



Vision Statement

Land West of Templars Way
Sharnbrook
Bedfordshire

Glenalmond Developments Limited

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Version 1.3

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Introduction

1.1 Executive Summary

This Vision Statement has been prepared by Cerda Planning, on behalf of Glenalmond Development Ltd who have an promotional agreement. The vision statement has been prepared to demonstrate the deliverability of land to the west Templars Way, Sharnbrook for residential as part of the emerging Neighbourhood Plan and Local Plan Review. Glenalmond have secured a promotional agreement for this site and this Vision Statement is prepared on the basis that further work will be undertaken to demonstrate the deliverability of the site.

As a key service centre, it is fundamental that enough land is released and allocated now for development in Sharnbrook to help achieve the objectively assessed housing needs of the village, delivering both open market and affordable housing. This requirement is set out in the National Planning Policy Framework and the Local Plan.

The land west of Templars Way is a highly sustainable site, along with surrounding land parcels, to help deliver this growth. In order to demonstrate the deliverability of the site, this Vision Statement has taken account of technical considerations including arboriculture, ecology and biodiversity, transport, accessibility, flood risk, noise and landscape. Some technical reports have been undertaken to support the Vision Statement but Glenalmond are committed to fully demonstrating the deliverability of the site, as required.

The conclusions of the technical considerations and works carried out have fed into and informed the preparation of a concept masterplan, demonstrating the capability for the site to comfortably deliver 64 dwellings on the site, and potentially more if desired, over the plan period. The concept masterplan includes provision of residential development and associated infrastructure including attenuation, open space, and landscape enhancement.

The statement also includes answers to the questions that have been posed by the neighbourhood plan group to promoters and developers of the sites.

This statement demonstrates that the site, in association with other sites or independently, represents an inherently logical and sustainable extension, delivering incremental and sustainable growth to the east of Sharnbrook with easy access to the local highway network. The site is largely unconstrained, benefiting from permanent and defensible boundaries such as the railway line, and is well-contained by established landscape features and its topography. The site also benefits from easy access to public transport, and employment opportunities.

It has been demonstrated that the site is deliverable, with the potential to deliver new housing early in the plan period. The site is available now, offers a suitable location for development, is achievable with the potential for the development to commence on site within five years, and is viable. Accordingly, Cerda Planning consider that the site should be allocated in the emerging Neighbourhood Plan.



1.2 Site Location and Topography

The site area measures approximately 2.83 hectares and is comprised of a single land parcel.

The current land use is agricultural greenfield land.

The site is bound to the north-east by the existing railway line and to the south-east by Templars Way. Beyond the railway line is primarily agricultural land although there is some linear development. Templars Way rises towards the railway line to provide a crossing. Beyond Templars Way is a parcel of land comprising residential development and commercial development immediately adjoining the railway line.

At the southern end of the site is The Fordham Arms. There is a drain running along the western boundary of the site. Immediately adjoining the west of the site is an agricultural field and beyond this is the village centre.

To the north of the site is an agricultural field but beyond this is a large commercial site.

Access to the land parcel at the site are gained from Templars Way. As noted above, Templars Way rises but the site is generally flat providing no constraint to development.



1.3 Sharnbrook

About 168,000 people live in Bedford borough; two thirds in the main urban area of Bedford and Kempston and one third in the rural area surrounding it. Beyond the towns some of the larger villages, such as Clapham, Bromham, Wootton and Shortstown are very close to the urban edge whilst others including Great Barford, Wilstead and Sharnbrook lie further from it.

Sharnbrook is a village located close to the A6, between Bedford and Kettering, C8.0 kilometres south of Rushden. The village has a population of circa 4,000 with circa 1,628 dwellings. The village is identified as a 'Key Service Centre' in Bedford Borough Council's 'Settlement Hierarchy' document (published September 2018). A key service centre is defined as:

“Key Centre: contain a good range of services and are well connected to larger town centres by regular public transport. They provide a strong service role for the local community and surrounding area.”

Sharnbrook has two educational establishments (Sharnbrook John Gibbard Lower School and Sharnbrook Academy School and Sixth Form), two drinking establishments (The Fordham Arms and Swan with Two Nicks), eating establishments, local shops and several community facilities including:

- Parish Church of St Peter
- Playing Pitches
- Sharnbrook Village Hall
- Sharnbrook Community Sports Centre

Further, more extensive facilities are provided surrounding larger settlements accessible by public transport including Rushden, Kettering and Bedford.



1.4 Engagement with the Neighbourhood Plan Group

Glenalmond Developments have been actively engaging with the Sharnbrook Neighbourhood Plan Group to demonstrate the suitability and deliverability of the proposed site.

A written response was provided to the call-for-sites exercise along with a previous iteration of this Vision Statement.

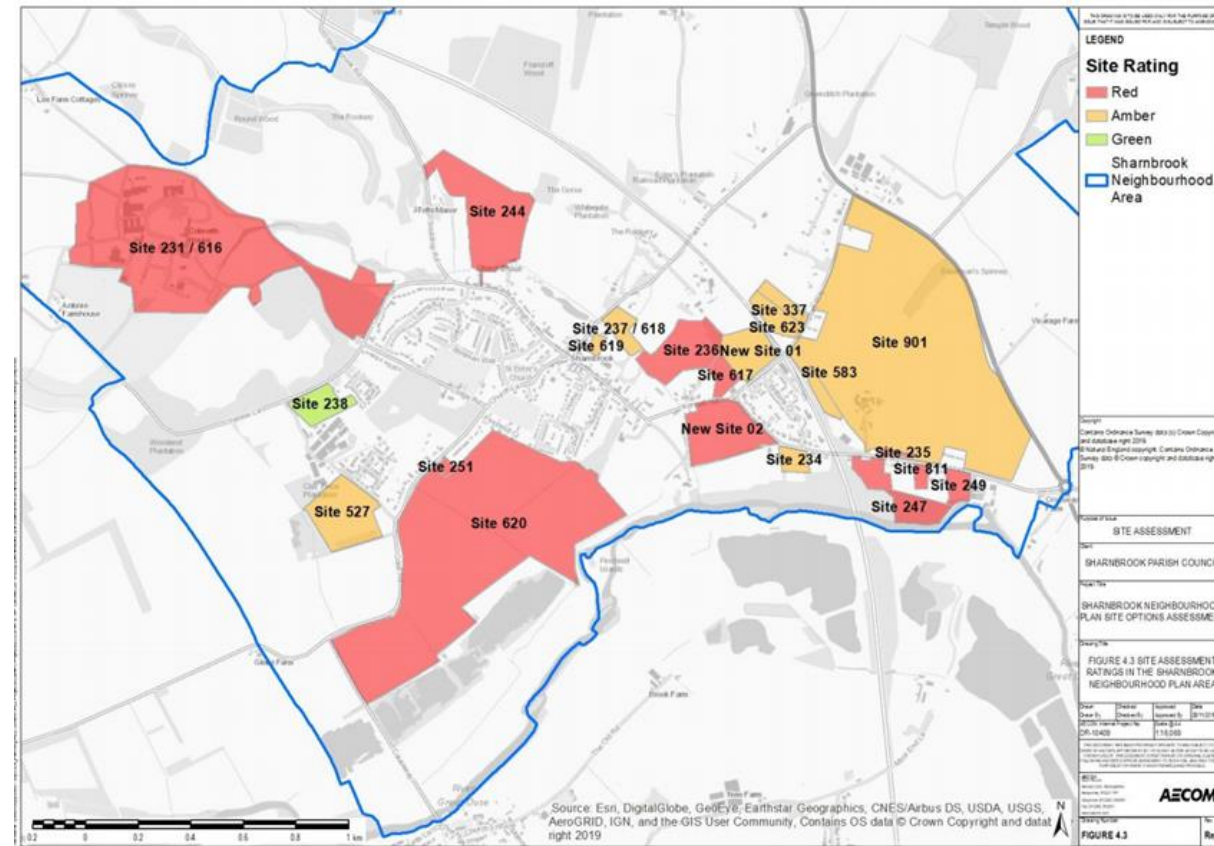
Following the call-for-sites exercise, Glenalmond took the opportunity to meet members of the Neighbourhood Plan Group at the 'meet the developers' day in January 2020.

