Volume 5

ON BEHALF OF
Satnam Millennium Ltd

IN RESPECT OF

Outline application for a new residential neighbourhood including C2 and C3 uses; local employment (B1 use); local centre including food store up to 2000m², A1-A5 (inclusive) and D1 use class units of up to 600m² total (with no single unit of more than 200m2) and family restaurant/ pub of up to 800m2 (A3/A4 use); site for primary school; open space including sports pitches with ancillary facilities; means of access and supporting infrastructure at Peel Hall, Warrington

AT PEEL HALL, WARRINGTON

ADDENDUM TO ENVIRONMENTAL STATEMENT *(Volume 2)*

ADDENDUM TO ENVIRONMENTAL STATEMENT
IN RESPECT OF 'OPTION A' AND 'OPTION B' HIGHWAYS LAYOUT

January 2018

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Final for Issue	**ENVIRONMENTAL STATEMENT ADDENDUM**	**-**	**DA**	**DA/DJS**	**CG/ PINs/ CLM**	**31.01.2018**	

Revisions to Final Document

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0.0 GENERAL INTRODUCTION

0.1 Satnam Millennium Ltd submitted a planning application to Warrington Borough Council on 11th July 2016 for:

"Outline application for a new residential neighbourhood including C2 and C3 uses; local employment (B1 use); local centre including food store up to 2000m², A1-A5 (inclusive) and D1 use class units of up to 600m² total (with no single unit of more than 200m2) and family restaurant/ pub of up to 800m2 (A3/A4 use); site for primary school; open space including sports pitches with ancillary facilities; means of access and supporting infrastructure at Peel Hall, Warrington."

The Environmental Statement was been prepared after consultation with the Local Planning Authority, Warrington Borough Council, and their EIA Regulation 13 Scoping Opinion issued on the 28th November 2014 (**ES Appendix APP 4**).

0.2 This Environmental Statement Addendum (ESA) serves to up-date where necessary due to the passage of time information contained within the original ES, particularly with regard to planning policy, highways, ecology and nature conservation. This addendum also addresses the Regulation 22 request letter dated 2nd November 2017 issued by PINS. The additional information requested by the Planning Inspectorate can be found in relevant chapters of this addendum.

0.3 An alternative road layout has been considered as part of this addendum. An assessment of this layout can be found in Part 2 – Option B Addendum. A separate Parameters Plan for this layout can be found under **Appendix APP 6B.**

0.4 The purpose of this addendum is therefore two-fold:

1. To ensure the updated survey information are fully considered, and consulted as part of the EIA process; and,

2. To respond to comments relating to the findings of the original Environmental Statement.

0.5 For reference, this ESA should be read alongside the ES dated July 2016 submitted with the application, together with its associated Technical Appendices.

0.6 Each EIA topic has been given a separate chapter in this ESA. However, in some instances it is not be necessary to provide any additional information and in these cases the reader will be directed to the original ES dated July 2016. The numbering of sections and paragraphs within this addendum follows that contained within the submitted Environmental Statement and text should be read in conjunction with it. Where there is no change to sections/paragraphs set out within the Environmental Statement, this will be referenced in the text without repetition. Where changes or

supplementary information are made or provided, then new text will replace that within the Environmental Statement.

Environmental Statement Addendum Format

0.7 This Environmental Statement Addendum consists of four parts;

Part 1 – Environmental Statement Addendum

0.8 This section of the addendum in summary comprises of the following:

- Description of the Proposals
- Planning Policy and Designations
- Assessment of Impacts
- Identification of Mitigation
- Mitigation Proposals
- Identification of Residual Impacts
- Assessment of Cumulative Impacts
- Appendices

Part 2 – Environmental Statement Option B Addendum

0.9 This section covers the same topics with an alternative Option B road layout: If different in content the topic area is replaced in part or whole, otherwise it should be read as for Option A.

Part 3 – General Conclusions

0.10 This section provides a revised set of impact tables along with overall conclusions.

Non Technical Summary

0.11 This is a summary of results of the Environmental Statement in non-technical language and bound as a separate document.

CONTENTS

DOCUMENTS AND FIGURES (Volume 6)

(Note: the following documents and figures are updates/ supplementary information, any appendices not listed can be found in the original ES Volume 3)

BASELINE DOCUMENT AND FIGURES

APP 6A Parameters Plan Option A (1820_24) prepared by Appletons

APP 6B Parameters Plan Option B (1820_30) prepared by Appletons

APP 7 Agricultural Land Classification Map *(Replacing original ES Appendix APP 7)*

APP 14 Cross Section North-South Option A (1820_31) prepared by Appletons

APP 15 Cross Section North-South Option B (1820_34) prepared by Appletons

APP 16 Indicative Sports and Recreation Provision (1820_28) prepared by Appletons

APP 17 Site Location Plan (drawing number. 140367-D-002 Rev B) prepared by 3DReid

ECOLOGY

ECO 16 E-mail correspondence with GMEU

ECO 17 RECORD Data Search (*Updated from original ES Appendix 4)*

ECO 18 Bird Survey Map 1- 2017

ECO 19 Bird Survey Map 2- 2017

ECO 20 Comparative Extended Site Bat Survey Area

ECO 21 Extended Site Bat Survey Boundary Area

ECO 22 Activity Figures

ECO 23 Bats & Lighting

HYDROLOGY, DRAINAGE AND FLOOD RISK

HYD 6 Preliminary Water Framework Directive Assessment

LANDSCAPE AND VISUAL IMPACT

LND 10 Indicative Landscape Components Plan Option A (1820_25) prepared by Appletons

LND 11 Indicative Landscape Components Plan Option B (1820_29) prepared by Appletons

TRANSPORTATION AND HIGHWAYS

Option A Appendices:

T1 - Study area

T2 - Existing highway network

T3 - Existing bus network

T4 - Existing PRoW network

T5 - Illustrative plan showing the proposed road network within the development

T6 – Proposed Access Junctions

- 1107/08/P – Birch Avenue
- 1107/09/M – Poplars Avenue (west)
- 1107/10/N – Blackbrook Avenue/Mill Lane
- 1107/11/L – Mill Lane
- 1107/12/Q – Poplars Avenue (central)
- 1107/30/H – Grasmere Avenue

T7 – Enhanced bus provision

T8 - Illustrative pedestrian and cycle linkages

T9 - Proposed construction and highway phasing of Peel Hall

T10 – SATURN output files

T11 – Proposed Mitigation

Option B Appendices for Transportation and Highways:

T5B – Indicative through route and access points

T6B – Proposed Access Junctions

- 1107/08/P – Birch Avenue (same as Option A)
- 1107/10/N – Blackbrook Avenue/Mill Lane (same as Option A)
- 1107/11/L – Mill Lane (same as Option A)
- 1107/12/Q – Poplars Avenue (central) (same as Option A)
- 1107/30/H – Grasmere Avenue (same as Option A)
- 1107/46/B – Through route at Poplars Avenue (west)
- 1107/52/F – A49/Poplars Avenue

T8B – Illustrative pedestrian and cycle linkages

T9B - Proposed construction and highway phasing of Peel Hall

T11B - Proposed Mitigation

CULTURAL HERITAGE AND ARCHAEOLOGY

Refer to Original ES and Option B Addendum.

NOISE POLLUTION

Refer to Original ES and Option B Addendum.

AIR POLLUTION

Refer to Original ES and Option B Addendum.

SOCIO-ECONOMIC

S2 Summary Tables

1.0 ENVIRONMENTAL STATEMENT PROJECT TEAM

This document has been prepared by the same specialist consultants who prepared the original ES, as set out below:

1.1 The Peel Hall Environmental Statement was prepared on behalf of Satnam Millennium Limited by a project team comprising of Architects, Planners, Drainage and Hydrology Consultants, Ecologists, Environmental Consultants, Landscape Architects and Transportation Consultants. Both parts of this Addendum have been prepared by the same team members.

1.2 The following disciplines were commissioned;

Appletons	Environmental Statement co-ordination, Site Context, Project Description, Landscape Masterplanning, Landscape and Visual Amenity, and Ecology
Satnam Planning Ltd	Planning Policy Context
Lichfields	Socio-economics, Demographic Modelling and Social Infrastructure
3D Reid	Masterplanning and Block Design
Transport Planning Associates	Hydrology, Drainage and Flood Risk
Highgate Transportation Ltd	Transportation and Highways
Nexus Heritage Ltd	Archaeology
Hawkins Environmental	Air Quality and Noise

PART 1 OPTION A

2.0 INTRODUCTION

2.1 Purpose and Approach

This section of the ES remains unchanged (2.1.1-2.1.6).

2.1.7 This ES Part 1 Option A has been prepared on the basis of the following documents:

- Parameters framework plan **(Appendix APP 6A)** prepared by Appletons, landscape architects and environmental consultants, including areas for landscape retention, ecological features and proposed planting screen planting.
- Access point plans **(Appendix T6)** prepared by Highgate Transportation Ltd.
- Site Location Plan.

Environmental Statement Format

2.2 This section of the ES remains unchanged (2.2- 2.2.3). See Section 0.0 General Introduction for details of Environmental Statement Addendum.

Scope

2.3 This section of the Environmental Statement remains unchanged (2.3).

Consultations

2.4 This section of the Environmental Statement remains unchanged (2.4).

2.5 The Development Proposals

Description

2.5.1 This section of the Environmental Statement remains unchanged (2.5.1- 2.5.2).

2.5.2 **Appendix APP 6A** is the Parameters Plan for the development. The Parameters Plan has planning status as it sets out the general disposition of separate land uses on the site and also the maximum heights of buildings and/ or infrastructure (vertical parameters) to be located within each development zone. The Parameters Plan shows the main constraints and opportunities for development such as vegetation to be retained together with proposed new planting and areas of open space. It is anticipated that the Parameters Plan will form the basis of outline planning permission for the site upon which reserved matters applications can be conditioned, as set out in the planning application covering letter dated 11th July 2016. Formal approval for vehicular access to the site is also sought, based on the submitted plans (**Appendix T6**). As part of the EIA process, the proposed layout has undergone various amendments in response to baseline

information gathered. The proposed layout inherently minimises some of the potential impacts identified especially in respect of habitats, protected species, visual amenity and landscape character. This is reflected in the Parameters Plan.

The Housing

2.5.3 This section of the Environmental Statement remains unchanged (2.5.3).

Other Uses

2.5.4 This section of the Environmental Statement remains unchanged (2.5.4 – 2.5.5).

Access

2.5.5 This section of the Environmental Statement remains unchanged (2.5.5).

Landscape Scheme

2.5.6 This section of the Environmental Statement remains unchanged (2.5.6 – 2.5.7).

Construction Phasing and Timescales

2.5.8 This section of the Environmental Statement remains unchanged (2.5.8 – 2.5.15).

3.0 THE SITE IN CONTEXT

3.1 Introduction

3.1.1 This section of the Environmental Statement remains unchanged (3.1.1).

3.2 Site Location and Adjacent Land uses

3.2.1 This section of the Environmental Statement remains unchanged (3.2.1 – 3.2.6).

3.3 Site Description

3.3.1 This section of the Environmental Statement remains unchanged (3.3.1 – 3.3.5).

3.4 Agricultural land Quality

3.4.1 Refer to paragraph 8.21.2.

3.5 Flood risk assessment

This section of the Environmental Statement remains unchanged (3.5).

4.0 DEVELOPMENT ALTERNATIVES

4.1 Introduction

4.1.1 This section describes the main alternatives that were assessed in the consideration of the scheme and development of the proposals.

4.2 Alternative Options

4.2.1 The following options have been considered as part of the Environmental Impact Assessment process:

Do nothing scenario

4.2.2 This section of the Environmental Statement remains unchanged (4.2.3 – 4.2.4).

4.3 Alternative Layouts

4.3.1 An alternative road layout is proposed and this is described in Part 2 Option B of the Addendum.

4.4 Conclusion

4.4.1 This section of the Environmental Statement remains unchanged (4.4.1).

5.0 PLANNING POLICY CONTEXT

5.1 Introduction

This section of the Environmental Statement remains unchanged (5.1.1 – 5.1.2).

5.2 National Planning Guidance

5.2.1 Planning Policy

This section of the Environmental Statement remains unchanged (5.2.1 – 5.2.7).

5.2.8 Local Planning Policies

This section of the Environmental Statement remains unchanged.

5.3 The Local Plan Core Strategy July 2014

Designations

This section of the Environmental Statement remains unchanged (5.3.1 – 5.3.2).

Housing Supply

5.3.3 There are two issues relevant to the supply of housing in Warrington Borough. Firstly, as a direct result of the high court quashing the part of the plan relating to housing requirements, there is no housing requirement or target for Warrington against which supply can be measured. Secondly, the council commissioned consultants to prepare a SHMA Update – Warrington Addendum in May 2017 to derive the Objectively Assessed Need (OAN) for housing in the Borough. This report concludes that a figure of 955 dwellings is required each year in Warrington between 2015 and 2037. The Council's emerging Preferred Development Option Local Plan (July 2017) is targeting an even higher housing requirement of 1,113 dwellings per annum [dpa] over the 20-year plan period. Our analysis suggests that this latter figure is too low, and that the actual housing OAN for Warrington Borough should be higher still. However, judged against any of these housing targets, Warrington cannot demonstrate a 5 year supply (plus buffer). Since the planning application was submitted the Appeal Site has been confirmed within the July 2017 SHLAA as a development site (reference 1506, page 47 and the Mill Lane Playing Fields reference 1647), with both sites considered by the Council to be 'Sustainable, available and achievable.'

5.3.4 This section of the Environmental Statement remains unchanged.

5.3.5 This section of the Environmental Statement remains unchanged.

5.4 Sustainability

This section of the Environmental Statement remains unchanged (5.4.1 – 5.4.5)

Conclusion

5.5 This section of the Environmental Statement remains unchanged.

6.0 ECOLOGY AND NATURE CONSERVATION

6.1 Introduction

6.1.1 This chapter of the ESA deals with ecological and nature conservation issues in relation to the proposed development. It includes the results of more recent and updated breeding bird surveys undertaken in 2017 by Ian Ryding, a bat survey undertaken by Stan Irwin in 2016 and a wider desktop study assessment. It considers both direct and indirect ecological effects and mitigation.

Survey objectives and re-evaluation of existing data

6.1.2 This section of the Environmental Statement remains unchanged with the addition of the following text:

- On the 16th March 2017 Appletons entered correspondence with Derek Richardson of Greater Manchester Ecology Unit (GMEU) in order to clarify whether a new set of Great Crested Newt surveys would be required (Email chain **Appendix ECO 16**). The Greater Manchester Ecology Unit (GMEU) provides specialist advice to, and on behalf of, the ten district councils that make up Greater Manchester on biodiversity, nature conservation and wildlife issues. Although hosted by Tameside MBC, GMEU works across the whole of Greater Manchester and provides advise to council departments and the general public on wildlife issues. While Mr Richardson confirmed that there is no need for a new set of Great Crested Newt Surveys, he suggested that an additional breeding bird survey should be undertaken over the course of the 2017 season. This survey was undertaken over the summer of 2017. The need for other surveys was discounted.

Location

6.1.3 This section of the Environmental Statement remains unchanged (6.1.3).

6.1.4 Constraints

Vegetation

This section of the Environmental Statement remains unchanged.

Birds

This section of the Environmental Statement remains unchanged with the addition of the following text:

The additional bird survey was undertaken on the 26th April and 18th May 2017, which is within the main nesting season of birds at Peel Hall. Survey conditions were good throughout both survey visits with no major constraint to survey.

Prior to undertaking the survey, herbicide had been applied by a large self-propelled boom sprayer to much of the grassland and tall herb areas of the site. Birds disturbed by farming/groundworks early in the season normally attempt to lay a second clutch if the nest site is destroyed. Given the general distribution of nesting birds as observed during the 2017 survey, areas affected by spraying continued to support nesting birds after the herbicide had been applied, therefore the effect of this application was temporary with birds re-establishing themselves and nesting on the site.

A minor constraint to survey is estimated overall.

Badger

This section of the Environmental Statement remains unchanged.

Water Vole

This section of the Environmental Statement remains unchanged.

Ponds

This section of the Environmental Statement remains unchanged.

6.2 SURVEY RESULTS

Section 6.2 of this Addendum serves as an update to the original Environmental Statement; therefore it replaces section 6.2 of the original ES. Refer to original ES for August 2015 Desk Study Results.

Desk Study

6.2.1 A request for ecological data from rECOrd, the Biodiversity Information System for Cheshire, Halton, Warrington and Wirral was submitted August 2015. The extent of the data search area was based on the area of red overlay (the site) as shown on **Appendix APP 1**. The search was also extended to include all areas within 500m of the site.

6.2.2 A revised rECOrd data search was undertaken in September 2017 which included all data within 2km of the site. Records for notable species and/ or protected species within 1-2 kms are usually considered to be of greatest relevance within most studies as recommended in the *'Guidelines for Preliminary Ecological Appraisal'* as published by the Chartered Institute of Ecology and Environmental Management (CIEEM). Statutory sites were searched by DEFRA's 'Magic' website; no statutory sites (SSSI/SAC/SPA/LNR, etc.) were found within 2km of the site. In addition to the above, the Peel Hall Conservation Group website was also consulted as part of this study.

Results of Data Search – 2017

Local Wildlife Sites

6.2.3 The data search revealed the presence of seven Local Wildlife Sites (LWS) within 2km of the site and none within the site boundary. These are listed below.

LWS	Site Ref	Distance from Site
Winwick Old Quay	WA046	>0.9km south-west of the site.
Bewsey Meadows	WA002	2km south-west of the site.
Croft Grasslands	WA006	2km north of the site.
Gemini Washlands	WA010	1.4km west of the site.
Hoghton Green Pool	WA013	0.6km north of the site.
Little & Big Moss Woods	WA019	1.9km west of the site.
Radley Plantation & Pond	WA047	Adjacent to the site.

Species Records

6.2.4 In the 2km-wide desk study area containing the Peel Hall site, the data records are mostly not site-specific and the species recorded have been registered to 1km squares only, these include SJ6091, SJ6191, SJ6291, SJ6092, SJ6192 and SJ6292. Of these squares, only SJ6091, SJ6191, SJ6291 overlap the site boundary.

Large numbers of species records related to the 1km square SJ6191 which covers most of the Peel Hall site but also includes extensive areas of land outside of the site boundary. Similarly, many records related to SJ6291 which contains the easternmost part of the site but mainly covers areas of urban development.

To the west, grid square SJ6091 covers a very small portion of the site and also returned no records, with most of this square also covered by urban development.

Grid squares SJ6091, 6191 and 6291 are highlighted as light blue in the columns to denote squares that fall within the proposal site boundary.

North of the M62, SJ6092 is approximately 75% urban with the rest arable farmland while SJ6192 is arable farmland with farmsteads and a few houses only.

Grid square SJ6292 contains arable land and the Warrington Local Wildlife Site (LWS) Houghton Green Pool (WA013). However roughly 50% of this square is covered by the M6/M62 Croft interchange.

The species records returned from the study are listed on Table 1 (below). Grid squares SJ6091, 6191 and 6291 are highlighted as light blue in the columns of Table 1 to denote squares that fall partially within the proposal site boundary.

Table 1: Species Records Found within 2km of the Proposal Site (2017)

Species:	**1km squares**						**Section 41 Species**
Birds:	**SJ6091**	**SJ6191**	**SJ6291**	**SJ6092**	**SJ6192**	**SJ6292**	
Arctic tern *Sterna paradisaea*						*	
Barn owl *Tyto alba*				*			
Black-headed gull *Chroicocephalus ridibundus*			*	*		*	
Black-necked grebe *Podiceps nigricollis*						*	
Brambling *Fringilla montifringilla*				*			
Bullfinch *Pyrrhula pyrrhula*		*	*		*		*
Canada goose *Branta canadensis*				*		*	
Common gull *Larus canus*					*	*	
Common whitethroat *Sylvia communis*			*	*			
Corn bunting *Emberiza calandra*		*		*	*	*	*
Crane *Grus grus*		*					
Curlew *Numenius arquata*			*				*
Dunlin *Calidris alpina*						*	
Dunnock *Prunella modularis*		*	*	*	*	*	*
Fieldfare *Turdus pilaris*				*	*	*	
Golden plover *Pluvialis apricaria*					*	*	
Great black-backed gull *Larus marinus*			*			*	
Grey partridge *Perdix perdix*		*	*	*	*	*	*
Grey wagtail *Motacilla cinerea*			*				
Herring gull *Larus argentatus*		*	*		*	*	*
Hobby *Falco subbuteo*				*			
House martin *Delichon urbicum*						*	
House sparrow *Passer domesticus*		*			*	*	*
Kestrel *Falco tinnunculus*		*		*	*	*	
Lapwing *Vanellus vanellus*		*	*	*	*	*	*
Lesser black-backed gull *Larus fuscus*		*				*	
Little grebe *Tachybaptus ruficollis*						*	
Little ringed plover *Charadrius dubius*						*	
Mallard *Anas platyrhynchos*		*	*	*	*	*	
Marsh Tit *Poecile palustris*			*				*

Meadow pipit *Anthus pratensis*		*		*	*	*	
Merlin *Falco columbarius*				*			
Mistle thrush *Turdus viscivorus*		*	*	*	*	*	
Oystercatcher *Haematopus ostralegus*			*	*		*	
Peregrine *Falco peregrinus*				*		*	
Pink-footed goose *Anser brachyrhynchus*					*		
Pochard *Aythya ferina*						*	
Redshank *Tringa totanus*					*	*	
Redwing *Turdus iliacus*			*	*	*	*	
Ringed plover *Charadrius hiaticula*						*	
Ruddy duck *Oxyura jamaicensis*						*	
Sand martin *Riparia riparia*						*	
Shoveler *Anas clypeata*						*	
Skylark *Alauda arvensis*		*		*	*	*	*
Slavonian grebe *Podiceps auritus*						*	
Snipe *Gallinago gallinago*				*			
Song thrush *Turdus philomelos*		*	*	*	*	*	*
Starling *Sturnus vulgaris*		*	*	*	*	*	*
Stock dove *Columba oenas*				*	*	*	
Swallow *Hirundo rustica*		*	*	*	*	*	
Swift *Apus apus*		*		*	*	*	
Teal *Anas crecca*						*	
Tree sparrow *Passer montanus*				*	*	*	*
Tufted duck *Aythya fuligula*						*	
Wheatear *Oenanthe oenanthe*				*		*	
Whinchat *Saxicola rubetra*				*			
Willow warbler *Phylloscopus trochilus*		*	*	*	*	*	
Woodcock *Scolopax rusticola*			*				
Yellow wagtail *Motacilla flava*						*	*
Yellowhammer *Emberiza citrinella*				*	*	*	*
Mammals:							
Badger *Meles meles*		*					
Eastern grey squirrel *Sciurus carolinensis*		*					
West European Hedgehog *Erinaceus europaeus*			*	*			*
Moths:							

Centre-barred sallow *Atethmia centrago*				*			
Cinnabar Moth *Tyria jacobaeae*					*	*	
Flowering Plants:							
Hairy vetchling *Lathyrus hirsutus*		*					
Indian balsam *Impatiens glandulifera*						*	

The following species found during the data search are Section 41 species (Species of Principal Importance in England NERC Act 2006). It should be noted that the Section 41 species listed below are those recorded from the 1km grid squares that partially overlap the site boundary. Section 41 species records returned from sites outside those overlapping grid squares listed in Table 1 are not recorded as they are at significant distance from the site, or the species recorded have no specific habitat association with the site. This is discussed further in section 6.2.5 below.

Section 41 Species (NERC Act)

Lapwing	Curlew
Dunnock	Starling
House sparrow	Skylark
Tree sparrow	Song thrush
Corn bunting	Yellow wagtail
Reed bunting	Herring gull
Bullfinch	Marsh tit
Yellowhammer	Grey partridge
Hedgehog	

Evaluation of Data

Birds

6.2.5 Most of the species recorded within the 1km squares that include the Peel Hall site are common throughout the county and beyond, despite the noted decline in the national populations of some species such as skylark (*Alauda arvensis*), song thrush (*Turdus philomelos*) and lapwing (*Vanellus vanellus*), for example.

Marsh tit (*Poecile palustris*) was recorded as wintering in SJ6291 and is a declining breeding species in the county. As a breeding species, marsh tit is associated with mature broad-leaved woodland, and whilst a small block of woodland is present at Peel Hall, the habitat is very limited in extent, heavily disturbed by human activity and the site is considered to be highly sub-optimal for the species.

The record of crane (*Grus grus*) is incidental and of a transitory rather than resident bird.

North of the M62, the presence of extensive arable habitats reflects the type of species recorded, with the desk study returning records of typical farmland birds, particularly in SJ6192. Notable species recorded here include corn bunting (*Emberiza calandra*), yellowhammer (*Emberiza citronella*), tree sparrow (*Passer montanus*), grey partridge (*Perdix perdix*), lapwing and skylark. Whilst some of these species have been recorded on the Peel Hall site during surveys in 2013 and 2015 and within SJ6191, the proposal site no longer reflects the typical arable habitats used by those 'key' farmland bird species. In addition, the presence of the M62 is hazardous to birds attempting to cross it, especially low-flying species such as grey partridge; therefore the M62 acts as a dispersal barrier to many bird species.

In SJ6292 the bird records broadly relate to the wetland habitats present in Houghton Green Pool LWS, with that site supporting a range of wader species, waterfowl as well as common passerines, gulls and raptors. The Peel Hall site has no habitats associated with waders and has very restricted value for waterfowl and gulls due to a lack of open water. Some common passerine habitat is present on both sites, as is habitat for common raptors such as sparrowhawk and kestrel.

Mammals

6.2.6 The data search returned records of disused badger (*Meles meles*) setts on the Peel Hall site. However, these are likely to be the enlarged rabbit (*Oryctolagus cuniculus*) burrows that were identified at those locations during the badger surveys undertaken in 2013 and 2015. Evidence of disturbance to rabbit burrows was noted during those surveys, possibly by foxes, dogs and/ or humans. No excavations were attributed to badger due to the physical configuration of the burrow.

The record of hedgehog (*Erinaceus europaeus*) within SJ6291 is at considerable distance from the site and the record in SJ6092 is north of the M62.

Grey squirrel (*Scurius carolinensis*) was recorded off site in the John Parr Wildflower Meadow areas (SJ6191). Grey squirrel is recognised as a Schedule 9 invasive, damaging, non-native species, with adverse effects on red squirrel, songbirds and woodland/ forestry noted.

Wildlife & Countryside Act 1981 (as amended)

6.2.7 All bird species are offered varying levels of protection under the Wildlife & Countryside Act.

Hedgehog is listed under Schedule 6 of the Act in England.

6.3 EXTENDED PHASE ONE HABITAT SURVEY

This section of the Environmental Statement remains unchanged (6.3.1 – 6.3.3).

6.4 GENERAL DESCRIPTION

This section of the Environmental Statement remains unchanged (6.4.1 – 6.4.7).

6.5 HEDGEROW REGULATIONS SURVEY

This section of the Environmental Statement remains unchanged (6.5.1 – 6.5.12).

6.6 BADGER SURVEY

This section of the Environmental Statement remains unchanged (6.6.1 – 6.6.2).

6.7 WATER VOLE

This section of the Environmental Statement remains unchanged (6.7.1 – 6.7.5).

6.8 BREEDING BIRD SURVEY

Section 6.8 of this Addendum serves as an update to the original Environmental Statement; therefore it replaces section 6.8 of the original ES.

Refer to original ES for previous survey results.

Survey Details and Results

6.8.1 The breeding bird survey method was adapted from the British Trust for Ornithology (BTO) Common Bird Census and Breeding Bird Survey methodologies. Two visits were undertaken during the early mornings of 26th April and 18th May 2017. The site was surveyed on foot with transect routes designed to allow full survey coverage of the site in order to detect all bird activity.

6.8.2 On each visit the site was surveyed using similar predetermined transects and listening points, from which all bird activity was recorded. This information was plotted on to a site map and a separate map was produced for each of the site visits. See **Appendices ECO 18 and 19.**

6.8.3 Criteria to determine whether birds were breeding or not follows *The New Atlas of Breeding Birds in Britain and Ireland: 1988-1991*. The criteria are as follows:

Present: Birds observed, or heard, but with no evidence of breeding
Recorded in potential breeding habitat in the breeding season
Male bird singing

Breeding: Birds proved to be breeding and those likely to be breeding although proof was lacking:

- A bird or pair of birds apparently holding territory
- Courtship display
- Visiting possible nest site
- Nest building
- Adults agitated suggesting probably presence of nest or young

- Used nest or shells found
- Distraction display
- Recently fledged young
- Adults indicating occupied nest
- Adults carrying food, young or faecal sac
- Nest with eggs or young seen or heard
- Bird sitting

SURVEY RESULTS

6.8.4 A brief account of each site visit detailing survey conditions and comments is provided below.

Summary of Bird Survey Visits

6.8.5 The following section outlines each site visit, recording time and date of survey, general weather conditions and general comments on birds recorded.

Visit 1: 26.04.2017 – 6.45am-9.10am: Survey Conditions: Clear with low wind (4-7 mph).
Bird activity largely centred around potential passerine nesting habitats in scrub, hedgerow and woodland areas. Open grasslands were rank with seriously reduced ground-nesting bird potential. Woodpigeon (*Columba palumbus*) and magpie (*Pica pica*) were very common and foraging in both grassland and woodland/scrub areas.

Common whitethroat (*Sylvia communis*) were especially prominent as were wren (T*roglodytes troglodytes*). Other migrants noted include willow warbler (*Phylloscopus trochilus*), chiffchaff (*Phylloscopus collybita*), blackcap (*Sylvia atricapilla*), sedge warbler (*Acrocephalus schoenobaenus*) and more notably grasshopper warbler (*Locustella naevia*).

Visit 2: 16.05.2017 – 7.00am-9.00am: Survey Conditions: Clear with low wind (4-7 mph).
Common songbirds present in suitable nesting habitat as before and at similar density. Continued presence of woodpigeon and large numbers of magpie often in non-breeding family groups.

Summary of Survey Results:

6.8.6 The bird survey provided records for a number of breeding species. Tables 2 and 3 below list all birds recorded during the survey. Those found to be breeding are indicated by an asterisk in the corresponding survey visit column.

Table 2: Bird Species Recorded During the 2017 Surveys

Species	Visit 1	Visit 2	Species Accounts
Blackbird *Turdus merula*	*	*	Many, mostly male birds observed in suitable habitat throughout the site. Activity often included agitated males on territory indicative of breeding. Estimated at least 12 breeding pairs.
Blackcap	*		Male bird singing in hedgerow by Spa Brook. Possibly breeding but nothing to confirm other than singing in suitable habitat.
Blue tit *Cyanistes caeruleus*	*	*	Birds observed foraging in and around habitat mosaics particularly close to housing including Ballater Drive, Peel Hall Farm and to the north of Windermere Avenue. Breeding status not known but probably not breeding on site due to a lack of tree holes.
Bullfinch	*		Pair observed foraging in scrub mosaic south-east of Peel Hall Farm. Breeding status not known.
Buzzard *Buteo buteo*		*	Single bird sitting on pole on Peel Cottage Lane. Driven off by mobbing magpies and crows. Not breeding.
Carrion crow *Corvus corone*	*	*	Foraging birds in low numbers; pair mobbing fox (*Vulpes Vulpes*) off Peel Cottage Lane. Not breeding.
Chaffinch *Fringilla coelebs*	*	*	Singing males observed in woodland and scrub habitats adjacent to Peel Hall Farm, and in woodlands on the southern boundary and Ballater Drive. Probably breeding but nothing to confirm other than singing in suitable habitat.
Chiffchaff	*	*	Birds singing in woodland and scrub habitats adjacent to Peel Hall Farm, in woodlands on the southern boundary and Ballater Drive. Probably breeding but nothing to confirm other than singing in suitable habitat.
Dunnock	*	*	Single males singing in scrub at Peel Hall Farm and in woodland habitats south-east of Radley Plantation. Possibly breeding but nothing to indicate such other than in suitable habitat during the breeding season. Three pairs estimated.
Goldfinch *Carduelis carduelis*	*		Foraging birds present in scrub/tall herb habitat. No evidence of breeding.
Grasshopper warbler	*		Single bird 'reeling' in scrub on visit 1 only. This is considered to be a transitory bird.
Great tit *Parus major*	*	*	Birds singing and foraging in habitats surrounding Ballater Drive and Peel Hall Farm. Breeding status not known but probably not breeding on site due to a lack of tree holes.
House sparrow	*	*	Birds foraging in groups in habitats adjacent to Ballater Drive and Newhaven Road. Not breeding due to absence of suitable habitat.
Jackdaw *Corvus monedula*	*	*	Several birds foraging occasionally. Not breeding.
Kestrel	*		Foraging bird recorded on site. Not breeding.
Long-tailed tit *Aegithalos caudatus*	*	*	Family group of birds observed in woodland close to Peel Hall Farm and adjacent hedge. Possibly breeding on site but nothing to indicate other than in suitable habitat
Magpie	*	*	Foraging birds observed, including non-breeding family groups, some possibly from last season. Nest at Ballater Drive and in peripheral woodlands.
Mallard	*		Pair of birds observed by pond. No evidence of breeding.
Mistle thrush	*		Single foraging bird observed in one area of the site only. Possibly breeding but no evidence.
Moorhen *Gallinula chloropus*	*		Single bird observed on pond on southern boundary. Probably breeding.
Pheasant	*	*	Cock birds observed on site. No evidence of breeding.
Robin *Erithacus rubecula*	*	*	Birds singing in the woodland/scrub at Peel Hall Farm and scrub mosaic south-west and east of Radley Plantation. Activity indicates breeding with an estimated 5 pair at least present.
Sedge warbler	*	*	Two male birds singing and agitated in reeds along the ditch north of Newhaven Road and on Spa Brook. Two pairs probably breeding.
Song thrush	*	*	Activity observed in/adjacent to immature woodland next to the Ballater Drive playing field indicates a nest present on site or in adjacent gardens. One pair estimated to be breeding.
Starling	*	*	Groups of birds foraging in derelict fields and playing fields. Not breeding
Swallow	*	*	These birds were observed in varying numbers foraging over the site. No attempt was made to record all registrations due to the highly mobile nature of the species and the fact that they are not breeding on site.
Tree sparrow	*		Single foraging bird registered by Spa Brook on visit 1 only. Breeding status not known but breeding on site is unlikely due to a lack of tree holes. This is possibly a transitory bird from the farmland to the north of the site.
Whitethroat	*	*	Extensive territorial activity observed in scrub habitats across the core of the site. 10 pairs estimated to be breeding.
Willow warbler	*	*	Two singing males in scrub east of Newhaven Road and at the playing field off Ballater Drive. Probably breeding but no evidence.
Woodpigeon	*	*	Ubiquitous species foraging frequently observed throughout site. Breeding and several nest sites located in woodland.
Wren	*	*	Birds widespread and singing in suitable habitat on all visits throughout the site. Estimated 14 pairs breeding.

6.8.7 Thirty one bird species were recorded during the survey. Table 3 on the following page shows those considered to be breeding, those present in suitable habitat but with no evidence of breeding, and those not breeding.

6.8.8 It should be noted that some birds registered during the survey as present in suitable habitat but with no evidence of breeding, have been included as breeding species based upon the surveyors evaluation of the species concerned.

Table 3: Breeding Status of Birds Recorded During 2017 Bird Surveys

Birds Recorded as Breeding	Birds Present (no evidence of breeding)	Birds not Breeding (no suitable habitat, foraging/flying over or passage migrant)
Blackbird	Blackcap	Buzzard
Chaffinch	Blue tit	Carrion crow
Chiffchaff	Bullfinch (S41)*	House sparrow (S41)*
Dunnock (S41)	Goldfinch	Jackdaw
Magpie	Grasshopper warbler (S41)	Kestrel
Moorhen	Great tit	Starling (S41)*
Robin	Long-tailed tit	Swallow
Sedge warbler	Mallard	Tree sparrow (S41)*
Song thrush (S41)*	Mistle thrush	
Whitethroat	Pheasant	
Willow warbler		
Woodpigeon		
Wren		
Total:13	**Total: 10**	**Total: 8**
(S41)= Section 41: Species of Principal Importance in England NERC Act 2006. *Local Biodiversity Action Plan (LBAP) Species.		

Estimated Number of Pairs of Breeding Species in 2017:

6.8.9 Table 4 indicates the estimated number of breeding pairs for each bird species, based on the number of nest sites located during survey and an estimation of breeding pairs from observations made in the field. It should be noted that the actual number of breeding pairs might differ from the figure given. In addition, other species recorded in column two of Table 3 may also breed on site, although activity to indicate/ suggest breeding may have been absent or not observed during the survey.

Table 4: Estimated and confirmed numbers of breeding bird pairs (2017)

Bird Species	Estimated number of breeding pairs	Confirmed number of breeding pairs
Blackbird	12	-
Chaffinch	2	-
Chiffchaff	2	-
Common whitethroat	10	-
Dunnock	3	-

Magpie	-	2
Moorhen	1	-
Robin	5	-
Sedge warbler	2	-
Song thrush	1	-
Willow warbler	2	-
Wood pigeon	8	-
Wren	-	

Changes from 2013 to 2017

6.8.10 The study undertaken in 2015 identified a natural trend that the site had become increasingly rank/ coarse through seral succession since the original survey in 2013. This trend has continued with notable increases in rankness and the development of scrub communities, thus making the site less suitable for those species which require shorter open grassland habitats for nesting, such as skylark and meadow pipit (*Anthus pratensis*).

6.8.11 Consequently no ground-nesting species were recorded during the survey in 2017.

6.8.12 Whilst a loss of suitable ground-nesting bird habitat has occurred due to succession, the increase in scrub and dry reedbed communities has created greater nesting opportunities for migrant warblers including sedge warbler and in particular, common whitethroat, which have exploited the rise in these habitats with an estimated 10 pairs breeding on the site. Only one pair was noted in 2013.

6.8.13 Increases in the more ubiquitous species such as wren and blackbird are attributed as much to the earlier survey season, which has improved the chances of registrations, as to the increase in available suitable habitat. For the remaining species recorded on site in 2017, the site remains as suitable as it was in 2013.

6.8.14 A broad comparison has been made between the species recorded during the 2013 survey and those recorded in 2017. Species both confirmed as and estimated to be breeding have been treated as being a breeding species on site during both years (See Table 5 below).

Table 5: Breeding Status Comparison Table:

Bird Species	2013 (including number of pairs)	2017 (including number of pairs)
Blackbird	1	12
Blackcap	1	Species not recorded as breeding.
Chaffinch	2	2
Chiffchaff	1	2
Dunnock	Species not recorded	3
Magpie	Species not recorded	2
Meadow pipit	1	Species not recorded
Moorhen	2	1

Reed bunting	2	Species not recorded
Robin	1	5
Sedge warbler	Species not recorded	2
Skylark	2	Species not recorded
Song thrush	1	1
Whitethroat	1	10
Willow warbler	Species not recorded	2
Woodpigeon	3	8
Wren	Species not recorded	14
Total Number of Species	**12**	**13**

6.8.15 In 2013, 12 species were considered to be breeding on site; in 2017, 13 species were considered to be breeding on site. Therefore, the number of species breeding on the site has not changed significantly between 2013 and 2017, although the range of species has changed as well as the number of registered territories (estimated). The absence of skylark and meadow pipit is attributed to natural succession and reduction in suitable habitat as outlined above. The absence of reed bunting is not attributable to any local natural trend as the extent of suitable nesting habitat has actually increased on the site. Similarly, blackcap habitat has increased but as the species was recorded on only a single visit, it is estimated that either the species was not breeding on site or was silent on one of the visits. However, despite the losses, there have been gains in breeding species with dunnock, wren, sedge warbler, willow warbler and magpie all registered as breeding on the site.

6.8.16 The presence of sedge warbler is attributed to the increase in the dry reedbeds that occur along the ditch-lines on the site. However, in the case of the other four species, whilst changes in habitat structure are possibly an influencing factor this is unlikely given the extent and range of suitable habitat present in 2013. Consequently, the anomaly here is most likely attributable to seasonal differences between the surveys, the 2017 survey being undertaken during the optimum period for survey, whilst the 2013 survey was undertaken later in the nesting season. In addition, the bird activity observed in association with the registration also has a bearing on whether a bird is considered to be breeding or not. The BTO provides the standard criteria to define 'Breeding' and 'Present', which includes a range of bird activities that the surveyor must identify and apply to each bird recorded, in order to determine if the bird is breeding or just present on the site. For example, a single robin observed carrying food to a nest site in one year would be registered as breeding, but a single robin observed in suitable habitat in another year would not.

6.8.17 The apparent increase in the number of breeding pairs of the species recorded is most likely a result of the more optimum period of survey in 2017 in comparison to the 2013 survey, however the increase in scrub habitats brought about by seral succession are considered to be the greatest influencing factor on the number of common whitethroat recorded as breeding on the site. The open scrub/ tall grassland/ tall herb mosaic being especially conducive to nesting common whitethroat.

