

Local Development Framework

Fen Drayton Former Land Settlement Association Estate

Supplementary Planning Document

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1. INTRODUCTION TO THE SUPPLEMENTARY PLANNING DOCUMENT

- 1.1 The Fen Drayton Former Land Settlement Association (LSA) Estate Supplementary Planning Document (SPD) forms part of the South Cambridgeshire Local Development Framework (LDF).
- 1.2 The SPD expands on Policy SP/11 for the former Land Settlement Association estate at Fen Drayton contained in the Site Specific Policies Development Plan Document (DPD), adopted on 28 January 2010. The policy allows the reuse or redevelopment of buildings (excluding glass houses) no longer needed for agricultural purposes for on site experimental or other ground breaking forms of sustainable living, provided that the development would not occupy a larger footprint than existing buildings.

PURPOSE

- 1.3 The purpose of this SPD is to provide practical advice and guidance to applicants on how to develop a proposal that will comply with Policy SP/11, including the identification of eligible buildings.
- 1.4 This SPD will help achieve the following LDF objectives which are included in the Core Strategy DPD (adopted January 2007) and the Development Control Policies DPD (adopted July 2007):

- ST/e To protect the varied character of the villages of South Cambridgeshire by ensuring that the scale and location of development in each village is in keeping with its size, character and function and that buildings and open spaces which create their character are maintained and where possible enhanced.**
- ST/g To ensure development addresses sustainability issues, including climate change mitigation and adaptation issues, maximising recycling and reuse of resources, and reduce waste and pollution.**
- DP/c To ensure that new development, activities and uses of land uphold and promote the principles of sustainable development.**
- DP/d To ensure high quality new development that protects and enhances the character of the district and local distinctiveness through careful integration with the existing built form.**

- 1.5 Specific objectives for this SPD are:
- to identify the eligible buildings for reuse or redevelopment under Policy SP/11;
 - to define key terms and phrases such as 'carbon neutral', 'footprint' and 'buildings no longer needed for agricultural uses';
 - to establish clear development and design principles for any new development; and
 - to set out the requirements of the development in order to be considered as achieving the principles of sustainable living.

NATIONAL PLANNING POLICY CONTEXT

- 1.6 The Governments overarching planning policy objective is for sustainable development. National Planning Policy Statements (PPS) and Planning Policy Guidance (PPG) notes set a framework for how this can be achieved.
- *PPS1: Delivering Sustainable Development* – Planning can help facilitate and promote sustainable inclusive developments by ensuring that all new developments are designed to a high quality, make efficient use of resources, and protect and enhance the physical environment and character of the countryside and existing communities.
 - *Supplement to PPS1: Planning and Climate Change* – Development should contribute to reducing carbon emissions and stabilising climate change, and be well adapted to cope with the expected effects of climate change, which include increased flooding, rising sea levels and more extreme weather events.
 - *PPS4: Planning for Sustainable Economic Growth* – Economic development in rural areas should be located in or on the edge of rural settlements, and proposals for economic activity in the open countryside should be strictly controlled.
 - *PPS7: Sustainable Development in Rural Areas* – Planning should sustain, enhance, and, where appropriate, revitalise rural communities whilst maintaining local character and a high quality environment.
 - *PPG13: Transport* – Planning and transport should be integrated at a national, regional and local level as planning has a key role in effectively delivering transport policies. By guiding the location, scale, design and mix of land uses in any new development, planning can help: reduce the need to travel; reduce the length of journeys; and make it safer and easier for people to use more sustainable forms of transport e.g. walking, cycling and public transport.

- *PPS22: Renewable Energy* – Renewable energy should be incorporated into developments where the technology is viable and the environmental, social and economic impacts can be addressed satisfactorily. Planning should foster community involvement in renewable energy projects.

SOUTH CAMBRIDGESHIRE LOCAL DEVELOPMENT FRAMEWORK POLICY

- 1.7 The site-specific policy for development within the former Land Settlement Association (LSA) estate at Fen Drayton, and its supporting text, is contained within the Site Specific Policies DPD, adopted on 28 January 2010.

POLICY SP/11 Fen Drayton Former Land Settlement Association Estate

Within the former Land Settlement Association Site at Fen Drayton, as defined on the Proposals Map, where it can be demonstrated that buildings (excluding glass houses) are no longer needed for agricultural purposes, planning permission for change of use or redevelopment of existing buildings will be permitted for on site experimental or other groundbreaking forms of sustainable living provided that development would not occupy a larger footprint than existing buildings.