Sharnbrook NPG have recently undertaken a Regulation 14 Consultation on the emerging Neighbourhood Plan including consultation on the Strategic Environmental Assessment and supporting evidence.

Whilst not presently proposed as an allocation, the site scored relatively highly comparative to other submitted sites. A RAG map demonstrating the results of the site assessment can be seen on the right.

A summary of the Site Assessment for the proposed site can also be seen on the right. Glenalmond identified some inaccuracies in the Site Assessment which have been highlighted through the Regulation 14 Consultation which is supported by the reports accompanying this document and summarised in the following chapter.

Glenalmond continue to work pro-actively with the Neighbourhood Plan Group and hope to be given the opportunity to bring forward this site in the near future.



Site ID	Location	Area (ha)	SPC Call for Sites	N/A - Site submitted after the publication of the 2018 SHELAA	Site Description	Estimated Dwellings
New Site 01	North east of Fordham Arms, Sharnbrook	2.90		N/A - Site submitted after the publication of the 2018 SHELAA	The site is outside of the existing settlement boundary but is opposite and connected to the small settlement at Coffle End. It is favourably to moderately located to most key services and is of low landscape sensitivity. At present there is an existing vehicular access but it would require improvements to support residential uses subject to consultation with the Highways Authority. The level change as Templars Way rises towards the railway bridge may constrain the ability to provide an adequate access. A Public Right of Way runs across the western section of the site. It should be maintained and enhanced where appropriate as part of any development proposal. Overhead powerlines run across the site and along Templars Way which may reduce the developable area of the site. In addition, the north-eastern boundary of the site adjoins the railway. A Noise Impact Assessment and acoustic screening would potentially be required due to potential noise impacts from the railway. The northern part of the site is beyond the area designated on the BBC Policies Map as Village Open View I (Policy AD40), however it is visible from Kennell Hill and could impact on the view. Policy AD40 resists development on land designated as a village open space or view unless it can be demonstrated that the reasons for designation are not compromised or that other material considerations outweigh the need to retain the Village Open View undeveloped. The northern half of the site has been discounted from the developable area in order to retain the view and not conflict with the intent of Policy AD40. The site is promoted for development during the Plan's consultation and is available for development. The site is potentially suitable for development and allocation subject to provision of a suitable access, infrastructure and noise mitigation from the railway line and further evidence which demonstrates that it would not compromise the designated Village Open View I of Sharnbrook. The site is potentially suitable for development but its location beyond the small settlement of Coffle End mean that development would have to meet the requirements of Policy 7S for the site to be suitable for residential development.	Estimated 35 dwellings.



Opportunities and Constraints

2.1 Arboriculture

A site walkover to carry out a preliminary arboricultural appraisal of existing trees and hedgerows on the site and to identify the principal constraints and opportunities in the context of preparing a masterplan.

The principal constraints have been identified during an objective study using the recommendations contained within BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations. By considering the principal arboricultural features of the site at an early stage, the study seeks to establish baseline conditions to assist in the neighbourhood plan group’s consideration for the site’s suitability and capacity to receive development.

Background checks have revealed that the site does not fall within a Conservation Area nor are there any Tree Preservation Orders confirmed on trees within influence of the site.

The site’s principal arboricultural features within influence of the site are considered to be moderate quality trees located along the northern and western boundaries. The location is highlighted on the below image with a blue wash.

It is recommended that a landscape buffer or Public Open Space affords the boundary vegetation separation from future development.



2.2 Ecology and Biodiversity

A desktop preliminary ecological appraisal has been undertaken to identify the principal ecological constraints and biodiversity opportunities in the context of preparing a masterplan.

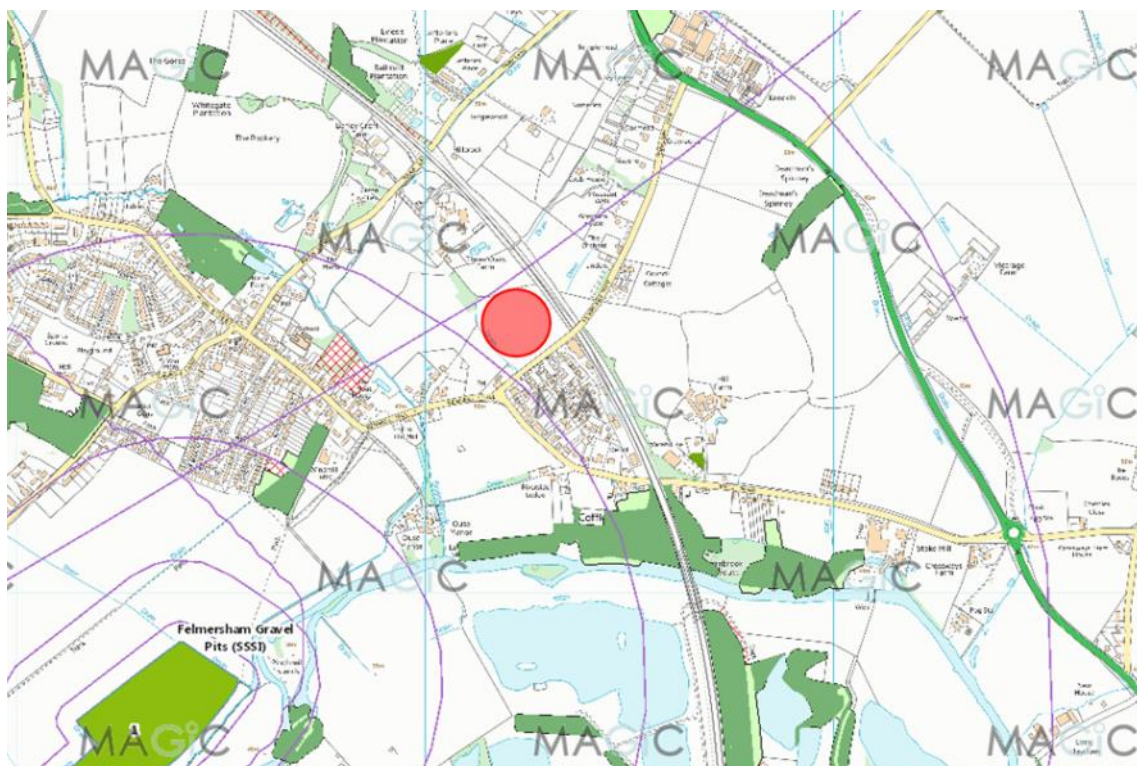
A desktop study of online ecological databases was undertaken. In addition, a general review of mapping data and aerial imagery was undertaken to establish the likely nature of habitats present within the site and its surrounding area and their potential to support features/wildlife of ecological interest.

Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (15km). In addition, the MAGIC database was searched to identify the known presence of any Priority Habitats within or adjacent the site.

The next nearest statutory designation to the site is Felmersham Gravel Pits Site of Special Scientific Interest (SSSI), located approximately 1km south-west of the site.

The desktop study found that the site is not subject to any statutory or non-statutory ecological designations. All ecological designations in the local area are separated from the site and are unlikely to be significantly impacted by future residential development at the site.

The review of aerial imagery indicates that the habitats within the site comprising boundary features are likely to be common in the surrounding area and only of local level ecological value at most. The hedgerows, drain, trees and potentially the field are likely to provide the greatest relative ecological interest.



