LAND OFF CROUCHLEY LANE, LYMM
DEVELOPMENT STATEMENT

SEPTEMBER 2017

STAMFORD PROPERTY HOLDINGS

INTRODUCTION & CONTENTS

The land at Crouchley Lane was submitted to Warrington Borough Council (WBC) in December 2016 in response to WBC's call for sites exercise. The submission by Paul Butler Associates the site at Chrouchley Lane as suitable for release from the green belt and a highly sustainable location for new housing.

This document (produced on behalf of Stamford Property Holdings) demonstrates its suitability through meeting each of the requirements as outlined within Warrington Borough Council Local Plan "Preferred Development Option Regulation 18" for the green belt release of the land at Longbutt Lane to accommodate a new state of the art primary care facility, new pedestrian links, open recreational space and the delivery of new high quality family housing all in support of WBC strategic aims for "Outlying Settlements" green belt release.

The content supports Warrington Borough Council Local Plan, Preferred Development Option 18 consultation July 2017 Publication. With reference to, Preferred Development Option 2, Local Plan Strategic Objectives, High Level Spatial Options Assessment, Overall Approach, Outlying Settlements – Indicative Green Belt Capacity, Preferred Development Option & Next Steps. It sets out a vision for a new, sustainable neighbourhood of choice supporting the long term development needs of Lymm in line with WBC Preferred Development Options and has been informed by a suite of technical studies & reports carried out by the professional team noted. Each study/report can be found at appendices 1-6.

The document has been produced in collaboration with:

- Paul Butler Associates Planning and Heritage Consultants
- Ollier Smurthwaite Architects
- Curtins Transport Planning
- Civic Engineers
- Urban Green Environmental Consultants
- Watt Consulting Engineers

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OUGHTRINGTON
Bridgewater Canal
LYMM
A56 - Higher Ln
Lymm Dam
Crouchley Lane

HOUSING NEED POLICY REVIEW

National Policy
The National Planning Policy Framework (NPPF) sets out the purpose of the planning system is to contribute to the achievement of sustainable development. At the heart of the NPPF is the presumption in favour of sustainable development and it sets out how local authorities should seek to boost the supply of housing by identifying a supply

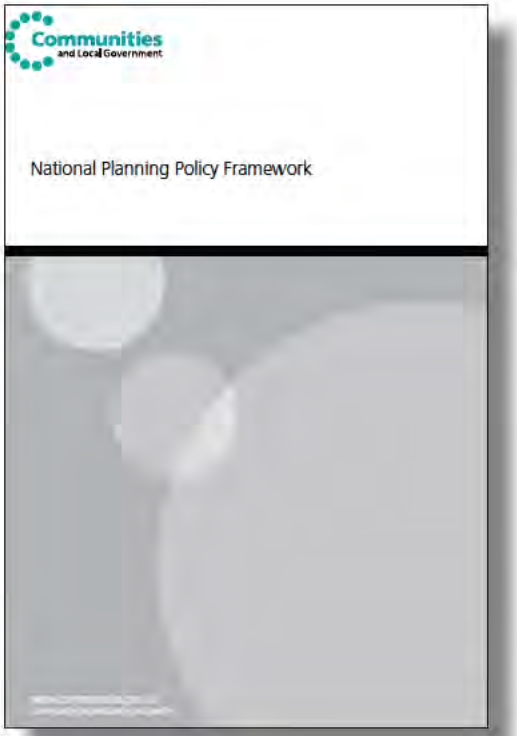
Warrington Borough Council Local Plan Review – Preferred Development Option Regulation 18 Consultation July 2017
The draft Local Plan review contains strategic policies to guide the development of the Borough up to 2037. It sets out a spatial vision and objectives as well as strategic development targets, including a total requirement to deliver 24,220 dwellings over the plan period.

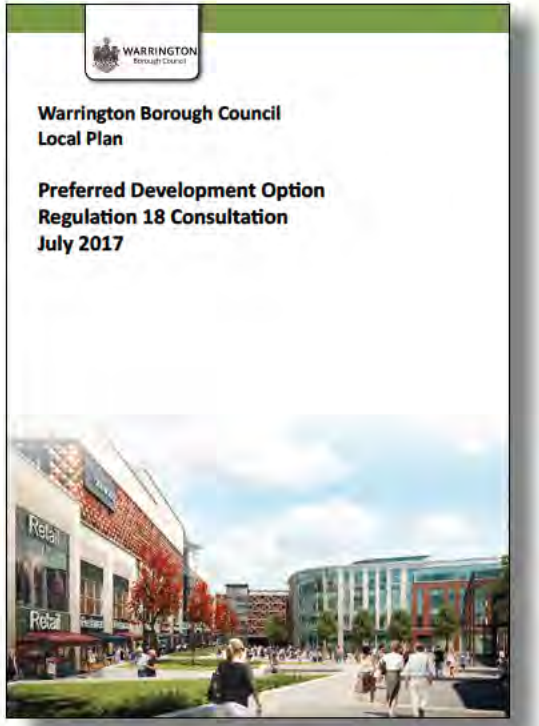
The existing urban area has the capacity to accommodate 15,429 new dwellings. In order to deliver the shortfall of housing it is necessary for Warrington to review its green belt boundaries to accommodate projected future housing growth. The preferred options include an need for 8,791 new homes to be built within the green belt over the plan period.

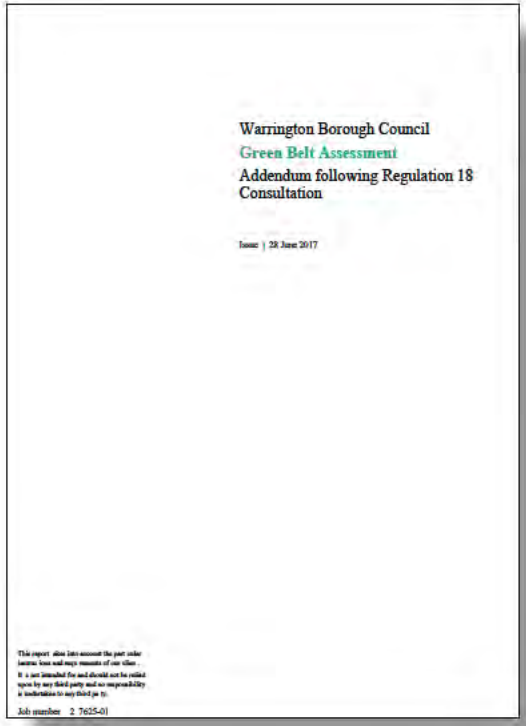
The preferred development option focusses on three strategic areas of growth: Waterfront (4,032), SW Extension (1,831 dwellings) and Garden City Suburb (7,274 dwellings).

The village of Lymm is as an outlying settlement within the Preferred Development Option. Under the incremental growth scenario a potential capacity of 500 new dwellings

The site at Crouchley Lane represents a deliverable and viable option for green belt release. This development brochure demonstrates in accordance with paragraph 47 of the NPPF that the site is available now, offers a suitable location for development and is achievable with development capable of coming forward within the years of the plan period.


Communities
and Local Government
National Planning Policy Framework


WARRINGTON
Borough Council
Warrington Borough Council
Local Plan
Preferred Development Option
Regulation 18 Consultation
July 2017
Retail
Retail

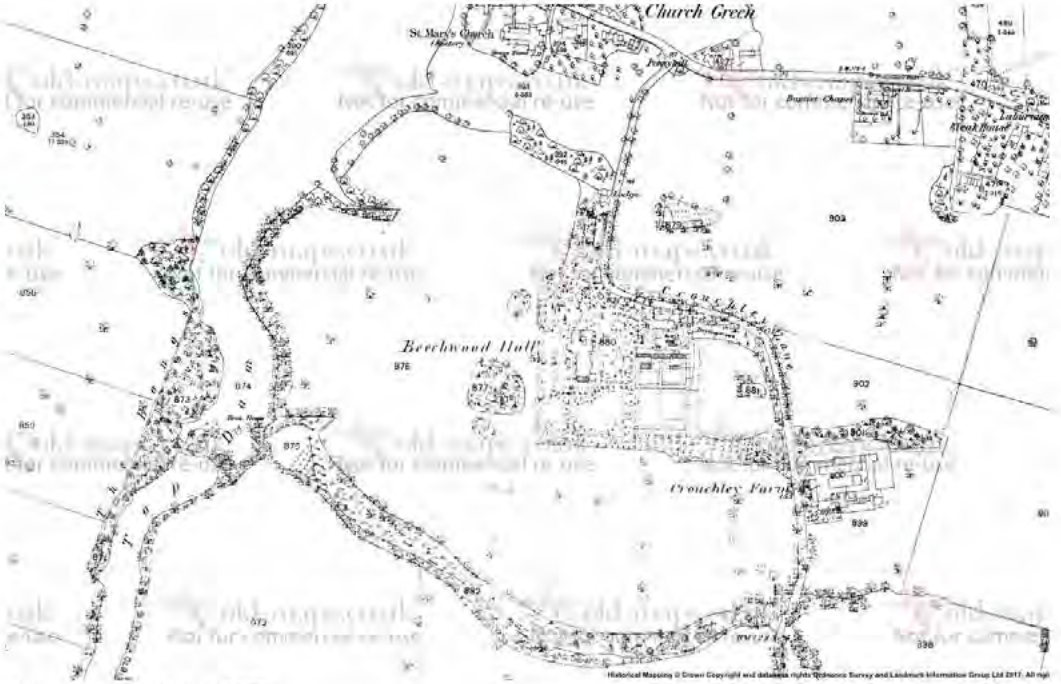

Warrington Borough Council
Green Belt Assessment
Addendum following Regulation 18 Consultation
Issue | 28 June 2017
Job number 2 7625-01

SITE HISTORY

Lymm Dam and Beechwood Estate

Adjacent to the site is Lymm Dam, which was formed in response to transportation needs. At the time, the area it was constructed on was part of the Lymm Hall Estate which also owned much of the village. In 1848, the estate was divided into plots and several were sold off including what is now Lymm Dam, Lymm Rugby Club and the area of land between. The section of the estate Lymm Dam was located on was bought by a local solicitor called Thomas Ridgeway. Ridgeway built 'a large opulent manor house' at the site, now where Lymm Rugby Club is located on Crouchley Lane. He lived in the house and the estate which were known as 'Beechwood' for 20 years before he sold the estate to a Cotton Trader from Manchester called George Dewhurst. Dewhurst was a considerably influential figure in the Victorian village of Lymm . He and his family lived on the Beechwood estate until the end of the 19th Century.

According to historical maps, the manor house was demolished in the 1950s but some of aspects of the estate are still present today. What are today Lymm Rugby Club's changing rooms were once the old stables, and the wall that runs alongside the main rugby pitch was part of the horses' exercise paddock. A feature that is still present today is the stone archway along Crouchley Lane, which was the entrance to the estate. In addition, the Wishing Bridge round Lymm Dam and the small boat house are remnants of Dewhurst's contribution to the area.



H stor ca map of s te - 1875

H stor ca map of s te - 1968

H stor ca photo of Beechwood Manor

H stor ca photo of the front of Beechwood Manor

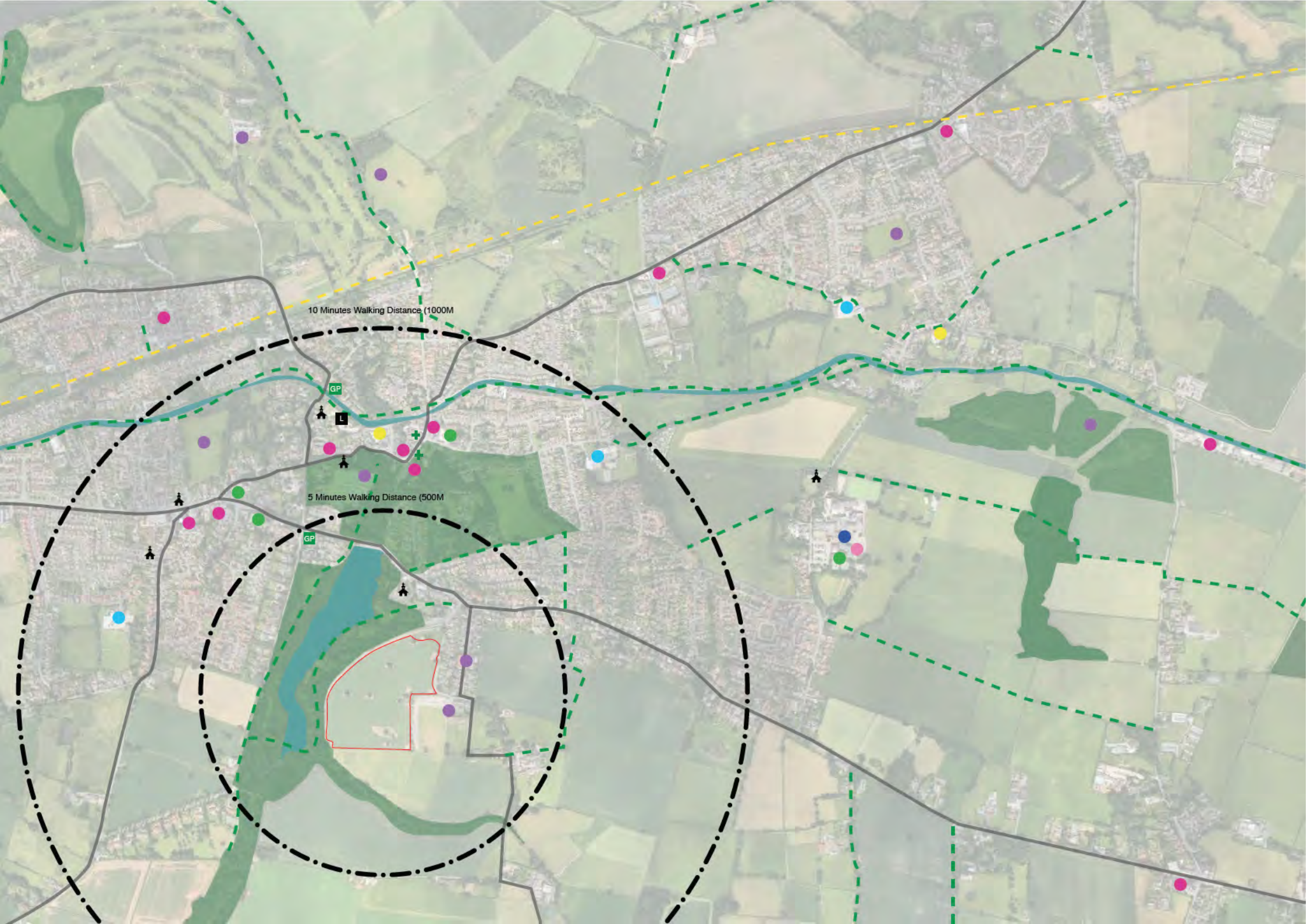
The ex st ng archway nto what wou d have been the entrance to the estate.

SITE & SURROUNDINGS

The site is located on the southern side of Lymm on land to the west of Crouchley Lane. The site measures approximately 8 hectares in size and is located approximately 600 metres (10-minute walk) from Lymm village centre. Properties on Crouchley Lane sit adjacent to the eastern boundary of the site along with the rugby club and squash club south of Crouchley Lane. The southern boundary is bordered by sports pitches at the rugby club whilst the western extent of the site forms the dense tree lined boundary to Lymm Dam.

On the eastern side of Crouchley Lane is the established residential area of Lymm, the site benefits from an excellent location in close proximity to local sports facilities, schools, pubs, restaurants and other town centre facilities in the centre of Lymm. The site is surrounded by good pedestrian footways and cycle links enabling ease of access to surrounding locations. A public right of way also runs alongside the western boundary of the site providing a well-used and attractive leisure route around the eastern side of Lymm Dam.

The following maps shows the proximity of local services and facilities to the site.


10 Minutes Walking Distance (1000M
5 Minutes Walking Distance (500M
GP
GP
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SUITABILITY OF THE SITE FOR DEVELOPMENT

Site Analysis
A number of technical studies have been undertaken to assess the site and its immediate surroundings in order to demonstrate that the site is capable of being developed and providing a valued contribution to Warrington's housing land supply. Our key are as follows and are supported by the technical reports in the appendices.

Utilities
The site is well located in location to existing water utility infrastructure, consultation with utility providers at the design stage will capacity within the local network however gas mains, water supply mains, BT LV electric mains and Virgin cable are all present below Crouchley Lane to the east of the proposed development site. No existing services are within or cross the development site boundary.

Flood Risk and Drainage
The site is located within zone 1 and is therefore not at risk of Surface water run-off will be managed on site to ensure that the risk of is not increased elsewhere. It is proposed to discharge surface water run-off from the site to the watercourses to the south and / or west of the site subject to agreement from the Environment Agency with the remaining run off into the combined sewer. Any new connection to the public sewer would be subject to agreement with United Utilities.

Foul drainage can be discharged to the combined sewer east of the site. The route and point of connection will be subject to agreement with United Utilities.
Groundwater: a small part of the site is located within the catchment of a groundwater protection zone. This issue can be adequately managed through the detailed design of the drainage system.

Ecology
The majority of the site is mown arable containing scattered mature oak trees. The arable provide a poor diversity of habitats, while the fringe habitats are common and widespread in the area. A licensed ecologist (Urban Green) has undertaken a site walkover. A full suite of surveys for protected species will need to accompany any planning application in the future. However, it is not anticipated that there are any issues which cannot be adequately mitigated for through the design process.
Opportunities exist to retain existing trees and hedgerows on the site and provide new areas for wildlife enhancement. Any development on the site is unlikely to impact on statutory wildlife sites which are within 5km of the settlement of Lymm.

Trees (refer to Appendix 06)
A preliminary arboricultural assessment (Urban Green, 2017) has been undertaken to assess the potential for trees on site to the development masterplan. It is recognised that the majority of trees on site are protected by the Beechwood Hall Estate

Tree Preservation Order. The scattered location of the trees across the site represents an opportunity for the development layout to comfortably accommodate and retain the majority of the tree.

Ground Conditions (refer to Appendix 03)
No ground contamination issues are associated with the site. Subject to further assessment, the work to date has that if remediation is required this can be dealt with through standard mitigation, construction and remediation measures. The report suggests that shallow foundations will also be achievable for the site.

Access and Highways (refer to Appendix 02)
The site can be easily served by a single point of access onto Crouchley Lane without giving rise to any safety or capacity issues. The proposed location selected will not affect the boundary trees or locally listed stone archway in this location. The access arrangements have been designed to cater for the infrequent movements of a servicing vehicle.

The centre of the site is approximately a 900m walk from Lymm Village Centre where numerous shopping, employment, leisure, health, restaurants and pubs are available. The site is closer to Lymm Village Centre than the majority of the other Green Belt release candidate sites under consideration by WBC.

The high-level assessment in appendix 02 (Curtins 2017) points strongly towards the fact that there is capacity within the wider highway network around Lymm to accommodate the additional demand that would be generated by the release of this Green Belt land for housing. It is therefore considered that no wider off-site junction improvements are likely to be necessary to mitigate against the impact of the allocation and development of the site.

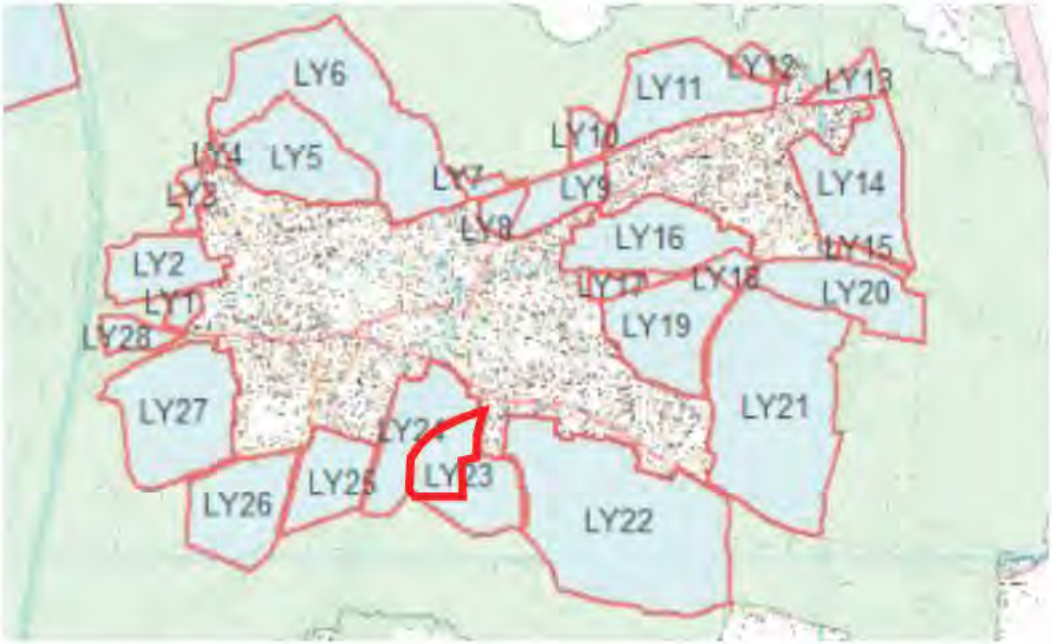
Heritage
Views into and out of the Lymm Conservation Area are largely screened by the mature tree belt which runs along the western site boundary. Further dense vegetation within the Conservation Area to the north of the site also acts to screen views into and out of the grounds of St Mary's Church, with no views available from the site. Furthermore, existing residential development to the east of the site along Crouchley Lane provides an existing residential context within the setting of the Conservation Area. It is therefore considered that a sensitively designed residential development will not detract from the setting of the adjacent conservation area. The locally listed arch, and the wall fronting Crouchley Lane are part of the original boundary features of the Beechwood Hall estate. The arch will be retained as part of the scheme design, with the majority of the wall also being retained. The small length of wall necessary to facilitate the access will be re-used within the entrance design.

GREENBELT ASSESSMENT

The Warrington Borough Council Local Plan, Preferred Development Options Regulation 18 consultation identifies a requirement to deliver 22,260 new homes and 381 hectares of employment land over the plan period 2017-2037. Within this strategy, the settlement of Lymm is suitable for accommodating 500 new dwellings over the plan period.

Presently the settlement of Lymm is inset from the green belt with the village settlement boundary following the line of the existing built form. The Local Plan Preferred Options is supported by a green belt review (ARUP, 2016) which identifies the site as forming part of parcel LY23. This concludes that the site makes a moderate contribution to green belt purposes.

Paul Butler Associates (representation, 2016) previously commented on the conclusions made within the green belt review and offer a revised green belt assessment which more accurately reflects the status of the site. The revised assessment is below.

