

**PROPOSED PUBLIC SERVICES HUB
MILDENHALL**

**DEVELOPMENT BRIEF
DRAFT FOR CONSULTATION**

For

Forest Heath District Council

DRAFT-15.01.2016



Ubiety Landscape + Urban Design Ltd

Sweet Briars

Hartest

Bury St Edmunds

Suffolk IP29 4ED

T: 01284 830688

M: 07961 213907

E: ramon.keeley@gmail.com

W <http://ramonkeeley.wix.com/ubiety>

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1 INTRODUCTION; PURPOSE AND FORMAT OF THE DEVELOPMENT BRIEF

1.1 INTRODUCTION

Mildenhall is defined as a market town in the adopted Forest Heath Core Strategy and provides a broad range of shops, services and facilities that serve the needs of its catchment area. It has a population of approximately 10,315 (1) and will be a focus for growth to 2031.

Many of the buildings housing public services in Mildenhall are either coming to the end of their planned lives, or require major investment. Any growth within the town will put an extra demand on these facilities. There is the potential to bring together a number of public services on to one site in order to create a single 'hub'. This would help reduce running costs and improve public access.

Consultation undertaken in August 2015 identified support for the principle of bringing public services together on a single site at Sheldrick Way.

1.1 PURPOSE

It is proposed to redevelop the school site at Sheldrick Way to provide a single location in Mildenhall for the provision of community services, including education. The adopted West Suffolk Local Plan document (2) sets out the circumstances in which a Development Brief may be required as follows:

Policy CM4

Exceptionally a Development Brief will be required for a proposal which is justified by the Local Planning Authority as:

- i. being of a size; and/or
- ii. in a location; and/or
- iii. proposing a mix of uses; and/or
- iv. of significant local interest such as to make this necessary.

It has been determined that these circumstances apply in this case.

Forest Heath District Council is one of the key partners in the development proposals as well as being the Local Planning Authority. Although the policies of the Council in respect of both of these functions may be closely aligned probity requires that the processes in relation to each role are separated. A Business Case was prepared for the partners in the development proposals (see Section 2) and this set out potential development parameters for the site at Sheldrick Way. The Development Brief is a requirement of the Council as Local Planning Authority and although it may draw on studies and data provided in the Business Case it is not a progression of that document.

The Local Plan Core Strategy sets out the general principles for design quality and sustainable development. A Development Brief is site specific and provides guidance on how these principles should be put in to practice. In addition it should seek to resolve planning issues and constraints in order to facilitate subsequent delivery.

The purpose of this Development Brief is to:

- set out clearly the Local Planning Authority's vision for the future use and development of the Brief site
- give greater clarity to development partners and the local community as to an appropriate form and scale of development
- establish the broad principles for access, movement, landscape, drainage,

MILDENHALL HUB DEVELOPMENT BRIEF

- where necessary it will add further guidance to relevant planning policies
- proved a focus for public involvement in the development of the site prior to the consideration of any detailed planning applications

1.2 PLANNING POLICY REQUIREMENTS FOR DEVELOPMENT BRIEFS

FHDC Core Strategy: Policy DM4

The Development Brief shall have been through the agreed process of consultation and approved prior to the determination of a planning application. Development Briefs should accord with Policy DM2 and with any relevant design guidance, Supplementary Planning Guidance/Documents or DPDs, and other development guidance current at the time the scheme is being prepared.

Where appropriate, the Development Brief will include an analysis of site conditions, consultation feedback and identification of the key design issues and will identify:

- a. the mix of housing and affordable housing provision for a site (or details of unit size and mix for employment sites) and the density of housing across the site;*
- b. the mix of uses to be provided on a site, including the potential for areas to have multiple uses;*
- c. the social and physical infrastructure needed to serve the development including open space and play/recreation provision;*
- d. major landscaping and structural planting necessary so the development can be absorbed into the landscape and local biodiversity;*
- e. details of the manner in which any existing and proposed wildlife, landscape or historic features will be incorporated and where possible enhanced within development proposals;*
- f. provision for safe and attractive footpaths and cycle linkages to be kept, or created, to link the new development into nearby areas. (In particular, links should be created to district centres, including access to all workplaces, shops, and community facilities, and give access where achievable to the surrounding countryside);*
- g. details of vehicular movement, parking and public transport linkages;*
- h. details of phasing, funding release stages and delivery of social and physical infrastructure;*
- i. details of materials, design features and specific design guidelines, such as height, layout, density, mix of uses, etc, for buildings and other townscape features in order to achieve local distinctiveness;*
- j. details of sustainable design and construction measures and energy efficiency measures to be incorporated;*
- k. details of the manner in which buildings and infrastructure, including blue corridors (areas designated for the channelling of overland flows of water away from property and key infrastructure), will be designed to address climate change risks (such as extreme temperatures, flash flooding, ground heave etc); and*
- l. measures to promote sustainable living patterns, including reducing the need to travel set out in a Travel Plan.*

The Council will promote and encourage all development proposals to deliver high levels of building sustainability in order to avoid expansion of the district's ecological footprint and to mitigate and adapt against climate change.

All new development proposals will be required to demonstrate how it minimises resource consumption, minimises energy consumption compared to the current national and regional minimum requirements and how it is located and designed to withstand the longer term impacts of climate change...

1.3 FORMAT

The key stages involved in establishing a development brief for the Mildenhall Hub are:

- Setting out the background to the proposed development as, in a number of ways, it is unique
- An appraisal of the environmental features, landscape and townscape character and infrastructure that affects development of the site
- Identifying key planning and design policies that will govern the consideration of a planning application
- Identification of constraints and opportunities that would impact on development
- Establishing a 'vision' for the development in planning terms that also embraces the ambitions of the core partners
- A strategy for phasing

The Development Brief sets out to incorporate these stages in a logical order by summarising the Business Case, appraising the context, identifying the criteria against which any proposal is assessed, setting out a vision and establishing the parameters that any set of proposals should seek to reflect in order to meet the terms of the brief.

2 BACKGROUND: THE BUSINESS CASE REPORT

2.1 SUMMARY

The 'One Public Estate' is a government initiative aimed at more efficient use of resources while releasing key sites that might provide an economic stimulus and presenting a more customer focussed and coordinated service. In the context of this initiative a partnership of public service providers in Mildenhall commissioned Concertus to investigate the business case for a development to provide replacement accommodation on a shared basis. A report (reference 13-0512) was published in December 2014. The Business Case sought to establish the feasibility of the concept for either single site or split site options for the provision of community services. As well as the financial aspects the Business Case investigated the operational and space requirements of the partners and the impact of the concept on users. It is a wide-ranging and detailed report and it covered many aspects of the concept and how it might be implemented including site options and constraints, sustainability, landscape and visual impact and economic impact.

As stated in 1.1 above this development brief draws on studies and data contained within the Business Case where it is helpful to do so but in most cases it will avoid repeating information already presented in that report other than in summary format such as may be necessary to inform the development brief.

2.2 SITE OPTIONS

Thirteen options were considered involving five sites across Mildenhall in a range of development configurations. Option 2 – a single site 'Hub' at Sheldrick Way - was found to be the most beneficial in the terms of the business case. It is proposed that a hub at this location could accommodate:

- Forest Heath District Council Offices
- A Suffolk County Council staff base
- Leisure and Sports facilities (including swimming pool)
- Citizens Advice Bureau
- Offices for the NHS and DWP
- Health Centre
- Police and Fire Service facilities
- All of Mildenhall's post-11 education
- Some of Mildenhall's primary and pre-school provision

However Option 3, in which the existing buildings at Sheldrick Way are retained as the 6th form college building, is dismissed by the 2014 Business Case as 'not viable' for the following reasons:

- The existing building limits the opportunities to open up a connection to Wamil Way and the town centre beyond
- The building's position limits the opportunities of creating a coherent and linked external landscape
- A new building would have better connections to the playing fields
- Reuse of the building for other partners needs would result in a compromised design

Wamil Way was the original access for this building so re-orienting the access should not present overriding difficulties and this study finds no prevailing problems with creating a coherent external landscape or accessing other new buildings from Wamil Way on foot or bicycle. The 6th form college students do not use the playing fields so providing a strong link between the two is not necessary and if the existing use is retained then concerns over re-use and refurbishment do not arise. Further

investigation is recommended as creating an external area of controlled safeguarding may be problematic if this is a requirement. The Premises Manager advises that the existing building at Sheldrick Way has been refurbished and is suitable for its present use and that, for financial reasons, removal or change of use is not a viable option, which was not a known factor in the 2014 Business Case. The needs and aspirations of the other public sector partners have also evolved since the initial thinking of the Business Case, and there will be new space requirements and operational concepts in the final Business Case in 2016. Therefore this development brief proceeds on the basis outlined in Option 3 of the Business Case. It should also be noted that the 2014 Business Case included options for a split-site hub including retention of the existing building at Sheldrick Way.

2.3 ADDITIONAL USES

In addition the Business Case raised the possibility of additional uses at the site including:

- Complementary housing (e.g, special needs or key worker housing)
- Open market residential development
- Employment – e.g. incubation units in the hub
- Continuance and/or extension of allotments

Although not core to the proposals these aspects could have a significant impact on the proposals themselves.

m²

2.4 INITIAL PROVIDER REQUIREMENTS

Work on the 2016 update to the original Business Case report provides the following data for service providers in terms of their current estimate of gross internal floor area requirements for any new buildings *in the first phase of the Hub*:

	m ²
Sixth Form Building	no change to existing building
Education (post 11 only)	8,642
Leisure Centre	4,156
Other Hub uses and shared spaces/infrastructure	3,254
	16,052

The data is provided in this document for indicative purposes only and may be revised later as requirements change and designs evolve. The intention would also be to design the Hub site so that facilities can be extended within its curtilage as the needs of the town change (including the addition of a primary school, which is not included in the data below).

As well as space requirements the partners have operational requirements. One such requirement is safeguarding for school children which is likely to necessitate a separation of entrances and facilities to some extent. These requirements are fully set out in the Business Case and the Development Brief may refer back to that document for these parameters where they affect the planning of the site.

3 SITE CONTEXT AND ANALYSIS

3.1 SITE LOCATION AND DESCRIPTION

3.1.1 Location and Context:

From its historic core with medieval origins (and settlements dating back to the Bronze Age) Mildenhall grew substantially in the 19th century and to the north and east in the second half of the 20th century with London overspill development and is now home to more than 20,000 residents. To the north-west is the Mildenhall Airfield and its USAF base which presents as a sprawling development of large scale industrial buildings and aircraft extending over some 400ha.

The preferred site for the Mildenhall Community Services Hub is centred on the existing Mildenhall Academy 6th Form College on the west side of the market town. Although the site borders, and includes, open countryside on the western edge of Mildenhall, it is still relatively close to the historic town centre which is within 10 minutes walking distance.

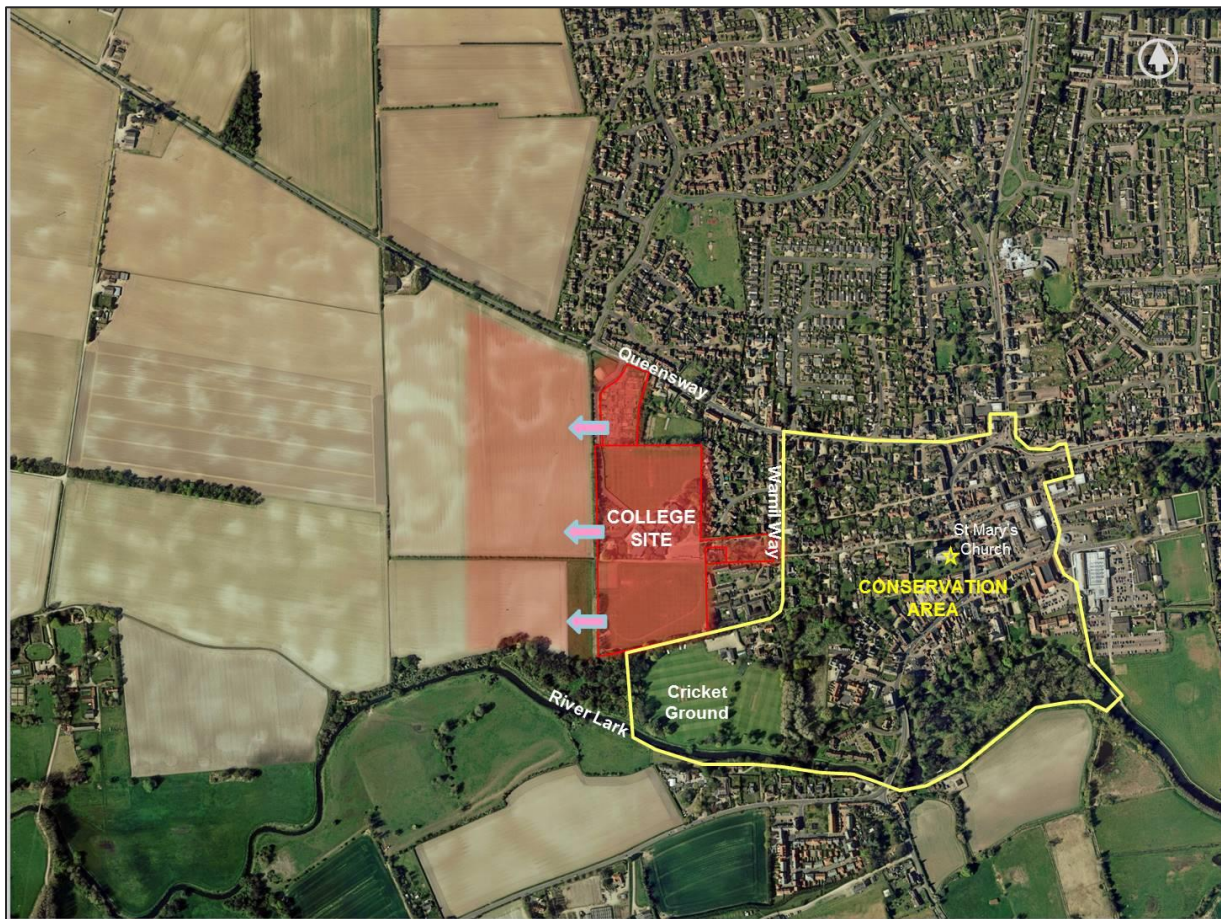


Figure 3.1: Site - Location

Agricultural land to the west is currently the subject of consultation for allocation for residential development but a community services hub development would also incorporate land to the west of the existing settlement boundary and this has been included in proposals for consultation.

