

SITE PROMOTION DOCUMENT

LAND NORTH OF CHESTNUT LANE, BASSINGBOURN-CUM-KNEESWORTH

ON BEHALF OF BARWOOD HOMES LTD

**TOWN & COUNTRY PLANNING ACT 1990 (AS AMENDED)
PLANNING AND COMPULSORY PURCHASE ACT 2004**

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PLANNING | **DESIGN** | **ENVIRONMENT** | **ECONOMICS**

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1. INTRODUCTION

- 1.1 This Site Promotion Document has been prepared by Pegasus Group on behalf of Barwood Homes in support of a Call for Sites submission for land north of Chestnut Lane, Bassingbourn-cum-Kneesworth, for the emerging Greater Cambridge Local Plan.
- 1.2 Barwood Homes is a regional housebuilder, established in 2010, which has a strong track record in delivering high-quality, attractive homes which complement their surrounding villages and communities.
- 1.3 This Site Promotion Document sets out details of the site and its surrounding area, the development potential of the site, the rationale for development, and a summary of the technical matters and assessment work undertaken for the site. It should be read in conjunction with the relevant forms, the Framework Plan prepared by Pegasus Design (**Appendix 2**) and the Infrastructure Appraisal prepared by ADC Infrastructure (**Appendix 3**).

2. SITE AND SURROUNDING AREA

2.1 The promotion site comprises of land measuring approximately 5.32 hectares in are, comprising a large agricultural field to the east, a smaller field (with associated access) to the west, and a belt of trees and a watercourse running north-south between the two fields. The eastern, northern and southern boundaries of the field are defined by existing hedgerows, whilst the western boundary is defined existing built form. The 'red line' plan is provided at **Appendix 1**.



2.2 The site lies towards the east of Bassingbourn-cum-Kneesworth, a village with approximately 2,100 residents. Bassingbourn is identified as a Minor Rural Centre in the adopted Local Plan, in recognition of the services and facilities which support a range of day-to-day needs. These include:

- **Bassingbourn Primary School;**
- **Bassingbourn Village College**, which provides secondary education from years 7 - 11;
- **Bassingbourn Pre-School;**
- A Spar **convenience shop** which is open 7am – 10pm every day, with **Post Office** and cash dispenser;
- Other **shops** such as a bakery, hairdresser, coffee shop and a farm shop;
- Bassingbourn **Surgery;**
- A **Pharmacy;**
- **Public houses** and restaurants including the Belle, the Hoops and Yuva Fine Fusion;

- **The Limes** Community Hall;
- **Allotments**;
- **Places of Worship**;
- A **recreation ground**;
- Children's **play areas**; and
- A wide range of **clubs and societies**.

2.3 Kneesworth, where the site lies, is to the east of Bassingbourn and the two villages are linked by The Causeway. Whilst most services are centred around Bassingbourn, it is nonetheless easy to reach these by foot or cycle from Kneesworth, via a continuous illuminated footpath. Kneesworth also has its own services including a business park, a farm shop (stocking goods suitable for convenience and top-up shopping) and a restaurant.

Public transport

- 2.4 Bassingbourn-cum-Kneesworth is served by route 127 which provides five daily return services to Royston (Monday to Saturday), which includes services at peak commuting times. Buses run at approximately two-hour intervals. There is also a daily return service on route 15 between Royston and Haslingfield.
- 2.5 Royston railway station lies 3.3 km from the site. Royston is served by Thameslink and Great Northern commuter services between Cambridge, London and Brighton. Connections are possible with the 127 bus.

East West Rail

- 2.6 East West Rail is a long-standing project to deliver a new rail connection between Oxford and Cambridge. The East West Rail Company has recently consulted on route options for the central section between Cambridge and Bedford. Three of the five options which were subject to consultation envisage an alignment passing to the north of Bassingbourn-cum-Kneesworth, and a new station at this point. Decisions on the alignment of East West Rail are due to be taken during the course of the preparation of the Greater Cambridge Local Plan.

The East West Rail service has the potential to significantly enhance the sustainability credentials of Bassingbourn-cum-Kneesworth by delivering local and regional links. This would include services to the major employment centres at Cambridge and close to the proposed railway station at Cambridge South.

3. TECHNICAL MATTERS

3.1 This section sets out the technical and site-specific considerations which have been taken into account in preparing the development proposals for the site.

Site sustainability

3.2 Whilst the adopted Local Plan identifies Kneesworth as an infill village, it is contiguous with Bassingbourn which is a Minor Rural Centre. Both fall within Bassingbourn-cum-Kneesworth Parish and the two villages are frequently referred to jointly. As set out in section 2 of this document, Bassingbourn benefits from a wide range of local services including schooling, healthcare, retail and community facilities. These can be reached by foot or by cycle, with a continuous lit pavement along The Causeway linking Kneesworth to Bassingbourn. It is noted that journeys to school, which naturally account for a significant number of daily trips, can be made by foot or cycle, with the school approximately 2km from the site and therefore within the 'maximum preferred' distance set out within IHT guidance.

3.3 Arrangements such as a 'walking bus' could facilitate journeys to school for younger pupils. Travel plans and cycle vouchers have also been implemented in South Cambridgeshire and would help in encouraging modal shift, especially for local journeys.

3.4 It should be noted that for many settlements in South Cambridgeshire, local services (particularly higher order services such as secondary education, sporting facilities, healthcare and employment) are provided in nearby settlements for which walking and cycling are not always convenient or possible.

3.5 As set out within section 2 of this document, the East West Railway Company is consulting upon proposals to route the East West Rail central section close to Bassingbourn and provide a new railway station. If delivered, East West Rail would have a transformational impact upon the sustainability of Bassingbourn-cum-Kneesworth, which would benefit from national and local rail connections within comfortable cycling distance. Delivery of a railway station could also support 'feeder' bus services and act as a rural travel hub.

3.6 Overall, it is considered that the site benefits from good access to a range of local services in its rural context, including opportunities for day-to-day travel without relying on the private car.