- 2.56 The Land Settlement Association's activities at Fen Drayton are an earlier example of an attempt to achieve a more sustainable form of living but with the passage of time this has not proved to be an enduring model. The current legacy of the experiment is a network of small land holdings, a wide variety of land uses including some disuse, and a patchwork of buildings of variable quality. It is difficult to see how this area can be returned to a pattern of land use or a landscape character in any way akin to the surrounding fenland countryside. In view of the area's history and its current appearance, form and character this policy will allow it to evolve as a positive experimental test-bed for new forms of sustainable living.
- 2.57 A requirement of sustainable living at Fen Drayton will be a development which is carbon neutral. Prospective developers will be required to submit a 'carbon neutral energy statement' with their planning applications which will demonstrate how the construction and use of the development will ensure that its occupants will not cause any net increase in carbon emissions when compared to a greenfield site.

- 2.58 Required measures will include: ensuring the development is highly energy efficient in terms of design, construction and subsequent use; utilising locally generated renewable energy; high levels of recycling and a long-term goal of ensuring no waste is sent to landfill by providing facilities to recycle, compost and convert waste to energy; introducing measures to restrict car use and promote sustainable forms of travel and commuting.
- 1.8 In planning terms, the former LSA estate is defined as being in the countryside as it is located outside of the village development framework (see Policy DP/7). Development outside of village development frameworks is restricted to: that required for the functioning of a viable rural enterprise or tied to an agricultural use (see Policy HG/9); the conversion of existing buildings for either residential or employment uses subject to strict eligibility criteria (see Policies HG/8 and ET/7); outdoor recreation; and other uses that need to be located in the countryside. However, Policy SP/11 allows a greater scale and range of development within the former LSA estate than would normally be allowed in the countryside.
- 1.9 Policy SP/11 should also be seen in the context of its location adjoining the village development framework of Fen Drayton, which is categorised in the Core Strategy DPD as a Group Village (see Policy ST/6). Policies for development within the village development framework of Fen Drayton seek to limit development to a scale in keeping with this relatively small village. The parish of Fen Drayton in mid 2009 had an estimated population of 920 people and an estimated dwelling stock of 350 dwellings, based on the estimates produced by Cambridgeshire County Council Research Group. Policy ST/6 states that residential development of up to 8 dwellings will normally be permitted in this location, and exceptionally residential development of up to 15 dwellings where it would make best use of previously developed land. The LSA estate therefore lies in an area where there is normally a general restraint on the level of development that is appropriate in this rural area.
- 1.10 Policy SP/11 for the former LSA estate at Fen Drayton must be read in conjunction with other relevant policies contained in the LDF. Of particular note, parts of the policy area lie adjacent to and overlapping with two key policy designations shown on the Adopted Proposals Map (published on 28 January 2010). The County Wildlife Site of Fen Drayton Lakes is located to the north of the policy area, and is an area of former gravel workings that has been transformed into a nature reserve. The reserve is open to the public and there are many footpaths and bridleways through the area. The northern fringes of the policy area are located within flood zones 2 and 3 as identified by the Environment Agency. The flood zone maps are regularly updated and the latest versions are available from the Environment Agency. Both the County Wildlife Site boundary and flood zone designations (as at January 2010) are shown on the map in Appendix 1.

