall Cottages, Bradley View and the properties along Cartridge Lane and Barleycastle Lane.	**Substantial to Moderate / High**	New bunding and screen planting introduced around the perimeter of the proposed development in order to filter views the proposed units. Orientation of the proposed units and car parking facilities to reduce visibility of traffic movement within the Site where possible.	**Substantial to Moderate / High**
Transport Visibility of the Site from the roads in the immediate context. Further afield particularly to the west of the M6 Motorway and south of the M56 Motorway visibility of the site during construction is very limited. Amendments to the A50 Cliff Lane roundabout and subsequent tree loss will allow more visibility of the proposed development from users travelling southbound along the A50 Cliff Lane.	**Substantial to N/A**	Retention of existing boundary vegetation where possible. Where existing boundary vegetation is to be removed replacement hedgerow and tree planting are to be implemented within the early stages of development to allow maximum establishment timeframes and provide filtering of the views of the proposed development.	**Substantial to N/A**
Public Rights of Way (PROW) PROW's within and within close proximity to the Site will experience the most change from the vary degrees of construction. PROW's to the south will experience little change due to existing vegetation cover.	**Substantial to N/A**	Proposed redirection of the Appleton FP23 in order to allow users greater visibility / access to the SAM. Introduction of a wildflower meadow surrounding the SAM and additional route, encircling the SAM, connecting to Appleton FP23 at both ends in order to provide a larger walkers route for works and other users groups within the Site. New tree planting along PROW to help filter views of the proposed units where possible.	**Substantial to N/A**

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Landscape and Visual Impact			
Operational Phase			
Scheduled Ancient Monument (SAM) Change to the surrounding landscape setting through loss of open agricultural fields	**Moderate/ Major**	Tree planting introduced within the early stages of construction will have had time to establish and therefore will have larger canopy sizes compared to trees that would have been introduced in the later stages of construction, therefore providing a stronger filter to views of the proposed Units which will still be visible above the canopies.	**Moderate/ Major**
Landscape Character The development will result in considerable change through clearance and earthworks with the introduction of large-scale buildings and associated infrastructure.	**Moderate / Major**	CEMP will provide mitigation to adjacent and site retained landscape features.	**Moderate/ Major**
Residential Relatively small numbers of residential properties directly affected by the development, however, those that are close to the site will experience large and major size and scale of effects. These properties include Bradley Hall Cottages, Bradley View and the properties along Cartridge Lane and Barleycastle Lane.	**Substantial to Moderate / High**	Vegetation introduced within the early construction stage will have established and therefore provide stronger cover / filter to the views of residential receptors. The proposed Units will still be visible above the tree canopies due to the limited maturation time allowed for the proposed planting and the scale of the Units involved.	**Substantial to Moderate / High**
Transport New buildings will become dominant feature of the view. Existing boundary vegetation where retained will screen ground level and car parking provisions. Users of the A50 Cliff Lane will have clear visibility of plot 2. Plots 1, 5 & 6 will be more visible from the B5356 Grappenhall Lane and from locations further to the north travelling south towards the Site.	**Substantial to N/A**	Tree and hedgerow vegetation along with the proposed bunding introduced along B5356 Grappenhall Lane and the A50 Cliff Lane roundabout within the early stages of construction will have had time to establish and provide a stronger filtering of the views from road users. Over a 15 year time period this screening tree planting and bunding could grow to become a large 'wall' of vegetation which could start to impose of the views. (see Viewpoint 7 of Appendix 4.3). Selective thinning would be required in order to prevent this.	**Substantial to N/A**
Public Rights of Way (PROW) PROW's within and close to the Site will experience the most change from the vary degrees of construction. PROW's to the north and south will experience little change due to existing vegetation cover and the topography of the area.	**Substantial to N/A**	Proposed tree planting within the Site during the early construction stages will have established and start to provide a stronger screen / filter of the proposed units. The proposed units will still be visible above the canopies of the trees.	**Substantial to N/A**

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Ecology and Nature Conservation			
Construction Phase			
Statutory Sites – direct / indirect impacts	Negligible	None Required	Negligible
Non-statutory Sites – direct / indirect impacts	Negligible	None Required	Negligible
Broadleaved Woodland – permanent loss, fragmentation or degradation	Minor Adverse	Strengthening the wildlife corridor along the brook (delineating the southern boundary of the site) and enhancement of the retained hedge linking the brook and retained habitats associated with the Farm / SAM.	Negligible
Hedgerow - permanent loss, fragmentation or degradation	Minor Adverse	• Enhancement of retained hedge extending north towards the Farm / SAM from the brook along the southern boundary (to the west of development Zone D on the Parameter Plan at Appendix 5 of the ES Part I Addendum Report); • The formation of a 15 m wide corridor containing a mixture of rough grassland and scrub habitat along the southern boundary brook, thereby strengthening this existing wildlife corridor; • Inclusion of new native tree planting blocks between the northernmost plots (cells 5 and 6 within development Zone B on the Parameters Plan, at Appendix 5 of the ES Part I Addendum Report); Inclusion of additional native tree planting will be included along the boundary of the Ecological Mitigation Area to screen the area from the motorway slip road to the southeast; and • Planting of a hedge to link the proposed boundary planting (described above) to the hedge and associated drain present on the northwest boundary of the mitigation area.	Negligible
Ponds - permanent loss or degradation	Minor Adverse	Inclusion of ~~six~~ seven new ponds created specifically for wildlife (notably GCN) within the Ecological Mitigation Area located in the southeast corner of the development. These ponds will be positioned relatively close to each other so that close habitat links can be created between them and the two existing ponds retained within this area. To increase the provision of new wetland habitat towards a 2:1 replacement of all ponds (a total of 12 new pond features), a number of the proposed attenuation basins will be designed so that they will permanently hold water. Where possible, ponds selected for this treatment will be those most closely linked to the proposed Green Infrastructure and Bradley Brook watercourse corridor and will be landscaped to maximise benefits for biodiversity. Also, the Ecological Mitigation Area will connect to Bradley Gorse which contains another three of the ponds retained within the development thereby providing additional terrestrial habitat linkages.	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Scattered Trees and Scrub - permanent loss, or degradation	Minor Adverse	New tree planting will mitigate some of the effects of individual tree loss however, this cannot replace the loss of those features associated with mature trees such as cavities and decay. Loss of scrub will be mitigated through the inclusion of a scrub component within the Ecological Mitigation Area.	Negligible
Tall Ruderal - permanent loss or degradation	Negligible	Inclusion of a ruderal component within the Ecological Mitigation Area.	Negligible
Watercourses – degradation	Minor Adverse	Pollution control measures will be implemented	Negligible
Arable and Improved Grassland – permanent loss	Negligible	None Required	Negligible
Buildings and Hard standing – permanent loss	Neutral	None Required	Negligible
Spread of Rhododendron	Neutral	Woodland habitats would be protected from incidental disturbance by fencing which will prevent the accidental spread of rhododendron during the construction phase of the development.	Neutral
Badger - disturbance, killing / injury	Neutral (but legislative requirement)	The enhancement of habitat along the southern boundary brook and within the proposed Ecological Mitigation Area should provide additional secluded habitat.	Neutral
Bats – loss / fragmentation of habitat, loss of several day roosts of common bat species sites risk of disturbance, killing / injury	Minor Adverse	The principles of proposed mitigation will include roost replacement at a ratio of 2:1 using bat boxes, timing of construction work to minimise impacts (i.e. during the autumn, winter or early spring when bats are likely to be absent from buildings). Enhancement of linear habitat along the southern boundary brook to increase the value of this habitat as a foraging and commuting corridor and through provision of a mixture of wetland habitat (ponds and associated margins), scrub and hedges within the Ecological Mitigation Area located in the southeastern corner of the site. Habitat features described above for foraging / commuting bats would be protected from incidental disturbance from construction lighting where necessary.	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Birds - loss / fragmentation of habitat, disturbance, killing / injury	Minor Adverse	The provision of a high-quality mosaic of rough grassland, scrub, wetland and ponds within the Ecological Mitigation Area and provision of new tree planting. ~~However, this cannot replace open farmland habitat of importance to skylark and lapwing.~~ The loss of open farmland habitat of importance to skylark and lapwing will be compensate through the implementation of off-site habitat for ground-nesting / overwintering birds including lapwing and skylark arranged via a S106 agreement with a third-party landowner. Provision of nest boxes on new buildings Clearance of any habitats (including buildings) would be timed to avoid the bird nesting season.	~~Minor Adverse~~ Negligible
Brown Hare – loss / fragmentation of habitat, disturbance	Minor Adverse	No specific mitigation is proposed. Habitat creation proposed in the Ecological Mitigation Area will provide dense cover in which hares could lay up whilst not foraging on adjacent open farmland.	Minor Adverse
GCN (and other amphibians) - loss / fragmentation of habitat, disturbance, killing / injury	Minor Adverse	Mitigation for the loss of breeding habitat and surrounding terrestrial habitat as well as avoiding killing / injury of GCN will need to consist of the following elements: • Provision of replacement breeding habitat - seven new ponds are to be created within the Ecological Mitigation Area; • Provision of replacement terrestrial habitat – the above ponds will be surrounded by 9 ha's of high-quality terrestrial habitat most of which will be immediate (i.e; within 50m of a breeding pond; • Translocation of the GCN population from pond 3 into the proposed Ecological Mitigation Area. Additional attenuation features (including several which will be designed to be permanently wet) will also contribute to the provision of terrestrial and aquatic habitat for GCN and other amphibians across the wider site.	Minor Beneficial
Hedgehog - loss / fragmentation of habitat.	Minor Adverse	No specific mitigation is proposed. Habitat creation proposed in the Ecological Mitigation Area will provide dense cover in which hedgehogs could lay up and forage	Minor Adverse

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Ecology and Nature Conservation			
Operational Phase			
Statutory Sites – direct / indirect impacts	Negligible	None Required	Negligible
Non-statutory Sites – direct or indirect impacts	Negligible	None Required	Negligible
Broadleaved Woodland –habitat degradation	Minor Adverse	Adoption of an Ecological Management Plan (EcMP) to cover both retained and new habitats incorporated into the development layout. This could be secured via a planning condition.	Negligible
Hedgerow - habitat degradation	Minor Adverse	Adoption of an Ecological Management Plan EcMP	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Ponds - habitat degradation	Minor Adverse	Adoption of an Ecological Management Plan EcMP	Negligible
Scattered Trees and Scrub - habitat degradation	Minor Adverse	Adoption of EcMP	Negligible
Watercourses – habitat degradation	Minor Adverse	Adoption of (EcMP). Use of SUDs will prevent any pollution (for example form surface water drainage reaching watercourses. Following relevant Environmental Agency Guidelines on pollution protection as previously stated for construction impacts should ensure that pollution is stopped before it even reached SUDs.	Negligible
Improved Grassland – habitat degradation	Negligible	None Required	Negligible
Badger – none expected	Neutral	Speed limits around site together with warning signs. Access would be restricted access to ecologically important areas.	Neutral
Bats – disturbance / displacement from retained habitats and roost locations on site.	Minor Adverse	Where roosts are present, they would be protected from incidental disturbance by restricting access to roost features. Lighting design would ensure that any roost locations are not light at night by street or security lighting. Lighting would also be designed to avoid illumination of areas likely to provide feeding foraging / commuting routes for bats.	Negligible
Birds – disturbance / displacement from retained habitats	Minor Adverse	Speed limits would be imposed around site together with suitably located warning signs. This would reduce the risk of birds being struck by traffic moving through the site. Implementation of the EcMP will ensure that habitats for priority and other bird species are maintained.	Negligible
Brown Hare – disturbance / displacement from retained habitats	Minor Adverse	Speed limits with suitably located warning signs would reduce the risk of hares being struck by traffic moving through the site. The lighting design of the proposed development would ensure that hedges providing cover for hares and other wildlife are not lit at night by street or security lighting.	Negligible
GCN (and other amphibians) – displacement / displacement from retained habitats, direct killing/injury	Minor Adverse	Offset gully pots which allow for the passage of amphibians along the bottom of kerbs. would be used throughout the development to allow free passage of amphibians across the site.	Negligible
Hedgehog – disturbance / displacement from retained habitats, habitat fragmentation	Minor Adverse	Speed limits to be imposed around site together with suitably located warning signs would reduce the risk of hedgehogs being struck by traffic moving through the site. The lighting design of the proposed development would ensure that hedges providing cover for hedgehog and other wildlife are not lit at night by street or security lighting.	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Socio Economic			
Construction Phase			
Temporary increase in employment	Moderate Benefit	None required	Moderate Benefit
Short-term increase in economic output (GVA)	Moderate Benefit	None required	Moderate Benefit
Training and apprenticeship opportunities	Minor Benefit	None required	Minor Benefit
Effect on local labour market	Minor Benefit	None required	Minor Benefit
Commuting and migration impact	Negligible	None required	Negligible
Effect on local services and facilities	Negligible	None required	Negligible
Wider socio-economic impacts	Negligible	None required	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Socio Economic			
Operational Phase			
Creation of long-term employment opportunities	High Benefit	None required	High Benefit
Long-term increase in economic output (GVA)	High Benefit	None required	High Benefit
Increase in business rate revenue	Moderate Benefit	None required	Moderate Benefit
Training and apprenticeship opportunities	Minor Benefit	None required	Minor Benefit
Effect on local labour market	Moderate Benefit	None required	Moderate Benefit
Commuting and migration impact	Minor Benefit	None required	Minor Benefit
Effect on local services and facilities	Negligible	None required	Negligible
Wider socio-economic impacts	Moderate Benefit	None required	Moderate Benefit

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Noise and Vibration			
Construction Phase			
Construction noise impacting on existing noise sensitive receptors	Neutral to Minor Adverse	Construction Environmental Management Plans	Negligible
Construction traffic noise impacting on existing noise sensitive receptors	Negligible	Construction Environmental Management Plans	Negligible
Construction vibration impacting on existing noise sensitive receptors	Negligible	Limit piling activities / Utilise low vibration plant and techniques	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Noise and Vibration			
Operational Phase			
Industrial noise impacts associated with Development – Most Receptors	Minor Adverse	Parameters Plan considerations, Reserved Matters site layout and noise barrier mitigation	Minor Adverse
Industrial noise impacts associated with Development - Bradley Hall Cottages	~~Moderate~~ Minor Adverse	Parameters Plan considerations, Reserved Matters site layout and noise barrier mitigation	Minor Adverse
Increase in traffic on local road networks	Minor Adverse	None	Minor Adverse

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Air Quality, Odour and Dust			
Construction Phase			
Increase in suspended particulate matter concentrations and deposited dust.	N/A[1]	See IAQM control and mitigation measures in Section 8.	Negligible (Not significant after application of IAQM control and mitigation measures).

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Air Quality, Odour and Dust			
Operational Phase			
Increase in NO_2, PM_{10} and $PM_{2.5}$ concentrations from traffic generated by the development.	Not significant	None	Negligible (Not significant)

[1] The IAQM dust guidance recommends that significance is only assigned to the effect after the activities are considered with mitigation in place. The environmental impact without dust control measures in place is not a likely scenario.