Transport

- 3.7 ADC Infrastructure has assessed the likely traffic generation that would arise from an indicative maximum of 110 dwellings at the site. ADC consider that the site would give rise to around 80 two-way vehicle trips during a peak hour, of which around 57% would travel towards Royston (45 trips), 21% via Bassingbourn (17 trips) and 23% travelling north via the A1198 (18 trips). At this stage, it is not considered that this would represent a significant effect upon the operation of the highway network.

Access

- 3.8 The site is currently accessible by foot using the existing Footpath 21 which passes towards the west of the site, and by vehicle using the agricultural access to the north western corner of the site.
- 3.9 As part of the Infrastructure Appraisal prepared by ADC, consideration has been given to providing a new vehicular access point to the site. This has identified a point on Chestnut Lane, to the south of the site, where a suitable point of access can be achieved. This also provides adequate visibility splays in accordance with the Design Manual for Roads and Bridges.

Drainage

- 3.10 The far eastern part of the site falls within Flood Risk zones 2 and 3, which means they are at high risk of flooding. The flood zone follows the route of the watercourse passing to the west of the site. The rest of the site is within Flood Zone 1 and is therefore at much lower risk of flooding and suitable for residential development. Environment Agency mapping also indicates that parts of the west of the site close to the watercourse are at risk of surface water flooding.
- 3.11 ADC Infrastructure has assessed the flood risk on the site and considers that through a careful approach to design, including the implementation of a Sustainable Drainage System, flood risk from fluvial sources and surface water can be mitigated to an appropriate level.
- 3.12 The scheme design includes an indicative attenuation basin to the west of the site. A detailed surface water drainage scheme will be prepared in due course, however the work done to date indicates that an appropriate design can be

implemented and therefore flood risk and drainage matters are not a constraint to development.

Utilities

- 3.13 An oil pipeline passes diagonally through the southern part of the site. This is not part of the network of high-pressure pipelines and information received from the Health and Safety Executive indicates that there is no concern in respect of blast zones. The pipeline does however have a 6m easement each side, which is therefore reflected in the scheme design.

Ecology and protected sites

- 3.14 The nearest SSSI is the Holland Hall Railway Cutting approximately 2.8km to the east of the site, although as part of the operational railway this is not open to the public. Other SSSIs within a 5km radius include Therfield Heath to the south of Royston (3.8km south) and the L-Moor at Shepreth (4.3km north-east).
- 3.15 The site does not fall within any SSSI Impact Risk Zone associated with the above sites. The site is not subject to any other ecological designations.
- 3.16 The detailed design of the scheme will be informed in due course by ecological survey work to identify the presence of protected species at the site, if any. Development of the site could potentially deliver net ecological enhancements through appropriate landscaping and the creation of new habitats.

Heritage

- 3.17 The site does not lie within a Conservation Area.
- 3.18 The nearest listed buildings are as follows:
- Red Lion Inn (Grade II), 110m to the south of the site;
 - Barn Circa 10 Metres East of Red Lion Inn (Grade II), 110m to the south;
 - Tudor Cottage (Grade II); 140m to the south-west;
 - The Grange and attached Garden Wall to North and Garden Building (Grade II); 170m to the west;
 - Stables Circa 10 Metres South of The Grange (Grade II); 170m to the west;
 - Number 10 and Attached Barn to West (Grade II); 170m to the west;

3.19 The listed buildings form two 'clusters' along the A1198. The site is well-screened from each of these listed buildings either by intervening built form, or existing trees and hedgerows. With an appropriate scheme design in place, it is not considered that heritage matters form a constraint to development at the site.

Public rights of way

3.20 A public footpath 21 passes along the western boundary of the site. Through appropriate design it is possible to ensure that this is not affected by development at the site and can be successfully integrated into the public open space at the site.

Contamination

3.21 The site's current use as undeveloped arable farmland indicates that the risk of contamination arising on the site is limited. However, at the time of the detailed design, any planning application will be accompanied by a Contamination Desk Study which will assess the risk of contamination. It is envisaged that appropriate planning conditions can be used to ensure that contamination is not a constraint to development at the site.

4. DEVELOPMENT POTENTIAL

Need for the proposed development

4.2 The Greater Cambridge authorities will be well aware of the pressure to deliver substantial numbers of new homes through the new Local Plan. In common with many authorities in the East of England, the Greater Cambridge authorities will need to address a significant uplift in residential growth through the emerging Local Plan. At present, the two authorities have a combined housing requirement of 1,675 dwellings per annum. Based upon Local Housing Need figures, this could increase to 1,832 dwellings per annum (as calculated March 2019). A substantial proportion of this need will have to be met within South Cambridgeshire given that Cambridge City has a limited urban capacity and is bounded by Green Belt. Barwood Homes consider that land at Chestnut Lane is a suitable, available and achievable site for development and benefits from good access to services, employment and education given its rural location.

Site development potential

4.3 In order to establish the potential capacity of the site, having regard to the technical matters raised in the section above, an indicative Framework Plan (**Appendix 2**) has been prepared by Pegasus Design.



LAND TO THE EAST OF KNEESWORTH - FRAMEWORK PLAN Pegasus Design

PLANNING | DESIGN | ENVIRONMENT | ECONOMICS | WATER | ARCHITECTURE | CIVIL | LANDSCAPE ARCHITECTURE | SURVEYING | STRUCTURE | SERVICES | SITEWORK | TRAFFIC | UTILITIES | VEGETATION | WASTE | WATERWORKS | WORKS

4.4 The Framework Plan shows:

- A developable area of 2.46 hectares, potentially accommodating up to 86 dwellings at 35 dwellings per hectare; with an indicative maximum of 110 dwellings;
- Potential for extensive landscape buffering around the boundaries of the development in order to achieve a 'soft' transition and screen the development from views from the north and east;
- Retention of most existing trees and hedgerows to the site boundaries;
- Provision of a surface water attenuation basin (subject to a detailed surface water drainage strategy);
- All development outside of the part of the site which falls within Flood Zone 3;
- Provision of a 6m easement to each side of the existing oil pipeline;
- Provision of a circular walkway, linking to the public right of way to the west of the site; and
- Access to the site from Chestnut Lane.