3.1.2 Site Description:

The 6th Form College occupies a site of some 6.4 ha and represents a substantial part of the proposed site. The College comprises a central block of buildings, arranged at 45 degrees to the site's boundaries and the surrounding field pattern, with playing fields to the north and south. The College buildings are mostly single storey brick buildings although there is one element that is 2 storeys. Those parts with pitched pantile roofs date from 1939 but there are also numerous flat-roofed extensions which are of more recent date. The college is served by a car park on the north-east side of the buildings and this is accessed by a long service road, Sheldrick Way, accessed from Queensway. There is a small grounds maintenance depot (0.09 ha), now disused, near the eastern boundary and to the north boundary adjacent the main entrance are the well-used Sheldrick Way Allotments extending to 1.1ha. The southern boundary is defined by a bridleway, Wamil Walk, with a cricket ground, a wooded area and the River Lark beyond. The eastern boundary is defined by existing housing being all single storey, including detached bungalows, but there is also a connection, a former vehicular school entrance and now the location of the pre-school, through to Wamil Way. To the north is a small-holding with private rear gardens beyond, and an access through to Queensway / West Row Road.



Figure 3.2: Site – current uses

To the west the flat, arable land is divided by rectangular field patterns occasionally defined by mixed native hedgerows and bounded to the south by mature trees associated with the river valley slopes and Wamil Walk. On the western boundary of the College a row of trees has, in places, grown out of a young mixed native hedgerow, effectively marking the edge of the settlement and visually containing the college. The trees are young-mature and of variable quality being closely spaced and dominated in parts by older poplar.

3.2 OWNERSHIP

All of the land under consideration for a community services hub / campus, including the existing College and its playing fields, grounds depot, the allotments, the preschool and agricultural land immediately to the west is within the ownership of the County Council. In addition, the freehold of a former care home at the south end of Wamil Way known as Wamil Court, now closed, is also in the ownership of the County Council. Complementary housing has been proposed in association with the hub development and the site at Wamil Court, which is to be redeveloped in 2016, could provide a separate point of access. The fact that all of the relevant land parcels are in the single ownership of one of the development partners, albeit subject to variety of lease agreements, allows considerable flexibility in determining the disposition and boundaries of the proposed development. In particular, the relationship between the hub site and proposed residential development to the west can be determined by the physical / design requirements of a hub/ campus rather than the sometimes arbitrary configurations of land ownership. Obviously this should have close regard to the requirements of both Local Plan policies and estate management considerations which are in accord in seeking an efficient use of land.

3.3 LANDSCAPE CHARACTER

Mildenhall is situated at the western end of the Breckland where it meets the Fens. The land immediately to the west of the town is of an intermediate character and is described as the 'Settled Chalklands' in the Suffolk Landscape Character map. Although flat and topographically similar to the fenlands further to the west it is distinguished from them by being free draining, a quality that encouraged early and more dense settlement.

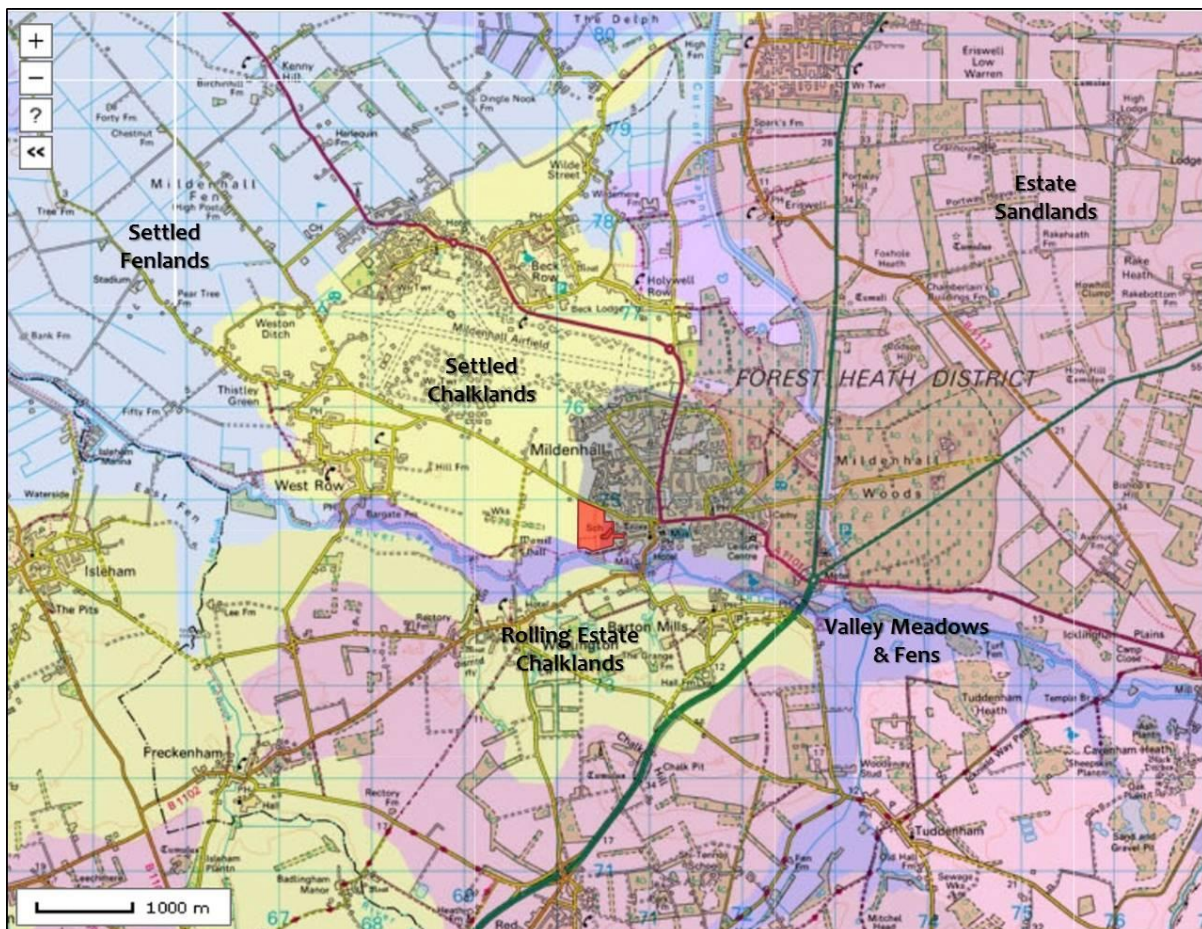


Figure 3.3: Landscape Character

“Many of these settlements have formed the basis for later expansion...The result has been growth in the number of dwellings, especially bungalows.”

There is limited tree cover and the open nature of the landscape means that landmarks, notably St Mary’s church tower, can be visible over a large area. Apart from the market town of Mildenhall however the other dominant, though less positive, feature is the airbase. Moreover it is the case that, given the constraints on other land, it is highly likely that the main thrust of the urban expansion of Mildenhall will be to the west and this Brief proceeds on the assumption that this will come to fruition, if not in the current Local Plan period then in all likelihood in the following one. Site allocation options are under consideration in the current Local Plan period and fields to the west of Mildenhall could accommodate over 1,000 dwellings as part of this process. The site proposed for the community services hub would then no longer be at the edge of the settlement with views to and from open countryside but would be enclosed by urban development, although this may include strategic amenity space. This would also have implications for the landscape character and the way in which it might affect the design of the hub. Views to the church tower for example would become limited to the eastern fringe of new residential areas or particular vantage points at a greater distance. In this context however the Conservation Area Appraisal undertaken in 2010 states:

“The 160ft high church tower is a prominent landmark in the flat fen landscape around the town. There are dramatic views across the fen of the tower from Beck Row and Barton Mills”

In neither of the specific cases mentioned (Beck Row to the north-west, the other side of the airfield, and Barton Mills to the south) would development on this site potentially interrupt views from these viewpoints.

Topographically all of the land comprising the proposed development site is almost flat and low lying with a gentle slope to the south from 10m AOD to 5m AOD similar to the surrounding land which sits as a level terrace above the narrow valley of the River Lark to the south.

3.4 ARCHAEOLOGY AND CULTURAL HERITAGE

There are no Scheduled Ancient Monuments, listed buildings, registered parks and gardens or historic battlefields within or in the vicinity of the site. The Mildenhall Conservation Area bounds parts of the site on the west (Wamil Way) and the south (Wamil Walk).

The Suffolk Landscape Character study explains why the ‘Settled Chalklands’ with relatively dry and easily worked soils, were attractive to earlier settlers. The location of this site, overlooking the river Lark, added to its attractions and the Conservation Area Appraisal for Mildenhall states:

“There is evidence of continuous human settlement in the vicinity from the earliest period of human development...There is evidence of extensive Roman occupation, most notably the Mildenhall Treasure...”

The site has not been subject to previous systematic archaeological investigation however Iron Age, Roman and medieval finds have been made with metal detectors in the vicinity. The County Archaeological Service states:

“The site ... has high potential for the discovery of important and hitherto unknown heritage assets of archaeological interest...”

In response to an earlier school redevelopment proposal in 2012 (which did not proceed) the Archaeological Service required a field-walking survey, geophysical survey and linear trenched evaluation to enable the archaeological resource to be accurately assessed, in quality and extent.

3.5 ECOLOGY

There are no nationally or locally designated sites of ecological value in or in the vicinity of the site. The site is just beyond the 1.5km distance SSSI Impact Zone contour from the Rex Graham reserve east of Mildenhall. Deciduous woodland to the south side of Wamil Walk is recorded in the National Inventory of Woodland and Trees and this extends to the small area of woodland north of Wamil Walk around grid reference TL70327444.

In June 2014 a desktop Protected Species Assessment has been undertaken by the County Natural Environment Ecology Team with the following results:

European Protected Species within 2 km	BAP Species within 2 km	Comment for further surveys
Common Pipistrelle; Otter; Unidentified bats	Barn Owl; Water Vole; Common Lizard; Brown Hare	Check building for bats; check grounds for reptile habitat; check grounds for badger activity

It should be noted that the validity of this study is considered to have expired in September 2014.

In August 2015 a walkover habitat survey of the proposed residential allocation sites, which includes land to the west of the existing school, was undertaken by Suffolk Wildlife Trust. Overall the sites were found to have a 'medium' biodiversity value. The results of this study are in Appendix 1