EVALUATION OF SURVEY FINDINGS

Evaluation - Birds

6.8.18 The survey has shown that site supports a range of common nesting birds, including several species that use the site for foraging but nest off site. These birds include seven species listed in Section 41 (NERC Act 2006) and four Local BAP species. Based upon the 2017 survey, the bird fauna of the site is considered to be of **local-district** value. This concurs with the evaluation provided following survey in 2013 and during the re-evaluation applied in 2015.

Seven S41 bird species were recorded during the 2017 survey. These include song thrush and dunnock as breeding species; grasshopper warbler and bullfinch recorded in suitable habitat but no evidence of breeding; and starling, tree sparrow and house sparrow present on site but no suitable nesting habitat present.

Cheshire Biodiversity Action Plan Habitats & Species - Birds

6.8.19 Five species recorded on the site are included in the Cheshire Local BAP - Farmland Seed-eating Birds. These include tree sparrow, house sparrow, bullfinch, starling and song thrush. Only song thrush was recorded as a breeding species on site.

Local Wildlife Sites - Birds

6.8.20 In addition to the above, the Local Wildlife Site (LWS) selection criteria was referred to in respect of the site's status under section S2 Birds.* Using this criteria for selection, it can be confirmed that the site fails to meet the required criteria for selection as a LWS based upon the number of species recorded over the two survey visits.

**See Local Wildlife Site Selection Criteria for the Cheshire region. Covering the districts of Cheshire West and Chester, Cheshire East, Wirral, Halton and Warrington* (November 2012 Updated February 2014)

6.9 BARN OWL

Specific surveys for barn owl were not undertaken as part of the 2017 bird surveys as the site had been evaluated in 2015 and found to be clearly unsuitable for sustainable barn owl occupation.

The kestrel nest box on the property on Radley Lane offers limited potential and no nest sites were present on-site. The main potential nesting areas were in the buildings within the farmsteads in the agricultural land north of the M62. The M62 is a hazardous barrier to the safe movement of barn owl and bat species. These species typically fly low and within the impact range of tall vehicles such as HGVs, where collisions are likely to occur.

The Bat Conservation Trust* state that '*Roads create an open space, which most bat species are reluctant to cross. Traffic further increases the barrier effect due to sudden movement, noise, headlamps, street lighting and the risk of collision. Most species of bat fly relatively close to the ground or close to trees and hedges for protection against the weather and potential predators. Those that do cross roads typically do so at traffic height, with a high risk of collision. Research shows that roads also have a major negative impact on bat foraging activity and diversity*'.

**Roads - A position statement from BCT.*

The adverse effects generated by major roads on barn owls through collision is also well documented and acknowledged by the Barn Owl Trust who advise not to encourage barn owls to live near unscreened major roads, not to erect a barn owl nestboxes within 1 km of a major road.†

†Barn Owls and Major Roads. David J Ramsden - Barn Owl Trust.

No other potential nest sites that are not separated by continuous urban development or hazardous motorway barriers were present on land adjacent to the site. In addition, the bat foraging surveys undertaken at dusk in 2015 returned no record of barn owl activity.

Whilst potentially suitable foraging habitat for barn owls was present on the site, the combined presence of the M62 and the general absence of nest sites south of the motorway has effectively removed reasonable possibility that a resident population of barn owls on the site is sustainable, despite the presence of potentially suitable foraging habitat.

The additional Bat Survey results are within a separate section of this ES.

This section of the Environmental Statement remains unchanged (6.9.1- 6.9.24).

6.10 GREAT CRESTED NEWT EVALUATION

Survey Details and Results

6.10.1 This section of the Environmental Statement remains unchanged (6.10.1).

Habitat Suitability Index (HSI) Survey

6.10.2 This section of the Environmental Statement remains unchanged (6.10.2).

Barrier Effects

6.10.3 This section of the Environmental Statement remains unchanged (6.10.3 – 6.10.4).

Other Survey Information

6.10.4 This section of the Environmental Statement remains unchanged (6.10.5 - 6.10.7).

6.11 BATS

Introduction

Section 6.11 to 6.13 of the Environmental Statement remains unchanged. An additional bat survey was undertaken of land off Grasmere Avenue due to an extension of the site boundary to include the entire area that forms the proposed Sports and Recreation provision. Where additional information is supplied the letter 'a' is annexed to the section number.

6.11.1a As part of a proposed development at Peel Hall, Warrington, the initial boundaries of the main site development have now been extended (See **Appendix ECO 20**). This report consists of additional information to the ecology section of the ES due to an extension of the site boundary at Peel Hall, Warrington (see **Appendix ECO 21**) to include the entire area that forms the Indicative Sports and Recreation Provision (see **Appendix APP16**). The addendum covers a daytime assessment for bats, followed by dusk activity surveys, all undertaken during 2016 at surveys undertaken in this area including indicative impacts and additional figures (**ES Volume 3 ECO section**). The area covers a total area of approximately 5.4 hectares and possesses an irregularly shaped boundary (the study site).

Previous Survey Findings

As part of the overall development (the full site area 69.1 hectares), Appletons undertook four dusk activity surveys, relative to bats, during the 2015 bat activity season and based on the survey results the report made the following main conclusions:

From the four dusk surveys it can be concluded that parts of the study area are considered as being of high value for foraging and commuting Common pipistrelle (Pipistrellus pipistrellus) bats within the localised environment, i.e. Pipistrelle bats that are roosting in adjacent areas of residential settlement and isolated properties outside of the site boundaries.

Foraging activity by C. pipistrelle bats occurs predominantly in the central area extending from Peel Hall in the north to the woodland along the southern boundary; Radley Lane is also used consistently by C. pipistrelle bats, although not exclusively for foraging as it acts as an important avenue of dispersal for commuting bats. Collectively the aforementioned areas and their comprising semi-natural elements form a valuable local resource for Pipistrelle bats.

Since the 2015 dusk activity surveys the site boundaries have been extended as shown in **Appendix ECO 21**. As a result the land within the extended boundary was subjected to a daytime assessment followed by dusk activity surveys during 2016.

The Bat Conservation Trust's (BCT) *Bat Surveys for Professional Ecologists: Good Practice* Guidelines Collins, 2016) include reference to activity surveys in relation to the level of survey effort that is required relative to the size, nature and projected development costs of a given site.

During the daytime assessment the habitat was classified as being of low value to bats (see Table 1). The Bat Conservation Trust's Guidelines recommend one transect survey per season for low suitability habitats.

However, as per the BCT Guidelines, the guidance should be interpreted and adapted on a case-by-case basis, according to the professional judgement of those involved, based on all of the evidence available. Where examples are given they are descriptive rather than prescriptive.

Table1: As per p.58 Table 8.3- Bat Conservation Trust Guidelines

Table 8.3 Guidelines on the number of bat activity surveys recommended to achieve a reasonable survey effort in relation to habitat suitability.

Survey type	Low suitability habitat for bats[a]	Moderate suitability habitat for bats	High suitability habitat for bats
Transect/spot count/timed search surveys	One survey visit[b] per season (spring – April/May, summer – June/July/August, autumn – September/October)[c] in appropriate weather conditions for bats Further surveys may be required if these survey visits reveal higher levels of bat activity than predicted by habitat alone	One survey visit[b] per month (April to October)[c] in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.	Up to two survey visits[b] per month (April to October)[c] in appropriate weather conditions for bats. At least one of the surveys should comprise dusk and pre-dawn (or dusk to dawn) within one 24-hour period.
AND			
Automated/static bat detector surveys[d]	One location per transect, data to be collected on five consecutive nights per season (spring – April/May, summer – June/July/August, autumn – September/October)[c] in appropriate weather conditions for bats	Two locations per transect, data to be collected on five consecutive nights per month (April to October)[c] in appropriate weather conditions for bats	Three locations per transect, data to be collected on five consecutive nights per month (April to October)[c] in appropriate weather conditions for bats

[a] If the habitat has been classified as having low suitability for bats, an ecologist should make a professional judgement on how to proceed based on all of the evidence available. It may or may not be appropriate for bat activity surveys to be carried out in low suitability habitats. However, caution should be exercised in fringe areas (e.g. some areas of Scotland) where 'low suitability habitat for bats' may be extremely important to local bat populations due to the relative scarcity of better habitats. In such situations, bats are likely to also be more widely dispersed and may use a larger number of sites, therefore survey effort may actually need to be increased to detect use on the proposed site in question.

[b] A survey visit should aim to cover all habitats represented in the survey area that could be impacted by the proposed activities. This may consist of a single transect carried out on a single night for small sites (e.g. small housing developments) with low habitat diversity but could range up to multiple transects carried out over one or several nights (depending on number of ecologists) on a larger site (e.g. road schemes) with greater habitat diversity.

[c] April, September and October surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in Scotland, which may reduce the length of the survey season.

[d] Detector locations should be assigned to cover all habitats represented in the survey area that could be impacted by the proposed activities. This could mean a single detector location at a small site with only one habitat represented but could range up to many detector locations on larger sites. Automated/static surveys are particularly useful when assessing collision risk, e.g. detectors can be placed at crossing points on proposed roads or railways.

Note: Multiple survey visits should be separated by at least two weeks, preferably longer, to observe temporal changes in activity.

Bats and their Requirements

6.11.2 This section of the Environmental Statement remains unchanged (6.11.2 – 6.11.4).

Use of Buildings/Trees by Bats

6.11.5 This section of the Environmental Statement remains unchanged (6.11.5).

Habitat use by Bats

6.11.6 This section of the Environmental Statement remains unchanged (6.11.6).

Daytime/ Dusk Survey Methodology

6.11.7a The evaluation of the study site was conducted in July 2016 by Mr S Irwin who is an experienced bat ecologist and registered to use a Natural England Class 2 bat licence. During the initial evaluation, the study site was assessed relative to its value in supporting foraging bats and for any obvious commuting features; also assessed was the possible presence tree/building roost potential.

6.11.8a As part of the overall scheme a data search was obtained from rECOrd, which included bat records; the extent of the data search covered the study site (i.e. red boundary in Fig.1) and also extended to include all areas within 2km of the site boundaries.

6.11.9a Based on the collective experience, knowledge and judgement of Mr Irwin, and given the nature/ size of the study site the most favourable habitat in respect to typical bat foraging activity was concentrated in one specific location of the study site i.e. the tree line that is located at the north boundary which forms connectivity to the east, west and north of the main development area. The surveys mainly took into consideration the land within the study site, however, although for comparison purposes, surveys were extended into the land immediately east of the study site (**ECO 22 Figure 6**) as localised comparative surveys can be useful when assessing the impact upon bats by development, particularly where habitat loss may take place. Three dusk habitat surveys were undertaken, which were considered to be an adequate level of survey effort relative to the classification of the study site and were conducted by a team of two experienced bat surveyors.

6.11.10a The undertaking of dawn surveys was not considered to be relevant for the purpose of the survey for the following reasons:

- Foraging activity post dusk emergence tends to be greater than at dawn;
- Commuting activity into a site can be better determined during dusk emergence surveys;
- Dawn surveys are more useful relative to locating roosts by “back tracking” bats to a roost rather than assessing use of habitat for foraging & commuting purposes;
- Some species return unseen to roosts whilst conditions prior to dawn are still dark;
- The habitat relative to bats is localised and does not cover the whole site.

6.11.11a The dusk habitat surveys were undertaken on June 22nd, July 27th, and August 17th 2016 to cover variable stages of the bat active season. The team of surveyors who undertook the surveys comprised the following:-

- Mr S Irwin (Class 2 Natural England Bat licence: 13604)
- Mr J Thomson (Class 2 Natural England Bat licence: 14226)

Three of surveys was adequate relative to the location, size and nature of the study site and the level of survey effort was established by the judgement of the lead surveyor Mr S Irwin who has over thirty year's experience of bat surveying.

6.11.12a Bat surveys began 15-21 minutes prior to sunset, during which time surveyors initially adopted static observations (SO) during which time surveyors aimed to identify any commuting activity into the study site. Positions were relative to potential external roost potential in nearby residential properties and were consistent over the three surveys. Observations continued for approximately 20 minutes after sunset to allow for the identification of any bat commuting route into the study site post roost emergence. Following the static observations walked transects were then conducted that, between the two surveyors, covered the entire study site over the three surveys. Particular focus was given to areas considered most valuable to foraging/ commuting bats; (e.g. tree line and field margin habitats) however for completeness open areas of the study site were also included in the transect routes. Additionally, for survey variation eight "stopping" points were incorporated into the transects where surveyors adopted static observations for three minutes (see **ECO 22, Figure 4**).

6.11.13a Surveyors were aided with hand held Anabat electronic bat detectors, to locate and record the high frequency calls that are emitted by bats. Recorded echolocation calls were then analysed with computer software to verify field results.

Constraints

6.11.14a No constraints relative to access or weather were experienced during the dusk bat transect activity surveys that would prevent the gathering of information on which to base conclusions in relation to how bats are using the study site. Due to the presence of foliage during the daytime assessment, the inspection for tree roost potential features was slightly constrained.

6.12a SURVEY RESULTS

Desk Study Results

6.12.1a A data search (requested by Pennine Ecological) was undertaken. The data was provided by rECOrd; the data search resulted in a record for Common Pipistrelle (*Pipistrellus pipistrellus)* at approximately 800 metres north east of the study site (i.e. at Dundee Close).

Daytime Assessment Results

6.12.2a The site is located within the northern limits of Warrington, Cheshire, at approximately 3.2 kilometres north from Warrington town centre (SJ 61601 91689). The study site covers a total area of approximately 5.4 hectares and possess an irregular shaped boundary. It is surrounded by a mix of urban residential dwellings, industrial estate, road infrastructure (major and minor), arable land, and other open green space (e.g. golf course). The study site comprises large semi improved maintained amenity grassland, which is bounded by a semi mature tree line to the north, residential properties to the south and west, with open unmaintained grassland and tree line to the east. Connectivity to the main site (69.1 hectares) is evident via the previously mentioned tree lines.

6.12.3a Apart from two open fronted amenity shelters, within the extended site boundaries, built structures are represented by buildings that appear to be associated with recreational sports or playground facilities. During the daytime assessment it was concluded that the shelters and recreational buildings hold no bat roost potential. Residential buildings feature outside of the study site boundaries and in context with bats, such as the Common Pipistrelle, were found by the daytime assessment to have the potential to provide roost opportunities.

6.12.4a When assessing the study site in its entirety, it is considered that it will provide a foraging resource for bat species, i.e. the Pipistrelle bat, that typically inhabit such urban areas. However, the resource is limited to the north tree lined boundary.

6.12.5a During the daytime assessment, trees were broadly assessed for bat roost potential that may include woodpecker holes, natural holes, splits, loose bark or cavities. Due to the presence of foliage, the inspection for such features was slightly constrained. However, this was not considered to be a significant constraint and no obvious tree roost potential was identified. Most of the tree line is represented by young and early-mature trees with an understorey of scrub. Whilst early-mature trees can often contain roost potential, they are not as productive relative to tree roosts as mature to over-mature specimens.

Bat Activity Survey Results

6.12.6a During the static observations, C. Pipistrelle bats, in small numbers, i.e. up to six individuals, were identified commuting into the study site at two locations. Commuting was higher from the west (SO B) and lowest at the east (SO A) (see **ECO 22, Figure 4**). No activity was recorded that would suggest the presence of tree dwelling species such as the Noctule bat (*Nyctalus noctule*).

6.12.7a Throughout the transect surveys, including the “stopping points”, C. Pipistrelle bats were found to forage predominantly along the northern tree line of the study site although occasional deviation into the central grassland was occasionally noted. Other than C. Pipistrelle, no other bat species were recorded during static observations or transects. **ECO 22, Figure 5** shows commuting and foraging activity. Table 3 shows bat activity survey results.

6.12.8a Survey results at the comparison site to the east found activity to be less than identified at the study site. No apparent reason was evident as apart from the unmanaged grassland to the east, compartment both compartments feature similar linear tree lines.

Table 2: Timings, Dates and Weather Conditions During Surveys 2016

Times of Survey	Date	Weather Conditions
Dusk survey 2120 - 2330	22.06.2016	**Sunset: 2141:** Dry light wind, 100% cloud cover Start temp: 15 º C End temp: 13 º C
Dusk survey 2055 – 2300	27.07.2016	**Sunset: 2112:** Dry, still, 50% cloud cover Start temp: 16 º C End temp: 13 º C
Dusk survey 2015 – 2215	17.08.2016	**Sunset: 2030:** Dry, still, 10% cloud cover Start temp: 20 º C End temp: 18 º C

Table 3: Bat Activity Survey Results

Date	Static point observations where bats were identified	Summary of activity during transects
22.06.2016	**SO A:** 2 C. Pipistrelle commuted on to the site from a southerly direction. **SO B:** 4 C. Pipistrelle bat commuted on to the site from a westerly direction.	**Summary:** C. Pipistrelle bats were found to forage predominantly along the northern tree line of the study site although deviation into the central grassland was occasionally noted with occasional foraging in other locations.
27.07.2016	**SO A:** 2 C. Pipistrelle commuted on to the site from a southerly direction. **SO B:** 4 C. Pipistrelle bat commuted on to the site from a westerly direction.	**Summary:** C. Pipistrelle bats were found to forage predominantly along the northern tree line of the study site with occasional foraging in other locations.
17.08.2016	**SO A:** No commuting activity observed. **SO B:** 2 C. Pipistrelle bats commuted on to the site from a westerly direction.	**Summary:** Minor foraging activity along the northern tree line of the study site by up to 2 C. Pipistrelle foraging absent elsewhere.

6.13a DUSK SURVEY CONCLUSIONS

6.13.1a From the three dusk surveys it can be concluded that the study site is of limited value relative to typical foraging habitat but is being utilised by bats within the localised environment, i.e. Common Pipistrelle bats that are clearly roosting within nearby buildings in adjacent areas of residential settlement. The tree line at the north boundary that forms a sheltered environment and connectivity to the main site (69.1ha) is the area of the study site which is of most value to bats. Although only one species (C. Pipistrelle) has been identified as using the study site for foraging/ commuting purposes, it should be noted that use of the onsite grassland by other species e.g. Noctule, at different times of the year should not be ruled out.

6.13.2a Common Pipistrelle bats were not observed commuting into the study site in relatively large numbers from any of the static observation points, either generally or from any one direction. This is not to say that a maternity roost is not present locally. It is concluded that the study site supports a small number of bats, up to a maximum of six, from local maternity colony or colonies through provision of a foraging resource. Maternity colonies often alternate between roosts over the

course of a breeding season, as result numbers of bats, commuting activity and dispersal into and over of habitat variants will alternate accordingly.

6.13.3a Instances of individual or small numbers of C. Pipistrelle bats commuting into the study site from the direction of residential buildings outside the study site boundaries demonstrates that bats from two separate roosts in the locality are using the study site for foraging purposes.

6.13.4a Fragmentation or loss of valuable foraging/ commuting habitat is one of the key factors in relation to the decline of bat species. Furthermore, the aforementioned habitat can be degraded by the implementation of lighting schemes that have the affect of altering the illumination levels and in doing so can lead to a disproportionate impact upon invertebrates; i.e. some species will reduce whilst others that attracted to light will increase and as result the species diversity will be lost.

6.13.5a The 2016 habitat surveys demonstrate that the level of activity is consistent with the peak time of the breeding season, whereby female bats generally forage in close proximity to the roost as they often return to tend to dependant young. High activity usually diminishes as maternity roosts disperse during later times of the year, which along with a reduction of invertebrates can result in a reduction of bat numbers. The lowest activity was recorded during the third and final survey during mid-August. This lower activity may have been attributive to roost movement leading to bats simply foraging in different locations where prey was greater than on the study site on that particular night.

6.13.7a INDICATIVE IMPACT (Without Mitigation)

Construction/Development Period:

6.13.7a The extension of the study site would have the same potential as the initial proposal (the overall site 69.1ha) to remove foraging habitat and fragment connectivity that is used for commuting purposes by bats. However, the percentage loss of habitat of high value to bats in the extended southern boundaries is less than the loss that will occur in the remainder of the site (69.1ha). The survey results of the extended survey demonstrates that any future construction/development has the potential to impact upon bats from 2 roosts, but the overall scheme has the potential to impact upon 6 roosts all of which are distributed outside or close to the study site boundaries within the nearby locality. Impact, however, it would be at a local/site level only.

Operational Period:

6.13.8a Apart from minor light spillage into the study site from nearby residential settlements, most of the whole study site is unaffected by artificial illumination. The area most affected by light spillage is at the southern boundary where residential properties are more concentrated and street lighting is greatest. Any future development at the study site will inevitably feature a lighting scheme; without mitigation, lighting could impact upon the remaining foraging habitat and commuting routes or any landscape features that are included as part of the overall development.

6.13.9a The construction of the proposed sports and recreation site will result in large areas of amenity grassland being created, which is not ecologically diverse and is less productive of bat species. However, part of the indicative scheme is located on existing amenity grass in any event. To the north of this land the boundary is tree lined, and it is this feature within the study site that is of more value to bats and therefore more frequently used by bats.

6.13.10a The highest level of impact relative to lighting and bats would result from the installation of floodlights that may be associated with the sports provision.

6.13.11a PROPOSED RECOMMENDATIONS

6.13.12a Due to the identified use of the previously mentioned habitat features by common pipistrelle bats, it will be of benefit to the conservation of the species if any development at the study site is designed to avoid impact on existing semi-natural features, notably the drains/tree/hedge lines and woodland edge which have been described in this and previous documents as being of most value to bats. Retention of such habitat would help to preserve a foraging resource and continuity of commuting features relative to nearby roosts and connectivity.

6.13.13a In addition to habitat retention, continuity, and functionality for foraging and commuting bats at the study site, enhancement can be achieved through provision of tree planting to ensure connectivity across the entire site but more notably to existing woodland blocks. Moreover, a 10 metre width of retained rough grassland/tall ruderal and/or scrub/shrub along linear features such as drains/tree/hedge lines and woodland edge would be beneficial as it will provide a combined and suitable habitat for invertebrates, which in turn will provide a food resource for bats.

6.13.14a If required, low level lighting could be used where habitat is retained and/or created, however, lighting should be avoided or only installed when absolutely necessary. Lighting should be placed to avoid woodland/linear trees that currently form site boundaries and have been identified as being used by bats for foraging/commuting.

6.13.15a In the absence of mitigation, foraging and commuting bats would suffer negative impacts from the potential floodlighting of sporting facilities. Should lighting be required for any of the pitches shown on the indicative sports and recreation plan, the recommendations detailed below should be implemented to mitigate any potential negative impacts. These mitigation recommendations are based on research by Stone (2013) *Bats and Lighting: Overview of current Evidence* (see **ECO 23**).

- Seasonal restrictions: Between April and September (inclusive), lighting to be inoperative. No lighting restrictions to be in place between October and March (inclusive).

- Light should be directed to the ground below the horizontal (see **ECO 23**, Figure 6.4) and away from surrounding vegetation and bat commuting corridors. LEDs and directional fall cut off lights may be used along with cowls and hoods.
- Avoid blue-white short wavelength lights in order to prevent significant negative impact upon bat prey. Should floodlighting be proposed, use warm-white (long wavelength) lights instead.
- Avoid lights with high UV content (e.g. metal halide or mercury light sources) or use UV filters/glass housings; this measure will reduce direct insect mortality due to lighting and therefore reduce the impact upon bat prey species.

6.13.16a As part of the Cheshire Biodiversity Action Plan opportunities for bats could be incorporated into the development at a detailed/reserved matters stage.

6.14 ASSESSMENT OF ECOLOGICAL IMPACTS

Determining the Ecological Receptors

6.14.1 This section of the Environmental Statement remains unchanged.

Methodology for Assessment of Effects

6.14.2 This section of the Environmental Statement remains unchanged (6.14.2 – 6.14.6).

Geographic Frame of Reference:

6.14.7 This section of the Environmental Statement remains unchanged.

Evaluation of the Ecological Receptors:

6.14.8 This section of the Environmental Statement remains unchanged.

Habitats – Woodland:

6.14.9 This section of the Environmental Statement remains unchanged.

Habitats – Hedgerows:

6.14.10 This section of the Environmental Statement remains unchanged.

Habitats – Streams/ditches.

6.14.11 This section of the Environmental Statement remains unchanged.

Habitats – Grassland (including derelict arable land):

6.14.12 This section of the Environmental Statement remains unchanged.

Habitats – Ponds:

6.14.13 This section of the Environmental Statement remains unchanged.

Other Habitats:

6.14.14 This section of the Environmental Statement remains unchanged.

Species - Birds:

6.14.15 Taking into account the recent survey work undertaken the position within this section of the Environmental Statement remains unchanged.

Species - Bats:

6.14.16 The areas affected by the proposal contain no buildings or trees with bat roosting potential. Foraging potential is of high value for common pipistrelle along woodland edges and linear features. Foraging is largely restricted to land east of Spa Brook.

The foraging areas on the site are considered to be of **Local value** for common pipistrelle bats.

Species – Badger:

6.14.17 This section of the Environmental Statement remains unchanged.

Species: Water Vole:

6.14.18 This section of the Environmental Statement remains unchanged.

Species – Great Crested Newt:

6.14.19 This section of the Environmental Statement remains unchanged.

6.15 Summary Evaluation of the Ecological Receptors

Taking into account the recent survey work undertaken the position within this section of the Environmental Statement remains unchanged.

6.16 Assessment of Potential Impacts

Taking into account the recent survey work undertaken the position within this section of the Environmental Statement remains unchanged (6.16.1 – 6.16.5).

6.17 References

This section of the Environmental Statement remains unchanged.

7.0 HYDROLOGY, DRAINAGE AND FLOOD RISK ASSESSMENT

7.1 This section of the Environmental Statement remains unchanged.

7.2 Site Description

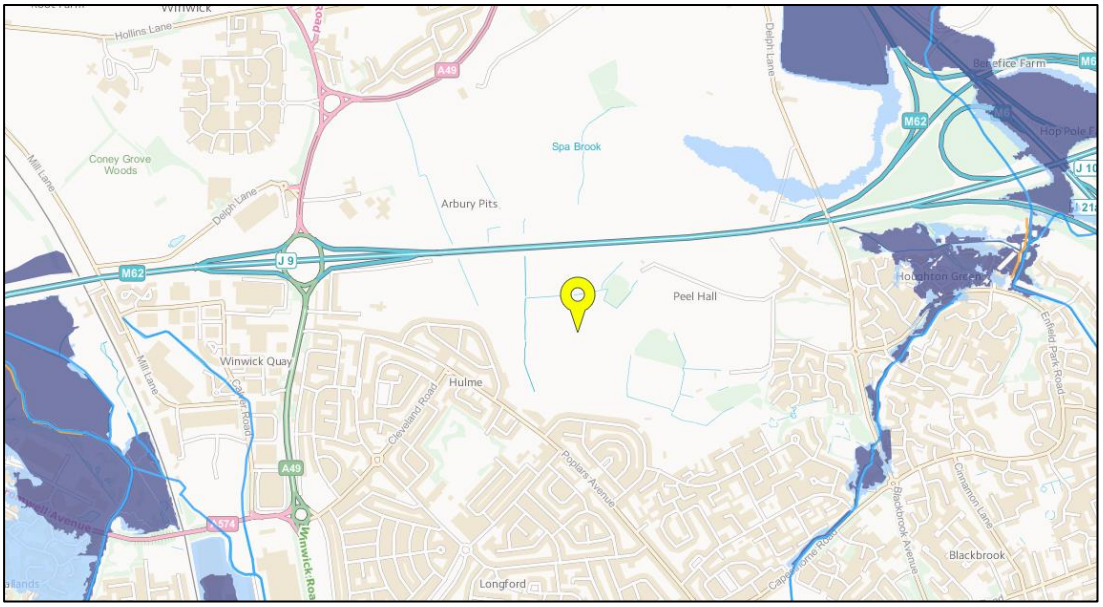
This section of the Environmental Statement remains unchanged (7.2.1 - 7.2.3).

7.3 Flood Risk

7.3.1 This section of the Environmental Statement remains unchanged.

7.3.2 This section of the Environmental Statement remains unchanged.

Figure 1 – EA indicative Flood Map – Peel Hall Farm



Warrington Borough Council Strategic Flood Risk Assessment (SFRA) and Flood Risk Management Strategy (FRMS)

7.3.3 This section of the Environmental Statement remains unchanged.

7.3.4 This section of the Environmental Statement remains unchanged.

7.3.5 This section of the Environmental Statement remains unchanged.

7.3.6 This section of the Environmental Statement remains unchanged.

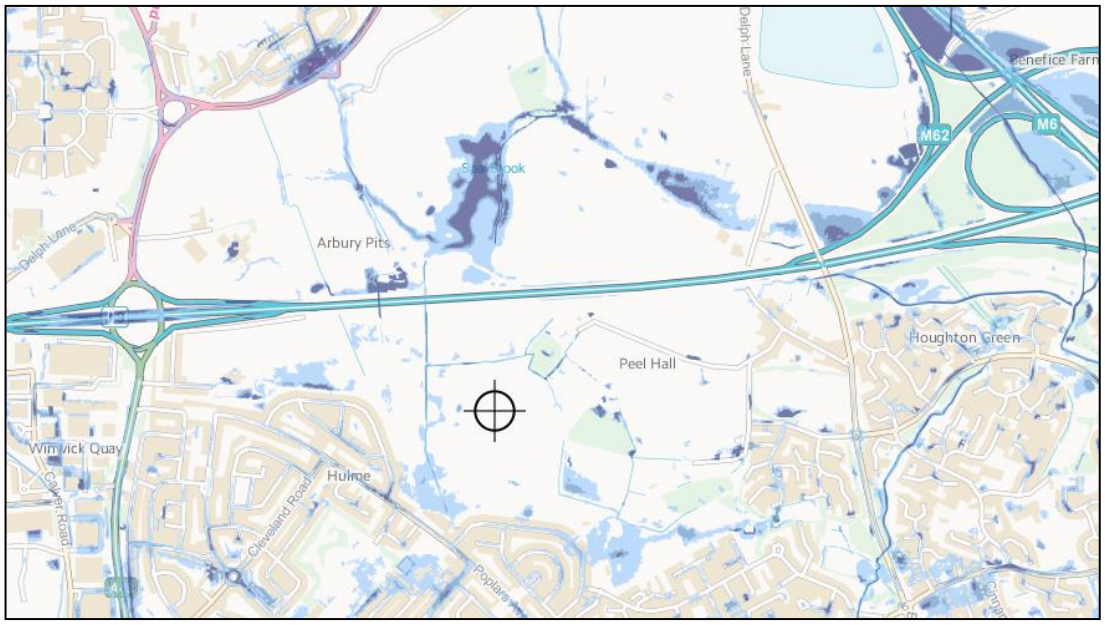
7.3.7 This section of the Environmental Statement remains unchanged.

7.3.8 This section of the Environmental Statement remains unchanged.

7.3.9 This section of the Environmental Statement remains unchanged.

7.3.10 This section of the Environmental Statement remains unchanged.

Figure a – EA Indicative Surface Water Flood Risk Map – Peel Hall



7.3.11 This section of the Environmental Statement remains unchanged.

7.4 Proposed Surface Water Drainage Strategy

This section of the Environmental Statement remains unchanged (7.4.1 – 7.4.13).

Section 22 Response

7.4.14 Given the outline nature of the application, it is not considered that a full Water Framework Directive (WFD) assessment is necessary and that it should be conditioned as part of the outline planning permission to be undertaken as part of a reserved matters application, where a more detailed drainage strategy will be completed.

7.4.15 The development proposals, in tandem with the surface water and foul water management strategies, will be tailored throughout the detailed design process to ensure that there is no adverse impact on water and ground water as a result of the development. Additionally, given the outline nature of the application, information required to complete a full WFD assessment is not available, and as such it is not considered necessary to undertake the WFD assessment at this stage.

7.4.16 However, for the purposes of ensuring a complete response to the matters raised by the Planning Inspectorate, a preliminary WFD assessment has been undertaken (document reference: 1506-45/TN/03, dated November 2017) and is contained within **Appendix HYD 5.**

7.4.17 As concluded within the preliminary WFD assessment, the proposed development is not considered to have an impact on the current quality of the Mersey.

7.5 Proposed Foul Water Drainage Strategy

This section of the Environmental Statement remains unchanged (7.5.1 - 7.5.2).

7.5.3 **Proposed Foul Water Drainage Strategy**

Foul networks are located to the east at Mill Lane, to the west at Windermere Lane, and to the west within the site boundary. Any sewers located within the application site will require easements either side. The sewer sizes have been confirmed as a maximum of 225mm on the existing site so assuming that these are laid at no deeper than 3m cover to invert then a 3m easement will need to be provided for these pipes in line with the statutory requirement defined by the statuary undertaker. United Utilities have not given a preference for a point of connection but have no objection with foul flows communicating with their sewers, preferably via a gravity connection. Refer to correspondence within **Appendix HYD 5**.

7.6 Conclusions and Recommendations

This section of the Environmental Statement remains unchanged (7.6.1 - 7.6.9).

7.6.10 A preliminary WFD assessment has been undertaken which concludes that the proposed development is not considered to have an impact on the current ecological and chemical quality of the local rivers and watercourses.

8.0 LANDSCAPE AND VISUAL AMENITY IMPACT ASSESSMENT

Introduction

8.1 This section provides a systematic assessment of the potential effects of the proposed development on landscape resources and character and the visual amenity of the site, its surroundings and the people who use it.

Prediction Methodology

Potential impacts

8.2 This section of the Environmental Statement remains unchanged.

Information Sources

Desk top study

8.3 This section of the Environmental Statement remains unchanged (8.3.1 - 8.3.3).

8.3.4 This assessment should be read in conjunction with the following drawings produced by Appletons:

Appendix APP 6A Parameters Plan.

The Parameters Plan has been replaced by **Appendix APP 6A** (drawing no. 1820_24) to include vertical parameters. An additional drawing showing a north-south cross section has been prepared and is included in the **Appendix APP 14** (drawing no. 1820_31).

Appendix LND 10 Indicative Landscape Components Plan

This drawing is contained in **Appendix LND10.**

Field Survey

This section of the Environmental Statement remains unchanged (8.3.5 - 8.3.7).

Methodology

8.4 This section of the Environmental Statement remains unchanged (8.4.1 - 8.4.6).

Significance of Impacts

8.5 This section of the Environmental Statement remains unchanged. (8.5.1 - 8.5.2) together with the tables included in the text describing landscape and visual effects.

Baseline Environment

Location and Context

8.6 This section of the Environmental Statement remains unchanged (8.6.1 - 8.6.3).

The Physical Characteristics of the Site

8.7 This section of the Environmental statement remains unchanged.

Landscape Designations

8.8 This section of the Environmental statement remains unchanged.

Landscape Character Assessment

8.9 This section of the Environmental Statement remains unchanged.

Regional Assessment – Landscape Character Areas

8.10 This section of the Environmental Statement remains unchanged.

Local Assessment

8.11 This section of the Environmental statement remains unchanged.

Site Character Assessment

8.12 This section of the Environmental Statement remains unchanged (8.12.1 - 8.12.4).

The Character of Adjacent Landscape

8.13 This section of the Environmental Statement remains unchanged.

The Impact of the Proposed Development on Landscape Character

8.14 This section of the Environmental Statement remains unchanged.

Visual Amenity and Prominence

Topography and Existing Screening Features

8.15 This section of the Environmental Statement remains unchanged (8.15.1 - 8.15.2).

Identification of Important Features and Potential Sensitive Receptors

8.16 This section of the Environmental Statement remains unchanged (8.16.1 - 8.16.4).

Baseline Projection

8.17 This section of the Environmental statement remains unchanged.

Impact Assessment and Evaluation

8.18 This section of the Environmental Statement remains unchanged.

Construction Phase

8.19 This section of the Environmental Statement remains unchanged.

Mitigation Measures - General

8.20 This section of the Environmental statement remains unchanged (8.20.1 - 8.20.2).

8.21 Residual Impacts for the Construction/Operational Phases

Character of the Site and Adjacent Land

8.21.1 This section of the Environmental Statement remains unchanged.

Landscape features (Construction Phase)

8.21.2 There would be a loss of 'best and most versatile' agricultural land which comprised 17.4 hectares of class Grade 2 and 19.9 hectares of class Grade 3A which would be irreversible. There is no trigger level within the NPPF to determine at which point the loss of such land would be unacceptable in planning terms. Natural England were consulted by Warrington Borough Council at the scoping stage of the ES preparation. Their comments in respect of agricultural land quality was for the ES to address soil issues with reference to paragraphs 109 and 112 of the NPPF and for soil conservation strategies based on the DEFRA *Code of Practice for The Sustainable Use of Soils on Development Sites* to be adopted. Government Guidance contained within paragraph 112 of the NPPF recommends that Local Planning Authorities should seek to maximise the use of brownfield land and that land of lower quality should be used in preference to Best and Most Versatile soils for development. Paragraph 109 refers to nature conservation issues and pollution. Large areas of agricultural land surrounding Warrington fall into the 'Best and Most Versatile' category however, and there is insufficient brownfield land available to satisfy housing demand needs. On that basis, it is considered that the loss would be **'minor to moderate'** adverse. The land is no longer farmed however, and in mitigation and in accordance with current Government Guidance, a soil conservation strategy would be put in place to maximise the re-use of top soil resources and protect it from consolidation and/or contamination during the construction phase of development. In terms of other landscape features such as watercourses and vegetation, they would be retained and enhanced. The residual impact for those features would be therefore **neutral.**

Visual Impact (Construction/Operational Phases)

8.21.3 This section of the Environmental Statement remains unchanged.

8.21.4 **Table 8.1** below summarises the significance of residual effects based on an analysis of the 24 photograph viewpoints contained within **Appendix LND 4** in Volume 2 of the Environmental Statement.

Table 8.1 Viewpoint Analysis Table Summaries							
Vp Number	**Representation of View**	**Susceptibility of Visual Receptor**	**Value Attached to View**	**Sensitivity of Visual Receptor**	**Magnitude of Change**	**Significance of Visual Effect during Construction**	**Siginificance of Residual Effects (Operational and after landscaping established)**
1	Rear view of properties of Elm Road and track users.	Medium	Moderate	Medium	Large Adverse	Major Adverse	Moderate Adverse
2	Private view within Site, on track leading to utilities building.	Low	Low	Low	Very large/ Substantial Adverse	Moderate Adverse	Moderate Adverse
3	View from rear gardens from properties on Newhaven Road.	High	Low	Medium	Very large/ Substantial Adverse	Major-Moderate Adverse	Moderate Adverse
4		High	Low	Medium	Very large/ Substantial Adverse	Major-Moderate Adverse	Moderate Adverse
5		High	Low	Medium	Very large/ Substantial Adverse	Major-Moderate Adverse	Moderate-Major Adverse
6	PROW M62 Footbridge	High	Moderate	Medium (due to context)	Large Adverse	Moderate to Major Adverse	Moderate Adverse
7		High	Moderate	Medium (due to context)	Large Adverse	Moderate to Major Adverse	Moderate Adverse
8	Radley Lane users (motorists and pedestrian)	High	Moderate	High	Large Adverse	Major Adverse	Major Adverse. Over time Moderate Adverse
9	Private View within Site, on boundary of Radley Plantation	Low	Moderate	High	Very large/ Substantial Adverse	Moderate Adverse	Moderate Adverse
10	On Site, private view.						
11	Recreational Ground users.	High	Moderate	High	Very large/ Substantial Adverse	Major Adverse	Major Adverse
12	General public and residential properties, Ballater Drive.	Medium	Low	Medium	Medium adverse	Moderate	Moderate Adverse
13	General public and residential properties, Lockerbie Close.	Medium	Low	Medium	Small adverse	Minor adverse	Minor adverse
14	Private view. Representative of view from Fairhaven/ the Alders NHS facility.	Low	Low	High	Very large/ Substantial Adverse	Moderate adverse	Moderate Adverse
15	View of motor users and pedestrians	Medium	Moderate	Medium	Negligible	Negligible	Negligible
	View gained from adjacent properties	Medium	Moderate	Medium	Small adverse	Minor adverse	Negligible
16	PROW FP6. View of walkers.	High	Moderate	Medium	Small adverse	Minor adverse	Minor adverse
17	Delph Lane. General public and residential properties	Medium	Moderate	Medium	Small adverse	Minor adverse	Minor adverse
18	PROW FP1. View of walkers.	High	Moderate	Medium	Medium adverse	Moderate	Moderate Adverse, reducing to Minor Adverse during summer months and longer term.
19	Mill Lane bridge over M62. Road users and pedestrians.	Medium	Low	Medium	Small adverse	Minor adverse	Moderate to Minor Adverse, reducing to Minor Adverse during summer months and longer term.
20	Mill Lane. Road users and pedestrians.	Low	Low	Moderate	Moderate adverse	Moderate adverse	Moderate Adverse
21	PROW FP2. View of road users and pedestrians. Peel Cottage Lane.	High	Moderate	Medium	Very large/ Substantial Adverse	Major Adverse	Major Adverse
22		High	Moderate	Medium	Very large/ Substantial Adverse	Major Adverse	Major Adverse
23	PROW FP 23. View of pedestrians.	High	Moderate	Medium	Small adverse	Minor adverse	Minor adverse
24	On Site, private view.						