4.5 The detailed design of the scheme would be considered through a planning application at the appropriate time. It is noted that South Cambridgeshire has an established approach to ensuring design quality, which includes a Design Workshop and Design Enabling Panel. Barwood Homes will work with the Council to ensure an attractive, high quality environment.

4.6 The Framework Plan sets out some broad principles to create an attractive sense of place, including:

- Traditional perimeter block layout, ensuring dwellings front onto streets and open spaces;
- Development to face outwards to the countryside and Chestnut Road, presenting a 'fair face' rather than the backs or sides of properties; and
- The potential to provide focal point at the heart of the site with dwellings arranged as a composition, therefore creating an attractive space to the heart of the development.

4.7 The proposed development would generally be two storeys in height, with some two-and-a-half storey dwellings where these would offer visual interest within the streetscene. There may also be the potential to provide bungalows and one-and-a-half storey 'chalet' style dwellings.

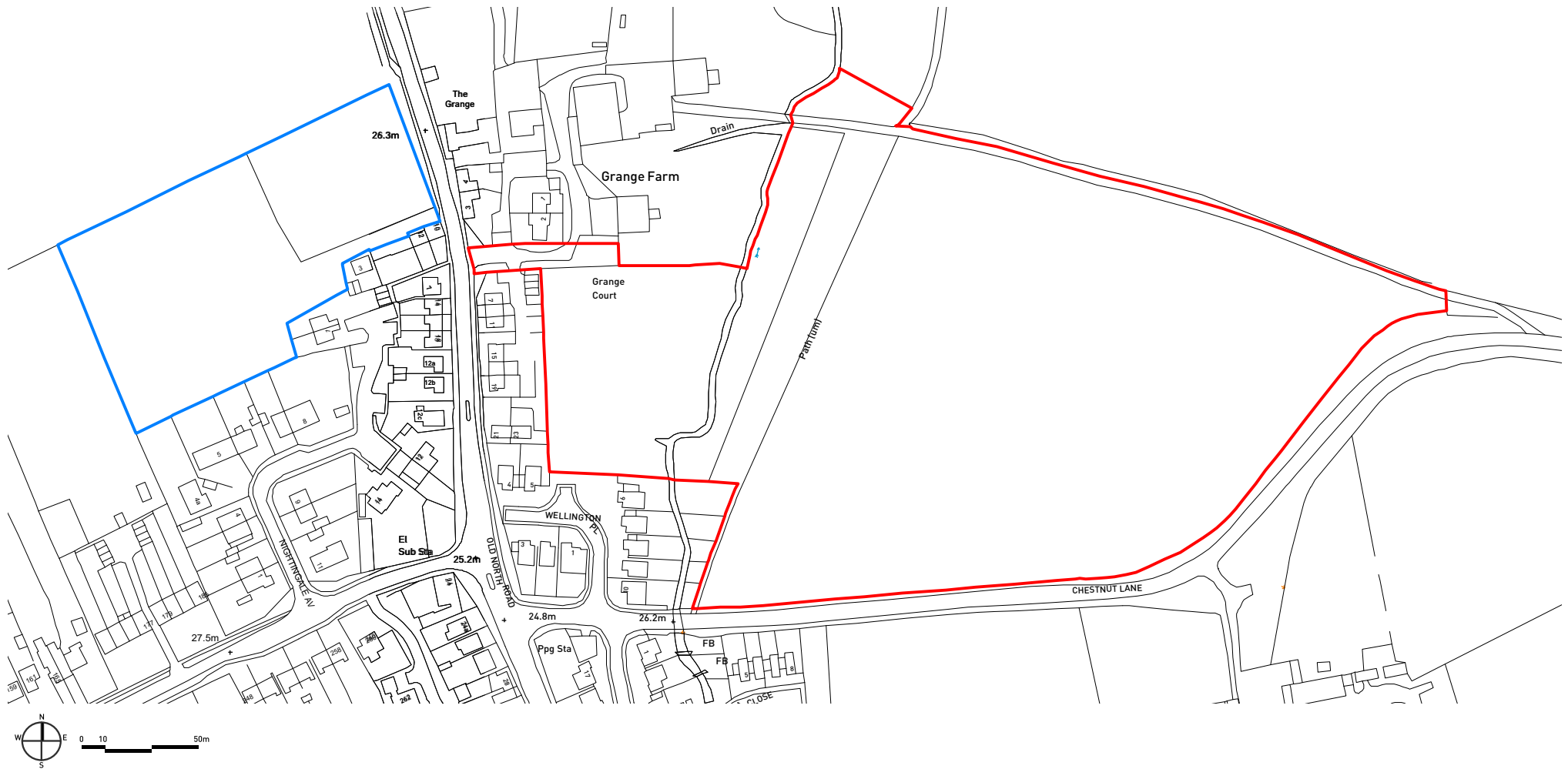
5. DELIVERY

- 5.1 The site is under option to Barwood Homes Ltd, a regional housebuilder with development interests across the South Midlands. Barwood Homes has been operating since 2011 and has successfully delivered a wide range of residential development schemes across the region. The landowners have confirmed their support for the Call for Sites submission. Both Barwood Homes and the landowners are committed to the prompt delivery of new homes at this site.
- 5.2 In light of the absence of any identified constraints or abnormal costs, and with a committed developer on board, it is considered that the proposed development can come forward without delay. Assuming two years for planning processes to be undertaken, and a conservative build-out rate of 40 dwellings per annum, the proposed development can come forward in full within five years.
- 5.3 At the appropriate stage in the planning process, Barwood Homes Ltd is willing to enter into a Statement of Common Ground with the Local Planning Authority in respect of delivery of the site.

6. CONCLUSION

- 6.1 This Site Promotion Document has been prepared by Pegasus Group on behalf of Barwood Homes Ltd to explore the development potential of land north of Chestnut Road, Bassingbourn-cum-Kneesworth.
- 6.2 The site lies within walking distance and comfortable cycling distance of the wide range of local services available in Bassingbourn. These include schooling, healthcare, community and retail services. All of these can be reached without relying on the private car.
- 6.3 An assessment of the technical aspects of the site has informed a Framework Plan which shows that up to 110 dwellings can be accommodated on the site depending upon the amount of area used for landscaping and attenuation. The Framework Plan illustrates how a scheme of up to 86 dwellings could come forward at the site. Access is possible from a new junction to Chestnut Road.
- 6.4 It is considered that the site is suitable, available and achievable for development, with no constraints that would prevent the site from coming forward promptly. Barwood Homes Ltd would welcome the opportunity to discuss the merits of the allocation of this site further, and looks forward to engaging in the preparation of the Greater Cambridge Local Plan in due course.