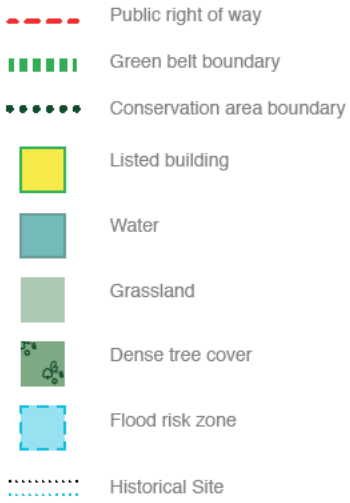


REF	**Purpose 1**: to check the unrestr cted spraw of arge bu t up areas.	**Purpose 2**: to prevent ne ghbour ng towns merg ng nto one another.	**Purpose 3**: to ass st n safeguard ng the countrys de from encroachment	**Purpose 4**: to preserve the sett ng and spec a character of h stor c towns	**Purpose 5**: to ass st n urban regenerat on, by encourag ng the recyc ng of dere ct and other urban and	**Justification for assessment**	**Overall Assessment**
LY23	No contr but on: The parce s not adjacent to the Warr ngton urban area and therefore does not contr bute to th s purpose.	No contr but on: The parce does not contr bute to prevent ng towns from merg ng.	Weak contr but on: The parce s connected to the sett ement on ts eastern boundary and s we conta ned on the western and southern per meters by a substant a tree be t wh ch m ts the degree of openness exper enced. The durab e boundar es of th s parce wou d ensure no encroachment nto the countrys de shou d th s parce be deve oped.	Moderate contr but on: Lymm s a h stor c town. Wh st the s te s not w th n the conservat on area t s adjacent to t. Deve opment on th s s te however cou d be brought forward w thout any mater a harm on the character and appearance of the conservat on area.	Moderate contr but on: The M d Mersey ous ng Market Area has 2.08% brownfie d urban capac ty for potent a deve opment therefore the parce makes a moderate contr but on to th s purpose.	The parce makes a weak contr but on to one purpose, a moderate contr but on to two and no contr but on to two. Deve opment w th n th s parce wou d be we conta ned hav ng a m n ma mpact on the overa openness of the green be t.	Weak contr but on

OPPORTUNITIES & CONSTRAINTS

Opportunities Supporting Warrington Borough Council Local Plan – Preferred Development Option – Regulation 18 Consultation July 2017

- The site is located on the edge of the existing settlement of Lymm and is bordered by development on the eastern extent, with new housing development approved at Lymm Rugby Club (adjacent south/east). Development of the site will form a sensitive extension to the existing settlement.
- Access into the site is achievable from Crouchley Lane with adequate visibility provided in both directions.
- Development can be accommodated on the site whilst also retaining mature trees within the proposed site layout.
- The site is located outside of the floodzone and therefore would not be at risk of flooding.
- A small portion of the site is within a groundwater protection zone. This can be mitigated through the detailed drainage design.
- The site is located close to existing services and facilities within Lymm thereby providing a sustainable location for new housing.
- No existing services are within or cross the site boundary. Furthermore, service connections are feasible.
- Development of the site will respect the locally listed arch on Crouchley Lane and has the potential to enhance and incorporate this feature as part of the proposed development. The adjoining conservation area is separated by dense vegetation and built form which screens out views into and out of the conservation area.
- To maintain and enhance existing vegetation that provides visual containment reducing the visual impact of the development from certain vantage points.
- To provide recreational opportunities and links to existing public open space through the introduction of new greenspace in the heart of the site.
- To provide pedestrian links toward the town centre.
- The development will be of a high quality and aim to be sensitive to the local vernacular, taking positive elements from the local town character.




Listed church
Site borders the Lymm Town Centre Conservation Area, which includes Lymm Dam
Crouchley Lane
Existing footpath & bridleway runs around the curtilage of the site
Current greenbelt boundary, which incorporates site & Lymm dam
Locally listed gateway - part of Beechwood Hall estate
Lymm Dam
Existing Pond
Consented residential development on rugby club land
Small number of TPO'd Trees distributed across the site
Proposed redevelopment of rugby club inc. new pitches and clubhouse
Historic Pond
Lymm Rugby Club
Existing planting screens the site from surrounding greenbelt and Lymm Dam

OPPORTUNITIES & CONSTRAINTS

Warrington Borough Council Local Plan – Preferred Development Option – Regulation 18 Consultation July 2017

The Proposal demonstrates the delivery of each of the desired options as set out within Warrington Borough Council Local Plan - Preferred Development Option Regulation 18 Consultation July 2017 are met. Further satisfying and supporting the site as a viable site to be released from greenbelt. To the right are extracts from the WBC Preferred Development Option - Regulation 18 July 2017.

4.38 The new objectives are set out in the table below:

W1 To enable the transition of Warrington from a New Town to a New City through the ongoing regeneration of Inner Warrington, the delivery of strategic and local infrastructure, the strengthening of existing neighbourhoods and the creation of new sustainable neighbourhoods whilst: • delivering a minimum of 22,260 new homes (equating to 1,113 per year) between 2017 and 2037, and • supporting Warrington's ongoing economic success by providing 381 Hectares of employment land between 2017 and 2037.
W2 To facilitate the sensitive release of Green Belt land to meet Warrington's long term housing and employment needs, whilst ensuring the revised Green Belt boundaries maintain the permanence of Warrington's Green Belt in the long term.
W3 To strengthen and expand the role of Warrington Town Centre as a regional employment, retail, leisure, cultural and transport hub, whilst transforming the quality of the public realm and making the Town Centre a place where people want to live.
W4 To provide new infrastructure to support Warrington's growth, reduce congestion and promote sustainable transport options, whilst reducing the need to travel and encouraging active lifestyles.
W5 To secure high quality design which reinforces the character and local distinctiveness of Warrington's urban area, its countryside, its unique pattern of green spaces and its constituent settlements whilst protecting, enhancing and embracing the borough's built and natural assets.
W6 To minimise the impact of development on the environment through the prudent use of resources and ensuring development is energy efficient, safe and resilient to climate change and makes a positive contribution to improving Warrington's air quality.

Table 5 – Local Plan Strategic Objectives

4.52 The Council's detailed assessment and the SA/SEA Report can be found on the Council's website. A summary of the overall conclusions from the Council's assessment of the three options is provided in the table below.

Option 1	This option has the potential to contribute positively to the objectives of the plan and would enable Warrington to meet its development needs whilst also contributing to the delivery of Warrington New City. Depending on the specific locations for development, it could provide a sustainable, viable and deliverable option for meeting Warrington's development needs and provides the opportunity to maintain the permanence of the Green Belt at a strategic level through managed green belt release.
Option 2	This option has the potential to contribute positively to the plan objectives and would enable Warrington to meet its development needs whilst directly contributing to the delivery of Warrington New City. Depending on the specific locations for development, it could provide a sustainable, viable and deliverable option for meeting Warrington's development needs and provides the opportunity to maintain the permanence of the Green Belt at a strategic level through managed green belt release. In addition, incremental growth in the outlying settlements could contribute to longer term sustainability of local services and local business, promote local housing choice and deliver a number of smaller sites in the early part of the plan period.
Option 3	Although a settlement extension in itself could provide a sustainable form of development in principle, the option as a whole does not perform as well against the objectives of the Plan as the other 2 options. It could have detrimental impacts on Green Belt, the character of settlements and may result in secondary school capacity issues. It would also result in less development being focussed on the main urban area and therefore could reduce the ability of the Council to deliver strategic infrastructure and therefore dilute the Council's New City aspirations.

Table 7 – Summary of High Level Spatial Options Assessment

4.53 Following this exercise, the Council confirmed Option 2 - focussing Green Belt release adjacent to the main urban area of Warrington, with incremental growth in the outlying settlements - as the preferred option.

4.54 Option 2 enables the majority of growth to be delivered adjacent to the main urban area, contributing positively to the Plan Objectives. It performs stronger than Objective 1 in that it also enables incremental housing growth in the outlying settlements to support local services and widen local housing choice without compromising their character. This will also assist in overall Plan delivery by promoting a larger number of smaller sites which are likely to be deliverable early in the Plan period.

4.55 Option 3 does not perform as strongly as the distribution of growth will begin to impact on the character of one or more of the outlying settlements and a greater proportion of growth is being moved away from the main urban area where it can most positively contribute to the Warrington New City concept.

5.46 The preferred option defines an approximate number of homes the Council considers can be accommodated by each of the outlying settlements under the 'incremental growth' scenario.

Settlement	Indicative Green Belt Capacity
Lymm	500
Culcheth	300
Burtonwood	150
Winwick	90
Croft	60
Glazebury	50
Hollins Green	40
TOTAL	**1,190**

Table 22: Outlying Settlements - Indicative Green Belt Capacity

5.47 In order to deliver this level of development it will be necessary to expand existing primary schools in Lymm, Culcheth and Burtonwood. It will also be necessary to provide additional primary care capacity in Lymm and in Burtonwood.

PROPOSED INDICATIVE DEVELOPMENT

Following the publication of the Preferred Development Option Regulation 18 Consultation July 2017 and site analysis work a concept masterplan has been developed incorporating all key point outlined within the Preferred Development Option.

The proposals will deliver the following:

- A new state of the art primary care facility.
- Pedestrian links from Crouchley Lane to Lymm Dam walk.
- Land allowing Lymm Rugby Club to accommodate a full sized rugby pitch along with with increasing adjacent facilities.
- Up to 180 new homes.
- Public open space.
- A mix of dwelling types to include detached, semi-detached and terraced houses.
- A range of dwelling sizes from 1 to 4+ bedrooms.
- Provision of affordable housing to include a mix of different sizes in response to local needs.
- A high quality development that will have regard to local character.
- Investment into new and existing community infrastructure, and improved local pedestrian and cycle links.

The illustrative concept masterplan includes the following key features:

- A primary vehicular access off Crouchley Lane, with pedestrian footway.
- Provision of new public open space including children's play areas and amenity open space.
- Retention of majority of existing boundary features and trees on the boundaries and within the site, with new planting proposed to strengthen the existing green infrastructure and preserve the visual amenity of adjoining residents.
- New sustainable drainage infrastructure to potentially include surface water balancing ponds.
- New and enhanced pedestrian and cycle connections to local community facilities.
- Housing sensitively positioned along the eastern boundary to protect the amenity of residents on Crouchley Lane.

- Contributing to the Council's year supply of deliverable housing sites and delivery of new homes to meet the housing needs of the borough.
- fordable housing within the town.
- Creation of a sustainable residential community that is in close proximity to existing local retail and social and community facilities.
-
- New habitat creation to encourage ecological diversity.
- New construction jobs to be created during the construction of the development.
- New Homes Bonus payable to the Council from Central Government and additional Council Tax receipts once homes are occupied.

The illustrative concept masterplan includes the following key features:

1. Provision of new community open space including children's playgrounds and amenity open space.
2. Potential land use by the Rugby Club, which could be used to enhance facilities esp. grass playing areas.
3. Provision of a Primary Care facility.
4. New pedestrian links through to Lymm Dam footpaths and cycle routes


Planting to soften boundaries against natural features
Over 55's extra care units
Main pedestrian entrance through historic gateway
Central square
Primary care centre
Main vehicular entrance
Existing protected trees incorporated into design
Mid density residential development plots
Mid density residential development plots
Higher density residential development plots
Self - build plots
Lower density residential development plots to fringes
Pedestrian & cyclist connections onto pathway & Lymm Dam
Potential land donation to rugby club
Defensible buffer to rugby club & greenbelt

DELIVERY

The National Planning Policy Framework requires that to be considered deliverable, sites should be available now, offer a suitable location for development now, and be achievable with a realistic prospect that housing will be delivered on the site within years and in particular that development of the site is viable (NPPF para 47, footnote 11).

As evidenced in this submission, the site is available now offering a suitable location for new development. The site is considered to be a viable and realistic proposition that will make a contribution to housing delivery over the plan period. There are also no known constraints that would affect delivery of housing commencing on site within 5 years.

Stamford Property Holdings hold a track record of working with developers and housebuilders alike to deliver high quality schemes ranging from a single dwelling through to projects comprising over 200 dwellings. Stamford Property Holdings will endeavour to have the master plan delivered in full within Warrington Borough Councils desired time

Ownership is with one party and there are no legal constraints which could constrain delivery.

CONCLUSION

This development brochure outlines the vision for a new, sustainable neighbourhood of choice at land off Crouchley Lane to support the long term development needs of Lymm. The brochure supports the representation submitted in response to the Warrington Borough Council Regulation 18 Preferred Options consultation.

The brochure has been informed by a range of technical studies which demonstrate the suitability of the site for development and release from the green belt. The indicative proposals for the site illustrate the potential for the creation of a new sustainable neighbourhood which responds to the local character of the area through a high quality and sensitive design response.

The indicative proposals demonstrate that the site is capable of accommodating approximately 180 new dwellings, including affordable housing. The brochure also demonstrates the suitability of the site for new development concluding that there are no significant constraints to restrict development of the type identified coming forward in this location.

Stamford Property Holdings in association with

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LAND OFF CROUCHLEY LANE, LYMM

TECHNICAL APPENDICES

SEPTEMBER 2017

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0m 25m 50m 100m 150m 200m 250m

N

SITE PLAN

REVISION	DATE	DESCRIPTION

CLIENT: STAMFORD PROPERTY HOLDINGS

PROJECT: LYMM SITES

ADDRESS: LAND OFF CROUCHLEY LANE, LYMM

DRAWING TITLE: EXISTING SITE PLAN

SCALE: 1:2500 @ A3 | DATE: SEPTEMBER 2017

DRAWING NO: A499_SITE PLAN

OLLIER SMURTHWAITE ARCHITECTS
105 Albert Mill, 10 Hulme Hall Road, Manchester, M15 4LY
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0161 883 0939
E: mail@ollliersmurthwaite.com

Land off Crouchley Lane, Lymm – Local Plan Review Site R18/065

Access & Transport Appraisal

Curtins Ref: 66027/TN02
Revision: Issue 1
Issue Date: 18 August 2017

Client Name: Stamford Property Holdings

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Manchester. M1 5WG.
Tel 0161 236 2394
www.curtins.com

Control Sheet

This report has been prepared for the sole benefit, use, and information for the client. The liability of Curtins with respect to the information contained in the report will not extend to any third party.

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Appendix A – TRICS Outputs

1.0 Introduction

1.1 Project Introduction

1.1.1 Warrington Borough Council (WBC) are currently preparing a new draft local development plan and are seeking representations in respect of residential and employment land allocations throughout the Borough.

1.1.2 Curtins has been appointed on behalf of Stamford Property Holdings to provide traffic and transport advice in relation to the potential allocation of a 8ha site to the west of Crouchley Lane, Lymm, for residential purposes.

1.1.3 The site is identified as number **R18/065** in the recently published Call for Sites list on WBC's website.

1.1.4 For the purposes of this report, and based on the assumptions that perhaps 75% of the roughly 8 hectare site area is developable and there could be perhaps 30 dwellings per hectare, it is estimated that the site could deliver in the order of 180 dwellings.

1.2 Purpose of the Report

1.2.1 This report has been prepared to consider the access and transport related implications of the potential residential allocation of the site. It considers the following items:

i) Whether the site is (or can be made to be) sustainable and accessible by non-car modes of transport;
ii) Whether the traffic arising from a residential development of the site can be satisfactorily accommodated on the local highway network (or can be made to be);
iii) Whether there are any technical / land control constraints with achieving satisfactory access into the site, and that any accesses can be designed and constructed to relevant standards;
iv) Whether there are any material local road safety issues that would present a concern in the context of the potential allocation of the site; and,
v) Whether there are any on-site highway-related constraints that would prevent the sites coming forward.

1.3 Background

Emerging Planning Policy

1.3.1 As mentioned above, the site is provisionally identified by WBC as site number R18/065 in the emerging local plan land allocation process.

1.3.2 Initial representations to remove the site from Green Belt and allocate it for housing were submitted to WBC in December 2016.

1.3.3 Since then, WBC recently published their *"Preferred Development Option Regulation 18 Consultation"* document, dated July 2017. This sets out the Council's preferred approach to allocating and delivering mainly large strategic redevelopment schemes around the Borough.

1.3.4 Paragraphs 5.46 – 5.49 of this document indicate that Lymm could potentially grow by 500 dwellings in the plan period through a release of Green Belt capacity. The document goes on to say that:

"5.47 In order to deliver this level of development it will be necessary to expand existing primary schools in Lymm, Culcheth and Burtonwood. It will also be necessary to provide additional primary care capacity in Lymm and in Burtonwood.

5.48 Due to the large number of sites put forward in proximity to each of the outlying settlements relative to the level of growth required under the Preferred Development Option, the Council has decided to hold back detailed site assessment work to confirm the individual sites to be allocated until after the Preferred Development Options Stage.

5.49 The numbers provided in the table above [e.g. 500 total dwellings] *are therefore indicative at this stage. The final numbers will depend on the detailed assessment of potential development sites, including a more detailed assessment of the implications for the character of the respective settlements, the permanence of the amended Green Belt boundaries and transport impacts."*

1.3.5 The document also identifies on Figure 10 a broad strategic overview of the transport infrastructure that might be required to help deliver the preferred option development aspirations. However, no strategic improvements are earmarked within Lymm to deliver the quota of 500 dwellings that have been specified.

1.3.6 The document does go on to say that one of the key next steps for the Council will be to develop the Warrington Multi-Modal Transport Model. This will *"enable the Council to consider local and borough wide transport impacts arising from new development. It will also allow the Council to confirm the infrastructure required to mitigate these impacts and contribute to the wider New City concept".*

1.3.7 WBC have also recently published their *"Warrington Transport Summary - Part 1: Overview"* document, which forms part of the evidence base for the emerging local development plan.

1.3.8 The document presents a general high-level assessment of historical and current travel trends into / out of the Borough, and does not refer to any of the specific potential land allocations.

1.4 Structure of this Report

1.4.1 The structure of this report is as follows:-

i) Section 2.0 provides a brief overview of the existing conditions around the site, including a review of the highway safety record and the highway-related constraints around the site;

ii) Section 3.0 provides an overview of the potential development that could be delivered on the site, including details of a potential access strategy;

iii) Section 4.0 sets out an appraisal of the accessibility of the site by non-car modes of transport;

iv) Section 5.0 sets out the anticipated highway impact of the potential site allocation / development; and,

v) Section 6.0 sets out the summary and conclusions.

2.0 Existing Conditions

2.1 Site Location

2.1.1 The site is located to the east of Lymm Village Centre and to the south of the Rush Green area on the edge of the settlement boundary, as indicated on **Figure 2.1** below:

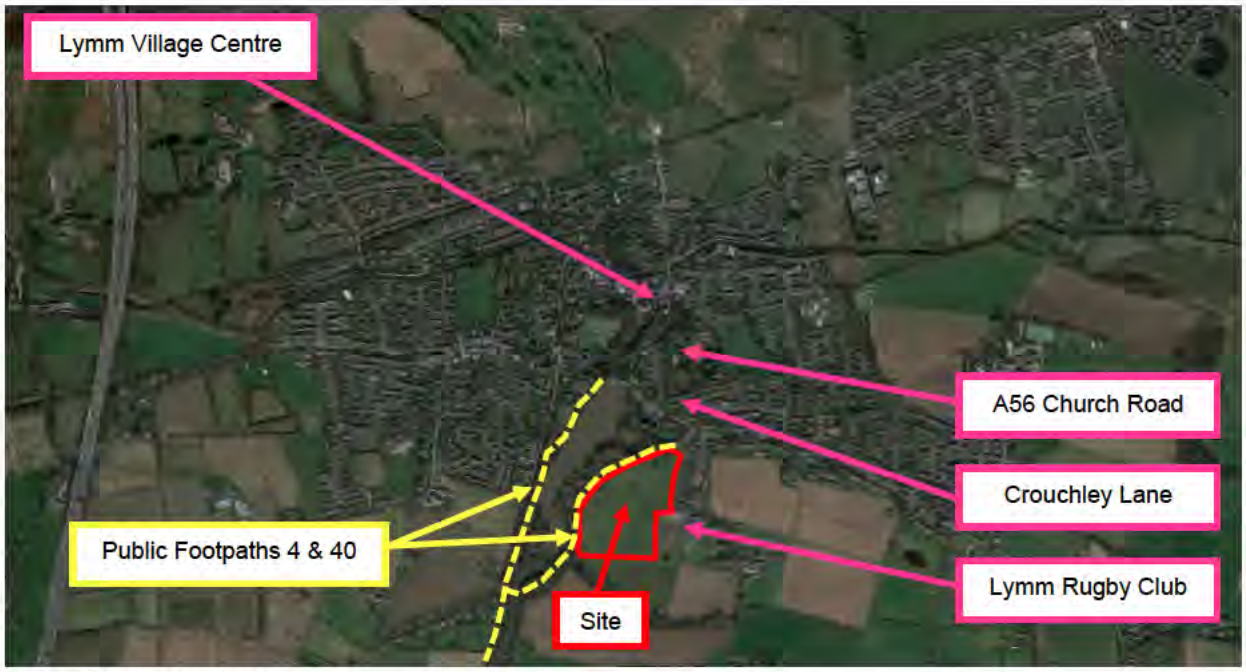

Figure 2.1 – Site Location Plan

2.1.2 As indicated above, locally the site is located to the west of Crouchley Lane, the south of Lymm Dam car park / The Church Green restaurant, the north of Lymm Rugby Club and the east of Lymm Dam. The site is currently used for grazing.

2.1.3 The site has a long area of frontage (approximately 200m) along its eastern side that runs contiguously with Crouchley Lane. It also directly abuts the route of Footpath 40 on its western side for a distance of approximately 550m.

2.1.4 The existing agricultural use of the site can be accessed via a gated access from the car parking area for Lymm Rugy Club directly to the south of the site (a private right of way), and also via an arched stone gateway onto Crouchley Lane roughly halfway along the site's frontage to that road. The gateway has some historical significance and is a locally listed structure, as contained in Appendix 4 of WBC's Core Strategy document.

2.2 Local Highway Network

Crouchley Lane

2.2.1 As stated above, Crouchley Lane runs alongside the eastern boundary of the site in an north-south alignment between the A56 Church Road to the north and Kay Lane / Beechtree Lane / Crabtree Lane to the south-east.

2.2.2 The carriageway of Crouchley Lane varies in width between around 5.5m and 7.0m along the site frontage. Some limited on-street parking currently occurs, although this does not materially affect the operation or free flow of traffic along the road, particularly since most on-street parking is concentrated near the A56 / Crouchley Lane junction where Crouchley Lane widens significantly.

2.2.3 Crouchley Lane has a footway only on its western side measuring between around 1.8m and 2.2m in width. The road is lit by regularly spaced lighting columns and is subject to a 20mph mandatory speed limit.

2.3 Public Rights of Way

2.3.1 As indicated above and on **Figure 2.1**, there is a Public Right of Way (defined as Footpath 40) which runs alongside the western boundary of the site, providing a well-used and attractive leisure route around the eastern side of Lymm Dam. Footpath 40 joins onto Footpath 4 as it routes around the south and west of Lymm Dam.

2.4 Site Visit

2.4.1 Curtins visited the site on Friday 4th August 2017 at 08:20 during the AM peak hour to make observations and take measurements of the surrounding area.

2.4.2 Although the local highway network was observed to be completely free from any congestion at this time, it should be noted that the site visit was conducted during the school holidays, therefore it is recognised that local traffic conditions may have been suppressed below the levels normally experienced during school term time.

2.5 Highway Safety

2.5.1 Personal Injury Accident (PIA) data for the highway network around the site has been obtained from the online Crashmap resource for the most recently available five-year period.