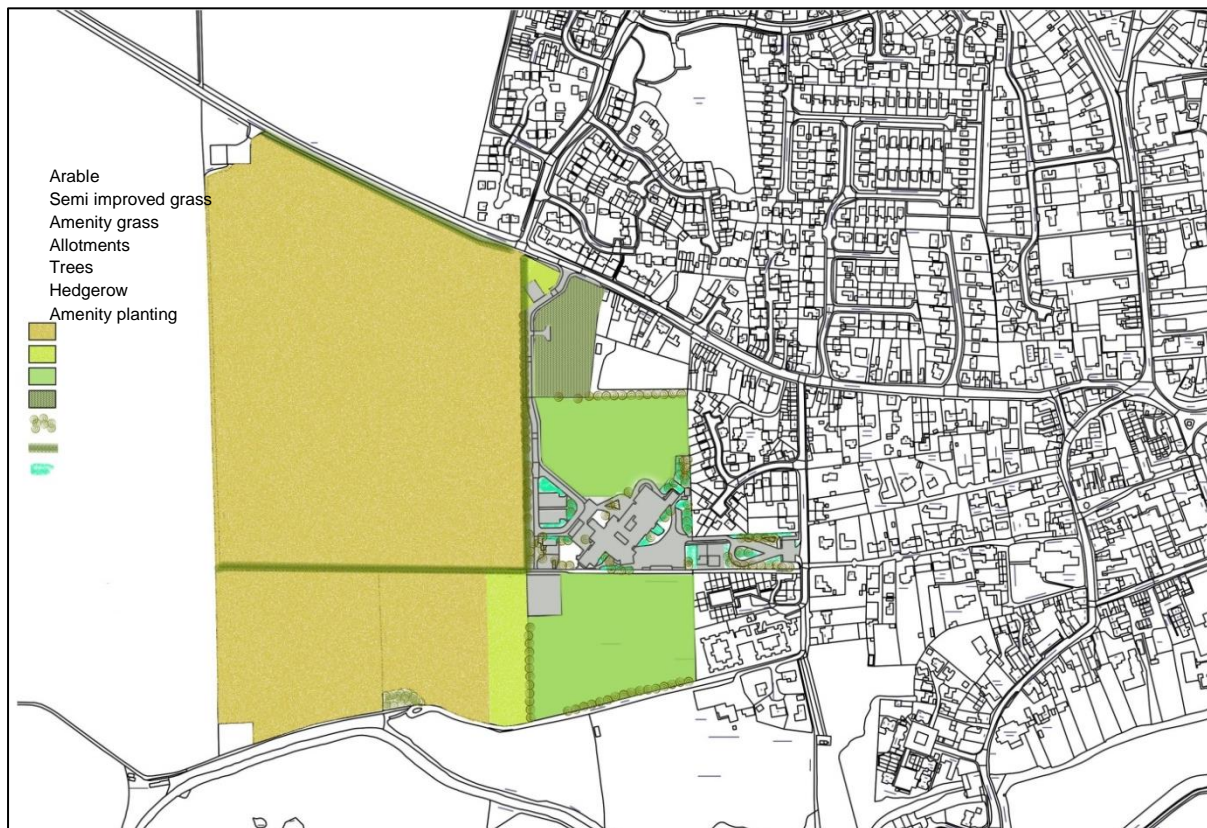
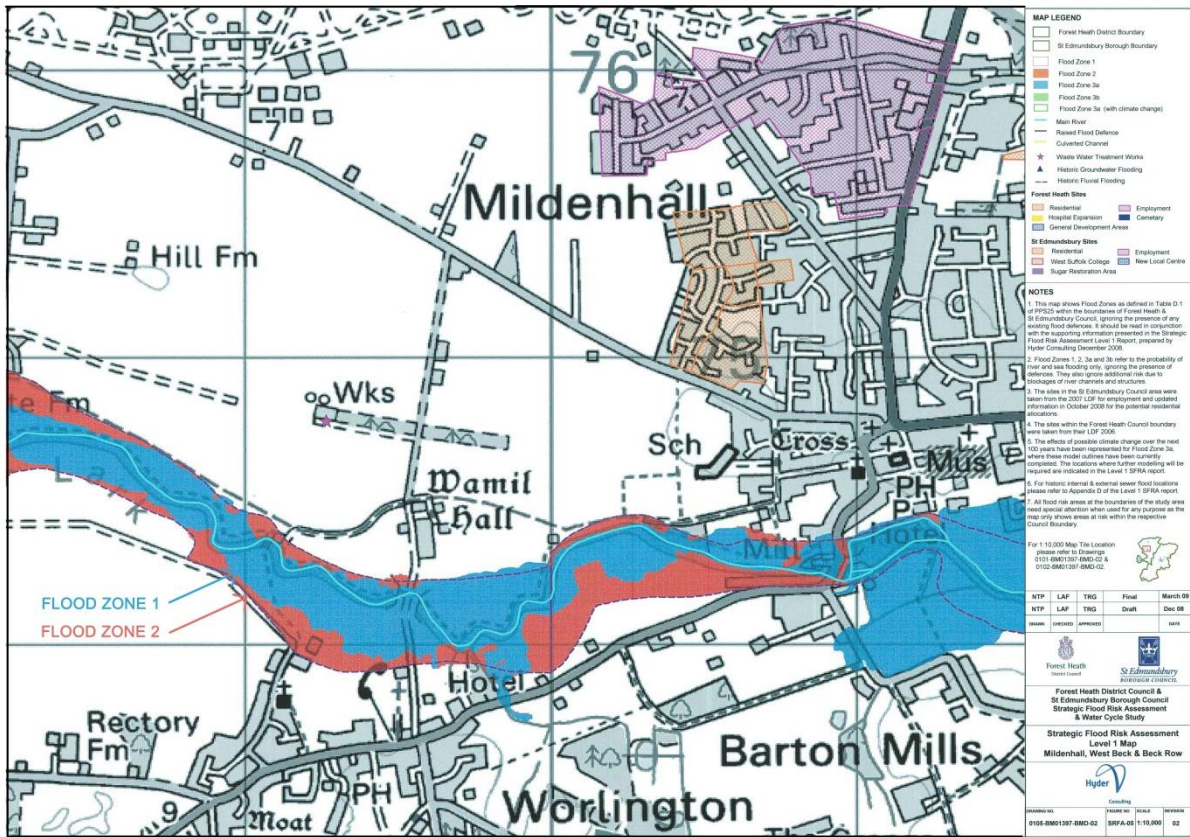


Figure 3.4: Habitats

3.6 FLOOD RISK

Wamil Walk marks the shoulder of the river valley and the northern edge of Flood Zones 2 and 3. The site is north of this and sits within Flood Zone 1 where there is a less than 1:1,000 annual probability of river flooding and all uses of land are considered appropriate.



3.7 VISUAL APPRAISAL

A visual appraisal was carried out in July 2014 for the purposes of the Business Case. It found that:
“The site itself is of high visual quality due to the combination of low density and low rise buildings, green spaces and the extent of mature vegetation framing and screening views... The landscape setting of the site is of a medium-high visual quality to the north and east... To the south, over the semi-natural valley landscape, and west, over the rural agricultural landscape, the overall landscape setting is of a high visual quality.”

It also found that the site had a medium-high visual sensitivity and that owing to its urban fringe location and proximity to housing and the public footpath network it is visible from a number of nearby viewpoints although existing mature vegetation lessens visibility, particularly in summer. It adds:

“Development of the site would therefore have a visually significant effect but not necessarily a detrimental one depending on the scale of the built development and the detailed design of the layout. It will be important for any layout to retain views of the Church tower from the west and maintain the vegetated nature of the settlement edge on this elevation. The limited nature of views into the site from distant viewpoints underlines how important boundary vegetation is for visual screening.”

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Photographs below, taken in October 2015, show views from a number of points west of Mildenhall looking east towards the site of the proposed hub and new housing areas (Views 1-3). Clearly the views will be altered dramatically. The number of visual receptors and their sensitivity would be increased as there will be many dwellings and associated viewpoints but at the same time dwellings would block views from further east and the context of the views would also be different such that a more urban scene would not be out of place. The new housing areas are also likely to require some strategic open space, possibly in the foreground of View 2 (with playing fields in the middle distance) so that this view may be altered the least.



VIEW 1



VIEW 2



VIEW 3

MILDENHALL HUB DEVELOPMENT BRIEF



VIEW 4



VIEW 5:

College from west (original entrance, now the rear)



VIEWPOINT LOCATIONS



VIEW 6: entrance from Wamil Way



VIEW 7: Academy car park

3.7 UTILITIES

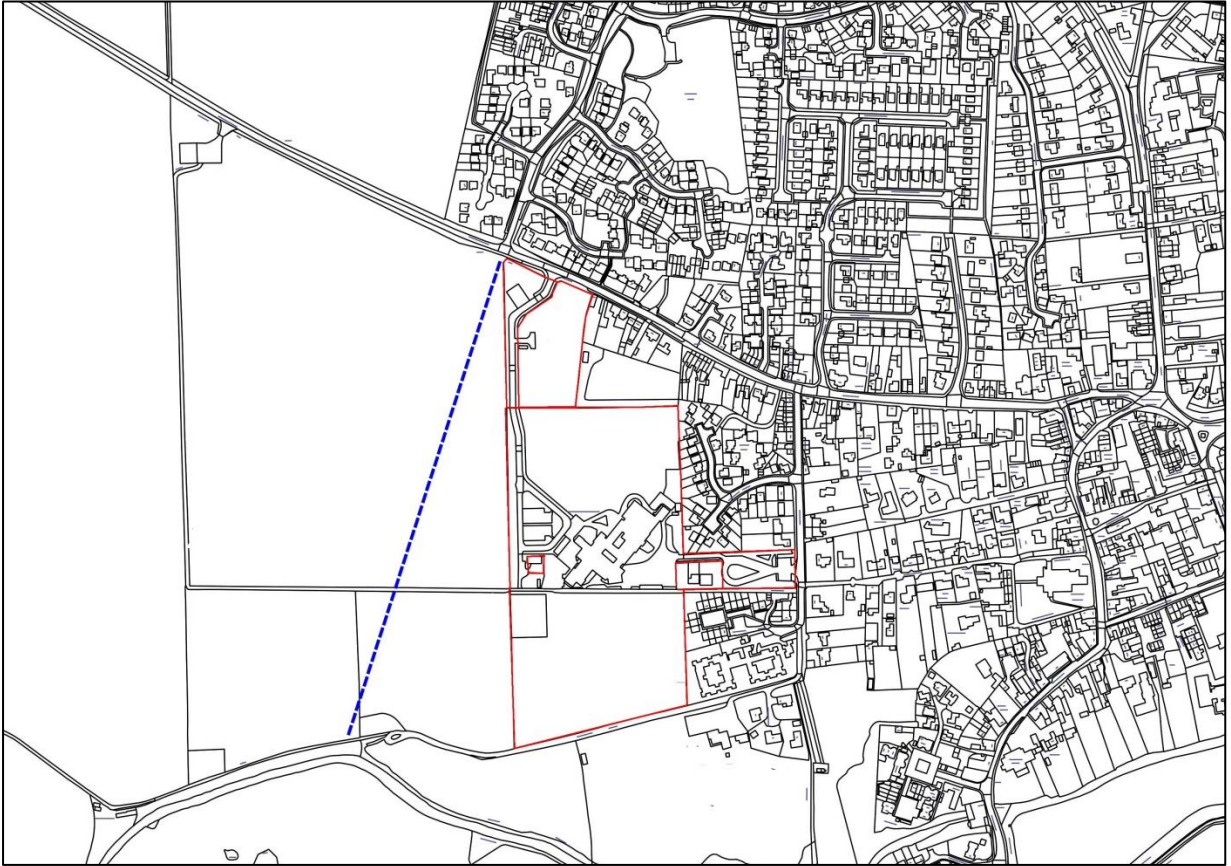


Figure 3.5: Utilities

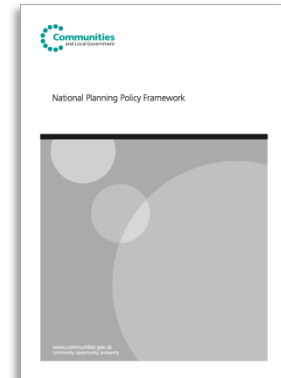
4 PLANNING POLICY FRAMEWORK PLANNING POLICY FRAMEWORK

4.1 INTRODUCTION

The way in which land is developed and used is subject to a hierarchy of planning policy and guidance with local policy needing to be in accordance with an overarching national policy. Proposals for development at Sheldrick Way will need to comply with new and updated planning policy as it emerges.

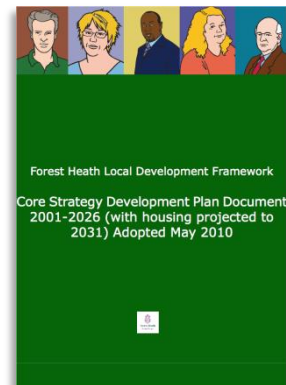
4.2 NATIONAL PLANNING POLICY FRAMEWORK

The National Planning Policy Framework (NPPF) was published by the government in March 2012. It introduced a presumption in favour of sustainable development and requires local planning authorities to seek positive opportunities to meet the development needs of their area. It also underlines the importance of design to the built environment and high quality, inclusive design is seen as integral to the concept of sustainable development, indivisible from good planning and should contribute positively to making places better for people.



4.3 LOCAL PLAN CORE STRATEGY (adopted May 2010)

The Core Strategy provides the overall strategic vision for the future of Forest Heath to 2026. The adopted plan was the subject of a successful High Court challenge and policy CS7 (Overall Housing Growth) was quashed resulting in a Single Issue Review and amendments to policies CS1, CS7 and CS13.



The Core Strategy includes the following vision statements:

Vision 1 – Forest Heath

- Green links along the river Lark will have been enhanced for people and for their biodiversity.
- The need to adapt to climate change and to reduce carbon emissions will have influenced the location and design of development, including the recreation of habitats. Low energy buildings will be commonplace and renewable energy generation will have increased. The need for sustainability will encourage the use of alternative modes of transport.
- Schools will be well integrated into the community.

Vision 3 – Mildenhall

- New development will have enhanced the appearance, character and function of the town and aided regeneration, while ensuring the needs of the community are met.
- Additional recreational, open space and community services and facilities will be provided to serve local needs.

The Core Strategy also provides spatial objectives, including:

Spatial Objective ENV 2

- To guide changes in our built and natural environment in a way which mitigates and takes proper account of climate change, particularly minimising carbon emissions from new development and transport, and the risk of flooding. Water efficiency will be encouraged.

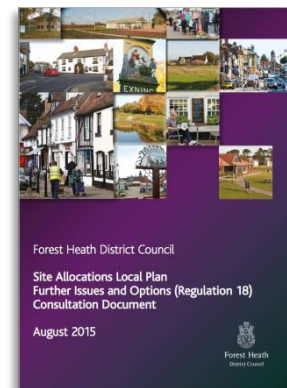
Spatial Objective ENV 4

- To ensure that all new development exhibits a high standard of design and architectural quality that respects and enhances the distinctive landscapes and townscapes of Forest Heath's towns and villages.

These vision statements and spatial objectives are expanded upon further in Policy CS4 which promotes sustainable construction and Policy CS 5 which requires high quality design that reinforces local distinctiveness.

4.4 SITE ALLOCATIONS LOCAL PLAN DOCUMENT

Consultation on the Site Allocations Local Plan Document was completed in October 2015. It identifies site M19 extending to 82 ha. to the west of Mildenhall which is described as Grade 2 agricultural land that is relatively sustainable and unconstrained as a site that could accommodate an extension of the urban area for residential use with the potential for 10 ha. of the available land being allocated for the Mildenhall public services 'hub'. The document also identifies the potential for a district heating network, future proofed to serve any nearby new housing, to be provided as part of such a development.