Key: Dark Grey- PROWs/ Track/ Pedestrian Views. Orange- Private views from properties. Blue- Vehicle users and pedestrians on pavements. Green- Recreational views. White- Private View within Site.

Summarised Impact					
Landscape		**Character**		**Visual**	
Construction Phase	**Operational Phase (Post Mitigation)**	**Construction Phase**	**Operational Phase (Post Mitigation)**	**Construction Phase**	**Operational Phase (Post Mitigation)**
Minor-Moderate Adverse	Minor Adverse	Minor Adverse	Negligible	Moderate	Minor Adverse

8.22 Visual Receptors

Highways

8.22.1 This section of the Environmental Statement remains unchanged.

Users of the Public Footpath to the North of the Site

8.22.2 This section of the Environmental Statement remains unchanged.

Users of the Amenity Space/Playing Fields to the East and South of the Site

8.22.3 Users of open space and playing fields are considered to be sensitive visual receptors. The existing playing fields to the east of the site (Mill Lane) will be developed as part of the scheme proposals. Replacement facilities will be provided by the upgrading of the Windermere Avenue site (**Appendix APP16**). Views from the playing field to the south-east are screened from the development by boundary vegetation and by the Radley Plantation. The residual impact on users of amenity open space is considered to be **neutral**.

Views from Private Properties

8.22.4 Views from private properties may be gained from the following locations: They are mostly from the rear elevations and or gardens. The total number of dwellings and location is set out below.

West

Elm Road 14
Birch Avenue 2
Poplars Avenue 18

Central

Newhaven Road 82
Windermere Avenue 44
(24 would overlook proposed open space)

East

Lockerbie Close 4 (gable on)
Radley Lane 4 + Peel Hall
Ballater Drive 15 + 1 gable on

8.22.5 A pre-mitigation impact on these properties can be established by reference to the site photographs included within **Appendix LND 4** and in particular photographs 2, 3, 4, 7, 9, 10, 11, 12, 13, 14 and 21. The photographs are taken toward properties due to access issues but show the degree of openness or conversely current screening afforded by vegetation or other features. A detailed assessment of residual impact is contained within Table 8.1 in section 8.21.4 above. This varies depending on the precise location of properties in relation to adjacent development. It is considered that the impact on private dwellings would be **moderate -major adverse** for a small number of dwellings located on Newhaven Road (VP5), **moderate adverse** for a number of other dwellings on Newhaven Road, **moderate adverse** for dwellings on Ballater Drive (VP 12), **minor adverse** for dwellings located on Lockerbie Close (VP13), and **minor adverse** for properties on Delph Lane (VP 17). There will inevitably be a loss of a view over open land for the occupiers of these properties. Residential amenity assessments are sometimes used rather than LVIA to establish such impacts. In respect of dwellings adjacent to the site the outlook will be of a similar land use. In terms of the visual impact on private properties this factor has tempered the overall assessment resulting on impact to be considered as **Minor Adverse** significance overall.

8.22.6 Any necessary mitigation in the form of a landscape scheme and implementation/phasing of works would be agreed at the reserved matters stage of detailed planning applications and would include the establishment of appropriate stand-off zones, the detailed design including heights and the orientation of new dwellings and boundary screen planting.

Night time visual effects

8.22.7 Lighting from the M62 motorway to the north could impact on the new residents of the site in as much as it already has such an impact on existing dwellings, though with modern methods of illumination which are designed to reduce the lateral spread of light, such impact would be minimised. TD3407 (The relevant section of the *Highway Agency Design Manual for Roads and Bridges*) deals with the design of road lighting for the strategic motorway and all-purpose trunk network. Paragraph 2.2 of that document states that: *'All road lighting shall be designed and installed such that the installation will emit no light above the horizontal.'* Furthermore there would be a 50 metres stand-off zone from the boundary of the motorway within which any light overspill would dissipate and that proposed tree planting within that zone would further reduce any light pollution. Housing adjacent to the north could also be single aspect with no habitable room windows facing the motorway, which would also have benefits in terms of noise attenuation. Views from houses are, in any event, generally obscured as occupiers close their curtains at night. Any impact from the development itself to the wider environment would be seen within the context of other existing street lighting within the urban area of Warrington along with the illuminated M62 to the north.

Residual Impacts

8.23 As mitigation methods have been incorporated within the proposed scheme, the assessments of impact significance as set out in sections 8.21 and 8.22 of the Environmental Assessment remain valid.

Post Development Monitoring

8.24 This section of the Environmental Assessment remains unchanged (8.24.1-8.24.2).

Cumulative impacts

8.25 This section of the Environmental Statement remains unchanged.

8.26 Conclusion

8.26.1 Subject to the mitigation proposed, there would not be any overall **significant adverse impact in landscape, character and/or visual terms.'** This is based on combining the separate assessments for Landscape impacts **(moderate/minor adverse**), Character impacts **(neutral/no impact**), and visual impacts **(minor adverse),** based on the professional judgement of the authors.

8.27 Summary

8.27.1 This section of the Environmental Statement remains unchanged.

8.27.2 This section of the Environmental Statement remains unchanged.

8.27.3 The site is not located within or adjacent to areas of designated special landscape value. It is urban fringe in nature and is mainly flat with localised undulations. A mix of dense scrub and grazed grass covers the site. Typically for the location, there are few established trees present. There are no individual features of landscape amenity value.

8.27.4 Due to topography and context, the site's visual prominence is limited. Aspects of the site are visible in places mainly from the public right of way that crosses the site and from adjacent residential dwellings. However, in conclusion it is assessed that the development as proposed and subject to the long term mitigation as set out in this document and on the Parameters Plan prepared by Appletons **Appendix APP 6A** would result in there not being any overall, significant, adverse impact in landscape, character and visual amenity terms. There is no cumulative impact on the Green Belt land to the north since there are no other development proposals of this nature in the vicinity but in any event Green Belt is not a landscape designation in planning terms.

8.27.5 **Request for additional information/clarification from PINS**

- Information in respect of the impact on agricultural land is set out in paragraph 8.21.2.

- Clarification in respect of pre-mitigation impact on residential property is set out in table 8.1.
- Summary information in respect of impact on residential property is set out in paragraph 8.22.5.
- Summary conclusions in respect of the final assessment are set out in paragraph 8.26.1.
- Impacts in respect of lighting are set out in paragraph 8.22.7.

9.0 TRANSPORTATION AND HIGHWAYS

This section replaces in entirety the corresponding section of the submitted ES.

9.1 Introduction

9.1.1 This chapter focuses on the effects that the proposed development will have on access and transport during the construction phase as well as when the development is fully operational. It draws on the detailed analysis and mitigation measures set out in the full Transport Assessment (ref: 1107/TA/01/A dated January 2018) prepared by Highgate Transportation.

9.1.2 Discussions outlining the approach and methodology have been held with Warrington Borough Council (WBC) in its role as the local highway authority and with Highways England as the strategic highway authority. This set out how the development would be accessed, how its impact would be assessed and the type of sustainable transport, travel plan and physical measures that could support the development.

9.1.3 The Transport Assessment considers all modes of travel and the demands that the proposed development will place on transport infrastructure. The study area covers a large part of the local transport network including pedestrian and cyclist links to the surrounding areas as well as public transport services and facilities. Plans showing the overall study area, the existing highway network within the study area, the existing bus network and the existing PRoW network are contained in **Appendices T1**, **T2**, **T3** and **T4** respectively. The assessment work is based on a SATURN model of the north Warrington area, which has then been used to model individual junctions to further test the impact of the development.

9.1.4 In transport terms the guiding principles in the development of the scheme have been to encourage the use of sustainable modes of transport and to contain trips within the development as far as possible. **Appendix T5** contains an illustrative plan showing the proposed road network within the development. In terms of vehicular access each site access will generally provide access to a specific area of the overall development and the plan in **Appendix T5** also shows the amount of development from each access.

9.1.5 It is proposed that the main vehicular accesses to the development will be provided from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and from Poplars Avenue. Additional access is provided from Mill Lane, Birch Avenue and a second access on Poplars Avenue to serve the employment area. Access to the improved sports pitches will be from Grasmere Avenue. Plans showing these accesses are contained in **Appendix T6**.

9.1.6 The bus network will be enhanced and a plan showing the proposed alterations is contained in **Appendix T7**. During the construction phase it is proposed that existing services will be extended into the site and during the operational phase a new service will be introduced to serve the site.

Appendix T8 contains the illustrative pedestrian and cycle linkages to the surrounding area. The plan outlining the proposed construction and highway phasing of development is contained in **Appendix T9**.

9.1.7 The transport modelling has been carried out with SATURN and then further detailed modelling of standalone junctions has been provided. The SATURN output files are contained in **Appendix T10** and the proposed mitigation measures in **Appendix T11**.

9.2 Transport Policy and Guidance

9.2.1 Throughout the development of the scheme, account has been taken of both national and local transport related policy and guidance.

9.2.2 National transport policy and guidance is set out in:

i. National Planning Policy Framework (2012).
ii. DCLG Planning Practice Guidelines (2014).
iii. Interim Advice Note 125/09 – Supplementary Guidance for users of DMRB Vol 11 "Environmental Assessment".
iv. Guidance on Transport Assessment (2007) published by DfT and DCLG.
v. DfT Circular 02/2013 - Strategic Road Network and the Delivery of Sustainable Development (2013).
vi. The Strategic Road Network - Planning for the Future (2015) published by Highways England.
vii. Manual for Streets (2007) and Manual for Streets 2 (2010) published by DfT.
viii. DMRB Volume 11 Section 3 Part 8: Pedestrians, Cyclists, Equestrians and Community Effects (1993).
ix. DMRB Volume 11 Section 3 Part 9: Vehicle Travellers (1993).
x. Institute of Environmental Assessment – Guidelines for the Environmental Assessment of Road Traffic (1993).

9.2.3 Local transport policy and guidance is set out in:

i. Local Plan Core Strategy (policies CS1, CS4, MP1, MP3, MP4, MP7, MP10, QE3, QE6 and QE7) adopted in July 2014.
ii. Warrington Local Transport Plan 3 (policies AT3 and PT4) – 2011 to 2030 (2011).
iii. WBC's Design Guide - Residential and Industrial Estate Roads (2008).
iv. WBC's Standards for Parking in New Development (2015).
v. WBC's DGN2 on Travel Plans (2016).
vi. WBC's CIL Preliminary Draft Charging Schedule Consultation (October 2015).
vii. WBC's SPD on Design and Construction (2010).

9.2.4 The thrust of these policies and guidance is to encourage development that will be safe and accessible to all, and that will be sustainably located or can be made to be sustainably located by the introduction of mitigation measures.

9.3 Prediction Methodology

Potential Impacts

9.3.1 The anticipated impacts on access and transport relate to:

i. Nuisance, disruption and severance arising from the construction of the development.
ii. The use of and implications for public transport in the area.
iii. The effect on walking and cycling opportunities in the area.
iv. The vehicular traffic impact resulting from the occupation of the development.

Sources of Information

9.3.2 Data from the following sources have been used in the assessment:

i. Traffic flows derived from manual and automatic surveys carried out by independent specialist surveyors.
ii. Development trip rates derived from the TRICS database.
iii. Traffic growth derived from the TEMPRO database.
iv. Trip distribution based on the gravity model.
v. Trip Assignment from the SATURN model.
vi. Highway record and public right of way information supplied by WBC.
vii. Site-wide topographical surveys carried out by independent specialist surveyors.

Methodology

9.3.3 The methodology used in this assessment is to assess the magnitude of change and significance of impact for drivers, bus passengers, pedestrians and cyclists both during the construction phase and the operational phase.

Magnitude of Change and Significance of Impacts

9.3.4 In terms of significance of impacts the following terminology has been adopted:

i. Negligible - equals no impact on the local highway network.
ii. Minor - some increase in traffic flows but not leading to congestion or delays.
iii. Moderate - Increase in traffic flows capable of mitigation by traffic engineering or sustainable transport measures.
iv. Major - significant impact on the local highway network leading to delays and reduced traffic flows, not possible to mitigate.

9.4 Baseline Environment

Baseline Conditions – Existing Network

9.4.1 The Peel Hall site is located on the northern edge of Warrington, adjacent to the existing residential areas of Hulme, Blackbrook, Cinnamon Brow and Houghton Green. It is bounded by the M62 to the north, Mill Lane to the east, Poplars Avenue to the south and Birch Avenue and Elm Road to the west.

9.4.2 Baseline conditions have been identified by reviewing the existing highway, bus, rail, pedestrian and cyclist networks.

9.4.3 Existing traffic flows have been obtained from survey work. Plans showing the study area, the existing highway network within the study area and the existing bus network are contained in **Appendices T1, T2** and **T3** respectively.

Existing Highway Network

9.4.4 The existing traffic flows during the AM and PM peak hour are summarised in **Table 9.4.1**.

Table 9.4.1: Existing traffic flows during the AM and PM peak hour

Road	Year	Peak Hour Two-Way Flow			
		AM		PM	
		Total Flow	HGVs	Total Flow	HGVs
Poplars Avenue	2015	522	39	566	23
Mill Lane (Blackbrook Avenue - site access)	2015	903	2	724	1
Mill Lane (Radley Lane - Delph Lane)	2015	41	0	99	0
Mill Lane (site access - Delph Lane)	2015	903	2	724	1
Delph Lane	2015	892	2	649	1
Blackbrook Avenue (Mill Lane - Capesthorne Road)	2015	741	77	633	61
Blackbrook Avenue (Capesthorne Road - Insall Road)	2014	810	12	824	7
Blackbrook Avenue (Insall Road - Birchwood Way)	2014	937	21	834	7
Birch Avenue	2014	45	0	50	0
Cotswold Road	2014	172	10	204	13
Cleveland Road	2014	373	8	451	9
Sandy Lane West	2014	943	17	1192	15
Sandy Lane	2014	410	17	399	12
Winwick Road	2014	3022	266	3205	146

(M62 - Sandy Lane West)					
Winwick Road (Sandy Lane West - Hawleys Lane)	2014	3070	239	3271	125
Winwick Road (south of Hawleys Lane)	2014	2943	222	2789	93
Capesthorne Road	2014	917	16	930	13
Enfield Park Road	2016	582	2	569	3
Crab Lane	2015	790	33	921	32
Birchwood Way (A50 - Blackbrook Avenue)	2015	1325	32	1346	10
Birchwood Way (Blackbrook Avenue - Crab Lane)	2014	1371	42	1383	9
Howson Road	2014	302	7	306	2
Birchwood Way (Crab Lane - Birchwood Interchange)	2016	1547	32	1385	14
A50 Long Lane	2014	1218	53	1229	20
Statham Avenue	2015	181	2	168	0
Northway	2014	288	14	285	12
Hilden Road	2014	533	19	614	6
Insall Road/Fernhead Lane	2014	630	23	652	11
Cromwell Avenue	2014	373	124	451	72
Myddleton Lane	2016	203	1	205	0
Winwick Link Road	2014	1495	135	1518	50
Winwick Road (north of M62)	2014	2462	180	3117	80
M62 west	2014	8259	1460*	10655	1005*
M62 west off-slip	2014	897	194*	980	121*
M62 west on-slip	2014	798	204*	1011	99*
M62 east	2014	7825	1383*	10513	1090*
M62 east off-slip	2014	787	140*	705	137*
M62 east on-slip	2014	474	181*	1142	168*

* All traffic minus car traffic to give an approximate HGV figure

9.4.5 At times during the peak periods congestion can occur along the main corridors in the area including M62, Winwick Road, Sandy Lane West, Long Lane, Blackbrook Avenue and Birchwood Way, as well as elsewhere.

Existing Bus Network

9.4.6 The existing bus services that currently operate close to each of the proposed site accesses are as follows:

i. Mill Lane and Blackbrook Avenue Roundabout
Services 23 and 23A; 25A; 26 and 26E; 27 and 27E

ii. Poplars Avenue Central Access
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26 and 26E; 27

iii. Poplars Avenue West
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360

iv. Birch Avenue
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360

v. Grasmere Avenue
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26; 27

9.4.7 All services connect this part of Warrington with the town centre. Services 25, 26, 26E and 27 provide access to Birchwood Station and Birchwood Park in the east. Services 23, 23A, 27 and 27E stop around 800 metres from Padgate Station. Information regarding the existing bus network is contained in **Appendix T3**.

9.4.8 It is considered that the level of bus provision to the site is very good. At peak times these routes are busy, especially closer to the centre of Warrington. Existing journey times by bus from the site to key locations are set out in **Table 9.4.2**.

Table 9.4.2: Existing bus journey times from closest bus stop to key locations

From Existing Bus Stop Closest to Proposed Site Access	Key Locations – Journey Time					
	Town Centre	Birchwood Station	Birchwood Park	Warrington Business Park & Collegiate	Warrington Campus University of Chester	Orford Jubilee Hub
Poplars Ave west	15-18min	-	-	6min	-	8min
Poplars Ave central	14-20min	23min	15min	10min	8min	12min
Mill Lane/ Blackbrook Ave	17-22min	17-20min	9-10min	9-10min	3min	7min*

* Monday-Saturday Evenings, Saturdays

Existing Rail Network

9.4.9 Existing rail stations that serve Warrington are:

i. Padgate - on the Manchester to Liverpool Line. This is approximately 3.0 kilometres from the site.
ii. Warrington Central - on the Manchester to Liverpool line. This is approximately 3.5 kilometres from the site.
iii. Warrington Bank Quay - on the West Coast Mainline. This is approximately 4.5 kilometres from the site.
iv. Birchwood - on the Manchester to Liverpool Line. This is approximately 5.2 kilometres from the site.

9.4.10 A summary of the railway services is as follows:

i. Manchester - 4 per hour, 20 minute journey time.
ii. Liverpool - 4 per hour, 22 minute journey time.
iii. Preston - 2 per hour, 22 minute journey time.
iv. Birmingham - 4 per hour, 1.5 hour journey time.
v. London - 2 per hour, 2.5 hour journey time.

9.4.11 The railway stations are generally located within a 10 to 20 minute cycle ride of the site. This is therefore considered to be a realistic modal choice, and provides future residents with alternative options for non-car travel.

9.4.12 It is therefore concluded that existing public transport facilities are very good and that rail travel is a realistic travel choice for commuter journeys for future residents of the Peel Hall site.

9.4.13 Overall the Peel Hall site is considered to be located in a highly sustainable and accessible location with excellent public transport facilities close by.

Existing Pedestrian Network

9.4.14 Existing pedestrian access into the site is from Mill Lane, Radley Lane and Peel Cottage Lane in the east; Birch Avenue and Elm Road in the west; Grasmere Avenue and Windermere Avenue in the south. There is a footbridge across the M62 to the north of the site, which forms part of PRoW number 2 and links with A49 and Winwick to the north of the site via Public Rights of Way (PRoW) 1, 1a, 3 and 5. The Peel Hall site currently attracts dog walkers and recreational walkers using the PRoW. A plan showing the local PRoW is contained within **Appendix T4**. Pedestrian connectivity to the Peel Hall site is very good and walking is a realistic alternative mode of travel to the private car.

Existing Cycle Network

9.4.15 Local cycling facilities comprise off-road segregated cycleways and footways along the A49 Winwick Road from the junction with Long Lane to the town centre. On-road cycleways and

advanced stop lines are also provided, for example at Winwick Road junction with A50 Long Lane and the A49 junction at the Warrington Wolves Halliwell Jones Stadium. The site is located in an area that will support and encourage cycle travel.

Baseline – 2015 SATURN Data

9.4.16 The traffic flow data (**Table 9.4.1**) has been input to the Peel Hall SATURN model and the model has been validated to a base year of 2015. The resultant SATURN output file spreadsheets are contained in **Appendix T10** for reference.

Baseline Projection – Proposed Accesses and Internal Transport Network

9.4.17 **Appendix T5** contains an illustrative plan showing the proposed road network within the development and the amount of development off each access. It is proposed that the main vehicular accesses to the development will be provided from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and this will connect with a second main access from Poplars Avenue via a new 7.3 metre wide local distributor road. To prevent this road becoming a bypass for through traffic a bus gate will be introduced. Additional access to specific areas of development will be provided from Birch Avenue to the west, Mill Lane to the north-east and an additional location on Poplars Avenue to serve the employment area. Access to the sports pitches and ancillary facilities will be from Grasmere Avenue.

9.4.18 The plan showing the proposed access from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction is contained in **Appendix T6**. This access road comprises a 7.3 metre wide carriageway from a proposed 36 metre diameter three-arm roundabout junction with associated facilities for pedestrians and cyclists and is expected to serve up to 700 dwellings.

9.4.19 The plan showing the proposed access from Mill Lane is also contained in **Appendix T6**. This access has been created by extending Mill Lane north-westwards into the site, with pedestrian and cycle facilities, and is expected to serve up to 150 dwellings.

9.4.20 The plan showing the proposed access from the central part of Poplars Avenue, which is located between its junctions with Newhaven Road and Windermere Avenue, is also contained in **Appendix T6**. This access road comprises a 7.3 metre wide carriageway from new a priority junction with ghost right turn lane. It includes associated pedestrian, cycle and relocated and improved bus stop facilities. It is expected to serve up to 330 dwellings.

9.4.21 The plan showing the proposed access from the western part of Poplars Avenue, which is located between its junctions with Cotswold Road and Newhaven Road, is also contained in **Appendix T6**. This access comprises a simple priority junction with a 7.3 metre carriageway and associated pedestrian and cycle facilities and will serve the employment land.

9.4.22 The plan showing the proposed accesses from Birch Avenue is also contained in **Appendix T6**. These accesses comprise a simple priority junction located to the west of the Health Centre with

4.8 metre wide carriageway and footways on both sides, and the other is a continuation of Birch Road to the immediate south of the Health Centre, which will becomes a 5.5 metre wide shared surface road. In total these accesses will serve up to 20 dwellings.

9.4.23 The plan showing the proposed access to the improved sports pitches from Grasmere Avenue is also contained in **Appendix T6**. The proposal is to modify the existing access that serves local recreational facilities.

9.4.24 Because of the introduction of the bus gate on the local distributor road it is important that the local centre car park can be accessed without residents having to leave the development. Therefore, this car park has been designed to be split in two, with two points of vehicular access, but designed so that a through route that could allow traffic to bypass the bus gate has not been created. The local centre car park is also expected to be used as a drop off facility for the primary school.

9.4.25 Alterations to bus services will comprise extensions to existing services 23/23A during the construction phases until the distributor road is fully operational. Once the distributor road is completed a new bus service will be introduced that connects the site with the town centre to the south and Birchwood to the east. This will replace the extension to services 23/23A. Proposed bus alterations are considered in detail in **paragraphs 9.5.9** to **9.5.11** and **paragraphs 9.6.10** to **9.6.12** and the relevant service diagrams are contained in **Appendix T7**.

9.4.26 The proposed pedestrian and cycle linkages within the development will generally be in line with the WBC guidance, with shared cycleway-footway facilities separated from the carriageway by a verge. A high level of connectivity for pedestrians and cyclists will be provided through the site and connections will be made to the existing pedestrian routes around the site and enhanced by the additional accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue. This is shown on the illustrative plan contained within **Appendix T8**.

9.4.27 Car and cycle parking will generally be provided to reflect WBC's guidelines.

Baseline Projection – Trip Distribution and Assignment

9.4.28 The trip distribution for the proposed land use has been derived from the distribution model. The distribution model has been prepared to derive the trip distribution for each of the proposed land uses based on the zoning levels contained in the Warrington VISUM Multi Modal Transport Model (MMTM). As such the origin-destination matrices for the modelled time periods were derived from the trip proportions set out in the MMTM and applied to the Peel Hall development, with the Peel Hall trips grouped into three categories: residential; employment and other (being the primary school, the local centre and food store, care home, family pub and sports facilities.

9.4.29 The distribution model has been fed directly into the SATURN model in order to produce future year assignments throughout the study area.

Baseline Projection – Development Trips Arising

9.4.30 The number of development trips associated with each use has been calculated using the TRICS database. A proportion of the trips will be contained within the development and will not impact on the wider transport network.

9.4.31 The number of external development trips using each of the proposed site accesses during the AM and PM peak hour is set out in **Tables 9.4.3** and **9.4.4** below.

Table 9.4.3: External development trips at each site access AM peak hour

Access	**Units/sqm**	**Total Trips**	
		Arrival	**Departure**
Mill Lane	150 Dwellings	34	79
Mill Lane/ Blackbrook Avenue	700 Dwellings	158	366
	Primary School (up to 420 pupils)	57	40
Poplars Ave. *(Central)*	330 Dwellings	74	173
	Food Store (2,000sqm)	28	24
	Local Centre (600sqm)	0	0
	Family Pub/ Restaurant (800sqm)	-	-
	100-Bed Care Home	7	7
Poplars Ave. *(West)*	Employment (7,500sqm)	69	39
Birch Avenue	20 Dwellings	5	11
Grasmere Avenue	Sports Pitches and Community Facilities	10	5
	Total	442	744
		1,186	

Table 9.4.4: External development trips at each site access PM peak hour

Access	Units/sqm	Total Trips	
		Arrival	Departure
Mill Lane	150 Dwellings	74	46
Mill Lane/ Blackbrook Avenue	700 Dwellings	347	215
	Primary School (up to 420 pupils)	10	14
Poplars Ave. *(Central)*	330 Dwellings	163	101
	Food Store (2,000sqm)	54	57
	Local Centre (600sqm)	0	0
	Family Pub/ Restaurant (800sqm)	23	15
	100-Bed Care Home	8	8
Poplars Ave. *(West)*	Employment (7,500sqm)	20	47
Birch Avenue	20 Dwellings	10	6
Grasmere Avenue	Sports Pitches and Community Facilities	7	8
	Total	716	517
		1,233	

Baseline Projection – Background Traffic Growth and Committed Development

9.4.32 Background traffic growth has been calculated using the TEMPRO database and this has been applied to existing traffic flows to give background traffic flows for the agreed future assessment year of 2030.

9.4.33 The committed developments within the local area to be included in the modelling have been agreed with WBC highway officers and either added to the network or it has been agreed that these are accounted for within the TEMPRO growth rates applied.

Baseline Projection – Forecast Traffic Flows

9.4.34 The 2015 base traffic flows have been used to forecast traffic flows in the design year of 2030 and these have been combined with committed development traffic flows to give Do Minimum traffic flows. This data is contained on the SATURN output files in **Appendix T10**, and this includes details of HGV flows.

9.5 Impact Assessment – Construction Phase

Predicted Impacts – Phasing of Development

9.5.1 The Peel Hall site will generate construction traffic throughout its development period and this will have an impact on the local highway network, especially in the immediate vicinity of each site access. In reality each access and associated area of development will have its own timetable and impact, although there will be overlapping.

9.5.2 It is anticipated that the development will come forward in 10 phases over a 10 year period with typically around 120 residential units being constructed each year; with the relocated sports pitches in year one, the local centre and care home opening at the end of year two, and the primary school by the end of year eight. **Table 9.5.1** below sets out indicatively how the development may be phased in highway terms and the accompanying plan is contained in **Appendix T9**.

Table 9.5.1 – Indicative Highways Build Out Table

Year End	Number of Residential Units off Each Access									Indicative Phasing (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
1	60	60	0	0	60	60	0	0	120	1a **60** 1b **60** Relocated sports pitches
2	60	120	40	40	20	80	0	0	240	2a **20** 2b **22** 2c **19** 2d **19** 2e **40** Temporary emergency link to be via Radley Lane (north). Need first part of distributor road from east and turning area for bus service Local Centre and Care Home off Poplars Ave

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
3	65	185	35	75	0	80	20	20	360	3a **30** 3b **35** 3c **25** 3d **10** 3e **7** 3f **13** Employment Land off Poplars Ave (west) with temporary emergency link through to Elm Walk
4	40	225	40	115	40	120	0	20	480	4a **40** 4b **20** 4c **20** 4d **40** Requires a temporary emergency link through to Radley Lane

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
5	60	285	30	145	30	150	0	20	600	5a **30** 5b **11** 5c **19** 5d **30** 5 e **30** Potential for initial bus link through Local Centre and connecting to eastern distributor road Emergency link through Local Centre created
6	95	380	25	170	0	150	0	20	720	6a **45** 6b **50** 6c **25**

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
7	75	455	45	215	0	150	0	20	840	7a **45** 7b **30** 7c **45** Provision of temporary emergency access through to employment distributor road
8	100	555	20	235	0	150	0	20	960	8a **50** 8b **30** 8c **20** 8d **20** Primary School Completion of distributor road for full bus service
9	70	625	50	285	0	150	0	20	1,080	9a **59** 9b **22** 9c **39**

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave		Poplars Ave		Mill Lane		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
10	75	700	45	330	0	150	0	20	1,200	10a **64** 10b **35** 10c **21** Provision of final emergency access through to employment distributor road

9.5.3 It is intended that most excavated material will be retained on site, however, there will be a need for building materials to be brought to the site. During the construction phase each site access junction is expected to have HGV construction traffic associated with it as set out in **Table 9.5.2**. It should be noted that there will be an overlap for some phases as construction will take longer than one year, whereas other phases may take less.

Table 9.5.2 – Anticipated Peak HGV movements per day

Year End	Peak HGV Movements/Day					Total Daily HGV
	Residential				Non-Residential	
	Distributor Road Blackbrook Ave	Poplars Ave	Mill Lane	Birch Ave		
1	8	0	8	0	Relocated Sports Pitches = **2**	18
2	8	6	3	0	Local Centre and Care Home off Poplars Ave = **16**	33
3	8	4	0	0 (3 to access via employment land)	Employment Land off Poplars Ave (west) = **8**	23
4	5	5	5	0	-	15
5	8	4	4	0	-	16
6	12	3	0	0	-	15
7	9	6	0	0	Remaining Sports Pitches and Ancillary Facilities = **2**	17
8	13	2	0	0	Primary School = **8**	23
9	9	7	0	0	-	16
10	9	6	0	0	-	15

9.5.4 From the above table it can be seen that:

i. Mill Lane in the vicinity of the new access will have a maximum of eight HGVs per day while the 150 dwellings proposed for Mill Lane are being constructed. This is likely to result in an average of one HGV movement per hour compared with typically zero HGV movements.

ii. Birch Avenue will have no HGV movements. The associated construction vehicles will access the two parcels of development land via the employment land while the 20 dwellings proposed are being constructed. This is likely to result in an average of less than one HGV movement every two hours onto Poplars Avenue. During existing peak hours Poplars Avenue has between 25 and 42 HGV movements.

iii. Poplars Avenue will have a maximum of up to around between 15 and 22 HGVs per day during the various construction phases. This is likely to result in an average of between two to three HGV movements per hour. During existing peak hours Poplars Avenue has between 25 and 42 HGV movements.

iv. Blackbrook Avenue/Mill Lane in the vicinity of the new access junction will have a maximum of up to 21 HGVs per day during the various construction phases. This is likely to result in around three HGV movements per hour. During existing peak hours Blackbrook Avenue has up to 23 HGV movements.

9.5.5 At this stage it is anticipated that construction traffic will access the site via M62 Junction 9, A49 Winwick Road, A50 Long Lane, Birchwood Way, then either Poplars Avenue or Blackbrook Avenue and Mill Lane.

9.5.6 In order to assess the HGV movements on the wider construction route the highest year in terms of construction traffic i.e. year 2 been identified (33 HGVs) and compared with base level 2015 HGV flows. This is shown in **Table 9.5.3** below for 66 HGV movements per day i.e. up to around seven movements per hour assuming 1000-1600 working.

Table 9.5.3 – Anticipated 2015 HGV percentage increase

Road	AM Peak Hour			PM Peak Hour		
	2015 HGV	Proposed HGV	% Increase	2015 HGV	Proposed HGV	% Increase
Winwick Road	590	7	1.2%	163	7	4.3%
Long Lane	55	7	12.7%	16	7	43.8%
Blackbrook Avenue (north)	8	7	87.5%	2	7	350.0%
Birchwood Way	46	7	15.2%	17	7	41.2%

* All traffic minus car traffic

Predicted Impact – Highway Network

9.5.7 Construction traffic will be controlled by means of a Construction Management Plan which will form one of the mitigation measures. It is assumed that as the M62 already carries a significant amount of HGV traffic, HGV traffic from the development will have a minor impact.

9.5.8 It is expected that during the construction phase there will be at times disruption on the local highway network for all users including public transport and there may be temporary restrictions

placed in order to construct the new accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue. However, the magnitude of change is considered to be small given the level of HGV traffic set out in **Table 9.5.2** above. Therefore, the impact is expected to be of **minor to moderate adverse significance**.

Predicted Impact – Bus Passengers

9.5.9 During years two to five, services 23/23A from Blackbrook Avenue in the east will be extended into the site with temporary turning facilities and bus stops provided as appropriate. It is considered that the existing services 20/21 at Poplars Avenue will be adequate to serve the early phases of the new development off the Poplars Avenue (central) access. During the peak periods services 20/21 operates at a frequency of eight to 10 buses per hour, and services 23/23A will be provided at a frequency of two buses per hour, which will include for the provision of extra buses on the route.

9.5.10 Services 23/23A will be extended into the site on weekdays, Saturdays and Sundays in line with the existing level of service (but without a Sunday evening extension). The service extensions will return to their current routes once the distributor road is open. Therefore, for existing bus users there will be an increase in capacity to the eastern services and for future residents a regular bus service will be available from occupation/year two.

9.5.11 During the construction phase bus routes will at times be affected by the disruption that occurs on the highway network as described above.

9.5.12 Overall it is anticipated that the magnitude of change during the construction phase will be small to medium given the potential for increased journey time. Therefore, the impact is expected to be of **minor beneficial significance**.

Predicted Impact – Pedestrians and Cyclists

9.5.13 The changes likely to be noticed by most pedestrians and cyclists during the construction period will be firstly when the new accesses at Poplars Avenue and Blackbrook Avenue/Mill Lane are being built, which will be confined to specific time periods, and secondly the increase in daily HGV traffic on the local highway network.

9.5.14 It is considered that construction of the main accesses will likely result in a small to medium magnitude of change at these locations, which is expected to be of **minor adverse significance**.

9.5.15 It is anticipated that there will be a reduction in the amenity value for pedestrians and cyclists associated with the increase in HGV movements and as such the magnitude of change will be small to medium depending on location. However, as set out in **Table 9.5.3** the percentage increase on most links is low and therefore the impact generally is expected to be of **minor adverse significance** on the majority of links.

9.5.16 On Birch Avenue and Mill Lane the percentage increase is high, resulting in a medium magnitude of change, but the time period involved is relatively short. It is therefore considered that the impact on these roads will be of **moderate adverse significance**.

9.5.17 On Poplars Avenue the percentage of HGV increase is high and the period of construction vehicles using this route will be for the majority of the 12 year construction period. As such the anticipated magnitude of change will be medium. However, generally the footways are set back from the carriageway by a wide grassed verge. It is therefore considered that the impact on this road will be of **moderate adverse significance**.

Mitigation Measures

9.5.18 In order to ensure that appropriate controls will be implemented to protect safety and the environment, it is proposed that one of the planning conditions will require a Construction Management Plan to be agreed. This will cover each phase of the development and include details of lorry routing and hours of site operation, as well as maximum size of vehicles.

9.5.19 When required, traffic management will be introduced to ensure the safety of road users.

9.5.20 It is also anticipated that there will be a planning condition to provide a programme of temporary footpath closures or diversions and opening of new routes during the construction period.

The Residual Impacts

9.5.21 The sensitivity of existing and future drivers, bus passengers, cyclists and pedestrians to any long term residual effects of the construction phase is expected to have a **minor adverse significance**.

9.5.22 The sensitivity of the existing local community to the long term effects of any severance that occurs during the construction phase is expected to have a **minor adverse significance**.

9.6 Impact Assessment – Operational Phase

Predicted Impacts

9.6.1 The development will give rise to an overall increase in travel demand in the area increasing traffic flows on the surrounding highway network, increasing demand for public transport, increasing the use of walking and cycling routes and increasing the potential for road traffic accidents. Without the development there will be fluctuations and increases in traffic flow generally on the highway network due to natural growth even where the network is constrained; leading to increases in journey times.

9.6.2 It is predicted, as set out in **Tables 9.4.3** and **9.4.4** that show the level of vehicular trips generated at each access, that when fully operational the development will result in the order of 1,186 vehicle movements per hour external to the site during the weekday morning peak period and 1,233 vehicle movements during the weekday evening peak period.

9.6.3 There will be an increase in the use of the bus, pedestrian and cycle networks in the area for a variety of purposes including employment, shopping, educational and recreational related trips.

Predicted Impact – Highway Network (Links)

9.6.4 The new development will result in additional traffic throughout the local area. The SATURN output data in **Appendix T10** sets out the forecast two-way traffic flow for the future year of 2030, Do Minimum, and plus development traffic, Do Something. This information is summarised for the highway links at the site access junctions and on the wider highway network in **Table 9.6.1** below, with the percentage increase.

Table 9.6.1: 2030 forecast traffic increase (AM and PM peak hours)

Road	AM Peak Hour			PM Peak Hour		
	Do Minimum	Do Something	% Increase	Do Minimum	Do Something	% Increase
A49 (south of M62)	2899	2955	1.93%	3161	3261	3.16%
Mill Lane	1009	1605	59.07%	1099	1693	54.05%
Poplars Avenue	664	977	47.14%	834	1260	51.08%
Birch Avenue	49	64	30.61%	39	53	35.90%
Delph Lane	963	1055	9.55%	1078	1184	9.83%
Myddleton Lane	1353	1433	5.91%	1408	1507	7.03%
A49 (north of M62)	2910	2968	1.99%	3297	3290	-0.21%
A49 (north of Sandy Lane West)	3880	3968	2.27%	3771	3829	1.54%
Sandy Lane West	1176	1420	20.75%	1328	1519	14.38%
A574 Cromwell Avenue	2583	2692	4.22%	2948	3009	2.07%
Cotswold Road	175	241	37.71%	219	230	5.02%
Cleveland Road	577	754	30.68%	707	909	28.57%
Sandy Lane	314	338	7.64%	340	342	0.59%
Howson Road	215	348	61.86%	200	314	57.00%
Enfield Park Road	828	1049	26.69%	861	1147	33.22%
Blackbrook Avenue (north)	902	1488	64.97%	1068	1659	55.34%
Capesthorne Road	1078	1440	33.58%	1287	1605	24.71%
Long Lane	1170	1175	0.43%	1282	1319	2.89%
A49 (north of Long Lane)	32836	3350	-89.80%	3416	3488	2.11%
Blackbrook Avenue (mid)	616	736	19.48%	735	865	17.69%
Insall Road	728	705	-3.16%	481	519	7.90%
Hilden Road (west)	625	669	7.04%	1316	792	-39.82%
A50	1548	1857	19.96%	1720	1825	6.10%
Blackbrook Avenue (south)	891	893	0.22%	765	861	12.55%
A574 Birchwood Way	1456	1452	-0.27%	1649	1595	-3.27%
Crab Lane	1189	1266	6.48%	1131	1398	23.61%

M62 J9	10076	10076	0.00%	11138	10914	-2.01%
M62 J9 eastbound off	1166	1177	0.94%	1180	1217	3.14%
M62 J9 eastbound on	757	751	-0.79%	636	637	0.16%
M62 J9 westbound off	1105	1116	1.00%	971	984	1.34%
M62 J9 westbound on	952	967	1.58%	1187	1201	1.18%

9.6.5 Although the percentage increase in traffic is high, the road links near the site access junctions are within their design capacity.

9.6.6 It can be seen from the table above that the change of magnitude varies on the links at the site access and the wider highway network. However, in terms of significance, it is considered that the development impact will be overall **moderate to minor adverse significance**, given that the changes do not result in any of the links being over capacity.

Predicted Impact – Highway Network (Junctions)

9.6.7 **Table 9.6.2** below summarises the impact of development traffic at key junctions.

Table 9.6.2: Junction capacity 2030

Junction	Do Minimum		Do Something	
	Max RFC/VoC/ DoS	Max Queue Length	Max RFC/VoC/ DoS	Max Queue Length
Site Access – Mill Lane/Blackbrook Avenue	-	-	60.0%	2
Site Access – Poplars Avenue (central)	-	-	34.0%	1
Site Access – Poplars Avenue (west)	-	-	10.0%	0
Site Access – Mill Lane/Delph Lane	-	-	44.0%	1
Birch Avenue/A49 Winwick Road	-	-	15.0%	0
A49/Sandy Lane West/Calver Road	90.4%	27	97.1%	30
Blackbrook Avenue/Insall Road/Hilden Road	59.4%	12	63.1%	13
A50 Orford Green/Hilden Road/Poplars Avenue	-*	82	-*	129
Capesthorne Road/Poplars Avenue	79.0%	4	96.0%*	15
Birchwood Way/Blackbrook Avenue	70.0%	2	74.0%	3
Enfield Park Road/Crab Lane**	82.0%	4	112.0%	48
Birchwood Way/Crab Lane/Woolston Grange Avenue	90.5%	30	92.7%	31

Birchwood Way/Oakwood Gate/Birchwood Park Avenue	88.4%	17	93.1%	18
Junction 9 M62 (*Saturn Data*)	119.0%	121	123.0%	143

***Cannot be done with lane simulation within Junctions 9**

****2017 survey data (assuming zero growth – see TA)**

9.6.8 From the above table it can be seen that the site access junctions work well within capacity and therefore in terms of significance it is considered that the impact overall will be of **minor adverse significance**.