2.5.2 A plan of the highway network that has been assessed is illustrated below in **Figure 2.2**:

Figure 2.2 – Area Assessed for Personal Injury Accident Data

2.5.3 A summary of the data can be seen in **Table 2.1:**

Junction/Link	Slight	Serious	Fatal	Totals
Crouchley Lane	0	0	0	**0**
A56 Church Road	5	2	0	**7**
Totals	**5**	**2**	**0**	**7**

Table 2.1 – Personal Injury Accident Data Summary

2.5.4 There have been no accidents resulting in injury recorded along Crouchley Lane and a total of 7 accidents recorded along the A56, with 6 grouped around the A56 Church Road / Rectory Lane junction and nearby Church Green restaurant access and bus layby.

2.5.5 The grouping of these 6 accidents is marginally above the level of accidents that might normally be expected at a junction of this type over a five-year period. However, it is unclear what has caused this irregularity given that the geometric layout of the road in the area is generally satisfactory, and good levels of junction visibility are achievable from Rectory Lane in both directions along the A56.

2.5.6 A look back at a longer historical accident dataset (18 years) reveals that this location has not experienced a materially different frequency of accidents than other similar junctions along the same road corridor. This therefore suggests that the more recent five-year period could simply be a statistical anomaly.

2.5.7 In any event, the accident record on the A56 does not give rise to a material concern in the context of the site's potential allocation for residential uses, given that Rectory Lane is unlikely to be materially intensified by development-related traffic. Rectory Lane leads to the village centre of Lymm and Rush Green Road (towards Partington) beyond, however Lymm village centre is within easy walking distance of the site and it is therefore anticipated that the majority of development traffic is more likely to route via the A56 to the east and west.

2.6 Potential Highway-Related Constraints

2.6.1 There are a number of potential highway-related constraints around the site that have been considered in the context of allocating the site for residential development and achieving a satisfactory access strategy.

2.6.2 In particular, the following information has been gathered to ensure that the access strategy (see the following Chapter) is feasible from both a technical highway-standard perspective and a land control perspective:-

i) On-site measurements of the highways and footways surrounding the site;

ii) The land boundary of the site;

iii) The precise limits of the adopted highway boundary;

iv) Information on conservation areas in Lymm;

v) Information on nationally / locally listed structures in Lymm;

vi) Information on trees within and surrounding the site (based on an assessment by Urban Green Arboricultural Consultants);

vii) On-site observations of the general topography of the site; and,

viii) Public Rights of Way passing around the site.

2.6.3 Based on the above, the following points are of particular relevance to the potential allocation of the site and the chosen access strategy:-

i) Digital Ordnance Survey (OS) mapping of the site and the surrounding highway network has been obtained and has been found to be accurate in those areas where the site could potentially take access from;

ii) The boundary of the site has been plotted on the OS mapping;

iii) The precise limits of the adopted highway boundary have also been transposed below the OS mapping to ensure that any selected access solution is feasible without recourse to any third-party land;

iv) Lymm Dam to the west of the site forms part of a conservation area (CA), however this does not extend into the site or anywhere close to the site's frontage to Crouchley Lane. Therefore this does not preclude any wall, hedge or tree boundary features being removed around the eastern side of the site (but see point vi) below);

v) As mentioned earlier, the arched stone gateway feature situated roughly halfway along the site's frontage on Crouchley Lane is a locally listed structure according to WBC's Core Strategy document. However, the listing ostensibly extends to cover just the archway itself and not the boundary wall that extends to the north and south along the site boundary;

vi) There is a line of approximately 6 or 7 trees situated just within and alongside the site's boundary with Crouchley Lane. Urban Green have determined these trees to be worthy of retention, however they only extend around 110m along the site frontage (just to the south of the stone archway referred to above), and beyond this to the south there is a 90m (or so) long section of the site's frontage where no trees are present. This is therefore discussed in more detail in the following Chapter of this report as part of the potential access strategy.

vii) There are no material level differences between the site and Crouchley Lane that would preclude any particular access strategy being considered; and,

viii) There are no Public Rights of Way that pass through the site that preclude any particular access strategy being considered.

2.7 Existing Planning Permissions / Committed Developments

2.7.1 Planning permission was recently applied for (and granted in Feb 2017 subject to a S106 Agreement) for a mixed-use development comprising 10 dwellings, a new sports club / facilities and car park at Lymm Rugby Club to the south of the site (application reference 2016/28521).

2.7.2 Although the construction of the scheme would prejudice the private right of way that the site benefits from, this is not a material concern in the consideration of the site's potential allocation and is effectively a private civil matter between the two landowners.

2.7.3 Similarly, in planning and highway terms, there is nothing to suggest that the scheme at the Rugby Club materially affects the consideration of the site's potential allocation, given that ample off-street parking is provided as part of the adjacent scheme. The proposed development does not therefore impinge upon the achievability (or otherwise) of gaining access into the site.

3.0 Potential Development

3.1 Overview of Potential Scheme

3.1.1 As mentioned earlier, based on the size and potential developable area of the site, it is envisaged that a scheme of perhaps 180 dwellings could be delivered on the site in due course if the land is released from Green Belt and is allocated for residential use.

3.2 Access Strategy

General Approach

3.2.1 As a general principle, it should be noted that there are no design standards / guidance that would require a residential development of this size to feature more than a single point of access (or indeed any size).

3.2.2 On the contrary, the Manual for Streets (MfS) indicates in paragraph 6.7.3 that no such cul-de-sac length limits or dwelling number limits should be placed on a residential development, but rather the fire service should be consulted to ensure they are able to respond quickly and effectively to any emergency on a particular development. It is common to find that schemes of up to 200 dwellings are served from a single point of access.

3.2.3 Based on this, it is considered that a single vehicular access point will be suitable for a scheme of this scale and nature.

3.2.4 In terms of pedestrian and cyclist access, it should be generally desirable to achieve as much permeability and route choice into any residential scheme as possible, and therefore provide pedestrian and cycle access points at those points that lie on the most likely desire lines.

3.2.5 The above principles, combined with the potential constraints identified in sub-section 2.6 earlier, have therefore informed the potential site access strategy for the site.

Access Strategy

3.2.6 The potential access strategy is shown on drawing **66027-CUR-Z0-LV-DR-TP-05003-P01** to the rear of this report.

3.2.7 This strategy features a single vehicular access onto Crouchley Lane on the eastern side of the site, roughly 50m to the south of the stone archway mentioned earlier.

3.2.8 This location has been selected as it does not affect the tree-related constraints or the stone archway identified earlier. A section of the existing wall will need to be removed to form the access and junction visibility splays, however as indicated earlier, this does not present any issues.

3.2.9 In terms of the vehicular site access details, this has been designed to feature a standard residential road geometry, with a 5.5m wide carriageway, 2m footways and 6m corner radii. 2.4m x 40m junction visibility splays will be achievable from the access point. This level of junction visibility is commensurate with the prevailing Manual for Streets design standards for a 30mph road for robustness, despite the fact that Crouchley Lane is subject to a 20mph speed limit.

3.2.10 In terms of the pedestrian and cycle access details, the drawing shows that access would be available at the northern corner of the site, potentially via the stone archway (with the potential to create an attractive gateway / boulevard feature), and if acceptable to the Council, via a connection/s to Footpath 40 to the west of the site. It is considered that these access points, combined, cover all the likely pedestrian and cycle desire lines into and out of the site.

3.2.11 As indicated earlier, it is not considered to be necessary to have two vehicular points of access for the site. The site can easily be served via a single point of access onto Crouchley Lane without giving rise to any safety or capacity issues.

3.2.1 Safe and suitable access arrangements are therefore easily achievable into the site.

3.3 Servicing Strategy

3.3.1 The potential site access arrangements have been designed to cater for the infrequent movements of a servicing vehicle.

3.3.2 Given the size and shape of the site, it is considered that an on-site road network can easily be achieved that would cater for the movements of a servicing vehicle in due course. The detail of this would be designed at any future planning application stage.

3.3.3 It is noted that there are a number of mature trees within the site, however similarly it is expected that an on-site road network could easily be developed around any trees that would be retained.

3.4 Parking Provision

3.4.1 Similarly, given the size and shape of the site, it is considered that a scheme featuring appropriate levels of off-street / communal car and cycle parking can easily be achieved which confirms to WBC's adopted 2015 parking standards. Again, the detail of this would be designed at any future planning application stage.

4.0 Accessibility by Sustainable Modes of Travel

4.1 Introduction

4.1.1 A key element of national, regional and local policy is to ensure that new developments are located in areas where alternative modes of travel are available. It is important to ensure that developments are not isolated but are located close to complementary land uses. This supports the aims of integrating planning and transport, providing more sustainable transport choices, and reducing overall travel and car use.

4.1.2 The accessibility of the site is considered in this context for the following modes of travel:

- Pedestrian Accessibility;
- Accessibility by Cycle; and,
- Accessibility by Public Transport.

4.2 TRACC Analysis

4.2.1 The accessibility of the site has been assessed through the use of TRACC Software. TRACC is the leading multi-modal transport accessibility tool which was developed in conjunction with the Department for Transport (DfT), local authorities and transport planners.

4.2.2 It is designed to calculate travel time using a multitude of public transport and road travel modes to give accurate journey times from many origins to many destinations in one calculation. The software covers a wide range of transport modes including walking, cycling, driving and public transport.

4.3 Pedestrian Accessibility

4.3.1 Research has indicated that acceptable walking distances depend on a number of factors, including the quality of the development, the type of amenity offered, the surrounding area, and other local facilities. The Chartered Institution for Highways and Transportation (CIHT) document entitled 'Providing for Journeys on Foot' suggests walking distances which are relevant to this planning application. These are reproduced in **Table 4.1**.

	Town Centres (m)	Commuting/School/ Sightseeing (m)	Elsewhere/Local Services (m)
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200

Table 4.1 – CIHT Suggested Acceptable Walking Distances

4.3.2 To assist in summarising the accessibility of the site by foot, an indicative pedestrian catchment plan has been produced. **Plan 66027-06006** shows distances of 500m, 1,000m and 2,000m which are termed 'Desirable', 'Acceptable' and the 'Preferred Maximum' by the CIHT for commuting trips.

4.3.3 The pedestrian catchment plan confirms that the site is well located in relation to local services and facilities within Lymm.

4.3.4 The centre of the site is within around 900m walk distance of Lymm Village Centre where numerous shopping, employment, leisure, health, restaurants and pubs are available. The site is closer to Lymm Village Centre than the majority of the other Green Belt release candidate sites under consideration by WBC, as illustrated below on **Figure 4.1**:

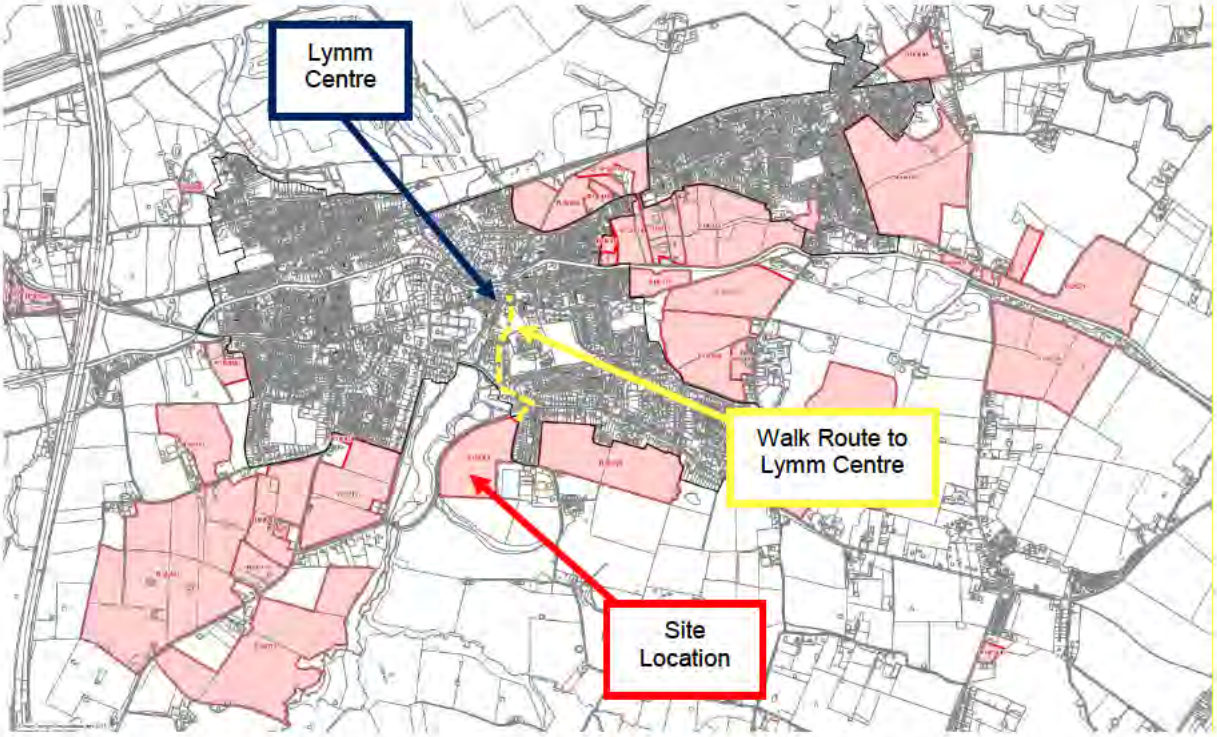

Figure 4.1 – Site's Proximity to Lymm Centre in Relation to Other Green Belt Release Candidate Sites

4.3.5 Ravenbank Community Primary School is reachable within around a 1.2km walking distance of the site whilst Lymm High School is situated around 1.6km walk distance away. There is also a day nursery situated immediately opposite the site on Crouchley Lane.

4.3.6 The topography of the local area is generally flat and conducive to pedestrian trips, and the area benefits from natural surveillance from the residential properties that abut all the main walk routes.

4.3.7 As mentioned earlier, there is the potential for the site to feature a foot connection to Footpath 40 to the west of the site around Lymm Dam. This is a popular local attraction / dog walking area that would also potentially open up a walk route to the south-western area beyond down Lakeside Road/ The Avenue.

4.4 Accessibility by Cycle

4.4.1 In order to assist in assessing the accessibility of this site by cycle, **Plan 66027-06007** presents an 8km cycle catchment for the site. The 8km cycling distance refers to a recommendation by Cycling England in the document 'Integrating Cycling into Development Proposals' (2009).

4.4.2 The catchment extends as far as Partington in the north, Bowdon to the east, High Legh in the south and Thelwall / Grappenhall to the west.

4.4.3 There are multiple local on and off road cycle routes that surround the site, with many of the local roads being designated as 'grade 1' (i.e. the best in terms of cyclability), as shown on **Figure 4.2** below:

Figure 4.2 – Cycle Routes Around Site

4.4.4 **Figure 4.2** above also shows the National Cycle Route 62 passing in an east-west alignment to the north of Lymm, some 1.4km cycling distance from the centre of the site. This route provides an excellent off-road facility between south Manchester to the east and south Warrington to the west.

4.5 Accessibility by Public Transport

4.5.1 **Plan 66027-06008** demonstrates those areas accessible within a 20, 40 and 60 minute public transport journey from the site. Accessibility by bus and rail are considered in further detail within the subsections below.

Bus Accessibility

4.5.2 Guidance from the Chartered Institution of Highways and Transportation (CIHT) document 'Guidelines for Planning for Public Transport in Development' indicates that a bus stop should ideally be located within 300m of a new development but preferably no more than 400m away.

4.5.3 The pedestrian / cycle site access onto Crouchley Lane in the northern corner of the site is within around 150m walk distance (450m walk distance to the site centre) of bus stops on the A56.

4.5.4 **Table 4.2** details the bus services that call at these stops and their associated frequencies:

Bus Service	Route	Peak Hourly Frequency		
		Mon – Fri	Sat	Sun/Hols
5 / 5E / 35	Warrington Interchange - Altrincham via Stockton Heath, Grappenhall, Thelwall, Statham, Lymm, Warburton (some) & Dunham Massey	30 mins	30 mins	60 mins
191	Lymm Circular	3 services on Tue, Thu and Fri only	-	-
47	High Legh - Warrington via Lymm-Weaste Ln - Massey Brook	2 services on Tue and Fri only	-	-

Table 4.2 – Summary of Bus Service Frequencies from Chester Road

4.5.5 As shown in **Table 4.2**, the best bus service on offer to prospective residents of the site is the No. 5 / 5E / 35, which runs between Warrington and Dunham Massey.

Rail Accessibility

4.5.6 The nearest railway station is Glazebrook, some 6.1km crow-fly distance from the site.

4.5.7 Glazebrook lies on the Liverpool-Warrington-Manchester line. A summary of rail services from the station is summarised in **Table 4.3**:

Destination	Hourly Frequency		
	Mon – Fri	Sat	Sun/Hols
Liverpool Lime Street (via Warrington)	0.5 (more in peaks)	0.5 (more in peaks)	-
Manchester Oxford Road	0.5 (more in peaks)	0.5 (more in peaks)	-

Table 4.3 – Summary of Rail Services from Glazebrook Railway Station

4.6 Summary

4.6.1 It is considered the site is highly accessible by foot and cycle modes of transport and readily accessible by public transport.

5.0 Potential Traffic Impact

5.1 Introduction

5.1.1 This section of the report provides an estimate of the multi-modal trips that might be generated by a residential development of up to 180 dwellings on the site during the weekday AM and PM peak hours and also over a normal weekday.

5.1.2 The potential impact of the vehicular traffic that might be generated by the site's development is also discussed in this Chapter.

5.2 Trip Generation Forecasts

5.2.1 The level of trips that could be generated by a residential redevelopment of the site has been estimated through reference to average peak hour trip rates obtained from surveys of schemes of a similar size and nature from within the industry-standard TRICS Database.

5.2.2 The TRICS printouts are contained in **Appendix A** and summarised in **Table 5.1** below, along with the resultant trip forecasts:-

TRICS-Based Trip Rates						
Mode	AM (08:00 – 09:00)		PM (17:00 – 18:00)		Daily	
	Arrive	Depart	Arrive	Depart	Arrive	Depart
Vehicles	0.107	0.309	0.310	0.175	1.934	2.055
Cyclists	0.003	0.013	0.017	0.008	0.079	0.081
Pedestrians	0.052	0.187	0.100	0.040	0.798	0.851
Public Transport	0.001	0.022	0.019	0.002	0.074	0.092
Trip Generation Forecasts						
Mode	AM (08:00 – 09:00)		PM (17:00 – 18:00)		Daily	
	Arrive	Depart	Arrive	Depart	Arrive	Depart
Vehicles	19	56	56	32	348	370
Cyclists	1	2	3	1	14	15
Pedestrians	9	34	18	7	144	153
Public Transport	0	4	3	0	13	17

Table 5.1 – Residential Use Trip Generation – 180 Dwellings

5.3 Development Traffic Impact

General

5.3.1 As illustrated above, a scheme of 180 residential dwellings on the site might be expected to generate in the order of 75 to 88 two-way vehicle trips in each weekday peak hour.

5.3.2 Volumetrically, this equates to an additional vehicle movement every 40 to 50 seconds or so, on average, during the worst case peak hour periods.

5.3.3 Seen in this context, this is not considered to be a particularly onerous level of traffic.

Wider Highway Network Impact

5.3.4 It is understood that there are no significant or 'severe' pre-existing congestion issues on the wider primary road network around Lymm, including the A56 corridor.

5.3.5 The online Google Maps Traffic resource has been interrogated to check typical speeds through the primary road network in Lymm. The snapshots below on **Figures 5.1 and 5.2** illustrate the speed at which traffic typically moves through the network during the weekday (in this case a Tuesday) AM and PM peak hours:

Figure 5.1 – AM Peak Hour Traffic Speeds Around Lymm (*source: Google Maps Traffic Resource)*

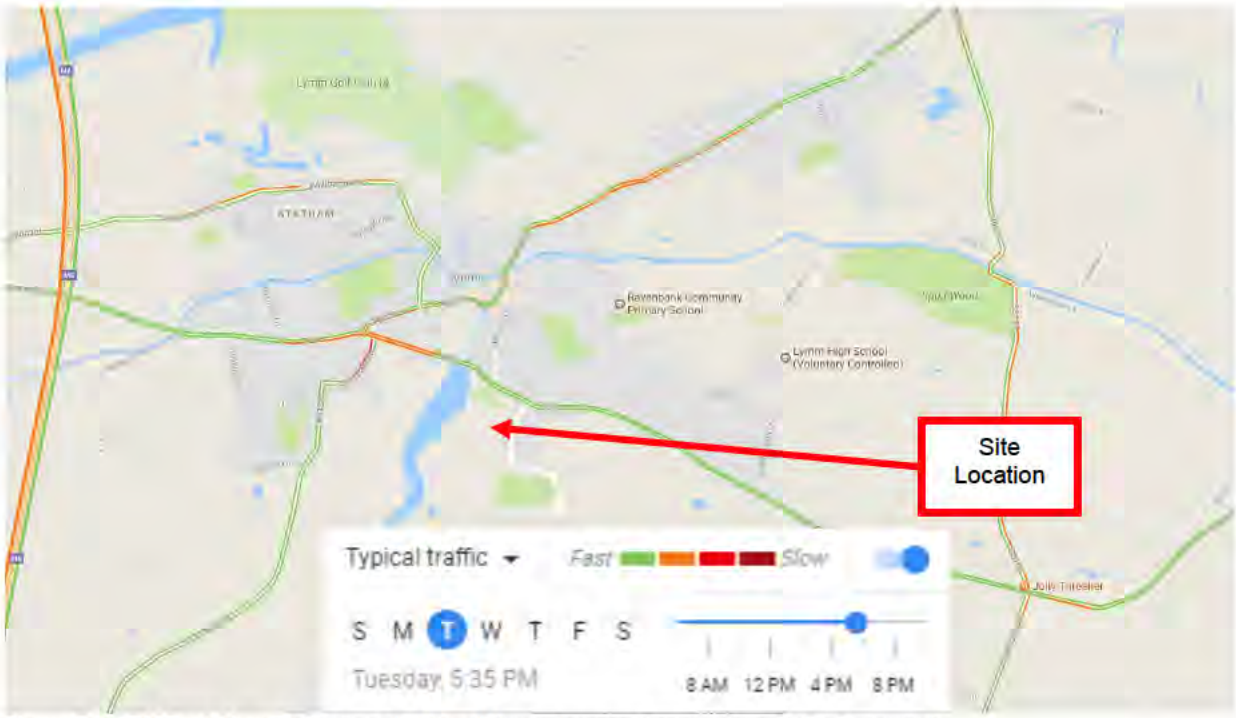

Figure 5.2 – PM Peak Hour Traffic Speeds Around Lymm (*source: Google Maps Traffic Resource)*

5.3.6 This analysis demonstrates that traffic is able to move through the local network more or less uninterrupted (i.e. green-coloured) at or around the prevailing speed limits, apart from some slowing around the Elm Tree Road / Eagle Brow junctions with the A56.

5.3.7 This is also reflected in WBC's *"Warrington Transport Summary - Part 1: Overview"* document, which does not indicate that any particular improvements are required in the area of Lymm to help bring forward the planned housing growth in the Borough.

5.3.8 This high-level assessment therefore points strongly towards the fact that there is sufficient capacity within the wider highway network around Lymm to accommodate the additional traffic demand that would be generated by the release of Green Belt land for housing, including at the site in question.

5.3.9 It is therefore considered that no wider off-site junction improvements are likely to be necessary to mitigate against the impact of the allocation and development of the site, however this would be tested in detail as part of any Transport Assessment report that would be necessary to accompany any planning application in due course and as part of WBC's multi-modal transport model assessments.