2. BACKGROUND

HISTORY OF THE LAND SETTLEMENT ASSOCIATION

- 2.1 The industrial depression following World War I resulted in high levels of unemployment in the industrial towns of north-east England and south Wales, where steelworks, shipbuilding and coal mining had previously provided employment for a high numbers of workers. Support for the unemployed workers and their families was provided nationally in various ways, including from charitable organisations such as the Society of Friends (Quakers) who provided allotments to families so that they could have fresh vegetables.
- 2.2 Sir Percy Malcolm Stewart, chairman of the London Brick Company and founder of the model village of Stewartby, and others such as Lloyd George, the former Prime Minister, felt that part of the solution to the high levels of unemployment was to return men to full time work on the land. In 1933, in order to achieve this, Sir Percy Malcolm Stewart asked the Society of Friends (Quakers) to use their experience of their different allotment schemes to devise an experimental scheme to settle unemployed industrial workers on landholdings away from their home areas, and also kick-started the process by providing a 535 acre estate in Potton, Bedfordshire and a donation of £25,000 to be matched by the Government.
- 2.3 The Land Settlement Association (LSA) was created on 26 July 1934. The Minister of Agriculture announced that the LSA had been formed to “*carry out an experimental scheme for the provision of small holdings for unemployed persons, with financial assistance from the Government*” and that the objective of the LSA “*shall be to carry on the business of providing and equipping land for cultivation by unemployed persons or persons in part time employment and providing training and maintenance for prospective holders*”.
- 2.4 The LSA established a series of principles that they considered essential to ensure the success of the scheme:
- the smallholdings must be established in groups located around a central farm and run by estate managers – it was agreed that each estate needed a minimum of 50 smallholdings to make the estate economically viable;
 - training and supervision should be provided;
 - co-operative methods should be used to purchase agricultural equipment and market the produce;
 - loans at favourable rates should be available for tenants to help them equip their holdings; and

- the smallholdings should be rented to allow flexibility for termination to both the LSA and tenant, and to ensure that the initial financial outlay for each smallholding was not a burden on the occupiers.
- 2.5 The LSA experienced difficulties in finding available estates with suitable soils for division into smallholdings that could be occupied immediately and that promised a good return from the land.
- 2.6 The first LSA applicants (referred to as 'settlers') had to be men aged between 30 and 50 years who were long term unemployed and preferably had held an allotment. The wives of the applicants also had to agree to support and work alongside their husbands. Each settler was required to complete 15-18 months of training, which included technical instruction on agriculture, horticulture and animal husbandry as well as physical tasks to improve the fitness of the settlers. The settlers received dole money until they proved themselves competent.
- 2.7 By 1935, the LSA had twenty estates located across England including at Fen Drayton (see figure a). World War II provided a new challenge for the LSA: industrial unemployment disappeared but was replaced by the threat of disruption to the country's food supplies. To help the estates produce the maximum amount of food in the shortest possible time, the LSA disbanded its training scheme and amended its recruitment policy to favour new applicants (referred to as 'agricultural tenants') with some agricultural experience and capital of their own. The LSA estates were supported by the Women's Land Army.



Figure a: The LSA estates in 1935

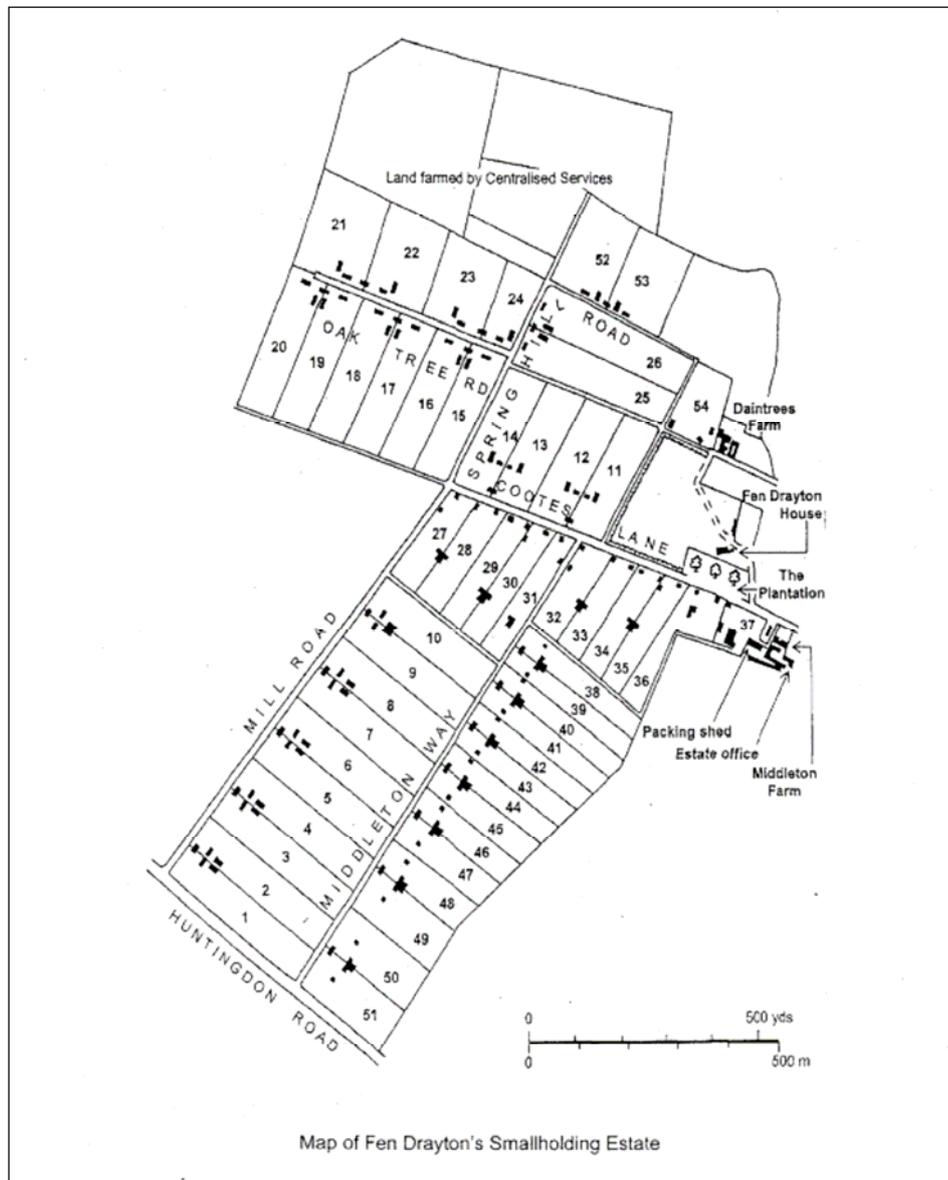
[source: Dearlove (2007)]