The majority of the site appears to be dominated by arable land which typically offers very limited opportunities for faunal species. However, there is the potential for bats to roost within any mature trees on-site. In addition, the field margins, hedgerows, trees and grassland provide potential habitat for foraging and commuting bats as well as foraging and nesting birds. Accordingly, further surveys will be carried out should the proposals be supported in principle through the emerging plan process.

Overall, subject to the findings of a number of further surveys, based on the results of this preliminary desktop study, and the incorporation of any required mitigation measures within a sensitive scheme design, it is considered unlikely that there would be any overriding ecological constraints to development of the site.

Having regard to the illustrative masterplan, landscape buffers and any associated SUDs features would likely be sufficient to ensure a minimum Biodiversity Net Gain of 10% in accordance with the emerging Environmental Bill and would be demonstrated using the Government's biodiversity calculator otherwise known as the "Defra metric".

2.3 Transport

Hub Transport Planning Ltd has been commissioned to provide transport advice for a proposed residential development off Templars Way, Sharnbrook.

Local Highways Network

Templars Way is a c.5.0 - 5.5 metre wide single carriageway (which widens in excess of c.70 metres as it approaches the junction with Kennell Hill), and subject to a 30mph speed restriction. A footway is located on the northern side of Templars Way, measuring c.1.5 metres in width and providing a connection south-west to Sharnbrook Village Centre.

To the south-west, Templars Way forms a priority junction with Kennell Hill and Mill Road. Mill Road provides a connection east to the A6, whilst Kennell Hill provides a connection west to Sharnbrook High Street.

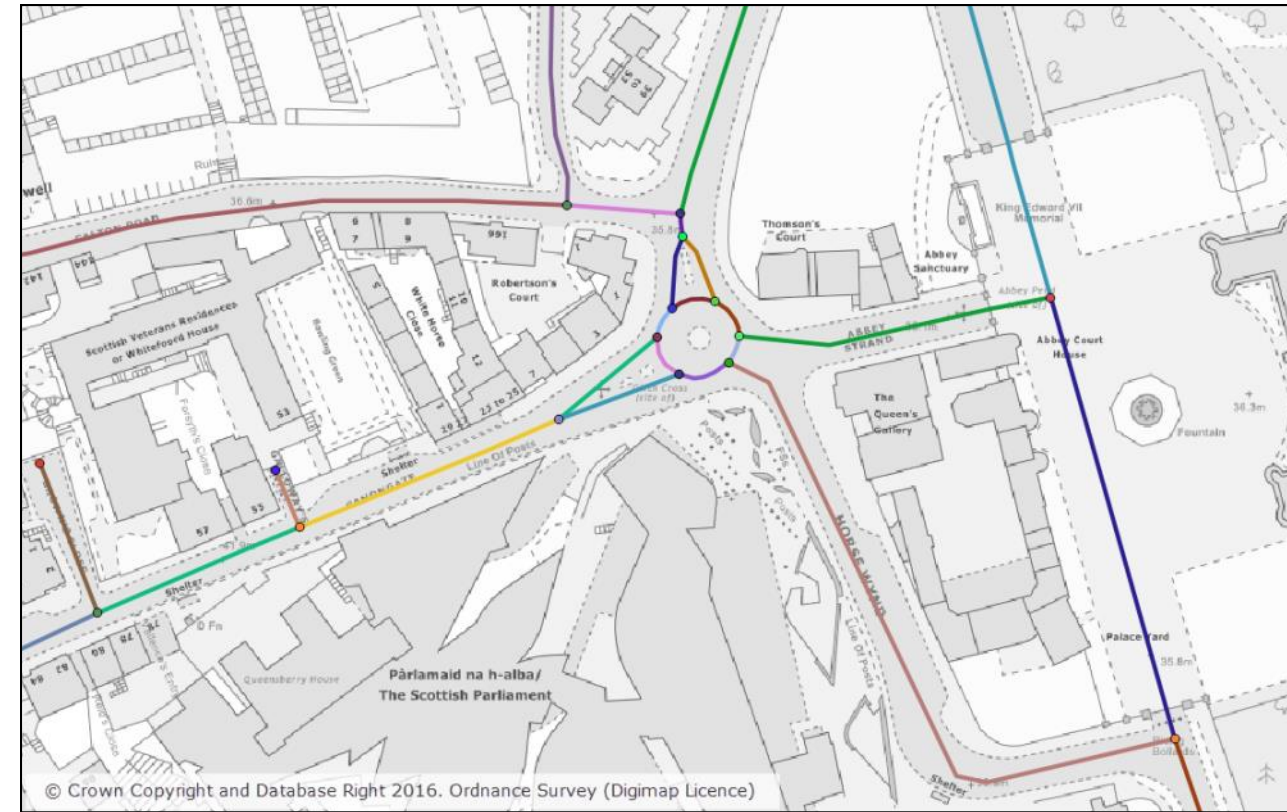
To the north-east, Templars Way also provides a link to the A6 and thus the wider strategic highway network

Personal Injury Accident Data

In order to establish road safety conditions on the highway network in the vicinity of the site, reference has been made to the Crashmap website. Consideration has been given to Templars Way between and including the junctions with the A6 to the north-east and the priority junction with Kennell Hill and Mill Road to the south-west.

Over the most recent five-year period (2014-2018), there have been three accidents. Two of which were classified as 'slight' in severity and one of which was classified as 'serious'. The slight accidents occurred on Mill Lane, in close proximity to the Templars Way priority junction, whilst the single serious accident occurred on the A6, in close proximity with the Templars Way priority junction. It was noted that the serious accident, and one of the slight accidents involved a single vehicle, with no other vehicles involved.

The low number of accidents over a five-year period, does not give rise for a safety concern on the local highway network.



2.3 Transport

Proposed Development Access Arrangements

It is proposed that the residential development is accessed from a priority junction with Templars Way.

An indicative arrangement has been prepared and can be seen in Drawing T19620.001 (see next page). The proposed access takes the form of a 5.5 metre road with 6.0 metre radii, and two metre footways are provided on either side, connecting with the existing infrastructure on Templars Way.

Visibility at the junction has been shown at 2.4 x 59 metres, which is considered suitable for typical 85th percentile speeds on a 30mph road, in accordance with MfS guidance.

A Public Right of Way (PROW) runs along the site's south-western boundary and links to Park Lane to the north, and to a pedestrian railway bridge to the north-east.

Traffic Generation

It is anticipated that the development could provide up to c.70 residential dwellings.

In order to determine the likely vehicle movements associated with the proposed residential use; the TRICS (7.6.3) database has been interrogated. The trip rates that have been extracted from the database are based upon the following search parameters:

- Land Use – Residential, Private Housing;
- Regions – England, Scotland, Wales (excluding Greater London);
- Number of Units – Up to 500 dwellings;
- Date Range – 01/01/2011 to 08/07/19;
- Selected Days – Weekdays; and
- Selected Locations – Neighbourhood Centre, Edge of Town, Suburban Area.

A summary of the trip rates and subsequent trip attraction during the peak hours are provided in the table below. It is clear that the new trips (to the local highway network) resulting from the proposed residential development will be low during the peak hours, significantly less than one vehicle a minute (two-way) during any peak period.