6.0 Summary and Conclusions

6.1 Summary

6.1.1 Curtins has been appointed on behalf of Stamford Property Holdings to provide traffic and transport advice in relation to the potential allocation of a 8ha site to the west of Crouchley Lane, Lymm, for residential purposes. The site is identified as number **R18/065** in the recently published Call for Sites list on WBC's website.

6.1.2 For the purposes of this report, and based on the assumptions that perhaps 75% of the roughly 8-hectare site area is developable and there could be perhaps 30 dwellings per hectare, it is estimated that the site could deliver in the order of 180 dwellings.

6.1.3 The site is one of a number of sites around Lymm that have been indented for potential release from the Green Belt to meet the Council's growth target of 500 new dwellings around the village.

6.1.4 The existing highway safety record around the site has been examined for the most-recently available 5 years' worth of accident data. The data shows that no accidents occurred on Crouchley Lane and 7 occurred on the A56, with 6 near the A56 / Rectory Lane junction. However, the geometric layout of the road in the area is generally satisfactory and good levels of junction visibility are achievable from Rectory Lane in both directions along the A56, therefore there is nothing to suggest any inherent defects in the road network itself.

6.1.5 A look back at a longer historical accident dataset (18 years) reveals that this location has not experienced a materially different frequency of accidents than other similar junctions along the same road corridor. This therefore suggests that the more recent five-year period could simply be a statistical anomaly.

6.1.6 In any event, the accident record on the A56 does not give rise to a material concern in the context of the site's potential allocation for residential uses, given that Rectory Lane is unlikely to be materially intensified by development-related traffic. Rectory Lane leads to the village centre of Lymm and Rush Green Road (towards Partington) beyond, however Lymm village centre is within easy walking distance of the site and it is therefore anticipated that the majority of development traffic is more likely to route via the A56 to the east and west.

6.1.7 Curtins visited the site recently to take measurements and observations of the network surrounding the site. Various investigations have also taken place into any potential constraints that might preclude any particular access options to the site.

6.1.8 This exercise has revealed that the only material constraints are the presence of a line of 6 or 7 good quality trees along the north-eastern part of the site's frontage to Crouchley Lane and the presence of a locally-listed stone archway that would need to be retained.

6.1.9 These factors have therefore been taken into account in the development of the potential access strategy. This features a new simple priority controlled junction some 50m to the south of the stone archway mentioned earlier.

6.1.10 This location has been selected as it does not affect the tree-related constraints or the stone archway identified earlier. A section of the existing wall will need to be removed to form the access and junction visibility splays, however as indicated earlier, this does not present any issues.

6.1.11 In terms of the vehicular site access details, this has been designed to feature a standard residential road geometry, with a 5.5m wide carriageway, 2m footways and 6m corner radii. 2.4m x 40m junction visibility splays will be achievable from the access point. This level of junction visibility is commensurate with the prevailing Manual for Streets design standards for a 30mph road for robustness, despite the fact that Crouchley Lane is subject to a 20mph speed limit.

6.1.12 In terms of the pedestrian and cycle access details, access would be available at the northern corner of the site, potentially via the stone archway (with the potential to create an attractive gateway / boulevard feature), and if acceptable to the Council, via a new access to Footpath 40 to the west of the site. It is considered that these access points, combined, cover all the likely pedestrian and cycle desire lines into and out of the site.

6.1.13 Safe and suitable access arrangements are therefore easily achievable into the site.

6.1.14 A detailed appraisal of the accessibility of the site by non-car modes has been carried out. It is considered the site is highly accessible by foot and cycle modes of transport and readily accessible by public transport.

6.1.15 The site is closer to Lymm Village Centre and its associated facilities than the majority of the other Green Belt release candidate sites under consideration by WBC.

6.1.16 A scheme of 180 dwellings is estimated to generate in the order of 75 to 88 two-way vehicle trips in each weekday peak hour. Volumetrically, this equates to an additional vehicle movement every 40 to 50 seconds or so, on average, during the worst case peak hour periods. Seen in this context, this is not considered to be a particularly onerous level of traffic.

6.1.17 It is understood that there are no significant or 'severe' pre-existing congestion issues on the primary road network around Lymm, including along the A56 corridor. This has been checked with reference to typical weekday peak hour traffic speed through Lymm and WBC's own 'Transport Summary' and 'Preferred Development Option Regulation 18' reports published recently as part of the evidence base for the emerging local plan.

6.1.18 This high-level assessment therefore points strongly towards the fact that there is sufficient capacity within the wider highway network around Lymm to accommodate the additional traffic demand that would be generated by the release of Green Belt land for housing, including at the site in question.

6.1.19 It is therefore considered that no wider off-site junction improvements are likely to be necessary to mitigate against the impact of the allocation and development of the site, however this would be tested in detail as part of any Transport Assessment report that would be necessary to accompany any planning application in due course and as part of WBC's multi-modal transport model assessments.

6.2 Conclusions

6.2.1 It is therefore concluded that there is an ideal opportunity with the candidate site to help deliver housing in a sustainable and suitable location close to Lymm Village Centre. There are no material highway-related constraints that would preclude safe and suitable access being achieved to the site.

6.2.2 From a highway and transport perspective, the site is therefore commended to WBC for release from the Green Belt and allocation for future housing in the emerging local plan.

Plans

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Project:
WBC SITE PROMOTIONS - LYMM

Status:
PRELIMINARY

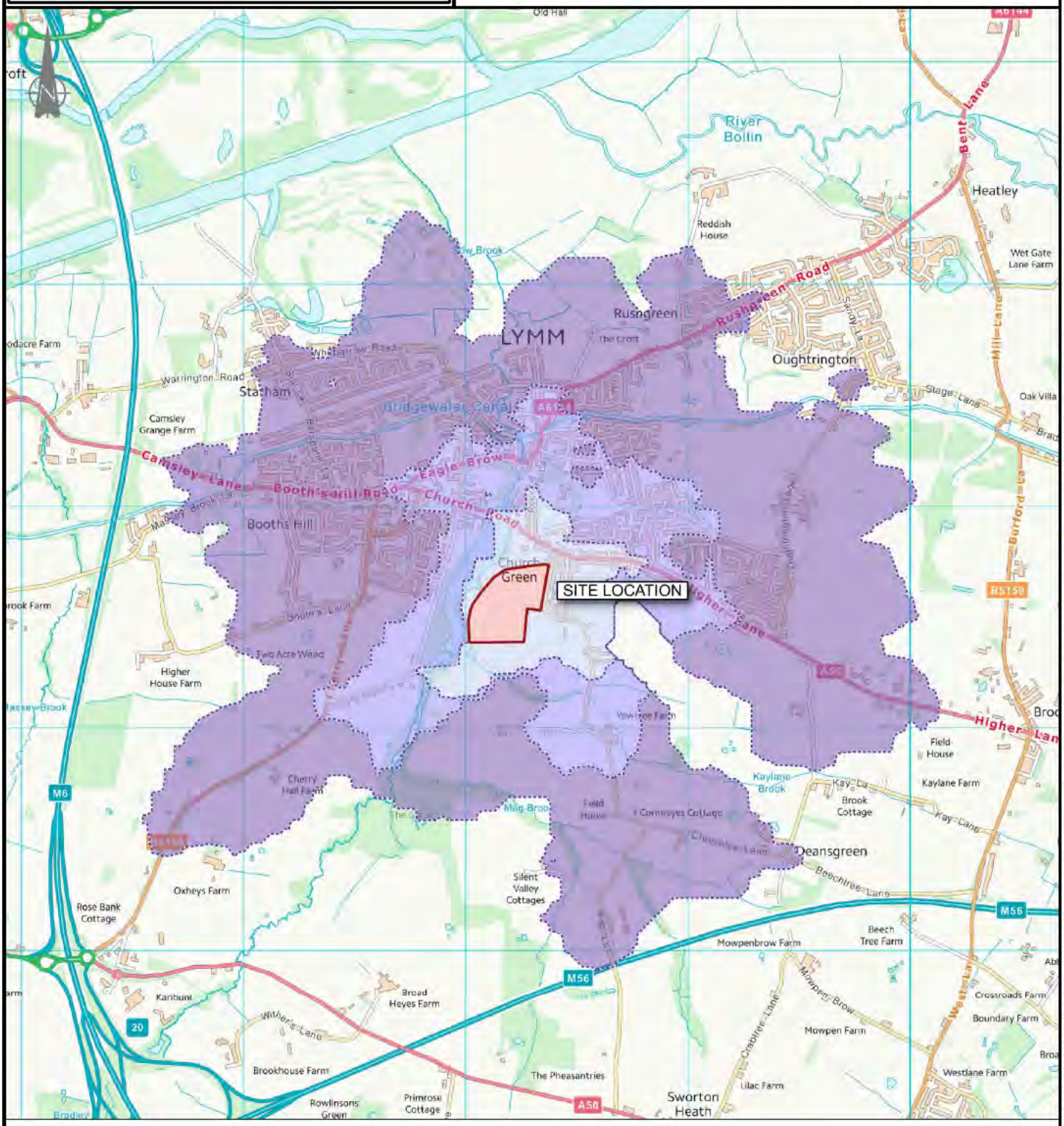
Drg Title:
ACCESSIBILITY
INDICATIVE WALKING CATCHMENT
CROUCHLEY LANE

Drawn By: JM | Checked By: LK

Designed By: JM | Date: 1708/17

Scale: NTS

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
66027	CUR	00	XX	DR	TP	06006	P01



KEY:

Site

Walking Catchment:

- 2000m
- 1000m
- 500m

\\mafs01\Projects\066001 - 067000\066027 - WBC Local Plan Site Promotions, Lymm\QMS 4 Production\4B Models & Drawings_Transport-ZCAD\06\Crouchley Lane\

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Project:
WBC SITE PROMOTIONS - LYMM

Drg Title:
ACCESSIBILITY
INDICATIVE CYCLE CATCHMENT
CROUCHLEY LANE

Status:
PRELIMINARY

Drawn By: JM Checked By: LK

Designed By: JM Date: 1708/17

Scale: NTS

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
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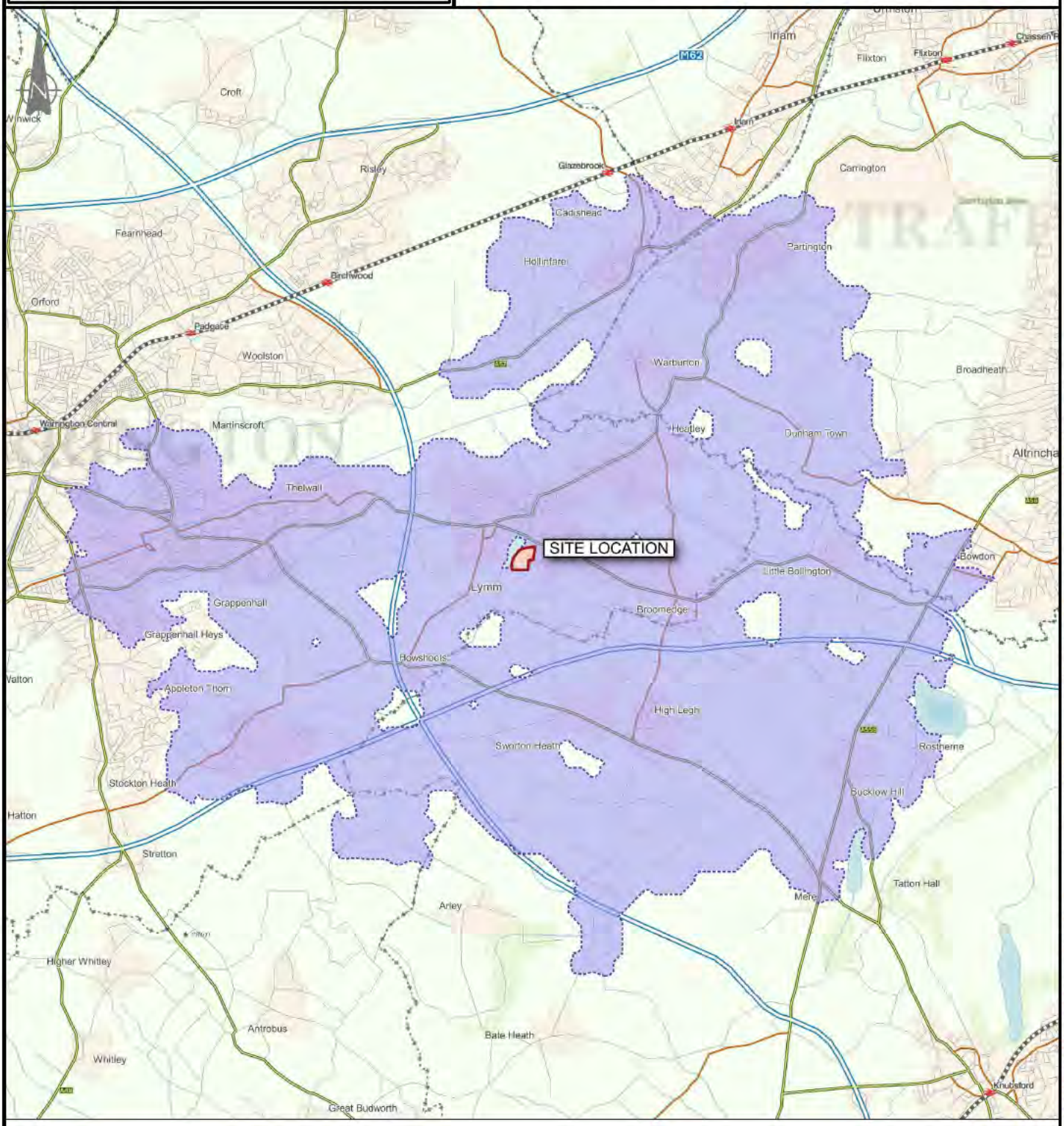

KEY: Site

Cycle Catchment:
8000m

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Project:
WBC SITE PROMOTIONS - LYMM

Status:
PRELIMINARY

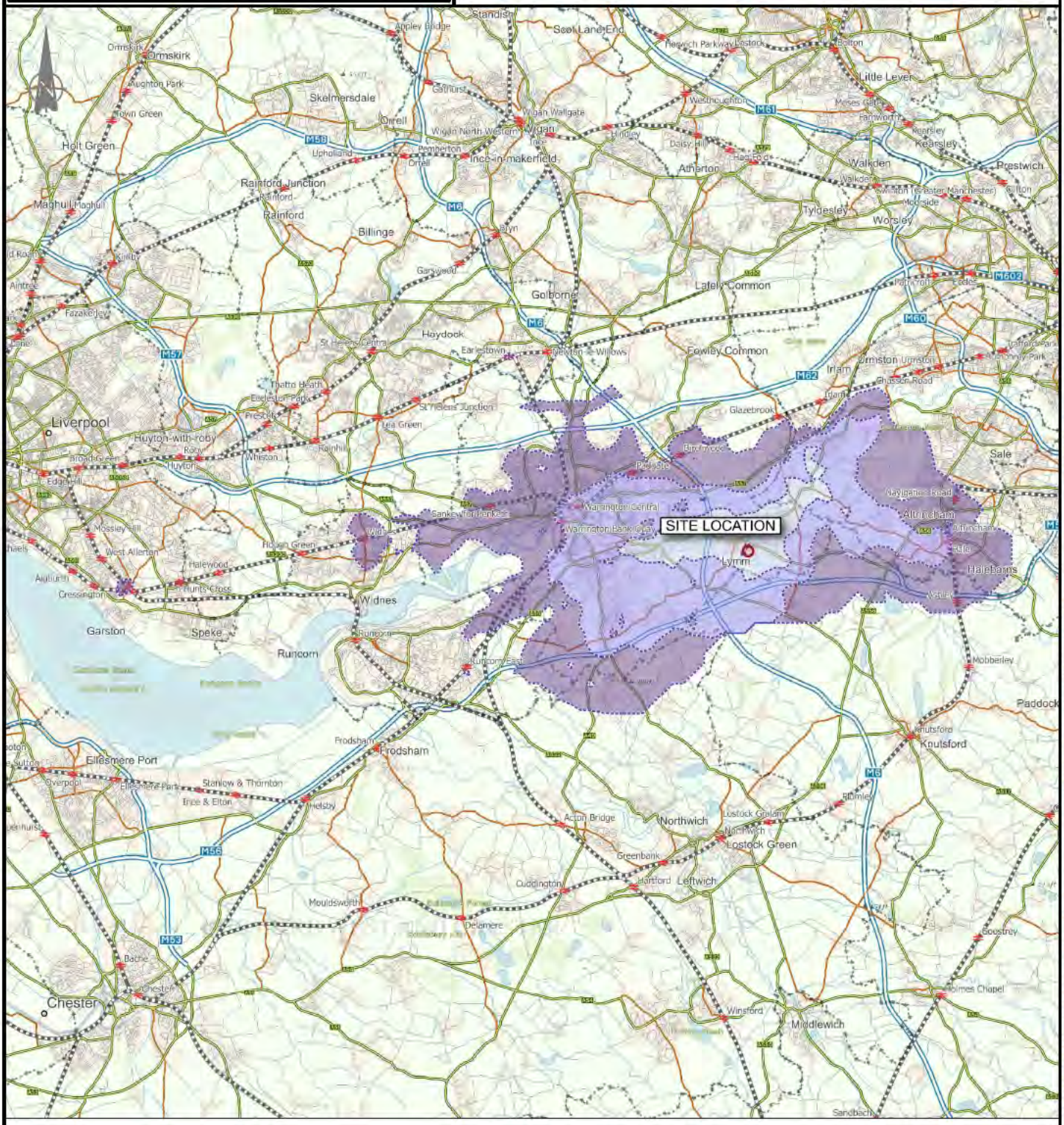
Drg Title:
ACCESSIBILITY
INDICATIVE PUBLIC TRANSPORT CATCHMENT - CROUCHLEY LANE

Drawn By: JM | Checked By: LK

Designed By: JM | Date: 17/08/17

Scale: NTS

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
66027	CUR	00	XX	DR	TP	06008	P01



KEY:

- Site
- Public Transport Catchment:
  - 60 minutes
  - 40 minutes
  - 20 minutes

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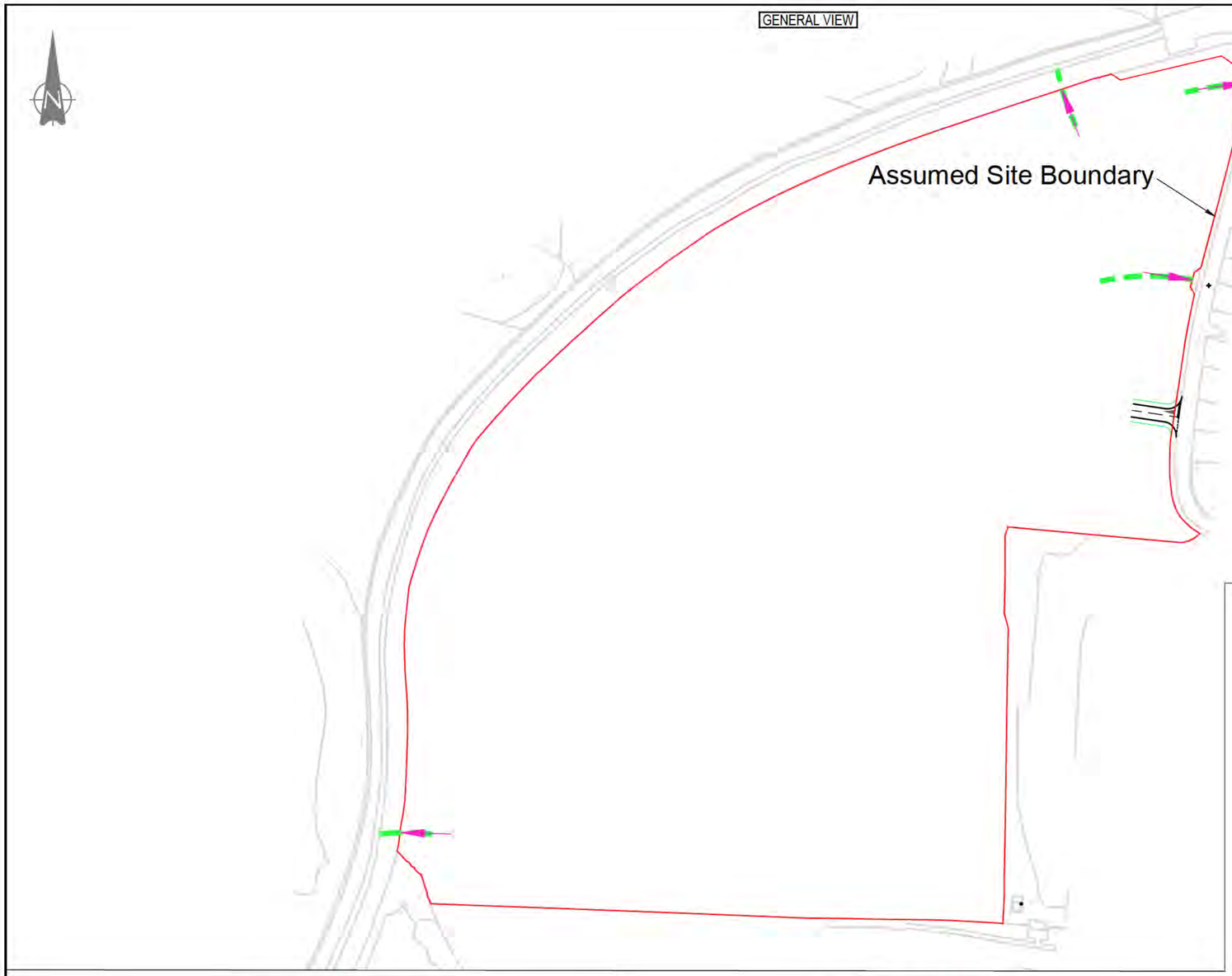
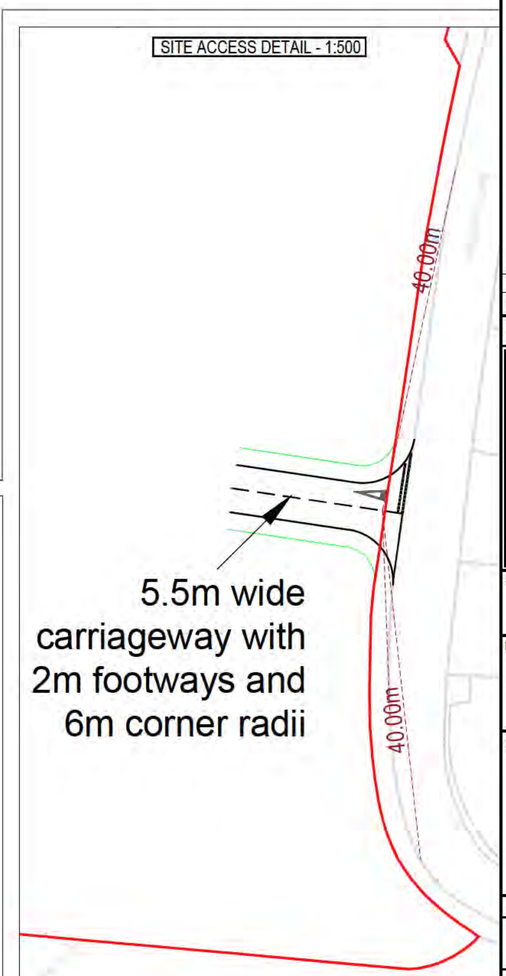
Drawings

GENERAL VIEW

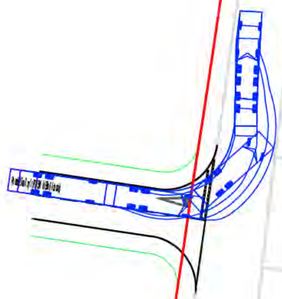


SITE ACCESS DETAIL - 1:500



SWEPT PATH - IN - 1:500

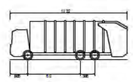
SWEPT PATH - OUT - 1:500



GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.
2. DO NOT SCALE THIS DRAWING. ANY AMBIGUITIES, OMISSIONS AND ERRORS ON DRAWINGS SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
4. FOR GENERAL NOTES REFER TO DRAWING.