TABLE 7.1 SUMMARY OF ENVIRONMENTAL IMPACT
Six 56 Warrington

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Cultural Heritage			
Construction Phase			
*Impact on setting of Scheduled Bradley Hall Moated Site (**101924**)*	High Adverse	30m landscape buffer, green corridor, re-orientation to previously designed landscape bunds to the north, retention of existing vegetation, demolition of farm buildings, retention of Bradley Hall (**DCH127563**)	Moderate Adverse
*Effect on Setting of Bradley Hall (**DCH127563**) and change to internal layout and impact on external features*	Minor Adverse	Archaeological recording prior to groundworks	Minor Adverse
Effect on Setting of Grade II Listed Tanyard farm building (**DCH13677**)*	Moderate Adverse	Retention of hedgerow and trees along southern boundary and creation of 15m buffer south of the boundary	*Moderate Adverse - Negligible
*Effect on Setting of Grade II Listed Barley Castle Farmhouse (**DCH1935**)*	Moderate Adverse	Retention of hedgerow and trees along southern boundary and creation of 15m buffer south of the boundary	*Moderate Adverse - Negligible
Effect on Setting of Grade II Listed Booths Farm, Shippon on Left (North West) Side of Farmyard Grade II Listed Building 1139362	Moderate Adverse	Retention of hedgerow and trees along southern boundary and creation of 15m buffer south of the boundary	*Moderate Adverse - Negligible
Effect on Setting of DCH1934 Booths Farm Farmhouse Grade II Listed Building 1329740	Negligible	Retention of hedgerow and trees along southern boundary and creation of 15m buffer south of the boundary	*Moderate Adverse - Negligible
*Direct impact on Roman road (**547117**) within the site*	Moderate Adverse	Programme of archaeological works prior to groundworks	Minor Adverse
*Direct impact on Medieval Cross (**551**)*	Minor Adverse	Programme of archaeological works prior to groundworks	Negligible
Loss of agricultural buildings to the east of Bradley Hall Farm	Minor Adverse	Programme of Archaeological Building Recording prior to groundworks	Negligible

* *Whilst the matrix states a range from moderate adverse to negligible it is considered that with mitigation in place this Residual Impact Significance Score is Minor Adverse.*

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Cultural Heritage			
Operational Phase			
*Impact on setting Bradley Hall Scheduled Moated Site (**101924**)*	High Adverse	Maturation of landscape mitigation measures	Moderate Adverse
*Effect on Setting of Bradley Hall (**DCH127563**)*	Minor Adverse	Maturation of landscape mitigation measures	Minor Adverse
Effect on Setting of Grade II Listed Tanyard farm building (**DCH13677**)*	Moderate Adverse	Maturation of landscape mitigation measures	*Moderate Adverse - Negligible
*Effect on Setting of Grade II Listed Barley Castle Farmhouse (**DCH1935**)*	Moderate Adverse	Maturation of landscape mitigation measures	*Moderate Adverse - Negligible
Effect on Setting of Grade II Listed Booths Farm, Shippon on Left (North West) Side of Farmyard Grade II Listed Building 1139362	Negligible	Maturation of landscape mitigation measures	Negligible
Effect on Setting of DCH1934 Booths Farm Farmhouse Grade II Listed Building 1329740	Negligible	Maturation of landscape mitigation measures	Negligible

* *Whilst the matrix states a range from moderate adverse to negligible it is considered that with mitigation in place this Residual Impact Significance Score is Minor Adverse.*

TABLE 7.1 SUMMARY OF ENVIRONMENTAL IMPACT
Six 56 Warrington

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Utilities			
Construction Phase			
Disconnections / Diversions of any existing utility infrastructure crossing the Site and directly adjacent to the Site or at the re-aligned roundabout	Neutral	Services identified, will be removed or diverted to facilitate the Proposed Development in accordance with the asset owners to plan in and minimize any disruptions.	Neutral
New HV supply from Primary	Minor adverse	Suitable traffic management plan for all roads affected by installation of new cables. Infrastructure sized to accommodate future expansion to reduce impact in the future.	Negligible
Temporary / Proposed utilities to site	Minor adverse	Temporary supplies to be taken from local networks rather than temporary plant.	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Utilities			
Operational Phase			
Disruption to existing operations on Proposed Development	Neutral	Install utilities in resilient manner to reduce the risk of loss of supply to existing users, and size infrastructure to suite future expansion	Neutral

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Energy			
Construction Phase			
Increase in CO_2 emissions	Minor Adverse	Adopt systems of metering to monitor the extent of CO_2 emissions.	Minor Adverse
Increase in NO_x emissions	Minor Adverse	Adopt systems of metering to monitor the extent of NO_x emissions.	Minor Adverse
Increase in water consumption	Minor Adverse	Adopt systems of metering to monitor the extent of water use.	Minor Adverse

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Energy			
Operational Phase			
Increase in CO_2 emissions	Minor Adverse	Adopt strategies to reduce carbon emissions and promote renewable and low carbon technology	Negligible
Increase in NO_x emissions	Minor Adverse	Minimise reliance on fossil fuels and adopt low NO_x appliances	Negligible
Increase in water consumption	Minor Adverse	Adopt water efficient appliances	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Waste			
Construction Phase			
Impact of waste generated on the capacity of existing/proposed waste management infrastructure	Moderate adverse	Implementation of the Site Waste Management Plan	Minor adverse
Treatability of the waste generated	Minor adverse	Implementation of the Site Waste Management Plan	Minor adverse
Conformity with waste targets/policy (international)	Substantial adverse	Implementation of the Site Waste Management Plan	Negligible
Conformity with waste targets/policy (regional/industry)	High adverse	Implementation of the Site Waste Management Plan	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Waste			
Operational Phase			
Impact of waste generated on the capacity of existing/proposed waste management infrastructure	Moderate adverse	Implementation of the Operational Waste Management Strategy	Minor adverse
Treatability of the waste generated	Minor adverse	Implementation of the Operational Waste Management Strategy	Minor adverse
Conformity with waste policy (national)	High adverse	Implementation of the Operational Waste Management Strategy	Negligible
Conformity with waste policy (borough/district)	Minor adverse	Implementation of the Operational Waste Management Strategy	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Agricultural Land and Soils			
Construction Phase			
Land loss 3a 'best and most versatile'	Moderate Adverse	None	Moderate Adverse
Land loss 3b	Minor Adverse	None	Minor Adverse
Economic	Moderate Adverse	Land purchase enabling farmer to vacate and relocate or retire	Minor Benefit
Soil compaction	Minor Adverse	Tracks and controlled traffic on landscaped areas. Soil used in reinstatement. Soil management in CEMP	Negligible
Noise and Dust	Minor Adverse	Dust prevention Soil management through CEMP	Negligible
Drainage	Minor Adverse	Pre and post construction drainage. Re-using soil in landscaping and bunding. Soil management in CEMP	Negligible
Access and Severance	Minor Adverse	Maintain field access as required Total land purchase negates need	Negligible

Nature of Impact	Significance of Impact	Mitigation / Enhancement Measures	Residual Impact
Agricultural Land and Soils			
Operational Phase			
Trespass	Minor Adverse	Signage and fencing	Negligible
Noise	Minor Adverse	Noise mitigation measures	Minor Adverse
Pollution	Minor Adverse	Signage and fencing	Negligible
Light	Minor Adverse	Planned light strategy	Negligible

8. Key Mitigation Measures

8.1. The evolution of the scheme has taken account of the following mitigation and as such this is inherent in the design of the proposals:

- Areas of landscaping will be completed with suitable topsoil to provide a growing medium. This will have the effect of providing mitigation to risks associated with zootoxicity and phytotoxicity. In addition, it will prevent dust generation, and even if some soils become eroded / devoid of vegetation – it will be the clean soils at surface that will generate dust.

- Access into the Site is from two roundabout junctions into the site from Grappenhall Lane, which are proposed to enhance permeability for buses in an attempt to minimise car travel.

- An extensive package of mitigation works is also proposed at the A50/Cliff Lane roundabout and M6 J20.

- Pedestrian/cycle infrastructure will be provided on Grappenhall Road to the north of the development, with upgrades to the existing Public Right of Way network that exists within the Site.

- The foul water network has been sized and designed to accept all flows from the proposed Development Site and conveyed to a purpose built pumping station. The pumping station will discharge to a United Utilities foul sewer west of the Site in Appleton Thorn. The storm water network has been sized and designed to accept all flows from the proposed Development Site with additional flood protection including climate change allowances. The system has multiple new discharge locations to Bradley Brook at a restricted rate of discharge (Greenfield Runoff Rate). The storm water design is in accordance with the LLFA Flood Risk/Drainage design guidance and the Framework. The limited storm water discharge will reduce flood risk offsite from the Development Site.

- In order to provide flood risk protection to the Site and to the surrounding neighbourhood to manage the limited storm water discharge, onsite attenuation will be provided both in the main infrastructure and within the plots. This will be to the required return periods as required by the LLFA including allowances for climate change in accordance with the Framework. All storm water flows for the 1 in 30 year storm events will be contained below ground with all flows for the 1 in 100 year events plus climate change allowance of

40% being contained safely within the site boundaries overland and/or underground. Proposed detention basins and surface water features are included within the scheme as part of the proposed development storm water attenuation requirement.

- All new impermeable surfacing (roads, car parks, roofs etc.) will be drained to the new storm water drainage network and conveyed to new outfalls to Bradley Brook. As part of the main network, Sustainable urban Drainage Systems (SuDS) have been included to improve water quality prior to the discharge to the receiving waters. SuDS will naturally filter the water and remove pollutants and solids prior to discharge.

- Swales are proposed to drain the access road where levels allow. All impermeable areas from the proposed Development plots, along with the water from the main highway will then pass through detention basin systems. In addition to this, on plot SuDS will be required for each development unit.

- No infiltration is proposed to the sub-strata below due to the low permeability at the surface.

- Retention of existing boundary vegetation, on site woodland, tree, scrub and grassland habitats wherever possible, with bunds and extensive new tree planting on the perimeter and between buildings to soften the visibility of new building structures.

- Careful selection of building cladding and roofing material using muted colours and non-reflective surfaces.

- The existing site topography will be levelled to accommodate the proposed units with some areas reduced to soften the impact they have on their surroundings.

- Bradley Gorse woodland and the Ecological Mitigation Area in the south of the site, have been safeguarded and will create a number of new habitats to replace those lost during the construction phase. Pond loss will be mitigated through the inclusion of ~~six~~ seven new ponds within the Ecological Mitigation Area, allowing translocation of the GCN population alongside permanent drainage ponds providing a habitat for local wildlife. A 15m stand off and buffer from Bradley Brook to the south of the site will form an important wildlife corridor.

- Retention of the locally listed building within the moat maintains the SAM and its historical integrity. Retention of existing mature vegetation and landscape features to the southern boundary of the site and surrounding the SAM will limit the impact on the setting of listed buildings which lie either side of Barleycastle Lane and the locally listed Bradley Hall.

- The sense of openness around the SAM has been maintained with views into the site from the south to reduce the level harm to the setting of the monument and allow an appreciation of the monument. This 30m buffer around the SAM will make provision for a wildflower meadowland in the centre of the site.

- Building heights, massing, orientation and proximity to the SAM have been considered to alleviate the impact on the setting of the monument.

- In order to bring visitors into contact with the SAM minor deviations to the existing PROW FP23 will be made to bring users closer to the monument.

- The location and height of bunds provide effective mitigation to attenuate noise egress from the Proposed Development. Additional acoustic barrier screening has also been carefully considered at roadside and bund locations adjacent to Bradley Hall Cottages, which should result in a reduction in specific noise levels at these receptors. The ~~Detailed~~ heights of these bunds and acoustic barriers will be agreed through the outline planning permission ~~determined at detailed design stage~~, ~~once end users and occupiers and known, however~~ with the bunds ~~will have~~ having a maximum 1:3 gradient slope to a maximum height of approximately 5m with a further 2-3m high acoustic fencing on the bunds to shield Bradley Hall cottages and Bradley Hall View.

8.2. **Tables 8.1 and 8.2** below provides an overview of the key mitigation measures to be included as part of the proposals. Full details of mitigation measures can be found within the detailed Technical Papers which form Part 2 of the ES. These mitigation measures will form part of the development proposal and can be secured by planning condition or legal agreement where appropriate.

Table 8.1 – Summary list of Mitigation Measures - Construction

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
Geology and Ground Conditions	Construction Environmental Management Plan (CEMP) – as detailed in Section 8 of the Technical Paper in Part 2 of the ES. To include: • EA Pollution Prevention Guidelines (PPG), bunding and sealing of stockpiles. • Personal Protective Equipment (PPE) and dust control • Careful control to minimize off-site disposal. Use sheeted lorries. • Prior to re-use of made ground soils, any deleterious or geotechnically unsuitable materials shall be removed and segregated • All works should follow the EA's Pollution Prevention Guidelines to mitigate migration of leachable heavy metals and hydrocarbons.	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.
	A Materials Management Plan (MMP) will be produced with the scheme in accordance with the Definition of Waste Code of Practice (DoWCoP) which will provide a permanent record of how materials have been controlled and re-used on the site in accordance with current guidance, legislation and good practice. This is detailed in Section 8 of the Technical Paper in Part 2 of the ES.	A Materials Management Plan (MMP) to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. Materials Management Plan (MMP) to be implemented during construction.
Traffic and Transportation	A Construction Environmental Management Plan (CEMP) will also be produced to manage the impact of the traffic associated with the construction of the Proposed Development. This will contain a package of measures to reduce deliveries and manage deliveries to the Site. – as detailed in Section 8 of the Technical Paper in Part 2 of the ES. The CEMP will include the following: Work to specified hours only to minimize disruptions; • Co-ordinate on-site construction movements via a Site Logistics Plan; • List the vehicle and plant types used in detail, and assurance they can enter and exit the site with minimal disruptions to the existing highways network; • Manage potential conflicts between construction activities and the local	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	highways networks, including the junctions; • Co-ordinate Pedestrian Routes and manage conflicts between pedestrian/cycle traffic and construction traffic and include the use of designated walkways, crossing points, and barriers; • Trip Generation – identification of anticipated level of vehicular traffic during each phase of construction with an aim of reduction of required movements where possible through a combination of route planning, construction activity phasing, and optimal loadings of delivery and construction vehicles; • Measures which can reduce vehicle use and parking demand such as car sharing, access to public modes of transportation, walking and cycling, etc.; • Construction Access Strategy; • Parking provisions within the site; • Monitoring of the condition of the local highways to identify if any damage has arisen as a result of the construction activities and ensure remedial work will be carried out; • Implementation and enforcement of safe speed limits within the work site; • Entrance and egress to and from the site should be controlled via a gateman located within a cabin next to the entrance point; • Maintaining access for emergency services; • Signage Requirements; • Banksman Requirements; • Notification of public and local businesses; • Delivery requirements and procedures; and • Prevention of silt and solids being tracked onto Public Highways.	
Flood Risk and Drainage	All of the mitigation measures to be put in place during the construction period will be provided through a CEMP as detailed in Section 8 of the Addendum Technical Paper in Part 2 of the ES. Measures include: • All large and deep construction excavations should be avoided as far as possible. Where this is not possible, they should be covered, especially in periods of heavy rain. As a last resort, they should be managed in accordance with Pollution Prevention Guideline (PPG) 5 and potentially pumped out under controlled fashion. No	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	connection from excavations should be made to the watercourse unless treatment processes are put in place. • Haul roads or matting should be provided as part of the construction works to prevent consolidation of the Site, which will reduce permeability and increase runoff but will limit the amount of disturbed sediment/soils from reaching surface waters. • Should waters onsite be found to be polluted, treatment may be necessary before disposal and this should include settlement of solids in a lagoon, removal of hydrocarbons through interceptors and other treatment techniques to be developed in the CEMP or part of the environmental management plan on site. In accordance with the FCEMP, oil spill skits are to be based at the construction compound as well as being carried with all site plant and vehicles. • A portion of surface water attenuation should be developed prior to increasing the impermeable area, where necessary, to utilize as storage. Water management on site is to be in accordance with PPG5. • A suitable surface water management system should be developed as part of any construction plans which should include the use of temporary drainage where required. • If existing live flows (that are required to be retained) are to be cut off by the works (either overland or underground) temporarily these are to maintained in a like for like scenario without hindering the course of flow or adding to it. • The cesspits serving the housing and agricultural buildings will be emptied completely prior to removal. Temporary measures to collect the flows to these cesspits will be required prior to picking the flows up with the new drainage. • Based on walkover observations there are existing drainage connections to the ditch in the north east, ditch in the north west and Bradley brook. During construction, existing flows and connections may need to be retained until construction is complete. The existing drainage systems are not to be used to discharge newly generated site runoff during construction without the required treatment to prevent any potential pollution to the receiving waters.	