3.5 JOINT DEVELOPMENT MANAGEMENT POLICIES DOCUMENT (adopted February 2015)

While the Core Strategy provides the overarching vision the JDMPD provides locally based management policies for use in day-to-day planning decisions. It re-iterates the Presumption in Favour of Sustainable Development (Policy DM1) as required and it provides an outline of what should be included in Development Briefs (see Section 1: Purpose and Format of the Development Brief). Off particular relevance to proposals for a Community Campus / Hub are:

Policy DM2 – Creating Places

This emphasises the need to maintain or create a sense of place including having regard to landscape/townscape character and views into and out of a Conservation Area. Development should be of an appropriate scale, density and massing; incorporate sustainable design and construction measures; not adversely affect ecological interests; make for safe environments; and facilitate access for all with specific regard to sustainable forms of transport.

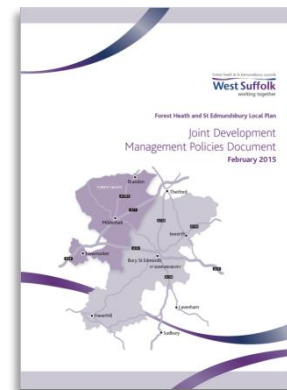
Policy DM4 – Development Briefs

See section 1.2

Policy DM6 – Flooding and Sustainable Drainage

Sustainable Drainage is a particular issue in Forest Heath as some 20% of the District is liable to flooding. Land to the west of the Sheldrick Way site is within the Ouse Washes Habitat Creation Project. The site is within the Lark river catchment and can therefore impact on the Ouse Washes downstream. Policy DM6 requires that a scheme for sustainable drainage and flood management is submitted as part of the application and the policy makes reference to measures such as rainwater harvesting and greywater recycling.

Policy DM7 – Sustainable Design and Construction



“All new non-residential developments over 1000 square metres will be required to achieve the BREEAM Excellent standard or equivalent” .

This requirement can be waived however if there are constraints inherent within the site preventing one or mandatory credits from being achieved or if the cost of attaining this standard can be demonstrated to compromise the viability of the scheme.

Policy DM13 – Landscape Features

“All new development should be informed by, and be sympathetic to, the character of the landscape. ...All development proposals should demonstrate that their location, scale, design and materials will protect, and where possible enhance, the character of the landscape, including the setting of settlements, the significance of gaps between them and the nocturnal character of the landscape. ”

Policy DM17 – Conservation Areas

The site at Sheldrick Way is not in a Conservation Area but Wamil Way is and this is close to the site boundary. The tower of St Mary’s Church, less than 300m distance, is clearly visible from (and across) the site. The policy requires that

“views into, through and out of a Conservation Area are preserved or enhanced.

Policy DM20 – Archaeology

This policy advises that development that has a material adverse effect on sites of archaeological importance will not be acceptable however there is no overriding case against development on sites of archaeological interest subject to certain conditions.

Policy DM22 – Residential Design

DM22 provides advice on requirements for design aspects of residential development.

Policy DM41 – Community Facilities and Services

“The provision and enhancement of community services will be permitted where they contribute to the quality of community life and the maintenance of sustainable communities....”

Policy DM43 – Leisure and Cultural Facilities

“Planning applications for new leisure or cultural facilities ...will be permitted provided that:

- a) The proposals are connected to and associated with existing facilities or located at a site that relates well to, (where achievable within or on the edge of), a defined Settlement and can be made readily accessible to adequate public transport, cycling and walking links for the benefit of non-car users.
- b) There would be no unacceptable impacts on the character, appearance or amenities of the area and the design is of a standard acceptable to the local planning authority.
- c) Vehicle access and on-site vehicle parking is to an appropriate standard...”

Policy DM44 – Rights of Way

A number of existing rights of way border the site or cross land to the west of the site that may be incorporated.

“Development which would adversely affect the character of, or result in the loss of existing or proposed rights of way, will not be permitted unless alternative provision or diversions can be arranged which are at least as attractive, safe and convenient for public use... Improvements to such rights of way will be sought in association with new development to enable new or improved links to be created within the settlement, between settlements, and or providing access to the countryside or green infrastructure sites as appropriate and to achieve the objectives of the Suffolk Rights of Way Improvement Plan.”

Policy DM45 – Transport Assessments and Travel Plans

“Where a transport assessment and / or travel plan does not demonstrate that the travel impacts arising from the development will be satisfactorily mitigated or that adequate measures are in place to promote the use of more sustainable modes of transport then planning permission will not be granted.”

Policy DM46 – Parking Standards

MILDENHALL HUB DEVELOPMENT BRIEF

“... Proposals for new mixed-use sites will be expected to minimise the provision of car parking where achievable, for example by providing shared use parking, and/or car pooling as part of a Travel Plan.”

5 DEVELOPMENT VISION AND OBJECTIVES

5.1 VISION

The core strategy provides statements for the vision that the Council holds for the District and for Mildenhall, including:

FHDC Core Strategy: Vision 1
<p>Forest Heath</p> <p>...An established network of open spaces and green corridors will enhance and protect the district's natural assets...</p> <p>The need to adapt to climate change (in particular in managing flood risk) and to reduce carbon emissions, will have influenced the location and design of development, including the re-creation of habitats. Low energy buildings will be commonplace and renewable energy generation will have increased. The need for sustainability will encourage the use of alternative modes of transport...</p> <p>Schools will be well integrated into the community...</p> <p>The emphasis on protecting and enhancing the intrinsic character and built historic heritage of our villages, towns and the wider environment will be balanced with the benefits of small-scale development to provide affordable housing, local jobs or additional community facilities...</p>

FHDC Core Strategy: Vision 3
<p>Mildenhall</p> <p>...New development will have enhanced the appearance, character and function of the town and aided regeneration, while ensuring the needs of the community are met...</p>

The Government, the Local Government Association and the public services partners behind the proposed 'hub' also have a vision for the project which is seen to offer multiple benefits. Efficiency and cost savings are significant drivers for the project and the Government envisages that this will also drive growth by releasing land for development. However co-location is considered to offer other benefits for the community. Physical proximity could facilitate access for users of services but could also promote integration to deliver more customer-focussed service provision. The partners' vision incorporates:

- flexibility of buildings to adapt to changes of service needs
- ease of access
- minimal impacts on surrounding areas
- opportunities for community use of shared facilities including sports, education and meeting areas

This vision correlates strongly with planning objectives.

MILDENHALL HUB DEVELOPMENT BRIEF

The following vision statement outlines the key planning components and principles for development of a shared services hub at Sheldrick Way. Proposals will be expected to embrace this guidance:

The site of the existing college at Sheldrick Way, together with land to the west of the existing site, will be the location for a new shared community services (public, private and voluntary) 'campus' or 'hub' serving Mildenhall. There would be provision for schools (an academy, a primary school and pre-school) and their sports/playing fields, a leisure centre (to include a 6-lane swimming pool) and local government offices (for the District and County Councils) with space for other public services such as library, emergency services, health, Department of Work and Pensions, and Citizens' Advice. The development will seek to share use of assets where possible and community access to and use of facilities will be encouraged within the constraints of safeguarding considerations. The development should allow for flexibility in demand and adaptability to future uses. It will also offer the potential for small amounts of complementary housing on the site and enterprise space within other buildings.

It will be well connected to the historic heart of the town by a footpath / cycleway utilising Church Walks. It will also be well connected to proposed new residential development and to West Row and provide a convenient through route so that these areas are in turn connected to the town centre. The design of the constituent buildings and their arrangement will principally address access by the pedestrian / cycle route to provide an engaging and welcoming threshold. The primary school will be located and designed to facilitate pedestrian access from the proposed new residential development to the west. Vehicular access to the campus/hub will be from Sheldrick Way and will make good provision for public transport. 'Drop-off' zones should be provided such that they allow a safe onward journey on foot to the primary school and the academy. Car parking should be designed to be discrete and not visually dominant.

The design of the campus/hub and its constituent buildings will be to a high standard such that it becomes a source of civic pride. It will also encourage a sense of ownership by presenting a point of access that is open and inviting. The development will attain a high standard of sustainability by being efficient in its use of land and resources, both in the construction and, particularly, the operational phases. New buildings, as a group, should attain a BREEAM 'Excellent' rating. If there is potential for becoming a net exporter of renewably produced energy it will be exploited.

The new development will sit comfortably in its landscape setting by virtue of scale, massing, composition and detailed design, including materials. It will seek to protect and enhance existing landscape assets such as mature trees. A Sustainable Drainage system will ensure attenuation of storm water and will contribute to the objectives of enhanced water quality and landscape/biodiversity. New landscape interventions will seek to improve amenity for all stakeholders, provide a safe environment and create rich habitats. Views to St Mary's church will be retained and exploited. Taller elements (exceeding 2 storey heights) in the composition of buildings will seek to enhance the skyline by providing additional punctuation or interest but should not diminish the impact of the church spire in important views.

Overall the new campus/hub will be considered to be a major enhancement to both the community services and the overall appearance and functioning of Mildenhall such that it becomes an ever more attractive location place to live and work.

6 KEY DESIGN & PLANNING PRINCIPLES

6.1 ACCESS & MOVEMENT

6.1.1 Vehicular Access and Movement:

The original vehicular access to the school was from Wamil Way but as the school and its traffic grew the limitations of both Wamil Way and its junction with Queensway in terms of visibility and turning movements necessitated the construction of a new access at Sheldrick Way, also serving the allotments. The original vehicular access has been retained as a small, informal parking area and a pedestrian / cycle access to the school and the preschool but, given its constraints, it is considered unsuitable as a vehicular access for the hub site.

The further growth in traffic that would result from the development of a Community Services Hub would in turn place pressure on Sheldrick Way which would be exacerbated by the future growth of the urban area of Mildenhall to the west which would result in increased traffic on Queensway.

A solution would be to change the priority of the Sheldrick Way junction as illustrated in Figure 6.1 below. Sheldrick Way could then become the principal access road to and from the new residential area and a potential bus route. The relocated secondary school and new primary school should present their principal and secure point of access, including a drop-off point, directly onto this road. Traffic accessing the car park serving the other parts of the hub would then turn off Sheldrick Way.

It is important that the hub is integrated into the fabric of the townscape of the expanding urban area. There will be a challenge given that there will be no through road and that existing residential development on Wamil Way faces away from the development site. Figure 6.1 indicates that residential development should be present on both sides of Sheldrick Way and this would allow the emphasis of place over movement in accordance with the Manual for Streets. Similarly it is anticipated that there would be active residential frontage on one side of the access road leading to the 6th Form College, Leisure Centre and Hub Offices. The design of the car park and the point of arrival will need to take into account the importance of creating residential amenity in this location to address the street frontage to be developed opposite.

6.1.2 Pedestrian / Cycle Access & Movement

The existing pedestrian / cycle access to the 6th Form College off Wamil Way is a key asset of the site as it leads almost directly Church Walks which provides a short route through to the town centre. The key visual landmark of the St Mary's Church tower is on this alignment providing a strong visual link between the hub site and the town centre. The existing site is otherwise entirely enclosed by wire fencing, apart from the vehicular route through Sheldrick Way, although public footpaths run along the south and west boundaries.

The new hub will need to be much more accessible and should link into the existing footpath network at key points. Moreover, as the site is interposed between the town centre and the proposed urban extension to the west it is important that it provides a strong link between the two. As stated in 6.1.1 the integration of the hub site is challenged by the fact that there would be no road through the site and in traffic terms it would be relatively isolated and this underlines the need to ensure good pedestrian and cycle connectivity both into and through the site and particularly east-west. Such links should be direct and legible. The church tower is strong visual link and views to the church along these links should be retained. The hub development could also provide a visual landmark along this route but such a marker should remain visually subservient to the church tower. The east-west link

could become a principal part of the pedestrian / cycle network serving the town. A good footpath cycleway link should also be provided to proposed residential development on the north side of West Row Road. A crossing point would be created as part of that development but Figure 6.1 shows how this could be integrated into the hub with a route linking the point of arrival on the site through a bus stop serving the schools entrance area and beyond to residential areas to the north.

Wamil walk to the south of the site is a popular recreational route with access to the river and cricket ground. This should also be linked into the hub, ideally with a good through route to the town centre and to residential areas to the north, so that the hub and the facilities it offers are knitted into the movement network of the town.

Attention to the needs of all user groups, including mobility impaired, must be integral to design. As well as attaining a high standard in engineering terms it should provide for a high standard of safety, including lighting, accessibility and amenity, in terms of street furniture and landscaping. The footpath and the cycleway elements should be kept separate where possible.

Cycle parking should be adequate, close to the desired destination (building entrances), covered and well-lit.

6.1.3 Public Transport

Because the hub would not be on a vehicular through route connections with public transport networks becomes problematic. The secondary school in particular will need a good bus route connection Figure 6.1 indicates how this might be achieved. It may be necessary to provide a bus turning area at this location as bus routes may terminate at the school. There should also be good connectivity from the bus stop to the core of the hub.

6.1.4 Parking

Parking for the hub should be placed close to the 'Vehicle Point of Arrival' in order to minimise vehicle movements across the site. It should be a facility shared with all user groups in order to maximise efficiency although Fig. 6.1 indicates that there could be a smaller element of separate parking close to the schools entrance area.

The parking facility may be used by some visitors for a trip to the hub facilities combined with other destinations in the town centre. To what extent this is encouraged or discouraged will be a matter for the management of the parking facility but it is clear that account will need to be taken of this demand in assessing the level of provision.

The development brief requires that parking be provided in accordance with Suffolk Parking Standards as they may be interpreted by the Highways Authority. This would be based on user requirements at the time of an application but it is recommended that flexibility be built in to the design. This could be in the form of an 'overspill' parking area and such an overspill area may have other uses, such as tennis courts associated with the leisure centre and/or schools. However it is also the case that user requirements based at the hub may develop over time resulting in long term changes in demand for parking. This could result in an increase or decrease in the requirement for parking but this could mean that an 'overspill' area becomes permanently unavailable for other uses. The development brief recommends that the desired flexibility be found in the demand for parking associated with other trips to the town centre. The design of the hub could allow for maximising provision for this purpose such that parking at the hub is seen as a car park serving the town centre. If demand for parking by the hub partners was to increase over time then use by visitors to the town centre could be increasingly restricted and this element of the provision found elsewhere off site.