VEHICLE PROF LE:



Phoenix 2 Duo Recycler (FZ-15W with Elite 6x4 chassis)

Overa l Length	11.220m
Overa l Width	2.530m
Overa l Body Height	3.736m
Min Body Ground Clearance	0.309m
Track Width	2.330m
Lock to lock time	4.06s
Kerb to Kerb Turning Radius	11.330m

KEY:

- PROPOSED KERB LINE
- PROPOSED FOOTWAY
- PROPOSED ROAD MARKINGS
- SITE BOUNDARY
- PROPOSED VISIBILITY SPLAYS
- POTENTIAL INTERNAL FOOT / CYCLEWAY ROUTE
- PEDESTRIAN/ CYCLE ACCESS LOCATION

REV	ISSUED	00/00/00	XXX	XXX
Rev:	Description:	Date:	By:	Chkd:

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Status:

PRELIMINARY

Project:

LAND OFF CROUCHLEY LANE, LYMM

Drg Title:

POTENTIAL SITE ACCESS STRATEGY

Project No:	Size:	Date:	Drawn By:	Designed By:	Checked By:
66027	A1	18/08/17	LK	LK	LK
	Scale: 1:1500 (unless stated)				

Project Code:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
66027	- CUR -	ZO -	LV -	DR -	D -	05003	-P01

P:\066001 - 067000\66027 - WBC Local Plan Site Promotions_Lymm\QMS 4 Production\4B Models & Drawings_Transport-Z\CAD\05\

Appendix A – TRICS Printouts

Calculation Reference: AUDIT-148301-170817-0811

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	HC	HAMPSHIRE	1 days
03	**SOUTH WEST**		
	DV	DEVON	2 days
04	**EAST ANGLIA**		
	NF	NORFOLK	1 days
05	**EAST MIDLANDS**		
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	2 days
	SY	SOUTH YORKSHIRE	1 days
09	**NORTH**		
	DH	DURHAM	1 days
11	**SCOTLAND**		
	FA	FALKIRK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 50 to 161 (units:)
Range Selected by User: 50 to 600 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 28/03/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	2 days
Wednesday	2 days
Thursday	1 days
Friday	2 days
Saturday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	11

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
20,001 to 25,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	9 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	10 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	11 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 **DH-03-A-01** **SEMI DETACHED** **DURHAM**
GREENFIELDS ROAD

BISHOP AUCKLAND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

2 **DV-03-A-02** **HOUSES & BUNGALOWS** **DEVON**
MILLHEAD ROAD

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 116
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

3 **DV-03-A-03** **TERRACED & SEMI DETACHED** **DEVON**
LOWER BRAND LANE

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

4 **FA-03-A-02** **MIXED HOUSES** **FALKIRK**
ROSEBANK AVENUE & SPRINGFIELD DRIVE

FALKIRK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 161
Survey date: WEDNESDAY *29/05/13* *Survey Type: MANUAL*

5 **HC-03-A-18** **HOUSES & FLATS** **HAMPSHIRE**
CANADA WAY

LIPHOOK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY *29/11/16* *Survey Type: MANUAL*

6 **NF-03-A-02** **HOUSES & FLATS** **NORFOLK**
DEREHAM ROAD

NORWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 98
Survey date: MONDAY *22/10/12* *Survey Type: MANUAL*

7 **NR-03-A-01** **HOUSES** **NORTHAMPTONSHIRE**
BOUGHTON GREEN ROAD
KINGSTHORPE
NORTHAMPTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 102
Survey date: SATURDAY *22/09/12* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

8 **NY-03-A-06** **BUNGALOWS & SEMI DET.** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

9 **NY-03-A-09** **MIXED HOUSING** **NORTH YORKSHIRE**
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: MONDAY *16/09/13* *Survey Type: MANUAL*

10 **SH-03-A-04** **TERRACED** **SHROPSHIRE**
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

11 **SY-03-A-01** **SEMI DETACHED HOUSES** **SOUTH YORKSHIRE**
A19 BENTLEY ROAD
BENTLEY RISE
DONCASTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.051	11	90	0.234	11	90	0.285
08:00 - 09:00	11	90	0.107	**11**	**90**	**0.309**	11	90	0.416
09:00 - 10:00	11	90	0.141	11	90	0.153	11	90	0.294
10:00 - 11:00	11	90	0.130	11	90	0.164	11	90	0.294
11:00 - 12:00	11	90	0.118	11	90	0.145	11	90	0.263
12:00 - 13:00	11	90	0.165	11	90	0.148	11	90	0.313
13:00 - 14:00	11	90	0.159	11	90	0.152	11	90	0.311
14:00 - 15:00	11	90	0.126	11	90	0.158	11	90	0.284
15:00 - 16:00	11	90	0.203	11	90	0.129	11	90	0.332
16:00 - 17:00	11	90	0.231	11	90	0.149	11	90	0.380
17:00 - 18:00	**11**	**90**	**0.310**	11	90	0.175	**11**	**90**	**0.485**
18:00 - 19:00	11	90	0.193	11	90	0.139	11	90	0.332
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.934			2.055			3.989

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.000	11	90	0.000	11	90	0.000
08:00 - 09:00	11	90	0.001	11	90	0.002	11	90	0.003
09:00 - 10:00	**11**	**90**	**0.006**	11	90	0.004	**11**	**90**	**0.010**
10:00 - 11:00	11	90	0.002	11	90	0.002	11	90	0.004
11:00 - 12:00	11	90	0.001	11	90	0.001	11	90	0.002
12:00 - 13:00	11	90	0.003	11	90	0.003	11	90	0.006
13:00 - 14:00	11	90	0.002	11	90	0.002	11	90	0.004
14:00 - 15:00	11	90	0.001	11	90	0.001	11	90	0.002
15:00 - 16:00	11	90	0.003	11	90	0.002	11	90	0.005
16:00 - 17:00	11	90	0.003	**11**	**90**	**0.005**	11	90	0.008
17:00 - 18:00	11	90	0.004	11	90	0.003	11	90	0.007
18:00 - 19:00	11	90	0.001	11	90	0.002	11	90	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.027			0.054

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.000	11	90	0.000	11	90	0.000
08:00 - 09:00	11	90	0.002	11	90	0.001	11	90	0.003
09:00 - 10:00	11	90	0.001	11	90	0.002	11	90	0.003
10:00 - 11:00	11	90	0.002	11	90	0.000	11	90	0.002
11:00 - 12:00	11	90	0.002	11	90	0.002	11	90	0.004
12:00 - 13:00	**11**	**90**	**0.003**	11	90	0.001	11	90	0.004
13:00 - 14:00	11	90	0.003	**11**	**90**	**0.005**	**11**	**90**	**0.008**
14:00 - 15:00	11	90	0.001	11	90	0.002	11	90	0.003
15:00 - 16:00	11	90	0.001	11	90	0.002	11	90	0.003
16:00 - 17:00	11	90	0.000	11	90	0.000	11	90	0.000
17:00 - 18:00	11	90	0.001	11	90	0.001	11	90	0.002
18:00 - 19:00	11	90	0.001	11	90	0.001	11	90	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.017			0.017			0.034

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.000	11	90	0.000	11	90	0.000
08:00 - 09:00	11	90	0.000	11	90	0.000	11	90	0.000
09:00 - 10:00	11	90	0.000	11	90	0.000	11	90	0.000
10:00 - 11:00	11	90	0.000	11	90	0.000	11	90	0.000
11:00 - 12:00	11	90	0.000	11	90	0.000	11	90	0.000
12:00 - 13:00	11	90	0.000	11	90	0.000	11	90	0.000
13:00 - 14:00	11	90	0.000	11	90	0.000	11	90	0.000
14:00 - 15:00	11	90	0.000	11	90	0.000	11	90	0.000
15:00 - 16:00	11	90	0.000	11	90	0.000	11	90	0.000
16:00 - 17:00	11	90	0.000	11	90	0.000	11	90	0.000
17:00 - 18:00	11	90	0.000	11	90	0.000	11	90	0.000
18:00 - 19:00	11	90	0.000	11	90	0.000	11	90	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.001	**11**	**90**	**0.014**	11	90	0.015
08:00 - 09:00	11	90	0.003	11	90	0.013	11	90	0.016
09:00 - 10:00	11	90	0.001	11	90	0.008	11	90	0.009
10:00 - 11:00	11	90	0.005	11	90	0.005	11	90	0.010
11:00 - 12:00	11	90	0.004	11	90	0.004	11	90	0.008
12:00 - 13:00	11	90	0.005	11	90	0.007	11	90	0.012
13:00 - 14:00	11	90	0.003	11	90	0.002	11	90	0.005
14:00 - 15:00	11	90	0.004	11	90	0.008	11	90	0.012
15:00 - 16:00	11	90	0.013	11	90	0.004	11	90	0.017
16:00 - 17:00	11	90	0.010	11	90	0.004	11	90	0.014
17:00 - 18:00	**11**	**90**	**0.017**	11	90	0.008	**11**	**90**	**0.025**
18:00 - 19:00	11	90	0.013	11	90	0.004	11	90	0.017
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.079			0.081			0.160

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.068	11	90	0.270	11	90	0.338
08:00 - 09:00	11	90	0.131	**11**	**90**	**0.423**	11	90	0.554
09:00 - 10:00	11	90	0.162	11	90	0.197	11	90	0.359
10:00 - 11:00	11	90	0.166	11	90	0.215	11	90	0.381
11:00 - 12:00	11	90	0.150	11	90	0.199	11	90	0.349
12:00 - 13:00	11	90	0.207	11	90	0.189	11	90	0.396
13:00 - 14:00	11	90	0.215	11	90	0.212	11	90	0.427
14:00 - 15:00	11	90	0.161	11	90	0.218	11	90	0.379
15:00 - 16:00	11	90	0.315	11	90	0.163	11	90	0.478
16:00 - 17:00	11	90	0.311	11	90	0.215	11	90	0.526
17:00 - 18:00	**11**	**90**	**0.418**	11	90	0.232	**11**	**90**	**0.650**
18:00 - 19:00	11	90	0.259	11	90	0.199	11	90	0.458
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.563			2.732			5.295

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.022	11	90	0.075	11	90	0.097
08:00 - 09:00	11	90	0.052	**11**	**90**	**0.187**	**11**	**90**	**0.239**
09:00 - 10:00	11	90	0.064	11	90	0.074	11	90	0.138
10:00 - 11:00	11	90	0.060	11	90	0.068	11	90	0.128
11:00 - 12:00	11	90	0.039	11	90	0.044	11	90	0.083
12:00 - 13:00	11	90	0.065	11	90	0.041	11	90	0.106
13:00 - 14:00	11	90	0.036	11	90	0.065	11	90	0.101
14:00 - 15:00	11	90	0.045	11	90	0.058	11	90	0.103
15:00 - 16:00	**11**	**90**	**0.141**	11	90	0.088	11	90	0.229
16:00 - 17:00	11	90	0.120	11	90	0.064	11	90	0.184
17:00 - 18:00	11	90	0.100	11	90	0.040	11	90	0.140
18:00 - 19:00	11	90	0.054	11	90	0.047	11	90	0.101
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.798			0.851			1.649

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.001	11	90	0.008	11	90	0.009
08:00 - 09:00	11	90	0.001	**11**	**90**	**0.018**	**11**	**90**	**0.019**
09:00 - 10:00	11	90	0.000	11	90	0.005	11	90	0.005
10:00 - 11:00	11	90	0.002	11	90	0.005	11	90	0.007
11:00 - 12:00	11	90	0.002	11	90	0.002	11	90	0.004
12:00 - 13:00	11	90	0.004	11	90	0.009	11	90	0.013
13:00 - 14:00	11	90	0.004	11	90	0.001	11	90	0.005
14:00 - 15:00	11	90	0.003	11	90	0.004	11	90	0.007
15:00 - 16:00	11	90	0.006	11	90	0.006	11	90	0.012
16:00 - 17:00	11	90	0.009	11	90	0.004	11	90	0.013
17:00 - 18:00	**11**	**90**	**0.013**	11	90	0.002	11	90	0.015
18:00 - 19:00	11	90	0.012	11	90	0.000	11	90	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.057			0.064			0.121

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL RAIL PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.000	**11**	**90**	**0.014**	**11**	**90**	**0.014**
08:00 - 09:00	11	90	0.000	11	90	0.004	11	90	0.004
09:00 - 10:00	11	90	0.000	11	90	0.002	11	90	0.002
10:00 - 11:00	11	90	0.000	11	90	0.001	11	90	0.001
11:00 - 12:00	11	90	0.000	11	90	0.001	11	90	0.001
12:00 - 13:00	11	90	0.000	11	90	0.001	11	90	0.001
13:00 - 14:00	11	90	0.000	11	90	0.000	11	90	0.000
14:00 - 15:00	11	90	0.001	11	90	0.001	11	90	0.002
15:00 - 16:00	11	90	0.000	11	90	0.003	11	90	0.003
16:00 - 17:00	11	90	0.001	11	90	0.000	11	90	0.001
17:00 - 18:00	11	90	0.006	11	90	0.000	11	90	0.006
18:00 - 19:00	**11**	**90**	**0.009**	11	90	0.001	11	90	0.010
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.017			0.028			0.045

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Parameter summary

Trip rate parameter range selected:	50 - 161 (units:)
Survey date date range:	01/01/09 - 28/03/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL COACH PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.000	11	90	0.000	11	90	0.000
08:00 - 09:00	11	90	0.000	11	90	0.000	11	90	0.000
09:00 - 10:00	11	90	0.000	11	90	0.000	11	90	0.000
10:00 - 11:00	11	90	0.000	11	90	0.000	11	90	0.000
11:00 - 12:00	11	90	0.000	11	90	0.000	11	90	0.000
12:00 - 13:00	11	90	0.000	11	90	0.000	11	90	0.000
13:00 - 14:00	11	90	0.000	11	90	0.000	11	90	0.000
14:00 - 15:00	11	90	0.000	11	90	0.000	11	90	0.000
15:00 - 16:00	11	90	0.000	11	90	0.000	11	90	0.000
16:00 - 17:00	11	90	0.000	11	90	0.000	11	90	0.000
17:00 - 18:00	11	90	0.000	11	90	0.000	11	90	0.000
18:00 - 19:00	11	90	0.000	11	90	0.000	11	90	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Trip rate parameter range selected:	50 - 161 (units:)
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Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.001	**11**	**90**	**0.022**	**11**	**90**	**0.023**
08:00 - 09:00	11	90	0.001	11	90	0.022	11	90	0.023
09:00 - 10:00	11	90	0.000	11	90	0.007	11	90	0.007
10:00 - 11:00	11	90	0.002	11	90	0.006	11	90	0.008
11:00 - 12:00	11	90	0.002	11	90	0.003	11	90	0.005
12:00 - 13:00	11	90	0.004	11	90	0.010	11	90	0.014
13:00 - 14:00	11	90	0.004	11	90	0.001	11	90	0.005
14:00 - 15:00	11	90	0.004	11	90	0.005	11	90	0.009
15:00 - 16:00	11	90	0.006	11	90	0.009	11	90	0.015
16:00 - 17:00	11	90	0.010	11	90	0.004	11	90	0.014
17:00 - 18:00	11	90	0.019	11	90	0.002	11	90	0.021
18:00 - 19:00	**11**	**90**	**0.021**	11	90	0.001	11	90	0.022
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.074			0.092			0.166

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Parameter summary

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Number of weekdays (Monday-Friday):	10
Number of Saturdays:	1
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	90	0.092	11	90	0.382	11	90	0.474
08:00 - 09:00	11	90	0.186	**11**	**90**	**0.646**	11	90	0.832
09:00 - 10:00	11	90	0.227	11	90	0.286	11	90	0.513
10:00 - 11:00	11	90	0.233	11	90	0.294	11	90	0.527
11:00 - 12:00	11	90	0.195	11	90	0.250	11	90	0.445
12:00 - 13:00	11	90	0.281	11	90	0.248	11	90	0.529
13:00 - 14:00	11	90	0.258	11	90	0.279	11	90	0.537
14:00 - 15:00	11	90	0.214	11	90	0.288	11	90	0.502
15:00 - 16:00	11	90	0.475	11	90	0.264	11	90	0.739
16:00 - 17:00	11	90	0.451	11	90	0.286	11	90	0.737
17:00 - 18:00	**11**	**90**	**0.555**	11	90	0.282	**11**	**90**	**0.837**
18:00 - 19:00	11	90	0.347	11	90	0.251	11	90	0.598
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.514			3.756			7.270

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Civic Engineers

Job Title
926-01 – Crouchley Lane, Lymm

Prepared for
Stamford Property Holdings

Report Type
Preliminary Site Constraints Report

Date
23rd August 2017

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Appendix B – Historical maps

Appendix C – Site Sensitivity Maps

Appendix D – Underground Utilities Search

Prepared by	[redacted]
Reviewed by	
Civic Job No.	926/01
Issued	23/08/17
Revised	

1. Introduction

1.1 Purpose of Report

The following report, by Civic Engineers, is to identify any constraints to development of a greenfield site located within the Greenbelt into residential dwellings.

This report is prepared for the exclusive use of Civic Engineers and our client, Stamford Property Holdings. All comments and conclusions in this report are based upon the assumption that the sourced data is reliable. Civic Engineers accepts no liability for any inaccurate conclusions or assumptions resulting from inaccurate information.

1.2 Site Location

The subject site is located at Crouchley Lane on the outskirts of Lymm, Cheshire (Figure 1 below) and is bounded to the north by a public footpath and woodland, to the east by Crouchley Lane and the grounds to Lymm Rugby Club, to the south by playing fields and to the west by a continuation of the public footpath and Lymm Dam (figure 2 below).

The site is currently used as farmer's fields for cattle grazing.

Figure 1: Site location

Figure 2 – Site boundary

1.3 Site History

The earliest historical map of the site is dated 1875-1876 and shows the site to be predominantly greenfield and grounds associated with Beechwood Hall, which is situated in the location of the current rugby club to the east of the development site. A larger pond or water feature is shown within the south-east boundary of the site, with a further, smaller pond shown to the east boundary. Though unmarked, Lymm Dam is shown to the west of the site with a boat house on the banks of the water on the site boundary side. A woodland and lodge building is shown to the north east within the site boundary.

The 1898 map shows a similar configuration, though Lymm Dam, previous unmarked, is noted as Top Dam with a sluice identified to the south-west of the site.

The site remains unchanged in the main until the 1937 (partial) map where train tracks are shown to the north and north-west of the site in the line and location of the current footpath.

The 1968 map shows the above mentioned tracks more defined, and tree-lined and the conversion of Beechwood Hall to the current rugby club is also noted. The land beyond the fields immediately south of the site boundary is noted as a reservoir for the first time, though this appears to have been present in a similar arrangement since the first (1875-76) map.

Little change is shown until the 1983 map whereby the development site is noted as playing fields, assumed to be associated with the adjacent rugby club (formerly Beechwood Hall).

The 1989-1992 map shows the previously identified reservoir beyond the southern boundary of the development site to be identified as a pond and marsh and has clearly reduced in scale from previous

maps suggesting this is no longer active. The previously identified railway tracks are now noted as path, though it is unclear of the extract date period of when this change occurred.

An aerial photograph of the site, from 2000, is available and shows the site to be used as farmland with a number of scattered trees throughout. Evidence of depressions associated with the previously identified ponds are evident. The site appears to have remained in this configuration until present day, though a further depression to the north-west boundary of the site is evident.

2. Site Constants

2.1 Ground Water Vulnerability

The ground water vulnerability map shows the site to be located, predominantly, over a non-aquifer, however, a portion of the site to the north sits over a major and principle aquifer and is considered to fall within a 'source protection zone'.

2.2 Anticipated Ground Conditions

Interpolation of historical borehole log data in the vicinity of the site, taken from the British Geological Survey records, suggests the site has approximately 0.5m of top soil underlain by approximately 0.4m to 1.6m of clayey sand, becoming dense sand, which is anticipated to be underlain by sandstone bedrock. The historical boreholes available terminate at a depth of 2.6m below ground level, though the records suggest the borehole investigation is likely to be approaching the sandstone bedrock at this depth.

The areas identified on historic maps, and visible on current aerial photographs of the site, as depressions and ponds/water features, are likely to pose a soft spot and backfill material. It is recommended these areas are investigated further via an intrusive ground investigation.

2.3 Site Sensitivity and Soil Geochemistry

Soil geochemistry maps from the Envirocheck report estimates slightly elevated concentration values of heavy metals (arsenic, chromium and nickel), though all figures fall below the CLEA guideline value (SGV) mg/kg for residential use.

2.4 Existing Utilities Search

Findings from the utilities maps search show that gas mains, water supply mains, BT fibre, LV electric mains and Virgin cable are all present below Crouchley Lane to the east of the proposed development site.

The nearest public sewer is suggested to be a combined sewer below private rear gardens to the dwellings along the opposite side of Crouchley Lane to the east of the development site.

The utilities maps suggest no existing services are within, or cross, the development site boundary.

2.5 Site Flood Risk

The site location falls outside of the Environment Agency's flood risk zones (considered flood zone 1) and is therefore not prone to flooding from rivers or sea.

Lymm Dam to the west and a small watercourse shown to the south of the site boundary, are shown to have a low to medium risk (100 year return) of flooding from surface water, though the extent of flooding does not appear to extend into the development site.

2.6 Coal Mining Risk

A search of the Coal Authority database has highlighted that the development site is considered in an area that is on a coalfield, though the risk of past coal mining below the site is not known at this stage.

3. Considerations for Development

3.1 Site Constraints

Section 2 of this report outlines potential constraints to development existing within, or at, the site boundary.

Typically, the geology of the site would suggest shallow foundations would be suitable, though this will be subject to a detailed, intrusive, and site/development specific, ground investigation being undertaken. The historical maps , and current aerial photography of the site suggest ponds or water features have, or currently exist, on the site, and it is likely these features will pose 'soft spots' in the geology and require local deeper foundation solutions. The backfilled material to these features may also pose a local risk of contaminated material or generation of ground gases.

The Coal Authority database search has suggested the site sits within a known area of coalfield. It is recommended that a consultants report is obtained that will determine whether the site is considered to be 'at risk' of past coal mining activity.

3.2 Surface Water Drainage Strategy

The site is a greenfield site, bounded on all sides by hedges, vegetation and woodland, private land of the neighbouring rugby club, or public highway to the east. There is no known existing formal drainage to the site and overland surface drainage follows the existing topography of the site and is anticipated to flow to the west of the site to the adjacent Lymm Dam or to the south of the site to an existing small watercourse.