APPENDIX 1: Site Location Plan



LAND TO THE EAST OF KNEESWORTH - SITE LOCATION PLAN



APPENDIX 2: Framework Plan

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KEY

- SITE LOCATION (5.32HA)
- RESIDENTIAL PARCEL (2.46HA)
UP TO 62 NO. DWELLINGS @ 25DPH
UP TO 74 NO. DWELLINGS @ 30DPH
UP TO 86 NO. DWELLINGS @ 35DPH
- PUBLIC OPEN SPACE (2.58HA)
(PROVISION TO INCLUDE ATTENUATION BASINS, PLAY AREA AND RETENTION OF EXISTING VEGETATION / EDGE OF WATERCOURSE, SUBJECT TO TREE SURVEY / ECOLOGICAL SURVEY)
- POTENTIAL FOR FRONTAGE TO BE DESIGNED AS A COMPOSITION
- EXISTING VEGETATION RETAINED (SUBJECT TO TREE SURVEY)
- INDICATIVE BUFFER PLANTING (SUBJECT TO LANDSCAPE PROPOSALS)
- ✖ INDICATIVE LOCATION OF ATTENUATION AREA (SUBJECT TO TOPO SURVEY / DETAILED DESIGN)
- ✖ INDICATIVE LOCATION OF PLAY AREA (SUBJECT TO LANDSCAPE PROPOSALS / DETAILED DESIGN)
- ➔ INDICATIVE VEHICULAR ACCESS (SUBJECT TO DETAILED DESIGN)
- EXISTING PUBLIC RIGHT OF WAY
- POTENTIAL CIRCULAR PEDESTRIAN FOOTPATH
- KEY NODAL POINT (PLACE MAKING AND TRAFFIC CALMING DEVICE)

N.B. PLAN IS SUBJECT TO FURTHER INPUT FROM SPECIALIST REPORTS INCL. TREE SURVEY, SURFACE WATER STRATEGY, DETAILED ACCESS, LANDSCAPE APPRAISAL, TOPO SURVEY, ETC

LAND TO THE EAST OF KNEESWORTH - FRAMEWORK PLAN **Pegasus**
Design

APPENDIX 3: Infrastructure Appraisal

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project number: ADC2061			report reference: ADC2061-RP-A
version	date	author	comments
1		Ian Kirk-Ellis Matthew Genn	internal draft
2	16/03/2019	David Cummins	first issue to Barwood

INTRODUCTION

- 1 In response to South Cambridgeshire District Council's call for sites, for their Local Plan evidence base, Barwood Homes appointed ADC Infrastructure to assess a development site in Kneesworth. This Infrastructure Appraisal report therefore examines highways, transport, flood risk and drainage matters, to establish the feasibility of residential development.
- 2 The site has an overall area of around 5.4 hectares. However, due to constraints discussed in this report, development would potentially occur on 3.6 hectares. Assuming a density of 30 dwellings/hectare, the site could accommodate around 110 dwellings.
- 3 The site is to the north of Chestnut Lane in Kneesworth. Its southern and eastern boundaries adjoin Chestnut Lane. To the west, the site has connectivity with the A1198 Old North Road, the main route through Kneesworth. Much of the western boundary of the site adjoins the curtilage of existing residential dwellings on Old North Road (**Figure 1**).



Figure 1: site location plan

TRANSPORT AND HIGHWAYS CONSIDERATIONS

Existing highway environment

- 4 Chestnut Lane joins the A1198 Old North Road at a mini-roundabout. From there, Chestnut Lane has a national speed limit that extends past the site and in to the countryside. From Old North Road, the initial length of Chestnut Lane has footways on both sides and an urban feel despite the national speed limit. However, that changes where the site starts, as the footways end. At this interface, footpath 21 joins Chestnut Lane.



Figure 2: view eastwards on Chestnut Lane showing footpath 21 interface on the left and enclosing hedgerows.

- 5 Further east, Chestnut Lane narrows and becomes rural in nature, with high hedgerows immediately adjoining the carriageway.

Access

- 6 Chestnut Lane is a C class road and through route. It provides access to Meldreth. A development of 110 houses can be served by a single point of access. Hence Chestnut Road offers the best opportunity for access to the site.
- 7 The site frontage is within the land ownership of the client and abuts the public highway. To support an access design a speed survey will be required to determine the 85th percentile speeds of vehicles passing the site frontage. In advance of that, for eastbound vehicles, a splay of 100m would be adequate for speeds up to 39mph (DMRB Desirable Minimum) and 46mph (DMRB Absolute Minimum). For westbound vehicles, a splay of 120m would be adequate for speeds up to 44mph (DMRB Desirable Minimum) and 51mph (DMRB Absolute Minimum). These splays would be more than adequate and have been selected for this report to be robust. **Figure 3** shows they can be delivered within the site frontage. Thus, adequate visibility can be achieved.



Figure 3: visibility splays of 100m eastbound and 120m westbound

- 8 With the extension of the urban edge, it would be beneficial for the speed limit along Chestnut Lane to be changed. The 30mph limit that starts at Old North Road should be extended eastwards to encompass the development. To achieve this, a Traffic Regulation Order would be required.
- 9 A simple T-junction would be an adequate form of access to the development. Chestnut Lane would be widened up to the access junction to ensure it had a sufficiently wide carriageway. The existing footways on Chestnut Lane would be extended eastwards up to the site access junction.
- 10 The site also has connectivity to the public highway at Old North Road. However, the land through which this access would pass is subject to flooding and hence if this were the only point of access the development could be cut off during times of flood. Nevertheless, this route could be used as a secondary access if it was desirable for masterplanning purposes, and could provide a pedestrian connection to the village centre.