9.6.9 In terms of the wider highway network, those junctions that are forecast to experience a major to moderate adverse significance have been assessed in the Transport Assessment (TA/01/A dated January 2018) and are summarised in the mitigation section below, see **paragraphs 9.6.15** to **9.6.19**, in terms of overcoming the significance of impact. Junctions were deemed to have a major to moderate adverse significance based on:

i. An increase in RFC of 5% or more for a Do Something scenario above a Do Minimum scenario RFC of 85% or more.
ii. An increase in RFC of 3% or more for a Do Something scenario above a DO Minimum scenario RFC of 90% or more.
iii. Where queue lengths are shown to increase in Do Something scenario beyond that of current stacking capacity on the existing network.
iv. Where junctions are shown to have a capacity of 85% or above in the Do Something scenario compared to results below 85% in the Do Minimum.

Predicted Impact – Bus Passengers

9.6.10 A new bus service is proposed to be introduced from year six to serve the development between Birchwood and Warrington town centre utilising the distributor road and proposed bus stops through the Peel Hall site. This new bus route will provide a comprehensive level of service on weekdays and Saturdays with peak enhancement resulting in a frequency of six buses per hour.

9.6.11 The new bus service will provide increased modal choice for existing residents travelling eastwards towards Birchwood and will also increase capacity of the bus services available between the site and the surrounding area and Warrington town centre to the south. Therefore, it is considered that the provision of this new service will result in a medium to high magnitude of change. A diagram provided by Network Warrington showing the route of the new service is contained in **Appendix T7**.

9.6.12 Compared to the existing situation the new bus service represents a significant increase in the level of bus accessibility. In terms of impact it is considered to be **major beneficial significance**.

Predicted Impact – Pedestrians and Cyclists

9.6.13 The site currently attracts dog walkers and recreational walkers using the PRoW. The proposed development will provide significant new pedestrian and cycle routes through the site which will link into the existing network. Within the development there are proposals for open space and the pedestrian routes will be designed to provide access to this for residents of the surrounding area as well as future residents of the Peel Hall site.

9.6.14 It is considered that the magnitude of change will be medium as the footway and cycleway network will be enhanced across the site. Therefore, the significance of impact will be of **moderate beneficial significance**.

The Mitigation Measures

9.6.15 Mitigation schemes for the following junctions have been proposed:

i. A49/Sandy Lane West – Widening of the Sandy Lane West approach to three lanes and other minor kerb realignments and associated adjustments to road markings.
ii. A50 Orford Green/Poplars Avenue – Widening of the Poplars Avenue priority junction to two-lane entry (left only), removal of build out of the Orford Green entry arm to the roundabout, widening the Orford Road approach to two lanes (entry and exit) and creating a two-lane circulatory. Adjustments to cycle facilities where required.
iii. Capesthorne Road/Poplars Avenue – Widening on the Capesthorne eastern arm to two lane entry and reduction in the central island diameter.
iv. Enfield Park Road/Crab Lane – A three-arm single lane approach signalised junction with controlled pedestrian facility over the Crab Lane arm.
v. M62 Junction 9 – Proposed widening of the A49 southbound entry radius and circulatory to the eastbound on-slip, creating a two-lane slip road (as per the westbound on-slip) prior to the lane gain, and widening of the westbound off-slip entry to the roundabout from two to three lanes.
vi. Birch Ave/A49 – Proposed provision of Keep Clear markings on the A49 nearside southbound lane across the Birch Avenue junction (not modelled).

The mitigation schemes for junctions listed above (i-iv) have been modelled and the results are contained in **Table 9.6.3** below. The proposed mitigation measures are illustrated on the plans contained in **Appendix T11**.

Table 9.6.3: Mitigation modelling 2030

Junction	Do Something Mitigation	
	Max RFC/VoC/ DoS	Max Queue Length
A49/Sandy Lane West/Calver Road	89.7%	29
A50 Orford Green/Hilden Road/Poplars Avenue	-*	47
Capesthorne Road/Poplars Avenue	59%	1
Enfield Park Road/Crab Lane**	86.7%	22

***Cannot be done with lane simulation within Junctions 9**

****2017 base data (assuming zero growth – see TA, and cycle ran with pedestrian phase called one out of every two cycles i.e. every four minutes)**

9.6.16 From the above **Tables 9.6.2** and **9.6.3** it can be seen that the proposed mitigation measures improve the operation of the junctions; reducing the development impact at junctions (i-iii) to Do Minimum levels or below i.e. maximum queue length of 82 vehicles at A50 Orford Green junction Do Minimum no mitigation 2030 to a maximum queue length of 47 vehicles in the Do Something Mitigation scenario. In summary, it is considered that these junctions will experience **negligible to minor beneficial significance** as part of the mitigation package with the development at Peel Hall.

9.6.17 From the above tables it can be seen that the mitigation measures proposed at the Crab Lane junction with Enfield Park Avenue will significantly improve the operation of this junction with the addition of the Peel Hall development traffic (112% capacity reduced to 87% capacity in 2030 Do Something). It is therefore concluded that the impact of development traffic at this junction will be of **minor adverse significance**.

9.6.18 As well as the proposed alterations to bus services providing a genuine choice for travel, additional measures such as the introduction of Travel Plans for the various land uses will be provided and this is expected to include, for example, subsidised bus travel and cycle purchase discounts. The implementation of Travel Plan measures will reduce congestion and encourage healthier travel choices.

The Residual Impacts - Existing Residents and Users of the Local Area

9.6.19 The local residents will have access to a new local centre and primary school, as well as better access to bus services to and from Birchwood and improved cycle and footway networks. However, there will be more traffic on the highway network as a result of the Peel Hall development. Overall there is likely to be a direct permanent long term residual effect on existing local residents.

9.6.20 It is therefore considered that there will be a medium to high magnitude of change for existing residents and users of the local area, resulting in a **moderate beneficial significance** of impact overall.

The Residual Impacts - Future Residents

9.6.21 It is considered that for future residents of the Peel Hall site there will be a **major beneficial significance** of impact due to the range of facilities that will be on site and the range of sustainable transport choices available.

9.7 Summary

9.7.1 The Peel Hall site is located on the northern edge of Warrington, adjacent to the existing residential areas of Hulme, Blackbrook, Cinnamon Brow and Houghton Green. It is bounded by the M62 to the north, Mill Lane to the east, Poplars Avenue to the south and Birch Avenue and Elm Road to the west. At times during the peak periods congestion can occur along the main corridors in the area including M62, Winwick Road, Sand Lane West, Long Lane, Blackbrook Avenue and Birchwood Way, as well as elsewhere.

9.7.2 The Transport Assessment considers all modes of travel and the demands that the proposed development will place on transport infrastructure. The study area covers a large part of the local transport network including pedestrian and cycle links to the surrounding areas as well as public transport services and facilities. Plans showing the overall study area, the existing highway network within the study area, the existing bus network and the existing pedestrian network are contained in **Appendices T1**, **T2**, **T3** and **T4** respectively. The assessment work is based on a SATURN model of the north Warrington area, which has then been used to model individual junctions to test the impact of the development.

9.7.3 The site is served by very good existing bus services and at peak times these routes are busy, especially closer to the centre of Warrington. The site is also served by existing PRoW that currently attracts mainly dog walkers and occasional recreational walkers. Facilities for cyclists in the vicinity of the site are limited to shared footways/cycleways and advance stop lines at traffic signals.

9.7.4 It is proposed that the main vehicular accesses to the development will be provided from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and from Poplars Avenue. Additional access is provided from Mill Lane, Birch Avenue and a second access on Poplars Avenue to serve the employment area. Access to the improved sports pitches will be from Grasmere Avenue.

9.7.5 It is also proposed that existing bus services will be diverted into the site during the construction phase. Once the distributor road through the site is completed a new and attractive bus service will be provided that will connect the development with the town centre to the south and with Birchwood to the east.

9.7.6 A high level of connectivity for pedestrians and cyclists will be provided through the site and connections will be made to the existing pedestrian routes around the site, and enhanced by the additional accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue.

9.7.7 During the construction phase each site access junction is expected to have HGV construction traffic associated with it, although the Birch Avenue construction traffic will access the site via the employment land and not through Birch Avenue. The anticipated route for construction traffic is expected to be via M62 Junction 9, A49 Winwick Road, A50 Long Lane, Birchwood Way, then either Poplars Avenue or Blackbrook Avenue and Mill Lane.

9.7.8 During the construction phase the predicted impact is expected to be:

i. Highway – minor to moderate adverse significance.
ii. Bus – minor beneficial significance.
iii. Pedestrians and Cyclists - minor to moderate adverse significance.
iv. Residual - negligible to minor adverse significance.

9.7.9 During the operational phase the predicted impact is expected to be:

i. Highway Links Adjacent to Site – moderate to minor adverse significance.
ii. Site Access Junctions – minor adverse significance.
iii. Wider Highway Network with Mitigation – moderate beneficial significance
iv. Wider Highway Network Not Requiring Mitigation – minor adverse significance
v. Bus – major beneficial significance.
vi. Pedestrians and Cyclists - moderate beneficial significance.
vii. Residual - moderate to major beneficial significance.

10.0 CULTURAL HERITAGE AND ARCHAEOLOGY

10.1 Introduction

10.1.1 This chapter has been prepared by Nexus Heritage. It assesses the likely significant environmental effects in relation to cultural heritage and archaeology associated with the proposed development. Archaeology is the study of human history and prehistory through the excavation of sites and the analysis of artefacts and other physical remains. Cultural heritage is the legacy of physical and intangible attributes of a group or society that are inherited from past generations. For the purposes of this assessment, archaeological assets can be considered as buried remains in the forms of deposit, structures and artefacts and cultural heritage can be considered as upstanding attributes such as historic buildings, monuments, hedgerows, historic landscapes, and battlefields.

10.1.2 The structured cultural heritage and archaeological assessment herein provided is derived from a full and comprehensive examination of data related to designated and undesignated archaeological sites and monuments, historic landscape, hedgerows, historic buildings, historic parks and gardens, Conservation Areas, Registered Battlefields and World Heritage Sites and benefits from asset mapping drawn from detailed on-site observations, documentary research and on-site investigations. The assessment is based on the description of the proposed development as set out at Section 2.5 of this report and as shown on the Parameters Plan. The approach has been adopted in the spirit of the EIA Directive2, to aid decision making and to ensure that members of the public concerned are able to participate.

10.1.3 The Assessment Site is located between the M62 and Poplars Avenue. The following sections provide a summary on the legislation, policy and guidance that is of relevance to the assessment of cultural heritage and archaeology.

10.1.4 The Cultural Heritage and Archaeology Chapter of the Environmental Statement (ES) assessed the likely significant effects of the proposed development with respect to cultural heritage and archaeological assets.

10.1.5 This Chapter outlines the outcome of the additional assessment work on the potential effect on cultural heritage and archaeological assets and where relevant supersedes the conclusions reached in the Cultural Heritage Chapter and Archaeology of the ES.

10.2 Legislation

The cultural heritage and archaeological legislation set out in the ES (10.2) remains valid.

10.3 National Planning Policy

The national planning policy framework set out in the ES (10.3) remains valid.

10.4 Local Planning Policies

The local planning policy framework set out in the ES (10.4) remains valid.

10.5 Guidance

10.5.1 The professional guidance set out in the ES (10.5) remains valid. There has been one minor amendment to the Chartered Institute for Archaeologists *Standard and Guidance for Historic Environment Desk-Based Assessment.* The ES was prepared with reference to the 2014 edition of this document. A revised edition was issued by the Chartered Institute for Archaeologists in January 2017. The minor amendment does not invalidate the methodological approach utilised or conclusions drawn in the ES.

10.6 Methodology

This section of the Environmental Statement remains unchanged (10.6).

10.7 Assessment Site and Assessment Area

This section of the Environmental Statement remains unchanged (10.7).

10.8 Surveys

This section of the Environmental Statement remains unchanged (10.8).

10.9 Data Collection and Review

This section of the Environmental Statement remains unchanged (10.9).

10.10 Assessing the Value of Cultural Heritage and Archaeological Assets

This section of the Environmental Statement remains unchanged (10.10).

10.11 Baseline Conditions

10.11.1 A review of the cultural heritage and archaeological assets in and around the proposed development site has been undertaken and the 2016 baseline remains, in the main, valid. Therefore, this section of the Environmental Statement remains broadly unchanged (10.11). However, in his consultation response to the Council regarding application 2016/28492, the Team Leader of Cheshire Archaeology Planning Advisory Service (CAPAS) drew particular attention to an area of undated ditches extending over an area of *c.* 50m by 50m in the north-east corner of the site, which may represent an area of earlier settlement. This area was included in the Environmental Statement under gazetteer no. 41 – an archaeological evaluation by means of trial trenches undertaken in 2001 – but not otherwise specifically identified. These undated ditches are of low importance.

10.12 Baseline Conditions

Historic Landscape Character

This section of the Environmental Statement remains unchanged (10.13).

10.13 Historic Buildings and Structures

This section of the Environmental Statement remains unchanged (10.14).

10.14 Scheduled Ancient Monuments, Conservation Areas, Registered Battlefields, Registered Historic Parks and Gardens, UNESCO World Heritage Sites

This section of the Environmental Statement remains unchanged (10.15).

10.15 Importance of the Assets

This section of the Environmental Statement remains unchanged (10.16).

10.16 Potential Effects

10.16.1 The effects resulting from the construction of the proposed development remain unchanged from those described in the ES Chapter (10.17) with the exception that an area of undated ditches extending over an area of *c.* 50m by 50m in the north-east corner of the site, which may represent an area of earlier settlement, corresponds with a proposed parcel of developable land as shown on the Indicative Landscape Components Plan. These undated ditches would be likely to be subject to an impact arising from the proposed development.

10.16.2 The effects resulting from the operation of the proposed development remain unchanged from those described in the ES Chapter.

10.17 Project Design

10.17.1 The proposed mitigation measures to be deployed in order to mitigate the significance of effect on cultural heritage and archaeological assets remain proportional, appropriate and valid and this section of the Environmental Statement remains unchanged (10.18), with the exception that the area of undated ditches would benefit from a programme of formal mitigation in the form of an archaeological strip and record exercise extending across an area measuring *c.* 50m by 50m to be followed by appropriate assessment, analysis, reporting, dissemination and archiving of the results.

10.18 Assessment of Effects

10.18.1 The assessment of the effects resulting from the construction of the proposed development remain unchanged from those described in the ES Chapter (10.19) with the exception that an area of undated ditches extending over an area of *c.* 50m by 50m in the north-east corner of the site, which may represent an area of earlier settlement, corresponds with a proposed parcel of developable land as shown on the Indicative Landscape Components Plan. Therefore, area of undated ditches extending over an area of *c.* 50m by 50m in the north east corner of the site would be likely to be subject to an impact arising from the proposed development. The impact is characterised as major adverse and the effect is characterised as slight/moderate negative.

10.19 Residual Effects

10.19.1 The mitigation measures and the advancement of understanding compensates for the loss of any cultural heritage and archaeological assets. The investigation and recording of any cultural heritage and archaeological assets would lead to an overall residual adverse effect that is Slight Negative/Neutral for all directly impacted assets. The residual effect, therefore, remains as reported in the Environmental Assessment (10.19) with the exception that the proposed mitigation for the area of undated ditches should also be taken into account and the corresponding and specific reduction in the slight/moderate negative effect to a residual effect of slight negative/neutral should be recognised.

10.20 Cumulative Effects

10.20.1 The cumulative impact assessment concludes that providing adequate consideration has been given by the Council to cultural heritage and archaeology within the due planning process applied to the proposed development and that, where consented, adequate mitigation measures are specified and carried out, then cumulative impacts on archaeological and cultural heritage assets arising from the proposed development are not considered to be significant.

10.21 PINS Request Arising from Schedule 4 of Regulation 22 of the 2011 EIA Regulations

10.21.1 Following examination of the ES, the Secretary of State notified the appellant that to comply with Schedule 4 of Regulation 22 of the 2011 EIA Regulations (Information for inclusion in environmental statements) further information was required. With respect to cultural heritage and archaeology the following was requested: justification for not undertaking detailed archaeological evaluations in the north-west and south-east sections of the site. This Chapter will also therefore address the Secretary of State's request.

10.21.2 In responding to the Secretary of State's request it should be noted that the overall objective of the cultural heritage and archaeology assessment was to provide a realistic assessment of likely significant effects on the environment with reference to cultural heritage and archaeological assets and to allow for an informed decision-making process.

10.21.3 In line with the overall objective, the aim of the assessment was to:

- Identify all known and potential designated and non-designated cultural heritage and archaeological assets within and in the vicinity of the proposed development that may be affected by the proposed development and evaluate their significance;
- Outline any likely environmental impacts of the proposed development on cultural heritage and archaeological assets, likely to be affected, assessing the magnitude of any identified impacts;
- Assess the effects of the proposed development upon those cultural heritage and archaeological assets, categorising the scale of effect against significance;

- Identify, where relevant, any mitigation measures and assess the likely residual impact after such mitigation on the identified cultural heritage and archaeological assets

10.21.4 With respect to the geographic extent of the study area utilised for the Cultural Heritage and Archaeology Chapter of the ES designated and non-designated cultural heritage and archaeological assets, both within the proposed development (the Assessment Site) and within approximately 500m of the Assessment Site boundary of the proposed development (the Assessment Area) were identified and considered. An assessment area of this extent represents a commonly adopted and satisfactory geographic range for the purposes of assessment and was acceptable to the Local Planning Authority. The cultural heritage and archaeological assets in the Assessment Area have been identified and considered in order that the known and potential cultural heritage and archaeological assets of the Assessment Site can be placed in the broader context of the known knowledge-base of the area. However, certain assets which, although located beyond the Assessment Area, were also been taken into account and were considered during this assessment process using professional judgment and discrimination. It was considered that the assessment process, whilst it needs to be conducted with reference to a framework defined by geographical limits, should not be rigidly constrained by such a framework and particular archaeological and cultural heritage assets should not be omitted merely on the basis of distance from the application site.

10.21.5 As part of a duly diligent approach to the assessment process reports of previous, relevant investigative archaeological and cultural heritage undertakings were reviewed. This review included examination of the CPM document *Land at Peel Hal, Warrington, Cheshire – An Archaeological Assessment*, prepared in 1999 and used for a number of planning applications that were either withdrawn or refused 99/31332, 99/40295, 99/40296, 99/40299 and 99/402300. This document was useful, and whilst the land it considered was broadly coincident with the application area for 2016/28492, the fact of its age and the points of departure between the respective applications meant that it could be not be wholly relied upon completely for application 2016/28492. Accordingly, after discussions with the Historic Environment Records Officer and the Development Management Archaeologist and Team Leader of Cheshire Archaeology Planning Advisory Service (CAPAS) concerning the assessment parameters for the Cultural Heritage and Archaeology Chapter of the Environmental Statement (ES), the Cheshire Historic Environment Record (CHER) was consulted to obtain the latest information on known sites and features of archaeological interest within the Assessment Site and the Assessment Area. The CHER data was supplemented and cross-referenced by means of examination of historic mapping of the assessment area, aerial photographs of the Assessment Site and published works such as archaeological/historic journals issued by learned societies and reference books on the archaeology and history of the area. Searches were also made of data in the Cheshire Record Office (CRO), the Lancashire Record Office (LRO), Warrington Museum & Art Gallery (WM&AG), Warrington Library (WL) and a number of online sources such as the Heritage Gateway database,

the National Heritage List, and the National Monuments Record's *PastScape* historic environment database. A comprehensive map-regression exercise was undertaken.

10.21.6 As recognised by the contents of the ES and by the Development Management Archaeologist and Team Leader of CAPAS in his consultation response to 2016/28492 dated 17 August 2016, the areas of archaeological interest on the site are focussed on the land immediately to the south of Peel Hall and an area of undated ditches extending over an area of *c*. 50m by 50m in the north east corner of the application area at SJ 6199 9187 which may represent an area of earlier settlement. This archaeological interest was demonstrated by an archaeological evaluation by means of trial trenches carried out by the Lancaster University Archaeological Unit in 2001. The information collected during preparation of the ES suggests that it would be unreasonable to undertake any further detailed archaeological evaluations at the site as the balance of evidence suggests there are unlikely to be archaeological remains in the north-west and south east sections of the site, and it would be unreasonable for evaluative archaeological investigation to be undertaken in these areas of the site.

10.21.7 For the purposes of clarity it is noted that the Development Management Archaeologist and Team Leader of CAPAS made no adverse comment on the content of Chapter 10 of the ES which accompanied application 2016/28492. The inference to be drawn from this absence of adverse comment is that Chapter 10 of the ES contained sufficient information for an informed opinion to be provided to the Council on the archaeological implications of the proposed development. It is also noted that the Development Management Archaeologist and Team Leader raised no objection to application 2016/28492 on archaeological grounds and that the spirit and intent of his recommended condition, should the Council have been mindful to grant permission, to mitigate any harm to archaeological remains that may have occurred during construction, was consistent with the proposed archaeological mitigation detailed in the ES.

11.0 NOISE & VIBRATION

11.1 Introduction

This section of the Environmental Statement remains unchanged.

11.2 Planning Policy

This section of the Environmental Statement remains unchanged.

11.3 Assessment Criteria

This section of the Environmental Statement remains unchanged.

11.4 Baseline Conditions

This section of the Environmental Statement remains unchanged.

11.5 Impacts of the Local Area on the Development

This section of the Environmental Statement remains unchanged.

11.6 Impacts of the Development on the Local Area

11.6.1 This section of the Environmental Statement remains unchanged.

The Impact of Changes in Traffic Flow

11.6.2 The proposed development will see traffic generation on the surrounding road network. The transport consultants for the scheme (Highgate Transportation) have provided traffic data for surrounding roads both with and without the proposed development in place, for the proposed opening year of 2021. The traffic data was provided in AADT flows, but have been converted for purposes of the noise assessments to an 18-hour traffic flow (6am to midnight) using conversion factors derived from local traffic count data. Flows with and without other committed development has also been provided in order to assess the cumulative impact of the proposed development. **Table 6.1** summarises the traffic data used in the assessment.

Table 6.1: Summary of Traffic Data

Road	18-hour Flow – 2021			% Change[1]
	Base Flow	Base + Committed	Base + Committed + Development	
Poplars Avenue	7879	7897	12124	54%
Mill Lane (Blackbrook Avenue - site access)	9747	9823	11928	21%
Mill Lane (Radley Lane - Delph Lane)	1151	1151	2503	118%
Delph Lane	9203	9279	10449	13%
Blackbrook Avenue (Mill Lane - Capesthorne Road)	8849	8925	15858	78%

Road	18-hour Flow – 2021			% Change[1]
	Base Flow	Base + Committed	Base + Committed + Development	
Blackbrook Avenue (Capesthorne Road - Insall Road)	8994	9147	10606	16%
Cotswold Road	2138	2138	2585	21%
Cleveland Road	6664	6764	8951	32%
Sandy Lane West	9422	9575	12115	27%
Sandy Lane	2667	2831	2978	5%
Winwick Road (M62 - Sandy Lane West)	43536	43671	44900	3%
Capesthorne Road	11653	11853	14975	26%
Enfield Park Road	8183	8289	11270	36%
Howson Road	1754	1777	3235	82%
Myddleton Lane	15139	15215	15791	4%
Winwick Link Road	20750	20797	20944	1%
M62 west	61830	61830	61083	-1%
M62 west off slip	12609	12639	12956	3%
M62 east	55267	55267	54756	-1%

Note 1: Increase in traffic flows attributed to the proposed development, i.e. increase in "Base + Committed + Development" over "Base + Committed".

11.6.3 Using the changes in traffic flow, the changes in noise levels have been calculated using the methodology contained within the Calculation of Road Traffic Noise (CRTN). **Table 6.2** summarises the results of these calculations for thirteen representative receptor locations. Locations of the representative receptors can be seen in **Appendix AI2.**

Table 6.2: Summary of Traffic Noise Impacts at Representative Receptor Locations

Receptor Location	Change in $L_{A10, 18hr}$
61 Mill Lane	0.4
2 Mill Lane	0.8
15 Colstream Close	1.1
112 St Bridgets Close	1.5
132 Capesthorne Road	1.0

Receptor Location	Change in $L_{A10, 18hr}$
2 Birch Avenue	1.3
36 Cotswold Road	0.8
21 Sandy Lane West	1.0
83 Myddleton Lane	0.2
150 Poplars Ave	1.9
312 Poplars Ave	1.9
358 Poplars Avenue	1.9

11.6.4 This section of the Environmental Statement remains unchanged.

11.6.5 **Table 6.2** shows that at worst, a number of properties close to the road network are likely to experience "Slight" impacts as a consequence of the proposed development. It should be noted at that the worst affected properties along Mill Lane, where there is a 153% increase in traffic flow predicted, there will be no impact as the noise created by the increased traffic will still be below the level of noise generated by the M62.

Table 6.3: Summary of Traffic Noise Impact Magnitude

Receptor Location	Noise Impact Magnitude
61 Mill Lane	Negligible/No Impact
2 Mill Lane	Negligible/No Impact
15 Colstream Close	Slight/Minor
112 St Bridgets Close	Slight/Minor
132 Capesthorne Road	Slight/Minor
2 Birch Avenue	Slight/Minor
36 Cotswold Road	Negligible/No Impact
21 Sandy Lane West	Slight/Minor
83 Myddleton Lane	Negligible/No Impact
150 Poplars Ave	Slight/Minor
312 Poplars Ave	Slight/Minor
358 Poplars Avenue	Slight/Minor

Cumulative Impacts for Traffic Noise

11.6.6 This section of the Environmental Statement remains unchanged.

11.6.7 This section of the Environmental Statement remains unchanged.

11.6.8 In order to assess the impact of the proposed development, previously the changes in noise level as described in **Table 6.2**, and **Table 6.3** have been modelled both with and without the proposed development, including all committed development traffic. However, in **Table 6.4** and **Table 6.5**, the noise level with the proposed development and all other committed development is compared to noise levels without either the proposed development or other committed development, to determine the cumulative impact of all development in the area.

Table 6.4: Summary of the Cumulative Traffic Noise Impacts at Representative Receptor Locations

Receptor Location	Change in $L_{A10, 18hr}$
61 Mill Lane	0.4
2 Mill Lane	0.8
15 Colstream Close	1.1
112 St Bridgets Close	1.6
132 Capesthorne Road	1.1
2 Birch Avenue	1.4
36 Cotswold Road	0.8
21 Sandy Lane West	1.1
83 Myddleton Lane	0.2
150 Poplars Ave	1.9
312 Poplars Ave	1.9
358 Poplars Avenue	1.9

Table 6.5: Summary of Traffic Noise Impact Magnitude

Receptor Location	Noise Impact Magnitude
61 Mill Lane	Negligible/No Impact
2 Mill Lane	Negligible/No Impact
15 Colstream Close	Slight/Minor
112 St Bridgets Close	Slight/Minor
132 Capesthorne Road	Slight/Minor
2 Birch Avenue	Slight/Minor
36 Cotswold Road	Negligible/No Impact
21 Sandy Lane West	Slight/Minor
83 Myddleton Lane	Negligible/No Impact
150 Poplars Ave	Slight/Minor
312 Poplars Ave	Slight/Minor
358 Poplars Avenue	Slight/Minor

11.6.9 The results in **Table 6.4** and **Table 6.5** show that the impact of the increase in traffic flow is still very small at the worst affected sensitive receptors and although the impact is greater when considering all development together, the cumulative impact is still considered to be *"Slight/Minor"* or less at all receptor locations.

The Impact of Plant Noise

This section of the Environmental Statement remains unchanged (11.6.10-11.6.12)

The Impact of Construction Noise

This section of the Environmental Statement remains unchanged (11.6.13).

11.7 Evaluation of Significance

This section of the Environmental Statement remains unchanged.

11.8 Mitigation

This section of the Environmental Statement remains unchanged.

11.9 Conclusions

This section of the Environmental Statement remains unchanged.

11.10 Planning Inspectorate Additional Information

The Planning Inspectorate has requested that all ES Chapters are updated to reflect the updated transport assessment. In addition, they have asked for the following clarifications and additional information:

"Substantiation of the Annual Average Daily Traffic (AADT) flow data used to underpin the traffic noise and vibration and air pollution assessments, since the TA submitted with the ES focusses on am/pm peak hour flows only. Conversion factors used to generate 18 hour and future 18 hour flows should also be presented";

In the absence of site specific conversion factors, we used the following conversion factor to generate the AADT flow:

(AM Peak + PM Peak) x 6 = AADT

Then the AADT flow was converted to 18-hour traffic flows, using the following equation:

AADT x 0.98 = 18-hour flow

"An assessment of night time traffic noise impacts on the development, in light of the proximity of the development to 24 hour motorway operations";

Noise monitoring was carried out during the night time period – this is can be seen in **Table 4.2** of the noise chapter. Section 5 of the chapter then goes on to discuss the implications of these measurements.

12.0 AIR QUALITY

This section has been prepared by Hawkins Environmental Limited.

12.1 Planning Policy

This section of the Environmental Statement remains unchanged (12.1.1 – 12.1.8).

12.2 Assessment Criteria

This section of the Environmental Statement remains unchanged (12.2.1 – 12.2.6).

12.3 Construction Dust Impact Assessment

This section of the Environmental Statement remains unchanged (12.3.1 – 12.3.2).

12.4 Scoping

This section of the Environmental Statement remains unchanged (12.4.1 – 12.4.7).

12.5 Methodology

This section of the Environmental Statement remains unchanged (12.5.1).

12.6 Baseline Conditions

This section of the Environmental Statement remains unchanged (12.6.1 – 12.6.7).

12.7 Impacts of the Local Area on the Development

This section of the Environmental Statement remains unchanged (12.7.1 – 12.7.8).

12.8 Impacts of the Development on the Local Area

Traffic Related Emissions

12.8.1 This section of the Environmental Statement remains unchanged.

12.8.2 This section of the Environmental Statement remains unchanged.

12.8.2 To characterise the change in air quality as a consequence of the proposed development, predictions of air pollutant concentrations at sensitive receptors have been carried out for the proposed opening year of the development (2021) both with and without the proposed development traffic. **Appendix AI 4** provides a description of the methodology used within the assessment, including the method to calculate NO2 from NOx. **Appendix AI 5** outlines the input data, including traffic data, background concentrations. In addition, details of the verification factor applied to the predicted concentrations of NOx can also be found in **Appendix AI 5**.

12.8.3 Concentrations have been calculated for twelve sensitive receptors at locations likely to be most affected by changes in both relative and absolute traffic flows. The locations of these receptor

locations can be seen on the plan in **Appendix AI 5**. The results of these predictions can be seen in **Table 8.1** and **Table 8.2**, for without with development related traffic flows respectively.

Table 8.1: Air Quality Concentrations 2021 – Without Development Related Traffic

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
61 Mill Lane	26.03	18.07	1.46	14.04
2 Mill Lane	26.45	18.12	1.49	14.07
15 Colstream Close	25.95	18.06	1.45	14.04
112 St Bridgets Close	25.95	18.07	1.46	14.04
132 Capesthorne Road	26.10	18.11	1.49	14.06
2 Birch Avenue	26.26	18.13	1.50	14.07
36 Cotswold Road	25.99	18.08	1.47	14.05
21 Sandy Lane West	25.93	18.07	1.46	14.04
83 Myddleton Lane	26.47	18.18	1.55	14.10
150 Poplars Ave	25.92	18.07	1.46	14.04
312 Poplars Ave	26.05	18.09	1.48	14.05
358 Poplars Avenue	26.07	18.09	1.48	14.05
NAQO	**40**	**40**	**35**	**25**

Table 8.2: Air Quality Concentrations 2021 – With Development Related Traffic

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
61 Mill Lane	26.22	18.11	1.49	14.07
2 Mill Lane	26.47	18.12	1.50	14.08
15 Colstream Close	26.05	18.09	1.47	14.05
112 St Bridgets Close	26.02	18.09	1.47	14.05
132 Capesthorne Road	26.23	18.14	1.51	14.08
2 Birch Avenue	26.28	18.14	1.51	14.08
36 Cotswold Road	26.02	18.09	1.47	14.05
21 Sandy Lane West	25.98	18.09	1.47	14.05
83 Myddleton Lane	26.50	18.18	1.55	14.11
150 Poplars Ave	26.05	18.10	1.48	14.06

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
312 Poplars Ave	26.22	18.13	1.50	14.07
358 Poplars Avenue	26.22	18.13	1.50	14.07
NAQO	**40**	**40**	**35**	**25**

12.8.4 The results of these predictions can be used to identify the increase in pollutant concentrations as a consequence of the proposed traffic generation. These calculations can be seen in **Table 8.3.** The results show that the impact of the increase in traffic flow is very small at the worst affected sensitive receptors, such that the percentage change in concentrations relative to AQAL is just under 0.5%, which is imperceptible at all receptor locations. Consequently, the proposed development will not have an impact on the air quality of the local area and the impact is considered to be “negligible”.

Table 8.3: Assessment of the Impacts of the Increases in Traffic Flow

Receptor	NO_2 (µg/m^3) Annual mean		% Change in Concentrations Relative to Air Quality Assessment Level (AQAL)	Long Term Average Concentration at Receptor in Assessment Year	Impact Descriptor
	Without Development	With Development			
61 Mill Lane	26.03	26.22	0.475	66% of AQAL	*Negligible*
2 Mill Lane	26.45	26.47	0.05	66% of AQAL	*Negligible*
15 Colstream Close	25.95	26.05	0.25	65% of AQAL	*Negligible*
112 St Bridgets Close	25.95	26.02	0.175	65% of AQAL	*Negligible*
132 Capesthorne Road	26.10	26.23	0.325	66% of AQAL	*Negligible*
2 Birch Avenue	26.26	26.28	0.05	66% of AQAL	*Negligible*
36 Cotswold Road	25.99	26.02	0.075	65% of AQAL	*Negligible*
21 Sandy Lane West	25.93	25.98	0.125	65% of AQAL	*Negligible*
83 Myddleton Lane	26.47	26.5	0.075	66% of AQAL	*Negligible*
150 Poplars Ave	25.92	26.05	0.325	65% of AQAL	*Negligible*
312 Poplars Ave	26.05	26.22	0.425	66% of AQAL	*Negligible*
358 Poplars Avenue	26.07	26.22	0.375	66% of AQAL	*Negligible*
NAQO	**40**	**40**	**-**	**-**	**-**

12.9 Cumulative Impacts

This section of the Environmental Statement remains unchanged (12.9.1 – 12.9.4).

Table 8.4: Assessment of the Cumulative Impacts of the Increases in Traffic Flow

Receptor	NO_2 (µg/m^3) Annual mean		% Change in Concentrations Relative to Air Quality Assessment Level (AQAL)	Long Term Average Concentration at Receptor in Assessment Year	Impact Descriptor
	Without Development	With Development			
61 Mill Lane	26.03	26.22	0.475	66% of AQAL	*Negligible*
2 Mill Lane	26.45	26.47	0.05	66% of AQAL	*Negligible*
15 Colstream Close	25.94	26.05	0.275	65% of AQAL	*Negligible*
112 St Bridgets Close	25.95	26.02	0.175	65% of AQAL	*Negligible*
132 Capesthorne Road	26.09	26.23	0.35	66% of AQAL	*Negligible*
2 Birch Avenue	26.26	26.28	0.05	66% of AQAL	*Negligible*
36 Cotswold Road	25.99	26.02	0.075	65% of AQAL	*Negligible*
21 Sandy Lane West	25.93	25.98	0.125	65% of AQAL	*Negligible*
83 Myddleton Lane	26.47	26.5	0.075	66% of AQAL	*Negligible*
150 Poplars Ave	25.78	26.05	0.675	65% of AQAL	*Negligible*
312 Poplars Ave	25.91	26.22	0.775	66% of AQAL	*Negligible*
358 Poplars Avenue	26.04	26.22	0.45	66% of AQAL	*Negligible*
NAQO	**40**	**40**	**-**	**-**	**-**

Combustion Emissions from Onsite Plant

This section of the Environmental Statement remains unchanged (12.9.5).

12.10 Construction Dust Impact Assessment

This section of the Environmental Statement remains unchanged (12.10.1 - 12.10.16).

12.11 Evaluation of Significance

This section of the Environmental Statement remains unchanged (12.11.1 - 12.11.2).

12.12 Mitigation

This section of the Environmental Statement remains unchanged (12.12.1).

12.13 Conclusions

This section of the Environmental Statement remains unchanged (12.13.1 - 12.13.5).

12.14 Planning Inspectorate Additional Information

The Planning Inspectorate has requested that all ES Chapters are updated to reflect the updated transport assessment. In addition, they have asked for the following clarifications and additional information:

"Substantiation of the Annual Average Daily Traffic (AADT) flow data used to underpin the traffic noise and vibration and air pollution assessments, since the TA submitted with the ES focusses on am/pm peak hour flows only. Conversion factors used to generate 18 hour and future 18 hour flows should also be presented";

In the absence of site specific conversion factors, we used the following conversion factor to generate the AADT flow for use in the air quality assessment:

(AM Peak + PM Peak) x 6 = AADT

"Justification for the use of a shortened monitoring period with respect to technical guidance (TG09), in particular the use of two months of data to represent air quality at the Footbridge M62 monitoring location and the use of a September rather than a January or July start date for surveys. The Appellant should also justify the use of the 0.82 bias adjustment factor rather than the 0.86 factor used in the WBC Updating and Screening Assessment. The Appellant should also confirm the method of preparation of diffusion tubes used".

TG09 (which has now been superseded by TG16) recommends a minimum of 3 months monitoring – our monitoring period was four months; therefore, the length of our diffusion tube survey was in line with the guidance. However, the tube at the footbridge over the M62 went missing on two occasions, hence why there was only two months' worth of data. This was noted in the chapter and the results (due to their unreliable nature) were not used in any of the calculations. TG09 only notes that it is preferable to carry out monitoring from either July or January, but not a necessity – in fact this recommendation has now been omitted from TG16, the latest version of the guidance, presumably because it is rarely adhered to. Whilst, it is preferable to have monitoring in both winter and summer months, the scheduling of ES chapters and the often tight timeframe required to complete such works means that in reality, it is rare for monitoring to occur for six months from either January or July. Providing that the results are seasonally adjusted (utilising the guidance contained within TG09/TG16) in order to provide an annual average mean, which is what was carried out at this particular site, the start date of the survey should not adversely affect the results.

Regarding the bias adjustment factor, the national factor appropriate, for the type of tubes used was seen as appropriate, hence why 0.86 was used. At the time of the survey, the local bias adjustment factor of 0.82 from the WBC Updating and Screening Assessment would not have been available to us; furthermore, it would be uncommon to use a local bias adjustment factor from a local authority Updating and Screening Assessment, as this is specific only to the types of tubes used by the local authority and for the measurement period over which the local authority measured. Generally, either one would co-locate diffusion tubes at the local monitoring station to generate a local bias adjustment factor that would be specific only to the type of tubes used (which was not done at this location) or one would use a national adjustment factor – it would be highly unusual to use a local adjustment factor from a local authority Updating and Screening Assessment. It should be noted that the bias adjustment factor used was 0.86, which is higher than the local bias adjustment factor of 0.82 from the WBC Updating and Screening Assessment. Therefore, the measurements in the ES would have been marginally lower had we used the local bias adjustment factor of 0.82. Consequently, it is considered that the results as presented in the ES Chapter are considered to be a worst-case scenario.

I can confirm that our diffusion tunes were 20% TEA, prepared by Gradko.

13.0 SOCIO-ECONOMIC ASSESSMENT

13.1 Introduction

Paragraphs 13.1.1 - 13.1.6 of the Environmental Statement remain unchanged.

13.1.7 Since the preparation of the July 2016 socio-economic chapter of the ES, the scheme has evolved and the current description of development suggests a different magnitude of floorspace than was originally modelled. From the current description of development, this Chapter of the Addendum updates the socio-economic impacts where necessary.

13.1.8 As the quantum and mix of land uses will not differ between Options A and B, the socio-economic impact will be unchanged between the two Options.

13.2 Planning Policy

This section of the Environmental Statement remains unchanged.

13.3 Assessment Methodology & Significance Criteria

This section of the Environmental Statement remains unchanged.

13.4 Baseline Conditions

Paragraphs 13.4.1-13.4.4 of the Environmental Statement remain unchanged.