6.2 LANDSCAPE

6.2.2 Existing Trees

Existing trees on the site boundaries and on the access from Wamil Road should be retained.

There is also a line of existing trees running north-south on the edge of the existing school boundary. Most of these trees are the result of a double row boundary hedge not being maintained such that tree species included in the hedge mix have been allowed to grow out. Generally these are very close to each other, usually less than 2m apart, and consequently etiolated and of poor form as individual specimens. There are also a number of larger, more mature white poplar trees that appear to have predated the hedge planting. The trees are of variable form and some may have structural weaknesses however, although not a long lived species, the trees are young mature and would have a 'safe useful life expectancy' in excess of 20 years. The design of the hub complex could allow for the retention of a number of these trees however their importance, in landscape or arboricultural terms, is not considered such that their retention should determine layout or design. Consequently they are not indicated on Figure 6.2.

6.2.1 Landscape Setting:

The visual appraisal undertaken for the Business Case considers that it is important to maintain the vegetated nature of the settlement edge as this helps screen and soften medium to long distance views to the urban area, although at the same time it also considers that it is important to maintain views of the church tower. To achieve the desirable balance the school boundary planting (see fig. 6.2) should aim provide screening at a lower level with shrubby species (up to 2m) but tree planting should allow filtered views through. If the school boundary is adjacent open countryside and arable fields then maintaining the field pattern, by setting out the boundary in a straight line that is parallel to field pattern (north-south), would also help to integrate the school playing fields into its wider setting.

6.2.3 Point of Arrival / Gateway Landscaping

Two key points of arrival are indicated on Figure 6.2. Landscape treatment here should:

- announce arrival as a 'gateway', perhaps with public art
- incorporate appropriate signs
- provide for meeting / gathering, with seating

6.2.4 Residential Boundary Planting

The existing school abuts the rear garden boundaries of residential properties. There is some boundary planting already and this should be retained. In places, particularly adjacent proposed car parking areas, this planting may need to be reinforced to ensure privacy for residents.

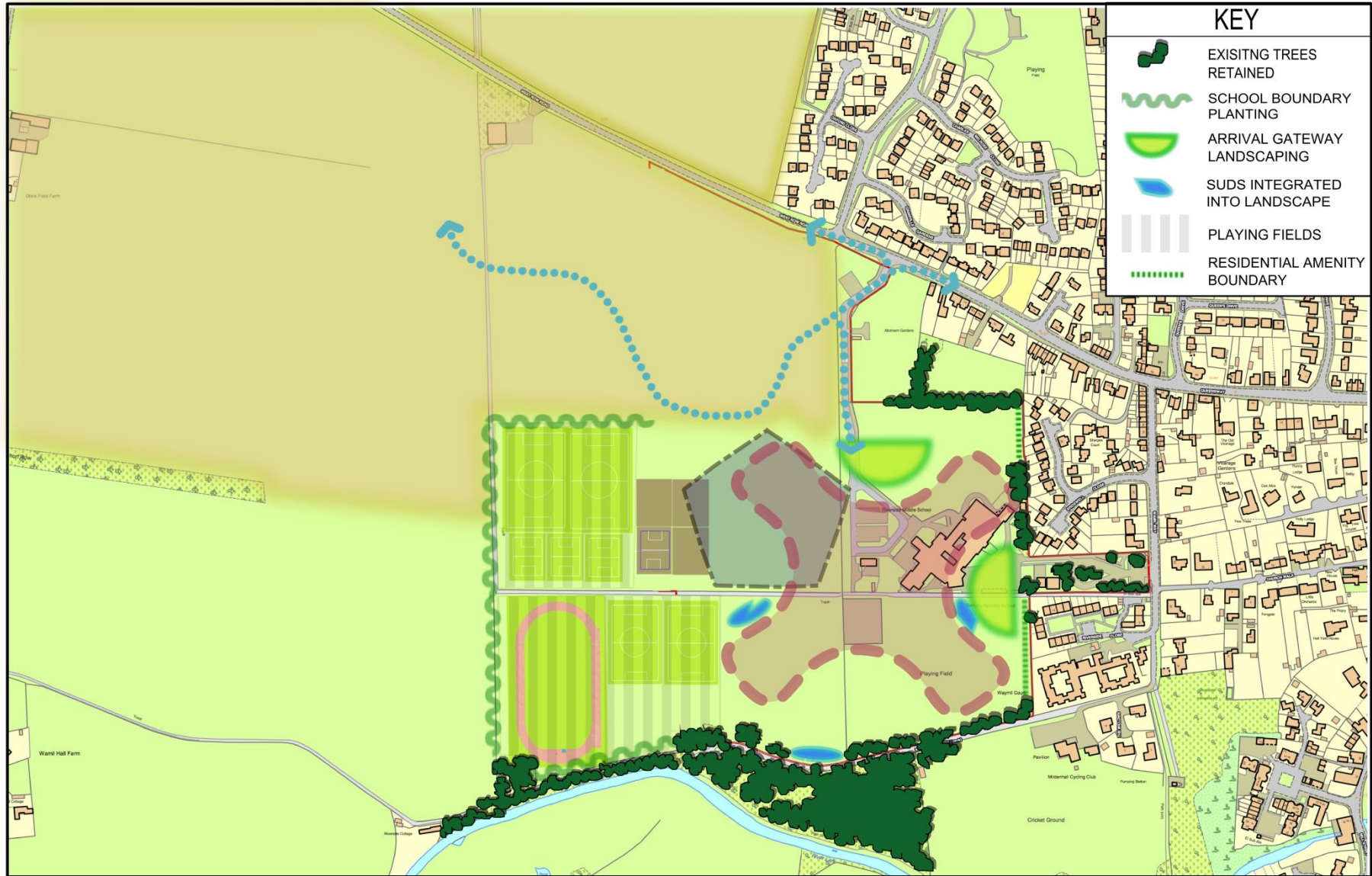
6.2.5 Sustainable Urban Drainage (SUDs) Features

SUDs features should be integrated into the landscaping for the site where they can add to amenity and biodiversity. This may include surface attenuation features such as swales, detention ponds or 'rain gardens'.

6.2.6 Learning Through Landscapes

It is expected that the outdoor areas closely associated with the schools will be designed to provide an outdoor learning resource. This theme can be extended to other parts of the site.

MILDENHALL HUB DEVELOPMENT BRIEF



KEY	
	EXISTING TREES RETAINED
	SCHOOL BOUNDARY PLANTING
	ARRIVAL GATEWAY LANDSCAPING
	SUDS INTEGRATED INTO LANDSCAPE
	PLAYING FIELDS
	RESIDENTIAL AMENITY BOUNDARY

LANDSCAPE

Figure 6.2

MILDENHALL COMMUNITY SERVICES HUB DEVELOPMENT BRIEF

6.3 SCALE & MASSING

6.3.1 Parameters:

The proposed hub will present a challenge architecturally. There is a desire to share physical space within a building complex but at the same time there will be a need to provide a degree of separation and identity for many of the users as well as 'safeguarding' in the case of schools. It is the intention that the development brief allows the necessary degree of flexibility to resolve these issues but at the same time it seeks to set out the broad parameters under which options can be explored in order to provide all key stakeholders with common understanding of the general scale and massing that will describe the development.

6.3.2 Footprint:

The starting point for the design of the complex of buildings will be the fact that the existing Mildenhall Academy College buildings are to be retained and will continue to provide all necessary accommodation for the 6th form college. The other key elements to be provided for are:

- Schools (secondary school, primary school, pre-school)
- Leisure centre, including a swimming pool
- Offices for other core partners and associated users

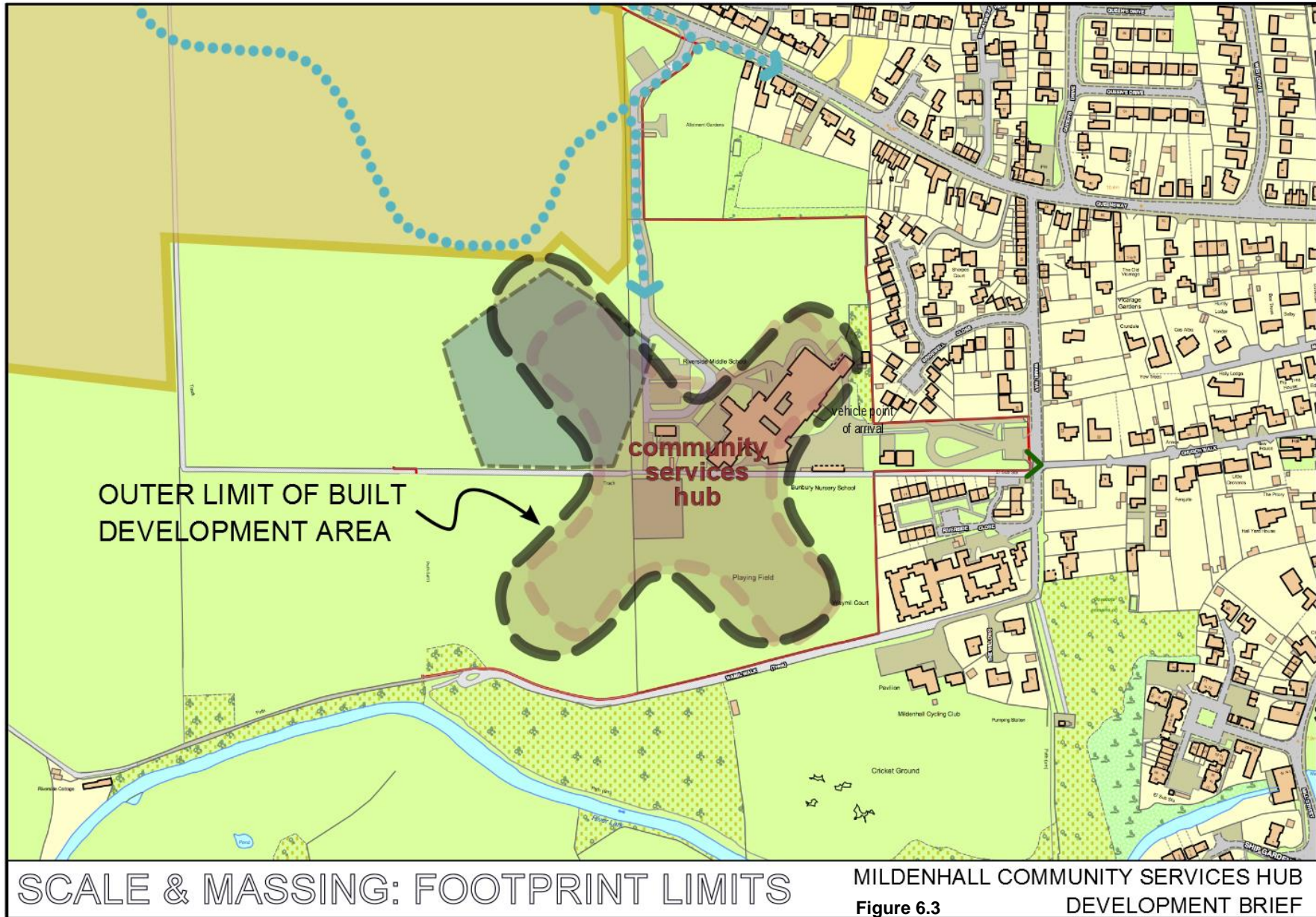
Together with the 6th form college there would be four key user groups occupying distinct elements within the complex. The desire to create proximity to each other for sharing space and facilities while maintaining a degree of distinction suggests an approximate cruciform arrangement as the most logical layout. Such an arrangement has the potential to sit well with other development parameters such as relationship to neighbouring uses, key access points and permeability of the site and has generated the cruciform symbol used in plan illustrations throughout the development brief.

Figure 6.3 indicates how this could be translated to provide an outer limit to the building complex footprint. The Business Case study has provided various figures for partner requirements in terms of floor areas with the higher figures being 23,180 square metres in total (note: this excludes the primary school). Of that total 11,280 sq.m. would be required by the academy of which just under 4,000 sq.m. is existing accommodation in the 6th form college. The cruciform in Fig. 6.3 has an area of 44,000 sq.m. approximately. If all of the development was of 2 storey construction it would occupy just over ¼ of the cruciform (plus the primary school). In practice it would be somewhat more as most of the existing college is single storey but the form shown generally allows a good degree of flexibility for design.

6.3.3 Building Heights:

The existing setting for the site at Sheldrick Way is characterised by low-rise development, being single storey at Wamil Court and Riverside Close in the south-west and 2-storey in Bridewell Close to the west. The major part of the existing college buildings, all of which are to be retained, is single storey also. In addition the visual assessment has drawn attention to the desirability of protecting views to St Mary's church tower. These factors suggest that a low rise development would be most appropriate. The school would need to be of 2-storey height in order to meet EFA (Education Funding Agency) requirements. There are also arguments for allowing some elements of the scheme to punctuate the skyline with 3, or possibly 4, storeys. Although presently and 'edge of settlement' site the development brief proceeds on the basis that the setting will change significantly with substantial areas of additional housing on agricultural land to the west. A limited proportion of higher roof levels could result in an enriched visual environment if a high standard of architectural design is achieved. This would also be appropriate for a Community Services Hub as one or two taller elements would imply a higher order in the functional hierarchy of buildings and 'civic centres' are traditionally imposing buildings. This would add to the legibility of the townscape. Clearly any taller elements would need to be carefully considered to provide a harmonic visual composition when viewed from the west with the church tower in the further distance.