Sustainable transport

- 11 The closest existing bus stops to the site are at the Old North Road/Chestnut Lane mini-roundabout. They would be 180m from the proposed Chestnut Road access junction, an easy walking distance. These stops are served by the C G Myall & Son operated 15 service that runs once a day Monday to Friday. The bus leaves Chestnut Lane at 1245 on its way between Royston and Haslington.
- 12 There are also bus stops on The Causeway, 420m from the western edge of the site on Chestnut Lane. They are served by the 15 service and also A2B Bus & Coach's 127 service. The 127 runs every 2 hours between Royston and Guilden Morden Monday to Saturday. On its way to Royston, the bus stops in Kneesworth at 0843, 1217, 1442, and 1656 hours.
- 13 Within 2km walk of the site frontage, the following facilities can be accessed, amongst others (**Figure 4**):
 - Bassingbourn Primary School
 - Bassingbourn Village College
 - Bassingbourn Pharmacy
 - Bassingbourn Surgery
 - SPAR, Bassingbourn
 - Bassingbourn Sports Centre
 - Bassingbourn Dental Practice.

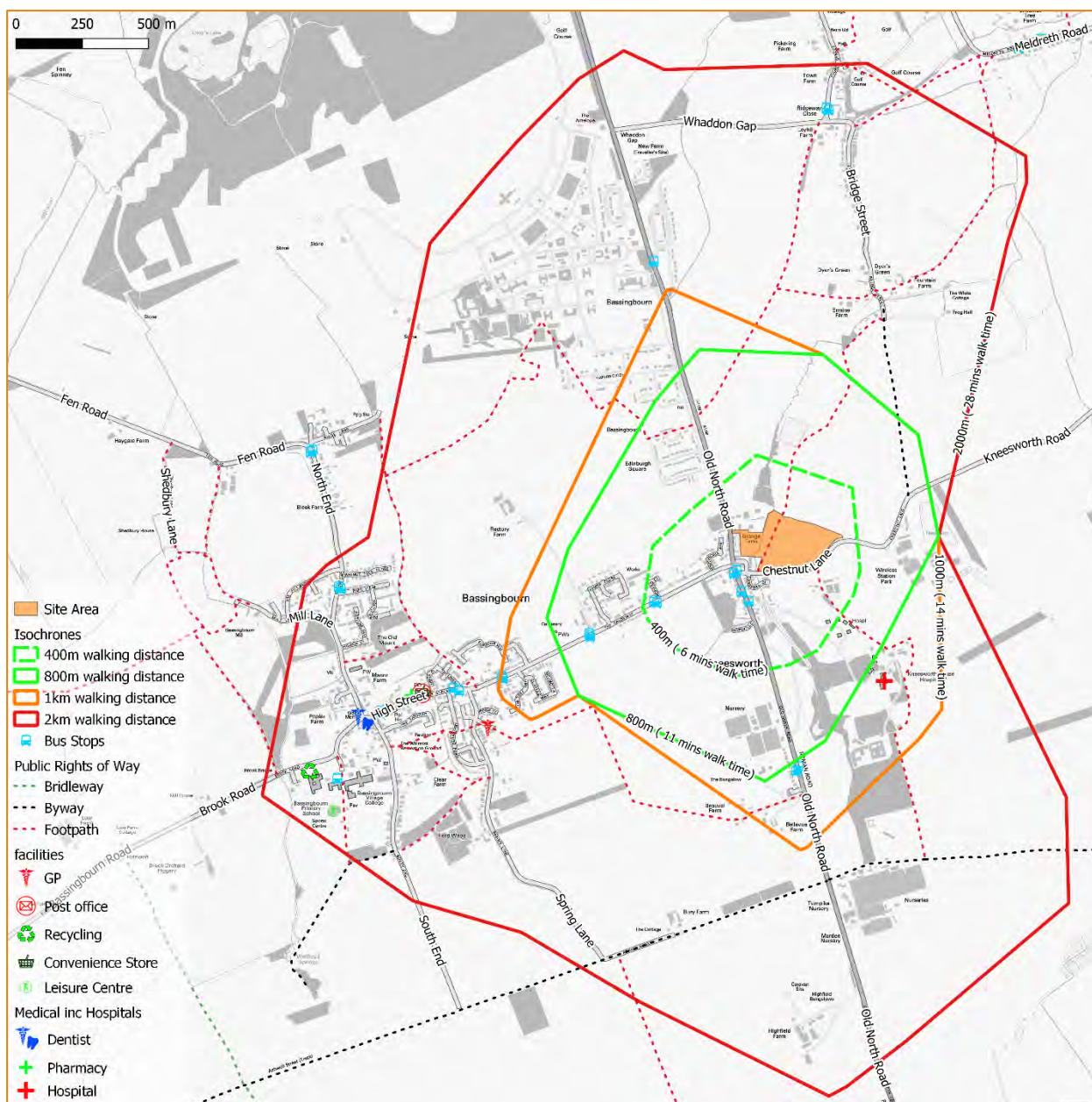


Figure 4: sustainable transport

14 According to the National Travel Survey, the average journey to work by cycle was around 5km long. Further, the Department for Transport has found that a cycled commute lasts 23 minutes, which is 7.4km at an average cycle speed of 12mph. Hence Royston, Meldreth, Shepreth and Basingbourn would be within cycling distance from the proposed development (**Figure 5**).