Other Socio-Economic Factors

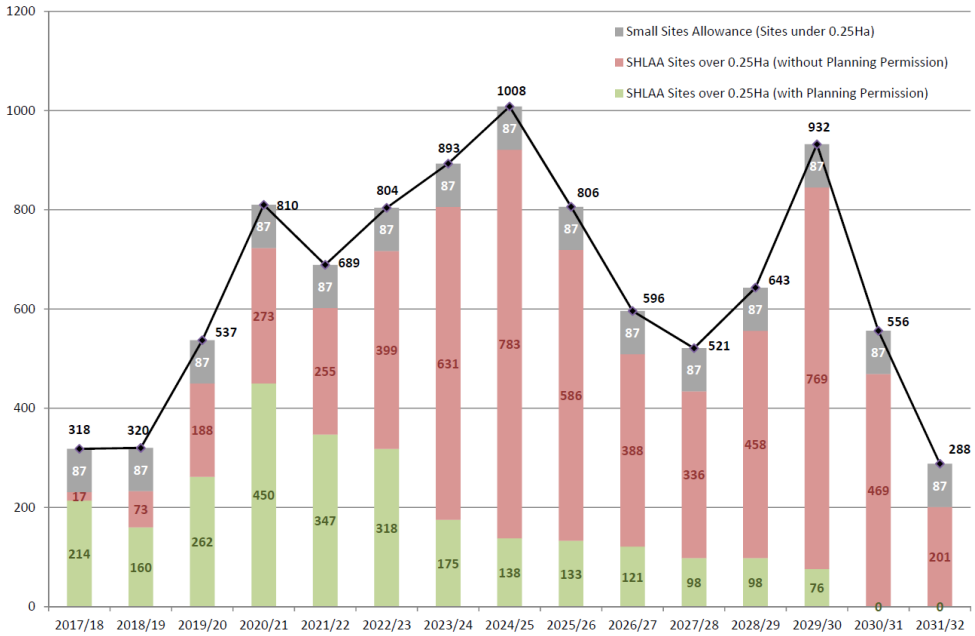
Housing Provision

13.4.5 At the time of the 2011 Census, a total of 87,943 dwellings were located within Warrington Borough.[1] The Warrington Core Strategy (adopted July 2014) does not contain an extant housing target as the relevant policies (W1 and CS2) were quashed in the High Court in February 2015[2]. The council is reviewing its Objectively Assessed Need for Housing as a result of this decision. The emerging Local Plan Preferred Development Option for Warrington (regulation 18 Consultation, July 2017) sets out a proposed target of 1,113 dwellings per annum [dpa] over the 20 year Plan period 2017 to 2037 (22,260 dwellings in total).

13.4.6 Figure 13.5 plots the Borough's Housing Land Supply as stated in the Borough's 2017 SHLAA[3]. The Council considers that it can demonstrate a deliverable supply of 2,674 dwellings over the next 5 years, with a total of 9,721 dwellings that are deliverable / developable over the next 15 years[4].

[1] Census (2011) Question QS418EW
[1] [2015] EWHC 370 (Admin)
[1] It should be noted that Lichfields has some concerns with the SHLAA and the extent to which Warrington Borough can demonstrate a 5-year housing land supply
[1] Warrington Borough Council (July 2017): Strategic Housing Land Availability Assessment, Table 3.7

Figure 13.5 Warrington Borough Housing Land Supply (including Small Sites Allowance)



Source: Warrington Borough Council (2017) SHLAA

13.4.7 Affordability is a key issue in the Borough, with the ratio of lower quartile house prices to (resident based) incomes in Warrington in 2016 equal to 6.14. This is lower than the national rate of 7.2, but significantly higher than the neighbouring authorities of St Helens (4.36), Wigan (4.43) and Halton (4.70)[5].

Education Provision

13.4.8 Any development that generates additional housing demand locally may also have an impact on education requirements.

13.4.9 WBC issued a Planning Obligations Supplementary Planning Document [SPD] in January 2017. In this document, WBC states that planning contributions will be sought in connection with proposed housing developments of 11 or more units where the new housing will generate a need that cannot be met by existing local facilities [paragraph 3.48]. In order to calculate the number of pupils expected to be generated by the proposed development, the Council uses the following child yields [page 18]:

1 Primary School child yield – 0.30 pupils per family home (2 bed dwelling and above);

2 Secondary School child yield – 0.18 pupils per family home (2 bed dwelling and above).

[5] ONS Affordability Data 2017

13.4.10 The degree of shortfall will also be based on the projected position in relation to the supply and demand situation for school places within a reasonable distance of the proposed development in the case of primary school provision, or in relation to schools where the educational needs of any secondary pupils are likely to be met. The Council will consider variation from the child yields where there is compelling evidence to do so, such as where new homes will be restricted for occupation by elderly people[6].

13.4.11 When assessing capacity for proposed residential developments the standard radius is 2 miles for primary school level and 3 miles for secondary school level. The Council has confirmed that the planning areas relevant to Peel Hall are, for primary schools, 'Primary Central Warrington' and for secondary schools, 'Secondary Central Warrington'.

School Capacity and Enrolment Forecasts

13.4.12 In August and October 2017 WBC provided Lichfields with up-to-date information on the current and forecast capacities and pupil roll numbers for primary and secondary schools within the planning area relevant to Peel Hall. The capacity of primary schools within Central Warrington, and their forecast enrolment to 2020/21, is summarised in Table 13.4.

Table 13.4 School Capacity – Central Warrington Primary Schools, excluding Peel Hall

Forecasts	2017/18	2018/19	2019/20	2020/21	2021/22
Reception	565	539	558	546	530
Year 1	582	566	540	560	547
Year 2	573	584	567	542	561
Year 3	561	575	585	569	543
Year 4	565	563	576	587	570
Year 5	596	567	564	578	588
Year 6	513	598	568	566	579
TOTAL	**3,955**	**3,992**	**3,958**	**3,948**	**3,918**
CAPACITY (570 pupils per year group)	**3,990**	**3,990**	**3,990**	**3,990**	**3,990**
SURPLUS/DEFICIT	**+35**	**-2**	**+32**	**+42**	**+72**

Source: WBC 2017

13.4.13 The result of the Council's approach to forecasting future school enrolment is an estimated decrease of 37 primary school pupils between 2017/18 and 2021/22 in the 13 primary schools in the Warrington Central area (which Peel Hall sits within), from 3,955 to 3,918 pupils. For the Borough as a whole, WBC estimates that there will be an increase of 143 primary school pupils between 2017/18 and 2021/22.

[6]Warrington Borough Council (January 2017): Planning Obligations Supplementary Planning Document

13.4.14 As the capacity is likely to remain stable at 3,990 places across these 13 primary schools, WBC estimates that there will be a surplus of 72 places by 2021/22 before the proposed Peel Hall development is included in the figures (Table 13.4).

13.4.15 The capacity of secondary schools within the Warrington Central area which Peel Hall sits within, and their forecast enrolment to 2023/24, is summarised in Table 13.5.

Table 13.5 School Capacity – Central Warrington Secondary Schools excluding Peel Hall

Forecasts	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**
Year 7	555	578	674	653	676	666	686
Year 8	545	560	583	679	656	677	666
Year 9	556	549	564	588	681	657	677
Year 10	529	602	595	610	633	728	705
Year 11	590	532	606	599	612	634	728
TOTAL	**2,775**	**2,821**	**3,022**	**3,129**	**3,258**	**3,362**	**3,462**
CAPACITY*	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**
SURPLUS / DEFICIT	**+725**	**+679**	**+478**	**+371**	**+242**	**+138**	**+38**

Source: WBC 2017

*WBC has confirmed that the available capacity for the Sec Central Warrington area is 660 per year for Y7 – Y9, and 760 per year Y10 – Y11. This 100 per year increase is for the University Technical College, which takes pupils from Y10 upwards and from all areas of Warrington, so does not just serve the "Secondary Central Warrington" community (even though it is located within 3 miles of Peel Hall).

13.4.16 The results of the Council's approach to forecasting future school enrolment is an estimated increase of 687 secondary school pupils between 2017/18 and 2023/24 in the Warrington Central area. For the Borough as a whole, the Council's approach results in an increase of 1,786 secondary school pupils between 2017/18 and 2023/24.

13.4.17 As the capacity at the five secondary schools in the Central Warrington catchment area will remain constant over this period at 3,500 pupils, without the proposed Peel Hall development, the current position of a surplus capacity of 725 places in 2017/18 reduces to a surplus capacity of 38 pupils by 2023/24.

13.4.18 These figures do not include any allowance for Peel Hall, but do include four proposed developments that have extant planning permission. These developments, and the pupils that are estimated to reside in them, are summarised in Table 13.6. In total, these four developments (comprising 126 houses in total) are estimated by WBC to generate a need for 38 additional primary school and 23 additional secondary school pupils over the next few years.

Table 13.6 Committed Developments Pupil Yield

Committed Development	Primary / Secondary	Total Dwellings	Total Pupils (@ 0.3/0.18 pupils per house)	2017/18	2018/19	2019/20	2020/21	2021/22
Greenwood Crescent	Primary	20	**6**	1.5	3.0	1.5	-	-
	Secondary		**4**	0.9	1.8	0.9	-	-
Navigation Street	Primary	76	**23**	-	-	7.6	7.6	7.6
	Secondary		**14**	-	-	4.6	4.6	4.6
Orford Farm	Primary	20	**6**	-	6	-	-	-
	Secondary		**4**	-	4	-	-	-
Sandy Lane	Primary	10	**3**	-	-	-	3	-
	Secondary		**2**	-	-	-	2	-
TOTAL	**Primary**	**126**	**38**	**1.5**	**9**	**9.1**	**10.6**	**7.6**
	Secondary		**23**	**1**	**6**	**5.6**	**6.6**	**4.6**

Source: WBC August 2017

*Calculated on the basis of 0.3 primary school pupils per house and 0.18 secondary school pupils per house

13.4.19 In addition to the provision of primary and secondary education facilities, Fearnhead, a settlement which is located within the local impact area, is home to the Warrington campus of the University of Chester.

Health Provision

13.4.20 Any development that generates additional housing and population locally will also have an impact on requirements for health and dental clinics. A review of the NHS Choices Register indicates that there are currently 20 GP surgeries within the local impact area within 5km of the proposed development. A total of 92.5 Full-Time Equivalent [FTE] GP practitioners are operating within these medical centres, serving 157,426 people. This equates to around **1,702** patients per GP.

13.4.21 Two of these GP surgeries (Springfields Medical Centre and Westbrook Medical Centre) are no longer accepting new patients. If these two GP surgeries (containing 9 GPs and servicing 17,306 patients) are removed from the figures, the number of patients per GP reduces to **1,678**.

13.4.22 WBC's Planning Obligations SPD (January 2017) requires residential developments of 50 units or more to provide a contribution in order to secure delivery of appropriate enhancements to existing health facilities where there is insufficient capacity to meet the needs of the increase in population generated by the development. For large scale proposals which will generate a level of population increase which justifies the delivery of a new health facility, the Council will seek to secure a new facility as part of the overall development proposal [page 31].

13.4.23 The SPD further states that, based on the National GP Contract:

"each GP should serve 1,800 patients on average. The NHS's preference is for GP services to be provided as health centres with a minimum of 4 GPs plus support services. This equates to a surgery serving 7,200 patients. Similarly, each General Dental Practitioner should serve between 1,300 and 1,500 patients on average. Consequently GDPs will service an equivalent patient population as 4 GPs." [paragraphs 3.117-3.118]

13.4.24 Therefore, even at 1,702 patients per GP, this is below the typical provision rate of 1,800 patients per GP. This suggests that GP surgeries within the local impact area are operating slightly below capacity.

13.4.25 The local impact area also accommodates the NHS's Warrington Hospital, which has 500 in-patient beds and is situated around fifteen minutes' drive (6.3km) from the Peel Hall site.

13.4.26 There are also currently 15 dental clinics located within the local impact area. 10 of these clinics (containing 40 out of the 60 dental practitioners) are currently accepting new patients.

13.4.27 WBC's Planning Obligations SPD suggests that each General Dental Practitioner should serve between 1,300 and 1,500 patients on average (paragraph 3.118). Whilst comparable data is not available online to indicate how many patients each GDP has, the fact that two thirds of the GDPs in the local impact area- within 5km of the proposed development site are still accepting new patients suggests that there remains some capacity at existing dental clinics to accept additional patients likely to arise from the proposed development.

13.4.28 Details of these GP surgeries and dental clinics are provided in **Appendix S2**.

Sport, Open Space and Recreation

13.4.29 The July 2016 Socio-Economic Assessment reported the findings of WBC's 2012 Open Space Audit Position Statement. In July 2016 the Council published a revised Open Space Audit (surveyed June 2015) which updates the findings of the 2012 Audit. It also updated the standards to ensure compliance with the Fields in Trust (FiT) Planning & Design for Outdoor Sports and Play (2008).

13.4.30 The 2015 Audit identifies that the Borough had 1,876 ha of open space, or 10.3% of the total land area. Table 10 of the Audit indicates that the amounts of open space typology have increased across most of the range since the 2012 Audit, predominantly due to the identification of new sites. However, the number of equipped play sites has reduced significantly since 2012, mainly due to the loss of smaller equipped play sites.

Table 13.7 Comparison of the number of audit entries assigned to each Typology

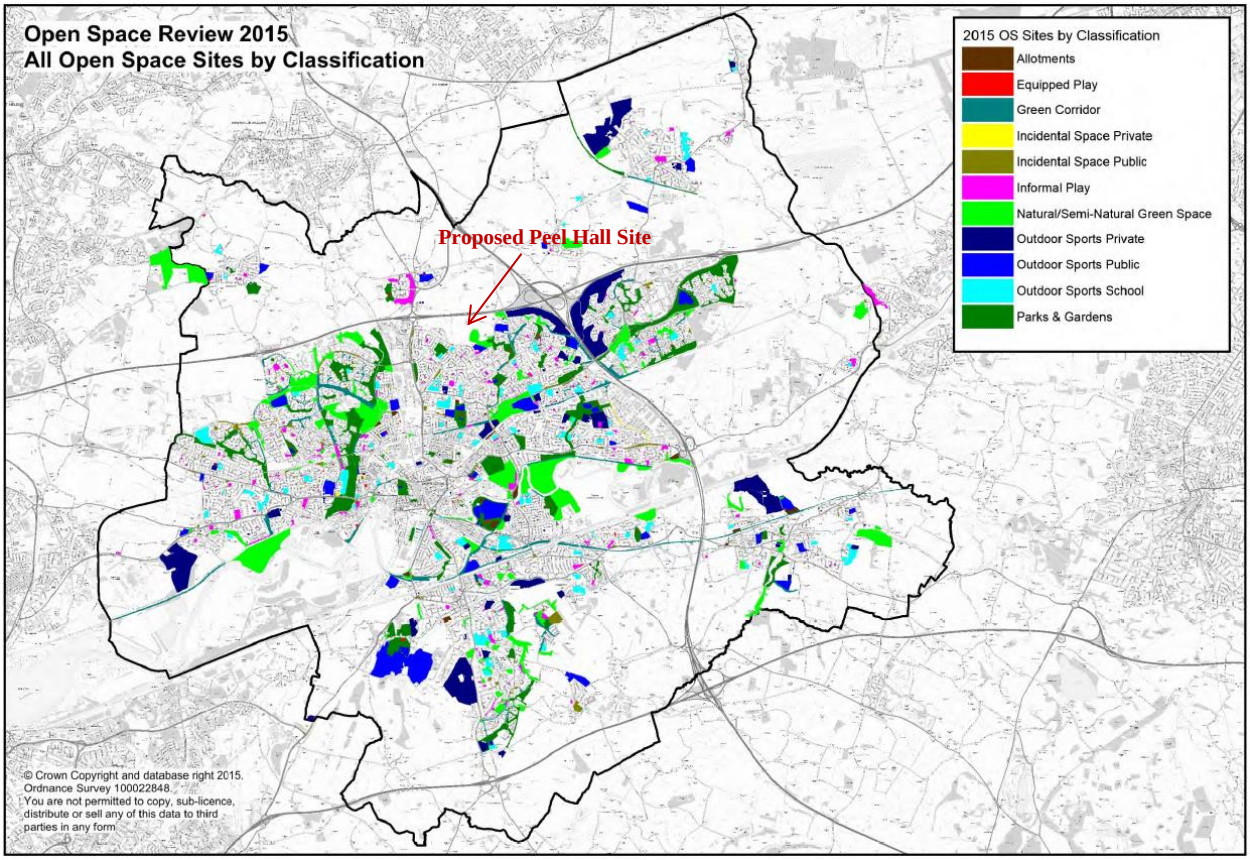
Typology	2012 Sites	2015 Sites	Change	2012 Ha	2015 Ha	Change
All	**1,073**	**1,221**	**+148**	**1,613**	**1,876**	**+263**
Allotments	16	16	**0**	16	16	**0**
Cemeteries and Churchyards	7	0	**-7**	22	0	**-22**
Equipped Children's Play	165	130	**-35**	10	11	**+1**
Green Corridors	109	171	**+62**	137	152	**+15**
Incidental Space	164	194	**+30**	47	49	**+2**
Informal Children's Play	231	252	**+21**	102	92	**-10**
Natural / Semi Natural Green Space	112	142	**+30**	417	440	**+23**
Outdoor Sports	184	195	**+11**	468	684	**+216**
Parks & Gardens	81	121	**+40**	392	432	**+40**
Other	4	0	**-4**	2	0	**-2**

Source: WBC Open Space Audit 2015

13.4.31 The Council's policy approach to open space is to protect, enhance and ensure the timely delivery of new provision where proven as needed to cater for the increased demand placed on such spaces brought about new developments and hence population growth.

13.4.32 Figure 13.6, taken from the Council's most recent Open Space Audit 2015, demonstrates that there is a broad range of Open Space and Sports Facilities in and around the proposed development site, including an Outdoors Sports facility directly to the east of the site; Natural/Semi-Natural Green Space (Radley Plantation) and Parks and Gardens (Peel Hall Park and Radley Common) to the south east of the proposed development.

Figure 13.6 All Open Space by Classification within Warrington



Source: Warrington Borough Council (2016) Open Space Audit 2015, Figure 2

13.4.33 The proposed development is in the 'Poplars and Hulme' Ward. The Open Space Audit [OSA] 2015 provides an assessment of the quantity, quality and accessibility of open space provision within this ward. Its findings for the 'Poplars and Hulme' Ward are as follows:

1 **Allotments:** 0 sites;

2 **Equipped Play:** 5 sites (0.39ha), of which 3 are LAPs, 1 is a LEAP and 1 is a NEAP. The OSA concludes that based on the current population, there is a deficit of 2.25 ha against the 2015 FiT standards;

3 **Green Corridors:** 5 (3.13 ha);

4 **Incidental Space:** 9 sites (1.49 ha);

5 **Informal Play:** 16 sites (3 ha). The OSA concludes that based on the current population, there is a deficit of 2.8 ha against the 2015 FiT standards;

6 **Natural/Semi-Natural Greenspace:** 6 sites (11.63 ha). The OSA concludes that based on the current population, there is a deficit of 9.48 ha against the 2015 FiT standards;

7 **Outdoor Sports:** 7 sites (18.06 ha). 2 Private sites, 4 public sites and 1 school site. The OSA concludes that based on the current population, there is a surplus of 1.17 ha against the 2015 FiT standards;

8 **Parks & Gardens:** 5 sites (20.78 ha). The OSA concludes that based on the current population, there is a surplus of 3.89 ha against the 2015 FiT standards;

9 **Ward Total:** 53 sites (58.48 ha).

13.4.34 WBC's Planning Obligations SPD (January 2017) provides Open Space Typology Standards that inform the scale of on-site open space contributions that would be required for developments of 40 dwellings or more. These are summarised in Table 13.8.

Table 13.8 Open Space Typology Standards

Typology	General Standard	Standard per person	Accessibility Standard
Equipped Play	0.25 ha per 1,000 population	2.5m^2 per person	LAP – 60m Straight Line LEAP – 240m Straight Line NEAP – 600m Straight Line
Informal Play	0.55 ha per 1,000 population	5.5m^2 per person	300m Straight Line
Outdoor Sports	1.6 ha per 1,000 population	16m^2 per person	Not applicable
Parks & Gardens	1.6 ha per 1,000 population	16m^2 per person	District Park – 1,200m (15-25ha) Local Park – 600m (2-15ha) Small Park – 400m (0.4-2ha) Pocket Park – 300m (<0.4ha)
Natural / Semi-Natural Greenspace	2 ha per 1,000 population	20m^2 per person	2,000m for 20ha> 300m for <20ha
Allotments	0.07 ha per 1,000 population	0.7m^2 per person	1,000m Straight Line

Source: WBC Planning Obligations SPD (January 2017), Table 3

13.4.35 The SPD also states that planning obligations relating to pitch sports and built sports facilities will be sought on residential developments of 40 units or more where existing facilities have insufficient capacity to serve the increase in population arising from the development (page 28).

13.4.36 Correspondence with WBC Officers in December 2016 regarding sport and recreation built facilities referred to the findings of the Council's Sports Facilities Strategic Needs Assessment [SFSNA] (April 2015). Officers reported that the current total quantity of swimming pool provision 'just about' meets the current local demand for casual / recreational swimming provision, and that new housing development should contribute towards the development and enhancement of sports facilities to meet identified need and any increased demand generated by such developments.

Community facilities

13.4.37 Demand for other community facilities from the residents living in the proposed Peel Hall development will primarily be observed close to the site. The nearest community centre to the application site is the Greenwood Community Centre, located 1km from the site. Other community halls/centres in Warrington Borough include:

1 Greenwood (1km)

2 Fearnhead Cross (1.4km)

3 Radley Common (1.6km)

4 Capesthorne (2.1km)

5 Orford (3km)

6 Westy (4.2km)

7 Nora Street Community House (4.7km)

8 Whitecross (4.8km)

9 Croft (5km)

10 Oakwood Community House (5.8km)

11 Sankey Bridges Community House (6km)

12 Bewsey Park Pavillion (6km)

13 Sandy Lane (6.6km)

14 Culcheth (8.5km)

15 Meeting Lane (10.5km)

13.5 Potential Effects

Introduction

13.5.1 The proposed development would deliver up to 1,200 new dwellings, a 60-bed retirement home, employment space, a local centre, a food store and public open spaces.

13.5.2 This section assesses the main socio-economic impacts from this development during both the construction and occupation phases of the proposed scheme

13.5.3 Construction/ground works are due to commence in 2019/20 with first occupation of the dwellings in 2020/21. The construction programme will run for 11 years until 2029/30.

Population Increase

13.5.4 This section of the Environmental Statement remains unchanged (paragraphs 13.5.4 – 13.5.7). (*Note – Table 13.4 in the ES, 'Population Impact of the Proposed Development', should now be referred to as Table 13.9 following the inclusion of new Tables in Section 13.4 of this Addendum*).

Impacts during Construction

Construction Costs

Direct Employment

13.5.8 The developer has estimated that the total cost of construction of the proposed mixed-use development (including the residential properties, in addition to the employment space and care home/ assisted living properties) will be approximately £150 million.

13.5.9 This can be used to estimate the amount of construction employment that is likely to be generated by the scheme. ONS Annual Business Survey data indicates that the average ratio of expenditure (i.e. on materials, goods and services) to jobs in the construction industry was £115,856 in 2016.[7]

13.5.10 Applying this ratio to the estimated construction cost outlined above implies the development would be likely to generate 1,295 person-years of construction employment over the duration of the build period. As the proposed development is to be built over the course of 11 years, this would support **118 temporary construction jobs** per annum on average during the construction phase, or **129 FTE construction jobs**.[8] Although national construction firms sometimes use their own permanent workforce on projects (who are likely to be drawn from outside the local impact area) based on

[7] Annual Business Survey 2016, Released November 2017
[7] Based on HM Treasury assumption that 10 person-years of employment equates to 1 permanent position.

experience elsewhere it is likely that a proportion of these new construction jobs will be taken up by local workers (particularly if measures are in place to encourage local recruitment, such as apprenticeships). This will help to provide employment opportunities for some of the registered JSA claimants in the local area that are seeking work. This number, as of November 2017, was 40.[9]

Indirect and Induced Employment

13.5.11 Housing construction also involves purchases from a range of suppliers who, in turn, purchase from their own suppliers via the supply-chain. The relationship between the initial direct spending and total economic impacts is known as the 'multiplier effect', which demonstrates that an initial investment can have much larger economic benefits as this expenditure is diffused through the economy. The construction sector is recognised to be a part of the UK economy where there is a particularly high domestic benefit in the supply chain. Research from 2009 showed the construction sector imported less than 8% of its supply, while the UK car manufacturing sector imported nearly 28%.[10]

13.5.12 It is anticipated that businesses within Warrington would benefit from trade linkages established during the construction phase of the proposed development. As a result, further indirect jobs would be supported within the area through the suppliers of construction materials and equipment. In addition, businesses would also be expected to benefit to some degree from temporary growth in expenditure linked to the direct and indirect employment effects of the construction phase. It would be expected that the local economy would gain a significant temporary boost from the wage spending of workers within local shops, bars and restaurants, and other services and facilities. Such effects are typically referred to as 'induced effects'.

13.5.13 Research undertaken on behalf of the National Housing Federation indicates the construction industry has an indirect and induced employment multiplier of 2.51.[11] Applying this employment multiplier to the **129 direct FTE construction jobs** each year derived above indicates an additional **196 FTE jobs** could be supported each year of construction by the proposed development in sectors throughout the UK economy. This is in addition to the 129 FTE jobs discussed earlier.

13.5.14 In summary, it is considered that the impact of the construction employment generated by the proposed development is **beneficial and of moderate magnitude across the local impact area**.

[9] Number of JSA claimants seeking employment in the Poplars and Hulme ward in which the Peel Hall site is located within as registered in November 2017
[9] UK Contractors Group (2009) Construction in the UK Economy: The Benefits of Investment
[9] National Housing Federation, 2013; an employment multiplier of 2.51 implies that for every one direct job generated a further 1.51 indirect and induced jobs are supported in the supply chain.

Occupational and Operational Impacts

Economic Impacts

Direct Employment

13.5.15 Alongside residential uses, the development scheme at Peel Hall will contain some commercial uses that will generate employment and expenditure within the local area (i.e. once the scheme is fully built-out and operational). The non-residential elements of the proposed mixed-use development will include B1b/c R&D / light industrial space, a 60-bed residential care home, a 1 Form Entry primary school, a retail foodstore and a local centre, all of which are likely to generate employment.

13.5.16 In order to estimate the likely employment supported by these retail and office spaces, the Employment Densities Guide (2015), produced by the HCA, can be used by applying an average job ratio to their floorspace. On this basis, and as set out in Table 13.10, it is estimated that around 453 jobs (366 FTE) could be directly supported by the proposed development.

Table 13.10 Employment Generation from the proposed Peel Hall Development during Operation

Proposed Use	Proposed New Floorspace (GIA) (sq. m)	Proposed New Floorspace (GEA) (sq. m) + 5%	Average Job Density	Average FTE Employment Density	No. Jobs Generated	FTE Jobs Generated
R&D Space (B1b)	3,750	3,938	1 job per 61 sq. m	1 job per 64 sq. m	65	62
Light Industrial (B1(c))	3,750	3,938	1 job per 53.5 sq. m	1 job per 60 sq. m	74	66
Foodstore	2,000	2,100	1 job per 15 sq. m	1 job per 22 sq. m	140	95
Local Centre: Financial / Professional A2	200	210	1 job per 17 sq. m	1 job per 19 sq. m	12	11
Local Centre: Restaurant / Café A3	200	210	1 job per 16 sq. m	1 job per 22 sq. m	13	10
Local Centre: Fast Food Restaurant A5	200	210	1 job per 11 sq. m	1 job per 14 sq. m	19	15
Pub / Family Restaurant	800	840	1 job per 13.5 sq. m	1 job per 18.5 sq. m	62	45
Residential Care Home	60 beds (approx.)	60 beds (approx.)	0.875 jobs per bed[12]	0.875 jobs per bed	53	53
1 FE Primary School	1FE	1FE	16 jobs per 1FE	10 FTE jobs per 1FE	16	10
TOTAL					**453**	**366**

Source: Satnam / HCA Employment Densities Guide (2015) / Lichfields Analysis

[12] Based on Lichfields experience of an 80 bed care home employing around 70 FTE staff, therefore generating 80 / 70 = 0.875 FTE jobs per bed.

Net Additional Effects

13.5.17 In order to estimate net employment impacts, the extent to which the proposed development would displace jobs from other existing business in the area is also considered.

Loss of Existing Jobs

13.5.18 There are no existing jobs on the site of the proposed development. Therefore no jobs will be lost as a result of the construction stage of the proposed development.

Displacement Effects

13.5.19 Some of the new employment generated on the site may comprise jobs displaced from elsewhere in the local area. Net employment impacts in the local and regional area have been estimated by considering the extent to which the proposed development would displace some jobs from existing local businesses by taking into account typical job displacement factors for these uses[13]. Displacement effects can be reduced where an area is already deficient in, for example, employment space or is expected to experience strong job growth.

13.5.20 The increase in the resident population as a result of this development, which is discussed in more detail below, will create additional demand for local services, retail and leisure floorspace. Furthermore, the amount provided in the scheme has been designed to address this increased need, rather than to address wider unmet local needs. This should minimise any impacts on existing retail, pub and community facilities of this type in the surrounding area hence job displacement for retail/leisure/community uses is likely to be low.

13.5.21 To take an example, displacement effects can be reduced where an area is already deficient in the space in which the development is providing. For instance, whilst the Warrington Employment Land Review (2012) states that the Borough has a large amount of distribution floorspace, the proportion of factory space has "*diminished dramatically*" since 2005, reflecting "*a number of legacy industrial sites making way for new residential developments*".[14] Furthermore, the Council's latest Economic Development Needs Study[15] suggests that going forward, the Borough faces a very significant shortfall in B-Class employment land unless substantial new employment land allocations are made:

"This indicates a need of 380.90 ha to 2037, incorporating a five-year buffer. Measured against the Borough's current realistic supply there is a shortfall of 276.37 ha".

[13] HCA (2014): Additionality Guide, 4th edition
[13] Warrington Borough Council (2012) Employment Land Review, para 11.18
[13] BE Group and Mickledore (October 2016): Warrington Economic Development Needs Study

13.5.22 Because of a relatively low supply of higher quality industrial spaces in Warrington, in addition to the strong network of local centres within the Borough it is considered that any displacement of industrial, retail and leisure jobs will be towards the lower end of any range.

13.5.23 A typical low level of job displacement would be in the order of 25% (i.e. 25% of the new jobs on the site will be relocations from elsewhere in the area). This corresponds to a 'low' level of displacement, as defined by the HCA Additionality Guide Fourth Edition (2014).

13.5.24 After allowing for such displacement effects, the total net direct jobs resulting from the proposed development is estimated to be in the order of 340 jobs (275 FTEs), as shown in Table 13.11. It is considered that this is a conservative approach to take overall, as it is unlikely that there would be very little, if any, displacement of the education / health / community jobs as these would be generated directly by the new community's needs.

Table 13.11 Net Direct Effects on Employment - Displacement

Total Jobs	FTE Jobs	Displacement Factor	Net Additional Jobs – Less Displacement (jobs)	Net Additional Jobs – Less Displacement (FTE)
453	366	25%	**340**	**275**

Source: Lichfields Analysis / HCA (2014) Additionality Guide Fourth Edition

Multiplier Effect

13.5.25 Some indirect employment will also be supported by the expenditure on goods and services within local businesses by the occupiers of the employment uses. The wage spending by employees of these commercial operations, and also the local businesses supplying these facilities, will support further induced jobs within local shops, services and other businesses.

13.5.26 As with the construction employment detailed above, there will also be a range of indirect jobs that will be supported by the spending on goods, supplies and services directed from the firms which occupy the industrial, retail and leisure uses of the site, as well as the Care Home. For example, many businesses in the Warrington area would require services such as buildings and gardens maintenance; health and hygiene products; medical prescriptions and pharmacists; food and laundry services etc.

13.5.27 The spending of wages by both employees on the site and of the local firms supplying goods and services to these companies will also support induced employment in other local shops, other services and other firms. These types of employment are normally estimated using employment multipliers derived from research on similar operations elsewhere, with adjustments to reflect the specific characteristics of the proposed development, the amount of spending retained in the local area, and local economic and labour market conditions.

13.5.28 HCA Guidance on calculating the additionality of economic regeneration projects has been used to select a combined employment multiplier (which combines the supply linkage multiplier and the income multiplier) of 1.21 (for the local area) and 1.38 (for the wider region) to estimate both indirect and induced employment for retailing, leisure, community and employment space.[16]

13.5.29 Using these multipliers it is estimated that the 340 additional direct jobs (275 FTE) produced by the scheme could result in a further 58 'spin-off' FTE jobs within local services and other businesses in the local impact area, and 104 FTE jobs within the wider Warrington and North West region. On this basis, it is estimated that, once in operation, the proposed Peel Hall development could support approximately **332 FTE jobs**[17] in total within the local impact area (and 379 FTEs within the wider region).

13.5.30 In summary, it is considered that the impact of the employment generated by the employment use and Care Home elements of the proposed development is beneficial and of a **moderate magnitude across the local impact area, and of a minor magnitude across the wider impact area**.

Resident Expenditure

13.5.31 The proposed mixed-use development scheme also affords an opportunity to increase local expenditure levels. The scale of these benefits is determined by the spending patterns of local residents, and the extent to which new residents move into the area from elsewhere.

13.5.32 Whilst the residents of the 60 C2 Nursing Home units will, through their spending and patronage, support local shops and services, it may not be of the same magnitude as the residents living in the 1,200 C3 dwellings. As a consequence, and to ensure the results of this ES Chapter are robust, the residential expenditure set out below has been calculated on the basis of the 1,200 C3 dwellings alone and hence represents a 'worse case' scenario.

13.5.33 Recent research suggests the average homeowner spends around £5,500 to make their house 'feel like a home' within a year and a half of moving into a new property[18]. This money is generally spent on furnishing and decorating a property (i.e. assuming the property is unfurnished). This expenditure provides a range of benefits for the economy including supporting local employment. Applying this average level of one-off spending on household products and services, it is estimated that residents of the 1,200 residential units would **generate around £6.6 million of first occupation expenditure**. This injection of expenditure would provide a significant boost to businesses in the local economy.

[16] HCA (2014) Additionality Guide Fourth Edition
[16] This is a sum of the 275 net additional FTE jobs resulting from the employment uses within the proposed development, in addition to the 58 'spin off' indirect jobs within the local impact area
[16] Research carried out by OnePoll on behalf of Barratt Homes, August 2014
[16] As identified by http://www.maptube.org/map.aspx?mapid=1

13.5.34 Analysis of Output Area Classification data suggests that the residential areas near Peel Hall mostly comprise households in the 'Suburbanites' socio-economic classification group[19]. It is anticipated that the new residents of the proposed market housing at Peel Hall would broadly be in the same type of household group, albeit occupiers of the proposed affordable housing component may fall within a different socio-economic classification.

13.5.35 The ONS Family Spending Survey 2016 (2017 Edition) provides data on household spending by socio-economic classification. This survey indicates an average expenditure level of £663.50 per week for households in the 'Suburbanites' group. The spending level for North West households is on average 8% lower than the UK average, which results in an estimated household expenditure level of £492.40 per week for households. Similarly, average expenditure levels amongst the 'Hard-pressed living' group amounts to approximately £441.90 per week before the regional adjustment. Based on these assumptions, it is estimated that the households of the 1,200 new residential units would generate **total gross expenditure of around £34 million each year**.

13.5.36 It is recognised that not all residents of the proposed development will be 'new' to the local area as some will relocate from elsewhere within the Borough or the region. National research provides standards on the average distances moved between a head of household's present and previous residential address, which can be used to estimate the proportion of the population of the proposed development that may be 'new' to the local area. In addition, only a proportion of the gross expenditure by new residents of the proposed housing will be retained within Warrington Borough. Adjustments have been made on the basis of existing shopping patterns and the leakage of spending to other nearby areas such as Liverpool, Chester and Manchester.[20]

13.5.37 Taking these factors into consideration, it is estimated that **total net additional expenditure of around £13 million per year on average will be created by new residents to the area**, and be retained within the area (within a distance of ten miles from the site). This net additional expenditure will support the vitality and viability of local businesses, and could encourage other businesses to relocate to the market. It is also expected that this extra resident expenditure could generate a further 126 local FTE jobs in retail, leisure, hospitality and other service-based sectors.

13.5.38 In summary it is considered that the impacts of the increased resident expenditure generated by the proposed development is **beneficial and of a moderate magnitude** across the local impact area.

Public Revenue and Savings

13.5.39 This section deals with the benefits delivered by the proposed development that accrue to the local authority, and to the wider healthcare system as a whole.

[19] WYG (August 2015) Warrington Retail and Leisure Study

Local Authority Income

13.5.40 In 2010 the Coalition Government introduced an incentive based system to support their plans to increase the supply of new homes in locations that were willing and able to accept the development. The New Homes Bonus [NHB] originally matched for a 6-year period the increase in Council Tax income from new homes or homes that have brought back in to use. This additional funding is potentially a major new income stream for local authorities at a time when their finances are being squeezed through the public sector austerity measures. The increased income is non ring-fenced and therefore local authorities have discretion to use the cash in the most beneficial way in support of their communities.

13.5.41 As part of the provisional Local Government Finance Settlement 2016, Sajid Javid, Secretary of State for Communities and Local Government, said that "*for all its successes, the system can be improved*." He confirmed that from 2017 a national baseline for housing growth will be introduced of 0.4%. Below this 0.4% threshold, the NHB will not be paid. The aim of this change is to ensure that "the money is used to reward additional housing rather than just normal growth". He also confirmed that in 2017-18, NHB payments will be made for five, rather than six years, and that the payment period will be reduced again to four years from 2018-19. The funding released from this measure will be retained by local authorities to contribute towards adult social care costs "*recognising the demographic changes of an ageing population, as well as a growing population*"[21].

13.5.42 The proposal will deliver up to 1,200 dwellings. Using the standard method of calculation contained within the New Homes Bonus Calculator it is estimated that the scheme would generate approximately £1.8 million of New Home Bonus award following the scheme's completion, which equates to a total of approximately **£7.3 million over a 4-year period**. Although the timetable of construction for the dwellings is as yet unknown, this is the sum of all revenue that will be collected once all the dwellings are constructed. As noted above, the calculator provides the potential payments of the NHB. These would only materialise if WBC increases its dwelling stock above the annual national baseline level (which was set at 0.4% for 2017).

13.5.43 This income would also be enhanced by an additional Council Tax income of approximately **£1.7 million per annum** in perpetuity following the scheme's completion (based on 2017/18 rates). The impact on CEC's income as a direct result of the Development Project is therefore assessed to have a **beneficial impact, and of moderate significance**.

Local Labour Market Impact

This section of the Environmental Statement remains unchanged (paragraphs 13.5.44-13.5.46).

[21] House of Commons (December 2016): Briefing Paper – The New Homes Bonus (England), page 32

Housing Impacts

13.5.47 After completion, the primary impact of the proposed development on the local housing market will be the addition of around 1,200 new C3 dwellings to the existing stock of 87,943 dwellings (2011) in Warrington, constituting an increase of 1.4%. This development would help to deliver 5.4% of the emerging target of 22,260 dwellings in Warrington between 2017 and 2037 (1,113 dpa), the housing need identified for Warrington Borough in the emerging Local Plan Preferred Development Option for Warrington (regulation 18 Consultation, July 2017).

Paragraphs 13.5.48-13.5.50 of the Environmental Statement remain unchanged.

13.5.51 The impact of the creation of both C3 housing and C2 Care Home units will be to enhance the quality of housing choice in the local market. The impact of market, care and affordable housing is therefore considered to be **beneficial, and of a moderate magnitude** in relation to the local impact area and Warrington Borough as a whole.

Deprivation Impacts

This section of the Environmental Statement remains unchanged (paragraphs 13.5.52-13.5.54).

Commuting Impacts

This section of the Environmental Statement remains unchanged (paragraphs 13.5.55 – 13.5.59).

Education Impacts

13.5.60 In assessing the actual requirement for school places in the catchment area, it is necessary to take into account the existing level of school capacity and the local education authority's future plans for growth.

13.5.61 The impact of the proposed development on the provision of education in the local impact area will largely depend on the number of additional children of school age that are generated by the housing scheme, and also the existing availability of spare school places in the area.

13.5.62 As mentioned previously, excluding Peel Hall, WBC's data suggests that there will be a modest surplus of primary school places in the local area, equal to 72 children, by 2021/22. There will be a smaller surplus of 38 secondary school places in the catchment area by 2023/24.

13.5.63 The Council's current and forecast primary school pupil enrolments, including an allowance for Peel Hall, are summarised below in Table 13.12. This projects that the number of primary school pupils in the Warrington Central catchment area will increase from 3,955 in 2017/18 to 4,055 in 2021/22. Compared to the annual capacity for 3,990 primary school pupils, the Council forecasts a deficit of 24 places in 2018/19, increasing to a deficit of 65 pupils by 2021/22. This compares with a surplus

of 72 places without Peel Hall (i.e. a difference of 137 places in 2021-22 is estimated by WBC to be attributable to Peel Hall).