The geological and historical borehole records consulted in section 2.2 of this report would suggest that infiltration/soakaway methods are not feasible means of disposal of surface water due to the presence of non-permeable strata at shallow depth.

There is a known watercourse in the immediate vicinity of the site (to the south and west boundary). The site previously had, and is suspected to still have, a small pond central to the site and at the north-west boundary, however the depth and size of these features are not currently known.

There is no separate surface water drainage network in the vicinity of the site and the nearest combined public sewer is apparent below private rear gardens to the dwellings along the opposite side of Crouchley Lane to the east of the development site.

Based on the constraints described above it is proposed, if proven accessible, to discharge surface water run-off from the site (plot drainage, private driveways and shared surface highways) to the identified watercourses to the south and/or west of the site, subject to agreement from the

Environment Agency, with the remaining runoff (from traditional highway drainage) into the combined sewer. Any new connection to the public sewer would be subject to agreement with United Utilities.

The scale and layout of any proposed development is not currently known, and therefore, it is not possible to determine discharge rates or attenuation volumes for the site. However, the drainage system and ground levels should be designed such that:

- unless an area is designed to hold and/or convey water, flooding does not occur on any part of the site for a 1 in 30-year rainfall event.

- flooding does not occur during a 1 in 100-year storm event (including 40% increase to allow for the anticipated impacts of climate change in any part of a building or in any utility plant susceptible to water (e.g. pumping station or electricity substation) within the development.

- flows resulting from rainfall in any event exceeding the 1 in 100-year rainfall event are managed in exceedance routes to minimise as far as practicable the risk of flooding to people and property both on and off site.

3.3 Foul Water Drainage Strategy

Foul drainage will discharge to the combined sewer as identified to the east of the proposed residential development site. The route, and associated point of connection, will be established following CCTV investigation and is subject to agreement with United Utilities.

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926-01 — Crouchley Lane, Lymm

Site Constraints Key Map

Landscape Analysis

Land off Crouchley Lane, Lymm

Stamford Property Holdings

September 2017

URBAN GREEN

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1. Introduction and Scope of Assessment

1.1. This report provides a landscape and visual analysis of land off Crouchley Lane, south of Lymm, Warrington, which is being promoted by Stamford Property Holdings for residential-led development. The site – referred to below as the 'assessment site' – is shown in Appendix 3 **Plan 1**, and is located to the south of the settlement of Lymm.

1.2. Urban Green were commissioned in August 2017 by Paul Butler Associates to undertake this landscape and visual analysis.

1.3. Prior to the field work a desk review of existing and emerging planning policy and landscape character guidance relevant to the assessment site and surrounding area was undertaken. This report does not consider the full range of planning policy considerations, only those which are relevant to the landscape and visual considerations.

1.4. The landscape and visual analysis was prepared following site visits in August 2017. This assessment describes and evaluates the change to the landscape and visual amenity, the extent to which these affect perception and views of the landscape and also considers the effect(s) of the proposed development on the setting of listed buildings in proximity to the proposed development.

1.5. Landscape character and visual assessment, although closely related to one another, have been considered separately for reasons of clarity and robustness.

1.6. Within this report, the landscape and visual baseline environment of the Site and its surroundings are established and mitigation measures described. Taking these measures into account, the effects of the development are then predicted. This report focuses on the significant effects predicted to arise from the development.

1.7. This report is structured as follows:

a. Section 2 summarises the relevant parts of planning policy in respect of landscape and visual considerations.

b. Section 3 deals with the baseline; in respect of the landscape baseline, it identifies published documents on local landscape character, and adds supplemental points based on site visits to the area surrounding the assessment site; and sets out a description of the visual baseline.

c. Sections 4 and 5 set out an assessment of the landscape and visual effects of the proposed development;

d. Section 6 sets out the potential effects on the purposes for the Green Belt designation

e. Section 7 sets out the landscape strategy for the site and an overall conclusion.

2. Landscape Planning Policy Context

National Planning Policy Framework

2.1. National planning policy for England is defined within the National Planning Policy Framework (herein referred to as the NPPF) that has distilled the content of previous Planning Policy Statements into one comprehensive document. The NPPF is the relevant national planning policy document against which to test the proposals.

General Considerations

2.2. As a central theme, the NPPF has a presumption in favour of sustainable development (para. 14) for which it defines three mutually interdependent dimensions of sustainability (para. 7) to be jointly sought (economic, social and environmental). With relevance to landscape and visual matters the third dimension states:

"*an environmental role – contributing to protecting and enhancing our natural, built and historic environment;….*"

2.3. The planning system is identified as the vehicle for guiding development to sustainable solutions and seeking positive improvements in the quality of built, natural and historic environments based on local circumstances (para. 10, author's emphasis).

Core Principles

2.4. Paragraph 17 lists the 12 core planning principles that should underpin planning decisions. Of these, the following are considered pertinent to landscape and visual amenity:

(5th) take account of the different roles and character of different areas, promoting the vitality, main urban areas…. Recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it.

(7th) contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework.

(10th) conserve heritage assets in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of this and future generations." (NPPF, para. 17).

Section 11 (Conserving and enhancing the natural environment)

2.5. This section of the NPPF identifies a requirement in favour of protecting and enhancing valued landscapes (para 109) by focussing development on land of least environmental or amenity value (para 110).

2.6. As listed in the NPPF, these valued landscapes are defined as:

- Sites of Special Scientific Interest;
- Land designated as Green Belt;
- Local Green Space;

- Area of Outstanding Natural Beauty;
- Heritage Coast; and
- National Parks

2.7. The site and the surrounding landscape fall within the Green Belt, and this is described in further detail in Section 6.

Local Landscape Policy

2.8. We have briefly outlined the key policies that relate to landscape and visual matters below.

Adopted Policy

2.9. Section 38(6) of the Planning and Compulsory Purchase Act 2004 places a requirement upon Authorities when determining planning applications to do so in accordance with the adopted Development Plan unless material considerations indicate otherwise.

2.10. The adopted policies of the Local Plan comprises of the following document:

- Warrington Local Plan Core Strategy (adopted July 2014)

2.11. The relevant policies within the above noted documents are as follows:

Policy CS 5 - Green Belt

Policy CS 5

Overall Spatial Strategy - Green Belt

The Council will maintain the general extent of the Green Belt for as far as can be seen ahead and at least until 2032, in recognition of its purposes:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns from merging into one another;
- to assist in safeguarding the countryside from encroachment; and
- to assist in urban regeneration by encouraging the recycling of derelict and other urban land.

The boundaries of the Green Belt in Warrington, which is contiguous with the Green Belt in Merseyside, Greater Manchester, and North Cheshire, are shown on the Policies Map.

The strategic locations and proposals set out in Policy CS2 - Quantity and Distribution of Development provide for significant growth throughout and beyond the plan period. There is therefore no need to review Strategic Green Belt boundaries during the plan period.

A minor detailed change to the approved Green Belt boundary in the Warrington Unitary Development Plan has been made at Bents Garden Centre, Glazebury.

Development Proposals within the Green Belt will be approved where they accord with relevant national policy.

Policy QE 5

Biodiversity and Geodiversity

The Council will work with partners to protect and where possible enhance sites of recognised nature and geological value. These efforts will be guided by the principles set out in National Planning Policy and those which underpin the strategic approach to the care and management of the borough's Green Infrastructure in its widest sense.

Sites and areas recognised for their nature and geological value are shown on the Policies Map and include:

- European Sites of International Importance
- Sites of Special Scientific Interest
- Regionally Important Geological Sites
- Local Nature Reserves
- Local Wildlife Sites
- Wildlife Corridors

The specific sites covered by the above designations at the time of publication are detailed in Appendix 3.

Proposals for development which may affect **European Sites of International Importance** will be subject to the most rigorous examination in accordance with the Habitats Directive. Development or land use change not directly connected with or necessary to the management of the site and which is likely to have significant effects on the site (either individually or in combination with other plans or projects) and which would affect the integrity of the site, will not be permitted unless the Council is satisfied that;

- there is no alternative solution; and
- there are imperative reasons of over-riding public interest for the development or land use change.

Proposals for development in or likely to affect **Sites of Special Scientific Interest (SSSI)** will be subject to special scrutiny. Where such development may have an adverse effect, directly or indirectly, on the SSSI it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.

Proposals for development likely to have an adverse effect on **regionally and locally designated sites** will not be permitted unless it can be clearly demonstrated that there are reasons for the development which outweigh the need to safeguard the substantive nature conservation value of the site or feature.

Proposals for development which may adversely affect the integrity or continuity of **UK Key habitats or other habitats of local importance**, or adversely affect **EU Protected Species**, **UK Priority Species or other species of local importance**, or which are the subject of **Local Biodiversity Action Plans** will only be permitted if it can be shown that the reasons for the development clearly outweigh the need to retain the habitats or species affected and that mitigating measures can be provided which would reinstate the habitats or provide equally viable alternative refuge sites for the species affected.

All development proposals affecting protected sites, wildlife corridors, key habitats or priority species (as identified in Local Biodiversity Action Plans) should be accompanied by information proportionate to their nature conservation value including;

- a site survey where necessary to identify features of nature and geological conservation importance; an assessment of the likely impacts of the proposed development proposals for the protection and management of features identified for retention;
- an assessment of whether the reasons for the development clearly outweigh the nature conservation value of the site, area or species; and
- proposals for compensating for features damaged or destroyed during the development process

Where development is permitted, the Council will consider the use of conditions or planning obligations to ensure the protection and enhancement of the site's nature conservation interest and/or to provide appropriate compensatory measures.

Policy QE6 - Environment and Amenity Protection

Policy QE 6

Environment and Amenity Protection

The Council, in consultation with other Agencies, will only support development which would not lead to an adverse impact on the environment or amenity of future occupiers or those currently occupying adjoining or nearby properties, or does not have an unacceptable impact on the surrounding area. The Council will take into consideration the following:

- The integrity and continuity of tidal and fluvial flood defences;
- The quality of water bodies, including canals, rivers, ponds and lakes;
- Groundwater resources in terms of their quantity, quality and the ecological features they support;
- Land quality;
- Air quality;
- Noise and vibration levels and times when such disturbances are likely to occur;
- Levels of light pollution and impacts on the night sky;
- Levels of odours, fumes, dust, litter accumulation and refuse collection / storage.
- The need to respect the living conditions of existing neighbouring residential occupiers and future occupiers of new housing schemes in relation to overlooking/loss of privacy, outlook, sunlight, daylight, overshadowing, noise and disturbance;
- The effect and timing of traffic movement to, from and within the site and car parking including impacts on highway safety;
- The ability and the effect of using permitted development rights to change use within the same Use Class (as set out in the in the Town and Country Planning (General Permitted Development Order) without the need to obtain planning consent.

Proposals may be required to submit detailed assessments in relation to any of the above criteria to the Council for approval.

Where development is permitted which may have an impact on such considerations, the Council will consider the use of conditions or planning obligations to ensure any appropriate mitigation or compensatory measures are secured.

Development proposals on land that is (or is suspected to be) affected by contamination or ground instability or has a sensitive end use must include an assessment of the extent of the issues and any possible risks. Development will only be permitted where the land is, or is made, suitable for the proposed use.

Additional guidance to support the implementation of this policy is provided in the Design and Construction and Environmental Protection Supplementary Planning Documents.

Policy QE7 – Ensuring a High Quality Place

Policy QE 7

Ensuring a High Quality Place

The Council will look positively upon proposals that are designed to;

- be sustainable, durable, adaptable and energy efficient;
- create inclusive, accessible and safe environments;
- function well in relation to existing patterns of movement and activity;
- reinforce local distinctiveness and enhance the character, appearance and function of the street scene, local area and wider townscape;
- harmonise with the scale, proportions and materials of adjacent and / or existing buildings;
- maintain and respect the landscape character and, where appropriate, distinctiveness of the surrounding countryside;
- use the density and mix of development to optimise the potential of the site without damaging the character of the area; and
- be visually attractive as a result of good architecture and the inclusion of appropriate public space.

Developers will be encouraged to engage with neighbourhoods and communities in developing design solutions. Where appropriate, developments should harness the imagination and creative skills of artists and urban designers in the design process to create distinctive urban environments.

The Council will promote design excellence in new housing developments and will use accepted environmental standards such as Building for Life and the Code for Sustainable Homes to evaluate the design quality of all proposals for major residential development within the borough.

Additional guidance to support the implementation of this policy is provided in the Design and Construction Supplementary Planning Document.

Policy QE8 – Historic Environment

Policy QE 8

Historic Environment

The Council will ensure that the fabric and setting of heritage assets, as set out below, are appropriately protected and enhanced in accordance with the principles set out in National Planning Policy.

- Scheduled Monuments
- Listed Buildings
- Conservation Areas
- Areas of known or potential Archaeological Interest
- Locally Listed Heritage Assets

The Council and its partners will aim to recognise the significance and value of historic assets by identifying their positive influence on the character of the environment and an area's sense of place; their ability to contribute to economic activity and act as a catalyst for regeneration; and their ability to inspire the design of new development.

Heritage Assets such as buildings, structures and sites which are valued as good examples of local architectural styles or for their historic associations, are included on a local list produced by the Council. The buildings, structures and sites included on this list are detailed in Appendix 4.

To be included on the local list, an asset should be substantially unaltered and retain the majority of its original features and either:

1. be a good example of a particular local asset type, craftsmanship, architectural quality, style or detailing, or
2. display physical evidence of periods of local economic, technical or social significance, well-known local people or historic events

Development proposals which affect the character and setting of all heritage assets will be required to provide supporting information proportionate to the designation of the asset which;

- adopts a strong vision of what could be achieved which is rooted in an understanding of the asset's significance and value, including its setting;
- avoids the unnecessary loss of and any decay to the historic fabric which once lost cannot be restored;
- recognises and enhances the asset's contribution to the special qualities, local distinctiveness and unique physical aspects of the area;
- fully accords with the design principles outlined elsewhere within the Local Planning Framework;
- includes suitable mitigation measures, including an appropriate desk-based assessment and where necessary field evaluation and publication, for areas with known or potential archaeological interest.
- ensures the knowledge and understanding of the historic environment is available for this and future generations. The evidence arising from any investigations should be publicly accessible through the Historic Environment Record and the local museum.

Applications for new development will also be required to take all reasonable steps to retain and incorporate non-statutorily protected heritage assets contributing to the quality of the borough's broader historic environment.

2.12. The adoption of parts of the Warrington Local Plan Core Strategy was met with a High Court Challenge in February 2015, with the decision ordering removal of elements of Housing policies from the Local Plan. As part of this process, the Council have undertaken a Call for Sites exercise in October 2016, in which the site was included.

3. Baseline

The Landscape Baseline - Landscape Character

3.1. Landscape assessment is based on an evaluation of the sensitivity of the existing landscape and the magnitude of change associated with the introduction of the development into the landscape resource.

3.2. The landscape of the area has been studied at various scales and there are landscape character assessment publications available at national and county levels. This study has reviewed the findings of these publications.

3.3. At the broadest scale the landscape of the area falls into National Character Area (NCA) 60: Mersey Valley.

3.4. At County level the document: A landscape character appraisal of Warrington provides a finer grain landscape character assessment. This document places the site in the landscape character type 3: Red Sandstone Escarpment, sub-type C: Lymm.

3.5. Some key characteristics recorded for the Red Sandstone Escarpment character type, sub-type C: Lymm within the NCA60: Mersey Valley national character area are:

- Smaller scale, more intimate rural landscape
- Luxuriant hedgerow trees with diverse range of species
- Rolling landscape
- Restricted views

3.6. The site of the proposed development is not subject to any landscape designations. The site is designated as Green Belt, though this is not strictly considered a landscape designation.

Local Landscape Character

3.7. At a local level, the character of the assessment site is one heavily influenced by the current use as pastoral land, with large scale fields. The western and northwest boundary to the site is formed by a tall, dense treeline associated with the fringe of Lymm Dam, which provides a strong visual buffer to views from the west. To the immediate east of the site lie residential properties along Crouchley Lane, which represent the southern extent of the Lymm settlement boundary. To the south east lies Lymm Rugby Club, beyond which lies open land currently in agricultural use and designated as Green Belt. This is also true for the open land located to the south and south west of the site. The boundaries to the site comprise a combination of boundary treatments including post and wire fencing, post and rail fencing, hedgerow trees, and stone walling associated with the boundary with Crouchley Lane.

3.8. Landscape and Heritage designations that lie within 1km of the site include the following:

- A total of 29 Listed Buildings are located within 1 km of the site;
- Lymm Conservation area is located immediately adjacent to the site;

- 'Lymm Hall Moated Site and Ice House' and 'Two Cockpits 125m west of Lymm Hall' Scheduled Monuments are located approximately 290m and 330m to the north of the site respectively.

3.9. The assessment site falls within an area designated as Green Belt land.

3.10. No other National or Regional landscape or heritage designations are found within 2 km of the site.

Land Use

3.11. The assessment site is currently utilised as open pastoral farmland.

Topography

3.12. The assessment site is generally very flat, at approximately +42m AOD towards the south west, and +53m AOD to the north east of the site.

Vegetation

3.13. The entirety of the assessment site comprises pastoral field grassland, with occasional mature trees located throughout the site and along its boundaries. Intermittent outgrown hedgerow trees in and other vegetation is also located along the site boundaries.

Water Features

3.14. There are no permanent water features located on site, although a depression towards the western boundary occasionally holds water after rainfall.

Built Elements and Designations

3.15. Built elements on site are currently reserved to the boundaries. These include a combination of post and wire and post and rail fencing along the southern, south western, south eastern, northern and north western boundaries, and stone walling along the eastern boundary with Crouchley Lane. Occasional metal access gates are also present along the site boundaries, particularly to the east.

3.16. There are 29 listed buildings and 2 Scheduled Monuments within 1km of the assessment site, and Lymm Conservation Area abuts the site's western and north western boundaries. The land is also designated as Green Belt.

Public Rights of Way

3.17. There are no public rights of way within the site itself, although there are a total of 12 Footpaths located within 1km of the site. The closest, Footpath WG/Lymm/40 runs parallel to the western and north western site boundaries, alongside Lymm Dam.

Landscape Designations

National level landscape designations

3.18. The following are the three national level landscape designations that mark the intrinsic landscape quality of an area and actively seek to manage the conservation and enhancement of these areas:

- National Park;
- Area of Outstanding Natural Beauty;
- Heritage Coast

3.19. None of these designations apply to the site or its surrounding area.

Registered Park and Gardens

3.20. Registered Parks and Gardens (RPGs) are listed in the English Heritage 'Register of Historic Parks and Gardens of special historic interest in England'. There are no Registered Parks and Gardens identified within 2km of the proposed development.

The Visual Baseline

3.21. The appraisal commences with the identification of representative visual receptors.

3.22. A Summary table of key visual receptors and key views is presented below.

Table 1: Photograph locations

Photograph Number	Description	Representative Receptor Type	Distance & Direction from Proposed Development
1	On northern site boundary, close to car park	Footpath WG/Lymm/40; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site	~0m to the north
2	Footpath WG/Lymm/40, close to south western site boundary	Footpath WG/Lymm/40; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site	~25m to south west
3	Footpath WG/Lymm/40, close to western site boundary	Footpath WG/Lymm/40; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site	~5m to the north west
4	Footpath WG/Lymm/4 (centre)	Footpath WG/Lymm/4; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site	~165m to the west

Photograph Number	Description	Representative Receptor Type	Distance & Direction from Proposed Development
5	Footpath WG/Lymm/4 (south)	Footpath WG/Lymm/4; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site	~135m to the west
6	Footpath WG/Lymm/4 (north)	Footpath WG/Lymm/4; Lymm Conservation Area; Lymm Dam Complex Local Wildlife Site; Residents of properties at Baycliffe	~230m to north west
7	Lymm Bridge / Church Road	Road users along Church Road; Listed Building 'Lymm Bridge'; Lymm Conservation Area	~300m to the north
8	Footpath WG/Lymm/25	Users of Footpath WG/Lymm/25; Residents of Crouchley Hall Fam	~290m to the east
9	Rugby Club near Crouchley Lane	Residents of Crouchley Lane; Road users along Crouchley Lane; Users of Rugby Club	~0m to the east
10	Crouchley Lane	Residents of Crouchley Lane; Road users along Crouchley Lane	~0m to the east
11	Church of St Mary the Virgin	Listed Building 'Church of St Mary the Virgin; Lymm Conservation Area	~115m to the north
12	On north eastern boundary	Road users along Crouchley Lane; Residents of Crouchley Lane	~0m to the north east
13	On the eastern boundary / Lymm Rugby Club (north)	Users of Rugby Club	~0m to the east
14	On the southern boundary / Lymm Rugby Club (south)	Users of Rugby Club	~0m to the east
15	Footpath WG/Lymm/23	Users of Footpath WG/Lymm/23	~150m to the north

4. Appraisal of Predicted Landscape Effects

4.1. The character of the Red Sandstone Escarpment, Sub-type C (Lymm) is one of rolling topography, with land use characterised by pastoral farmland punctuated by mature hedgerow trees with diverse range of species.

4.2. It is generally a contained landscape, with views restricted by high quality vegetation and rolling topography.

4.3. The proposed residential development in this location would have limited effect on the fabric of the existing landscape with limited loss of existing features including trees and hedgerows. The primary effects of the development would therefore be of a visual nature.

4.4. The visual presence of the residential development would affect a small proportion of the host Red Sandstone Escarpment character type within the NCA 60: Mersey Valley national character area. There would be no notable effect beyond this into any other local landscape type. The Mersey Valley landscape character type extends for a large area, particularly to the north of the proposed site. The localised change brought by this proposed development would be a small incidence within the wider character area and would not affect the integrity of this county landscape character type.

4.5. More locally the visual presence of the residential development may have an effect on the perceived character of Red Sandstone Escarpment character type. In this local landscape context the residential development would be form a new and noticeable feature when experienced in direct and open views from within the immediate context of the site, particularly in respect of those existing residential properties along Crouchley Lane to the east. In these circumstances perception of local landscape character would be altered from an open grass field to residential. However, the contained nature of the site ensures that there are no views of the site available beyond this immediate context, which greatly limits the extent of any potential landscape change.

4.6. The document 'Conservation Areas in Lymm' (December 2000) states that proposed developments in Conservation Areas "should pay special attention to carefully considering the appropriateness of the proposal and details such as materials, colour, height, proportion, design and siting, to seek to preserve and enhance the character and appearance of the area." It also states that "development proposals which are outside a Conservation Area but which would affect its setting, or views into or out of the area, will also be carefully considered in the light of this contextual relationship."

4.7. It is considered that the proposals will change the site from open countryside to residential, however views into and out of the Lymm Conservation Area are largely screened by the mature tree belt which runs along the western site boundary. Further dense vegetation within the Conservation Area to the north of site also acts to screen views into and out of the grounds of St Mary's Church, with no views available from the assessment site.

4.8. Furthermore, existing residential development to the east of the site along Crouchley Lane provides an existing residential context within the setting of the Conservation Area.