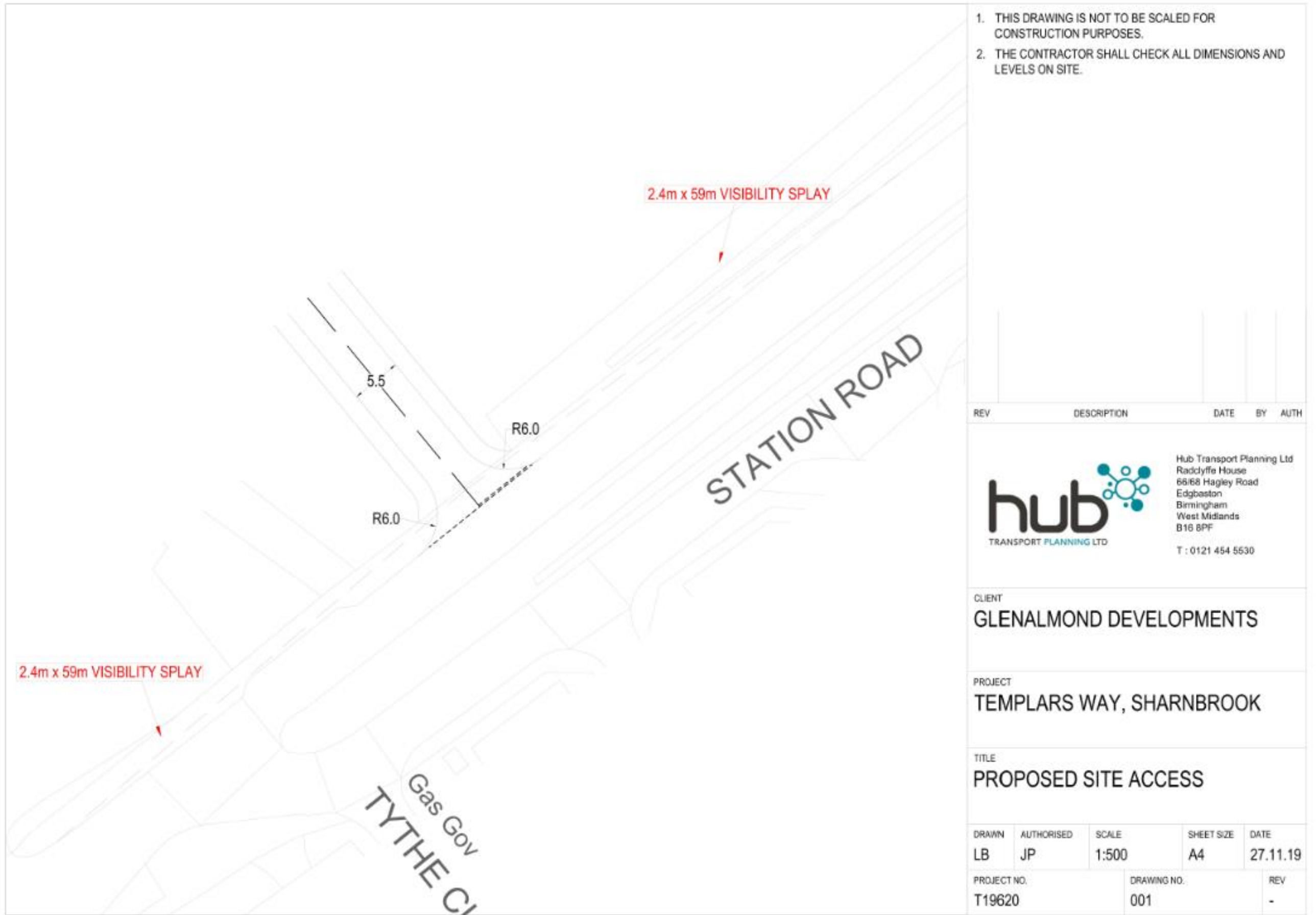


Peak Period	Trip Rate (per dwelling)		Trips (70 dwellings)		Total
	In	Out	In	Out	
AM	0.146	0.386	10	27	37
PM	0.353	0.169	25	12	37

NB: AM peak is 08:00-09:00 and PM peak is 17:00-18:00, trips have been rounded

Table 1 - Residential Trip Rates

2.4 Access



2.4 Accessibility

Sustainable Transport Accessibility

It is generally accepted that walking and cycling provide important alternatives to the private car, and should also be encouraged to form part of longer journeys via public transport.

With regards to walking, Manual for Streets (MfS) states that ‘walkable neighbourhoods’ are typically characterised by having a range of facilities within 10 minutes (up to about 800m) walking distance of residential areas which residents may access comfortably on foot.

MfS also states that the 800m walking distance is not an upper limit and references the former PPG13 guidance in respect of walking replacing short car trips, particularly those under 2km.

In addition to the above, it is pertinent to note that the National Travel Survey (published in July 2019), which provides a summary of the results of travel survey data for 2018, reports that the average walk trip distance with walk as the primary mode is 1.28 kilometres.

As such it is reasonable to assume that the average person will walk up to 1.28 kilometres to a defined destination (such as local facilities).

There is potential for short car trips to be substituted for cycle trips, and for longer trips to be substituted by a combination of cycle and public transport trips. Guidance suggests that 5km is a useful benchmark for a commutable distance by cycle.

The National Travel Survey 2019, highlights that the average cycle trip for 2018 was 6.13 kilometres.

Facility	Distance (approx.)
The Fordham Arms	180m
The Spice Tree	180m
Sharnbrook News	770m
Sharnbrook John Gibbard Lower School	835m
Swan with Two Nicks	855m
Cooperative Convenience Store	855m
Pharmacy	930m
Parish Church of St Peter	1.1km
Playing Pitches	1.45km
Sharnbrook Village Hall	1.42km
Sharnbrook Community Sports Centre	2.2km
Sharnbrook Academy School and Sixth Form	2.2km

2.4 Accessibility

Local Cycle Routes

Templars Way and Kennell Hill provide a connection west to the village centre and are subject to a 30 mph speed restriction. This route to the village centre is c.880 metres and is considered suitable for use by cyclists.

Sharnbrook Academy School and Sixth Form is located c.2.2 kilometres from the centre of the site via residential streets; Church Lane, Odell Road and School Approach. These roads are subject to a 30 mph speed restriction and considered suitable for use by cyclists.

Local Bus Services

The nearest bus stops are located adjacent to the site on Templars Way and are served by the number 50 stagecoach service and the VL11 villager community bus.

The number 50 stagecoach services runs hourly, Monday to Saturday between Kettering, Rushden and Bedford. On Sundays the service runs every 2 hours in either direction.

The first service of the day towards Bedford departs at 06:00 and arrives at 06:45, whilst the returning service runs until 20:19. It is therefore considered that the number 50 service is suitable for those residents commuting for work in Bedford, as well as for leisure trips.

The first service of the day towards Rushden and Kettering departs at 07:18 and arrives at 07:34 in Rushden and 0847 in Kettering. The last returning service departs Kettering at 18:38 and Rushden at 19:20. It is therefore considered that the number 50 service is also suitable for those residents commuting for work in Rushden and Kettering, as well as for leisure trips.

The VL11 villager community bus runs a return service on the 2nd and 4th Wednesday of every month between Sharnbrook, Harrold, Carton and Clapham.

Summary

The development benefits from a regular bus service to employment, leisure and shopping destinations immediately adjacent to the site, and a wide range of facilities are located within a reasonable walk distance in Sharnbrook Village Centre.



2.5 Flood Risk and Drainage

An initial preliminary assessment of the flood risk and surface water drainage options for the site have been considered.

The Environment Agency maps and local mapping records for the site indicate that there is a drain running along the western boundary of the site. The drain drains into the Sharn Brook watercourse closest, located approximately 300m to the west of the Site. The Sharn Brook flows to the south where it adjoins River Great Ouse approximately 500m south of the site.

The Local Planning Authority and Lead Local Flood Authority (LLFA) for the site is Bedford Borough Council.

Consideration of Sustainable Drainage Systems

Disposal of surface water run-off by the preferred method of infiltration is subject to verification of suitable ground soakage capacity and no contaminated ground issues. Soakage Testing would be undertaken in accordance with BRE Digest 365 to ascertain if soakaways can be used as a viable method of draining the site.