MILDENHALL HUB DEVELOPMENT BRIEF



Appropriate proportions for design parameters are considered to be:

- Minimum 75% (as ground built area) of new build should be 2-storey or less with a maximum height to eaves of 8m and a height to top of roof being 11m for flat roofs (with a slope of $<15^{\circ}$) or 14m for pitched roofs (with a slope of $> 15^{\circ}$)
- Maximum 25% (as ground built area) of new build could be 3-storey or 4-storey with a height to eaves 10m and a height to top of roof being 13m for flat roofs (with a slope of $<15^{\circ}$) or 16m for pitched roofs (with a slope of $> 15^{\circ}$)

6.4 COMPLEMENTARY HOUSING

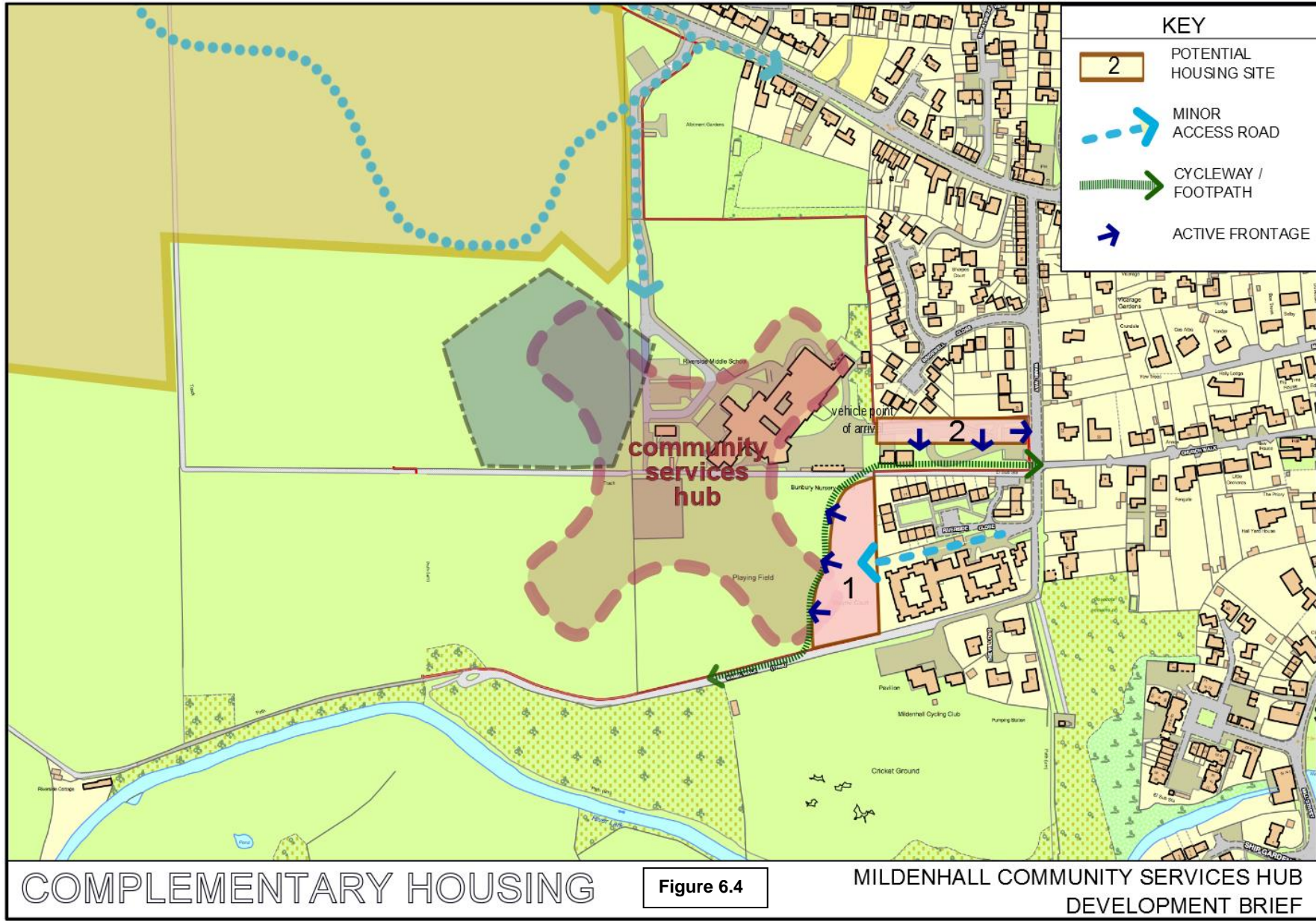
The Business Case indicated a potential ambition to incorporate a small amount of 'complementary' housing on the site. This could have potential benefits in terms of integrating the hub development into the fabric of the town.

Fig. 6.4 indicates two potential sites. Site 1 is an extension to Wamil Court, now closed and awaiting redevelopment. Redevelopment of this site offers the potential to replace rear garden fencing with an active frontage to the hub development. This would help enliven the space on this side of the hub and help integrate it with other uses. If extended into site '1' to the west side of Riverside Close as shown on Fig. 6.4 the active frontage could be similarly extended to present an active frontage in lieu of the rear garden fencing of Riverside Close. The hub development in turn would need to respond with an attractive and active frontage facing the housing and a pedestrian / cycle route should be created between the two.

Site 2 offers similar potential to enliven the space with active frontage however development potential here would be limited by existing trees and the shallow depth of possible plots. Existing trees provide considerable amenity to this access and any development would need to be carefully designed so as not to detract from this. A very limited number of well-spaced detached dwellings may be able to achieve this but larger dwellings would probably not be a solution as plot depths may not accommodate them.



MILDENHALL HUB DEVELOPMENT BRIEF



7 SUSTAINABILITY

7.1 CONCEPT

As well as central government policies aimed at reducing carbon emissions, and their expression in the NPPF, the Local Plan Core Strategy Vision and Policy supports a sustainable approach to development.

FHDC Core Strategy: Vision 1

...The need to adapt to climate change (in particular managing flood risk) and to reduce carbon emissions will have influenced the location and design of development, including the re-creation of habitats. Low energy buildings will be commonplace and renewable energy generation will have increased. The need for sustainability will encourage the use of alternative modes of transport...

FHDC Core Strategy: Policy CS4

The Council will promote and encourage all development proposals to deliver high levels of building sustainability in order to avoid expansion of the district’s ecological footprint and to mitigate and adapt against climate change.

All new development proposals will be required to demonstrate how it minimises resource consumption, minimises energy consumption compared to the current national and regional minimum requirements and how it is located and designed to withstand the longer term impacts of climate change...

The West Suffolk Joint Development Management Policies Document (DMD) includes the following:

West Suffolk Joint Development Management Policies Document: Policy DM7

All proposals for new development including the re-use or conversion of existing buildings will be expected to adhere to broad principles of sustainable design and construction and optimise energy efficiency through the use of design, layout, orientation, materials, insulation and construction techniques...

All new non-residential developments over 1000 square metres will be required to achieve the BREEAM Excellent standard or equivalent unless it can be demonstrated that one or more of the following conditions apply:

- It is not possible to meet one or more of the mandatory credits for an Excellent rating due to constraints inherent within the site. In this case development will be expected to accrue the equivalent number of credits by targeting other issues while achieving an overall Very Good rating*
- The cost of achieving an Excellent rating can be demonstrated to compromise the viability of the development. In this case applicants will be expected to agree with the Council whether the target should be relaxed, or whether cost savings could be achieved in another aspect of the development...*

Sustainability is measured in terms of social, environmental and economic impacts.

Fundamentally, the concept of a shared use site is a sustainable approach to public service delivery and would address multiple criteria in assessing sustainability. Inherently there would be a more efficient use of buildings that would therefore embody less materials / energy in construction and ongoing energy consumption would be less for a smaller building. Combining functions on a single site should also act to reduce vehicle trips and contribute to social objectives in sustainability.

The strategy should be to optimise the opportunities presented by the concept. This would include delivering a set of buildings that perform well and the requirement for an overall BREEAM ‘Excellent’ rating should apply. This would place them in the top 10% of non-domestic new builds and is considered ‘best practice’.

BREEAM Rating	% score
OUTSTANDING	85 +
EXCELLENT	70-85
VERY GOOD	55-70
GOOD	45-55
PASS	30-45
UNCLASSIFIED	< 30

BREEAM Guidance confirms that: “it is possible to assess and rate a number of separate but similar buildings, or individual units within a larger building development, within one BREEAM assessment report.” [BREEAM UK New Construction non-domestic buildings technical manual 2014, p.14]

A BREEAM Assessor should be appointed early in the project at the design stage in order to ensure that opportunities are recognized and taken. A design stage BREEAM Interim Assessment should be required.

The remaining part of this section explores the implications for the development in respect of the principal assessment criteria of setting out to achieve an Excellent rating.

7.2 ENERGY

Energy remains the most significant area for assessing the performance of buildings in relation to BREEAM certification representing 15% of available credits and an Excellent rating requires an Energy Performance Ratio (EPR_{NC}) of 0.36 or more. The stated ambition [Business Case 2014] is to provide a building that is a net exporter of energy and this could significantly contribute towards the BREEAM rating. A building’s operational phase accounts for 80-90% of energy use through heating, cooling, ventilation, lighting and appliances. [UNEP-SBCI Common Carbon Metric for Measuring Energy Use 2009 BRE Carbon Emissions from non-domestic Buildings 2020 and Beyond]

The Business Case states that:

“The vision for the Mildenhall Hub is that through innovative design and the use of best available technologies the partners can create a development which will satisfy its own energy needs whilst being able to export clean, green heat and power to others in the local community.

The Design features and technologies which could be employed in the Hub include:

- *Design Features – master planning to secure optimal solar gain in winter and cooling in summer. Very high standards of fabric energy efficiency*
- *Heat Generation Technologies – heat pump or biomass energy centres distributing through a heat network to buildings on the site as well as provision for extending the network into the*

local community. Solar thermal could be employed where specific buildings have roof space and hot water demand not satisfied by the heat network

- *Power generation technologies – solar photovoltaics will be the technology of choice. Combined heat and power technology could be used where biomass is the heat energy source of choice.*

Thus the vision is for a development that both reduces energy consumption and sources such energy as it needs from low-carbon, renewable technology. Achieving the necessary credits from energy to help towards a BREEAM Excellent rating is likely to require all of the design features and technologies identified, even more so if the ambition of achieving net export of energy is to be realised.

7.2.1 Passive Solar

Passive solar gain can often be the most significant factor in achieving an Excellent rating in energy terms and would help in delivering on the stated ambition for the development to be a net exporter of energy by reducing demand on site. It does not necessarily have significant cost implications as most of the gain would arise from correct orientation of the buildings although it does also require design features such as a thermal collector/heat sink, enhanced insulation, and protection from overheating. The first objective in delivering passive solar gain is to ensure that major fenestration is oriented within a south-facing arc, likely to be biased to the east in order to gain insolation in the early part of the day.

7.2.2 Solar PV

Solar photovoltaics are described in the Business Case as the '*technology of choice*'. The proportion of total energy demand that can be met by photovoltaic (PV) generation will ultimately depend on a combination of factors. PV can only address electricity demand and is unlikely to contribute to space and water heating or space cooling. However electricity has been growing as a proportion of energy supply in non-domestic buildings such that it now accounts for more than 60% of delivered energy and more than 80% of carbon emissions (5). Nevertheless, even when using a substantial percentage of available roof area it can usually only meet a proportion of total energy demand. The orientation / pitch of PV cells can be of relatively marginal significance within certain parameters (i.e. within 30 degrees of due south and a pitch of 10 to 40 degrees).

7.2.3 Solar Thermal

Direct thermal solar units are approximately three times more efficient than PV at converting solar radiation to usable energy for heating and should form part of the energy mix to provide hot water.

7.2.4 Ground Source Heat Pumps

Ground Source Heat could make a useful contribution to space heating given the potential collection space available as represented by playing fields and the potential of the nearby River Lark. A football pitch extending to some 0.6 ha could deliver approximately 100kWh of energy however advice should be sought on the possible adverse effect on frost-free days (and therefore availability for playing).

7.2.5 Combined Heat and Power / District Heating Network

A combined heat and power (CHP) plant could deliver a substantial proportion of the energy needs of the hub and there may be potential on the Sheldrick Way site. CHP can be run on fossil or biomass fuels however BREEAM ratings make reference to CO₂ emissions and non-fossil fuels would therefore need to be sourced. Alternative primary energy sources for CHP plant can include biomass (possibly waste streams) and methane from waste.

A CHP plant can also be linked to a District Heating Network. There is no definition of what a District Heating Network is (5). They can vary significantly in terms of the base source of energy and the scale and technologies employed in distribution but essentially they comprise shared use of a heat source distributed through a network of insulated pipes. Most networks in the UK are relatively small and powered by gas. They have the advantage of being relatively efficient but much of the efficiency

savings can be lost when applied to low density developments such as might be typical of residential developments in Forest Heath. There are obvious advantages to incorporating a distribution network in a new development as opposed retrofitting existing developments and proposals for Sheldrick Way should explore these options with potential links to proposed new residential development to the west.