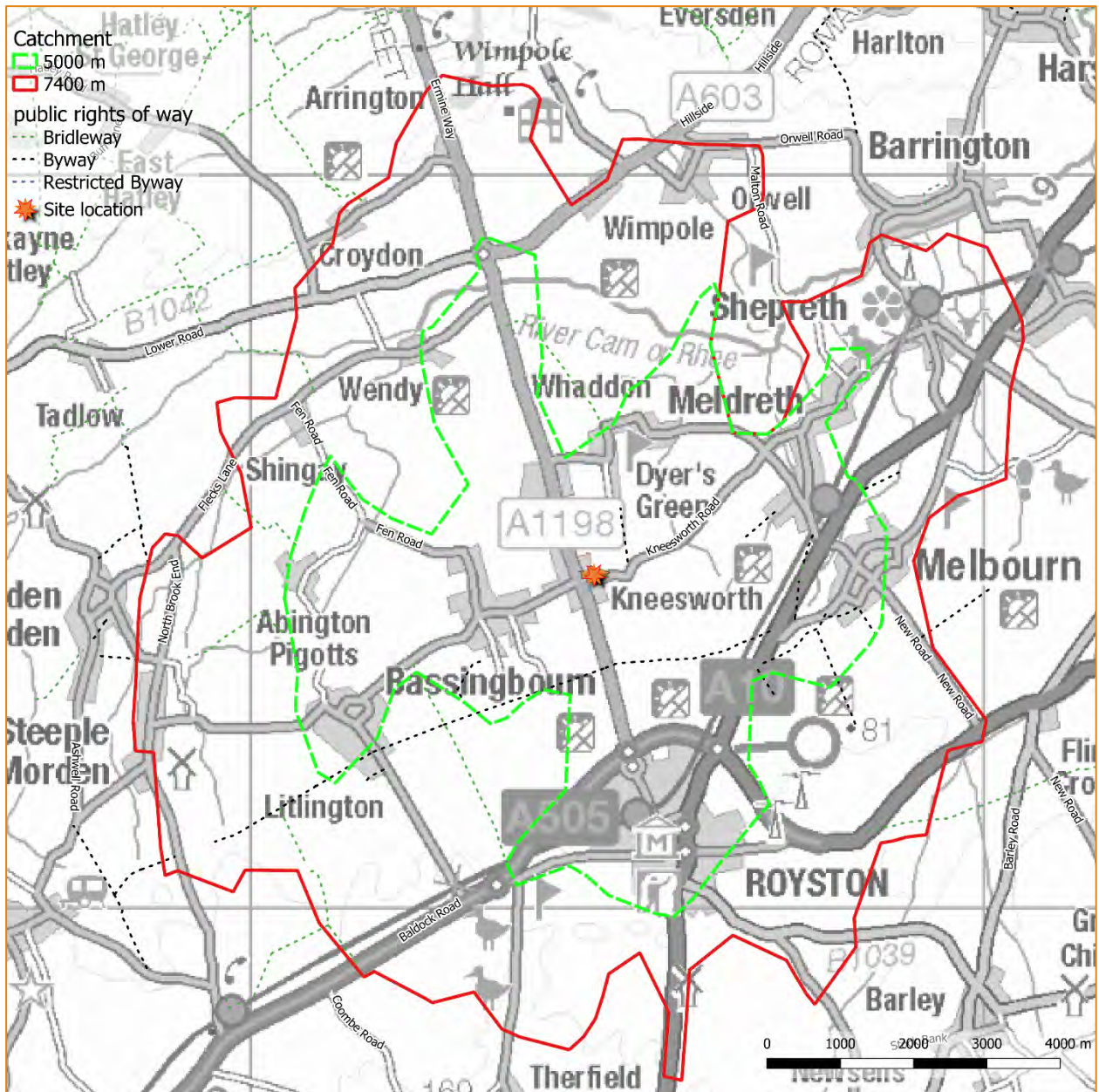


Figure 5: cycling catchment

Off-site traffic impact

- 15 The development site is assumed to be capable of accommodating around 110 dwellings. Hence it would generate around 80 two-way vehicle trips in a peak hour.
- 16 A distribution exercise has been undertaken using the Middle layer Super Output Area (E02003793) to understand where people from the local area travel to work. The vast majority of vehicle trips generated by the development would route south towards Royston (56.6%). Of the remaining 43.4% of traffic flow travelling north, 20.8% would be via Bassingbourn, with the remaining 22.6% continuing north on Old North Road.
- 17 Applying these percentages to the generated vehicle trips results in 18 two-way trips to the north and 17 two-way trips to the west (Bassingbourn). These are modest increases in traffic and would not materially alter the existing traffic conditions. In addition there would be 45 two-way trips to the south (Royston). At the next junction to the south, the A605 roundabout, traffic will split three ways such that there would not be a material increase in traffic beyond the roundabout.

FLOOD RISK APPRAISAL

Existing risks

18 The flood risks to the site are summarised in the table below. **Figures 6 to 8** show an overview of the flood risk from fluvial, pluvial (surface water) and reservoir flooding.

Flooding Source	Degree of Risk	Source of Risk
Fluvial	Low-High	The site spans across Flood Zones 1-3. An ordinary watercourse runs through the site at Grange Farm, with areas of Flood Zones 2 and 3 immediately around it. Rest of site falls within Flood Zone 1.
Tidal	None	Site is not in a tidally influenced area.
Canals	None	There are no canals within the vicinity of the site.
Groundwater	Low	Limited available information on groundwater flooding in local area. No historical record of groundwater flooding in immediate vicinity of the site.
Sewers	Moderate	Site is currently greenfield, and not currently served by an existing drainage network. Recorded flooding datasets held by South Cambridgeshire District Council show incidents of both surface and foul water sewage flooding in the surrounding area.
Pluvial (Surface Water) runoff	None	Areas of medium and high risk closest to the River Rhee. Isolated area of surface water flooding near centre of site. This is assumed to be due to a topographic feature on site.
Reservoirs and Waterbodies	None	Site is located within an area deemed not to be at risk of reservoir flooding.