Table 13.12 School Capacity – Warrington Central Primary Schools, including Peel Hall

Forecasts	2017/18	2018/19	2019/20	2020/21	2021/22
Reception	565	542	565	556	543
Year 1	582	570	549	574	563
Year 2	573	587	576	558	581
Year 3	561	578	594	585	565
Year 4	565	566	585	602	592
Year 5	596	570	573	593	610
Year 6	513	601	577	581	601
TOTAL	**3,955**	**4,014**	**4,019**	**4,049**	**4,055**
CAPACITY	**3,990**	**3,990**	**3,990**	**3,990**	**3,990**
SURPLUS/DEFICIT	**+35**	**-24**	**-29**	**-59**	**-65**

Source: Warrington Borough Council (August 2017) School Capacity and Enrolment Forecast

13.5.64 The Council's forecast secondary school pupils enrolments are summarised in Table 13.13. This data, provided by WBC Officers to Lichfields in August 2017, forecasts that the number of secondary school pupils at schools within the local catchment area will increase from 2,775 in 2017/18 to 3,661 in 2023/24. Compared to the annual capacity for 3,500 secondary school pupils the Council forecasts a surplus of 72 places in 2017/18, reducing to a deficit of 161 by 2023/24 once the Council's estimated pupils from the proposed Peel Hall development are included.

Table 13.13 Forecast secondary school enrolment

Forecasts	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Year 7	555	581	684	672	706	706	737
Year 8	545	563	591	685	680	712	711
Year 9	556	551	570	600	701	685	717
Year 10	529	604	601	620	650	752	739
Year 11	590	534	612	609	626	655	757
TOTAL	**2,775**	**2,833**	**3,058**	**3,186**	**3,363**	**3,510**	**3,661**
CAPACITY	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**	**3,500**
SURPLUS / DEFICIT	**+725**	**+667**	**+442**	**+314**	**+137**	**-10**	**-161**

Source: Warrington Borough Council (August 2017) School Capacity and Enrolment Forecast

13.5.65 Again, comparing these figures with the Council's own secondary school projections (excluding Peel Hall) suggests that the Central Warrington Catchment area will move from a surplus of 38 places by 2023/24, to a deficit of 161 places with Peel Hall (i.e. a difference of 199 places in 2023-24 is estimated by WBC to be attributable to Peel Hall).

13.5.66 The Council's assessment therefore forecasts a deficit of both primary and secondary school places once Peel Hall is included in the projections, but a modest surplus if the development is excluded.

13.5.67 This is based upon the Council's yield of 0.3 primary school pupils and 0.18 secondary school pupils per two or more bedroom dwelling. On this basis, if all of Peel Hall's 1,200 dwellings comprised 2 or more bedrooms, then the primary yield for the development would be 360 pupils, whilst the secondary school yield would be 216 pupils.

13.5.68 Land will be made available for a 1FE Primary School as part of the Peel Hall proposals, capable of accommodating 210 pupils. Without the Peel Hall development, WBC considers that there would be a surplus of 72 primary school places in 2021/22. The Council has not attempted to forecast primary or secondary school enrolment in the Central Warrington area over the full 11-year build programme, and therefore it would be inappropriate to comment on whether further education capacity is likely to be required by 2029/30 as we do not know how school rolls are likely to change in the area.

13.5.69 Furthermore, although the breakdown of unit sizes at Peel Hall is unknown at present, it is unlikely that 100% of the 1,200 units will have 2 or more bedrooms. Any 1-bed properties would not be subject to WBC's primary/secondary school yield calculation.

13.5.70 Even allowing for this uncertainty, the proposed development is likely to have an **adverse impact** on primary and secondary educational capacity in the area without further mitigation. This would be of a **minor magnitude for primary and of a moderate magnitude for secondary** educational provision.

Healthcare Impact

13.5.71 As already noted, the gross increase in the resident population created by the additional residential units will amount to an increase of around 2,750 people in the local area. The 20 GP practices within the local impact area and within 5km of the proposed development currently serve 157,426 patients between 92.5 Full-Time Equivalent [FTE] GPs, which works out at around 1,702 patients per GP. Excluding the 2 surgeries that are no longer accepting new patients would reduce the average number of patients per GP to 1,678 for the remaining 18 GP practices.

13.5.72 Growth in the local population resulting from the Peel Hall development (2,753 persons) is likely to increase the average capacity of the 92.5 FTE GPs to 160,179 (i.e. equal to approximately 30 new patients, or a 1.7% increase, for each FTE GP). This would increase the average number of patients per GP to 1,732 (or 1,711 including only the 18 GP practices accepting new patients).

13.5.73 Factoring in the 4 committed housing developments set out in Table 13.6, these additional 126 dwellings might be expected to generate around 302 new residents in the local impact area (at a rate

of 2.4 people per household), increasing the average number of patients to 1,735 per GP (with Peel Hall).

13.5.74 Taking into consideration the typical provision rate of 1,800 patients per GP[22], this rise in demand in the local impact area from the development will reduce the moderate surplus in GPs capacity, although it will still be below WBC's threshold currently. This does not take into account future growth in population in the local impact area and the impact this could have on the 20 GP practices over the 11 year build programme.

13.5.75 Likewise 15 dental health facilities employing a total of 60 dentists operate within the local impact area, of which 10 (including 40 GDPs) are accepting new patients. The increase in the local population will increase the number of patients for each of the 10 facilities accepting new patients.

13.5.76 Because there exists a slight surplus with regard to the number of patients per GP provision at present, the increased healthcare impact resulting from the proposed Peel Hall development is likely to be **adverse, but of a minor magnitude**.

Open Space & Recreation Impact

13.5.77 As already noted, the gross increase in the resident population created by the new dwellings will amount to an increase of 2,753 people in the local area. The additional residents will create extra demands on existing sports, recreation facilities and open spaces within the local impact area. Table 13.14 assesses the Council's requirements (as set out in WBC's Planning Obligations SPD (January 2017)) against the current Peel Hall proposals.

Table 13.14 Adopted Open Space Provision Standards and On-Site Provision within the Proposed Development

Typology	General Standard	Standard per person	Peel Hall Development Requirement	Peel Hall Proposed Site Figures	
Equipped Play	0.25 ha per 1,000 population	2.5m^2 per person	**0.69 ha**	Play Space Provisions:	The equipped and informal play space provision to be met by individual housing plots.
Informal Play	0.55 ha per 1,000 population	5.5m^2 per person	**1.51 ha**		
Outdoor Sports	1.6 ha per 1,000 population	16m^2 per person	**4.40 ha**	Formal Sport Ground:	Existing pitches at Mill Lane to be replaced by the addition of an illuminated all weather pitch at Windermere Avenue. Together with a new high specification adult grass pitch on site, this equates to the existing provision at Windermere Avenue, replacement pitches for Mill Lane and additional required

[22] WBC (January 2017), Planning Obligations Supplementary Planning Document, Para 3.117

Typology	General Standard	Standard per person	Peel Hall Development Requirement	Peel Hall Proposed Site Figures	
					provision: **5.8 ha**
Parks & Gardens	1.6 ha per 1,000 population	16m^2 per person	**4.40 ha**	Natural/ Semi Natural Areas (this includes all areas set aside as ecological/ motorway buffer zones, retained vegetation areas and attenuation pond areas):	**13.2 ha** (this includes a 0.19ha area for allotments)
Natural / Semi-Natural Greenspace	2 ha per 1,000 population	20m^2 per person	**5.51 ha**		
Allotments	0.07 ha per 1,000 population	0.7m^2 per person	**0.19 ha**		

Source: WBC Planning Obligations SPD (January 2017), Table 3 / Lichfields Analysis

13.5.78 The development proposals for the application site also include the relocation of an estimated 3.2 ha of sports and recreation facilities and public open space from Mill Lane to Windermere Avenue on the site, resulting in no net loss of open space.

13.5.79 In terms of Playing Pitch Usage, Existing Provision is as follows:

1 Mill Lane Sports Pitches = 2 Full Size Grass Pitches, for weekend use only;

2 Windermere Avenue / Radley Common = 2 Full Size Grass Pitches, for weekend use only;

3 Total = 4 Pitches x 4 games per week maximum = 16 with 90 minute games.

13.5.80 Regarding proposed playing pitches provision at the Peel Hall site, this will comprise:

1 Windermere Avenue = 1 Artificial Pitch with Lighting and 1 Full Size Grass Pitch. The Artificial Pitch will be able to accommodate up to 11 games per week (1 game per evening, plus up to 4 weekend games), whilst the Grass Pitch will be able to accommodate up to 4 games per weekend;

2 On Site = 1 Full Size Grass Pitch. This can be used at weekends, with the possibility of dual use with the school.

3 Total = 3 Pitches. 19 games per week maximum = surplus of 3 games per week compared to the existing situation.

13.5.81 However, additional provision for formal open space is not being made which would result in an under provision against the development plan requirements. All other forms of open space would meet the requirements with the location and distribution determined through the submission of reserved matters.

13.5.82 Furthermore, as noted above, WBC Officers consider that there is a need for new developments to contribute towards the development and enhancement of swimming pool facilities to meet an identified need and to mitigate any increased demand generated by such developments. Correspondence from WBC Officers in December 2016 regarding sport and recreation built facilities stated that:

"The proposed Bewsey & Dallam Hub development is considered to be well placed to cater for the increased demand for swimming pool provision arising from the development because it is well within the 30 minute travel time for swimming pool provision that the SFSNA employs."

13.5.83 Officers estimated that, based on 2.3 persons per home, the proposed Peel Hall development would generate additional demand amounting to 178 swimming pool visits per week.

13.5.84 There are 12 community venues identified within a 5km radius of the development site itself. Although it is hard to determine to what extent the new residents of the development will use the community venues, it is expected the facilities will be largely able to cope with the additional demand resulting from the increased population the development will bring.

13.5.85 The proposed development, by increasing the demand for local open space, recreation and community facilities, is therefore considered to have an **adverse but of a minor magnitude** upon open space and recreation provision within the area of impact without mitigation.

Summary

13.5.86 The significance of the socio-economic impacts identified has been evaluated against the significance criteria matrix. The impacts are assessed as beneficial, neutral or adverse, while their relative magnitude are classified as substantial, moderate, minor or negligible. The significance of the impacts are summarised in Table 13.15.

Table 13.15 Socio-Economic Impacts against the Baseline Position (without Mitigation)

Socio-Economic Factor	Impact	Magnitude
Construction Employment	**Beneficial**	Moderate
Operational Employment	**Beneficial**	Moderate
Resident Expenditure	**Beneficial**	Moderate
Public Revenue	**Beneficial**	Moderate
Local Labour Market	**Beneficial**	Minor
Housing	**Beneficial**	Moderate
Deprivation	**Beneficial**	Minor
Commuting	**Adverse**	Minor
Primary Education	**Adverse**	Minor
Secondary Education	**Adverse**	Moderate
Healthcare	**Adverse**	Minor
Open Space & Recreation	**Adverse**	Minor

Source: Lichfields Analysis

13.6 Mitigation Measures

Introduction

13.6.1 The proposed mixed-use development at Peel Hall is expected to generate positive impacts to the local area in regards to employment, the local population, the local labour market, housing and deprivation levels, but create some adverse effects on commuting, education, open space, recreation and healthcare provision. Any negative impacts are regarded as being largely minor, so only limited mitigation measures are expected to be necessary.

Construction Mitigation Measures

13.6.2 The creation of 129 FTE construction jobs during the construction phase is in itself a positive impact that will not require any mitigation measures. It should be possible to maximise the socio-economic benefits of constructing the mixed-use scheme by undertaking initiatives that encourage local labour recruitment for new employment opportunities at the site.

The remainder of this section of the Environmental Statement remains unchanged (paragraph 13.6.3).

Operational Mitigation Measures

Employment and Local Labour Market

13.6.4 The proposed development will give rise to a moderate beneficial impact through the development of additional uses and the creation of 332 net additional FTE jobs locally; the generation of net additional expenditure; and the positive contribution to local authority revenues.

13.6.5 As such, no mitigation measures are required.

Impact on Commuting Patterns

This section of the Environmental Statement remains unchanged (paragraphs 13.6.6 – 13.6.9).

Impact on Education Facilities

13.6.10 There currently exists modest capacity in both the primary and secondary education infrastructure, without the proposed Peel Hall development. WBC projections indicate that this capacity will turn into a shortfall of both primary and secondary school places over the course of the build programme

if the proposed Peel Hall development is included in the calculations, although the scale of that shortfall is unknown over the full build period.

13.6.11 Land will be made available for a 1FE Primary School as part of the Peel Hall proposals. Any residual shortfall in primary school provision would be mitigated through appropriate Section 106 financial contributions to be agreed in consultation with the Council.

13.6.12 A moderate adverse effect of the proposed development scheme, relating to the shortfall in secondary school provision could give rise to the need for financial contributions from the developer. This could be mitigated through appropriate Section 106 contributions which would be agreed in consultation with the Council.

13.6.13 These mitigation measures will enable the primary/secondary education impacts of the proposed development to be **reduced from adverse, of minor/moderate scale, to neutral**.

Impact on Healthcare Facilities

13.6.14 There currently exists a modest surplus capacity in the provision of GPs within the local impact area, relative to typical provision standards.

13.6.15 The Council are in discussion with Warrington Clinical Care Commissioning Group (CCG) and NHS England regarding future options to expand two of the proposed development's nearest GP Practices, Fearnhead Medical Centre and Padgate Medical Centre[23]. Any remaining adverse impacts can be most easily addressed through suitable s106 contributions by the developer. Space for healthcare uses is able to be created in the local centre if on-site provision is required.

13.6.16 These mitigation measures will enable the impacts of the proposed development on Healthcare Facilities to be **reduced from adverse, of a minor scale, to neutral**.

Impact on Open Space and Recreation Facilities

13.6.17 The provision of open space will be a Reserved Matter, although it is proposed that the requirement for equipped and informal children's play space and allotments (as set out in Table 13.14) will be provided to WBC policy requirements. A condition will be requested to approve an open space strategy (addressing size, type and location) prior to the Reserve Matter approvals.

13.6.18 The natural and semi-natural informal Greenspace requirement will be catered for within the site itself, with a proposed green network through the centre of the site and along the motorway boundary to the north. This will provide informal areas and the potential for allotments, community orchards

[23] WBC (2016) Pell Hall Pre-Application Advice Letter, 26th February 2016

etc. Within the development land parcels themselves it is also intended that there will be village green areas, play areas and other recreational facilities incidental to the residential element of the proposed development.

13.6.19 The 3.2ha existing sub-standard sports facilities at Mill Lane that will be lost as a result of the proposed development will be replaced with a similarly-sized facility within the site designed to a significantly higher standard.

13.6.20 In addition, the existing WBC-owned sports field off Windermere Avenue (to the south of the site), which is currently under-utilised, will be substantially improved with facilities that may include new changing rooms, a car park and enhanced football pitches. There will be significant qualitative improvements to the current formal public open space facilities available to existing and future residents.

13.6.21 The proposed development will therefore include suitable on-site open space provision and significant improvements to current sub-standard sports fields to the south of Windermere Avenue, at a significantly higher quality than currently exists. It therefore provides adequate mitigation for the increased demand for open space and recreational areas which the proposed development may incur.

13.6.22 Any remaining adverse impacts, including any residual need to address a shortfall in swimming pool facilities as a result of the proposed development, can be most easily mitigated through appropriate Section 106 financial contributions to be agreed in consultation with the Council.

13.6.23 These mitigation measures will enable the impacts of the proposed development on Open Space and Recreation facilities to be **reduced from adverse, of a minor scale, to neutral**.

13.7 Residual Effects

Introduction

13.7.1 This section of the Environmental Statement remains unchanged (paragraph 13.7.1).

During Construction

13.7.2 No significant adverse effects are anticipated during the construction period.

After Completion

13.7.3 Following appropriate developer contributions, any negative impacts on Commuting, Education, Healthcare and Open Space and Recreation will be effectively neutralised.

13.7.4 The scale and significance of these residual impacts (i.e. once the mitigation measures have been implemented) are summarised in Table 13.16.

Table 13.16 Residual Impacts from the Proposed Development after Mitigation

Socio-Economic Factor	Impact	Magnitude
Construction Employment	**Beneficial**	Moderate
Operational Employment	**Beneficial**	Moderate
Resident Expenditure	**Beneficial**	Moderate
Public Revenue	**Beneficial**	Moderate
Local Labour Market	**Beneficial**	Minor
Housing	**Beneficial**	Moderate
Deprivation	**Beneficial**	Minor
Commuting	**Neutral**	-
Primary Education	**Neutral**	-
Secondary Education	**Neutral**	-
Healthcare	**Neutral**	-
Open Space & Recreation	**Neutral**	-

Source: Lichfields Analysis

13.8 Summary & Conclusions

13.8.1 The proposed mixed use development on land at Peel Hall has the potential to deliver up to 1,200 new dwellings, helping to meet Warrington's housing need. The 30% of dwellings allocated as affordable housing will help to increase the mix of housing available within the Borough and improve resident's access to much needed social housing in the area. The Care Home facilities will bring benefits to the increasing proportion of elderly residents who reside in the Borough. It will also release some existing housing that is currently under-occupied onto the wider market, thereby making more efficient use of the existing housing stock.

13.8.2 In addition to this, the development will also have a positive impact on the local economy by creating new construction jobs during the development phase. Moreover the employment land, retail and leisure facilities contained within the development promise to deliver hundreds of new jobs once the development is operational, both directly through the employers based there but also indirectly through the supply chain. The inclusion of community facilities in the site will also help support the infrastructure needs of local residents.

13.8.3 Based on this assessment, the most significant socio-economic impacts of the proposed development on the local economy are likely to include:

1 Investment of approximately £150 million over the 11 year development period;

2 Creation of 129 FTE construction jobs over the duration of the development phase;

3 Provide 332 FTE net additional jobs generated through the employment use and Care Home sections of the proposed development;

4 Delivery of up to 1,200 new C3 dwellings which will help to meet 5.4% of the housing target for the Borough over the plan period, improve the level of housing choice (by increasing the level of affordable housing) within the local area and reduce affordability issues;

5 Provide specially-designed housing for the elderly, alongside creating 53 associated FTE jobs;

6 Improve the socio-economic outcomes of highly deprived areas in the wider area by offering new employment opportunities; and,

7 Construction of open spaces as part of the development and improvements to existing poor quality sports facilities that will improve the provision of such facilities within the local area.

13.8.4 The scale of housing and its associated increases in resident population will be relatively minor when viewed in the context of the Borough as a whole. Impacts on demand for education, healthcare, open spaces and community facilities can be addressed by new facilities developed within the scheme, alongside current provisions within the local impact area. The proposed mixed-use scheme

represents a significant new capital investment within the local area, and will help to raise the overall level of economic activity and expenditure within the local economy.

Abbreviations & Definitions

1 CCG – Clinical Commissioning Group
2 DPD – Development Plan Document
3 ELR – Employment Land Review
4 1 FE – 1 Form Entry
5 FiT – Fields in Trust
6 FTE – Full Time Equivalent
7 GDP – General Dental Practitioner
8 GP – General Practitioner
9 GVA – Gross Value Added
10 HCA – Homes and Communities Agency
11 IMD – Index of Multiple Deprivation
12 JSA – Job Seekers Allowance
13 LAP – Local Area for Play
14 LEAP - Locally Equipped Area for Play
15 LQ – Lower Quartile
16 MSOA – Middle Super Output Area
17 NEAP - Neighbourhood Equipped Area for Play
18 NHB – New Homes Bonus
19 NPPF – National Planning Policy Framework
20 ONS – Office for National Statistics
21 OSA – Open Space Audit
22 R&D – Research and Development
23 SFSNA – Sports Facilities Strategic Needs Assessment
24 SNPP – Sub National Population Projections
25 SPD – Supplementary Planning Document
26 WBC – Warrington Borough Council

14.0 CUMULATIVE IMPACTS

Introduction

14.1 This section of the Environmental Statement remains unchanged.

14.2 This section of the Environmental Statement remains unchanged.

Methodology

14.3 This section of the Environmental Statement remains unchanged.

Other developments

14.4 This section of the Environmental Statement remains unchanged.

14.5 This section of the Environmental Statement remains unchanged. (See below)
Sites currently under construction include residential and employment developments.

Ecology and Nature Conservation (Chapter 2)

14.6 This section of the Environmental Statement remains unchanged (14.6-14.7).

Hydrology, Drainage and Flood Risk

14.8 This section of the Environmental Statement remains unchanged (14.8-14.9).

Landscape and Visual Impact

14.10 This section of the Environmental Statement remains unchanged (14.10-14.11).

Transport and Highways

14.12 Cumulative impacts are only likely to occur if the construction of projects within north Warrington coincides with that of the proposed residential development.

14.13 Traffic volumes and the use of the road network has been assessed within the TA. It is shown that with mitigation (bus service provision, Travel Plan measures, and highway engineering works at specific off site junctions) the development traffic ca be accommodated on the highway network. No adverse cumulative impacts are expected.

Archaeology and Cultural Heritage

14.14 This section of the Environmental statement remains unchanged (14.14-14.15).

Noise and Air Pollution

14.16 This section of the Environmental Statement remains unchanged (14.16-14.17).

Socio-Economic

14.18 This section of the Environmental Statement remains unchanged (14.18-14.19).

Significance of Cumulative Impacts

14.20 This section of the Environmental Statement remains unchanged (14.20).

15.0 SUMMARY OF ADVERSE IMPACT AND MITIGATION
SUMMARY OF PREDICTED RESIDUAL EFFECTS

15.1 Replace table 15.2 and 15.3 as set out below:

Table 15.2: Summary of Impacts and Mitigation- Option A
Temporary- Construction Phase

Environmental Topic	Significance of Effect		Proposed Mitigation	Significance of Residual Effect	
	Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral		Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral
Landscape & Visual Amenity					
Visual impact and loss of amenity to users of the sports pitches/ recreational area due to construction operations	Moderate	Adverse	Provision of new sports pitches and recreational areas prior to loss of existing facilities.	Minor	Adverse
Change in character of an open landscape to construction site	Moderate	Adverse	Elements of existing vegetation will be retained and enhanced to provide setting and assimilate the proposed development into the surrounding landscape, by the use of advanced planting in line with the phasing of the development.	Minor	Neutral
Impact on limited number of local residents who currently have unrestricted views of the site due to construction operations	Minor-Moderate	Adverse	Proposed landscape masterplan will inform the detail of development to provide screening for adjacent residents.	Minor	Adverse
Impact on users of the public footpath to the north east of the site due to construction operations	Major	Adverse	Footpath routed retained on existing route and protected.	Moderate	Adverse
Impact on existing habitats- stream courses, existing woodland, hedgerows etc.	Minor	Adverse	Stream courses retained, new ponds created with habitat enhancement. Existing features protected with barrier fencing etc.	Negligible	Adverse
Highways & Transportation					
Loss of amenity for existing users of the public right of way network	Minor	Adverse	Construction Management Plan to include information on diversions of PRoW where necessary.	Minor	Adverse

Construction operations will result in HGV traffic which could cause congestion and loss of amenity to local residents.	Moderate-Major	Adverse	Have a Construction Management Plan that controls hours of site operation and HGV routes to and from the site.	Minor	Adverse
Hydrology, Flood Risk & Drainage					
Potential contaminants or particulates seeping into the groundwater and / or river courses.	Minor	Adverse	Construction Management Plan will be in place to control and reduce impact on watercourse.	Negligible	Adverse
Ecology & Nature Conservation					
Loss, reduction and/or alteration of bat foraging habitat.	Moderate	Adverse	Have a Construction Management Plan that controls hours of site operation and protection of wildlife and habitats that will be retained to comply with wildlife regulations.	Moderate	Adverse
Loss of large areas of derelict agricultural land dominated by coarse grassland with general low floristic values.	Moderate	Adverse		Moderate	Adverse
Loss of areas of immature plantation woodland <30 years old.	Moderate	Adverse		Moderate	Adverse
Loss of areas of secondary dry reed bed on derelict farmland.	Moderate	Adverse		Moderate	Adverse
Loss of minor sections of species-poor hedgerows.	Minor	Adverse		Minor	Adverse
Loss of nesting bird habitat.	Negligible-Minor	Adverse		Negligible-Minor	Adverse
Impacts on water vole, badgers and Great Crested Newts due to loss of habitat	Negligible	Adverse		Negligible	Adverse
Air Quality					
Increases in dust and particles due to construction,	Minor	Adverse	Implementation of a Dust Management Plan to reduce the likelihood of dust escaping beyond the boundary of the proposed development site.	Negligible	Adverse

earthworks, trackout and demolition					
Cultural Heritage & Archaeology					
Direct physical impact to archaeological remains leading to partial or total loss of an archaeological asset	Minor	Adverse	Archaeological excavation and/or watching brief on areas where the presence or likely presence of archaeological remains is coincident with ground works required for the proposed development. Any archaeological attendances would be followed by analysis of the findings, publication and dissemination of the results and deposition of the archive in line with archaeological practice. The archaeological attendances would be configured with reference to the standards and guidance published by the Chartered Institute for Archaeologists with a contingency to respond to findings.	Negligible	Adverse
Noise & Vibration					
Increase in noise level from construction noise	Minor-Moderate	Adverse	Implementation of Best Practicable Means and restrictions in working hours to ensure minimal disruption	Minor	Adverse
Increase in noise from plant	Minor-Moderate	Adverse	Ensure that a detailed assessment of potential plant noise is carried out when the need for plant is identified	Minor	Adverse
Socio-Economics					
Employment Resulting from the construction phase	Moderate	Beneficial	-	Moderate	Beneficial
Recreation					
Loss of Mill Lane Sport Pitches	Moderate-Major	Adverse	-	Moderate-Major	Adverse
Peel Cottage Lane PROW	Major	Adverse	-	Major	Adverse

Table 15.3: Summary of Impacts and Mitigation- Option A
Permanent- Operation Phase

Environmental Topic	Significance of Effect		Proposed Mitigation	Significance of Residual Effect	
	Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral		Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral
Landscape & Visual Amenity					
Visual impact and loss of amenity to users of the sports pitches/ recreational area.	Moderate	Adverse	Provision of new sports pitches and recreational areas prior to loss of existing facilities.	Minor	Adverse
Change in character of an open landscape to residential development, industrial uses and infrastructure	Negligible	Adverse	Change in character inevitable but will be in keeping with development to the south. Mitigated by good design and landscape treatment. Elements of existing vegetation will be retained and enhanced to provide setting and assimilate the proposed development into the surrounding landscape.	Negligible	Neutral
Impact on limited number of local residents who currently have unrestricted views of the site	Moderate	Adverse	Proposed landscape masterplan will inform the detail of development to provide screening for adjacent residents.	Minor	Adverse
Impact on users of the public footpath to the north east of the site	Major	Adverse	Footpath routed retained on existing route and screened from adjacent development, new pedestrian routes created through the site, linking areas of existing and proposed open space.	Moderate	Adverse
Impact on existing habitats- stream courses, existing woodland, hedgerows etc.	Minor	Adverse	Stream courses retained, new ponds created with habitat enhancement.	Negligible	Adverse
Highways & Transportation					
Development traffic will cause congestion.	Moderate- Major	Adverse	Introduce new bus service to be used by existing residents of north Warrington as well as future residents of the Peel Hall site; Travel Plan measures to reduce congestion and encourage healthier travel choices; highway engineering	Moderate-Major	Beneficial

			works to mitigate the effect of development traffic at specific locations.		
Loss of amenity for existing users of the public right of way network	Negligible	Adverse	Proposed to have extensive footway and cycleway network through the developed site.	Moderate	Beneficial
Hydrology, Flood Risk & Drainage					
Loss of permeable greenfield land	Negligible	Adverse	Surface water is proposed to be controlled through attenuation features across the site, limiting the flow of water from the site to the existing run-off rates	Minor	Beneficial
Potential contaminants or particulates seeping into the groundwater and / or river courses.	Negligible	Adverse	Lined permeable paving and attenuation features provide a two stage filtering process across the site, removing and containing any contaminants or particulates.	Minor	Beneficial
Ecology & Nature Conservation					
Loss, reduction and/or alteration of bat foraging habitat.	Moderate	Adverse	Proposed landscape planting to replace lost bat foraging habitat.	Minor	Adverse
Loss of large areas of derelict agricultural land dominated by coarse grassland with general low floristic values.	Moderate	Adverse	Lighting controls and design to reduce effect on bat foraging patterns.	Minor	Adverse
Loss of areas of immature plantation woodland <30 years old.	Moderate	Adverse	Proposed buffer zone and to enhance to recreate semi-natural habitat, e.g. along stream courses.	Minor	Adverse
Loss of areas of secondary dry reed bed on derelict farmland.	Moderate	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Minor	Adverse
Loss of minor sections of species-poor hedgerows.	Minor	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Minor	Beneficial
Loss of nesting bird habitat.	Negligible-Minor	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Negligible-Minor	Beneficial
Impacts on water vole, badgers and Great	Negligible	Adverse	Proposed new attenuation ponds to provide increased aquatic habitat and marginal wetland	Minor	Beneficial

Crested Newts due to loss of habitat			planting. Proposed new habitat creation within the public open space.		
Air Quality					
Increases in concentrations of NO2, PM10 and PM2.5 from increased traffic flows	Negligible	Adverse	-	Negligible	Adverse
Cultural Heritage & Archaeology					
Indirect impact on the setting of an archaeological or cultural heritage asset leading to a diminution of its significance	Negligible-Minor	Adverse	For those archaeological and cultural heritage assets for which an indirect impact to setting has been predicted no formal mitigation is recommended as the magnitude of the impacts to settings and significance of the effect is marginally adverse and there is inherent mitigation in the quality of the design and layout of the proposed development.	Negligible	Adverse
Noise & Vibration					
Increase in noise from increase in traffic flow.	Minor	Adverse	-	Minor	Adverse
Socio-Economics					
Operational Employment	Moderate	Beneficial	-	Moderate	Beneficial
Resident Expenditure	Moderate	Beneficial	-	Moderate	Beneficial
Public Revenue	Moderate	Beneficial	-	Moderate	Beneficial
Local Labour Market	Minor	Beneficial	-	Minor	Beneficial
Housing	Moderate	Beneficial	-	Moderate	Beneficial
Deprivation	Minor	Beneficial	-	Minor	Beneficial
Commuting: Increase in the level of commuting within the local area.	Minor	Adverse	Commuting: Employment floorspace within the proposed development will help minimise net out commuting levels overall. Any remaining adverse impacts can be addressed through suitable planning conditions.	-	Neutral
Primary Education: Increased demand for primary school places, which are operating close to capacity.	Minor	Adverse	Primary Education: land will be made available for a 1FE Primary School as part of the Peel Hall proposals. Any residual shortfall in primary school provision would be mitigated through appropriate Section 106 financial contributions.	-	Neutral

Secondary Education: Increased demand for secondary school places, which are operating close to capacity.	Moderate	Adverse	Secondary Education: Appropriate Section 106 contributions.	-	Neutral
Healthcare: Increased demand for healthcare facilities, which are operating close to capacity.	Minor	Adverse	Healthcare: Appropriate Section 106 contributions or the availability of space within the local centre	-	Neutral
Open Space & Recreation: Increased demand for open space and recreational facilities.	Minor	Adverse	Open Space & Recreation: On-site open space provision. Any remaining adverse impacts can be addressed through suitable s106 contributions in relation to the improvements proposed to Radley Common fields.	-	Neutral
Recreation					
Loss of Mill Lane Sport Pitches	Minor	Adverse	Replacement sports pitches of better quality and quantity with supporting amenities including changing facilities.	Minor-Moderate	Beneficial
Peel Cottage Lane PROW	Major	Adverse	Footpath route to remain. Landscape planting will reduce impact on footpath over time.	Moderate	Adverse

16.0 CONCLUSIONS

16.1 In summary the following topic areas have been addressed and the findings are set out below:

- Planning Policy - Overall the proposed development complies with relevant national and development plan policies. It aids the fulfilment of objectives and strategies within non-statutory assessments such as the provision of market and affordable housing, local employment and crating investment.

- Ecology and Nature Conservation - The evaluation of predicted effects has shown that a moderate adverse effect is predicted on the site through the loss of common, but extensive semi-natural habitats during the construction phase. These effects are short term and partially reversible through restoration and provision of new habitats. With the exception of birds and bats there is a general lack of substantial formal nature conservation interest on the site. The impacts of the operational phase are predicted to be negligible/low and are partially reversible through appropriate mitigation.

- Hydrology, Drainage and Flood Risk - It is concluded that the development is not at risk of fluvial, tidal, overland groundwater flooding and will not increase flooding to surrounding areas.

- Landscape and Visual Impact - Subject to the mitigation proposals there would not be any overall significant adverse impact in landscape, character or visual terms.

- Transportation and Highways – With mitigation, the predicted impact to the wider highway network is expected to be moderate beneficial, with a high level of provision for public transport, cyclists and pedestrians.

- Cultural Heritage and Archaeology - The mitigation measures and advancement of understanding compensates for the loss of any cultural, heritage and archaeological assets. With regard to the assessment site the investigation and recording of any cultural assets would lead to an overall residual slight adverse/neutral impact for all directly impacted assets.

- Noise pollution - The proposals meet both IEMA and British Standards for sound insulation and noise reduction for buildings. It is considered that the proposed development adheres to the principles of paragraph 109 of the NPPF and ‘will not put at risk from or being adversely affected by unacceptable levels of soil, air, water or noise pollution.’ It is considered that noise and vibration should not be a constraint on residential amenity.

- Air Quality - The proposed development meets the technical guidance on Local Air Quality Management and Assessment for demolition and construction. It is considered that the proposed development adheres to paragraph 109 of the NPPF as set out above. It is considered that air pollution should not be a constraint on the proposed residential development.

- Social Infrastructure - The scale of housing and its associated increase in residential population will be relatively minor when viewed in the context of the Borough as a whole. The proposed mixed- use scheme represents a significant new capital investment within the local area and this will help raise the overall level of economic activity and expenditure within the local economy.

16.2 The overall conclusion of this addendum to the environmental statement is that any impact that occurs as the result of the 'Option A scheme' can be successfully mitigated and that all mitigation matters can be conditioned as part of reserved matters planning applications.

PART 2 OPTION B

PART 2 – OPTION B ADDENDUM

PART 2 – OPTION B ADDENDUM

1.0 B ENVIRONMENTAL STATEMENT PROJECT TEAM

1.1 The Environmental Project team consists of the same companies and disciplines as ES Addendum Part 1 Option A.

2.0 B INTRODUCTION

2.1 Purpose and Approach

2.1.1 As the result of further transportation and highway studies changes to the layout of the development have been proposed. New data suggests that the scheme could incorporate a through route for traffic on an east west basis, rather than separate access points that are unconnected, which was the original proposal and which forms the basis of Option A.

2.1.2 The proposed alternative alignment is shown on the **Option B Parameters Plan APP 6B.** Each discipline has assessed the 'Option B' layout against their specific assessment criteria set out in the Environmental Statement. Where it is considered that there is no change in impact when compared to the original scheme, a short statement has been produced confirming that the 'Option B' layout has no material change on the original assessment outcome.

2.2 Environmental Statement Format

This section of the Environmental Statement remains unchanged (2.2).

2.3 Scope

This section of the Environmental Statement remains unchanged (2.3).

2.4 Consultations

At the time of preparation of this addendum Option B has not been subject to formal consultation but this will be undertaken following its submission to the Local Planning Authority and PINS.

2.5 The Development Proposals

Description

2.5.1 This section of the Environmental Statement remains unchanged.

2.5.2 **Figure APP 6B** is the Parameters Plan for Option B for the development. The main change in terms of plan layout from the scheme as submitted with the planning application (Option A), is the modification of the main highway route through the site, linking Mill Lane to the east of the site, with Poplars Avenue to the west. The additional access point mid-way along Poplars Avenue remains unchanged. In addition to the change in highways layout the proposed Local Centre has relocated to the north of the site, south of the M62 motorway. The Parameters Plan has planning status as it sets out the general disposition of separate land uses on the site and also the maximum heights of buildings and /or infrastructure (vertical parameters) to be located within each development zone. The Parameters Plan shows the main constraints and opportunities for

development such as vegetation to be retained together with proposed new planting and areas of open space. It is anticipated that the plan, although indicative at this stage, will form the basis of outline planning permission for the site upon which reserved matters applications can be conditioned, as set out in the planning application covering letter dated 11th July 2016. Formal approval for vehicular access to the site is also sought, based on the submitted plans (**Appendix T 6B**).

Housing

2.5.3 This section of The Environmental Statement remains unchanged.

Other Uses

2.5.4 This section of the Environmental Statement remains unchanged.

Access

2.5.5 This section of the Environmental Statement is replaced by a new Transportation and Highways study.

Landscape Scheme

2.5.6 This section of the Environmental Statement remains unchanged. (2.5.6 - 2.5.7).

Construction Phasing and Timescales

2.5.8 This section of the Environmental Statement remains unchanged. (2.5.8 - 2.5.15.)

3.0 B THE SITE IN CONTEXT

3.1 Introduction

3.1.1 This section of the Environmental Statement remains unchanged (3.1.1).

3.2 Site Location and Adjacent Land uses

3.2.1 This section of the Environmental Statement remains unchanged (3.2.1 – 3.2.6).

3.3 Site Description

3.3.1 This section of the Environmental Statement remains unchanged (3.3.1 – 3.3.5).

3.4 Agricultural land Quality

3.4.1 This section of the Environmental Statement remains unchanged (3.4.1).

3.5 Flood risk assessment

3.5.1 This section of the Environmental Statement remains unchanged (3.5).

4.0 B DEVELOPMENT ALTERNATIVES

4.1 Introduction

4.1.1 This section describes the main alternatives that were assessed in the consideration of the scheme and development of the proposals.

4.2 Alternative Options

4.2.1 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A (4.2.1).

4.2.2 The following options have been considered as part of the Environmental Impact Assessment process:

Do nothing scenario

4.2.3 This section of the Environmental Statement remains unchanged (4.2.3 – 4.2.4).

4.3 Alternative Layouts

4.3.1 This part of the addendum considers the alternative Option B through route layout.

4.4 Conclusion

4.4.1 This section of the Environmental Statement remains unchanged (4.4.1).

5.0 B PLANNING POLICY CONTEXT

5.1 Introduction

5.1.1 This section of the Environmental Statement remains unchanged (5.1.1 – 5.1.2).

5.2 National Planning Guidance

Planning Policy

5.2.1 This section of the Environmental Statement remains unchanged (5.2.1 – 5.2.7).

Local Planning Policies

5.2.8 This section of the Environmental Statement remains unchanged.

5.3 The Local Plan Core Strategy July 2014

Designations

5.3.1 This section of the Environmental Statement remains unchanged (5.3.1 – 5.3.2).

Housing Supply

5.3.3 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A (5.3.3 – 5.3.5).

5.4 Sustainability

5.4.1 This section of the Environmental Statement remains unchanged (5.4.1 – 5.4.5).

5.5 Conclusion

This section of the Environmental Statement remains unchanged.

6.0 B ECOLOGY AND NATURE CONSERVATION

6.1 Introduction

6.1.1 This chapter of the ESA deals with ecological and nature conservation issues in relation to the proposed development. It includes the results of updated breeding bird surveys undertaken in 2017 by Ian Ryding, a bat undertaken by Stan Irwin in 2016 and a wider desk top study assessment. It considers both direct and indirect ecological effects and mitigation.

6.1.2 Survey objectives and re-evaluation of existing data

This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A

6.1.3 Location

This section of the Environmental Statement remains unchanged (6.1.3).

6.1.4 Constraints

Vegetation

This section of the Environmental Statement remains unchanged

Birds

Option B does not alter this section of the Environmental Statement or the ES Addendum.

Badger

This section of the Environmental Statement remains unchanged.

Water Vole

This section of the Environmental Statement remains unchanged.

Ponds

This section of the Environmental Statement remains unchanged.

6.2 SURVEY RESULTS

Desk Based Study

6.2.1 Option B does not alter this section of the Environmental Statement or the ES Addendum.

Results of the Data Search

6.2.2 Option B does not alter the section as set out in the ES nor the 2017 search as included in Part 1 of the ES Addendum (Option A).

Evaluation of Data

6.2.3 Option B does not alter this section of the Environmental Statement or the ES Addendum.

Wildlife and Countryside Act 1981 (as amended)

6.2.4 Option B does not alter this section of the Environmental Statement or the ES Addendum.

6.3 Extended Phase One Habitat Survey

This section of the Environmental Statement remains unchanged (6.3.1 - 6.3.3).

6.4 General Description

This section of the Environmental Statement remains unchanged (6.4.1 – 6.4.7).

6.5 Hedgerow Regulations Survey

This section of the Environmental Statement remains unchanged (6.5.1 – 6.5.12).