- 2.8 After World War II, all the LSA estates were handed over to the Ministry of Agriculture and Fisheries and were considered to be able to provide the first rung on the agricultural ladder. The LSA continued to manage the estates as the Ministry's agent.
- 2.9 By the 1960s, the number of LSA smallholdings had halved. The Wise Report, published in 1967, advised that there was no longer a need for a national LSA scheme but that there was an obligation to existing tenants. In response, the Government decided that the LSA scheme would continue but without the centralised services and only where commercial horticulture (in particular salad production) could be intensified.
- 2.10 During the 1970s, the preferred applicants (referred to as 'growers') were men in their late 20s with at least 5 years of horticultural experience. Horticultural Improvement Grants and the LSA's own credit facilities enabled expansion in the form of new glasshouses. However, the 1970s also saw profitability fall due to high rates of inflation, the fuel crisis (the dramatic rise in the price of oil had significant implications on the cost of heating and transport), entrance into the Common Market and competition from abroad, record rates of interest and unusual weather conditions (a series of long hot summers).
- 2.11 The Minister of Agriculture announced the end of the LSA smallholding scheme on 1 December 1982, and stated that the LSA would cease to be an organisation by December 1983. Tenants were offered the opportunity to buy their smallholdings.

THE FEN DRAYTON LSA ESTATE

- 2.12 In the early 1930s, farming and gravel working were the main sources of employment in Fen Drayton, which was a small village of approximately 60 dwellings, a few farms, a primary school, the Three Tuns public house, a blacksmith's forge, a post office and shop, the parish church, and the Methodist chapel. The population was approximately 200 people.
- 2.13 In 1935, the Fen Drayton LSA estate was created from the estate of Fen Drayton House. Fen Drayton House and its land was considered suitable due to the local tradition of smallholdings and market gardening and its location near road and rail links to national wholesale fruit and vegetable markets. The estate of Fen Drayton House totalled about 350 acres and consisted of Middleton Farm, Daintree's Farm, 15 cottages, fen pasture and orchards. Figure b shows the layout of the Fen Drayton LSA estate.

Figure b: Map of Fen Drayton LSA estate [source: Dearlove (2007)]



- 2.14 Middleton Farm, including its cottages and barns, became Central Farm, and was the location of the buying and selling centre, grading and packing sheds, central piggeries and hatchery, estate office and agricultural supplies shop. Daintree's Farm, including its stables and outbuildings, was used to house the estate manager, capital equipment and tenants supplies. The new settlers were billeted at Fen Drayton House while they undertook their initial training.
- 2.15 The Fen Drayton House estate was divided into 54 smallholdings of 3-6 acres each containing a piggery, a poultry house and several glasshouses, and was biased towards horticulture with some rearing of pigs and poultry, due to the better soil. In comparison, the Abington LSA estate, in the south

east of the district, was divided into smallholdings of 8-10 acres and was biased towards rearing of pigs and poultry with less horticulture, due to its poorer soil.