Figure 6: EA Flood Map for Planning extract, showing fluvial flood risk to the site

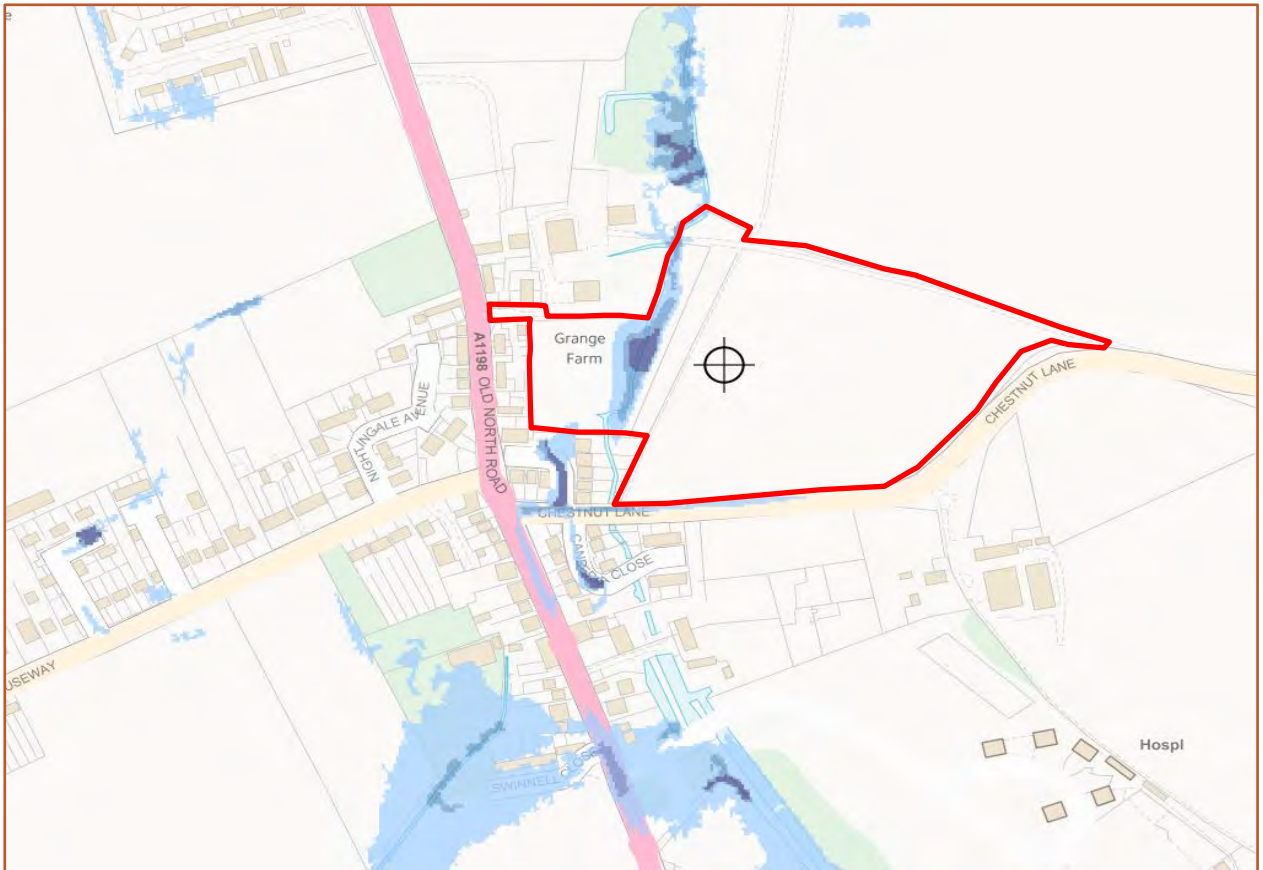


Figure 7: the pluvial (surface water) flood risk for the site

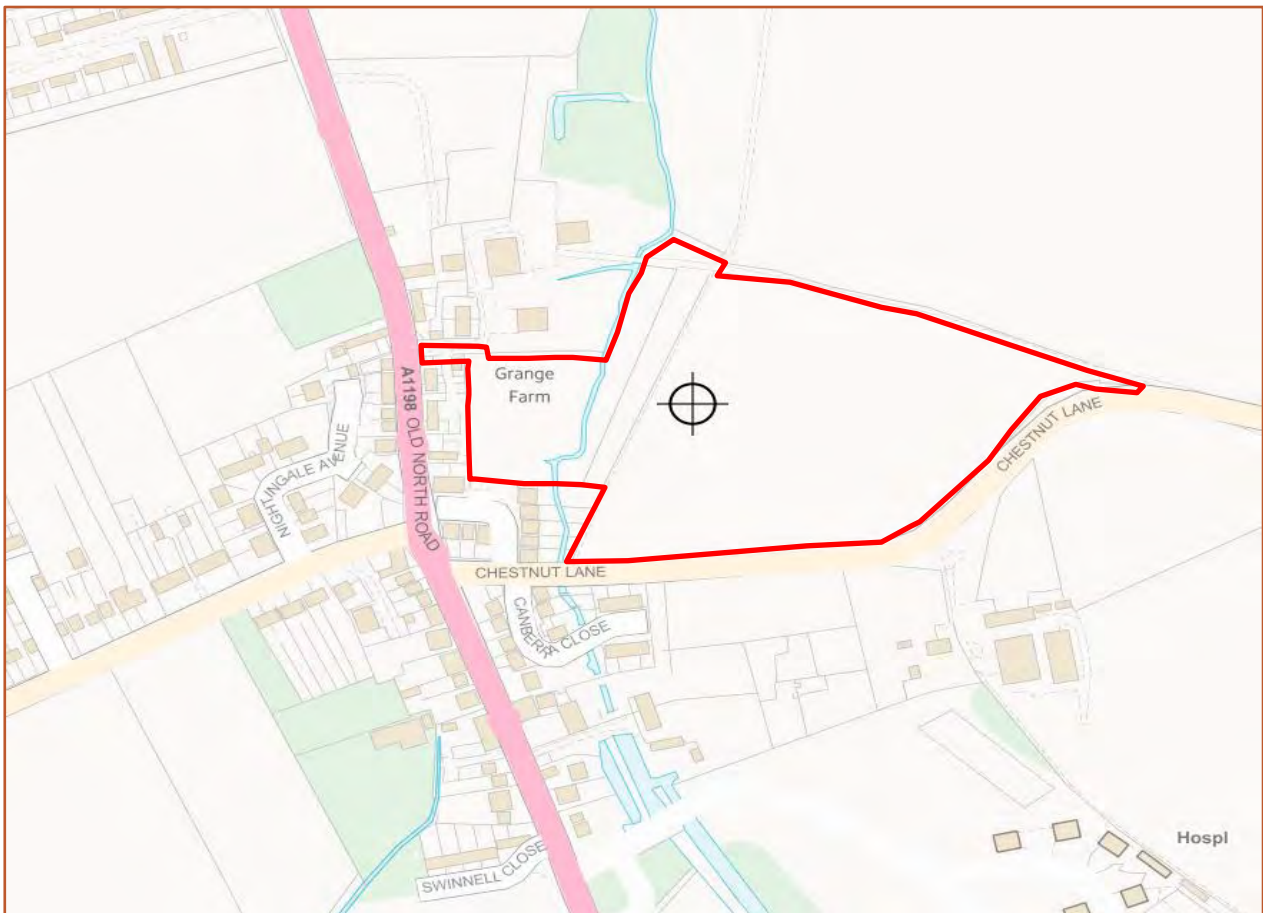


Figure 8: the risk from reservoir flooding to the site

Recorded flooding and Flood Warnings

- 19 The Environment Agency Recorded Flood Outlines mapping has also been reviewed and showed there have been no recorded incidents of historic fluvial flooding to have directly impacted the site.
- 20 The Strategic Flood Risk Assessment (SFRA) for South Cambridgeshire has records of historic flooding that have impacted the surrounding area, as follows:
 - 07/06/2009 – *Bassingbourn, A1198 (Old North Road) – Highway drainage flooding.*
 - *Date unknown – Bassingbourn, Canberra Close – Flooding from the Foul Sewage Pumping station*
- 21 The areas of the site which fall with Flood Zones 2 and 3, fall within a Flood Warning Area that covers the wider River Rhee catchment in Central Bedfordshire, Hertfordshire and Cambridgeshire. As such it will receive the Environment Agency's Flood Warning service that will advise future site users on the appropriate action to take in a flooding event.

Site considerations

Flood risks - fluvial

- 22 The EA Flood Mapping shows that portions of the site fall within Flood Zones 2 and 3. These have been attributed to an ordinary watercourse which crosses the site. A review of the local Strategic Flood Risk Assessment (SFRA) for South Cambridgeshire shows that the areas of the site at highest risk are considered as the functional floodplain (Flood Zone 3) for the watercourse.
- 23 As part of the SFRA, a series of District wide flooding constraints plans were produced following a detailed hydraulic modelling exercise of the area. These confirm that areas of the site fall within Flood Zone 3b. Flood Zone 3b is classified as land that has the potential to flood from storm events up to and including a 1 in 20-year return period (5% AEP). This has implications on the suitability and siting of certain development types within these areas.
- 24 It is recommended that both the Environment Agency and the District Council are consulted and a request be made to obtain this modelling information.

Flood risks – sewer flooding

- 25 The historic flooding records held by the District council show there to have been two incidents of flooding from the existing drainage network. One was the result of flooding from the highway drainage on Old North Road (A1198), following an intense rainfall event. The other was a from the foul water pumping station on the corner of Canberra Close and Chestnut Lane.
- 26 The flooding incident from the pumping station indicates that there maybe capacity issues with the existing drainage network in the local area. It also indicates that the network may be nearing the end of its anticipated design life.
- 27 This has implications for the site, and it is recommended that Anglian Water be consulted through a Developer Enquiry to assess the current state of the existing network. It will be necessary to evaluate the potential impact that any new development would have on the network, and whether it would exacerbate existing capacity issues and increase the risk of sewer flooding.

- 28 The response from Anglian Water may include a suggestion for detailed hydraulic modelling of the current drainage network to be undertaken. This would definitively confirm any likely impact that a new development would have on the existing drainage network.