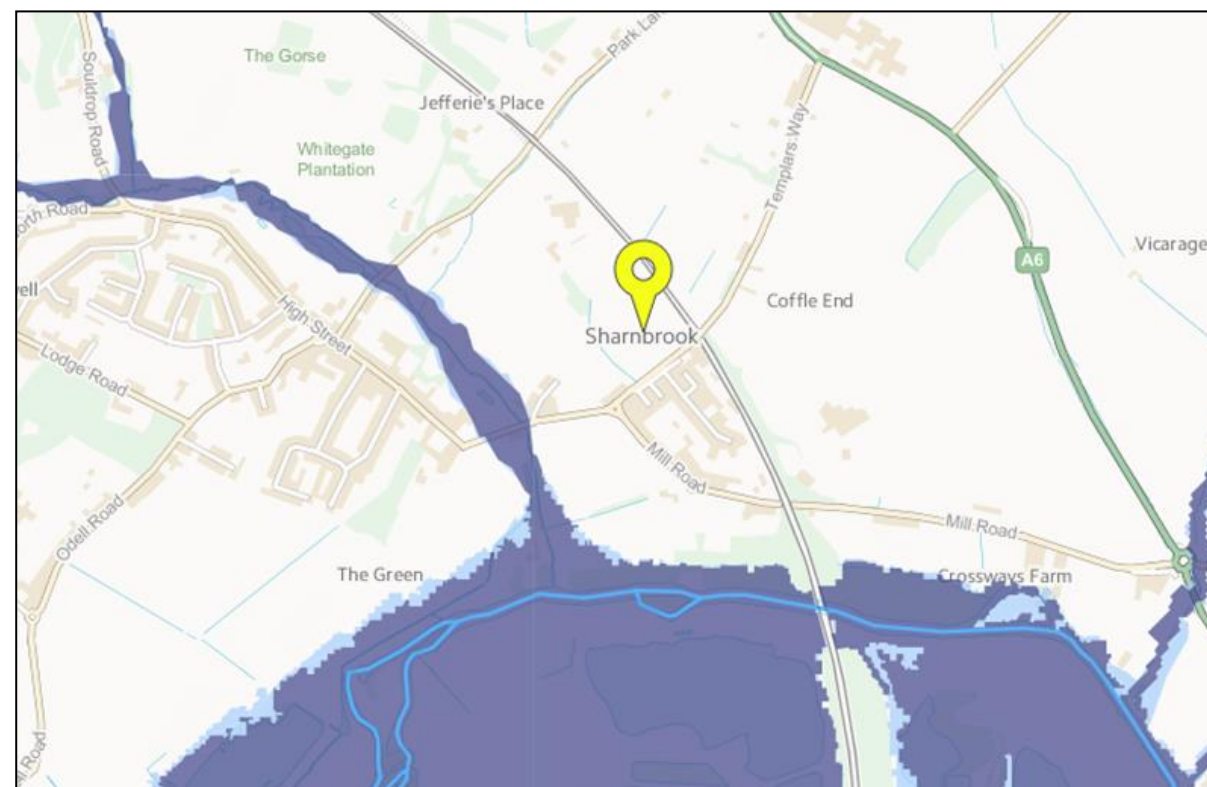
In the absence of any recordable infiltration (and confirmation of such in the form of detailed soakage testing results) the proposals would be to discharge surface water flows from the site to an existing watercourse or ditch. If both these options are proven to be unviable the drainage undertaker may accept a connection to a public surface water sewer.

The required attenuation volume could be provided within an attenuation basin or, swales could be provided where possible within the site layout to convey flows and offer additional water cleansing and treatment. A hydrobrake or similar flow device will restrict off-site discharge from any attenuation features within the SuDS strategy to the pre-developed greenfield runoff rate in conjunction with LLFA requirements. The restricted discharge rate is reliant on infiltration testing proving that infiltration can be used within the proposed drainage system for the majority of the site.

Fluvial Sources

Based on the Environment Agency Flood Zone maps the site is located within Flood Zone 1. Flood Zone 1 is classified as the area having an annual probability of river or sea flooding of less than 1 in 1000.

To mitigate any risk posed by surface water flooding, the proposed development will include a positive surface water drainage system that will intercept the majority of run-off generated within the site itself, hence minimising the risk to new buildings and to others across the wider area.



2.6 Noise

Noise Consultants Ltd ('NCL') has been instructed to provide an assessment of railway noise at the site and consider the implications of proposed residential development.

Surveying

To quantify the existing noise levels, a noise survey was undertaken. The survey consisted of a Class 1 noise monitor deployed at the north-east boundary of the site at a height of 1.5 m above local ground level, adjacent to the railway and approximately 10 m from the nearest track. Noise was monitored from 11:15 on Wednesday 9th September 2020 to 09:00 on Thursday 10th September 2020. The monitoring location is shown below.



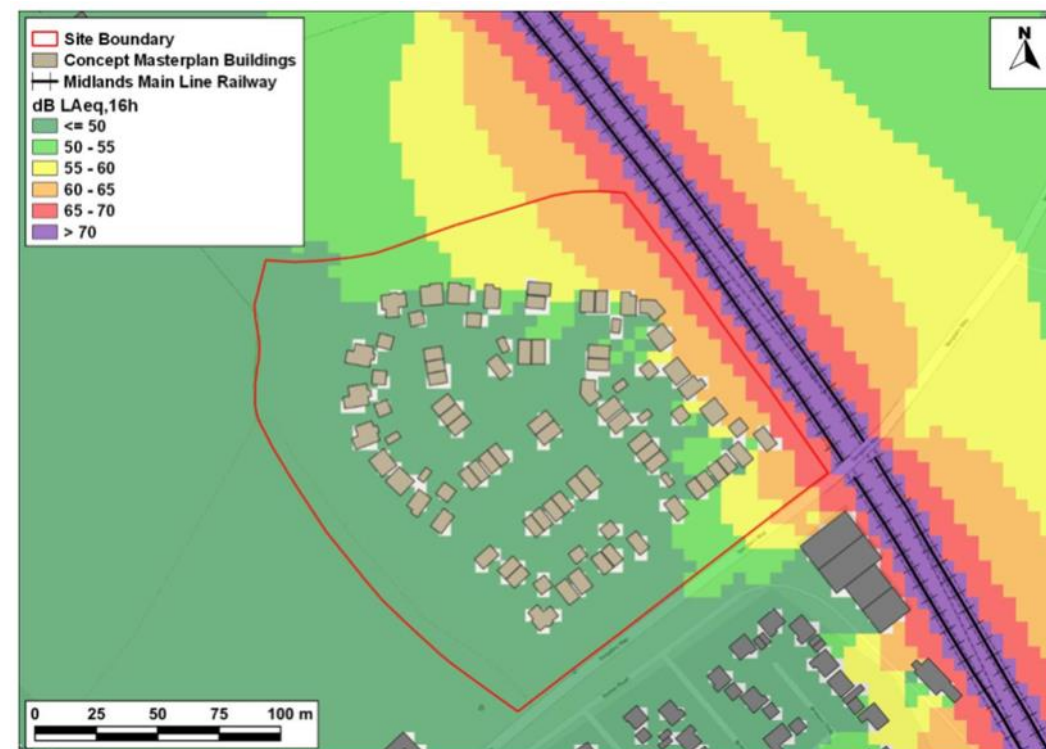
The results of the survey were processed and are summarised in the table below for the day and night-time periods.