4.9. It is also pertinent to note that planning application 2016/28521 (approved February 2017, subject to section 106 agreement) lies to the immediate south east of the site boundary, and comprises a new purpose-built clubhouse, multi-sports facility, and enabling development comprising the conversion of the existing clubhouse into 4 number dwellings, and construction of 10 number new build dwellings with associated access. Please refer to **Appendix 1 Plan 6** for a site plan of the approved application 2016/28521 (Drawing number: AR_020_003_ E; D5 Architects LLP).

4.10. Once constructed, this approved development will effectively extend the built edge of Lymm to the south, whilst also altering the landscape baseline through the introduction of more urbanising features. It is therefore considered that a sensitively designed residential development would not detract from the setting of the Conservation Area.

4.11. Overall findings in relation to potential landscape effects are that in the immediate setting, the residential development would become one of the defining characteristics of the location alongside the prevailing rural features of the landscape. However, this influence of the residential development would be localised and further away the landscape character of the wider area would not be so significantly affected. The residential development can therefore be accommodated without significant degradation of the character or the scenic qualities of the wider countryside setting.

5. Assessment of Predicted Visual Effects

5.1. Potential visual receptors identified for the proposed residential development are listed below.

5.2. Visual receptors within 1km of the assessment site:

- Residents to the east of the site, along Crouchley Lane
- Walkers along footpaths WG/Lymm/40 and WG/Lymm/4
- Road users along Crouchley Lane
- Users of Lymm Rugby Club

5.3. Views available within 1km of the site are predominantly short distance, reflective of the gently undulating topography and the screening effect of the intervening residential built form to the north and east, and linear woodland tree belts associated with the Lymm Dam Complex Local Wildlife Site to the south and west.

5.4. It is pertinent to note that planning application 2016/28521 (approved February 2017, subject to section 106 agreement) lies to the immediate south eastern site boundary, close to the rugby club buildings. Once constructed, this approved development would act to screen views towards the site from users of Lymm Rugby Club and also existing residential properties and road users along Crouchley Lane. Please refer to **Appendix 1 Plan 6** for a site plan of the approved application 2016/28521 (Drawing number: AR_020_003_ E; D5 Architects LLP).

5.5. Longer distance views (beyond 1km) are unlikely due to the gently undulating topography and intervening screening elements.

6. Effect on Green Belt

6.1. Though not defined as a landscape designation, it is considered that the Green Belt policy is relevant to the considerations of this Landscape and Visual Impact Assessment.

6.2. In assessing the contribution of the site to the purposes of the Green Belt, the assessment makes direct reference to the five purposes of including land within the Green Belt as identified in the National Planning Policy Framework.

6.3. The key purposes of a Green Belt include:

Table 2: Green Belt

Purpose of Green Belt	Applicability to the Site
To check the unrestricted sprawl of large built-up areas	The settlement of Lymm is currently a moderate sized town and the assessment Site is located to the southern extent of the urban area. A dense tree line, associated with Lymm Conservation Area and the Lymm Dam Complex Local Wildlife Site, effectively restricts any further development in this direction, not least due to the protected status of this area. To the south, the existing Lymm Rugby Club, and beyond this a dense tree belt also designated as part of the Lymm Complex Local Wildlife Site also effectively restricts development to the south. Areas to the north and east are already developed, therefore, development of the proposed site would not lead to the unrestricted sprawl of the built up area.
To prevent neighbouring towns merging into one another	The proposed development will not extend the existing bounds of the settlement such that the settlement will be any closer to any adjacent settlements. It is also worth noting that there are no settlements within proximity to Lymm to the south to the west which would be subject to any merging effect.
To assist in safeguarding the countryside from encroachment	The assessment site itself comprises open countryside, with the key characteristics of the area including high quality mature trees, hedgerow trees in particular, and its intimate landscape. Residential development on the site would therefore not necessarily detract from the character of the area, particularly through the retention of the mature trees, and the introduction of supplementary planting of similar species as part of the proposals. The proposed development would only result in a minor extension to the current settlement boundary to the south, and it is considered that appropriate screening measures could be employed to reduce the visibility of this part of the development. Existing residential development along Crouchley Lane to the east also provides a residential context in the area, meaning that the proposals would not be uncharacteristic of this part of Lymm.
To preserve the setting and special character of historic towns	The assessment site is not located within any historic towns or conservation areas. The Lymm Conservation Area is located immediately adjacent to the north west of the site, however the dense vegetation along the western and northern site boundaries are considered to screen views into the site from the Conservation Area, and vice versa. The Lymm Conservation Area Appraisal (Dec 2000) outlines that new development within the setting of a Conservation Area should seek to retain and enhance vegetation, provide

	sufficient offsets, and carefully consider details such as design, materials, colour, height, proportion and siting to ensure the preservation and enhancement of the character and appearance of the area. These aspects will be integral to the development proposals.
To assist in urban regeneration by encouraging the recycling of derelict and other land	Although the land on which the assessment site is located is a green field, currently utilised as pastoral land. The development of the site for housing will make a significant contribution to meeting the housing needs of Warrington.

6.4. It is therefore considered that the development of the land would not lead to unrestricted sprawl of the Lymm urban area, would comprise only a minor extension to the existing settlement boundary to the south, and would thus not bring the Lymm settlement boundary any closer to any neighbouring towns. In addition, the proposals should be sensitively designed through appropriate positioning, scale and massing of houses, in order to prevent any adverse impacts upon the setting of the neighbouring Lymm Conservation Area, and to assist in assimilating the development into the wider setting.

7. Landscape Strategy

7.1. By suggesting landscape mitigation measures it does not follow that the proposals have an unacceptable adverse effect on the landscape character or visual amenity of the area but rather the presence of further development within this setting would benefit from considered landscape works. The purpose of landscape mitigation for these proposals at this location are primarily two-fold;

- To reduce adverse visual and landscape effects identified through the wider Landscape Appraisal process; and
- To enhance the character of the proposals and assist in their assimilation into the wider landscape scene.

7.2. As identified in the Warrington Landscape Character Assessment 2007, Type 3, Area 3C (Lymm) is notable for its vigorous and healthy vegetation, with trees being larger, more well-formed, and comprising a more diverse range of species than elsewhere in the borough.

7.3. This could be enhanced by the provision of:

- Reinforcement of existing hedges and field boundaries with hedge planting gap filling and scattered hedgerow tree planting;
- Further tree planting of a range of species along field edges, particularly the eastern site boundary to Crouchley Lane;
- Planting of trees in such a way that visual permeability through the site allows views towards Lymm Conservation area, to minimise any impact upon its setting.

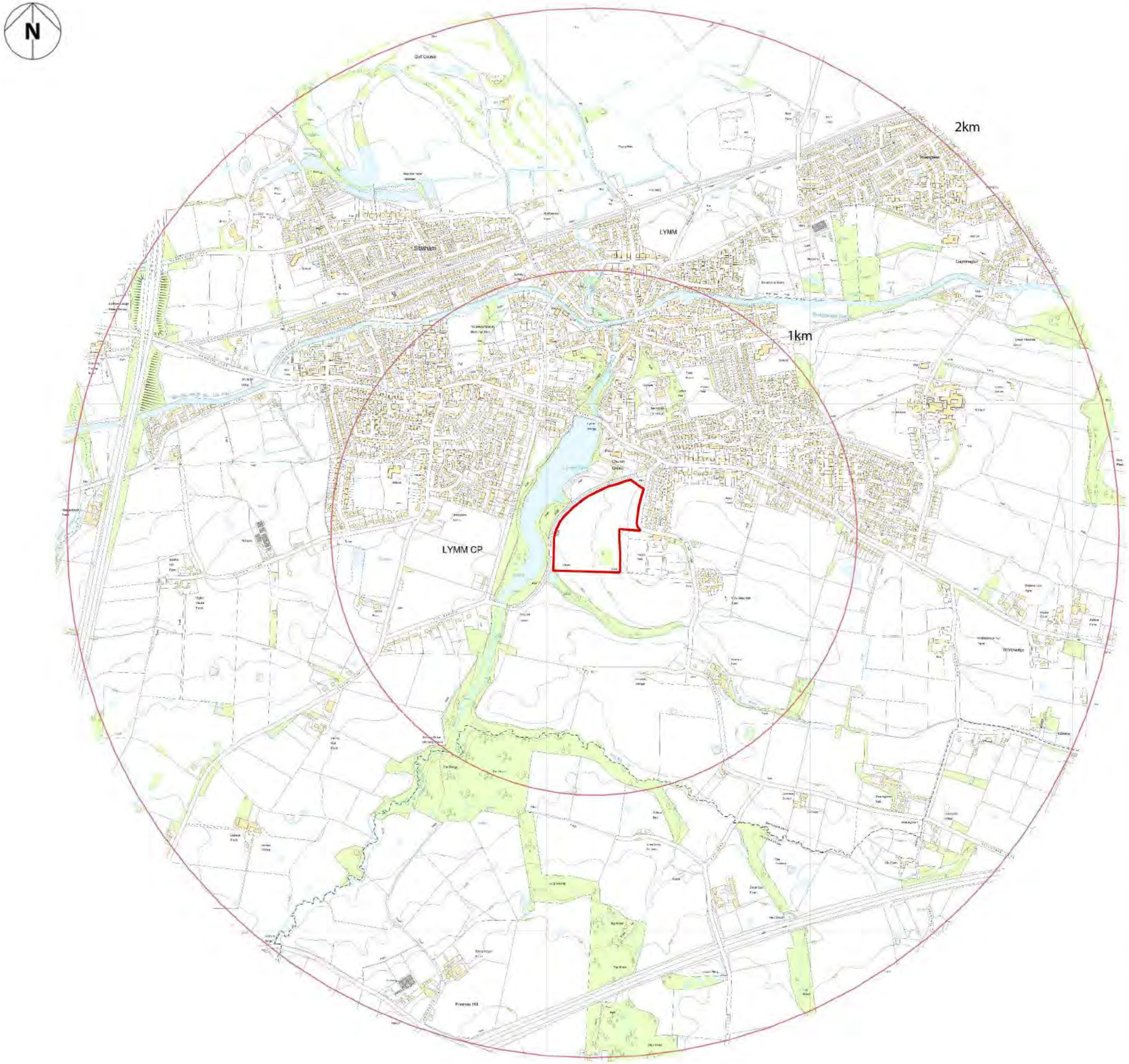
7.4. The placement of these features is designed to provide enhanced screening and softening of the proposed development and to maximise its integration into the setting. They have also been targeted so as to be most beneficial in relation to the identified visual receptors.

7.5. In addition, in accordance with the National Planning Policy Framework, Green Belt boundaries should be defined clearly, using physical features that are readily recognisable and likely to be permanent.

Appendices

Appendix 1 - Plans

Plan 1: Location Plan



Legend

- Red Line Boundary
- 1km Buffer
- 2km Buffer

URBAN GREEN

LAND OFF CROUCHLEY LANE, LYMM

FIGURE 1

SITE LOCATION

1:15000

250 0 250 500 750 1000 m

Plan 2: Landscape Designations

Legend

- Red Line Boundary
- 1km Buffer
- 2km Buffer
- Local Wildlife Sites QE5
- Green Belt

URBAN GREEN

LAND OFF CROUCHLEY LANE, LYMM

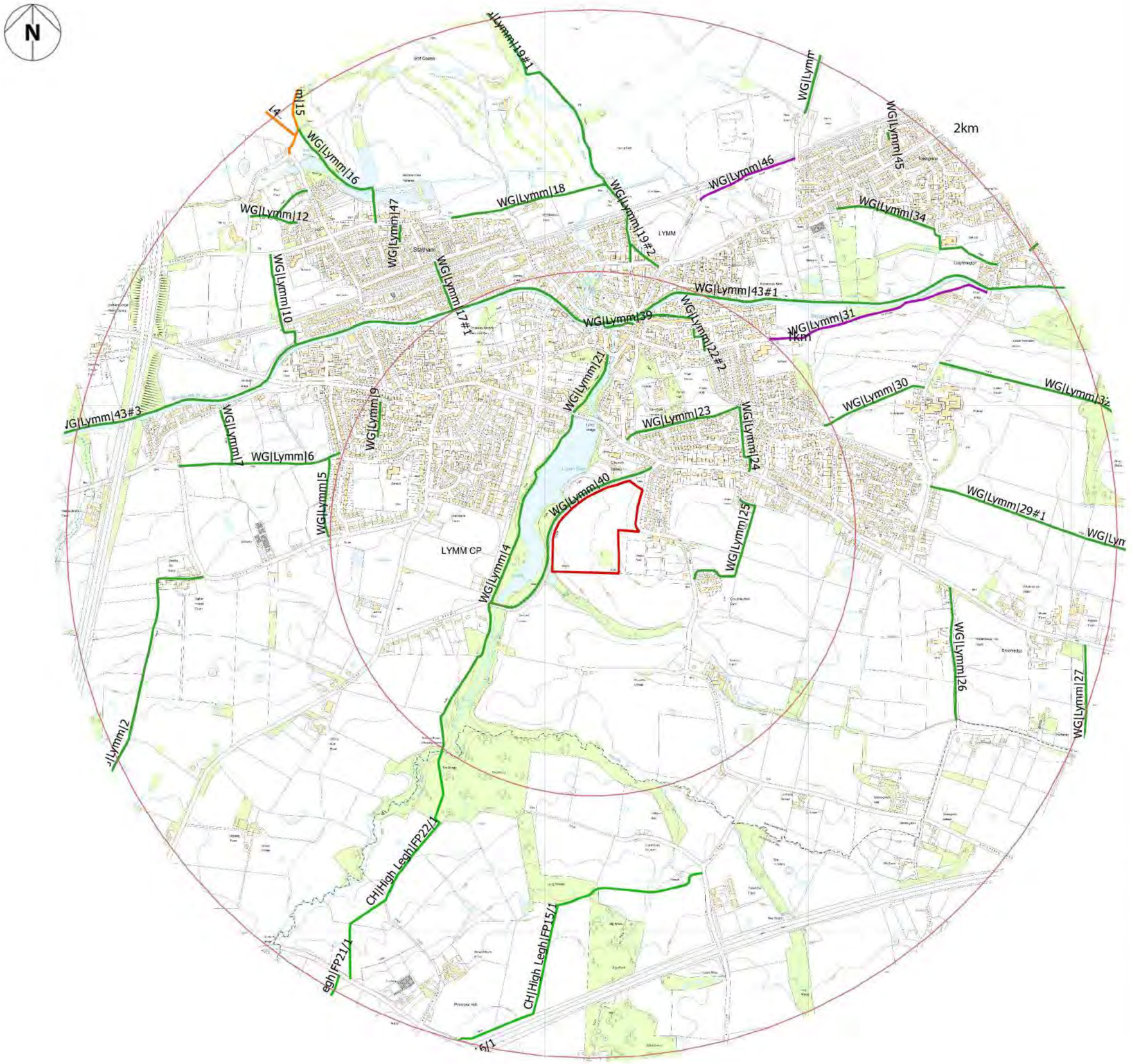
FIGURE 2

LANDSCAPE DESIGNATIONS

1:15000

250 0 250 500 750 1000 m

Plan 3: Public Rights of Way



Legend

- Red Line Boundary
- 1km Buffer
- 2km Buffer
- Cheshire East Footpaths
- Warrington Footpaths
- Warrington Bridleways
- Warrington Restricted Byways

URBAN GREEN

LAND OFF CROUCHLEY LANE, LYMM

FIGURE 3

PUBLIC RIGHTS OF WAY

1:15000

250 0 250 500 750 1000 m

Plan 4: Heritage Designations

N

2km

1km

LYMM

Statham

LYMM CP

Golf Course

Princess Hill

Legend

- Red Line Boundary
- 1km Buffer
- 2km Buffer
- Listed Buildings
- Scheduled Monuments
- Conservation Areas

URBAN GREEN

LAND OFF CROUCHLEY LANE, LYMM

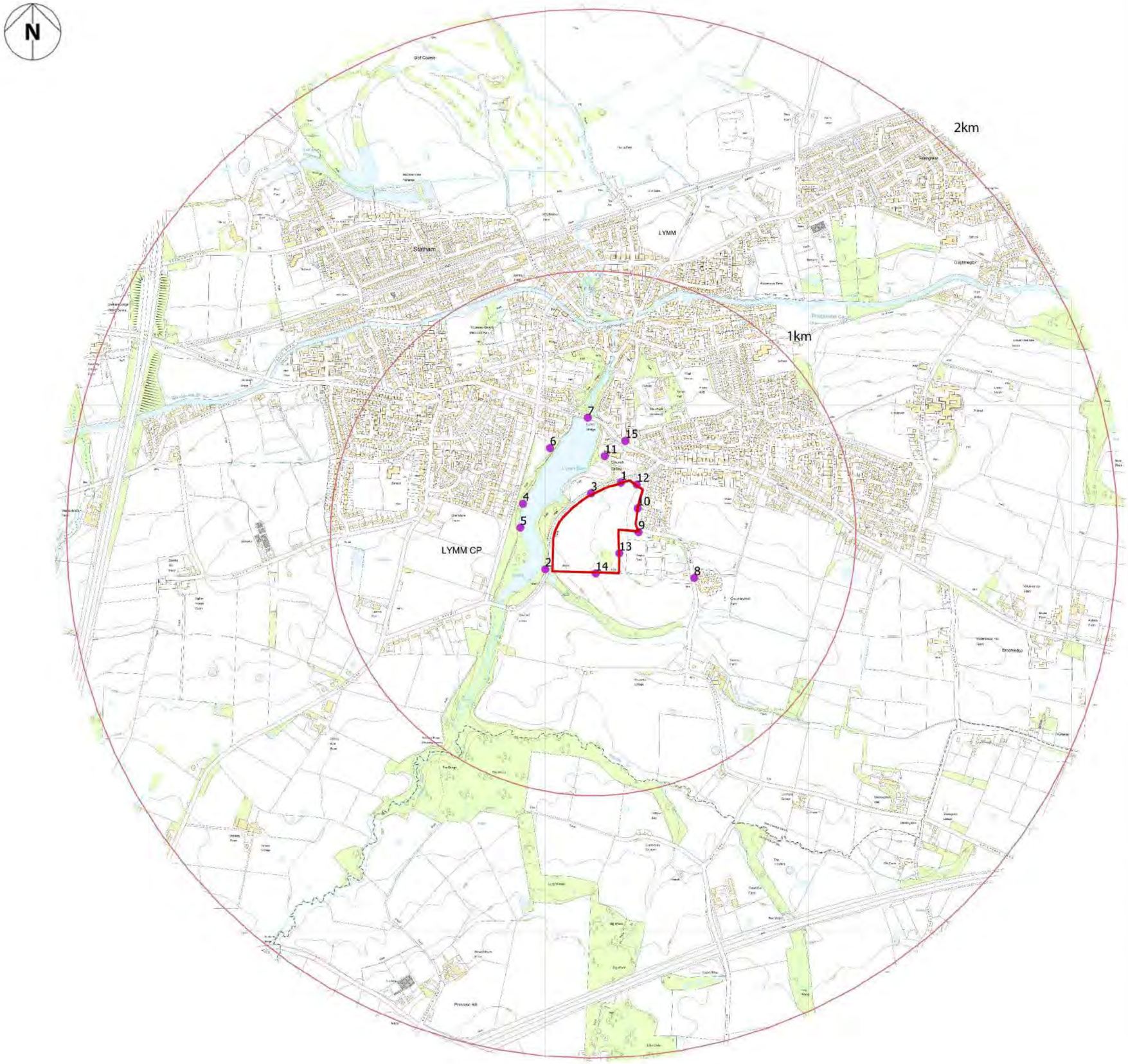
FIGURE 4

HERITAGE

1:15000

250 0 250 500 750 1000 m

Plan 5: Viewpoint Locations



Legend

- Red Line Boundary
- 1km Buffer
- 2km Buffer
- Viewpoints

URBAN GREEN

LAND OFF CROUCHLEY LANE, LYMM

FIGURE 5

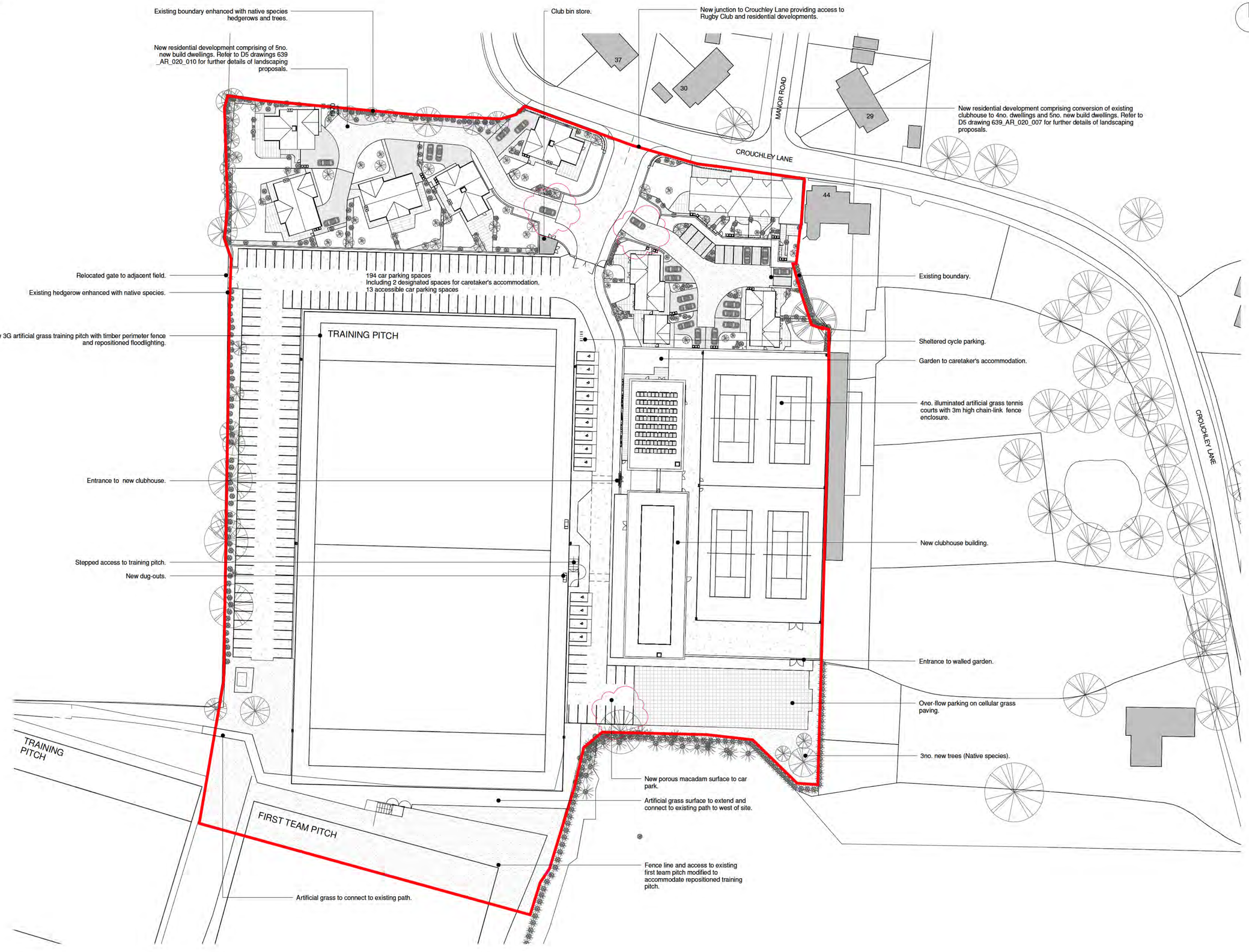
VIEWPOINT LOCATIONS

1:15000

250 0 250 500 750 1000 m

Plan 6: Site Plan of Approved Application 2016/28521

a1



PROPOSED SITE PLAN

0 5 10 25 50m

Scale 1:500 @ A1

N

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following risks and information.