- 2.16 To foster a sense of community between the settlers and the villagers, the National Council of Social Services contributed to the building of a village hall in September 1938. The village hall was located adjacent to the central services area at Middleton Farm and became a focal point for the whole village. Following the demise of the LSA, the village hall was replaced and relocated.
- 2.17 During World War II, Fen Drayton LSA produced large quantities of food for the surrounding air bases at Bassingbourn, Kettering, Oakington, Upwood, Waterbeach and Wyton as well as for the NAAFI headquarters at Caxton. Prisoners of War stationed at Elsworth and also the Women's Land Army supported the estate tenants.
- 2.18 During the 1960s, freestanding drum-like reservoirs were erected on a number of smallholdings to overcome the persistent droughts and cope with the intensification of horticultural production. However, these proved to be insufficient and therefore a reservoir was constructed at the north of the estate to store 4 million gallons of water.
- 2.19 Following the end of the LSA smallholding scheme, 'Fen Drayton Growers', a consortium of 15 tenants from the Fen Drayton LSA and some tenants from other estates, was established. A new central packing house for 'Fen Drayton Growers' was built adjacent to the A14 (on the corner of Middleton Way and Huntingdon Road) and opened in June 1984.
- 2.20 The demise of Fen Drayton LSA resulted in:
- the demolition of Central Farm (Middleton Farm) and the adjacent village hall and their replacement with housing;
 - additional dwellings built in the grounds of Fen Drayton House; and
 - a new larger village hall, tennis courts and bowling green being constructed on former LSA land adjacent to the primary school on Cootes Lane.

IDENTIFICATION OF POLICY SP/11: FEN DRAYTON FORMER LSA ESTATE

- 2.21 A 1937 Planning Agreement for the LSA estate restricted the use of the land, buildings and dwellings within this area to agriculture and horticulture. The Council's second Local Plan, adopted in February 2004, replaced the Agreement with Policy Fen Drayton 1 which restricted housing or commercial development within the former LSA estate to that directly

related to the effective operation of local agriculture and horticulture, as well as forestry and other uses appropriate to a rural area.

- 2.22 This policy was challenged during the preparation of the Local Plan 2004 on the grounds that development in the countryside was already restricted by Structure Plan policy and that the former LSA estate was an appropriate site for mixed-use development. In response to this challenge, the Inspector recommended that no modifications were necessary before adoption of the Local Plan that was under examination, but that as part of the next review of the Local Plan, consideration should be given to the development of a policy for re-using the area as a test-bed for future patterns of sustainable living.
- 2.23 The Inspector's recommendation was based on the conclusion that the former LSA estate represented an example of an interwar experiment into a new way of achieving self-sustaining living patterns through agricultural co-operation, and that although the experiment had ultimately failed in terms of its original conception, it would be appropriate, given its history, to consider the area as a test-bed for future patterns of sustainable living.
- 2.24 The review of the Local Plan 2004 was undertaken in the form of its replacement by a Local Development Framework (LDF) as required by the Planning and Compulsory Purchase Act 2004 and its associated Regulations. The submission draft Site Specific Policies DPD (January 2006) set out the proposed policy for the former Fen Drayton LSA estate taking into consideration the recommendation of the Local Plan Inspector.
- 2.25 Five objections to the proposed policy were received challenging the restrictive wording of the policy and also that the policy would not achieve its stated objectives but that instead it would perpetuate an undesirable legacy.
- 2.26 The Inspectors concluded that in view of national and local policy support for sustainable development, this policy should be given the opportunity of achieving its objectives, especially as it would be difficult to return the area to 'traditional' countryside given the amount of development and other changes that have occurred as a result of the Land Settlement Association scheme. However, as the land is largely open and outside of the village development framework, the Inspectors concluded that it was appropriate for changes of use and redevelopment to be controlled as set out in the policy. The Inspectors did not suggest any changes to the proposed policy or its supporting text.
- 2.27 Policy SP/11 was adopted on 28 January 2010 as part of the Site Specific Policies DPD. This SPD will provide practical advice and guidance to applicants on how to develop a proposal that will comply with Policy SP/11.