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	• Potential pollution spills should be managed and monitored in accordance with a CEMP. This should include providing bunds around at-risk areas, particularly handling oils and fuels and these areas should be isolated and away from potential water pathways • Disturbance of ground should be limited to works required for the permanent scheme, otherwise haul roads, lay down or matting should be used to prevent consolidation and increase potential runoff with silts/solids entering existing drainage pathways. Disturbance of ground through major earthworks should be planned, designed and phased to ensure that it is not a direct source for storm water to convey silts/solids overland. • In order to minimise the risk of sediment on the construction site, vegetation should only be removed from areas that need to be removed and stockpiles should be seeded or covered. • Any drainage ditches, swales, ponds or basins to be excavated are to be sealed or finished immediately to prevent the conveyance of silts and solids to receiving waters. • Any vehicles accessing the Site and tracking through the disturbed ground are to be removed of potential debris that could pollute offsite waters prior to them leaving site. This should include a wheel wash facility to be detailed in the CEMP and should be located away from potential water pathways. • Wheel Washington facilities will be located a minimum of 30m from the watercourses and drainage sources. • All works should follow the EA's Pollution Prevention Guidelines. • If any waters onsite are known to be polluted, treatment may be necessary before disposal to the surface water receptor. Treatment should include settlement and separation in accordance with the CEMP and PPG. • The potential ponding of temporary excavations should be dealt with as detailed above in relation to restricting and sealing earthworks and therefore will be minimal. However, where collection of water is inevitable, due to the procedures put in place this will have no impact to the receiving waters. • Any works that are planned to take place within 8m of Bradley Brook, an EA	

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	Main River, will require to be done under permit from the EA.	
Landscape and Visual Impact	Perimeter Screen planting and new landforms in the form of bunds and retention of perimeter landscape features where possible. Opportunity to implement mitigation early in the construction process to allow maximum time for establishment of planting.	Details to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. Details approved to be implemented as agreed.
	Measures detailed in the CEMP will identify and specify mitigation measures during the construction phase. See detail in Framework CEMP at Appendix 9 of the ES Part 1 Report.	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.
	CEMP – as detailed in Section 8 of the Addendum Technical Paper in Part 2 of the ES. Measures include: • Locate the site compound within the site so it is visually screened as much as possible • Public rights of way are to be determined where applicable, and construction works are to either avoid or manage these as necessary and practicable. • Temporary signage to direct public away from the construction activities where possible • Appropriate protection of trees and hedgerows to be retained. • Earthworks in proximity to neighbours to be phased in such a way to screen future works where practicable • The retention of perimeter landscape features where possible and incorporation of landscape and conservation features consistent with local management objectives • The retention of boundary vegetation and woodland blocks with perimeter screen planting	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.
Ecology and Nature Conservation	Details for protection of retained habitats, avoiding the risk of pollution and avoiding impact to badgers, foraging resources for bats and breeding birds would be provided within a CEMP as detailed in Section 8 of the Addendum Technical Paper in Part 2 of the ES. Measures include: • Pollution control measures in accordance with relevant pollution prevention guidance will be implemented throughout the construction phase, in this case: Guidance on Pollution Prevention. • Works and Maintenance in or Near Water: EGPP 5; PPG 6 Working at Construction and Demolition Sites; and GP22 Dealing with Spills. • Mitigation for the following habitats:	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction. Specific ecological mitigation strategies would be produced to provide detailed mitigation measures to be implemented in respect of bats and GCN. To be secured by planning condition and approved by Warrington BC prior to the commencement of construction. Mitigation relating to protected species will need to be subject to a detailed strategy and once planning consent is granted, an application made for a European Protected Species Licence from Natural England to implement the measures proposed.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	• Broadleaved woodland • Hedgerows • Ponds • Scattered trees and Shrubs • Tall Ruderal • Watercourses • Mitigation for the following protected and priority species: • Badger • Bats • Birds • Brown Hare • Great Crested Newt • All retained habitats (including trees as per the Arboricultural Assessment) to be protected during construction activities in accordance with best practice standards. • Details of proposed ecology buffer zones and how they are to be protected is to be agreed with the local authority and implemented into the CEMP. • Woodland habitats would be protected from incidental disturbance by fencing which will prevent the accidental spread of rhododendron during the construction phase of the development. • Details on any invasive species present and how to prevent the spread of these are to be taken into account and included within the CEMP. • An invasive Species Method Statement and Management Plan is to be required. • Legally compliant mitigation to be implemented to ensure no breeding birds are harmed construction and enabling works. Works in these areas should be conducted outside of the bird breeding season (March - August inclusive). If this cannot be achieved, a nesting bird survey should be completed by a competent ecologist and an exclusion zone retained around identified active bird nests until the chicks have fledged. • The Principal Contractor will produce an Environmental Management Plan, which is to be included within the CEMP, and follows ISO 14001 accredited environmental management system and contract requirements. • Loss of farmland habitat which is suitable for breeding skylark and overwintering birds such as lapwing and starling cannot be mitigated entirely within the scheme boundary. It is proposed that mitigation for such losses will be provided as a financial contribution to an off-site habitat management scheme. The off-site	

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	mitigation should be located within the local area (within WBC area). The exact details of the proposal will be agreed with WBC (and their statutory consultee GMEU) and can be secured via a Section 106 agreement. • The Environmental Management Plan is to indicate how the requirements, obligations, and practices will be adopted and how they meet the environmental and CEMP requirements. Furthermore, the Environmental Management Plan will detail the responsibilities of the staff involved for achieving these requirements, and list the method in which all staff will be aware of their obligations.	
	Provision of a buffer to the brook identified at construction stage delineating the southern boundary of the site which will form an important wildlife corridor.	This will be implemented as part of a landscaping scheme. Landscaping details to be secured by planning condition and approved by Warrington BC prior to the commencement of the relevant phase of construction. Details approved to be implemented as agreed.
	Habitat severance arising from loss of the hedge connection during construction will be mitigated through strengthening the wildlife corridor along the brook (delineating the southern boundary of the site) and enhancement of the retained hedge linking the brook and retained habitats associated with the Farm / SAM.	This will be implemented as part of a landscaping scheme. Landscaping details to be secured by planning condition and approved by Warrington BC prior to the commencement of the relevant phase of construction. Details approved to be implemented as agreed.
Socio-Economic	-	
Noise and Vibration	A CEMP will follow Best Practicable Means (BPM) to minimise the noise and vibration impact on nearby noise sensitive properties – as detailed in Section 8 of the Technical Paper in Part 2 of the ES. To include: • All construction plant and equipment should comply with EU noise emission limits. • Strategic locations of temporary stockpiles to shield the environment from noise impacts • Machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum. • Proper use of plant with respect to minimising noise emissions and regular maintenance. All vehicles and mechanical plant used for the purpose of the works should be fitted with effective exhaust silencers and should be maintained in good efficient working order.	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction. Hours of construction works to be agreed by planning condition and approved by Warrington BC.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	• Selection of inherently quiet plant where appropriate. All major compressors should be 'sound reduced' models fitted with properly lined and sealed acoustic covers which should be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers. • Plant and equipment such as flatbed lorries, skips and chutes should be lined with noise attenuating materials. Materials should be handled with care and be placed, not dropped. • Care should be taken when erecting or striking scaffolds to avoid impact noise from banging steel. All operatives undertaking such activities should be instructed on the importance of handling the scaffolds to reduce noise to a minimum before access is possible. • All ancillary plant such as generators, compressors and pumps should be positioned so as to cause minimum noise disturbance. If necessary, localised screens and enclosures should be used to reduce noise from particular noisy, static operations. • Wherever possible, the use of hydraulic attachments or other means of crushing concrete and hard materials should be used in preference to pneumatic breakers. Where the use of impact hammers is necessary, their attachment to larger and heavier excavators often can reduce the level of vibration. • Deliveries should be programmed to arrive during daytime hours wherever practicable. Care should be taken when unloading vehicles to minimise noise. Delivery vehicles should be routed so as to minimise disturbance to local residents. Delivery vehicles should be prohibited from waiting on the highway or within the site with their engines running. • Construction contractors would be obliged to adhere to the codes of practice for construction working and piling given in British Standard BS 5228 and the guidance given therein minimising noise emissions from the site. • Piling should be avoided wherever possible and low vibration piling techniques such as continuous flight auger piling should be adopted wherever practicable. • Problems concerning noise from construction works can sometimes be avoided by taking a considerate and	

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	neighbourly approach to relations with the local residents. Anticipated working hours are 08:00 to 18:00 Monday to Friday, 08:00 to 13:00 on Saturday and no proposed working Sundays and bank holidays. The bunds and acoustic barriers will be constructed during the construction phase of development. The bunds as shown on the updated Acoustic Parameters Plan and Site Sections and will have maximum 1:3 gradient slopes and maximum height of approximately 5m, with 2-3m high acoustic fencing around Bradley Hall cottages and Bradley Hall View. The 'Proposed Finish Level Including Mounds' drawing (Cundall drawing no. CLXX(52)4003 Issue P4) (Appendix 7 of the ES Part I Report) shows the proposed bunds as incorporated within the noise model. The updated Acoustic Parameters Plan, Site Sections and Appendix 7.3 of the ES Addendum Noise and Vibration Technical Paper identifies the location of the fences.	The detailed design can be secured by planning condition and approved by Warrington BC prior to the commencement of construction.
Air Quality and Dust	CEMP – as detailed in Section 8 of the Technical Paper in Part 2 of the ES. Measures include: • Communication • Dust Management Plan • Site Management • Monitoring • Preparing and maintaining the Site • Operating vehicle/machinery and sustainable travel • Operations • Waste Management • High risk measures specific to earthworks, construction and track out	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.
Archaeology and Cultural Heritage	Archaeological recording and programme of works prior to groundworks and demolition of farm buildings adjacent to Bradley Hall and works that impact on the Roman Road within the site.	Archaeological recording and programme of works to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. Recording and works to be implemented during construction. Evaluation trenching will be undertaken to verify the results of the geophysical survey undertaken around the possible Roman Road. Should the road and or features be found, an appropriate scheme of investigation will be undertaken in accordance with a WSI.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
	Landscape mitigation in the form of perimeter screen planting and new landforms in the form of bunds and retention of perimeter landscape features where possible to screen site to the south adjacent to Grade II Listed Buildings. Any estate road which traverses the green corridor should be built into the levels of the site and not have street lighting to reduce impacts on the setting of the green corridor and SAM.	This will be implemented as part of a landscaping scheme. Landscaping details to be secured by planning condition and approved by Warrington BC prior to the commencement of the relevant phase of construction. Details approved to be implemented as agreed.
Agricultural Land & Soils	The following mitigation will be put in place as part of the CEMP during the construction phase to mitigate impact on agricultural land and soils. • Retention of stripped top soil and re-use in structural landscaping following CCoP guidelines. Use of vegetation and planting to help restore soil functionality over time. • Minimising soil compaction in landscaped areas and the use of traced runways to preserve soil integrity • Soil Management Plan to form part of CEMP. • Installation of pre-construction drains where applicable. • Wetting of soils to minimise dust contamination measures	CEMP and Soil Management Plan to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP and Soil Management Plan to be implemented during construction.
Energy	The following mitigation will be put in place as part of the CEMP during the construction phase to monitor and mitigation use of energy. As detailed in Section 8 of the Technical Paper in Part 2 of the ES. Measures include: Adopt systems of metering to monitor the extent of CO2 emissions, water use and NOx emissions.	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.
Utilities	Services identified, will be removed or diverted to facilitate the Proposed Development in accordance with the asset owners to plan in and minimize any disruptions.	Matters to form part of detailed design for reserved matters submission(s).
	Suitable Traffic Management Plan (TMP) for all roads affected by installation of new cables associated with new HV supply from Primary. Infrastructure sized to accommodate future expansion to reduce impact in the future.	TMP to be secured by planning condition and approved by Warrington BC prior to commencement of construction. TMP to be implemented during construction.
	Temporary proposed utility supplies to be taken from local networks rather than temporary plant. To be agreed through CEMP	CEMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. CEMP to be implemented during construction.

ES Topic Area	Mitigation Measure - Construction	Implementation and Timing of Mitigation
Waste	A Site Waste Management Plan (SWMP) is proposed. This will set out a management strategy for construction waste. Measures have been identified for each option within the waste hierarchy (i.e. prevention, re-use, recycle, recover and disposal). These measures include using pre-fabricated materials for onsite assembly, just in time deliveries, re-use of spoil on site and the use of recycled content materials. The aim would be to use options from the top of the waste hierarchy to manage each waste stream. The targets set by the revised Waste Framework Directive and BREEAM would be applied. The Plan is a working document to be used during the construction process to record movements of waste from the site and to demonstrate that duty of care obligations are being met. See details in Appendix 11.1 of the Waste Technical Paper 11 in Part 2 of the ES.	A SWMP to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. SWMP to be implemented during construction.

Table 8.2 – Summary list of Mitigation Measures - Operation

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
Geology and Ground Conditions	Areas of landscaping will be completed with suitable topsoil to provide a growing medium. This will have the effect of providing mitigation to risks associated with zootoxicity and phytotoxicity. In addition, it will prevent dust generation, and even if some soils become eroded / devoid of vegetation – it will be the clean soils at surface that will generate dust- as detailed in Section 8 of the Technical Paper in Part 2 of the ES.	Implemented as part of a landscaping scheme. Landscaping details to be secured by planning condition and approved by Warrington BC prior to the commencement of construction. Details approved to be implemented as agree
Traffic and Transportation	An extensive package of mitigation works is proposed at the A50/Cliff Lane roundabout and M6 J20 – as detailed in Section 8 of the Addendum Technical Paper in Part 2 of the ES and Appendix 2.1 of the Addendum Technical Paper, contained in the TA. The package includes: • Relocation and realignment of the A50 Cliff Lane roundabout to the west of its existing location to enhance the storage capacity of the link between the roundabout and the motorway; • Full signalisation of the realigned A50 Cliff Lane roundabout with widening of	Details to be secured through S106 Legal Agreement and planning condition and approved by Warrington BC. All the mitigation is to be completed prior to completion of the Proposed Development and maybe implemented in phases. The requirement for a Travel Plan to be submitted with each phase / reserved matters and implemented prior to occupation will be secured by planning condition.

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	all approach arms and reduction of the exit arm onto the A50 to one lane; • Widening of the A50 link between the A50 Cliff Lane roundabout to provide two lanes for much of the links length; • Partial signalisation of the two M6 J20 dumbbell roundabouts • Widening of the M6 Northbound off-slip • Widening of the circulatory carriageway on the two M6 J20 dumbbell roundabouts and rationalisation of the lane markings / directional arrows; implementation of a yellow box and installation of queue detectors; and • ~~Incorporating MOVA delay management (or equivalent technology) and appropriate queue detection; and~~ • Widening on the eastern approach to the dumbbell roundabouts. • Updated drawings of the mitigation schemes are included in the TA contained at Appendix 2.1 of the Addendum Technical Paper in Part 2 of the ES. • Measures to enhance Sustainable Travel. The Development Proposals will be supported by a Framework Travel Plan which seeks to minimise the level of traffic associated with staff trips, single occupancy trips and to promote sustainable modes of travel. Measures detailed in the Travel Plan and those set out below will help to mitigate the impacts of the traffic associated with the development proposals. The Framework Travel Plan is included at Appendix 2.2 of the Technical Paper in Part 2 of the ES. • More than 1.2km of new pedestrian/cycle infrastructure will be provided on Grappenhall Road to the north of the development; • The Applicant has also agreed to commit to providing a commuted sum towards continuing the shared cycleway/footway beyond the Application boundary extending the footway to the Grappenhall Lane / Broad Lane roundabout to provide better pedestrian permeability and connections. This would necessitate an additional 175m of footpath on existing highway land to the south of Grappenhall Lane to continue the pedestrian/cycle infrastructure to the Broad Lane roundabout.	