Survey Location	Day (07:00 – 23:00)	Night (23:00 – 07:00)	
	dB LAeq,16hr	dB LAeq,8hr	dB LAfmax,1min (11th highest)
L1	67	58	80

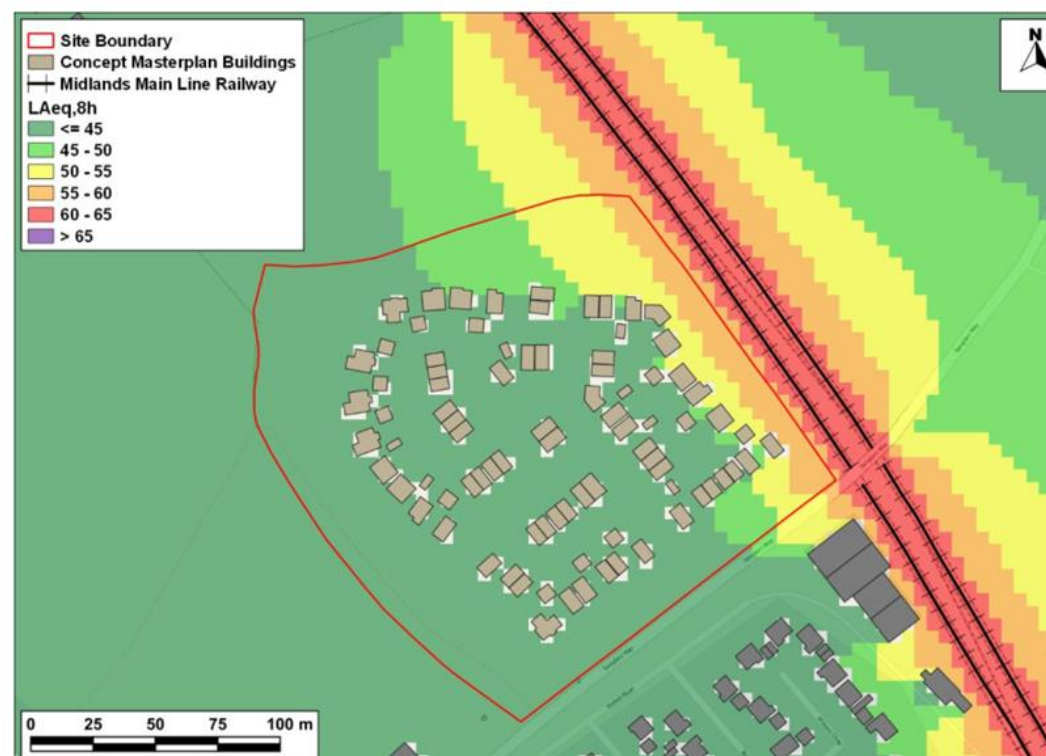
Modelling

A 3D noise model was developed including the existing topography, ground type and buildings, as well as the proposed dwellings.

Daytime railway noise predications



Night-time railway noise predictions



2.6 Noise

External Amenity Spaces

During the daytime, the ProPG recommends that average noise levels in external amenity areas should ideally not be above the range of 50 to 55 dB L Aeq,16hr .

Noise levels across the site are reduced with the addition of the dwellings, due to the buildings themselves providing screening of the railway. The vast majority of the site (lighter and darker green areas) is below 55 dB L Aeq,16hr and therefore would provide suitable conditions for external amenity areas with no further consideration.

A small number of gardens closest and most exposed to the railway fall into the 55-60 and 60-65 dB L Aeq,16hr bands. However, the predictions have not incorporated any fencing that would likely be installed around each garden. Where the direct line of sight to the railway, solid fencing can be expected to reduce noise levels in the gardens by up to 10 dB. On this basis, it is expected that suitable noise levels could be achieved in all external amenity areas with the use of solid fencing around the perimeter.

Achieving Internal Noise Levels

The recommended internal noise thresholds for habitable rooms from the ProPG are summarised below:

Room Type	Day (07:00 – 23:00)	Night (23:00 – 07:00)	
	dB L _{Aeq,16hr}	dB L _{Aeq,8hr}	dB L _{AFmax,1min} (11th highest)
Bedroom	35	30	45
Living Room	35	-	-

When the windows of a habitable room are open, they are expected to attenuate external noise by up to 15 dB. When considering both the day and night-time modelling maps, the vast majority of the dwelling façades are exposed to average railway noise levels of no more than 50 dB L Aeq,16hr during the day and 45 dB L Aeq,8hr during the night. Therefore, the recommended thresholds should be achieved with open windows.

Indicative acoustic performance requirements for glazing and ventilation units at the dwellings have been calculated. Based on the noise contours for daytime average railway noise, a summary of the indicative acoustic performance requirements for the dwellings is shown opposite.

Façade Noise Band Exposure (Figure 5)		Indicative Glazing Specification		Indicative Ventilator Specification	
Colour	dB L _{Aeq,16hr}	Acoustic Rating, R _w (C _{tr})	Example Type	Acoustic Rating, D _{n,e,w} (C _{tr})	Example Type
Orange	60-65	39 (-6) dB	6/16/6.8 mm with acoustic laminate	44 (-3)	Acoustic trickle vent
Yellow	55-60	33 (-5) dB	8/(6-16)/4 mm	38 (-2)	Acoustic trickle vent
Light Green	50-55	29 (-4) dB	4/(6-16)/4 mm (standard double glazing)	33 (-1)	Typical slot vent
Dark Green	≤ 50	29 (-4) dB	4/(6-16)/4 mm (standard double glazing)	33 (-1)	Typical slot vent

Concluding Remarks

The assessment has shown that recommended noise levels in both external amenity areas and inside habitable rooms are likely to be achieved with appropriate garden fencing and façade element acoustic performance specifications. Most habitable rooms should achieve the recommended thresholds with open windows, and all habitable rooms should be able to utilise natural ventilation methods and achieve the thresholds.

It should be noted that it may be possible to reduce the acoustic performance requirements of the façade elements, as well as noise levels in external amenity areas, by utilising a barrier along the north-east boundary of the site, adjacent to the railway. This would typically be earth bunding or fencing and would provide screening of the railway across the rest of the site. However, use of any such measure would be subject to landscape and visual impact constraints but it is expected that recommended internal and external noise levels can be achieved with suitable fencing and façade element specification alone.

2.7 Landscape

ES Landscape Planning Ltd was instructed to undertake an objective assessment as to the potential effects of the proposed development at land north of Templars Way, Sharnbrook upon the Village Open Space – Site I as identified within the Bedford Borough Council Allocations & Designations Local Plan (July 2013).

The Village Open Space designation relates to Policy AD40 of the adopted Local Plan. The policy identifies five criteria which form the reasoning for designating areas within or around the existing settlements in the Borough and states that:

“Development will not be permitted on land designated as a village open space or view unless it can be demonstrated that the reasons for designation are not compromised or that other material considerations outweigh the need to retain the Village Open Space or View undeveloped.”

Site I in relation to the proposed site can be seen opposite.

Based on the assessment, it is considered that the importance of Site I lies in the break it provides between the Conservation Area and The Fordham Arms / late 20th century residential estate to the east. The vegetated character of the southern boundary means that extensive views north, across Site I from Kennel Hill, are limited, and it is this existing hedgerow and treescape that contribute to the perceived break in the built frontage and sense of transition between the townscape of Sharnbrook and the wider landscape to the east.

The proposals within the Glenalmond site are set back from Site I, beyond a mature hedgerow and area of proposed landscaped public open space. It is considered that the proposed development of the site to the north of Templars Way would not adversely affect the positive contribution Site I makes to the townscape setting of Sharnbrook.

It is considered that the proposed development of the site, as illustrated on the emerging masterplan, can be integrated without compromising the aims and objectives of Policy AD40. The proposed development of the Glenalmond site:

- Will not compromise the perception of a gap or break in the frontage;
- Will not result in the loss of a view out from Kennel Hill of the wider countryside setting;
- Will not affect the visual relief afforded to the Kennel Hill streetscene by Site I; and
- Will not compromise the perception of a soft transition between the Conservation Area, the development to the south of Templars Way, east of Mill Road, and the wider countryside setting.