INTRODUCING CLIMATE CHANGE AND SUSTAINABLE LIVING

- 2.28 The expectations attached to a good standard of living, and today's associated levels of household and personal consumption of resources, are very different from those that existed when the LSA estate at Fen Drayton was established.
- 2.29 The cumulative impacts of our lifestyles are now at such a high level that we are living unsustainably. Our demands upon natural resources now stretch far beyond our local areas. Climate change, water stress, resource depletion and the destruction of habitats are now global issues to which we all contribute. This awareness and pressure did not exist to the same degree when the LSA land was first designated. If the term 'sustainable living' had been coined in Fen Drayton in the 1930s it would have been about looking after the means of local production and distribution in perpetuity.
- 2.30 Today, the 'footprint' of our lifestyle and activities (the number of acres of productive land required to maintain them) is calculated as an area at least three times bigger than the natural world could 'sustain' if everybody lived this way – we would require three planet Earths. For our lifestyles to be 'sustainable' we need to manage our consumption back down to one planet Earth ('one-planet living') – a reduction of at least two thirds.
- 2.31 Within this broad ecological 'footprint' our lifestyles are more specifically contributing to a rapid change in our climate that stands to be very dangerous for current and future generations. These manmade emissions largely come from the burning of fossil fuels and are supplemented by changes in land-use. The bulk of greenhouse gas emissions are carbon dioxide. To simplify the numbers, the other greenhouse gases are typically converted to a 'carbon dioxide equivalent' and the convention is to refer to them as 'carbon emissions' or our 'carbon footprint'. A 'carbon footprint' is expressed as the number of tonnes of carbon dioxide equivalent (or CO_{2e}) emitted per year.
- 2.32 The residents of South Cambridgeshire have one of the highest emissions of carbon dioxide (or CO₂) in the eastern region. This has been calculated as approximately 9.3 tonnes of CO₂ per resident per annum, of which approximately one quarter comes from the use of gas, electricity and other fuels in our homes (typically for heating, washing, lighting and running appliances). This data is taken from the National Indicator 186 dataset published by the Department for Energy & Climate Change. The provision of new dwellings, or other buildings, that have been designed and constructed to produce zero carbon emissions is therefore an important step towards the goal of returning to 'one-planet' living.

- 2.33 In terms of making our lives more sustainable by cutting our carbon emissions, we can consume less fossil fuel by:
- using new technologies that either generate energy by alternative means (e.g. renewable energy technologies) or prevent wastage through measures such as the comprehensive use of insulation, draught-proofing or systems that recover heat that would otherwise have been lost;
 - adjusting our decision-making to take account of our carbon emissions – choosing the lowest carbon option and changing our personal behaviour accordingly; and
 - building community capacity to support and facilitate this behaviour change through working together and sharing the experience of new ways of doing things and, where necessary, the alternative non-fossil fuel-based technologies that will assist this process.
- 2.34 Climate change is undeniably the dominant environmental sustainability issue of our times. Rapidly and dramatically cutting our carbon dioxide emissions, is a necessary response to becoming more sustainable. This response requires specific technological change, personal behaviour change, and a community cultural change.
- 2.35 Environmental sustainability at the individual and community level is also closely linked to self-sufficiency and self-reliance. A community that has developed a useful proportion of its own local renewable utilities (heat, power and water) for its dwellings and other buildings, whilst growing and rearing its own food supplies, is going to feel more secure and able to look after itself in increasingly uncertain times.
- 2.36 Development proposals submitted under Policy SP/11 provide an opportunity for the principles of sustainable living to be achieved in Fen Drayton at an individual or community level.

3. SITE APPRAISAL

- 3.1 The former Land Settlement Association (LSA) estate at Fen Drayton is located to the south-west of the village, immediately north of the A14 and to the east of the village of Fenstanton.
- 3.2 The following sections provide information on the: existing land uses and spatial pattern of development within the former LSA estate; design of the existing dwellings and non-residential buildings; existing transport and access opportunities; and character of the area. This site appraisal informs the development and design principles set out in Chapter 5. The key constraints and opportunities that have implications on the design principles for any new development are shown on the map in Appendix 1.