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	• It is understood that WBC would also like to see a new pedestrian/cycle crossing facility at the Broad Lane roundabout. This would further enhance connectivity with Broad Lane in the north and/or the southern section of Grappenhall Lane where the Stobart scheme on Barleycastle Lane could implement a series of pedestrian and cycle enhancements. To tie into the Stobart infrastructure a new pedestrian/cycle link would also be required on the western side of the highway between the Broad Lane roundabout and Barleycastle Lane. This would be a distance of circa 220m. The Applicant is able to commit towards providing a commuted sum towards these improvements. • Significant upgrades are proposed to the existing Public Right of Way network that exists within the Site; and • Funding for new Public Transport services will be provided, including the provision of new infrastructure within the site itself. The Applicant and Council have agreed that a commuted sum of £600,000 towards improving bus services via a S106 financial obligation would be acceptable. • Vehicle charging points delivered with each unit	
Flood Risk and Drainage	The proposed Drainage Strategy outlines the mitigation measures included in restriction and attenuation to reduce offsite flood risk to low levels providing minor betterment to the existing situation. The detail of the Drainage Strategy is contained in Appendix 3.2 of the Addendum Technical Paper in Part 2 of the ES. Measures include: • Bradley Brook will be used to provide a primary discharge method for surface water. • Gullies will be used to drain the access roads across the site. Wherever possible these will connect directly to ponds and swales. • Where space or levels restrictions do not allow for SuDS systems, an underground piped system located beneath the access roads will be used to drain the remaining road areas. These underground piped systems will direct flows to a system of ponds and swales which will discharge into Bradley Brook.	Details to be secured by planning condition and approved by Warrington BC prior to construction of the relevant phase. Details approved to be implemented as agreed.

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	• Each plot will require an individual drainage design. Whatever the surface water layout for plot, a proposed surface water connection point into an attenuation pond will be provided. This will ensure all surface water across the development is directed through a SuDS system. Some of these ponds will connect to the underground piped system whereas others will outfall directly into Bradley Brook. Each connection to Bradley Brook will be restricted to the greenfield runoff rate. • The drainage systems will be designed so that there is no flooding to the development in a 1 in 30-year event and so that there is no property flooding in a 1 in 100 year plus climate change event. • The existing ponds will be filled in and built-over as part of the development. However, these existing ponds will be replaced at a rate of 2 for 1 for water body offset mitigation. • The flow rate off site will be reduced to Greenfield runoff rates. • To manage the flow of surface water across the site, flow control devices will be used. These will be designed to ensure that the flow rate from individual plots cannot overwhelm the system of ponds and swales. If required additional underground attention will be provided within each plot as required. • The drainage will be designed to ensure that a self-cleansing velocity of 1.0 l/s is achieved within the pipework. • Swales and ponds have been selected as the SuDS systems for the development. • Surface water runoff from all hardstanding areas within the development will pass through ponds and/or swales. Where gully pots and channel drains are used, silt traps will be provided. The ponds and swales will provide filtration and settlement of the surface water. The vegetation of the swales, filter strips and filter drains will allow capture and filtration of hydrocarbons, heavy metals and nutrients. • All vehicle car parks and service yards will be drained via. Hydrocarbon interceptors. • The foul water network has been sized and designed to accept all flows from the proposed Development Site in	

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	accordance with Sewers for Adoption, and conveyed to a purpose-built pumping station within the Development. The pumping station will discharge to a United Utilities foul sewer west of the Site in Appleton Thorn village. • The storm water network has been sized and designed to accept all flows from the Proposed Development Site with additional flood protection including climate change allowances. • The storm water design is in accordance with the LLFA Flood Risk/Drainage design guidance and the Framework,	
Landscape and Visual Impact	Landscaping details comprise the following: • Dense perimeter screen planting and new landforms in the form of bunds, which will filter and screen development as it matures. • Retention of existing on site woodland, tree, scrub and grassland habitats which will be managed and maintained through the creation of an Ecological and Landscape Management Plan (ELMP). • A number of new habitats will have been created throughout the site in order to mitigate the loss of habitats within the construction phase. The primary habitats will be in the form of an Ecological Mitigation Area to the southeast corner with the retention of Bradley Gorse woodland and the adjacent strip of mature trees; as well as a buffer along the southern boundary to the brook • New tree planting blocks between the northern plots (Plots 5&6 on the Illustrative Masterplan). • ~~Six~~ Seven new ponds will be included within the Ecological Mitigation Area created specifically for wildlife (notably GCN). • To increase the provision of new wetland habitat towards a 2:1 replacement of all ponds (a total of 12 new pond features). Two of the proposed attenuation basins will be designed so that they will permanently hold water. These are to be locared adjacent to Plot 1 and 2. Where possible, ponds selected for this treatment will be those most closely linked to the proposed Green	Details to be secured by planning condition and approved by Warrington BC prior to completion / occupation of the relevant phase. On plot landscaping to be agreed through reserved matters submission(s). Details to be implemented as agreed in the condition.

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	Infrastructure and Bradley Brook watercourse corridor and will be landscaped to maximise benefits for biodiversity. • Retention of the PROW FP23 with an adjustment to the route in order to bring visitors closer to the Scheduled Ancient Monument, with signage and interpretation giving users greater access to the surrounding area.	
	The proposed new buildings will use non-reflective, recessive muted colours, which blend into the sky. The layout and orientation of buildings will seek to minimise impacts on existing residential buildings and the SAM	To be agreed through reserved matters submission(s).
Ecology and Nature Conservation	Degradation of habitats both as a result of human activity (changes in management, disturbance, pollution etc.) would be avoided through the adoption of an Ecological and Landscape Management Plan (ELMP) to cover both retained and new habitats incorporated into the development layout. As detailed in Section 8 of the Addendum Technical Paper in Part 2 of the ES. Measures include: • Lighting design would ensure that any bat roost locations are not lit at night by street or security lighting. • Similarly lighting would also be designed to avoid illumination of areas likely to provide feeding foraging / commuting routes for bats. • Speed limits would be be imposed around site together with suitably located warning signs. This would reduce the risk of animals being struck • Suitably located warning signs to reduce the risk of road kill. • Access would be restricted to ecologically important areas along brook, woodland and Ecological Mitigation Area to avoid human disturbance of badger setts and adjacent foraging habitat. • Offset gully pots which allow for the passage of amphibians along the bottom of kerbs would be used throughout the development to allow free passage of amphibians across the site.	EcMP to be secured by planning condition and approved by Warrington BC prior to completion / occupation of the relevant phase. Details to be implemented as agreed.
	Use of SUDs will prevent any pollution (for example form surface water drainage reaching watercourses.	Details to be secured by planning condition and approved by Warrington BC prior to completion of the relevant phase. Details to be implemented as agreed in the condition.

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
Socio-Economic	-	
Noise and Vibration	Future Reserved Matters planning applications should include further assessments on noise impacts, based on confirmed proposals such as building layout, operating procedures, plant requirements, and vehicle flows. ~~These future assessments may affect the mitigation measures required, such as the detailed design of perimeter bunding currently included within the outline application and referred to in Section 8 of the~~ Addendum ~~Technical Paper in Part 2 of the ES.~~ Nevertheless, mitigation measures to limit noise impacts should be adopted as detailed within the Parameters Plans. Measures embedded in the design include: • The orientation of loading bays / docks with respect to sensitive receptors. • The location of services plant to maximize distance from noise-sensitive receivers and the potential screening effects afforded by proposed units. • ~~Additional acoustic barrier screening to carefully considered roadside and bund locations.~~ The bunds and acoustic barriers shown on the Updated Acoustic Parameters Plan and Site Sections will be constructed during the construction phase of development. The bunds will have maximum 1:3 gradient slopes and to a maximum height of approximately 5m, with 2-3m high acoustic fencing around Bradley Hall cottages and Bradley Hall View. The 'Proposed Finish Level Including Mounds' drawing (Cundall drawing no. CLXX(52)4003 Issue P4) (Appendix 7 of the ES Part 1 Report) shows the proposed bund as incorporated within the noise model. The Updated Acoustic Parameters Plan, Site Sections and Appendix 7.3 of the ES Addendum Noise and Vibration Technical Paper identifies the location of the fences. ~~The final mitigation strategy will be dependent upon the Reserved Matters application and could only been assessed in detail once specific operators come forward with Reserved Matters~~	Requirement for further noise assessments to be secured by planning condition and approved by Warrington BC prior to commencement of development of each phase / plot. Detailed mitigation to be implemented as agreed.

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	~~applications. At this point, further detailed mitigation measure requirements could be determined and implemented.~~	
Air Quality and Dust	No mitigation measures are considered necessary. Nevertheless, as outlined in Technical Paper 2: Traffic and Transportation in Part 2 of the ES, the development will include vehicle charging points.	Details to be secured by planning condition and approved by Warrington BC prior to completion. Details to be implemented as agreed in the condition.
Archaeology and Cultural Heritage	Design, style, materials, layout and positioning of buildings and landscape design will be carefully considered at detailed design stage to limit any adverse impact on the SAM and other receptors.	Design principles to be secured through approval of the updated Heritage Parameters Plan. Detailed design to be agreed through reserved matters submission(s) in accordance with the approved suite of Parameters Plans.
	Demolition of farm buildings within the Bradley Hall Farm complex i.e. to the northeast of the SAM will improve the setting of the scheduled monument	Principle of demolition of buildings to be secured through approval of the updated Demolition Parameters Plan. Detailed design to be agreed through reserved matters submission(s) in accordance with the approved suite of Parameters Plans.
	A landscaping scheme, including provision of an open green corridor to maintain views between the Scheduled Monument and the agricultural land to the south. This will also extend to the north allowing connectivity to the monument. This will comprise a 30m landscape buffer around the SAM, with retention of existing trees and vegetation.	Landscaping details to be secured by planning condition and approved by Warrington BC prior to completion / occupation. Landscaping details to be in accordance with accordance with the approved suite of Parameters Plans. Details to be implemented as agreed in the condition.
	The retention of Bradley Hall will provide context to the moat in the ability to appreciate the massing that the former hall would have had and its relationship with the moat.	To be agreed through reserved matters submission(s). Details to be in accordance with accordance with the approved outline application and suite of Parameters Plans, which secures its retention and conversion for office use.
	Provision of Heritage Interpretation Boards near to the Scheduled Monument, including re-location of the existing PROW nearer to the Scheduled Monument	Details to be secured by planning condition and approved by Warrington BC prior to completion of the relevant phase.
Agricultural Land and Soils	Suitable signage and fencing to prevent trespass and fly tipping and adjacent agricultural land.	Details to be secured by planning condition and approved by Warrington BC prior to completion / occupation.
	Appropriate lighting strategy to minimise light pollution issues.	Details to be secured by planning condition and approved by Warrington BC prior to completion / occupation.
Energy	Specific detail and technologies will be established at the detailed design stage once specific end users and operators are known. Measures will mitigate the energy use and subsequent carbon emissions to meet Warrington BC Core Strategy	Requirement for further Energy Strategy to be secured by planning condition and approved by Warrington BC prior to commencement of development of each phase / plot. Detailed design to be carried out in accordance with the

ES Topic Area	Mitigation Measure - Operation	Implementation and Timing of Mitigation
	Policies and improve on the Part L2A of the Building Regulations.	approved strategy and detailed use of technologies and building fabric(s).
Utilities	To minimise disruption of connections to existing operations building on site, the utilities will typically be installed on a 'ring' type distribution, to ensure buildings can be back fed during any works to the utility services. Services will be sized to accommodate future expansion.	To be agreed through reserved matters submission(s).
Waste	An Operational Waste Management Strategy (OWMS) is proposed which will set out the procedures that would be implemented to manage the environmental impacts of operational waste. The strategy will be written in accordance with duty of care obligations and the waste hierarchy principle. Targets to divert operational waste have not been included at this stage, however the overall objective would be to divert as much operational waste from landfill as possible. Design recommendations for the recycling and storage facilities have been included in an Outline Strategy. Operators of the units will be required to follow the measures in the Site OWMS and will be encouraged to prepare OWMS for their individual units. See details in Appendix 11.2 of the Waste Technical Paper 11 in Part 2 of the ES	An OWMS to be secured by planning condition and approved by Warrington BC prior to the commencement of construction of the relevant phase. OWMS to be implemented during construction.

9. Interaction of Effects and Cumulative Impact

9.1. In respect of the assessment of cumulative effects, Schedule 4 of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) states that an Environmental Statement must include a description of the likely significant effects of the development on the environment resulting from '*the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources*' (Schedule 4 (5)(e)).

9.2. In respect of the assessment of the interaction of effects, Regulation 4 (2) of the 2017 EIA Regulations (as amended by the temporary 2020 Regulations) requires a description and assessment in an appropriate manner, of the direct and indirect significant effects of the proposed development on the interaction of the factors assessed within the ES (i.e. population and human health; biodiversity; land, soil, water and climate; and material assets, cultural heritage and the landscape).

9.3. For the purposes of this ES we define the cumulative and the interaction of effects as:

> ***'Those that result from additive impacts (cumulative) caused by other existing and/or approved projects together with the project itself and the synergistic effects (in-combination) which arise from the reaction between impacts of the project on different aspects of the environment.'***

9.4. The additive impacts and their effects and the synergistic effects are considered in turn below.

Additive Impacts (Cumulative Impacts and their Effects)

9.5. The developments that are likely to have a cumulative impact when considered with the proposed development have been scoped with the Local Authority and Key Consultees during the preparation of this ES. This is detailed within the Scoping Request and subsequent Scoping Opinion from the LPA and further correspondence with Warrington Council confirming the approach to cumulative impacts associated with the Garden Suburb (now referred to as the South East Urban Extension) (**Appendices 12, 13 and 17)** in order to produce a list of agreed projects to be considered cumulatively.

9.6. The Council's Scoping Opinion confirmed the need to consider the Warrington Garden Suburb identified in the emerging Local Plan as part of the cumulative assessment in respect of 'Traffic and Transport.' The Garden Suburb has therefore been included as part of the cumulative assessment in order to address this.

9.7. As previously outlined in this ES Part 1 Second Addendum Report, despite there being a reduction in size of the South East Warrington Urban Extension (previously known as the Garden Suburb), which will now deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period (rather than the 7000 proposed in the Preferred Options Local Plan Version) there is no reason or evidential basis on which to change the approach to the cumulative assessment, which was tested on the basis of 7000 dwellings. This provides a robust assessment as the effects that are being tested exceed those that are reasonable and therefore a worse case is being assessed.

9.8. Paragraph 6.8 of the ES Second Addendum Part One Report already details the difficulties in compilation and assessment of the ES and outlines the approach to cumulative development in respect of the emerging Local Plan Garden Suburb allocation, including the limitations in respect of testing this through the ES as the Garden Suburb remains~~ed~~ at a broad masterplanning level with only indicative quantities of development. Due to the limited information available in respect of the Garden Suburb, the application Cumulative Assessment will therefore be a non-spatial assessment.