Site I in relation to the proposed site



2.8 Sustainability and Addressing Climate Change

Background

The Council has declared a climate emergency and developments need to respond to ensure they are sustainable and future proof.

Policy 51S – Climate change strategic approach requires development and use of land and buildings to address climate change, adapting to anticipated future changes and mitigating against further change by reducing greenhouse gas emissions

Policy 52 – Water demand requires all new development to minimise the use of water and achieve the higher water efficiency standard in the Building Regulations

Policy 53 – Development layout and accessibility requires all development to take available opportunities to integrate the principles of sustainable design and layout into proposals.

Policy 54 – Energy efficiency requires on sites with the proposed level of development to deliver energy efficient buildings achieve a 19% reduction in carbon emissions below the Building regulation requirement.

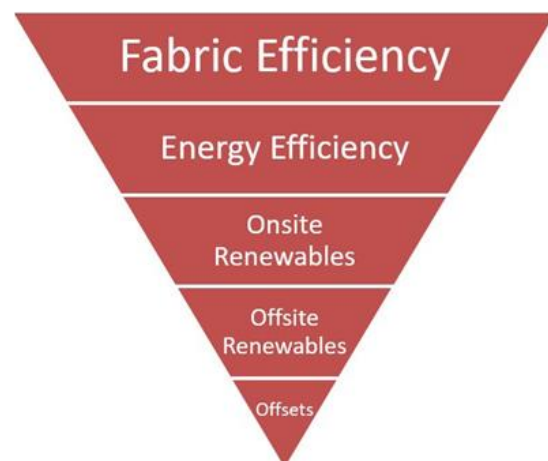
Glenalmond acknowledge the severity of the challenges faced in relation to climate change and are committed to ensuring that any development delivered on the proposed site would meet the requirements of the policies set out above. A planning application would be accompanied by a Sustainable Construction and Energy Statement demonstrating how the objectives could be achieved.

The Sustainable Construction and Energy Statement will ensure the following approach:

Energy Efficiency

The energy hierarchy principle will be used for the development so that the correct approach to design is taken to promote and energy-efficient low carbon solution. This will ensure that the benefits of lower cost methods of energy use reduction are maximised as a priority. The approach is as follows:

- Reduce energy demand – Use passive design measures and optimise the building in terms of orientation, airtightness and insulation levels.
- Meet demands efficiently – Specification of energy efficient plant, heating, ventilation, lighting and controlsto enable efficient operation.



Building Fabrics

By taking a “fabric first” approach to the development it will focus efforts on the choice of materials to improve on U values, reduce thermal bridging, improve on air tightness targets, install energy efficient services providing an energy efficient building using less energy and reducing overall CO2 emissions.

Low Energy Design

Dedicated low energy lighting shall be provided for 100% of the internal space, consisting of low energy high efficiency LED luminaires.

Water Management and Resilience

The relative merits of the following options for surface water management will be considered for the development:

- Infiltration into the ground
- Discharge surface water into an existing water body
- Discharge to highway or surface water sewer
- Discharge to combined sewer

SuDS and Green Infrastructure

SuDS solutions such as infiltration, permeable paving, bio-retention, swales, attenuation ponds and filter drains will be considered and implemented if found to be suitable for the development.

2.8 Sustainability and Addressing Climate Change

Water Efficiency

Water fittings will be specified to give a balance between low water consumption, performance and cost. This allows the fixtures selected to have a proven track record of reliability, provide performance in line with expectation of residents and to meet architectural aesthetic aspirations.

To achieve high efficiency consumption the following restrictions on sanitaryware appliances and fittings shall be considered to ensure water energy efficiency target per person is achievable:

- WCs 4/2 litres dual flush (maximum 3 litres effective flushing volume)
- Showers ≤ 6 litres/min
- Baths ≤ 170 litres
- Basin taps ≤ 5 litres /min
- Kitchen sink taps ≤ 6 litres/min
- Dishwashers ≤ 1.25 litres/min
- Washing Machines ≤ 8.17 litres/kilogram

Smart Metering / Smart Grid

Electricity metering strategy shall be developed to comply with ADBR Part L, this will monitor energy consumption and assist in commissioning and ongoing monitoring of performance to reduce carbon emissions.

Next generation digital Smart Meters shall be used to provide accurate information to the users to identify patterns and trends of use and seasonal fluctuations, this will aid the user to make adjustments in order to reduce energy use. Smart Meters will enable the network operators and energy suppliers to be ready for future Smart Grid.

Sustainable, Energy and Carbon Reducing Technologies

Glenalmond will consider use of Low or Zero Carbon technologies available for inclusion. LZC technologies to consider will include:

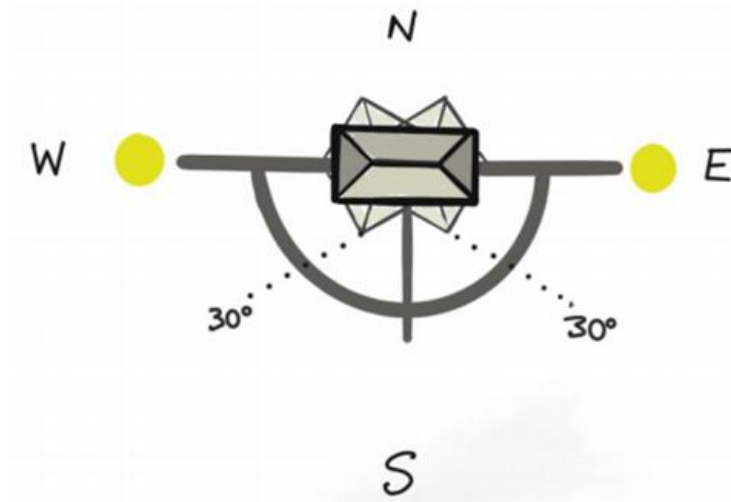
- Biomass
- Combined Heat and Power
- Ground Source Heat Pumps
- Air Source Heat Pumps
- Photovoltaic Systems
- Solar Thermal Hot Water