Other options for generating energy include:

- PV cells that are not roof mounted (i.e. walls and ground)

Any development proposal should seek to optimise all of these technologies and this is likely to be necessary if a BREEAM Excellent rating is to be achieved

A report by Ramboll commissioned by FHDC has identified a range of low to zero carbon technologies that are potentially suitable and viable:

- Biomass heating with solar photovoltaic
- Water source heat pump (WSHP) with solar photovoltaic
- Solar thermal
- Ground source heat pump (GSHP) with solar photovoltaic

These opportunities have been identified based on evidence obtained during early phases of the review covering heat mapping and energy master planning for the proposed development. Each of these opportunities has the potential to deliver cost and carbon savings when compared to traditional natural gas fired heating plant options. The viability of these opportunities and savings achievable will be subject to further, more detailed analysis which will be reported in spring 2016.

7.3 WATER

Water consumption is a critical area for a BREEAM assessment and efficiency of use will be required. The combined scale of the hub complex should help minimise the infrastructure costs (eg storage, filtering and pumping) of grey water use technologies which could be installed to meet the joint needs of all occupiers.

7.4 TRANSPORT

A single location providing a wide range of public services should act to reduce trips, both by those using the services and those providing them and this is one of the key strengths of the concept. On the other hand, the site at Sheldrick Way is not well-connected to the existing movement network in Mildenhall so efforts will be required to minimise the various impacts of journeys made. Key design issues in this regard are explored in Section 6.1: Access and Movement and this section looks at sustainability issues only.

7.4.1 Parking

While modes of transport other than private car should be preferentially encouraged the environmental impact of car movements can also be reduced. Cars alone are responsible for approximately 12% of CO² emissions in the EU (European Commission Climate Action 2015) and are recognised in adversely affecting air quality and health. However there are trends in car technology that set to improve this situation, including:

- improvements in electric/hybrid car design (battery life and performance)
- a growing interest in 'sub-compact' or 'city' cars
- autonomous cars
- self-drive car sharing

The hub development should lend encouragement to these trends. It is recommended that 10% of parking spaces, located preferentially, should be for electric vehicles. Consideration should also be given to preferential parking provision for very small vehicles (under 3m in length) and car sharing.

7.4.2 Transport Plan

A transport plan is being provided separately by WSP Group.

7.5 BIODIVERSITY

Development proposals should seek and exploit opportunities to enhance the biodiversity of the site. In particular it is expected that the proposals will:

- use predominantly native woody and herbaceous species and, where appropriate, those species that provide food (including nectar) and shelter for wildlife
- use Sustainable Urban Drainage features such as swales, rain gardens and/or detention basins to increase the variety of habitats for flora
- provide a wildlife corridor(s) that links to the deciduous woodland occupying the Lark river terrace to the south to the core of the hub (via the school boundary and /or a direct footpath/cycleway) and potentially on to other corridors perhaps linked to the footpath and cycle network
- provide roosting opportunities in or on buildings for bats and birds
- bio-roofs: providing opportunities for wildlife on roofs is not incompatible with exploiting their potential for energy production and can help with sustainable drainage of the site
- set out a scheme of management that promotes and protects the development of wildlife resources, such as the development of wildflower meadows in preference to short mown grass
- make use of the habitats provided as an educational resource for the schools on site and in turn promote environmental awareness

7.6 MATERIALS & WASTE

BREEAM awards credits for minimising embodied energy and waste throughout all phases of the construction and operation of the development.

Innovation

7.7 BREEAM INNOVATION

BREEAM Assessments allow an additional 10% of credits for 'innovation' in order to give recognition to

"sustainability related benefits which are not currently recognised by standard BREEAM assessment issues and criteria."

[[BREEAM UK New Construction non-domestic buildings technical manual 2014, p.23](#)]

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In itself the concept of the public services hub as proposed would have some innovative features, particularly in the way that it links educational facilities. This also provides a unique opportunity for further innovation, for example by providing a community environmental education facility. Such a facility might explain the full range of technologies employed in the design and construction of the hub. It would be of particular benefit to the schools and their educational programs but it could also engage with the community at large. This would have benefits in terms of promulgating environmental awareness and as such might also draw additional credits under a BREEAM assessment. One model of how this might work exists in the residential quarter known as 'Vauban' in Freiburg, southern Germany. This recently completed residential development, which encompasses two primary



Figs. 7.1-3: BREEAM Innovation

schools, is often cited as an exemplar in terms of environmental impact and the community has provided a small building where green technologies are exhibited and explained.

(5) Summary Evidence on District Heating Networks in the UK (Dept of Energy & Climate Change July 2013)

8 PHASING

8.1 User Requirements

The Business Case explains that there is an order of priority in terms of need for new accommodation by the hub partners / user groups.

(i) First Order - Leisure Centre:

This element has the highest order of priority as delays in delivery are likely to result in significant expenditure that could otherwise be invested in the hub site.

“Both the Dome and the swimming pool are reaching the end of their lifespan and will require a large investment to keep operational, in particular the swimming pool would need to be the first part of any phased build” (Business Case)

(ii) Second Order - Secondary School; Offices:

The need to relocate these facilities is less pressing than for the Dome and swimming pool. Once the existing sites are released they become available for redevelopment. It seems likely that phased release of these sites would help maximise returns.

(iii) Third Order - Primary School:

The need for a primary school arises from the likely level of growth of the population of Mildenhall planned for the period 2015-2030. It is anticipated that the school would need to be completed mid-way through this growth period.

Re-fitting / refurbishment of the 6th Form College is likely to be limited in extent and could progress as and when required regardless of the phasing of other elements of the scheme and therefore can be considered separately.

8.2 Site Organisation

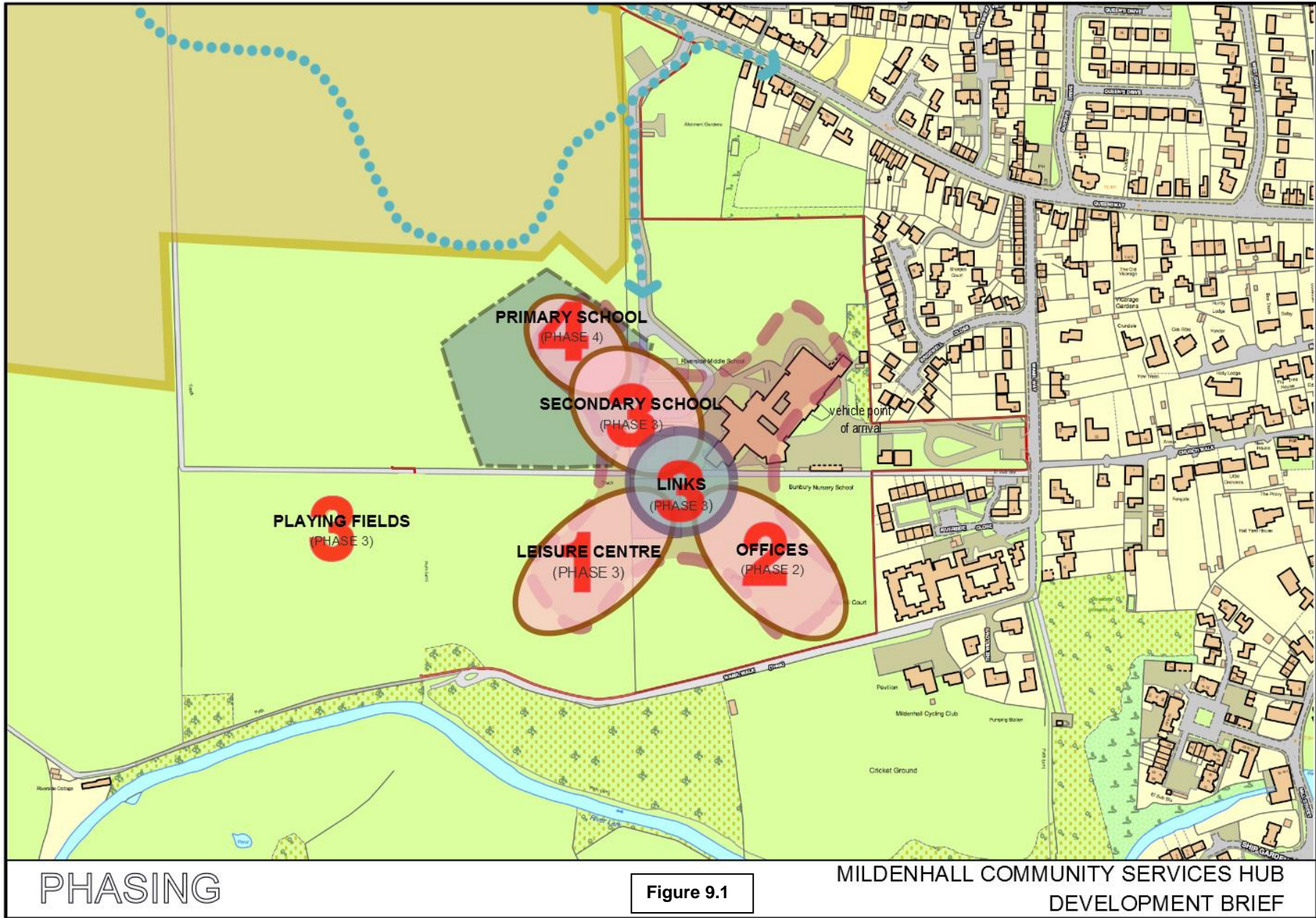
The most logical way to build-out a site is to start at the most distant part from the construction access point and work back towards that point. This ensures that deliveries, construction traffic and activity crossing occupied parts of the site is minimised. It helps to reduce costs and inconvenience. The point of access would be from the north and, most likely, from Sheldrick Way as a new road serving the urban extension would not be available initially. Thus, in terms of site organisation, the first order (Leisure Centre) should be placed at the southern end of the site. This fits with the most logical layout of key elements in the longer term (see Fig. 6.1). The 6th Form College is being retained whilst the schools should be placed closest to the residential areas served and, ideally, on a bus route with a separate entrance distinct from the main hub access.

The swimming pool and leisure uses could occupy either the south-west or south-east arms of the hub complex. The south-east arm might offer the better relationship in terms of walking /cycling to the town centre however most users are still likely to arrive by car. The south-west arm may offer the most flexibility in terms of accommodating the external artificial pitch in proximity to the building and ease of access from the schools and is considered the most optimal location overall. However this would pose some operational difficulties during the construction phase. With the leisure centre in use, and being accessed from the car park and/or town centre footpath, construction traffic accessing the south-east arm would have to cross the flow of pedestrian traffic. If the far south-west corner of the site is to be used for complementary housing (see fig. 6.4) consideration will also need to be given to the architectural relationship between the hub and the houses.

8.3 Architecture

Phasing will also be affected by the architectural solutions to the users brief for shared facilities. If different user groups are in distinct buildings that are physically separate it becomes much easier to phase delivery. Where uses are shared in a single building such phasing may not be feasible, in either financial or operational terms. Buildings that are linked present a combination of these issues and much will depend on the architecture. Figure 9.1 indicates how delivery of distinct buildings might be organised.

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9 STATUS OF BRIEF

9.1 Public Consultation Draft

This is a First Draft for the Development Brief for Sheldrick Way Public Services Hub and is intended as a document primarily for public consultation and engagement purposes. Depending on the responses to the public consultation the document may be revised to produce a final version to be recommended for adoption as Supplementary Planning Guidance.

Once adopted as SPG the details and guidance within the document would be taken as material considerations when the Council comes to determine any planning application submitted for a public services hub at Sheldrick Way.

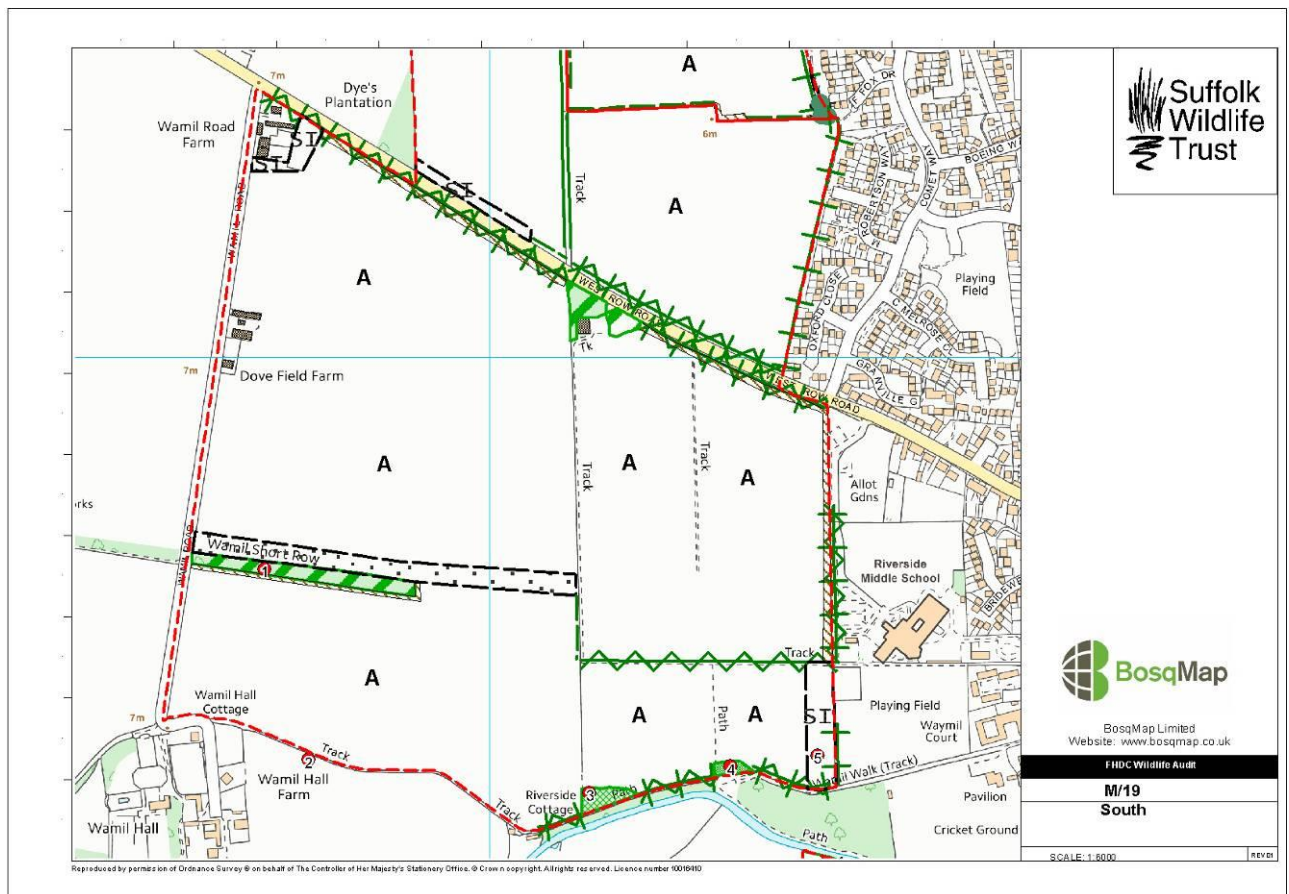
MILDENHALL HUB DEVELOPMENT BRIEF

APPENDIX 1 ECOLOGY SURVEY 2015

Site name M/19 Land West of Mildenhall, South of West Row Road

FHDC Ref:	M/19
Site status:	No wildlife designation
Grid ref:	TL 70090 74950
Area:	82.1 hectares
Date:	21 July & 11 August 2015
Recorder:	A Walmsley
Weather conditions:	Day 1: Sunny, windy, 22°C Day 2: Sun and cloud, light breeze, 16°C
Ranking:	4
Biodiversity value:	Medium