Risks listed here are not exhaustive. For residual architectural risks, refer to D5 H&S Risk Register.

CONSTRUCTION:

DEMOLITION:

For information relating to Use, Cleaning and Maintenance, refer to the above H&S Risk Register.

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement.

REVISION

A	22/06/2016	MS	Minor updates. Planning issue.
B	24/06/2016	MS	Number of parking spaces updated.
C	29/06/2016	MS	Label changed from groundsman to club caretaker. Kerb updated.
D	11/07/2016	MS	Minor amendments.
E	18/10/2016	MS	Space markings indicated and gates to residential developments removed.

NOTES:

PLANNING

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project
Lymm Sports Club

drawing title
Proposed Site Plan

scale	date	author
1 : 500@A1	22/06/16	MS

CAD file	CAD format
639-D5A-ZZ-XX-M3-Site_Plan_r	Revit 2016

job number	drawing number
639	AR_020_003_ E

Appendix 2 – Viewpoint Photographs

Approximate extent of proposed development

Viewpoint 1a: View looking south across the assessment site from the northern site boundary

Approximate extent of proposed development

Viewpoint 1b: View looking south across the assessment site from the northern site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Appendix B -Sheet 1 of 11
Site Viewpoint Photographs

Date:	September 2017	Drawn:	KS
Drg no.:	PL_11547	Checked:	CM

Approximate extent of proposed development

Viewpoint 2a: View looking south east towards the assesment site from Footpath WG/Lymm/40, located approximately 25m to the south west of the site boundary

Approximate extent of proposed development

Viewpoint 2b: View looking south east towards the assesment site from Footpath WG/Lymm/40, located approximately 25m to the south west of the site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 3: View looking east towards the assesment site from Footpath WG/Lymm/40, located approximately 5m to the west of the site boundary

Approximate extent of proposed development

Viewpoint 4: View looking east towards the assesment site from Footpath WG/Lymm/4, located approximately 165m to the west of the site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 5: View looking east towards the assesment site from Footpath WG/Lymm/4, located approximately 135m to the west of the site boundary

Approximate extent of proposed development

Viewpoint 6: View looking east towards the assesment site from Footpath WG/Lymm/4, located approximately 230m to the north west of the site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 7: View looking south towards the assesment site from grade II listed Lymm Bridge, located approximately 300m to the north of the site boundary

Approximate extent of proposed development

Viewpoint 8: View looking west towards the assesment site from Footpath WG/Lymm/25, located approximately 290m to the east of the site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 9a: View looking west across the assesment site from the grounds of Lymm Rugby Club, located on the eastern site boundary

Approximate extent of proposed development

Viewpoint 9b: View looking west across the assesment site from the grounds of Lymm Rugby Club, located on the eastern site boundary

URBAN GREEN

Appendix B -Sheet 6 of 11
Site Viewpoint Photographs

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 10a: View looking west across the assesment site from Couchley Lane, located on the eastern site boundary

Approximate extent of proposed development

Viewpoint 10b: View looking west across the assesment site from Couchley Lane, located on the eastern site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 11: View looking south west towards the assesment site from the grounds of the grade II listed Church of St Mary the Virgin, located approximately 115m to the north of the site

Approximate extent of proposed development

Viewpoint 12: View looking south west across the assesment site from the north eastern site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 13a: View looking west across the assesment site from the grounds Lymm Rugby Club, located on the eastern site boundary

Approximate extent of proposed development

Viewpoint 13b: View looking west across the assesment site from the grounds Lymm Rugby Club, located on the eastern site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Approximate extent of proposed development

Viewpoint 14a: View looking north across the assesment site from the grounds Lymm Rugby Club, located on the southern site boundary

Approximate extent of proposed development

Viewpoint 14b: View looking north across the assesment site from the grounds Lymm Rugby Club, located on the southern site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Viewpoint 15: View looking north across the assesment site from close to Footpath GW/Lymm/23, located approximately 150m north of the site boundary

URBAN GREEN

Land off Crouchley Lane, Lymm - Viewpoint Photographs

Date: September 2017 Drawn: KS
Drg no.: PL_11547 Checked: CM

Preliminary Arboricultural Assessment (PAA)

Stamford Property Holdings

Land off Crouchley Lane

Lymm

WA13 0AS

August 2017

URBAN GREEN

Quality Management

Project No	11547		
Project	Land off Crouchley Lane,		
Location	Land off Crouchley Lane, Lymm, WA13 0AS		
Title	Preliminary Arboricultural Assessment		
Document Type	BS5837	**Issue**	2
Date	18th August 2017		
Prepared by	[redacted]		
Checked by			

Revision Status / History

Rev	Date	Issue / Purpose / Comment	Prepared	Checked
A	20/09/17	Updated Client Details	KO	ED

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Appendix 3 – Tree Retention Category
Appendix 4 – Site Plans

1 Introduction

1.1 Instructions and references

1.1.1 All trees, regardless of their statutory status, are a material consideration in a planning application. We have been instructed by Stamford Property Holdings to carry out a Preliminary Arboricultural Appraisal (PAA) in accordance with BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations at Land adj Lymm Rugby Club, Lymm and produce our findings in a report with an accompanying Tree Constraints Plan.

1.1.2 Warrington Borough Council are preparing a draft local development plan and the current site is being put forward for residential led-development.

1.1.3 The PAA is compiled objectively and is aimed to assist with feasibility and decision making. The purpose of this report is to outline the arboricultural constraints onsite in relation to potential development.

1.2 Documents provided

1.2.1 A scaled plan has been provided although no tree positions were plotted. Tree locations have been plotted according to measurements taken on site and/or using aerial photography. The exact locations of these trees must be verified and any discrepancies discussed with the Arboricultural Consultant.

1.3 Scope and limitations of the report

1.3.1 The report is based upon a visual inspection. The consultant shall not be responsible for events that happen after the date of the report due to factors that were not apparent at the time, and the acceptance of this report constitutes an agreement with the guidelines and the terms listed in this report.

1.3.2 The consultant accepts no liability in respect of the trees unless the recommendations of this report are carried out under his supervision.

1.3.3 Assessing the potential influence of trees upon load bearing soils, beneath existing and proposed structures resulting from water abstraction by trees or rehydration of shrinkable soils was not included in the contract brief and is therefore not considered in the report. The consultant cannot be held responsible for damage arising from such action.

1.3.4 Trees are living organisms whose health, condition and structure can change over time. The contents of this report are valid for a period of one year from the date of the report.

1.3.5 Potentially hazardous trees are highlighted and appropriate recommendations are made. However, this report should not be seen as a substitute for a full tree risk assessment or management plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

2 Site Location

2.1.1 The site is located in the area shown in Figure 1 and 2. The OS Grid Reference is SJ 68393 86638

Figure 1 – Site location plan

Figure 2 – Red line boundary

3 Tree Condition and Recommendations

3.1.1 The following findings are provided in order to identify the quality and value of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed, retained or those that require work. Any recommendations provided in this section are given with the assumption that development will occur, however, no specific designs have been accounted for.

3.2 Summary of arboricultural findings

3.2.1 The majority of trees are in good condition. However, trees T1, T7, T11, T13, T14 and T16 require monitoring due to defects that could potentially make them hazardous or bring about their decline.

3.2.2 T2 is in decline and it is recommended that a crown clean and removal of deadwood is carried out.

3.2.3 All other trees are deemed to be in an acceptable condition and no further works have been recommended.

3.3 Work priority and future management

3.3.1 The Tree Data Schedule in Appendix 1 details what works are required to individual trees in order to ensure that they are in an acceptable condition.

3.3.2 The following table suggests a schedule for prioritising works required to individual specimens, as outlined in the Tree Data Schedule in Appendix 1, in order to ensure that the associated risks are abated.

Table 1 – Tree Work Priority Schedule

Priority	Definition	Tree Number
Urgent	As soon as possible	-
Very High	Within 1 Month	-
High	Within 3 Months	-
Moderate	Within 1 year	T1, T11, T13, T14, T16
Low	Within 3 years	T2, T3, W4, T5, T6, T7, T8, T9, T10, T12, T15, T17

3.3.3 Upon completion of any recommended works, the trees will be in an acceptable condition from a health and safety perspective. However, they should be regularly inspected according to the following suggested schedule.

Table 2 – Recommended Inspection Frequency

Inspection Frequency (years)	Tree Number
0.5	-
1	T1, T2, T11, T13, T14, T16
1.5	-
3	T3, W4, T5, T6, T7, T8, T9, T10, T12, T15, T17

3.4 Tree protection status

3.4.1 A Tree Preservation Order (TPO) is an order made by a Local Authority to protect specific trees, groups of trees or woodlands in the interests of amenity. A TPO prohibits the cutting down, topping, lopping, uprooting and wilful damage or destruction of trees without the Local Authority's written consent.

3.4.2 Most of the trees are covered by The Warrington Borough Council: The Beechwood Hall Estate (Lymm) Tree Preservation Order 2000. Trees included are T1, T2, T5, T6, T7, T8, T10, T11, T13, T14, T15, T16 and G17.

3.4.3 The site is not within a Conservation Area.

3.4.4 It is recommended that the Local Authority is consulted before any tree works are undertaken, as new TPOs may have been created since the time of enquiry, and heavy fines exist for unauthorised works to protected trees.

3.4.5 All works to trees covered by a TPO require permission from the Local Authority, including any pruning. However, this does not include trees that are dead or have become dangerous. The removal of dead branches is also excluded from a TPO. Although the above exceptions exist, it is advisable to give the Local Authority five days' notice in writing of any intended removal. Permission is not needed where tree work is required to implement an approved planning application.

3.4.6 It is an offence to remove more than $5m^3$ of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission. It must be noted, however, that this excludes sites where planning permission has already been granted.

3.5 Tree works

3.5.1 Tree works that are recommended in Appendix 1 are made in line with good arboricultural practice and should be programmed in accordance with the Tree Data Schedule.

3.5.2 All specified tree work is to be carried out in accordance with BS 3998:2010 Tree work - Recommendations.

3.6 Wildlife

3.6.1 Prior to the commencement of any tree works, the trees should be assessed for the presence of protected species, some of which are subject to the *Wildlife and Countryside Act 1981* (as amended) and the *Conservation of Habitats and Species Regulations 2010.*

3.6.2 Where there is evidence that bats, birds or other protected species are present, the advice of a suitably qualified ecologist should be sought.

3.6.3 If tree works are carried out during the bird nesting season (March to August inclusive), trees would need to be inspected by a qualified ecologist within the 24-hour period prior to the commencement works.

4 Potential Arboricultural Constraints

4.1 Root Protection Area (RPA) explained

4.1.1 The RPA is an area of ground around the base of a tree indicated on the Tree Constraints Plan as a pink circle centred around the stem which is calculated in relation to the stem diameter.

4.1.2 The majority of tree roots grow within the upper 600mm of the soil profile where most nutrients are available as the result of the decomposition of organic matter close to the surface. Rooting conditions become less favourable at depth as the soil density increases, creating anaerobic conditions.

4.1.3 It is essential that roots are protected from construction works including physical damage from excavation and changes in soil structure from compaction and changes in ground levels.

4.1.4 BS 5837:2012 states that the default position for proposed structures should always be outside the RPA. It is recognised that this may not always be possible, yet tree retention would be desirable. In this instance, technical solutions might be available that prevent damage to the retained tree(s).

4.2 Site constraints and opportunities

4.2.1 There are many high value trees across the site, with eight A category trees, groups or woodlands. These trees are scattered across the site and do not form one significant constraints to site. The locations of the trees offer potential to incorporate them into the design of the scheme and into public open space.

4.2.2 It is essential that no adoptable infrastructure such as highways encroach into the RPA of the category A trees as this would result in root loss and potentially the decline of the tree.

4.2.3 Building foundations must avoid the RPA of trees unless utilising pile foundations, however, it is recommended that buildings are kept a sufficient distance away from trees to prevent the need to utilise such foundations.

4.2.4 Hard surfacing may be installed in the RPA provided it is constructed using suitable methods. This may include the use of a cellular confinement system which avoids the need to excavate and protects the soil structure by spreading the weight of the load bearing surface.

4.3 Social proximity

4.3.1 Proposed buildings should be designed to take account of existing trees, their ultimate size and density and the effect that these will have on the availability of light. As such the buildings should positioned in such a way as to minimise the shadow cast by the tree and consideration should be given to the position of the habitable rooms within the house.

4.3.2 The woodland on the north and west boundary (W4) is a significant arboricultural feature of the site. This woodland is situated on third party property and forms part of the Lymm Dam Nature Reserve. As such any designs for the site should give due consideration to the woodland edge. The built form must be a sufficient distance away from the woodland edge to prevent future residents wishing to prune these trees.

4.4 Access and transport

4.4.1 We have been provided with the Access and Transport Appraisal (66027/TN02) which outlines suitable vehicular and pedestrian access points. This reports identifies one main access route into site which would be positioned on the east boundary. The position of this access point is outside the RPA of the existing trees and will therefore have no arboricultural impact.

4.5 Conclusions

4.5.1 The site offers opportunity for development whilst retaining the key arboricultural features, most noticeably the A category trees situated within the site boundary and the woodland edge forming part of the Lymm Dam Nature Reserve.

4.5.2 Where possible category A and B trees should be retained and any works within their RPAs should be undertaken in a sympathetic manner. Although C category trees should not be a constraint to development, it may be desirable to retain them as part of the wider landscape proposals.

4.5.3 Shading of buildings by trees can be a problem, particularly where there are rooms which require natural light. Proposed buildings should be designed to take account of existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light.

Appendix 1 - Tree Data Schedule

The following pages contain information gathered during the site survey. The reader should refer to Appendix 2 in order to correctly interpret the tree data. All images within the Tree Data Schedule are diagrammatical only. Their purpose is to indicate, at a glance, the relative dimensions of each tree. The images are computer generated based on measurements recorded for stem diameter, crown spread, crown height and overall height.

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (mm)	Crown Spread (m) W / N / E / S	Scaled Tree Diagram (m)	Notes	Recommendations: Priority	Recommendations: Inspect Freq (yrs)	Physiological Condition / Structural Condition	Life Expectancy (yrs) / Retention Category
T1	Mature **Oak** Quercus petraea	15	2	980	av 7 (7, 7, 7) each		1: Very large cavity at base due to fire damage. 2: Leaning on the side of the cavity. 3: Potentially hazardous if footfall increased. 4: Deadwood throughout crown. 5: Fungal brackets at base.	Monitor. Moderate	1	Fair Poor	10-20 C
T2	Mature **Oak** Quercus petraea	11	4	740	av 6 (6, 6, 6) each		1: Significant dieback to upper crown.	Crown clean and deadwood. Low	1	Poor Fair	20-40 B
T3	Semi-Mature **Mixed** Species	8	2	350	3 (3, 3, 3)		1: Mixed group consisting of oak and sycamore. 2: Situated on third party land.	No action required. n/a	3	Good Good	40+ C
W4	Mature **Mixed** Species	av 14	av 2	av 550	av 5 (5, 5, 5) each		1: Mixed woodland consisting of oak, beech, elm, poplar and hawthorn. 2: Situated on third party land. 3: High value woodland.	No action required. n/a	3	Good Good	40+ A
T5	Mature **Oak** Quercus petraea	13	4	840	7.5 (7.5, 7.5, 7.5)		1: Good specimen. 2: Open grown form. 3: High value.	No action required. n/a	3	Good Good	40+ A
T6	Mature **Oak** Quercus petraea	12	1	690	6 (6, 6, 6)		1: Good specimen. 2: Open grown form. 3: High value.	No action required. n/a	3	Good Good	40+ A
T7	Early-Mature **Copper Beech** Fagus sylvatica 'purpurea'	10	2	890	6.5 (6.5, 6.5, 6.5)		1: Reduced vigour. 2: Minor deadwood throughout crown. 3: Acceptable condition at present.	Monitor. Moderate	1	Fair Fair	10-20 B

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (mm)	Crown Spread (m) W	N	E	S	Scaled Tree Diagram (m)	Notes	Recommendations: Priority	Recommendations: Inspect Freq (yrs)	Physiological Condition / Structural Condition	Life Expectancy (yrs) / Retention Category
T8	Mature **Oak** Quercus petraea	14	3	700	7	7	7	7		1: Good specimen. 2: Open grown form. 3: High value.	No action required.	n/a	3	Good / Good	40+ / A
G9	Semi-Mature **Cherry** Prunus sp	av 6	av 1	av 200	2	2	2	av 2 each		1: Situated on third party land. 2: No significant defects observed.	No action required.	n/a	3	Good / Good	40+ / C
T10	Mature **Oak** Quercus petraea	16	2	1200	8	8	8	8		1: Excellent specimen. 2: Deadwood throughout crown. 3: Cavity on large limb in upper crown.	No action required.	n/a	3	Good / Good	40+ / A
T11	Mature **Horse Chestnut** Aesculus hippocastanum	13	1	920	7	7	7	7		1: Early signs of decline with crown dieback. 2: Leaf minor and bleeding canker present. 3: Acceptable condition at present.	Monitor.	Moderate	1	Fair / Fair	20-40 / B
T12	Mature **Lime** Tilia sp	12	3	690	5	5	5	5		1: Minor deadwood throughout crown. 2: Good specimen.	No action required.	n/a	3	Good / Good	40+ / B
T13	Mature **Horse Chestnut** Aesculus hippocastanum	17	3	920	8	8	8	8		1: Dieback throughout crown and reduced vigour. 2: Deadwood throughout crown.	Monitor for signs of decline.	Moderate	1	Fair / Fair	20-40 / B
T14	Mature **Horse Chestnut** Aesculus hippocastanum	15	2	800	8	8	8	8		1: Dieback present throughout crown. 2: Epicormic growth around stem. 3: Deadwood throughout crown.	Monitor for signs of decline.	Moderate	1	Fair / Fair	20-40 / B

Reference (G = Group, H = Hedge)	Age & Species	Height (m)	Crown Ht (m)	Diameter (mm)	Crown Spread (m) W / N / E / S	Scaled Tree Diagram (m)	Notes	Recommendations: Priority	Recommendations: Inspect Freq (yrs)	Physiological Condition / Structural Condition	Life Expectancy (yrs) / Retention Category
T15	Mature **Lime** Tilia sp	19	0.5	900	W 6.5, N 6.5, E 6.5, S 6.5		1: Dense epicormic growth throughout (as per species). 2: Minor deadwood throughout crown. 3: High value.	No action required.	n/a	3	Good / Good	40+ / A
T16	Mature **Beech** Fagus sylvatica	20	2	1000	W 7, N 7, E 7, S 7		1: Tight union at 1.5m with potential inclusion. 2: Adjacent to road. 3: Prominent tree. 4: Acceptable condition at present.	Monitor.	Moderate	1	Good / Fair	20-40 / A
G17	Mature **Mixed** Species	16	3	750	W 6, N 6, E 6, S 6		1: Outside red edge boundary. 2: One horse chestnut and one sycamore. 3: Prominent high value trees.	No action required.	n/a	3	Good / Good	40+ / A

Appendix 2 – Tree Schedule Definition of Terms

Tree Referencing	**Individual Trees** T (+number) **Grouped Trees** G (+number) **Hedgerows** H (+number) **Woodlands** W(+number)
Age Category	**Young** Usually <15 years **Semi-mature** Significant growth expected, approximately one third of life expectancy complete **Early-Mature** Full height achieved with further significant growth possible, up to two thirds of life expectancy complete **Mature** Full height has been achieved with possible spreading of the canopy, usually past two thirds of overall life expectancy **Veteran** Usually a tree of significant age with characteristics that give additional cultural, landscape and conservation benefits, **Over-mature** A tree declining due to age as indicated by deterioration in the health and condition of its crown and trunk.
Species	**Botanical Name** - conforming to the International Code of Nomenclature for algae, fungi, and plants (ICN). For universal plant recognition. **Common Name** – commonly used names usually on a local and national scale.
Tree Height	The vertical distance between the base of the tree (where soil and buttress meet) and the tip of the highest branch on the tree.
Crown Height	Measured from ground level to the height at which the main crown begins.
Stem Diameter (DBH)	Stem diameter is measured at 1.5 m above ground level
	A diagrammatical representation of the tree taken from measurements of stem diameter, crown height and spread, and overall height.
Crown	Measurements taken from all four cardinal points in metres.
Notes	Notes are made to inform of any possible defects, peculiarities or points of interest that may relate to the trees position, physiology, safety and possible effects on developments.
Recommendations	Recommendations are made in accordance to good arboricultural practice. Recommendations are made regardless to the end usage of the site.
Priority Scale	Priority is given dependant on the perceived threat and the likelihood of failure given to a possible hazard. The priority of work is given regardless of the end usage of the site. **Urgent** To be carried out as soon as possible. **Very High** To be carried out within 1 month. **High** To be carried out within 3 months. **Moderate** To be carried out within 1 year. **Low** To be carried out within 3 years.
Physiological Condition:	**Good** Usually healthy with no symptoms of poor health or disease. **Fair** Exhibiting signs of poor health or minor disease infections that are not considered to be hazardous. **Poor** Disease present in considerable quantities or with very poor physiological vigour. **Very Poor** Tree is in a moribund state in extremely poor condition, usually with little chance of recovery.
Structural Condition:	**Good** A tree with no significant structural defects. **Fair** Minor defects may have been observed but are not considered to be immediately hazardous. **Poor** Significant defects found. Tree requires monitoring or remedial works. **Very Poor** Major defects that require immediate remedial work or the removal of the tree.
Life Expectancy:	The estimated number of years before the tree may require removal should no unexpected mechanical or environmental impacts occur to the tree.
Retention Category:	Please refer to Tree retention categorisation table on the next page.

Appendix 3 – Tree Retention Category

The following table provides an explanation of retention categories used.		
Trees to be removed		Colour on Plan
Category U Includes trees of very low quality that offer little or no amenity value.	Trees that are in such a condition that they should be removed as a matter of good arboricultural practice regardless of given proposals.	RED
Trees to be considered for retention		
Category A Trees of a high quality, with an estimated life of expectancy of at least 40 years	Trees that are excellent examples of their species, usually mature, especially if rare or unusual including veteran trees. Category A trees are likely to enhance a development and should be retained wherever possible.	GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	Trees that are good examples of their species. B category trees are usually mature or younger trees with the potential to reach A category in the future. Although the retention of these trees is desirable, some losses may be acceptable.	BLUE
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	GREY
NOTE: Trees that are viewed as borderline and do not fit neatly into either of the categories are given a plus or minus rating (+/-) in the tree data schedule. Therefore, C+ would denote a tree being borderline C/B although C is deemed to be the most appropriate category. Similarly, B- would denote a tree being borderline B/C with B seen as the most appropriate category.		

Appendix 4 – Site Plans

The site plans referred to in the report follow this page which include the following:

- Tree Constraints Plan

Although included plans are usually to scale, they are only intended to indicate positions of surveyed trees and dimensions should not be taken from these drawings.

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R P c RP

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G R E E N

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