6.6 Badger Survey

This section of the Environmental Statement remains unchanged (6.6.1 – 6.6.2).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.7 Water Vole

This section of the Environmental Statement remains unchanged (6.7.1 – 6.7.5).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.8 Breeding Bird Survey

This section of the Environmental statement remains unchanged (6.8.1 - 6.8.4).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.9 Barn Owl and Bat

This section of the Environmental statement remains unchanged (6.9.1 - 6.9.24).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.10 Great Crested Newt Evaluation

This section of the Environmental statement remains unchanged (6.10.1 - 6.10.7).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.11 Bat Evaluation

This section of the Environmental statement remains unchanged (6.11.1 - 6.13.5).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.14 Assessment of Ecological Impacts

This section of the Environmental statement remains unchanged (6.14.1 - 6.14.19).

It is considered that there will be no difference in the effect of development between Option B and Option A.

6.15 Summary Evaluation of Ecological Receptors

This section of the Environmental statement remains unchanged.

7.0 B HYDROLOGY, DRAINAGE AND FLOOD RISK ASSESSMENT

Given the outline nature of the application, the sites detailed masterplan has not been frozen and as such assumptions were made to calculate the sites overall impermeable areas such as assuming 55% of all developable land would be impermeable. As such, the changes in the highways layout would not change any of the assumptions made and would therefore not have any material change on the outcomes of the previously submitted FRA.

The methodology and conclusions relating to surface water management and foul water discharge would be unchanged and consistent with the original FRA.

7.1 This section of the Environmental Statement remains unchanged.

7.2 Site Description

This section of the Environmental Statement remains unchanged (7.2.1 - 7.2.3).

7.3 Flood Risk

7.3.1 This section of the Environmental Statement remains unchanged.

7.3.3 This section of the Environmental Statement remains unchanged.

Figure 1 – EA indicative Flood Map – Peel Hall Farm

This section of the Environmental Statement remains unchanged from the ESA Part 1.

7.3.6 This section of the Environmental Statement remains unchanged.

7.3.7 This section of the Environmental Statement remains unchanged.

7.3.8 This section of the Environmental Statement remains unchanged.

7.3.6 This section of the Environmental Statement remains unchanged.

7.3.7 This section of the Environmental Statement remains unchanged.

7.3.8 This section of the Environmental Statement remains unchanged.

7.3.9 This section of the Environmental Statement remains unchanged.

7.3.10 This section of the Environmental Statement remains unchanged.

Figure 1 – EA Indicative Surface Water Flood Risk Map – Peel Hall.

This section of the Environmental Statement remains unchanged from the ESA Part 1.

7.3.11 This section of the Environmental Statement remains unchanged.

7.4 Proposed Surface Water Drainage Strategy

This section of the Environmental Statement remains unchanged (7.4.1 – 7.4.13).

7.4.14 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A (7.4.14 – 7.4.17).

7.5 Proposed Foul Water Drainage Strategy

This section of the Environmental Statement remains unchanged (7.5.1 – 7.5.2).

7.5.3 Proposed Foul Water Drainage Strategy

This section of the Environmental Statement remains unchanged from the ESA Part 1.

7.6 Conclusions and Recommendations

This section of the Environmental Statement remains unchanged (7.6.1 – 7.6.9).

7.6.10 This section of the Environmental Statement remains unchanged from the ESA Part 1.

8.0 B LANDSCAPE AND VISUAL AMENITY IMPACT ASSESSMENT

8.1 Introduction

This section provides a systematic assessment of the potential effects of the proposed development on landscape resources and character and the visual amenity of the site, its surroundings and the people who use it.

Prediction Methodology

8.2 Potential impacts

This section of the Environmental Statement remains unchanged.

Information Sources

8.3 Desk top study

This section of the Environmental Statement remains unchanged (8.3.1 - 8.3.3).

8.3.4 This assessment should be read in conjunction with the following drawings produced by Appletons:

Appendix APP 6B Parameters Plan.

The Parameters Plan has been replaced by **Appendix APP 6B** (drawing no. 1820_30) to include vertical parameters. An additional drawing showing a north-south cross section has been prepared and is included in the **Appendix APP 15** (drawing no. 1820_34).

Appendix LND 11 Indicative Landscape Components Plan Option B

This drawing is contained in **Appendix 11**.

Field Survey

8.3.5 This section of the Environmental Statement remains unchanged (8.3.5 - 8.3.7).

8.4 Methodology

This section of the Environmental Statement remains unchanged (8.4.1 - 8.4.6).

8.5 Significance of Impacts

This section of the Environmental Statement remains unchanged. (8.5.1 - 8.5.2) together with the tables included in the text describing landscape and visual effects.

Baseline Environment

8.6 Location and Context

This section of the Environmental Statement remains unchanged (8.6.1 - 8.6.3).

8.7 The Physical Characteristics of the Site

This section of the Environmental statement remains unchanged.

8.8 Landscape Designations

This section of the Environmental statement remains unchanged.

8.9 Landscape Character Assessment

This section of the Environmental Statement remains unchanged.

8.10 Regional Assessment – Landscape Character Areas

This section of the Environmental Statement remains unchanged.

8.11 Local Assessment

This section of the Environmental statement remains unchanged.

8.12 Site Character Assessment

This section of the Environmental Statement remains unchanged (8.12.1 - 8.12.4).

8.13 The Character of Adjacent Landscape

This section of the Environmental Statement remains unchanged.

8.14 The Impact of the Proposed Development on Landscape Character

This section of the Environmental Statement remains unchanged.

8.15 Visual Amenity and Prominence

Topography and Existing Screening Features

This section of the Environmental Statement remains unchanged (8.15.1 - 8.15.2).

8.16 Identification of Important Features and Potential Sensitive Receptors

This section of the Environmental Statement remains unchanged (8.16.1 - 8.16.4).

8.17 Baseline Projection

This section of the Environmental statement remains unchanged.

8.18 Impact Assessment and Evaluation

This section of the Environmental Statement remains unchanged.

8.19 Construction Phase

This section of the Environmental Statement remains unchanged.

8.20 Mitigation Measures - General

This section of the Environmental statement remains unchanged (8.20.1 - 8.20.2).

8.21 Residual Impacts for the Construction/Operational Phases

Character of the Site and Adjacent Land

This section of the Environmental Statement remains unchanged.

Landscape features (Construction Phase)

8.21.1 This section of the Environmental Statement remains unchanged.

Agricultural land

8.21.2 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A

Visual Impact (Construction/Operational Phases)

8.21.3 This section of the Environmental Statement remains unchanged.

8.21.4 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A

8.22 Visual Receptors

Highways

8.22.1 This section of the Environmental Statement remains unchanged. (8.22.1 – 8.22.3)

Views from Private Properties

8.22.4 Views from private properties may be gained from the following locations: They are mostly from the rear elevations and or gardens. The total number of dwellings and location is set out below.

West

Elm Road 14
Birch Avenue 2
Poplars Avenue 28
There will be an additional impact of 10 dwellings compared with Option A as the result of road widening on Poplars Avenue.

Central

Newhaven Road 82
Windermere Avenue 44
(24 would overlook proposed open space)

East

Lockerbie Close 4 (gable on)

Radley Lane 4 + Peel Hall

Ballater Drive 15 + 1 gable on

8.22.5 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A (8.22.5 – 8.22.7)

8.23 Residual Impacts

As mitigation methods have been incorporated within the proposed scheme the assessments of impact significance as set out in sections 8.21 and 8.22 of the Environmental Assessment remain valid.

8.24 Post Development Monitoring

This section of the Environmental Assessment remains unchanged (8.24.1 - 8.24.2).

8.25 Cumulative impacts

This section of the Environmental Statement remains unchanged.

8.26 Conclusion

8.26.1 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option

8.27 Summary

8.27.1 This section of the Environmental Statement remains unchanged.

8.27.2 This section of the Environmental Statement remains unchanged.

8.27.3 This section of the Environmental Statement remains unchanged.

8.27.4 Due to topography and context the site's visual prominence is limited. Aspects of the site are visible in places mainly from the public right of way that crosses the site and from adjacent residential dwellings. However, in conclusion it is assessed that the development as proposed subject to the long-term mitigation as set out in this document and on the Parameters Plan prepared by Appletons **Appendix APP 6B** would result in there not being any overall, significant, adverse impact in landscape, character and visual amenity terms. There is no cumulative impact on the Green Belt land to the north since there are no other development proposals of this nature in the vicinity but in any event Green Belt is not a landscape designation in planning terms.

8.28 Due to the widening of the highway there would be visual impact on an additional 10 residential dwellings located on Poplars Avenue. In all other respects it is considered that there would be no

overall difference in impact in Landscape, Character and Visual Terms between Option A and Option B.

Request for additional information/clarification from PINS

- Information in respect of the impact on agricultural land is set out in paragraph 8.21.2.
- Clarification in respect of pre-mitigation impact on residential property is set out in table 8.1.
- Summary information in respect of impact on residential property is set out in paragraph 8.22.5.
- Summary conclusions in respect of the final assessment are set out in paragraph 8.26.1.
- Impacts in respect of lighting is set out in paragraph 8.22.7.

9.0 B TRANSPORTATION AND HIGHWAYS

9.1 Introduction

9.1.1 This chapter focuses on the effects that the proposed development will have on access and transport during the construction phase as well as when the development is fully operational. It draws on the detailed analysis and mitigation measures set out in the full Transport Assessment (ref: 1107/TA/01/A dated January 2018) prepared by Highgate Transportation.

9.1.2 Discussions outlining the approach and methodology have been held with Warrington Borough Council (WBC) in its role as the local highway authority and with Highways England as the strategic highway authority. This set out how the development would be accessed, how its impact would be assessed and the type of sustainable transport, travel plan and physical measures that could support the development.

9.1.3 The Transport Assessment considers all modes of travel and the demands that the proposed development will place on transport infrastructure. The study area covers a large part of the local transport network including pedestrian and cyclist links to the surrounding areas as well as public transport services and facilities. Plans showing the overall study area, the existing highway network within the study area, the existing bus network and the existing PRoW network are contained in **Appendices T1**, **T2**, **T3** and **T4** respectively. The assessment work is based on a SATURN model of the north Warrington area, which has then been used to model individual junctions to further test the impact of the development.

9.1.4 In transport terms the guiding principles in the development of the scheme have been to encourage the use of sustainable modes of transport and to contain trips within the development as far as possible. **Appendix T5B** contains an illustrative plan showing the proposed road network within the development. In terms of vehicular access each site access will generally provide access to a specific area of the overall development and the plan in **Appendix T5B** also shows the amount of development from each access.

9.1.5 A through route across the site has been proposed between a proposed new roundabout junction on Mill Lane and the A49 via a proposed new signalised junction on Poplars Avenue. Four other accesses will serve smaller parcels of development from Mill Lane, Birch Avenue and for the improved sports pitches from Grasmere Avenue. Plans showing these accesses are contained in **Appendix T6B**.

9.1.6 The bus network will be enhanced and a plan showing the proposed alterations is contained in **Appendix T7**. During the construction phase it is proposed that existing services will be extended into the site and during the operational phase a new service will be introduced to serve the site. **Appendix T8B** contains the proposed pedestrian and cycle linkages to the surrounding area. The plan outlining the proposed construction and phasing of development is contained in **Appendix T9B**.

9.1.7 The transport modelling has been carried out with SATURN and then further detailed modelling of standalone junctions has been provided. The SATURN output files are contained in **Appendix T10** and the proposed mitigation measures in **Appendix T11B**.

9.2 Transport Policy and Guidance

9.2.1 Throughout the development of the scheme, account has been taken of both national and local transport related policy and guidance.

9.2.2 National transport policy and guidance is set out in:

xi. National Planning Policy Framework (2012).
xii. DCLG Planning Practice Guidelines (2014).
xiii. Interim Advice Note 125/09 – Supplementary Guidance for users of DMRB Vol 11 "Environmental Assessment".
xiv. Guidance on Transport Assessment (2007) published by DfT and DCLG.
xv. DfT Circular 02/2013 - Strategic Road Network and the Delivery of Sustainable Development (2013).
xvi. The Strategic Road Network - Planning for the Future (2015) published by Highways England.
xvii. Manual for Streets (2007) and Manual for Streets 2 (2010) published by DfT.
xviii. DMRB Volume 11 Section 3 Part 8: Pedestrians, Cyclists, Equestrians and Community Effects (1993).
xix. DMRB Volume 11 Section 3 Part 9: Vehicle Travellers (1993).
xx. Institute of Environmental Assessment – Guidelines for the Environmental Assessment of Road Traffic (1993).

9.2.3 Local transport policy and guidance is set out in:

viii. Local Plan Core Strategy (policies CS1, CS4, MP1, MP3, MP4, MP7, MP10, QE3, QE6 and QE7) adopted in July 2014.
ix. Warrington Local Transport Plan 3 (policies AT3 and PT4) – 2011 to 2030 (2011).
x. WBC's Design Guide - Residential and Industrial Estate Roads (2008).
xi. WBC's Standards for Parking in New Development (2015).
xii. WBC's DGN2 on Travel Plans (2016).
xiii. WBC's CIL Preliminary Draft Charging Schedule Consultation (October 2015).
xiv. WBC's SPD on Design and Construction (2010).

9.2.4 The thrust of these policies and guidance is to encourage development that will be safe and accessible to all, and that will be sustainably located or can be made to be sustainably located by the introduction of mitigation measures.

9.3 Prediction Methodology

Potential Impacts

9.3.1 The anticipated impacts on access and transport relate to:

v. Nuisance, disruption and severance arising from the construction of the development.
vi. The use of and implications for public transport in the area.
vii. The effect on walking and cycling opportunities in the area.
viii. The vehicular traffic impact resulting from the occupation of the development.

Sources of Information

9.3.2 Data from the following sources have been used in the assessment:

viii. Traffic flows derived from manual and automatic surveys carried out by independent specialist surveyors.
ix. Development trip rates derived from the TRICS database.
x. Traffic growth derived from the TEMPRO database.
xi. Trip distribution based on the gravity model.
xii. Trip Assignment from the SATURN model.
xiii. Highway record and public right of way information supplied by WBC.
xiv. Site-wide topographical surveys carried out by independent specialist surveyors.

Methodology

9.3.3 The methodology used in this assessment is to assess the magnitude of change and significance of impact for drivers, bus passengers, pedestrians and cyclists both during the construction phase and the operational phase.

Magnitude of Change and Significance of Impacts

9.3.4 In terms of significance of impacts the following terminology has been adopted:

v. Negligible - equals no impact on the local highway network.
vi. Minor - some increase in traffic flows but not leading to congestion or delays.
vii. Moderate - Increase in traffic flows capable of mitigation by traffic engineering or sustainable transport measures.
viii. Major - significant impact on the local highway network leading to delays and reduced traffic flows, not possible to mitigate.

9.4 Baseline Environment

Baseline Conditions – Existing Network

9.4.1 The Peel Hall site is located on the northern edge of Warrington, adjacent to the existing residential areas of Hulme, Blackbrook, Cinnamon Brow and Houghton Green. It is bounded by the M62 to the north, Mill Lane to the east, Poplars Avenue to the south and Birch Avenue and Elm Road to the west.

9.4.2 Baseline conditions have been identified by reviewing the existing highway, bus, rail, pedestrian and cyclist networks.

9.4.3 Existing traffic flows have been obtained from survey work. Plans showing the study area, the existing highway network within the study area and the existing bus network are contained in **Appendices T1, T2** and **T3** respectively.

Existing Highway Network

9.4.4 The existing traffic flows during the AM and PM peak hour are summarised in **Table 9.4.1**.

Table 9.4.1: Existing traffic flows during the AM and PM peak hour

Road	Year	Peak Hour Two-Way Flow			
		AM		PM	
		Total Flow	HGVs	Total Flow	HGVs
Poplars Avenue	2015	522	39	566	23
Mill Lane (Blackbrook Avenue - site access)	2015	903	2	724	1
Mill Lane (Radley Lane - Delph Lane)	2015	41	0	99	0
Mill Lane (site access - Delph Lane)	2015	903	2	724	1
Delph Lane	2015	892	2	649	1
Blackbrook Avenue (Mill Lane - Capesthorne Road)	2015	741	77	633	61
Blackbrook Avenue (Capesthorne Road - Insall Road)	2014	810	12	824	7
Blackbrook Avenue (Insall Road - Birchwood Way)	2014	937	21	834	7
Birch Avenue	2014	45	0	50	0
Cotswold Road	2014	172	10	204	13
Cleveland Road	2014	373	8	451	9
Sandy Lane West	2014	943	17	1192	15
Sandy Lane	2014	410	17	399	12

Winwick Road (M62 - Sandy Lane West)	2014	3022	266	3205	146
Winwick Road (Sandy Lane West - Hawleys Lane)	2014	3070	239	3271	125
Winwick Road (south of Hawleys Lane)	2014	2943	222	2789	93
Capesthorne Road	2014	917	16	930	13
Enfield Park Road	2016	582	2	569	3
Crab Lane	2015	790	33	921	32
Birchwood Way (A50 - Blackbrook Avenue)	2015	1325	32	1346	10
Birchwood Way (Blackbrook Avenue - Crab Lane)	2014	1371	42	1383	9
Howson Road	2014	302	7	306	2
Birchwood Way (Crab Lane - Birchwood Interchange)	2016	1547	32	1385	14
A50 Long Lane	2014	1218	53	1229	20
Statham Avenue	2015	181	2	168	0
Northway	2014	288	14	285	12
Hilden Road	2014	533	19	614	6
Insall Road/Fernhead Lane	2014	630	23	652	11
Cromwell Avenue	2014	373	124	451	72
Myddleton Lane	2016	203	1	205	0
Winwick Link Road	2014	1495	135	1518	50
Winwick Road (north of M62)	2014	2462	180	3117	80
M62 west	2014	8259	1460*	10655	1005*
M62 west off-slip	2014	897	194*	980	121*
M62 west on-slip	2014	798	204*	1011	99*
M62 east	2014	7825	1383*	10513	1090*
M62 east off-slip	2014	787	140*	705	137*
M62 east on-slip	2014	474	181*	1142	168*

* All traffic minus car traffic to give an approximate HGV figure

9.4.5 At times during the peak periods congestion can occur along the main corridors in the area including M62, Winwick Road, Sandy Lane West, Long Lane, Blackbrook Avenue and Birchwood Way, as well as elsewhere.

Existing Bus Network

9.4.6 The existing bus services that currently operate close to each of the proposed site accesses are as follows:

vi. Mill Lane and Blackbrook Avenue Roundabout
Services 23 and 23A; 25A; 26 and 26E; 27 and 27E

vii. Poplars Avenue Central Access
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26 and 26E; 27

viii. Poplars Avenue West
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360

ix. Birch Avenue
Services 19; 20 and 20A; 21, 21A and 21E; 22; 329 and 360

x. Grasmere Avenue
Services 20 and 20A; 21, 21A and 21E; 25 and 25A; 26; 27

9.4.7 All services connect this part of Warrington with the town centre. Services 25, 26, 26E and 27 provide access to Birchwood Station and Birchwood Park in the east. Services 23, 23A, 27 and 27E stop around 800 metres from Padgate Station. Information regarding the existing bus network is contained in **Appendix T3**.

9.4.8 It is considered that the level of bus provision to the site is very good. At peak times these routes are busy, especially closer to the centre of Warrington. Existing journey times by bus from the site to key locations are set out in **Table 9.4.2**.

Table 9.4.2: Existing bus journey times from closest bus stop to key locations

From Existing Bus Stop Closest to Proposed Site Access	**Key Locations – Journey Time**					
	Town Centre	Birchwood Station	Birchwood Park	Warrington Business Park & Collegiate	Warrington Campus University of Chester	Orford Jubilee Hub
Poplars Ave west	15-18min	-	-	6min	-	8min
Poplars Ave central	14-20min	23min	15min	10min	8min	12min
Mill Lane/ Blackbrook Ave	17-22min	17-20min	9-10min	9-10min	3min	7min*

* Monday-Saturday Evenings, Saturdays

Existing Rail Network

9.4.9 Existing rail stations that serve Warrington are:

v. Padgate - on the Manchester to Liverpool Line. This is approximately 3.0 kilometres from the site.
vi. Warrington Central - on the Manchester to Liverpool line. This is approximately 3.5 kilometres from the site.
vii. Warrington Bank Quay - on the West Coast Mainline. This is approximately 4.5 kilometres from the site.
viii. Birchwood - on the Manchester to Liverpool Line. This is approximately 5.2 kilometres from the site.

9.4.10 A summary of the railway services is as follows:

vi. Manchester - 4 per hour, 20 minute journey time.
vii. Liverpool - 4 per hour, 22 minute journey time.
viii. Preston - 2 per hour, 22 minute journey time.
ix. Birmingham - 4 per hour, 1.5 hour journey time.
x. London - 2 per hour, 2.5 hour journey time.

9.4.11 The railway stations are generally located within a 10 to 20 minute cycle ride of the site. This is therefore considered to be a realistic modal choice, and provides future residents with alternative options for non-car travel.

9.4.12 It is therefore concluded that existing public transport facilities are very good and that rail travel is a realistic travel choice for commuter journeys for future residents of the Peel Hall site.

9.4.13 Overall the Peel Hall site is considered to be located in a highly sustainable and accessible location with excellent public transport facilities close by.

Existing Pedestrian Network

9.4.14 Existing pedestrian access into the site is from Mill Lane, Radley Lane and Peel Cottage Lane in the east; Birch Avenue and Elm Road in the west; Grasmere Avenue and Windermere Avenue in the south. There is a footbridge across the M62 to the north of the site, which forms part of PRoW number 2 and links with A49 and Winwick to the north of the site via Public Rights of Way (PRoW) 1, 1a, 3 and 5. The Peel Hall site currently attracts dog walkers and recreational walkers using the PRoW. A plan showing the local PRoW is contained within **Appendix T4**. Pedestrian connectivity to the Peel Hall site is very good and walking is a realistic alternative mode of travel to the private car.

Existing Cycle Network

9.4.15 Local cycling facilities comprise off-road segregated cycleways and footways along the A49 Winwick Road from the junction with Long Lane to the town centre. On-road cycleways and

advanced stop lines are also provided, for example at Winwick Road junction with A50 Long Lane and the A49 junction at the Warrington Wolves Halliwell Jones Stadium. The site is located in an area that will support and encourage cycle travel.

Baseline – 2015 SATURN Data

9.4.16 The traffic flow data (**Table 9.4.1**) has been input to the Peel Hall SATURN model and the model has been validated to a base year of 2015. The resultant SATURN output file spreadsheets are contained in **Appendix T10** for reference.

Baseline Projection – Proposed Accesses and Internal Transport Network

9.4.17 **Appendix T5B** contains an illustrative plan showing the proposed road network within the development and the amount of development off each access. It is proposed that the main vehicular accesses to the development will be provided from two locations; the Mill Lane arm of the proposed Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and from a proposed signalised junction on the A49 at Poplars Avenue. Additional access to specific areas of development will be provided from Birch Avenue to the west and Mill Lane to the north-east. Access to the sports pitches and ancillary facilities will be from Grasmere Avenue. A bus gate will be provided to help protect the existing residential area to the south of the site from through traffic. Additional measures will be provided to further protect this area.

9.4.18 The plan showing the proposed access from the Mill Lane arm of the Blackbrook Avenue/Ballater Drive/Mill Lane/Enfield Park Road roundabout junction and the plan of the proposed signalised junction on the A49 at Poplars Avenue are contained in **Appendix T6B**. The through route comprises a 7.3 metre wide carriageway through the site from a proposed 36 metre diameter three-arm roundabout junction with associated facilities for pedestrians and cyclists in the east to the proposed all-movement signalised junction in the west. It is expected to serve up to around 850 dwellings.

9.4.19 The plan showing the proposed access from Mill Lane is also contained in **Appendix T6B**. This access has been created by extending Mill Lane north-westwards into the site and is expected to serve up to 150 dwellings.

9.4.20 The plan showing the proposed access from the central part of Poplars Avenue, which is located between its junctions with Newhaven Road and Windermere Avenue, is also contained in **Appendix T6B**. This access road comprises a 7.3 metre wide carriageway from new a priority junction with ghost right turn lane. It includes associated pedestrian, cycle and relocated and improved bus stop facilities. It is expected to serve up to 180 dwellings.

9.4.21 The plan showing the proposed accesses from Birch Avenue is also contained in **Appendix T6B**. These accesses comprise a simple priority junction located to the west of the Health Centre with 4.8 metre wide carriageway and footways on both sides, and the other is a continuation of Birch

Road to the immediate south of the Health Centre, which will becomes a 5.5 metre wide shared surface road. In total these accesses will serve up to 20 dwellings.

9.4.22 The plan showing the proposed access to the improved sports pitches from Grasmere Avenue is also contained in **Appendix T6B**. The proposal is to modify the existing access that serves local recreational facilities.

9.4.23 Alterations to bus services will comprise extensions to existing services 23/23A during the construction phases until the distributor road is fully operational. Once the distributor road is completed a new bus service will be introduced that connects the site with the town centre to the south and Birchwood to the east. This will replace the extension to services 23/23A. Proposed bus alterations are considered in detail in **paragraphs 9.5.9** to **9.5.11** and **paragraphs 9.6.10** to **9.6.12** and the relevant service diagrams are contained in **Appendix T7**.

9.4.24 The proposed pedestrian and cycle linkages within the development will generally be in line with the WBC guidance, with shared cycleway-footway facilities separated from the carriageway by a verge. A high level of connectivity for pedestrians and cyclists will be provided through the site and connections will be made to the existing pedestrian routes around the site and enhanced by the additional accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue. This is shown on the illustrative plan contained within **Appendix T8B**.

9.4.25 Car and cycle parking will generally be provided to reflect WBC's guidelines.

Baseline Projection – Trip Distribution and Assignment

9.4.26 The trip distribution for the proposed land use has been derived from the distribution model. The distribution model has been prepared to derive the trip distribution for each of the proposed land uses based on the zoning levels contained in the Warrington VISUM Multi Modal Transport Model (MMTM). As such the origin-destination matrices for the modelled time periods were derived from the trip proportions set out in the MMTM and applied to the Peel Hall development, with the Peel Hall trips grouped into three categories: residential; employment and other (being the primary school, the local centre and food store, care home, family pub and sports facilities.

9.4.27 The distribution model has been fed directly into the SATURN model in order to produce future year assignments throughout the study area.

Baseline Projection – Development Trips Arising

9.4.28 The number of development trips associated with each use has been calculated using the TRICS database. A proportion of the trips will be contained within the development and will not impact on the wider transport network.

9.4.29 The number of external development trips using each of the proposed site accesses during the AM and PM peak hour is set out in **Table 9.4.3** below.

Table 9.4.3: External development trips at each site access

Access	Quantum of Development	AM Arrival	AM Departure	PM Arrival	PM Departure
Poplars Avenue (Central)	180 dwellings	41	94	89	55
	care home	7	7	8	8
	Total	*48*	*101*	*97*	*63*
Poplars Avenue (West) through to A49 & Mill Lane/Blackbrook Avenue	food store*	28	18	54	57
	local shops	0	0	0	0
	family pub	0	0	23	15
	850 dwellings	191	445	421	261
	primary school	57	40	10	14
	employment land	69	39	20	47
	Total	*345*	*542*	*528*	*394*
Mill Lane	150 dwellings	34	79	74	46
Birch Avenue	20 dwellings	5	11	10	6
Grasmere Avenue	community uses	10	5	7	8
	Total	**442**	**738**	**716**	**517**
		1,180		**1,233**	

Baseline Projection – Background Traffic Growth and Committed Development

9.4.30 Background traffic growth has been calculated using the TEMPRO database and this has been applied to existing traffic flows to give background traffic flows for the agreed assessment year of 2030.

9.4.31 The committed developments within the local area to be included in the modelling have been agreed with WBC highway officers and either added to the network or it has been agreed that these are accounted for within the TEMPRO growth rates applied.

Baseline Projection – Forecast Traffic Flows

9.4.32 The 2015 base traffic flows have been used to forecast traffic flows in the design year of 2030 and these have been combined with committed development traffic flows to give Do Minimum traffic flows. This data is contained on the SATURN output files in **Appendix T10**, and this includes details of HGV flows.

9.5 Impact Assessment – Construction Phase

Predicted Impacts – Phasing of Development

9.5.1 The Peel Hall site will generate construction traffic throughout its development period and this will have an impact on the local highway network, especially in the immediate vicinity of each site access. In reality each access and associated area of development will have its own timetable and impact, although there will be overlapping.

9.5.2 It is anticipated that the development will come forward in 10 phases over a 10 year period with typically around 120 residential units being constructed each year; with the relocated sports pitches in year one, the employment land, local centre and care home opening at the end of year three, and the primary school could be operational by the end of year seven. **Table 9.5.1** below sets out indicatively how the development may be phased in highway terms and the accompanying plan is contained in **Appendix T9B**.

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Table 9.5.1 – Indicative Highways Build Out Table

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out Through Route Option (number of properties sold at year end)
	Distributor Road Blackbrook Ave/A49		Poplars Ave (central)		Mill Lane (N)		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
1	60	60	0	0	60	60	0	0	120	1a **60** 1b **60** Relocated sports pitches
2	60	120	40	40	20	80	0	0	240	2a **20** 2b **22** 2c **18** 2d **20** 2e **40** Temporary emergency link to be via Radley Lane (north). First part of distributor road from east and turning area for bus service

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave/A49		Poplars Ave (central)		Mill Lane (N)		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
3	90	210	10	50	0	80	20	20	360	3a **30** 3b **35** 3c **25** 3d **10** 3e **7** 3f **13** Employment Land off Poplars Ave (west) with emergency link through to Elm Walk, and Local Centre Care Home off Poplars Ave
4	40	250	40	90	40	120	0	20	480	4a **40** 4b **20** 4c **20** 4d **40** Requires a temporary emergency link through to Radley Lane (north)

Table 9.5.1 Continued…

Year End	Number of Residential Units off Each Access									Indicative Highways Build Out (number of properties sold at year end)
	Distributor Road Blackbrook Ave/A49		Poplars Ave (central)		Mill Lane (N)		Birch Ave		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
5	60	310	30	120	30	150	0	20	600	5a **30** 5b **40** 5c **20** 5d **30** Potential for initial bus link through site Emergency link through Local Centre created
6	120	430	0	120	0	150	0	20	720	6a **40** 6b **10** 6c **25** 6d **45**
7	120	550	0	120	0	150	0	20	840	7a **45** 7b 5**0** 7c **25** Primary School

										Full opening of through route distributor road
8	95	645	25	145	0	150	0	20	960	8a **50** 8b **15** 8c **30** 8d **25**

Table 9.5.1 Continued…

Year End	**Number of Residential Units off Each Access**									**Indicative Highways Build Out (number of properties sold at year end)**
	Distributor Road Blackbrook Ave/A49		**Poplars Ave (central)**		**Mill Lane (N)**		**Birch Ave**		Cumulative Total	
	New	Cum.	New	Cum.	New	Cum.	New	Cum.		
9	98	743	22	167	0	150	0	20	1,080	9a **59** 9b **22** 9c **25** 9d **14**
10	61	804	59	226	0	150	0	20	1,200	10a **40** 10b **59** 10c **21**

9.5.3 It is intended that most excavated material will be retained on site, however, there will be a need for building materials to be brought to the site. During the construction phase each site access junction is expected to have HGV construction traffic associated with it as set out in **Table 9.5.2**. It should be noted that there will be an overlap for some phases as construction will take longer than one year, whereas other phases may take less.

Table 9.5.2 – Anticipated Peak HGV movements per day

Year End	Peak HGV Movements/Day					Total Daily HGV
	Residential				Non-Residential	
	Distributor Road Blackbrook Ave	Poplars Ave	Mill Lane	Birch Ave		
1	8	0	8	0	Relocated Sports Pitches = **2**	18
2	8	8	3	0	-	19
3	10	1	0	0 (3 to access via employment land)	Employment Land and Local Centre off distributor road = **21** Care Home off Poplars Avenue = **3**	38
4	5	5	5	0	-	15
5	8	4	4	0	-	16
6	16	0	0	0	Remaining Sports Pitches and Ancillary Facilities = **2**	18
7	16	0	0	0	Primary School = **8**	24
8	14	3	0	0	-	17
9	14	3	0	0	-	17
10	8	8	0	0	**-**	16

9.5.4 From the above table it can be seen that:

i. Mill Lane in the vicinity of the new access will have a maximum of eight HGVs per day while the 150 dwellings proposed for Mill Lane are being constructed. This is likely to result in an average of one HGV movement per hour compared with typically zero HGV movements.

ii. Birch Avenue will have no HGV movements. The associated construction vehicles will access the two parcels of development land via the employment land while the 20 dwellings proposed are being constructed. This is likely to result in an average of less than one HGV movement every two hours onto Poplars Avenue. During existing peak hours Poplars Avenue has between 25 and 42 HGV movements.

iii. Poplars Avenue will have a maximum of up to eight HGVs per day during the various construction phases. This is likely to result in an average of around one HGV movement per hour. During existing peak hours Poplars Avenue has between 25 and 42 HGV movements.

iv. Blackbrook Avenue/Mill Lane in the vicinity of the new access junction will have up to around between 24 and 34 HGVs per day during the busiest construction phases. This is likely to result in around five HGV movements per hour. During existing peak hours Blackbrook Avenue has up to 23 HGV movements.

9.5.5 At this stage it is anticipated that construction traffic will access the site via M62 Junction 9, A49 Winwick Road, A50 Long Lane, Birchwood Way, then either Poplars Avenue or Blackbrook Avenue and Mill Lane.

9.5.6 In order to assess the HGV movements on the wider construction route the highest year in terms of construction traffic i.e. year 3 been identified (38 HGVs) and compared with base level 2015 HGV flows. This is shown in **Table 9.5.3** below for 76 HGV movements per day i.e. up to around 13 movements per hour assuming 1000-1600 working.

Table 9.5.3 – Anticipated 2015 HGV percentage increase

Road	AM Peak Hour			PM Peak Hour		
	2015 HGV	Proposed HGV	% Increase	2015 HGV	Proposed HGV	% Increase
Winwick Road	590	13	2.2%	163	13	8.0%
Long Lane	55	13	23.4%	16	13	81.3%
Blackbrook Avenue (north)	8	13	162.5%	2	13	650.0%
Birchwood Way	46	13	28.3%	17	13	76.5%

* All traffic minus car traffic

Predicted Impact – Highway Network

9.5.7 Construction traffic will be controlled by means of a Construction Management Plan which will form one of the mitigation measures. It is assumed that as the M62 already carries a significant amount of HGV traffic, HGV traffic from the development will have a minor impact.

9.5.8 It is expected that during the construction phase there will be at times disruption on the local highway network for all users including public transport and there may be temporary restrictions placed in order to construct the new accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue. However, the magnitude of change is considered to be small given the level of HGV traffic set out in **Table 9.5.2** above. Therefore, the impact is expected to be of **minor to moderate adverse significance**.

Predicted Impact – Bus Passengers

9.5.9 During years two to four, services 23/23A from Blackbrook Avenue in the east will be extended into the site with temporary turning facilities and bus stops provided as appropriate. It is considered that the existing services 20/21 at Poplars Avenue will be adequate to serve the early phases of the new development off the Poplars Avenue (central) access. During the peak periods services 20/21 operates at a frequency of eight to 10 buses per hour, and services 23/23A will be provided at a frequency of two buses per hour, which will include for the provision of extra buses on the route.

9.5.10 Services 23/23A will be extended into the site on weekdays, Saturdays and Sundays in line with the existing level of service (but without a Sunday evening extension). The service extensions will return to their current routes once the distributor road is open. Therefore, for existing bus users there will be an increase in capacity to the eastern services and for future residents a regular bus service will be available from occupation/year two.

9.5.11 During the construction phase bus routes will at times be affected by the disruption that occurs on the highway network as described above.

9.5.12 Overall it is anticipated that the magnitude of change during the construction phase will be small to medium given the potential for increased journey time. Therefore the impact is expected to be of **minor beneficial significance**.

Predicted Impact – Pedestrians and Cyclists

9.5.13 The changes likely to be noticed by most pedestrians and cyclists during the construction period will be firstly when the new accesses at Poplars Avenue and Blackbrook Avenue/Mill Lane are being built, which will be confined to specific time periods, and secondly the increase in daily HGV traffic on the local highway network.

9.5.14 It is considered that construction of the main accesses will likely result in a small to medium magnitude of change at these locations, which is expected to be of **minor adverse significance**.

9.5.15 It is anticipated that there will be a reduction in the amenity value for pedestrians and cyclists associated with the increase in HGV movements and as such the magnitude of change will be small to medium depending on location. However, as set out in **Table 9.5.3** the percentage increase on most links is low and therefore the impact generally is expected to be of **minor adverse significance** on the majority of links.

9.5.16 On Birch Avenue and Mill Lane the percentage increase is high, resulting in a medium magnitude of change, but the time period involved is relatively short. It is therefore considered that the impact on these roads will be of **moderate adverse significance**.

9.5.17 On Poplars Avenue the percentage of HGV increase is high and the period of construction vehicles using this route will be for the majority of the 12 year construction period. As such the anticipated magnitude of change will be medium. However, generally the footways are set back from the carriageway by a wide grassed verge. It is therefore considered that the impact on this road will be of **moderate adverse significance**.

Mitigation Measures

9.5.18 In order to ensure that appropriate controls will be implemented to protect safety and the environment, it is proposed that one of the planning conditions will require a Construction Management Plan to be agreed. This will cover each phase of the development and include details of lorry routing and hours of site operation, as well as maximum size of vehicles.

9.5.19 When required, traffic management will be introduced to ensure the safety of road users.

9.5.20 It is also anticipated that there will be a planning condition to provide a programme of temporary footpath closures or diversions and opening of new routes during the construction period.

The Residual Impacts

9.5.21 The sensitivity of existing and future drivers, bus passengers, cyclists and pedestrians to any long term residual effects of the construction phase is expected to have a **minor adverse significance**.

9.5.22 The sensitivity of the existing local community to the long term effects of any severance that occurs during the construction phase is expected to have a **minor adverse significance**.

9.6 Impact Assessment – Operational Phase

Predicted Impacts

9.6.1 The development will give rise to an overall increase in travel demand in the area increasing traffic flows on the surrounding highway network, increasing demand for public transport, increasing the use of walking and cycling routes and increasing the potential for road traffic accidents. Without the development there will be fluctuations and increases in traffic flow generally on the highway network due to natural growth even where the network is constrained; leading to increases in journey times.

9.6.2 It is predicted, as set out in **Tables 9.4.3** and **9.4.4** that show the level of vehicular trips generated at each access, that when fully operational the development will result in the order of 1,180 vehicle movements per hour external to the site during the weekday morning peak period and 1,233 vehicle movements during the weekday evening peak period.

9.6.3 There will be an increase in the use of the bus, pedestrian and cycle networks in the area for a variety of purposes including employment, shopping, educational and recreational related trips.

Predicted Impact – Highway Network (Links)

9.6.4 The new development will result in additional traffic throughout the local area. The SATURN output data in **Appendix T10** sets out the forecast two-way traffic flow for the future year of 2030, Do Minimum, and plus development traffic, Do Something with the Through Route. This information is summarised for the highway links at the site access junctions and on the wider highway network in **Table 9.6.1** below, with the percentage increase.

Table 9.6.1: 2030 forecast traffic increase (AM and PM peak hours)

Road	AM Peak Hour			PM Peak Hour		
	Do Minimum	Do Something	% Increase	Do Minimum	Do Something	% Increase
A49 (south of M62)	2899	3025	4.35%	3161	3153	-0.25%
Mill Lane	1009	1612	59.76%	1099	1742	58.51%
Poplars Avenue	664	739	11.30%	834	738	-11.51%
Birch Avenue	49	65	32.65%	39	53	35.90%
Delph Lane	963	1120	16.30%	1078	1207	11.97%
Myddleton Lane	1353	1385	2.37%	1408	1468	4.26%
A49 (north of M62)	2910	2911	0.03%	3297	3252	-1.36%
A49 (north of Sandy Lane West)	3880	4000	3.09%	3771	3708	-1.67%
Sandy Lane West	1176	1180	0.34%	1328	886	-33.28%
A574 Cromwell Avenue	2583	2688	4.07%	2948	3013	2.20%
Cotswold Road	175	221	26.29%	219	221	0.91%
Cleveland Road	577	565	-2.08%	707	516	-27.02%
Sandy Lane	314	372	18.47%	340	339	-0.29%
Howson Road	215	319	48.37%	200	207	3.50%
Enfield Park Road	828	1079	30.31%	861	1148	33.33%
Blackbrook Avenue (north)	902	1491	65.30%	1068	1619	51.59%
Capesthorne Road	1078	1358	25.97%	1287	1334	3.65%
Long Lane	1170	1202	2.74%	1282	1200	-6.40%
A49 (north of Long Lane)	32836	3343	-89.82%	3416	3404	-0.35%

Blackbrook Avenue (mid)	616	759	23.21%	735	882	20.00%
Insall Road	728	680	-6.59%	481	476	-1.04%
Hilden Road (west)	625	660	5.60%	1316	681	-48.25%
A50	1548	1862	20.28%	1720	1836	6.74%
Blackbrook Avenue (south)	891	901	1.12%	765	836	9.28%
A574 Birchwood Way	1456	1449	-0.48%	1649	1640	-0.55%
Crab Lane	1189	1231	3.53%	1131	1462	29.27%
M62 J9	10076	10076	0%	11138	10914	-2.01%
M62 J9 eastbound off	1166	1177	0.94%	1180	1217	3.14%
M62 J9 eastbound on	757	757	0.00%	636	634	-0.31%
M62 J9 westbound off	1105	1116	1.00%	971	984	1.34%
M62 J9 westbound on	952	979	2.84%	1187	1164	-1.94%

9.6.5 Although the percentage increase in traffic is high, the road links near the site access junctions are generally within their design capacity.