Map:

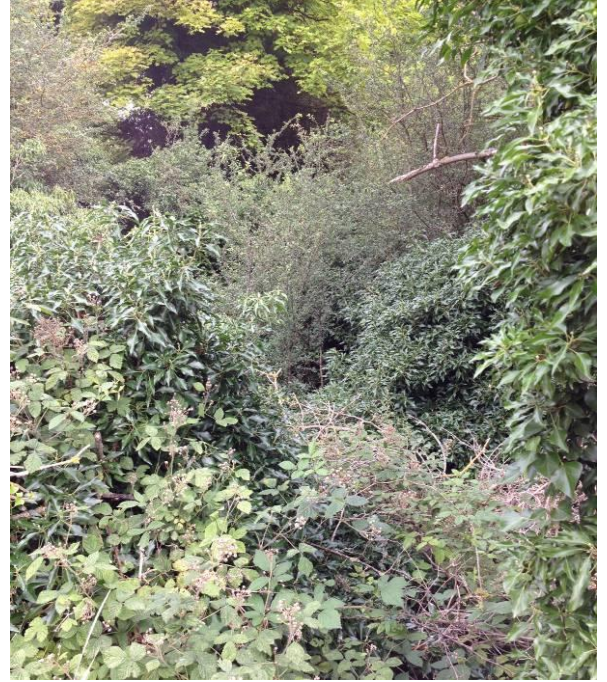


South section

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Many internal hedges have been removed in the south part of the site leaving large swathes of uninterrupted arable land



A pit adjacent to the south boundary and close to the river corridor is heavily overgrown with scrub and trees (Target Note 3)



Small broadleaved woodland blocks adjacent to the main road



The south boundary has a partial hedge along the eastern side and a narrow, species-poor verge or bank, seen above, on the west side (Target Note 2)

Habitat type(s):

Arable field margins, hedgerows, woodland

Subsidiary habitats:

Scrub, bare ground, deadwood

Site description:

The site is located at the western edge of Mildenhall, south of Mildenhall Airfield, and straddles the West Row Road. It consists almost entirely of large arable fields under a variety of crops, including beet, barley and potatoes. On the south side the fields are extremely large with internal hedge boundaries now largely removed. With one or two exceptions the remaining hedges are around the site edges or bordering access tracks, these are often tall and dense. Field margins are generally narrow and dominated by a range of ruderal species, but three plants listed on the Suffolk Rare Plant Register, dense-flowered fumitory, fine-leaved fumitory and prickly poppy, have previously been recorded along the south boundary of site.

There are one or two small pockets of woodland and scrub habitat, mainly at the site edges: on the south side, along the south boundary, are two overgrown pits (Target Notes 3 and 4); a broad shelter belt of scrubby woodland in the south-west (Target Note 1); and two fragments of recently planted screening woodland along the north boundary. On the north side is a short belt of dense scrubby habitat where hedges bordering an access track have grown across and blocked it (Target Note 6).

The site contains small fragments of grassland: in the south-east corner this is a narrow strip of poor semi-improved permanent grass (Target Note 5); while a few small paddocks on the east side of Wamil Road Farm support semi-improved grassland.

There are two farms with outbuildings on the western edge of the south parcel and a large new grain-store on the north boundary, concealed behind new woodland plantations.

Protected species seen or known:

-

Protected species potential:

Bats

Priority habitats present:

Arable field margins, hedgerow

Priority species seen or known:

White letter hairstreak butterfly (previously recorded in south of site)

Priority species potential:

Small heath (recorded from the same 10km square), turtle dove, barn owl, tree sparrow, swift, skylark, linnets (recorded from the same 10km square), hedgehog, brown hare, common toad

Connectivity:

The site lies partly adjacent, on its south side, to the River Lark, a valuable wildlife corridor through the south side of Mildenhall. The river connects to other high quality habitats on the outskirts of the town such as the Cut-off Channel to the east. To the west, south and south-west is an extensive network of arable fields which are largely uninterrupted by roads.

Structural diversity

Structural variation within the site is provided by hedges and screens of trees; rough grassland which has taken the place of hedgerow boundaries; ruderal field margins; and bare soil around crops. There are small pockets of high quality scrub and woodland habitat which are structurally very diverse and species-rich, but these tend to be isolated and at/near the site boundaries. There is some deadwood within the site, mainly as aerial dead timber on trees; and various structures including barns, outbuildings and sheds.

Flora:

Three plants listed on the Suffolk Rare Plant Register, including the nationally scarce dense-flowered fumitory, and prickly poppy and fine-leaved fumitory, both classified as 'vulnerable', have all previously been recorded along the south margin of the site. Fumitory was frequent in this area, but it is a complex group to identify to species, and a more detailed botanical survey would be needed to establish presence/absence of the two species listed above. In general throughout the site the arable margins are narrow, dominated in the north by ruderal broad-leaved species such as black horehound, common mugwort, common and dwarf mallow, bugloss, poppy, nettle, yarrow and both white and bladder campion. Species such as fat hen, mugwort, dwarf mallow and dwarf nettle are frequent in the bare soil at crop edges. Greater knapweed, field scabious, lady's bedstraw and great mullein also grow along one bank in a hedgerow gap. In the south parcel, field margins are infrequent on the west side, and on the east are grass-dominated.

On the south side, hedgerows are relatively few, confined to the north and east boundaries, with partial hedges along the south. With one or two exceptions on the east side, most internal hedges have been removed. The most significant internal hedge is a relatively recent planting in the south east, running east-west. It is 3-4 metres wide and species rich, with field maple, hawthorn, spindle, dogwood and hazel. Elsewhere there are the remains of a hawthorn and blackthorn hedge alongside an internal track. Along the south side the boundary is gappy with much deadwood and frequent trees, the main components being sycamore, elm, elder, hawthorn, blackthorn and mature ivy.

On the north and south sides of the main road which bisects the site the hedges are tall and unmanaged with frequent trees and occasional gaps. They are composed of hawthorn, locally abundant wild privet, occasional elder, blackthorn, bramble, with ivy and white bryony; hedge trees are mainly of sycamore, some of which are pollards.

There are some valuable scrub habitats on site. In the south parcel, along the south boundary, are two overgrown pits (Target Notes 3 and 4); a broad shelter belt of scrubby woodland in the

south-west (Target Note 1); and two fragments of recently-planted woodland along the north boundary. The smaller of the pits is deep and heavily overgrown, providing exceptional scrub, deadwood and bare chalk habitat close to the river corridor (Target Note 3). Species here include hawthorn, spindle, blackthorn, elder and ivy with ruderal growth below. Collapsed trees provide valuable deadwood habitat. The second pit is much larger, more open and poorly-vegetated, below a canopy of tall sycamore. In the south-west is a 12 metre-wide shelter belt of elm, sycamore, wild privet, blackthorn, field maple, hawthorn, ash, beech and elder over a ground flora that contains wood false-brome, cuckoo-pint, wood avens, cow parsley and coarser vegetation as well as regenerating saplings of the canopy species. This area contains abundant deadwood, both standing and fallen; and has an excellent varied structure, providing a range of habitats. Finally, along the north boundary of the south parcel are two small areas of woodland, planted as screening around a grain store. The canopy species are silver birch, cherry, horse chestnut, beech and sycamore with an understorey of hawthorn and regenerating canopy species. The ground flora is ruderal, often of nettle.

There are small fragments of grassland in the site. At the south-east corner is a narrow strip of poor semi-improved permanent grass (Target Note 5), which has a high density but limited range of herbs, including common cat's-ear, dandelion, red, white and zigzag clover, ribwort plantain and the grasses cock's-foot, rye and false-oat grass. At the north-west corner, behind outbuildings at Wamil Road Farm, are small enclosed paddocks which contain clovers, smooth-hawk's-beard, creeping cinquefoil, dove's-foot crane's-bill, goat's-beard, bird's-foot trefoil and yarrow. The verge along Wamil Road contains a similar array of species in places with the occasional addition of species such as greater knapweed, toadflax, lucerne, mallow and bladder campion. The western stretch of the south boundary verge is narrow and largely dominated by low-growing and taller ruderal species, with occasional acid grassland indicators such as wild mignonette and fumitory.

Avifauna:

Nesting opportunities are abundant in the hedges and shelter belts in both parts of the site, and these areas also provide ample foraging opportunities with many fruit-bearing species. The grassy banks may provide hunting corridors for insectivorous species and potentially raptors: both swift and barn owl have been recorded nearby. A wide range of species has been recorded to the north of the site, including yellowhammer, song thrush, linnet, bullfinch, reed bunting, skylark, turtle dove, lapwing and tree pipit, and some of these may periodically use the site for feeding or nesting. During the surveys, species recorded included sparrowhawk, buzzard, pigeon and rook. Swallows were also recorded in abundance hunting over the fields in the north of the site.

Invertebrates:

The site offers a range of habitats for this group including bare basking areas, areas of short and longer grass, and scrub and shelter belts creating warm and still microclimates. The tall grass banks particularly in the north of the site and patches of permanent, herb rich grass in the south provide valuable habitat, with nectar and pollen-bearing plants, and grass tussocks providing refuge and nesting areas. Hedge species also provide forage in the form of nectar and pollen, and fruits in autumn/winter. Invertebrate species recorded during the survey included

grasshopper, ladybird and the butterflies ringlet, skipper, meadow brown, red admiral and cabbage white. The Priority butterfly species white letter hairstreak and grayling have previously been recorded from the 10km square to the north of the site.

Herpetofauna:

The intensively used nature of the site suggests it is likely to have low potential for this group, although the sheltered areas of bare ground, banks of longer vegetation at the bases of hedgerows and connectivity to undisturbed habitat corridors may make parts of it suitable for species such as common toad.

Mammals:

A range of small mammals may use the boundary banks and hedges for feeding, nesting and to move around the area. There is high potential for bats to hunt over the site, particularly at the edges of dense scrubby areas and alongside hedgerows, and there may be some roost potential in hedgerow trees and areas of scrub, although the farm buildings in general appear to offer low roosting potential. Hedgehog has been recorded in several locations close to the site and may use of hedgerow bottoms and rough grassland along the field margins. Field signs of both fox and rabbit were noted during the survey and other very mobile species, including deer, are highly likely to pass through the site.

Comments and recommendations:

In general terms, the site is of relatively low ecological value, but there are records of three plants listed on the Suffolk Rare Plant Register, one of which is Nationally Scarce and the others 'Vulnerable'. None of these species was seen during the survey, but a more detailed botanical assessment of the site, particularly along the south boundary, should be as part of any development proposals. Surveys for bats and birds should also be undertaken.

The scrub and woodland habitats which occur mainly along the boundaries have a relatively high ecological value in their own right, and are of especial importance in an intensive arable context. If the site is considered for development, it is strongly recommended that these areas of habitat be protected from development; and their wildlife value enhanced by improving their ecological connectivity to areas of adjacent habitat. The amount of habitat across the site could also be increased by further planting of species rich native hedging to improve linear connectivity through the site.

Japanese rose (*Rosa rugosa*) is present within the eastern hedgerow. This species is commonly grown in gardens, but it is listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) as a species which should be prevented from spreading in the wild. If development proceeds at this site, measures should be put in place to ensure that construction activities do not result in the further spread of Japanese rose at this location.

For sites within 7.5km of the Breckland SPA

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A study undertaken by Footprint Ecology on behalf of Forest Heath DC and St Edmundsbury BC identified that over half of visitors to Breckland SPA locations within the districts lived within 7.5km of the SPA. It is therefore considered that new residential development within 7.5km of the SPA will result in increased numbers of visitors accessing the SPA; this could in turn result in significant impacts on the features for which the SPA is designated. Prior to granting planning consent for residential development at this site the proposed development should be assessed under the requirements of the Conservation of Habitats and Species Regulations (2010) (as amended) to determine whether it is likely to result in a likely significant effect on the SPA, either alone or in-combination with other plans or projects

References

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