Siting of the development

- 29 The majority of the site falls within Flood Zone 1, and so the proposed residential development would be deemed as being suitable under the NPPF and PPG guidance. For the areas of the site nearest the existing watercourse, classed as being within Flood Zone 3b (functional floodplain), only development deemed as being essential infrastructure (subject to the Exception Test) and water compatible development are permitted.
- 30 Local flood risk management guidance also specifies that local byelaws require no obstruction within 5m of any watercourse in the control of the District Council. This would prohibit any development within this 5m easement, and potentially includes any highways infrastructure.
- 31 As such, it is recommended that all development be located in the areas of lowest flood risk (Flood Zone 1). Consideration would still have to be given to the impact of the development upon drainage, the use of SuDs, and the management of surface water runoff on site.

Access and egress

- 32 The watercourse crossing the site and the surrounding area poses a potential risk in terms of safe access and egress onto Chestnut Lane going towards Bassingbourn. It also limits the potential for an access to the site from Old North Road, as access to the west could be cut off during a flooding event.
- 33 If an access to the site from Old North Road was to be considered, in accordance with local guidance, it needs to be designed to be above the 1 in 100-year (1% AEP) flood level to enable the safe evacuation of residents from the site in the event of a flood. This includes sufficient vehicular access to allow for the emergency services to reach the development during flood conditions.

Surface Water Management

- 34 The surface water management on site will need to consider the guidance specified within the Strategic Flood Risk Assessment (SFRA), Local Flood Risk Management Strategy (LFRMS) and the Building Regulations Part H: Drainage and water disposal.
- 35 Finished floor levels onsite will need to be set at a minimum of, whichever is higher:
- 300mm above the general ground level of the site.
 - 600mm above the estimated river or sea flood level.

CONCLUSIONS

36 In terms of transport:

- The development site would be within walking distance of various local facilities. There are bus services within walking distance, with a bus every two hours.
- Access to the development can be provided on Chestnut Lane, with adequate visibility and an access that would conform to design standards. Some widening of Chestnut Lane might be required, along with new footways to connect to the existing network.
- Material traffic increases would be confined to the A1198 Old North Road to the south of Kneesworth but the level of increase would be modest at around 45 vehicles.

Overall, the development would be in a sustainable location where traffic impacts could be adequately mitigated.

37 In terms of flood risk:

- Part of the site would be within Flood Zone 3b and development in this area should be avoided.
- An historic flooding incident indicates that there may be capacity issues with the existing drainage network in the local area and this will need to be checked.
- SuDs would be required to manage the surface water from the development site and restrict the runoff to pre-development levels.

Overall, the flood risk and drainage matters associated with the development of the site can be dealt with through the appropriate analysis and mitigation.