9.9. On this basis, the Applicants have reached an agreed position with the Council to undertake a cumulative assessment of the Garden Suburb, based on an assessment of only the quantum of development and phases of the Garden Suburb expected to be delivered in parallel with the phasing and delivery of the Application Proposals as referenced in the Project Description (Section 2) of this ES Part One Second Addendum Report. The quantum of development and uses assessed are detailed in **Table 9.1.**

9.10. A geographical search area has now been identified where it is considered that cumulative impacts could be caused together with the Proposed Development, as shown on the Cumulative Development Plan (**Appendix 11** and **Table 9.1** below). Within this geographical area, through discussions with Warrington BC, during the Scoping stage of the EIA process, a site sieve has been undertaken to include the following within the Cumulative Assessment:

- Development with planning permission that is not yet constructed

- Any existing development that needs to be considered.
- Phases of the Garden Suburb proposed for allocation in the emerging Local Plan expected to be delivered in parallel with the phasing and delivery of the Application proposals

9.11. A number of sites have subsequently been identified that are likely to be relevant for consideration as part of the Cumulative Impact Assessment (CIA) and these are included within the table and figure below (also included at **Appendix 11**). The table also identifies those technical areas where there is a potential relationship between the Proposed Development and the cumulative development and which will therefore be considered further in the cumulative assessment within the ES. Where there is not considered to be a link, a reason why this will not form part of the cumulative assessment within the ES is given.

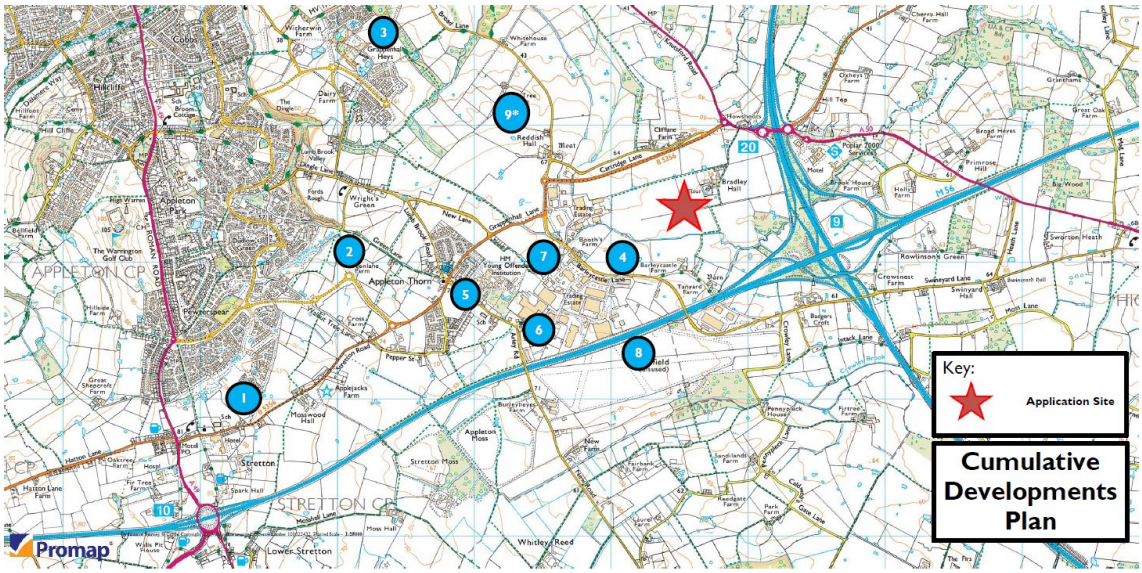


Figure 9.1: Cumulative Development Plans

	Possible Cumulative Development	Details	Status	Justification for Cumulative	To be considered in the CIA (Yes/No)
1	Land bounded by Pewterspear Green Road, Ashford Drive, Stretton, Warrington LPA Ref: 2016/28807 Applicant - HCA	Outline Planning Application for 180 dwellings.	Planning permission granted by WMBC 28-09-2017 (3 years to implement planning permission)	Potential relationship in terms of socio economic. It is a committed development and therefore included within the future baseline and assessed within the assessment of the Proposed Development. It does not therefore need reconsidering in the cumulative assessment for traffic and transport, noise and vibration and air quality. Not considered to be a link in respect of any of the other technical areas due to distance and detached nature from the site.	Yes – socio economic
2	Land bounded by Green Lane &, Dipping Brook Avenue, Appleton, Warrington, WA4 5NN LPA Ref: 2017/29930 Applicant - HCA	Outline Planning Application for 370 dwellings	Planning permission granted by WMBC 22-01-2018 (3 years to implement planning permission)		
3	Land South of Astor Drive, East of Lichfield Avenue &, South of Witherwin Avenue, Grappenhall Heys, Warrington, WA4 3LG LPA Ref: 2017/29929 Applicant - HCA	Outline Planning Application for 400 dwellings	Planning permission granted by WMBC 22-01-2018 (3 years to implement planning permission)		
4	Land North of Barleycastle Lane, Appleton, Warrington Liberty Properties Development Ltd & Eddie Stobart LPA Ref: 2017/31757	Full Planning application (Major) - Demolition of all existing on-site buildings and structures and construction of a National Distribution Centre building (Use Class B8) with ancillary office accommodation (Class B1(a)), vehicle maintenance unit, vehicle washing area, internal roads,gatehouse, parking areas, perimeterfencing, waste management area, sustainable urban drainage system, landscaping, highways improvements and other associated works. (Gross internal floor space of 56,197m², together with 1,858m² of ancillary office)	Refused Planning Permission by WMBC 14-11-2018. Decision subsequently appealed (Appeal reference: APP/M0655/W/19/3222603) and considered at Public Inquiry. New planning application submitted under Ref: 2019/34739 and resolution to grant planning permission at planning committee by WBC in July 2019. Referred to the SoS. On the 21st May 2020, the SoS confirmed that that the new application (Ref: 2019/34739) should be called in. The SoS states that as the appeal scheme and the new application scheme are	Potential relationship in terms of geology and ground conditions; flood risk and drainage; landscape and visual impact; ecology and nature conservation; socio economic; cultural heritage; utilities; waste; energy; and operational noise. Whilst the planning application has been refused it is still to form part of a sensitivity test for traffic and therefore included within the assessment of the Proposed Development. It does not therefore need reconsidering in the cumulative assessment for traffic and transport; and in terms of traffic generation in respect of noise and vibration; and air quality.	Yes- geology and ground conditions; flood risk and drainage; landscape and visual impact; ecology and nature conservation; socio economic; cultural heritage; utilities; waste; energy; and operational noise

			effectively identitical, they should be joined. As an inquiry has already been held into the appeal scheme, he does not consider that a further inquiry is necessary. The SoS has therefore invited representations on any material change in circumstances, fact or policy, that may have arisen since the inquiry. ~~A decision on both these schemes is therefore pending.~~ In November 2020 both schemes were dismissed by the Secretary of State		
5	Land to the east of Stretton Road, north of Pepper Street, Stretton Road, Appleton Thorn, Warrington LPA Ref: 2017/31848	Full Planning Application for 71 dwellings	Planning permission granted by WMBC 24-10-2018 (3 years to implement planning permission)	Potential relationship in terms of socio economic. It is a committed development and therefore included within the future baseline and assessed within the assessment of the Proposed Development. It does not therefore need reconsidering in the cumulative assessment for traffic and transport, noise and vibration and air quality. Not considered to be a link in respect of any of the other technical areas due to distance and detached nature from the site.	Yes – socio economic
6	Blue Machinery Ltd, Barleycastle Trading Estate, Lyncastle Road, Warrington, WA4 4SY LPA Ref: 2016/28994	Full Planning Application for new industrial warehouse building for storage (replacing smaller storage building), single storey extension to existing building for further storage and two storey extension for additional office space, associated parking provision and landscaping. (1,699m^2 new build, 180m^2 and 265m^2 extensions)	Planning permission granted by WMBC 17-02-2017 (3 years to implement planning permission)	Potential relationship in terms of geology and ground conditions; flood risk and drainage; socio economic; and waste. The traffic generation is not considered to be significant and therefore there is not considered to be a relationship in respect of traffic and transport; noise and vibration; and air quality. Not considered to be a link in respect of landscape and visual impact; ecology and nature conservation; cultural heritage; utilities; and energy due to distance and detached nature from the site.	Yes - geology and ground conditions; flood risk and drainage; socio economic; and waste
7	Land off Lyncastle Way, Barleycastle Lane, Appleton, Warrington, WA4 4SN LPA Ref:	Full Planning Application for industrial / warehouse development (Sui Generis) to facilitate a plant hire business with elements of vehicle / plant repair, servicing, maintenance and plant storage / distribution /	Planning permission granted by WMBC 16-10-2015	Potential relationship in terms of geology and ground conditions; flood risk and drainage; and socio economic. The traffic generation is not considered to be significant and therefore there is not considered to	Yes - geology and ground conditions; flood risk and drainage; and socio economic

	2015/25255 Morley Estates	parking and associated offices / welfare facilities, vehicular access via existing service road, acoustic bunding and fencing and other means of enclosure, soft landscaping, 36 car park spaces, fuel pumps (and associated underground tanks), vehicle / plant wash bay and sub-station (Resubmission of 2014/24618) (4,545sqm industrial warehouse building)		be a relationship in respect of traffic and transport; noise and vibration; and air quality. Not considered to be a link in respect of landscape and visual impact; ecology and nature conservation; cultural heritage; utilities; waste and energy due to distance and detached nature from the site.	
8	Former Stretton Airfield, Warrington, WA4 4RG LPA Ref: 2014/2332 Hensmill Property	Proposed construction of subterranean car storage facility (B8 Use Class) with ancillary office development and associated demolition and landscaping accessed from Crowley Lane.	Planning permission granted 23-06-2015	Potential relationship in terms of landscape and visual impact; and socio economic. The traffic generation is not considered to be significant and therefore there is not considered to be a relationship in respect of traffic and transport; noise and vibration; and air quality. Not considered to be a link in respect of geology and ground conditions; flood risk and drainage; ecology and nature conservation; cultural heritage; utilities; waste and energy due to distance and detached nature from the site.	Yes - landscape and visual impact; and socio economic
9*	Warrington Garden Suburb (as identified in the Council's Preferred Development Option Consultation Document (July 2017) and Submission Version of the Local Plan (March 2019)	The Warrington Garden Suburb ~~is~~ was identified as a Preferred Development Option in the July 2017 Consultation Document, which provides the potential development of around 7,000 new homes to be delivered over the full 20 years of the Plan, therefore we have assessed relevant phases within the Cumulative Assessment. It should be noted that since the original ES was prepared and submitted the Council have published their Proposed Submission Version Local Plan (September 2021) ~~(March 2019)~~, which states that the South East Urban Extension (formerly the Garden Suburb) will now deliver around 2,400 homes in the Plan period up to 2038, with a potential for a further 1,800 homes beyond the Plan period.~~around 7,400 homes, with around only 5,100 of these homes to be delivered within the Plan Period, up to 2037~~. Policy MD2 of the Submission Version Local Plan does not identify a phasing or development trajectory.		Potential relationship in terms of socio economic. The 1021 dwellings that form part of the Garden Suburb Phase 1 are already assessed as committed development (sites 1-3 above) and therefore included within the future baseline and assessed within the assessment of the Proposed Development. It does not therefore need reconsidering in the cumulative assessment for traffic and transport, noise and vibration and air quality. The 15.7ha of employment land at Land North of Barley Castle Lane (Liberty Properties and Stobart) (site 4 above) and the additional 1,995 residential units expected to be delivered in Phase 2 of the Garden Suburb will be assessed in the Traffic and Transportation, Noise and Air Quality cumulative assessments based on traffic assessments and Warrington Council's Multi Model Highways Model produced for the emerging Local Plan, which takes account of additional Local Plan Growth in the area. The Cumulative Assessment will	Yes – socio economic

		therefore this assessment remains based on the information contained in the Preferred Development Option Consultation Document (July 2017). On this basis, the cumulative assessment of 7000 homes over the plan period of 20 years undertaken as part of the original ES provides a robust assessment as the effects that are being tested exceed those that are reasonable and therefore a worse case is being assessed. Using the Development Trajectory (Table 20 Garden City Suburb Employment Land Trajectory of the Preferred Development Option Consultation Document) we have based the cumulative assessment ONLY on the quantum of development within the Garden Suburb expected to come forward in parallel with the delivery timeframe for the Six 56 Application Proposals. *Due to the limited information available in respect of the South East Urban Extension (former Garden Suburb, the Six 56 Warrington Cumulative Assessment will be a non-spatial assessment.		be based on the assumptions made within this model in terms of timing of delivery and distribution of traffic on the network. Agricultural Land and Socio Economic cumulative assessments will be based on the residual residential quantum of development (1995 dwellings) identified in the Garden Suburb Phase 2. There is not sufficient information available in terms of spatial delivery for cumulative assessments to be undertaken in respect of the other technical areas, which include Geology and Ground Conditions; Flood Risk and Drainage; Landscape and Visual Impact; Ecology and Nature Conservation; Cultural Heritage and Archaeology; Utilities; Waste; and Energy. As such it is not possible to undertake a cumulative assessment in respect of these technical areas.	
	Warrington Garden Suburb Phase	**Uses and Quantum identified in Preferred Development Option (July 2017)**	**Uses and Quantum to be identified in Six 56 Cumulative Assessment**		
	Phase 1 0-5 years ~~Assumed 2020-2025~~	406 residential units (non- Green Belt sites) 22ha employment (employment areas include Six 56 Warrington and Land around Barley Castle Lane)	Six 56 Proposals will be under construction, with part delivered within Phase 1 of the Garden Suburb (now referred to as the South East Urban Extension). The following form part of the Garden Suburb Phase 1 and will be included within the Cumulative Assessment: • HCA sites (950 dwellings)* • 71 dwellings associated with land to east of Stretton Road* • Land North of Barley Castle Lane (Liberty Properties and Stobart) (LPA Ref: 2017/31757) (now refused and appeals / call in dismissed) - 15.7ha*		

			*Note that these sites are already included as part of the Cumulative Assessment and already referenced as sites 1, 2, 3 and 4.		
	Phase 2 6-10 years ~~Assumed 2026-2030~~	2610 residential units (includes 496 non-Green Belt sites and 2,114 Green Belt sites) 30.3 ha employment (employment areas include Six 56 Warrington and Land around Barley Castle Lane)	Six 56 Proposals will be completed during ~~2027/2028.~~2029. The following form part of the Garden Suburb Phase 2 and will be included within the Cumulative Assessment: Garden City Suburb Phase 1 and 2 employment land equates to 52.3ha, beyond the 30 ha referenced in the Phase 1 and Phase 2 employment trajectory set out in the PDO. Six 56 Warrington developable area and planning application for Land North or Barley Castle Lane (LPA Ref: 2017/31757) already equates to 77.52 ha and is already included as part of the Cumulative Assessment.(now refused and appeals / call in dismissed) Garden Suburb Phase 1 and 2 residential units equates to a total of 3016 units. The Cumulative Assessment already includes 1,021 residential units. Therefore this Cumulative Assessments should include an **additional 1995 residential units** (i.e. the residual number of units identified in Preferred Development Option that not already included within Six 56 Cumulative Assessment)		
	Phase 3 11-15 years ~~Assumed 2031-2035~~	2,144 ha residential units 45.9 ha employment	The Six 56 Proposals will be fully operational Given this Phase of the Garden City Suburb will be beyond the delivery of Six 56 Proposals this phase will not to be included within the Six 56 Cumulative Assessment		

	Phase 4 16-20 years ~~Assumed 2036-2040~~	2,144 residential units 18.6ha employment	The Six 56 Proposals will be fully operational Given this Phase of the Garden City Suburb will be beyond the delivery of Six 56 Proposals this phase will not to be included within the Six 56 Cumulative Assessment		

Table 9.1: Cumulative Developments

Description of Cumulative Activities

9.12. This Environmental Statement has sought to consider cumulative effects in a number of ways. The Technical Papers and their Addendums in Part 2 of the ES have considered the cumulative effects relating to the particular topic being discussed. The cumulative assessments are therefore set out in greater detail in Section 10 of each of the technical papers and their Addendums in Part 2 of the ES. This section however provides an overview of the cumulative assessments undertaken as part of the environmental assessment work.