Solar Passive Design

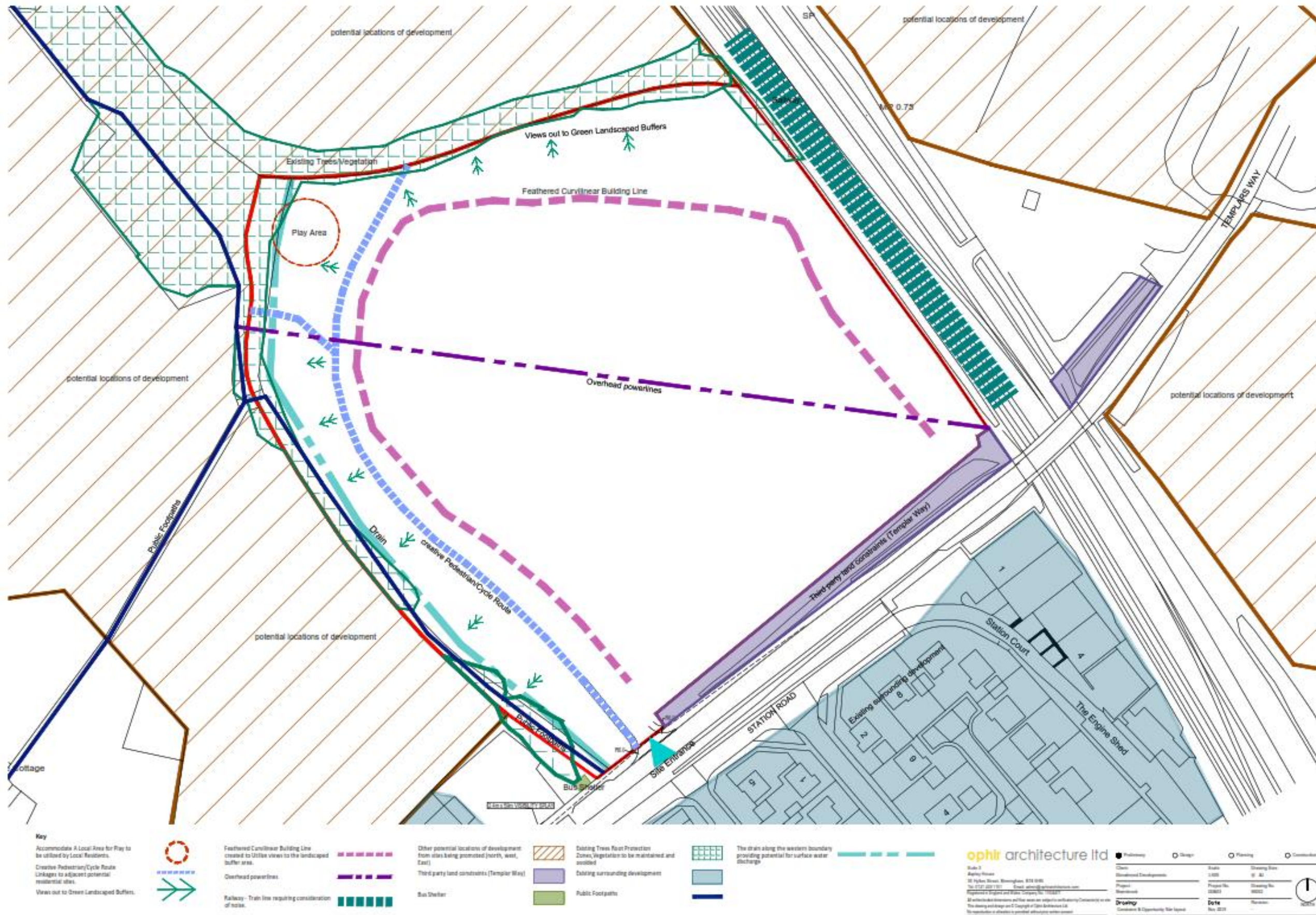
The orientation of the building affects the amount of solar gain experienced. A south easterly orientation is better as it will make effective use of the early morning gains and reducing the likelihood of overheating in the afternoon.

The most frequently used rooms, such as living room and main bedrooms, should be positioned on the south side of the dwelling. A passive solar house normally has more glazing on the south elevation to capture the heat and smaller windows on the north to prevent heat escaping.

Trees can be planted to help protect settlements from prevailing winds. The tallest trees should be deciduous to allow the winter sun.



2.9 Opportunities and Constraints Plan





Concept Masterplan

Concept Masterplan

The site is largely unconstrained, and represents a suitable opportunity for incremental and sustainable growth to the east of Sharnbrook. The site is well-contained by built form to the south-east, infrastructure to the north-east and boundary vegetation and a drain to the north-west and south-west. There are features of value that the overarching design principles and resulting concept masterplan have needed to have regard to.

The design approach has utilised the setting of the site's natural features, together with an appropriate response to key characteristics of the surrounding area, to create a development which is both deliverable in the short term. The concept masterplan has been shaped by the following design concepts:

- **Street Hierarchy:** A primary vehicular route links the development area with Templars Way. From the primary road area series of private driveways fronting onto open space and a mews courtyard;
- **Building Line:** A feathered curvilinear building line is created to utilise views to the landscaped buffer area. Dual aspect unites are proposed on key plots to create attractive and active frontages;
- **Green Space:** generous landscape buffers are proposed to boundaries including existing hedgerows and trees. These are important for their landscape and ecological potential. The landscape buffer surrounding the development will create green links to ensure ecology and biodiversity as well as opportunities for recreation and sustainable drainage features;
- **Blue Links:** Overlying the landscape buffers and open space is the potential for a series of blue links which will maximise the potential for SuDS features to form a positive component of the landscape. A series of informal swales or an attenuation basin will follow existing land levels, attenuate surface runoff and enhance drainage patterns by discharging in the existing watercourse at greenfield runoff rates;
- **Open Spaces:** Formal and informal open spaces will create attractive focal points and serve a range of amenity and recreational functions. A green space corridor is positioned around the residential with a Local Area of Play close to other parcels that could provide residential development. A pedestrian/cycle route on the western side of the residential development could link to adjacent residential sites.

Concept Masterplan



3 Concept Masterplan

Opportunities Site Layout Plan



<p>Key</p> <ul style="list-style-type: none"> Accommodate A Local Area for Play to be utilized by Local Residents. Creative Pedestrian/Cycle Route Linkages to adjacent potential residential sites. Views out to Green Landscaped Buffers. 		<p>Key</p> <ul style="list-style-type: none"> Feathered Curvilinear Building Line created to Utilize views to the landscaped buffer area. Utilize Dual Aspect units to create active frontages. Railway - Create Landscape Buffer with rear Gardens shielded by Built Form. 		<p>Key</p> <ul style="list-style-type: none"> Third-Party Land Prohibits Access to Templars Way. Primary Route. Terrace Private Drive. Views Courtyard. 		<p>ophir architecture ltd</p> <p>20 High Street, Birmingham, B7 9JH Tel: 0121 439 1122 Email: info@ophirarchitecture.com Company No: 07464746 VAT No: 912287171</p> <p><small>All architectural drawings and floor plans are subject to verification by Councils and other relevant bodies and are subject to change without notice. The drawings and design are the copyright of Ophir Architecture Ltd. No responsibility is taken for any errors or omissions.</small></p>	<table border="0"> <tr> <td> <ul style="list-style-type: none"> Preliminary Design Planning Construction </td> <td> <table border="0"> <tr> <td>Client</td> <td>Opportunity</td> </tr> <tr> <td>Drawn</td> <td>1:100</td> </tr> <tr> <td>Checked/Developed</td> <td>J. AJ</td> </tr> <tr> <td>Project</td> <td>Opportunity</td> </tr> <tr> <td>Drawn by</td> <td>10/2017</td> </tr> <tr> <td>Reviewed</td> <td>10/2017</td> </tr> </table> </td> <td> <table border="0"> <tr> <td>Scale</td> <td>Drawing Size</td> </tr> <tr> <td>1:100</td> <td>A1</td> </tr> <tr> <td>Date</td> <td>Revision</td> </tr> <tr> <td>10/2017</td> <td>1</td> </tr> </table> </td> </tr> </table>	<ul style="list-style-type: none"> Preliminary Design Planning Construction 	<table border="0"> <tr> <td>Client</td> <td>Opportunity</td> </tr> <tr> <td>Drawn</td> <td>1:100</td> </tr> <tr> <td>Checked/Developed</td> <td>J. AJ</td> </tr> <tr> <td>Project</td> <td>Opportunity</td> </tr> <tr> <td>Drawn by</td> <td>10/2017</td> </tr> <tr> <td>Reviewed</td> <td>10/2017</td> </tr> </table>	Client	Opportunity	Drawn	1:100	Checked/Developed	J. AJ	Project	Opportunity	Drawn by	10/2017	Reviewed	10/2017	<table border="0"> <tr> <td>Scale</td> <td>Drawing Size</td> </tr> <tr> <td>1:100</td> <td>A1</td> </tr> <tr> <td>Date</td> <td>Revision</td> </tr> <tr> <td>10/2017</td> <td>1</td> </tr> </table>	Scale	Drawing Size	1:100	A1	Date	Revision	10/2017	1
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3 Concept Masterplan

More than a planning consultancy

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