9.6.6 It can be seen from the table above that the change of magnitude varies on the links at the site access and the wider highway network. However, in terms of significance, it is considered that the development impact will be overall **moderate to minor adverse significance**, given that the changes do not result in any of the links being over capacity.

Predicted Impact – Highway Network (Junctions)

9.6.7 **Table 9.6.2** below summarises the impact of development traffic at key junctions.

Table 9.6.2: Junction capacity 2030

Junction	Do Minimum		Do Something	
	Max RFC/VoC/ DoS	Max Queue Length	Max RFC/VoC/ DoS	Max Queue Length
Site Access – Mill Lane/Blackbrook Avenue	-	-	64.0%	2
Site Access – Poplars Avenue (central)	-	-	13.0%	0
Site Access – Poplars Avenue/A49	-	-	92.4%	13
Site Access – Mill Lane/Delph Lane	-	-	47.0%	1
Site Access - Birch Avenue/A49 Winwick Road	-	-	15.0%	0
Site Access – A49/Poplars Avenue	-	-	81.1%	13
A49/Sandy Lane West/Calver Road	90.4%	27	89.6%	29
Blackbrook Avenue/Insall Road/Hilden Road	59.4%	12	65.8%	14
A50 Orford Green/Hilden Road/Poplars Avenue	-*	82	-*	133
Capesthorne Road/Poplars Avenue	79.0%	4	79.0%	4
Birchwood Way/Blackbrook Avenue	70.0%	2	74.0%	3
Enfield Park Road/Crab Lane**	82.0%	4	114.0%	56
Birchwood Way/Crab Lane/Woolstone Grange Avenue	90.5%	30	94.7%	26
Birchwood Way/Oakwood Gate/Birchwood Park Avenue	88.4%	17	94.0%	19
Junction 9 M62 (*Saturn Data*)	119.0%	121	123.0%	119

***Cannot be done with lane simulation within Junctions 9**

****2017 base data (assuming zero growth – see TA)**

9.6.8 From the above table it can be seen that the site access junctions work within capacity and therefore in terms of significance it is considered that the impact overall will be of **minor adverse significance**.

9.6.9 In terms of the wider highway network, those junctions that are forecast to experience a major to moderate adverse significance have been assessed in the Transport Assessment (TA/01/A dated January 2018) and are summarised in the mitigation section below, see **paragraphs 9.6.15 to**

9.6.19, in terms of overcoming the significance of impact. Junctions were deemed to have a major to moderate adverse significance based on:

v. An increase in RFC of 5% or more for a Do Something scenario above a Do Minimum scenario RFC of 85% or more.
vi. An increase in RFC of 3% or more for a Do Something scenario above a DO Minimum scenario RFC of 90% or more.
vii. Where queue lengths are shown to increase in Do Something scenario beyond that of current stacking capacity on the existing network.
viii. Where junctions are shown to have a capacity of 85% or above in the Do Something scenario compared to results below 85% in the Do Minimum.

Predicted Impact – Bus Passengers

9.6.10 A new bus service is proposed to be introduced from year five to serve the development between Birchwood and Warrington town centre utilising the distributor road and proposed bus stops through the Peel Hall site. This new bus route will provide a comprehensive level of service on weekdays and Saturdays with peak enhancement resulting in a frequency of six buses per hour.

9.6.11 The new bus service will provide increased modal choice for existing residents travelling eastwards towards Birchwood and will also increase capacity of the bus services available between the site and the surrounding area and Warrington town centre to the south. Therefore it is considered that the provision of this new service will result in a medium to high magnitude of change. A diagram provided by Network Warrington showing the route of the new service is contained in **Appendix T7**.

9.6.12 Compared to the existing situation the new bus service represents a significant increase in the level of bus accessibility. In terms of impact it is considered to be **major beneficial significance**.

Predicted Impact – Pedestrians and Cyclists

9.6.13 The site currently attracts dog walkers and recreational walkers using the PRoW. The proposed development will provide significant new pedestrian and cycle routes through the site which will link into the existing network. Within the development there are proposals for open space and the pedestrian routes will be designed to provide access to this for residents of the surrounding area as well as future residents of the Peel Hall site.

9.6.14 It is considered that the magnitude of change will be medium as the footway and cycleway network will be enhanced across the site. Therefore, the significance of impact will be of **moderate beneficial significance**.

The Mitigation Measures

9.6.15 Mitigation schemes for the following junctions have been proposed:

i) A50 Orford Green/Poplars Avenue – Widening of the Poplars Avenue priority junction to two-lane entry (left only), removal of build out of the Orford Green entry arm to the roundabout, widening the Orford Road approach to two lanes (entry and exit) and creating a two-lane circulatory. Adjustments to cycle facilities where required.

ii) Enfield Park Road/Crab Lane – A three-arm single lane approach signalised junction with controlled pedestrian facility over the Crab Lane arm.

iii) M62 Junction 9 – Proposed widening of the A49 southbound entry radius and circulatory to the eastbound on-slip, creating a two-lane slip road (as per the westbound on-slip) prior to the lane gain, and widening of the westbound off-slip entry to the roundabout from two to three lanes (not modelled).

iv) Birch Ave/A49 – Proposed provision of Keep Clear markings on the A49 nearside southbound lane across the Birch Avenue junction (not modelled).

9.6.16 The mitigation schemes for the two junctions listed above (i-ii) have been modelled and the results are contained in **Table 9.6.3** below. The proposed mitigation measures are illustrated on the plans contained in **Appendix T11B**.

Table 9.6.3: Mitigation modelling 2030

Junction	Do Something Mitigation	
	Max RFC/VoC/ DoS	Max Queue Length
A50 Orford Green/Hilden Road/Poplars Avenue	-*	48
Enfield Park Road/Crab Lane**	80.3%	21

***Cannot be done with lane simulation within Junctions 9**

****2017 base data (assuming zero growth – see TA, and cycle ran with pedestrian phase called one out of every two cycles i.e. every four minutes)**

9.6.17 From the above **Tables 9.6.2** and **9.6.3** it can be seen that the proposed mitigation measures improve the operation of the A50 Orford Green junction compared to Do Minimum levels. In summary, it is considered that this junction will experience **minor beneficial significance** as part of the mitigation package with the development at Peel Hall.

9.6.18 From the above tables it can be seen that the mitigation measures proposed at the Crab Lane junction with Enfield Park Avenue will significantly improve the operation of this junction with the addition of the Peel Hall development traffic (114% capacity reduced to 80% capacity in 2030 Do Something). It is therefore concluded that the impact of development traffic at this junction with the mitigation measures will be of **negligible significance**.

9.6.19 As well as the proposed alterations to bus services providing a genuine choice for travel, additional measures such as the introduction of Travel Plans for the various land uses will be provided and this is expected to include, for example, subsidised bus travel and cycle purchase discounts. The implementation of Travel Plan measures will reduce congestion and encourage healthier travel choices.

The Residual Impacts - Existing Residents and Users of the Local Area

9.6.20 The local residents will have access to a new local centre and primary school, as well as better access to bus services to and from Birchwood and improved cycle and footway networks. However, there will be more traffic on the local highway network as a result of the Peel Hall development. Overall there is likely to be a direct permanent long term residual effect on existing local residents.

9.6.21 It is therefore considered that there will be a medium to high magnitude of change for existing residents and users of the local area, resulting in a **moderate beneficial significance** of impact overall.

The Residual Impacts - Future Residents

9.6.22 It is considered that for future residents of the Peel Hall site there will be a major beneficial significance of impact due to the range of facilities that will be on site and the range of sustainable transport choices available.

9.7 Summary

9.7.1 The Peel Hall site is located on the northern edge of Warrington, adjacent to the existing residential areas of Hulme, Blackbrook, Cinnamon Brow and Houghton Green. It is bounded by the M62 to the north, Mill Lane to the east, Poplars Avenue to the south and Birch Avenue and Elm Road to the west. At times during the peak periods congestion can occur along the main corridors in the area including M62, Winwick Road, Sand Lane West, Long Lane, Blackbrook Avenue and Birchwood Way, as well as elsewhere.

9.7.2 The Transport Assessment considers all modes of travel and the demands that the proposed development will place on transport infrastructure. The study area covers a large part of the local transport network including pedestrian and cyclist links to the surrounding areas as well as public transport services and facilities. Plans showing the overall study area, the existing highway network within the study area, the existing bus network and the existing pedestrian network are contained in **Appendices T1**, **T2**, **T3** and **T4** respectively. The assessment work is based on a SATURN model of the North Warrington area, which has then been used to model individual junctions to test the impact of the development.

9.7.3 The site is served by very good existing bus services and at peak times these routes are busy, especially closer to the centre of Warrington. The site is also served by existing PRoW and currently attracts mainly dog walkers and occasional recreational walkers. Facilities for cyclists in the vicinity of the site are limited to shared footways/cycleways and advance stop lines at traffic signals.

9.7.4 A through route across the site has been proposed between the new roundabout junction on Mill Lane and the A49 via a new signalised junction on Poplars Avenue. Four other accesses will serve smaller parcels of development from Mill Lane, Birch Avenue and for the sports pitches from Grasmere Avenue. Plans showing these accesses are contained in **Appendix T6B**.

9.7.5 It is also proposed that existing bus services will be diverted into the site during the construction phase. Once the distributor road through the site is completed a new and attractive bus service will be provided that will connect the development with the town centre to the south and with Birchwood to the east.

9.7.6 A high level of connectivity for pedestrians and cyclists will be provided through the site and connections will be made to the existing pedestrian routes around the site, and enhanced by the additional accesses at Poplars Avenue and Mill Lane/Blackbrook Avenue.

9.7.7 During the construction phase each site access junction is expected to have HGV construction traffic associated with it, although the Birch Avenue construction traffic will access the site via the employment land and not through Birch Avenue. The anticipated route for construction traffic is expected to be via M62 Junction 9, A49 Winwick Road, A50 Long Lane, Birchwood Way, then either Poplars Avenue or Blackbrook Avenue and Mill Lane.

9.7.8 During the construction phase the predicted impact is expected to be:

v. Highway – minor to moderate adverse significance.
vi. Bus – minor beneficial significance.
vii. Pedestrians and Cyclists - minor to moderate adverse significance.
viii. Residual - negligible to minor adverse significance.

9.7.9 During the operational phase the predicted impact is expected to be:

viii. Highway Links Adjacent to Site – moderate to minor adverse significance.
ix. Site Access Junctions – minor adverse significance.
x. Wider Highway Network with Mitigation – moderate beneficial significance
xi. Wider Highway Network Not Requiring Mitigation – minor adverse significance
xii. Bus – major beneficial significance.
xiii. Pedestrians and Cyclists - moderate beneficial significance.
xiv. Residual - moderate to major beneficial significance.

10.0 B CULTURAL HERITAGE AND ARCHAEOLOGY

10.1 Introduction

10.1.1 The Cultural Heritage and Archaeology Chapter of the Environmental Statement (ES) assessed the likely significant effects of the proposed development with respect to cultural heritage and archaeological assets. This has been reviewed with reference to Option B for the proposed development as described in the Introduction.

10.1.2 This Chapter outlines the outcome of the additional assessment work on the potential effect on cultural heritage and archaeological assets and it is confirmed that Option B establishes no environmental effects not already reported in the Cultural Heritage and Archaeology Chapter of the ES and in the ES Addendum.

10.2 Legislation, National Planning Policy, Local Planning Policies

Option B does not alter this section of the Environmental Statement or the ES Addendum (10.2 - 10.4).

10.5 Guidance

10.5.1 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A.

10.6 Option B does not alter this section of the Environmental Statement or the ES Addendum (10.6 - 10.11).

10.12 Archaeology

10.12.1 A review of the cultural heritage and archaeological assets in and around the proposed development site has been undertaken and Option B does not alter the baseline as reported in the Environmental Statement and the ES Addendum (10.12).

10.13 Option B does not alter this section of the Environmental Statement or the ES Addendum (10.13 – 10.17).

10.18 Project Design

10.18.1 The proposed mitigation measures to be deployed in order to mitigate the significance of effect on cultural heritage and archaeological assets remain proportional, appropriate and valid and this section of the Environmental Statement and the ES Addendum remains unchanged (10.18).

10.19 Assessment of Effects

The assessment of the effects resulting from the construction of the proposed development remain unchanged from those described in the ES Chapter and the ES Addendum (10.19).

10.20 Residual Effects

10.20.1 The mitigation measures and the advancement of understanding compensates for the loss of any cultural heritage and archaeological assets. The investigation and recording of any cultural heritage and archaeological assets would lead to an overall residual adverse effect that is Slight Negative/ Neutral for all directly impacted assets. The residual effect, therefore, remains as reported in the Environmental Assessment and the ES Addendum (10.19) remain unchanged.

10.21 Cumulative Effects

10.21.1 This section of the Environmental Statement remains unchanged from the ESA Part 1- Option A

11.0 B NOISE & VIBRATION

11.1 to 11.5 of this section of the Environmental Statement remains unchanged.

11.6 Impacts of the Development on the Local Area

11.6.1 This section of the Environmental Statement remains unchanged.

The Impact of Changes in Traffic Flow

11.6.2 The proposed development will see traffic generation on the surrounding road network. The transport consultants for the scheme (Highgate Transportation) have provided traffic data for surrounding roads both with and without the proposed development in place, for 2030. The traffic data was provided in AADT flows, but have been converted for purposes of the noise assessments to an 18-hour traffic flow (6am to midnight) using conversion factors derived from local traffic count data. **Table 6.1** summarises the traffic data used in the assessment.

Table 6.1: Summary of Traffic Data

	18-hour Flow – 2030		
Road	**Base Flow**	**Base + Development**	**Change**
Poplars Avenue	8807	7603	-14%
Mill Lane (Blackbrook Avenue - site access)	12400	19720	59%
Mill Lane (Radley Lane - Delph Lane)	12400	14997	21%
Delph Lane	12007	13684	14%
Blackbrook Avenue (Mill Lane - Capesthorne Road)	11583	18294	58%
Blackbrook Avenue (Capesthorne Road - Insall Road)	8034	9726	21%
Cotswold Road	2317	4310	86%
Cleveland Road	7545	6355	-16%
Sandy Lane West	12471	11179	-10%
Sandy Lane	3849	4180	9%
Winwick Road (M62 - Sandy Lane West)	35637	36333	2%
Capesthorne Road	15276	16387	7%
Enfield Park Road	9931	13093	32%
Howson Road	2441	3094	27%
Myddleton Lane	16238	16771	3%
Winwick Link Road	21912	22256	2%

	18-hour Flow – 2030		
Road	**Base Flow**	**Base + Development**	**Change**
M62 west	65390	64643	-1%
M62 west off slip	12207	12349	1%
M62 east	59292	58782	-1%

11.6.3 Using the changes in traffic flow, the changes in noise levels have been calculated using the methodology contained within the Calculation of Road Traffic Noise (CRTN). **Table 6.2** summarises the results of these calculations for thirteen representative receptor locations. Locations of the representative receptors can be seen in **Appendix NI2**.

Table 6.2: Summary of Traffic Noise Impacts at Representative Receptor Locations

Receptor Location	**Change in $L_{A10, 18hr}$**
61 Mill Lane	0.3
2 Mill Lane	0.9
15 Colstream Close	1.3
112 St Bridgets Close	1.3
132 Capesthorne Road	0.3
2 Birch Avenue	-1.3
36 Cotswold Road	2.7
21 Sandy Lane West	-0.5
83 Myddleton Lane	0.1
150 Poplars Ave	-0.6
312 Poplars Ave	-0.6
358 Poplars Avenue	-0.6

11.6.4 **Table 6.2** shows that in general, the increase in traffic noise levels are less than 3 dB(A) $L_{A10,18hr}$. A change of less than 3 dB(A) is normally considered to be imperceptible. The greatest change would be observed on Cotswold Road. **Table 6.3** shows the Noise Impact Magnitude, based on the criteria contained within the 2014 IEMA Guidelines for Environmental Noise Assessment.

11.6.5 **Table 6.3** shows that at worst, a number of properties close to the road network are likely to experience “Slight/ Minor” impacts as a consequence of the propose development.

Table 6.3: Summary of Traffic Noise Impact Magnitude

Receptor Location	Noise Impact Magnitude
61 Mill Lane	Negligible/No Impact
2 Mill Lane	Negligible/No Impact
15 Colstream Close	Slight/Minor
112 St Bridgets Close	Slight/Minor
132 Capesthorne Road	Negligible/No Impact
2 Birch Avenue	Slight/Minor
36 Cotswold Road	Slight/Minor
21 Sandy Lane West	Negligible/No Impact
83 Myddleton Lane	Negligible/No Impact
150 Poplars Ave	Negligible/No Impact
312 Poplars Ave	Negligible/No Impact
358 Poplars Avenue	Negligible/No Impact

Cumulative Impacts for Traffic Noise

The revised traffic figures for the through-route option do not provide sufficient information upon which to carry out a cumulative assessment of traffic related noise impacts; therefore, sections 11.6.6 to 11.6.9 should be removed from this addendum.

However, it is still possible to draw conclusions regarding the cumulative impact of the proposed development and committed development. The impact on traffic noise from the two access options are very similar in magnitude, since the scheme differences will not result in increased traffic generation, rather a redistribution of traffic onto different roads. Since the cumulative impact assessment with the original option shows only very small increases in noise levels over and above the impact of the proposed development in isolation, it can be concluded with some certainty that the cumulative impact of all committed development and the proposed development with the through route option is unlikely to be any different in magnitude to the original scheme, i.e. at worst “Slight/ Minor”.

The Impact of Plant Noise

This section of the Environmental Statement remains unchanged (11.6.10 - 11.6.12).

The Impact of Construction Noise

This section of the Environmental Statement remains unchanged (11.6.13).

11.7 Evaluation of Significance

This section of the Environmental Statement remains unchanged (11.7.1 - 11.7.3).

11.8 Mitigation

This section of the Environmental Statement remains unchanged 11.8.1 - 11.8.10).

11.9 Conclusions

This section of the Environmental Statement remains unchanged (11.9.1 - 11.9.5).

12.0 B AIR QUALITY

12.1 to 12.7 of this section of the Environmental Statement remains unchanged

12.8 Impacts of the Development on the Local Area

Traffic Related Emissions

12.8.3 This section of the Environmental Statement remains unchanged.

12.8.5 A transport assessment was prepared for the planning application by Highgate Transportation which indicates the number of vehicle movements generated by the proposed development.

12.8.6 To characterise the change in air quality as a consequence of the proposed development, predictions of air pollutant concentrations at sensitive receptors have been carried out for the design year of the development (2030) both with and without the proposed development traffic. **Appendix AI 4** provides a description of the methodology used within the assessment, including the method to calculate NO_2 from NO_x. **Appendix AI 5** outlines the input data, including traffic data, background concentrations. In addition, details of the verification factor applied to the predicted concentrations of NO_x can also be found in **Appendix AI 5**.

12.8.7 Concentrations have been calculated for twelve sensitive receptors at locations likely to be most affected by changes in both relative and absolute traffic flows. The locations of these receptor locations can be seen on the plan in **Appendix AI 5**. The results of these predictions can be seen in **Table 8.1** and **Table 8.2**, for without with development related traffic flows respectively.

Table 8.1: Air Quality Concentrations 2030 – Without Development Related Traffic

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
61 Mill Lane	25.88	18.11	1.49	14.06
2 Mill Lane	26.03	18.13	1.50	14.08
15 Colstream Close	25.79	18.07	1.46	14.04
112 St Bridgets Close	25.77	18.07	1.46	14.04
132 Capesthorne Road	25.89	18.14	1.51	14.08
2 Birch Avenue	25.88	18.11	1.49	14.06
36 Cotswold Road	25.77	18.08	1.46	14.04
21 Sandy Lane West	25.77	18.08	1.46	14.04
83 Myddleton Lane	26.01	18.18	1.55	14.10

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
150 Poplars Ave	25.77	18.08	1.46	14.04
312 Poplars Ave	25.83	18.11	1.48	14.06
358 Poplars Avenue	25.83	18.10	1.48	14.06
NAQO	**40**	**40**	**35**	**25**

Table 8.2: Air Quality Concentrations 2030 – With Development Related Traffic

Receptor	NO_2 (µg/m^3)	PM_{10} (µg/m^3)		$PM_{2.5}$ (µg/m^3)
	Annual mean	Annual mean	Days >50 µg/m^3	Annual mean
61 Mill Lane	26.06	18.13	1.50	14.08
2 Mill Lane	26.02	18.18	1.54	14.10
15 Colstream Close	26.04	18.13	1.51	14.08
112 St Bridgets Close	25.84	18.10	1.48	14.05
132 Capesthorne Road	25.79	18.09	1.47	14.05
2 Birch Avenue	25.91	18.15	1.52	14.08
36 Cotswold Road	25.88	18.11	1.49	14.06
21 Sandy Lane West	25.79	18.09	1.47	14.05
83 Myddleton Lane	25.76	18.08	1.46	14.04
150 Poplars Ave	25.69	18.03	1.43	14.02
312 Poplars Ave	25.75	18.07	1.46	14.04
358 Poplars Avenue	25.81	18.10	1.48	14.05
NAQO	**40**	**40**	**35**	**25**

12.8.4 The results of these predictions can be used to identify the change in pollutant concentrations as a consequence of the proposed traffic generation. These calculations can be seen in **Table 8.3**. The results show that the impact of the change in traffic flow is very small at the worst affected sensitive receptors and in some cases the impact is positive. At worst, the percentage change in concentrations relative to AQAL is a little over 0.5%, which is imperceptible at all receptor locations. Consequently, the proposed development will not have an impact on the air quality of the local area and the impact is considered to be "*negligible*".

Table 8.3: Assessment of the Impacts of the Increases in Traffic Flow

Receptor	NO_2 (µg/m^3) Annual mean		% Change in Concentrations Relative to Air Quality Assessment Level (AQAL)	Long Term Average Concentration at Receptor in Assessment Year	Impact Descriptor
	Without Development	With Development			
61 Mill Lane	25.88	26.06	0.45	65% of AQAL	*Negligible*
2 Mill Lane	26.03	26.02	-0.025	65% of AQAL	*Negligible*
15 Colstream Close	25.79	26.04	0.625	65% of AQAL	*Negligible*
112 St Bridgets Close	25.77	25.84	0.175	65% of AQAL	*Negligible*
132 Capesthorne Road	25.89	25.79	-0.25	64% of AQAL	*Negligible*
2 Birch Avenue	25.88	25.91	0.075	65% of AQAL	*Negligible*
36 Cotswold Road	25.77	25.88	0.275	65% of AQAL	*Negligible*
21 Sandy Lane West	25.77	25.79	0.05	64% of AQAL	*Negligible*
83 Myddleton Lane	26.01	25.76	-0.625	64% of AQAL	*Negligible*
150 Poplars Ave	25.77	25.69	-0.2	64% of AQAL	*Negligible*
312 Poplars Ave	25.83	25.75	-0.2	64% of AQAL	*Negligible*
358 Poplars Avenue	25.83	25.81	-0.05	65% of AQAL	*Negligible*
NAQO	**40**	**40**	**-**	**-**	**-**

12.9 Cumulative Impacts

The revised traffic figures for the through-route option do not provide sufficient information upon which to carry out a cumulative assessment of traffic related air quality impacts; therefore, sections 12.9.1 to 12.9.4 are removed from part 2 this addendum. However, it is still possible to draw conclusions regarding the cumulative impact of the proposed development and committed development. The impact on air quality from the two options are very similar in magnitude, since the scheme differences will not result in increased traffic generation, rather a redistribution of traffic onto different roads. Since the cumulative impact assessment with the original option shows only very small increases in pollutant concentrations over and above the impact of the proposed development in isolation, it can be concluded with some certainty that the cumulative impact of all committed development and the proposed development with the through route option is unlikely to be any different in magnitude to the original scheme, i.e. at worst “negligible/ no impact”.

Combustion Emissions from Onsite Plant

This section of the Environmental Statement remains unchanged (12.9.5).

12.10 Construction Dust Impact Assessment

This section of the Environmental Statement remains unchanged (12.10.1 - 12.10.16).

12.11 Evaluation of Significance

This section of the Environmental Statement remains unchanged (12.11.1 - 12.11.2).

12.12 Mitigation

This section of the Environmental Statement remains unchanged (12.12.1).

12.13 Conclusions

This section of the Environmental Statement remains unchanged (12.13.1 - 12.13.5).

13.0 B SOCIO-ECONOMIC ASSESSMENT

As the quantum and mix of land uses will not differ between Options A and B, the socio-economic impact will be unchanged between the two Options.

13.1 Introduction

Option B does not alter this section of the Part 1 ES Addendum (13.1.1 – 13.1.6).

13.2 Planning Policy

Option B does not alter this section of the Part 1 ES Addendum (13.2.1 – 13.2.5).

13.3 Assessment Methodology & Significance Criteria

Option B does not alter this section of the Part 1 ES Addendum (13.3.1 - 13.3.17).

13.4 Baseline Conditions

Option B does not alter this section of the Part 1 ES Addendum (13.4.1 - 13.4.26).

13.5 Potential Effects

Option B does not alter this section of the Part 1 ES Addendum (13.5.1 - 13.5.75).

13.6 Mitigation Measures

Option B does not alter this section of the Part 1 ES Addendum (13.6.1 - 13.6.22).

13.7 Residual Effects

Option B does not alter this section of the Part 1 ES Addendum (13.7.1 - 13.7.4).

13.8 Summary & Conclusions

Option B does not alter this section of the Part 1 ES Addendum (13.8.1 - 13.8.4).

14.0 B CUMULATIVE IMPACTS

The revised sections of Part 2 ES Addendum Option B for the through-route option state the cumulative impact separately. It is therefore possible to draw conclusions regarding the cumulative impact of the proposed development and committed development.

The overall cumulative impact on all sections discussed within this Part 2 Addendum from the two options are very similar in magnitude, since the scheme differences will not result in any significant changes.

It can be concluded with some certainty that the cumulative impact of all committed development and the proposed development with the through route option is unlikely to be any different in magnitude to the original scheme.

Therefore, Option B does not alter this section of the Part 1 ES Addendum (14.1-14.20).

15.0 B SUMMARY OF ADVERSE IMPACT AND MITIGATION SUMMARY OF PREDICTED RESIDUAL EFFECTS

15.1 This section summarises the adverse impacts and mitigation of the proposed development identified within the various topics (**Table 15.2**). It also summarises residual effect (**Table 15.3**) and analyses the potential for any cumulative impacts that may arise as a result of the proposed development.

Table 15.2: Summary of Impacts and Mitigation- Option B
Temporary- Construction Phase

Environmental Topic	Significance of Effect		Proposed Mitigation	Significance of Residual Effect	
	Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral		Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral
Landscape & Visual Amenity					
Visual impact and loss of amenity to users of the sports pitches/ recreational area due to construction operations	Moderate	Adverse	Provision of new sports pitches and recreational areas prior to loss of existing facilities.	Minor	Adverse
Change in character of an open landscape to construction site	Moderate	Adverse	Elements of existing vegetation will be retained and enhanced to provide setting and assimilate the proposed development into the surrounding landscape, by the use of advanced planting in line with the phasing of the development.	Minor	Neutral
Impact on limited number of local residents who currently have unrestricted views of the site due to construction operations	Minor-Moderate	Adverse	Proposed landscape masterplan will inform the detail of development to provide screening for adjacent residents.	Minor	Adverse
Impact on users of the public footpath to the north east of the site due to construction operations	Major	Adverse	Footpath routed retained on existing route and protected.	Moderate	Adverse
Impact on existing habitats- stream courses, existing woodland, hedgerows etc.	Minor	Adverse	Stream courses retained, new ponds created with habitat enhancement. Existing features protected with barrier fencing etc.	Negligible	Adverse
Highways & Transportation					
Loss of amenity for existing users of the public right of way network	Minor	Adverse	Construction Management Plan to include information on diversions of PRoW where necessary.	Minor	Adverse

Construction operations will result in HGV traffic which could cause congestion and loss of amenity to local residents.	Moderate-Major	Adverse	Have a Construction Management Plan that controls hours of site operation and HGV routes to and from the site.	Minor	Adverse
Hydrology, Flood Risk & Drainage					
Potential contaminants or particulates seeping into the groundwater and / or river courses.	Minor	Adverse	Construction Management Plan will be in place to control and reduce impact on watercourse.	Negligible	Adverse
Ecology & Nature Conservation					
Loss, reduction and/or alteration of bat foraging habitat.	Moderate	Adverse	Have a Construction Management Plan that controls hours of site operation and protection of wildlife and habitats that will be retained to comply with wildlife regulations.	Moderate	Adverse
Loss of large areas of derelict agricultural land dominated by coarse grassland with general low floristic values.	Moderate	Adverse		Moderate	Adverse
Loss of areas of immature plantation woodland <30 years old.	Moderate	Adverse		Moderate	Adverse
Loss of areas of secondary dry reed bed on derelict farmland.	Moderate	Adverse		Moderate	Adverse
Loss of minor sections of species-poor hedgerows.	Minor	Adverse		Minor	Adverse
Loss of nesting bird habitat.	Negligible-Minor	Adverse		Negligible-Minor	Adverse
Impacts on water vole, badgers and Great Crested Newts due to loss of habitat	Negligible	Adverse		Negligible	Adverse
Air Quality					
Increases in dust and particles due to construction,	Minor	Adverse	Implementation of a Dust Management Plan to reduce the likelihood of dust escaping beyond the boundary of the proposed development site.	Negligible	Adverse

earthworks, trackout and demolition					
Cultural Heritage & Archaeology					
Direct physical impact to archaeological remains leading to partial or total loss of an archaeological asset	Minor	Adverse	Archaeological excavation and/or watching brief on areas where the presence or likely presence of archaeological remains is coincident with ground works required for the proposed development. Any archaeological attendances would be followed by analysis of the findings, publication and dissemination of the results and deposition of the archive in line with archaeological practice. The archaeological attendances would be configured with reference to the standards and guidance published by the Chartered Institute for Archaeologists with a contingency to respond to findings.	Negligible	Adverse
Noise & Vibration					
Increase in noise level from construction noise	Minor-Moderate	Adverse	Implementation of Best Practicable Means and restrictions in working hours to ensure minimal disruption	Minor	Adverse
Increase in noise from plant	Minor-Moderate	Adverse	Ensure that a detailed assessment of potential plant noise is carried out when the need for plant is identified	Minor	Adverse
Socio-Economics					
Employment Resulting from the construction phase	Moderate	Beneficial	-	Moderate	Beneficial
Recreation					
Loss of Mill Lane Sport Pitches	Moderate-Major	Adverse	-	Moderate-Major	Adverse
Peel Cottage Lane PROW	Major	Adverse	-	Major	Adverse

Table 15.3: Summary of Impacts and Mitigation- Option B
Permanent- Operation Phase

Environmental Topic	Significance of Effect		Proposed Mitigation	Significance of Residual Effect	
	Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral		Major, Moderate, Minor, Negligible	Adverse, Beneficial, Neutral
Landscape & Visual Amenity					
Visual impact and loss of amenity to users of the sports pitches/ recreational area.	Moderate	Adverse	Provision of new sports pitches and recreational areas prior to loss of existing facilities.	Minor	Adverse
Change in character of an open landscape to residential development, industrial uses and infrastructure	Negligible	Adverse	Change in character inevitable but will be in keeping with development to the south. Mitigated by good design and landscape treatment. Elements of existing vegetation will be retained and enhanced to provide setting and assimilate the proposed development into the surrounding landscape.	Negligible	Neutral
Impact on limited number of local residents who currently have unrestricted views of the site	Moderate	Adverse	Proposed landscape masterplan will inform the detail of development to provide screening for adjacent residents.	Minor	Adverse
Impact on users of the public footpath to the north east of the site	Major	Adverse	Footpath routed retained on existing route and screened from adjacent development, new pedestrian routes created through the site, linking areas of existing and proposed open space.	Moderate	Adverse
Impact on existing habitats- stream courses, existing woodland, hedgerows etc.	Minor	Adverse	Stream courses retained, new ponds created with habitat enhancement.	Negligible	Adverse
Highways & Transportation					
Development traffic will cause congestion.	Moderate- Major	Adverse	Introduce new bus service to be used by existing residents of north Warrington as well as future residents of the Peel Hall site; Travel Plan measures to reduce congestion and encourage healthier travel choices; highway engineering	Moderate-Major	Beneficial

			works to mitigate the effect of development traffic at specific locations.		
Loss of amenity for existing users of the public right of way network	Negligible	Adverse	Proposed to have extensive footway and cycleway network through the developed site.	Moderate	Beneficial
Hydrology, Flood Risk & Drainage					
Loss of permeable greenfield land	Negligible	Adverse	Surface water is proposed to be controlled through attenuation features across the site, limiting the flow of water from the site to the existing run-off rates	Minor	Beneficial
Potential contaminants or particulates seeping into the groundwater and / or river courses.	Negligible	Adverse	Lined permeable paving and attenuation features provide a two stage filtering process across the site, removing and containing any contaminants or particulates.	Minor	Beneficial
Ecology & Nature Conservation					
Loss, reduction and/or alteration of bat foraging habitat.	Moderate	Adverse	Proposed landscape planting to replace lost bat foraging habitat.	Minor	Adverse
Loss of large areas of derelict agricultural land dominated by coarse grassland with general low floristic values.	Moderate	Adverse	Lighting controls and design to reduce effect on bat foraging patterns.	Minor	Adverse
Loss of areas of immature plantation woodland <30 years old.	Moderate	Adverse	Proposed buffer zone and to enhance to recreate semi-natural habitat, e.g. along stream courses.	Minor	Adverse
Loss of areas of secondary dry reed bed on derelict farmland.	Moderate	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Minor	Adverse
Loss of minor sections of species-poor hedgerows.	Minor	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Minor	Beneficial
Loss of nesting bird habitat.	Negligible-Minor	Adverse	Proposed new landscape planting to provide nesting/foraging sites for birds.	Negligible-Minor	Beneficial
Impacts on water vole, badgers and Great	Negligible	Adverse	Proposed new attenuation ponds to provide increased aquatic habitat and marginal wetland	Minor	Beneficial

Crested Newts due to loss of habitat			planting. Proposed new habitat creation within the public open space.		
Air Quality					
Increases in concentrations of NO2, PM10 and PM2.5 from increased traffic flows	Negligible	Adverse	-	Negligible	Adverse
Cultural Heritage & Archaeology					
Indirect impact on the setting of an archaeological or cultural heritage asset leading to a diminution of its significance	Negligible-Minor	Adverse	For those archaeological and cultural heritage assets for which an indirect impact to setting has been predicted no formal mitigation is recommended as the magnitude of the impacts to settings and significance of the effect is marginally adverse and there is inherent mitigation in the quality of the design and layout of the proposed development.	Negligible	Adverse
Noise & Vibration					
Increase in noise from increase in traffic flow.	Minor	Adverse	-	Minor	Adverse
Socio-Economics					
Operational Employment	Moderate	Beneficial	-	Moderate	Beneficial
Resident Expenditure	Moderate	Beneficial	-	Moderate	Beneficial
Public Revenue	Moderate	Beneficial	-	Moderate	Beneficial
Local Labour Market	Minor	Beneficial	-	Minor	Beneficial
Housing	Moderate	Beneficial	-	Moderate	Beneficial
Deprivation	Minor	Beneficial	-	Minor	Beneficial
Commuting: Increase in the level of commuting within the local area.	Minor	Adverse	Commuting: Employment floorspace within the proposed development will help minimise net out commuting levels overall. Any remaining adverse impacts can be addressed through suitable planning conditions.	-	Neutral
Primary Education: Increased demand for primary school places, which are operating close to capacity.	Minor	Adverse	Primary Education: land will be made available for a 1FE Primary School as part of the Peel Hall proposals. Any residual shortfall in primary school provision would be mitigated through appropriate Section 106 financial contributions.	-	Neutral

Secondary Education: Increased demand for secondary school places, which are operating close to capacity.	Moderate	Adverse	Secondary Education: Appropriate Section 106 contributions.	-	Neutral
Healthcare: Increased demand for healthcare facilities, which are operating close to capacity.	Minor	Adverse	Healthcare: Appropriate Section 106 contributions or the availability of space within the local centre	-	Neutral
Open Space & Recreation: Increased demand for open space and recreational facilities.	Minor	Adverse	Open Space & Recreation: On-site open space provision. Any remaining adverse impacts can be addressed through suitable s106 contributions in relation to the improvements proposed to Radley Common fields.	-	Neutral
Recreation					
Loss of Mill Lane Sport Pitches	Minor	Adverse	Replacement sports pitches of better quality and quantity with supporting amenities including changing facilities.	Minor-Moderate	Beneficial
Peel Cottage Lane PROW	Major	Adverse	Footpath route to remain. Landscape planting will reduce impact on footpath over time.	Moderate	Adverse

16.0B CONCLUSIONS

16.1 In summary the following topic areas have been addressed and the findings are set out below:

- Planning Policy - Overall the proposed development complies with relevant national and development plan policies. It aids the fulfilment of objectives and strategies within non-statutory assessments such as the provision of market and affordable housing, local employment and crating investment.

- Ecology and Nature Conservation - The evaluation of predicted effects has shown that a moderate adverse effect is predicted on the site through the loss of common, but extensive semi-natural habitats during the construction phase. These effects are short term and partially reversible through restoration and provision of new habitats. With the exception of birds and bats there is a general lack of substantial formal nature conservation interest on the site. The impacts of the operational phase are predicted to be negligible/low and are partially reversible through appropriate mitigation.

- Hydrology, Drainage and Flood Risk - It is concluded that the development is not at risk of fluvial, tidal, overland groundwater flooding and will not increase flooding to surrounding areas.

- Landscape and Visual Impact - Subject to the mitigation proposals there would not be any overall significant adverse impact in landscape, character or visual terms.

- Transportation and Highways – With mitigation, the predicted impact to the wider highway network is expected to be moderate beneficial, with a high level of provision for public transport, cyclists and pedestrians.

- Cultural Heritage and Archaeology - The mitigation measures and advancement of understanding compensates for the loss of any cultural, heritage and archaeological assets. With regard to the assessment site the investigation and recording of any cultural assets would lead to an overall residual slight adverse/neutral impact for all directly impacted assets.

- Noise pollution - The proposals meet both IEMA and British Standards for sound insulation and noise reduction for buildings. It is considered that the proposed development adheres to the principles of paragraph 109 of the NPPF and ‘will not put at risk from or being adversely affected by unacceptable levels of soil, air, water or noise pollution.’ It is considered that noise and vibration should not be a constraint on residential amenity.

- Air Quality - The proposed development meets the technical guidance on Local Air Quality Management and Assessment for demolition and construction. It is considered that the proposed development adheres to paragraph 109 of the NPPF as set out above. It is considered that air pollution should not be a constraint on the proposed residential development.

- Social Infrastructure - The scale of housing and its associated increase in residential population will be relatively minor when viewed in the context of the Borough as a whole. The proposed mixed- use scheme represents a significant new capital investment within the local area and this will help raise the overall level of economic activity and expenditure within the local economy.

16.2 The overall conclusion of this addendum to the environmental statement is that any impact that occurs as the result of the 'Option B spine road alignment' can be successfully mitigated and that all mitigation matters can be conditioned as part of reserved matters planning applications.

PART 3 GENERAL CONCLUSION

17.0 GENERAL CONCLUSIONS

17.1 Since the preparation of the Environmental Statement for the proposed development at Peel Hall a review of traffic data has been carried out which might have affected the assumptions made in respect of likely impacts as set out in the original document. As the result of this the ES Chapter dealing with Highways and Transportation has been revised and another internal road layout is now put forward. The submitted internal road layout has been re-assessed based on the new data and is referred to in the Addendum as Option A. The alternative internal route is referred to as Option B. Disciplines that are closely related to road traffic in terms of potential impact have also been re-appraised.

17.1 In addition the addendum serves to provide clarification and additional information requested by PINS under Schedule 4 of Regulation 22 of the 2011 EIA Regulation.

17.2 The overall conclusion of this study is that either option could be implemented without causing significant adverse environmental effects and that there is no difference in terms of the magnitude of impact between the two alternative schemes.