9.13. In summary, the main potential for the cumulative effects are associated with the following sites:

9.14. Stobart's and Liberty Properties proposals for a National Distribution Centre on Barley Castle Lane ~~Whilst this currently has no committed status following its refusal, a revised application and or appeal is expected to be submitted in Q2 of 2019~~. A highways sensitivity test for traffic associated with this development has been undertaken as part of the Updated Transport Assessment appended to the Traffic and Transportation Addendum Technical Paper 2 in Part 2 of this ES. This scheme has subsequently been dismissed by the SoS, nevertheless for robustness it remains part of a sensitivity test in the Transport Assessment. ~~given a decision on this is pending following approval of a re-submitted application at planning committee in June 2019 and the recent SoS Call In of this application confirmed in May 2020~~. ~~Therefore~~ This has not therefore been reconsidered in the cumulative assessment for traffic and transport; or in terms of the cumulative environmental effect of noise and vibration and air quality generated by this traffic. This section will summarise any cumulative impacts associated with this site in terms of geology and ground conditions; flood risk and drainage; landscape and visual impact; ecology and nature conservation; socio economic; cultural heritage; utilities; waste; energy; agricultural land and operational noise.

9.15. Other sites referenced include residential sites 1, 2, 3 and 5 granted outline planning permission referenced in **Table 9.1.** These sites are assessed as committed development within the

Transport Assessment, therefore they have not been reconsidered in the cumulative assessment for traffic and transport, noise and vibration and air quality. Whilst there is a potential socio economic effect on the Proposed Development site, there is no link or cumulative effect in respect of any other technical areas due to the distance of these sites from the Proposed Development and the detached nature from the site.

9.16. In terms of the proposed industrial developments granted planning permission at sites 6, 7 and 8 referenced in **Table 9.1,** traffic generation is not considered to be significant and therefore there is not considered to be a cumulative impact or link in respect of traffic and transport; noise and vibration; and air quality. This section will now summarise any cumulative impacts associated with these sites in terms of geology and ground conditions; flood risk and drainage; socio economic and waste.

9.17. The Warrington Garden Suburb was ~~is~~ identified as a Preferred Development Option in the Council's Preferred Development Option Local Plan Consultation Document (July 2017) and the Proposed Submission Version of the Local Plan (~~April~~ March 2019). ~~This~~ The Preferred Development Options Local Plan confirmed ~~provides~~ the potential ~~development of~~ for around ~~7,000~~ 7,400 new homes, with 5,100 of these homes to be delivered alongside all the employment development in the Garden Suburb over the Plan Period. Whilst the Proposed Submission Version of the Local Plan (September 2021) reduces the number of homes to 2,400 in the South East Urban Extension (formerly the Garden Suburb), for the purposes of this Assessment we have used the Development Trajectory (Table 20 Garden City Suburb Employment Land Trajectory of the Preferred Development Option Consultation Document) which is a robust approach and have based the cumulative assessment ONLY on the quantum of development within the Garden Suburb expected to come forward over Phase 1 and 2 of their trajectory in parallel with the delivery timeframe for the Application Proposals.

9.18. The Application Proposals will be under construction, with part delivered when Phase 1 of the Garden Suburb is expected to be delivered. This comprises Cumulative Sites 1, 2, 3 and 4 already referenced in Table 9.1 and assessed as committed development, therefore they have not been reconsidered in the cumulative assessment for traffic and transport, noise and vibration and air quality.

9.19. The Application Proposals are programmed for completion during ~~2027/2028~~ ~~2029~~ 2030. This is in parallel with delivery of Phase 2 of the Garden Suburb, which proposes 2610 residential units and 30.3 ha employment land. This employment land identified in this Phase of the Local

Plan included the Application Proposals and Stobart's and Liberty Properties proposals for a National Distribution Centre on Barley Castle Lane (now since dismissed by the SoS), therefore these do not need to be considered as part of any cumulative assessment. As Cumulative Sites 1, 2, 3 and 4 have already been assessed as committed development in the cumulative assessment for traffic and transport, noise and vibration and air quality, the residual number of residential dwellings delivered within the Council's Phase 2 trajectory which will be assessed as part of this cumulative assessment is 1995 dwellings. It is not reasonable to assess the cumulative impact of later phases of the Garden Suburb as the Application Proposals will be completed, prior to delivery of these phases.

9.20. In addition to the traffic and transportation cumulative impacts assessed in the Addendum Traffic and Transportation Technical Paper 2 in Part 2 of this ES, this section will also summarise any cumulative impacts associated with the residual residential quantum of development (1995 dwellings) identified in the Garden Suburb Phase 2, in terms of agricultural land soils and socio economic.

9.21. There is not sufficient information available in terms of spatial delivery for cumulative assessments to be undertaken in respect of the other technical areas, which include geology and ground conditions; flood risk and drainage; landscape and visual impact; ecology and nature conservation; cultural heritage and archaeology; utilities; waste; and energy.

9.22. In respect of socio economic impacts, these have been considered over the short, medium and long term during both the construction and operational phases.

9.23. Each of the cumulative schemes would be expected to generate temporary short-term construction employment and an associated increase in economic output during their construction phases, which would represent a significant boost to the local economy. A quantitative assessment of each scheme has not been made, due to the limited information available in some cases but it is estimated that the cumulative schemes combined could support the creation of approximately 8,200 person years of construction employment, including additional training and apprenticeship opportunities. The total GVA impact of this could amount to around £278 million over the course of the construction period.

9.24. The cumulative schemes would, if implemented, bring forward new commercial floorspace. Although the data available about these schemes is limited, it is possible to make an estimate of the number of jobs that will arise from these schemes by using standard employment density

benchmarks[1], or by drawing upon existing socio-economic impact assessments for specific schemes, where available. However, this is only presented at a gross level (i.e. without additionality adjustments for each cumulative scheme).

9.25. The cumulative schemes identified in **Table 9.1** that include an element of commercial floorspace could cumulatively support approximately 700 gross jobs. When considered in combination with the Proposed Development, the cumulative effects on employment creation would equate to over 4,800 gross jobs. This could generate approximately £270 million of gross GVA per annum, once the developments have all come forward and have been fully occupied. On this basis, the scale of cumulative impacts is considered to be significant at the Warrington and wider impact area level of Cheshire and Warrington LEP..

9.26. The cumulative schemes that include an element of residential development would cumulatively generate up to 3,016 new residential housing units. On the basis that the average household size in Warrington is 2.4 (Source: Census 2011), this could mean an increase in population of some 7,328 people.

9.27. The new residential developments would both generate additional local household expenditure and Council Tax receipts for Warrington Council. The cumulative impact could amount to approximately £66 million of additional household expenditure, once all the dwellings are constructed and then occupied.

9.28. Although it will depend on when the cumulative schemes are brought forward, it has been assumed that its short-term cumulative impact will be generated by those residential schemes that hold planning permission and are expected to come forward within five years. These would collectively generate 698 gross jobs and 1,021 new housing units over the short-term.

9.29. It has been assumed that medium term cumulative impacts will be generated by those schemes that comprise of emerging site / strategic allocations that are yet to be brought forward and are likely to come forward within the next 6-10 years. This included the Warrington Garden Suburb Phase 2 schemes that will provide 1,995 new housing units in parallel with the delivery of the Proposed Development. In summary, there will be significant beneficial cumulative impacts as a result of the various cumulative developments identified coming forward, in the short and medium term. This new housing will be in proximity to the jobs created by the

Proposed Development which will allow for non-car borne modes to be utilized for journeys to work. This is a further beneficial cumulative impact.

9.30. In respect of ground conditions and contamination, as the cumulative developments will take place at differing times, and the identified negative impacts are restricted to the construction phase, the various phases of work will not create a cumulative impact. In summary there are no cumulative impacts associated with any of the cumulative development sites as current contaminated land legislation dictates that following development, a site must be suitable for use (i.e. not represent a plausible source of contamination to both human health and the wider environment), therefore, any development undertaken in isolation will have to prevent any impact on other developments. Similarly, other committed developments will have to ensure the same.

9.31. In respect of flood risk and drainage, the construction and operational cumulative impacts of the Stobart's and Liberty Properties proposals for a National Distribution Centre (Site 4) and the industrial developments at Barley Castle Trading Estate (Site 6) and Barley Castle Lane (Site 7) on receiving waters and sewers have been studied and following agreement with the EA, LLFA and UU have confirmed that capacity exists in the proposed receiving waters (Bradley Brook and the foul sewer system in Appleton Thorn) to accept the Development Site flows, therefore the cumulative impacts are negligible and no greater than those assessed for the Proposed Development.

9.32. In terms of traffic generation and also the resulting effects of this in respect of noise and air quality, many of the developments considered in the cumulative assessment are already part of the baseline or future baseline as they have the benefit of planning permission and as such are committed development. These committed developments are not therefore considered again as part of the cumulative, as this would result in the double counting of the impacts of development. The cumulative developments being considered are therefore the Garden Suburb and the Liberty Properties and Stobart's proposals. These are all included in the Council's WMMTM to provide a high-level assessment of the impacts across the wider network.

9.33. The results detailed in the Traffic and Transportation Addendum Technical Paper 2 in Part 2 of this ES demonstrate that if the entire development came forward in 2021, impacts in the AM peak period would only be in excess of 5% at six locations. This includes the M6 J20 and Cliff Lane Roundabout to the east of the development which is to be expected given the proximity of the site to the motorway. The results demonstrate that if the entire development came

forward in 2021, impacts in the PM peak period would also be in excess of 5% at six locations. This includes the M6 J20 and Cliff Lane Roundabout to the east of the development.

9.34. The 2021 assessment results assume full completion of the development. In reality the development is unlikely to be completed until 2030 ~~2028/2029 and on this basis attention should be focused on 2031.~~

9.35. The results for all scenarios appear to show a significant amount of HGV traffic arriving and departing from the west or north west via the Grappenhall Lane/Broad Lane roundabout. This is counter intuitive given the location of the site adjacent to the M6 J20, and the fact that there are HGV restrictions to the west of the site.

9.36. Some of the HGV restrictions to the west of the site have not been included in this version of the WMMTM. The loading point (Access) for the Proposed Development is also located to the south of the Broad Lane roundabout on Barleycastle Lane. This is much further to the west than in reality with the actual access being located on Grappenhall Lane to the east of then Broad Lane roundabout; and the WMMTM model does not include consideration of any mitigation at the M6 J20.

9.37. Discussions with Highways Officers at WBC have indicated that flows to the west are likely to be lower than predicted in further iterations of the Local Plan modelling, particularly as a result of the mitigation proposed at the M6 J20.

9.38. In summary, it is recognised that there will be traffic and transport impacts during the operational phase resulting from both the committed development and cumulative development, associated with the Garden Suburb, however the highway mitigation for these cumulative development sites remain to be developed and hence this "pre-mitigation" situation is deemed worse case. However, with the highway mitigation measures proposed at the A50/Cliff Lane roundabout and M6 J20 roundabouts as part of the Proposed Development and other relevant highways mitigation schemes associated with future planning applications within the Garden Suburb being delivered, any cumulative impact will be reduced.

9.39. In air quality terms, there is the potential for cumulative impacts to arise if construction activities at other cumulative development sites take place within a distance of 700 m of the proposed development site boundary, during the same period as construction activities at the proposed development. Mitigation of construction phase dust through specific mitigation

measures, controlled through a Construction Environmental Management Plan (CEMP) will result in a negligible impact and no significant cumulative effects would occur.

9.40. During the medium and long term operational phases of the Proposed Development, there is the potential for air quality impacts to occur from cumulative traffic, however based on the traffic data modelled which already includes cumulative development Sites 1 to 5 referenced in **Table 9.1**, the air quality cumulative effects are not considered to be significant.

9.41. In terms of noise and vibration, the cumulative impact assessment uses the traffic modelling data contained in the WMMTM. Two cumulative assessment scenarios have been considered at the future years of 2021 and 2029 with no mitigation consistent with the WMMTM. This represents a worst-case assessment of all known potential developments which are likely to influence the study area. This represents a worst case scenario and includes the Proposed Development Site and the refused Liberty Properties / Eddie Stobart development. No other cumulative developments have been considered as they are sufficiently far away from the development site.

9.42. Cumulative impacts associated with construction noise and vibration if both sites were built out with similar build programmes will be neutral to minor adverse at affected receptors.

9.43. It had ~~is~~ assumed that (~~if any~~ the new application ~~is~~ had been approved ~~or appeal allowed~~) the Liberty Properties and Stobart's ~~will~~ would be designed to limit the cumulative impact of noise and vibration at sensitive receptors during both construction and operational phases as part of their own scheme of mitigation. Sensitive receptors expected to be affected by the cumulative impacts associated with both development are those to the southwest of the site, including Tan House Farm, Barleycastle Farm, Beehive Farm and Booths Farm. The possibility of cumulative noise impacts associated with receptors located elsewhere, is significantly reduced due to distance and acoustic screening afforded by the proposed industrial units. The cumulative assessment assumes a +3 dB increase at nearby receptors, which would represent a doubling in the number noise sources affecting the receptors (assuming the noise sources are identical) and is considered worst-case. This 3 dB increase in predicted noise levels at the receptors, would potentially increase noise magnitude at some receptors, but the significance of effect would minor adverse at worst. Assuming the presence of highly sensitive receptors on all road links assessed in the locality of both sites, it is predicted that the significance of effect of cumulative traffic noise will be neutral to adverse minor.

9.44. In respect of landscape and visual impacts, the construction and operational phases of cumulative development sites have been assessed in the short, medium and long-term impact. In terms of cumulative development for Site 8 (the former Stretton Airfield development located on the southern side of the M56 motorway), there are no cumulative landscape or visual effects associated with this development either in the short or long term, due to the degree of visual separation that exists between the two developments.

9.45. With regards to the proposed Liberty Properties Developments and Eddie Stobart National Distribution Centre (Site 4) the assessment considers the cumulative effects of the development at completion years 1 and 10, despite this application being refused. The landscape assessment contained in the LVIA Addendum Technical Paper 4 in Part 2 of this ES has recorded moderate/major adverse effects at years 1 and 10 in relation to the Application Site Proposals. The construction of the Stobart's scheme will consolidate the presence of large-scale industrial development in this area and the resulting permanent change to local landscape character although this is mitigated to some degree by its closer proximity to existing, although generally smaller, industrial units. It is assessed, therefore, that the cumulative effects would not increase as a result of this development.

9.46. The greatest effects will be the visual impact views of the site with a number of viewpoints experiencing adverse visual effects associated with the Proposed Development and the Stobart's scheme. The location of Stobart's scheme ~~has~~ had the potential to be visible from viewpoints and users of PROW and the local road infrastructure. Views from the north represented by viewpoints including viewpoint 7 and 8 are looking towards the Application Site Proposals and towards this development. Distance to view and topography suggest that it would not be visible and the construction of Units 5 and 6 on the updated Illustrative Masterplan would in any case prevent views towards it.

9.47. Viewpoint 24 is from a location west of both sites and Unit 4 has been assessed as being visible from this viewpoint. Whilst this building zone and Unit illustrated on the masterplan has been reduced in height frm 43.5m to 30m it is possible that the uppermost section of this development will also be visible although likely broken or filtered by existing vegetation. This is assessed as not having any significant cumulative effect from this viewpoint. Viewpoints to the south of the M56 such as viewpoints 15, 16, or 21 are also not assessed as incurring any change in view resulting from this development. Topography, existing vegetation and distance mean that the development is unlikely to be visible from these locations and, therefore there

are no cumulative visual effects. Refer Receptors Plan in **Appendix 6** for plan showing viewpoint locations.

9.48. The greatest cumulative visual effect is likely to be for users of Barleycastle Lane. Currently the Stobarts site is agricultural fields and provides a greater depth of field and contrast to the surrounding industrial park to the south and north. This development will foreshorten views for users of the lane and would screen views towards the Application Site Proposals. The most obvious effect, however, will be a sequential one with travellers in either westerly or easterly directions experiencing closer and greater visibility of proposed development. In view of the fact that the industrial park to the south of the lane extends virtually level with the proposed distribution centre site, the cumulative effects is not considered to significantly increase any adverse visual effects for users of the road.

9.49. Residential properties along Barleycastle Lane are also likely to experience adverse cumulative visual effects, particularly as this will bring visible development closer to them, in particular Barley Castle Farm which is closest to the Stobarts site, but also Birchels Gorse which lies further to the east. Adverse cumulative visual effects are considered greatest with the former due to it closer proximity although this is mitigated to some degree by the location of outbuildings and the orientation of windows being predominantly in a north south direction. The increased distance and similar orientation of window within Birchels Gorse provides similar mitigation to a small degree. Due to the significant adverse visual effects of the Proposed Development upon these properties, however, results in the assessment are not recording any significant cumulative visual effects.

9.50. In summary, there will be some significant landscape and visual effects when the Proposed Development Site is considered with the Stobart's scheme, due to the increased visibility to the surrounding landscape character and dominance of built form where there was previously none before. Mitigation in the form of significant landscaping, bunds and proposed screen planting will mature, soften and screen the proposed developments to soften the impact and views of both sites, which will benefit the receptors most affected by the development in particular, reducing this cumulative impact in the long term.

9.51. Whilst there is limited spatial information available at the time of this assessment, associated with the wider Garden Suburb (now referred to as the South East Urban Extension) proposed within the emerging Local Plan, any settlement expansion will have a significant cumulative landscape and visual effect on the character of the area. With respect to the Proposed

Development Site, this would, over what is expected to be a medium to long time frame, serve to amalgamate the site into a new wider urban development. Should the Garden Suburb (South East Urban Extension) come forward, the long-term effect of the development is therefore anticipated to be reduced by its inclusion within a new and major extension to the settlement boundary.

9.52. Only the Cumulative ecological effects of the Liberty Properties and Eddie Stobart National Distribution Centre (Site 4) are expected to have any combined short, medium and long term impact through the loss of farmland habitats and a reduction in dispersal opportunities for some species, given the proximity of both development. However, mitigation proposals in respect of other habitats and species on site with a safeguarded Ecological Mitigation Area and 15m buffer from Bradley Brook to the south of the Application site should ensure negligible impacts for other habitats and species in terms of habitat loss therefore significant cumulative effects in this respect are unlikely.

9.53. Cumulative ecological effects associated with other cumulative sites identified in **Table 9.1** are unlikely due to physical distance and separation by other existing developments. Small scale developments also means that habitat losses are unlikely to be significant for populations of species identified as ecological features of the site.

9.54. The cumulative impacts of the proposed development and the South East Urban Extension (Garden Suburb) on agricultural land has been considered. The long term effects of the South East Urban Extension (Garden Suburb) to the north of the Site will see the loss of a larger area of agricultural land than the Application Site, if this was to be allocated, approved and constructed. There has been no detailed land classification carried out on all the land to the north, however the Provisional ALC survey 1968-1972 carried out by MAFF showed the agricultural land occupied by parts of the South East Urban Extension (Garden Suburb) consists mainly of grades 2, 3a, and 3b. It is not possible to accurately state how much of the 'best and most versatile' land would be lost however, if we assume that the split of land grades is similar to the Proposed Development site, then the potential combined land loss of the two proposals could see a loss of around 800 ha of agricultural land. 200 ha could be 'best and most versatile' land. In summary, in combination the developments could result in the loss of 'best and most versatile' agricultural land assessed as a regional receptor, therefore there is a long term adverse impact which cannot be mitigated.

9.55. Only the Liberty Properties and Eddie Stobart National Distribution Centre (Site 4) ~~are~~ would be expected to have any combined short, medium and long term cumulative heritage impact on the setting of Grade II* listed Tanyard Farm building and the Grade II listed Barley Castle Farmhouse that lie to the northwest of the Proposed Development Site. The cumulative impact will be no worse than the impacts of the Proposed Development and will have a minor adverse impact as a result of the visual intrusion of these proposed buildings on the listed buildings and loss of the post-medieval agricultural landscape. In the long term, these cumulative effects will reduce during operational phases of development as a result of mitigation in the form of maturing landscape and vegetation.

9.56. In terms of waste, the cumulative impacts associated with the Liberty Properties and Eddie Stobart scheme (Site 4) and the two industrial sites at Barleycastle Trading Estate (Site 6) and Barley Castle Lane (Site 7) have been considered given the potential relationship during operation as similar waste streams may be generated therefore requiring similar waste management facilities.

9.57. The generation of construction and demolition waste by the Proposed Development Site would be temporary in nature and as such, the existing waste management infrastructure would be able to accommodate the construction of new developments as they arise. A cumulative effect on this waste stream may arise if a number of cumulative developments come forward at the same time, thereby putting pressure on existing infrastructure. However, construction impacts associated with the Proposed Development Site will only have minor adverse effects on the existing waste management infrastructure, therefore the cumulative effects of the Site in combination with other concurrent developments would still not be significant.

9.58. In the medium to long term, measures would be implemented during the operation of the Proposed Development Site to maximize the diversion of waste from landfill in accordance with the recommended policy in the Waste Local Plan and national waste policy. Where possible, waste would be managed through the Borough's treatment and recycling facilities. The Waste Arising's and Capacity Requirements Report (Warrington Borough Council, 2017) predicts that with the exception of non-hazardous and inert landfill, the existing and proposed facilities provide adequate capacity for at least the remaining period of the Local Plan period. On this basis, this will lead to a reduction in the reliance on landfill, therefore the cumulative impacts will not be significant.

9.59. There will be short and medium term cumulative impacts in respect of energy during construction phases associated with an increase in CO2 levels, NOx levels and associated Utility Services demand. This has however been considered within spare capacities in order to mitigate the effects of future development in regard to energy use, therefore the cumulative impacts would not be significant. In the long term, following opening and operation of the developments, there will be additional impact on carbon emissions. Any long term cumulative effect will be reduced by the implementation of specific technologies and low carbon design features which will be established at the detailed design stage of each building.

9.60. In terms of utilities, in the short term during construction there are no significant effects envisaged. In the long term, there are a number of cumulative development sites, therefore the timing of these developments may impact on the availability of utility supplies. To limit any availability of utilities, any proposed capacity applied for when seeking an electrical point of connection, should incorporate the spare capacity for potential future requirements, therefore reducing any long term cumulative impact.

Summary

9.61. The overall assessment and impact of the Proposed Development Site when considered cumulatively with other cumulative sites in respect of ground and contamination, drainage and flood, ecology and nature conservation, air quality, utilities, energy and waste are not considered to be significant.

9.62. There are some significant adverse impacts arising as a result in the change to the landscape and the visual impact for some of the viewpoints closest to the site at both construction and operational phases. Each development will however mitigate these impacts as far as possible with bunding and/or landscape proposals to try and soften their appearance and help to screen their presence in the landscape.

9.63. In combination with other sites, there will be a permanent loss of an estimated 200 ha of 'best and most versatile' land, which is a significant long term adverse impact which cannot be mitigated.

9.64. There will some minor adverse impacts on the setting of nearby listed buildings as a result of the visual intrusion of these proposed developments on the listed buildings and loss of the post-medieval agricultural landscape. In the long term, these cumulative effects will reduce as a result of mitigation in the form of maturing landscape and vegetation.

9.65. There are some minor adverse noise impacts as a result of the Proposed Development combined with the Liberty and Stobart's scheme (subject to its future delivery) and road noise on sensitive receptors, will be neutral to minor adverse.

9.66. There are some adverse impacts arising from the traffic generated during the operational phases of the development combined with committed and cumulative developments assessed as part of the WMMTM, although it is noted that this is an extreme worst case assessment and that each future scheme will need to assess the impacts of their own development and mitigate accordingly.

9.67. There will be significant socio economic cumulative benefits in terms of GVA and job creation, which will significantly boost the local economy and also the benefits of new housing being in close proximity to the jobs created by the Proposed Development which will allow for non-car borne modes to be utilized for journeys to work. .

Synergistic Effects (In-Combination / Interaction of Effects)

9.68. This section considers how the various factors associated with the site will interact across both the construction and operational phases. There are two key areas of interactions which are likely to occur, these being:

- Interaction of construction effects – related impacts in terms of ground, agricultural land and soils and water; air, noise and traffic; landscape, ecology and drainage; ecology and noise; and ground and noise.
- Interaction of operational impacts – related impacts associated with those arising from the proposed land uses for the site focusing upon traffic and consequential noise and air implications; landscape, ecology and drainage; cultural heritage and landscape; and to a lesser degree, utilities and landscape.

9.69. The different types of receptors are categorised as follows:

- Humans- (a) long term human receptors- residents, business users; and (b) transient human receptors, including pedestrians, cyclists, drivers and public transport users, construction workers.
- Property- residencies and business uses.
- Ecological- habitats, including protected sites or species.

- Historic Environment– heritage assets
- Landscape - character areas
- Controlled waters- surface waters like water courses or groundwater (aquifers).
- The economy
- Local waste infrastructure i.e. landfills, recycle and recovery facilities

9.70. Where all individual residual effects associated with a single receptor group are neutral or negligible there is no requirement to consider in-combination effects as these effects would not be significant. Where at least one effect on a receptor, after mitigation measures are determined, is minor adverse, or greater, then all identified effects (including neutral or negligible) should be reviewed to determine whether there are likely to be in-combination effects upon this particular receptor.

9.71. These effects are considered in Section 11 of each of the Technical Papers in Part 2 of this ES and brought together and discussed in more detail, based on the construction and operational stages below.

Construction

9.72. The table overleaf identifies the worst case residual outcome for each of the technical assessments in respect of each of the receptor categories for the construction phase of the development. "A" refers to Adverse; "N" refers to Neutral / Negligible; and "B" refers to Beneficial as shown below:

A	Adverse effects
N	Neutral / Negligible effects
B	Beneficial effects

Receptor Category	Ground Conditions and Contamination	Traffic and Transport	Drainage and Flood Risk	Landscape and Visual Impact	Ecology and Nature Conservation	Socio Economic	Noise and Vibration	Air Quality and Dust	Cultural Heritage and Archaeology	Utilities	Waste	Energy	Agricultural Land & Soil	Synergistic Effect
Humans	N	A	N	A	-	B	A	N	-	N	-	A		Yes
Property	-	-	N	-	-	-	-	N	-	-	-	-	A	Yes
Ecology	-	-	-	-	A	-	-	-	-	-	-	-	-	No
Historic Environment	-	-	-	A	-	-	-	-	A	-	-	-	-	Yes
Landscape	-	-	-	A	-	-	-	-	-	-	-	-	-	No
Controlled Water	N	-	N	-	-	-	-	-	-	-	-	-	-	No
Economy	-	-	-	-	-	B	-	-	-	-	-	-	A	No
Local Waste Infrastructure	-	-	-	-	-	-	-	-	-	-	A	-		No

Table 9.2: Possible Synergistic Effects during Construction

9.73. From the above tables it can be seen that for the construction phase, the human, property and historic environment receptors are most likely to be subject to synergistic effects.

9.74. The controlled water receptors are also vulnerable to synergistic effects, but as the assessment for the Proposed Development identified these effects as being no greater than negligible, it can be concluded that there will be no significant synergistic effects.

9.75. In respect of the likely impacts on human and properties (which includes residents and businesses), the impacts associated with traffic and transport, landscape and visual impact, socio economic, noise and vibration, loss of and agricultural land/business and energy (as a result of

an increase in CO2, NOx emissions and water consumption) could combine to create a significant impact on humans, particularly those in close proximity to the site.

9.76. In respect of socio economic, the effects associated with job creation during the construction phase, increased GVA and training and apprenticeship opportunities have been assessed as being beneficial, however the effects of traffic and transportation associated with the increased construction traffic movement are minor adverse, The loss of an agricultural business comprising best and most versatile agricultural land (27% of the total Site area) and the impact this loss has on the landscape character of the site will be moderate/minor adverse, given top soil will be kept and re-used on site as far as is possible.

9.77. In respect of ground conditions and contamination and air quality and dust, the effects associated with inhalation or ingestion of dust by site workers or adjacent residents have been assessed as being negligible. Noise associated with construction traffic and vibration from construction activities and dust arising from construction activities is assessed as having a neutral to minor adverse effect on residential receptors and site workers. The effects of utility disconnections and diversions are considered to be negligible.

9.78. These effects are therefore not considered to be significant when considered on their own and are unlikely to combine with other effects to become significant due to their negligible or neutral impacts.

9.79. These effects are therefore not considered to be significant on their own, however potential exists for these to be more significant when considered in combination with one another on a single receptor.

9.80. The visual impact in respect of residential receptors and from transport and PROW routes are considered to be adverse during construction, due to the change and disturbance that will occur to the landscape during this time, with an adverse impact on a number viewpoints during construction (plan of viewpoints can be found at **Appendix 6**).

9.81. There are a number of physical measures that will be in place as part of the inherent mitigation (such as the bunding that will be created as part of the earthworks at an early stage in the construction) and a commitment to other mitigation such as the implication of a CEMP to manage construction activities and help mitigate the effects of the construction phase. The CEMP will include measures to limit the hours of working, co-ordinate on-site construction

movements; manage potential conflicts between construction activities and vehicle movements; promote car sharing for site workers; provide parking provision with the Site; notification of public and local businesses as to the works being carried out; and implement measures to prevent dirt and dust on the local roads. This will all help to manage and mitigate the impact on receptors as far as is possible, especially those effects that can combine to have a greater overall effect.

9.82. There are still however potential for adverse synergistic effects on some receptors in respect of visual, earthworks and construction traffic. The greatest effect will be on the nearest residential receptors (e.g. Bradley Hall Cottages and Bradley Hall View) who are likely to be affected by all or some of these impacts at some point during the construction phase.

9.83. The construction phase is temporary and different parts of the Site will be worked at different times, which aids the management of the combination of the likely impact on any one receptor. The phasing relates to site enabling and infrastructure works taking place in the first 6 months of construction, with the construction of buildings phased thereafter, over a period of 6.5 years, delivered on a plot by plot basis. After the initial earthworks, the bunds will have been created, which will help to minimise the impacts on residential receptors, particularly in respect of construction noise, dust and visual impacts. Landscaping will also be planted as early as possible to help soften the impacts of the Proposed Development and enable it to start establishing as soon as possible.

9.84. For the human and property receptors at closer range to the Site, such as residential properties at Bradley Hall View and Bradley Hall Cottages, the in-combination effects have the potential to be significant, but will be managed as identified above to minimise the effects so they are no greater than those assessed individually within the ES.

9.85. In respect of the historic environment receptors, the likely in-combination effects are associated with visual impact and impacts on the heritage assets, which in this case is indirect on the setting of the assets (Scheduled Ancient Monument of Bradley Hall moated site, Locally Listed Bradley Hall, Grade II* Listed Tan House Farm, and Grade II Listed Beehive Farmhouse and Barley Castle Farmhouse).

9.86. The in combination effects of the Proposed Development on the setting and visual impact have been assessed as moderate/major adverse during construction. The visual impact generally on landscape character is considered to be significant. In combination the effects on these heritage

assets are assessed as moderate/minor adverse and have the potential to be significant. However, as identified above for the human and property receptors, mitigation will be put in place to manage and limit the individual and synergistic effects on these receptors through activities such as the creation of bunds and early landscape planting and with the implementation of a CEMP to control and manage the construction activities and their impact on receptors. The synergistic effects on the heritage receptors are therefore not considered to be any greater than those assessed individually within the ES.

Operation

9.87. The table overleaf identifies the worst residual outcome for each of the technical assessments in respect of each of the receptor categories for the operation phase of the development. "A" refers to Adverse, "N" refers to Neutral / Negligible, and "B" refers to Beneficial.

A	Adverse effects
N	Neutral / Negligible effects
B	Beneficial effects

Receptor Category	Ground Conditions and Contamination	Traffic and Transport	Drainage and Flood Risk	Landscape and Visual Impact	Ecology and Nature Conservation	Socio Economic	Noise and Vibration	Air Quality and Dust	Cultural Heritage and Archaeology	Utilities	Waste	Energy	Agricultural Land & Soil	Synergistic Effect
Humans	N	A	B	A	-	B	A	N	-	N	-	A	-	Yes
Property	-	-	B	-	-	B	-	N	-	N	-	N	N	No
Ecology	-	-	-	-	N	-	-	-	-	-	-	-	-	No
Historic Environment	-	-	-	A	-	-	-	-	A	-	-	-	-	Yes
Landscape	N	-	-	A	-	-	-	-	-	-	-	-	-	No
Controlled Water	N	-	B	-	-	-	-	-	-	-	-	-	-	No
Economy	-	-	-	-	-	B	-	-	-	-	-	-	-	No
Local Waste Infrastructure	-	-	-	-	-	-	-	-	-	-	A	-	-	No

Table 9.3: Possible Synergistic Effects during Operation

9.88. From the table above it can be seen that for the operation phase, the human, property and historic environment are the most likely to be subject to synergistic effects.

9.89. Taking the likely impacts on human and properties (which includes residents and businesses) first, the impacts associated with flood risk and drainage are assessed as beneficial, as the drainage strategy proposed incorporates SUDs, swales and attenuation ponds with a control of flows from the site, therefore there is a benefit to the human and property receptors in respect of drainage and flood risk. As such the interaction of these effects can only be beneficial to the human and property receptors. The effects on air quality in respect of traffic movements are assessed as negligible and therefore not significant.

9.90. Effects in respect of socio economic are all beneficial (creation of long-term employment and effect on the labour market, increase in GVA and training and apprenticeship opportunities), Operational effects in respect of utilities and energy are assessed as negligible, given the utilities are installed at construction stage.

9.91. The increase in traffic and the resulting effects on driver delay and amenity and severance for pedestrians and cyclists on the local highway network is assessed as negligible to minor adverse. The operational noise from the Site and effects on property and human is assessed as minor to moderate adverse, however the in-combination effects of noise on humans resulting from the increase from traffic on the local road network is assessed as negligible to minor adverse. There are a number of physical measures that will be in place as part of the inherent mitigation such as the bunding that will be created as part of the earthworks and acoustic barriers that will mitigate these impacts.

9.92. The visual impact of the proposed Development in respect of residential views and from transport and PROW routes are considered to be adverse during operation, due to the change that will occur to the landscape during this time. In particular, the Proposed Development is assessed as having an adverse impact on certain viewpoints during operation.

9.93. There are a number of physical measures that will be in place as part of the inherent mitigation such as the bunding that will have been created as part of the earthworks early in the construction phase that will also mitigate the operational phase; and significant landscape planting and screening which will establish and mature over time and be managed and maintained with long term management plans. There is also a commitment to other mitigation such as Travel Plan(s) to reduce the reliance on the private car and to reduce, manage and minimise vehicle movements; parameters to manage noise through detailed scheme design by such things as limiting the noisier activities such as service areas and loading bays close to sensitive boundaries with residential receptors; off-site junction improvements will help to manage and in some cases improve driver delay and pedestrian and cycle severance and amenities. These measures will all help to manage and mitigate the effects of the Proposed Development on receptors as well as the synergistic effects that could occur.

9.94. There is still however potential for adverse synergistic effects on some receptors in respect of visual, traffic generation and operational noise from the Proposed Development. The greatest effect will be on the nearest residential receptors (e.g. Bradley Hall Cottages and Bradley Hall View) who are likely to be affected by all or some of these impacts at some point during the

operational phase. With the mitigation and measures and bunds to attenuate noise and acoustic barrier screening at carefully considered locations adjacent to Bradley Hall Cottages, it is anticipated that these synergistic effects will be reduced and be no greater than those assessed individually. In the short term there is potential for adverse synergistic effects associated with visual, traffic generated and noise. These effects are not however considered significant in the longer term as the Site's boundary planting matures and the scheme assimilates into the landscape.

9.95. For the human and property receptors at close range to the Site, such as residential properties at Bradley Hall View and Bradley Hall Cottages, the in-combination effects have the potential to be significant, but will be managed as identified above to minimise the effects so they are no greater than those assessed individually within the ES.

9.96. In respect of the historic environment receptors, the likely in-combination effects are associated with visual impact and impacts on the heritage assets, which in this case is indirect on the setting of the assets (Scheduled Ancient Monument of Bradley Hall moated site, Locally Listed Bradley Hall, Grade II* Listed Tan House Farm, and Grade II Listed Beehive Farmhouse and Barley Castle Farmhouse).

9.97. The effects of the Proposed Development on the setting of these heritage assets have been assessed as moderate/major adverse during the operational phase. The visual impact generally on landscape character is considered to be significant. In combination the effects on these heritage assets are assessed as moderate/minor adverse and has the potential to be significant. However, as identified above for the human and property receptors, mitigation will be put in place to manage and limit the individual and synergistic effects on these receptors through activities such as the creation of bunds and early landscape planting which will have a long term management plan and a 30m buffer around the SAM which will make provision for a wildflower meadowland in the centre of the site, creating a sense of openness around the SAM to reduce the level harm to the setting of the monument and allow an appreciation of the monument. Reduced building heights, including those to building Zones B2, D1 and D2, massing, orientation and proximity to the SAM have also been considered to alleviate the impact on the setting of the monument. The synergistic effects on the heritage receptors are therefore not considered to be any greater than those assessed individually within the ES.

Summary

9.98. Synergistic effects have been considered throughout the evolution of the development proposals across all the technical areas and scheme design. These will be minimised and managed through the implementation of mitigation, much of which is multi-functional to address synergistic effects.

9.99. The adverse interaction of impacts in and around the site will occur at their greatest during the short term period (construction). It is however considered that the mitigation proposed during both the construction and operational phases as part of the Environmental Assessment (summarised in Section 8) is sufficient to deal with these impacts which will be controlled by way of planning conditions and a S106 as necessary and as such the majority of impacts will be no worse than minor adverse and negligible and some being beneficial.

Decommissioning

9.100. Decommissioning of the Proposed Development is not relevant to this project, given the proposed end use for the site.

10. Conclusion

10.1. This ES Part I Second Addendum Report presents a detailed project description of the Development Proposals for the application Site (Section 2), which are controlled by a series of parameters detailed on parameter plans (**Appendix 5**). It sets out the methodology which the Study Team has followed, the alternatives which were considered and the legislative/planning context. Section 7 and the Summary tables set out an overview of the environmental impacts on a topic by topic basis. Section 8 sets out the key mitigation measures. An overview of the additive/cumulative effects and the synergistic/interaction of effects is included in Section 9. A non-technical summary is provided in a separately bound document.

10.2. The Technical Papers and their Addendum's in Part 2 of the ES provide more detail of this impact of the development during the construction and operational phases against a range of topics as follows:-

- Paper 1 - Geology and Ground Conditions
- Paper 2 - Traffic and Transportation
- Paper 3 - Flood Risk and Drainage
- Paper 4 - Landscape and Visual Impact
- Paper 5 - Ecology and Nature Conservation
- Paper 6 - Socio Economic
- Paper 7 - Noise and Vibration
- Paper 8 - Air Quality and Dust
- Paper 9 - Cultural Heritage and Archaeology
- Paper 10 – Utilities
- Paper 11 – Energy
- Paper 12 - Waste
- Paper 13 – Agricultural Land & Soils

10.3. These separate topic papers contain the detailed analysis of impacts and mitigation and should be referred to for the complete assessment of impact. This ES Part I Second Addendum report aims to provide an overview of the predicted effects and how it is proposed to mitigate the impacts. It should be noted that the information submitted for this planning application is extensive given the nature of the site, however, the detailed mitigation strategies will be controlled via the use of planning conditions and the Section 106 Agreement. The proposed

S106 heads of terms will be referenced in the Replacement Planning ~~and Regeneration~~ Statement which will accompany this outline planning application. A variety of mitigation measures are proposed to control, manage and reduce the effects of the Proposed Development. Further mitigation of environmental effects is also inherent in the design of the Proposals. All of the mitigation is devised to either mitigate individual effects or it is multi-functional to mitigate a number of effects.

10.4. As a whole, the majority of the potential environmental impacts and their effects (with mitigation incorporated) are assessed as neutral, negligible or minor adverse at both construction and operational phases and as such are not significant. This is in relation to ground conditions and contamination, traffic and transport, drainage and flood risk, ecology and nature conservation, socio economic, air quality and dust, utilities, waste, energy and agricultural land and soils as well as some effects associated with cultural heritage, noise and vibration landscape and visual impact.

10.5. There are a number of environmental impacts and their effects that are assessed as beneficial and these relate to the operational phase with the drainage and flood risk through a managed drainage strategy. Socio economic effects are significantly beneficial in respect of job creation, GVA and the opportunities for training and apprenticeships at both construction and operational phases, which has a benefit for the immediate locality as well as the wider Sub-region and the Borough.

10.6. The loss of some best and versatile agricultural land (based on 27% of the site being classified as Grade 3a) will result in a moderate adverse impact, given the land is a finite resource and as such cannot ultimately be replaced.

10.7. There are, however some adverse effects on some receptors in respect of operational noise from the Proposed Development. The greatest effect will be on the nearest residential receptors (e.g. Bradley Hall Cottages and Bradley Hall View) who are likely to be affected by all or some of these impacts at some point during the operational phase. With the mitigation and measures in the form of bunds to attenuate noise and acoustic barrier screening at carefully considered locations adjacent to Bradley Hall Cottages, it is anticipated that these effects will be reduced. Changes to the Parameters associated with the Proposed Development as part of the ES Second Addendum have led to a reduced impact from operational noise on these receptors.

10.8. It should also be noted that the current noise assessment can be considered an absolute worst-case assessment. Exact noise levels can only be determined and assessed in detail once specific end user operators come forward with reserved matters applications. At this point, detailed mitigation measure requirements can be determined and implemented.

10.9. There are also some significant adverse impacts associated with the effect on the setting of the SAM and adjacent Grade 11 and Grade 11* Listed Buildings which will experience indirect moderate adverse impacts on their setting at construction and operational phases due to their proximity to the Site. This will however be managed and limited as far as possible through the creation of bunds, retention of existing vegetation and openness with provision of a 30m buffer and wildflower meadow around the SAM location in addition to significant mitigation planting that is proposed.

10.10. Other significant effects are in respect of landscape character and visual amenity as a result of the change and disturbance that will occur with the Site's redevelopment. At the construction phase this is in respect of views into the site from Bradley Hall Cottages and Bradley Hall View. The effects of the Proposed Development will however be managed as far as possible with the early establishment of bunding to the Site's perimeter and early landscape planting where possible as well as the implementation of a CEMP. At the operational phase, the significant adverse effects are also in respect of those receptors closest to the Site at Bradley Hall Cottages and Bradley Hall View which will experience moderate adverse and high adverse effects respectively at year 1. Changes to the Building Heights Parameters to reduce the most prominent building height zone (B2) from 43.5m to 30m and D1 and D2 from 24.5m to 22m is a positive step to reduce the scale of these buildings the views into the site from the north and south. Whilst the significant mitigation planting will mature over time to soften the appearance of the Proposed Development in the landscape and ensure the longer term effects on these views are reduced so as not to be considered significant, the assessment of effects remain as significant at these receptors.

10.11. The ES Second Addendum Part 1 also assesses the potential for the synergistic/interaction of effects and concludes that in the main these are not considered to be significant with the multi-functional mitigation that is proposed. The synergistic/interaction of effects which have the potential to be significant are as a result of the significant effects of visual impact, cultural heritage combined with the effects of traffic and transport and noise.

10.12. Cumulative impacts are assessed and take account of a number of developments in the area that either have permission or are likely to come forward in a similar timeframe to the Proposed Development. This includes the emerging Local Plan allocation for a mixed use urban extension referred to as the South East Urban Extension ~~Garden Suburb~~. The main cumulative site considered and that are relevant to all the technical topics is the adjacent Liberty Properties and Eddie Stobart site for a National Distribution Centre~~, which currently has no committed status following its recent refusal of planning permission~~ and the South East Urban Extension (Garden Suburb). The cumulative impacts of the South East Urban Extension (formerly the Garden Suburb) have only been assessed in terms of traffic and transportation, socio economic and agricultural land. The cumulative impacts are not considered to be any more significant than those effects assessed as part of the main Environmental Assessment of the Proposed Development Site. This is except for those assessed during the operational phase for traffic and transport. However the assessment undertaken is based on data available which is based on an unmitigated highway network and as such shows an extreme worst case scenario. The cumulative developments will each need to determine any appropriate mitigation as they come forward.

10.13. There are therefore not considered to be any potential environmental impacts that cannot be suitably mitigated and which would prevent the proposals from being granted planning permission. Those effects that are assessed as significant in environmental terms are limited to visual impact, noise and vibration impact on the adjacent Cottages and indirect effects on the SAM and Grade II Listed Buildings. These significant effects are however considered to be outweighed by the significant benefits that the Proposed Development will bring to the area, particularly in respect of socio economic (job creation and GVA).

11. ES Part 1 Appendices

Appendix 1 – Location Plan (National, Regional, Local Context)

Appendix 2 – Redline Plan

Appendix 3 – Updated Means of Access Plan

Appendix 4 – Updated Illustrative Masterplan and Superseded Illustrative Masterplan

Appendix 5 – Updated Proposed Parameter Plans including site sections to show height and location of bunds and reduced building heights

Appendix 6 – Key Receptor Plans

Appendix 7 – Updated Topographical Survey Plan and Cut and Fill Finished Levels Contour Plan

Appendix 8 – Constraints and Opportunities Plans

Appendix 9 - Construction Management Plan Framework

Appendix 10 – Alternative Sites Assessment

Appendix 11 – Cumulative Development Plan

Appendix 12 - Applicant's Scoping Request

Appendix 13 – Council's Screening Opinion

Appendix 14 – Glossary and Abbreviations

Appendix 15 – Statement for Competent Experts

Appendix 16 – Updated Lighting Assessment

Appendix 17 - Correspondence with Warrington Council confirming approach to cumulative impacts associated with Garden Suburb

Appendix 18 – Consultant Letters Confirming No Updates to Technical Papers Required

Appendix 19 - Log of Text Deleted from Original ES Part 1 and First Addendum and Second Addendum Technical Papers

ES Part 1 Appendix 1

ES Part 1 Appendix 2

ES Part 1 Appendix 3

ES Part 1 Appendix 4

ES Part 1 Appendix 5

ES Part 1 Appendix 6

ES Part 1 Appendix 7

ES Part 1 Appendix 8

ES Part 1 Appendix 9

ES Part 1 Appendix 10

ES Part 1 Appendix 11

ES Part 1 Appendix 12

ES Part 1 Appendix 13

ES Part 1 Appendix 14

ES Part 1 Appendix 15

ES Part 1 Appendix 16

ES Part 1 Appendix 17

ES Part 1 Appendix 17

ES Part 1 Appendix 18

ES Part 1 Appendix 19