EXISTING LAND USES AND SPATIAL PATTERN

- 3.3 Like many other former LSA estates, the policy area is characterised by a relatively uniform collection of smallholdings of 1.2 to 2.4 ha (3-6 acres) depending on the location within the former LSA estate. The long straight roads (some of which are privately owned) and uniform plots are the result of farming techniques used on the LSA estates. Along each road the holdings were laid out so that fruit trees, salads and vegetables were all located in the same position within the plot; this allowed the smallholdings to be cultivated in the manner of one large unit and allowed the use of large mechanised machinery.
- 3.4 The LSA estate at Fen Drayton consisted of 54 smallholdings. Each smallholding originally had a dwelling, piggery, chicken shed and several large glasshouses. Many of the dwellings have since been extended. Most smallholdings retain the piggery and a collection of glasshouses in varying states of repair.
- 3.5 Cultivation of the land has gradually decreased since the demise of the LSA scheme in the 1980s. In January 2010, only two smallholdings remained in commercial horticultural use supplying salads to supermarkets through a co-operative. Other smallholdings along Mill Road and Cootes Lane have become nurseries or landscaping suppliers. Many other smallholdings are used for the keeping of horses and other animals such as goats or racing greyhounds. The original predominantly horticultural character has therefore been replaced over time by what is now a rural countryside character albeit with a large number of dwellings and associated outbuildings on the road frontages.
- 3.6 The former LSA estate is characterised by well-spaced dwellings and almost continuous hedge and tree belts along the road frontages. The

hedge and tree belts include many poplar trees, originally planted as windbreaks during the operation of the LSA estate. Each group of smallholdings that align a road is almost entirely enclosed by hedge and tree belts and therefore the openness of the area is primarily seen from within the smallholdings. Even within the groups of smallholdings there are hedge and tree belts that separate the policy area into distinct spatial areas. Visual connections across the policy area and into the policy area are therefore limited. The hedge and tree belts are shown on the map in Appendix 1.

- 3.7 The majority of the plots remain largely free from development as the dwellings are located along the road frontages and the piggeries, chicken sheds and other buildings are generally located immediately to the rear of the dwellings. The remainder of the former LSA estate is characterised by glasshouses in various states of repair and use, and large areas of unused land. Some of the disused buildings and glasshouses are almost entirely overgrown with brambles and other vegetation. The existing building groups are therefore located along the road frontages; these are shown on the map in Appendix 1.
- 3.8 There are four commercial uses within the policy area that operate independently from the smallholdings; these are Stubbins Marketing Ltd and Wilderspin Garage in the north and Bannolds Ltd and Cambridge Produce Brokers in the south.
- 3.9 Stubbins Marketing Ltd owns approximately 18 ha either side of Oaktree Road and along with 3 other sites across the country, the company grows, packages and distributes salads and vegetables. Much of the land owned by Stubbins Marketing Ltd south of Oaktree Road (approximately 10.4 ha) is occupied by glasshouses.
- 3.10 Wilderspin Garage occupies approximately 0.22 ha and is accessed from Oaktree Road. The business relocated from the centre of Fen Drayton and carries out vehicle servicing and repairs. The site is occupied by a commercial building and a car parking area.
- 3.11 Bannolds Ltd occupies approximately 2.3 ha east of 1 & 2 Mill Road. The company relocated from Waterbeach and provides landscaping and garden supplies. The site is occupied by a barn style building, car parking areas and hardstandings.
- 3.12 Cambridge Produce Brokers occupy the building adjacent to the A14 originally constructed as the central packing house for 'Fen Drayton Growers'. The company are fruit and vegetable wholesalers. The site is occupied by a single building and is surrounded by car parking and open land, giving a total site area of approximately 1.4 ha.

- 3.13 Each of the roads within the policy area has a slightly different character, although there are similarities. The character of each road is considered in the following paragraphs.
- 3.14 Mill Road is the access road to both the former LSA estate and the village of Fen Drayton when approaching from the west. It runs from south-west to north-east. The road is outside of the village's 30 mph speed limit area, and the straightness of the road allows traffic to travel at significant speeds. Mill Road creates a definitive edge to the policy area. Five well separated pairs of semi-detached dwellings line the eastern side of the road and are fronted by a footpath / cycle path. The dwellings are interspersed with glasshouses. There is an almost continuous hedge and tree belt along the frontages of the smallholdings that is only broken to provide access to the dwellings. The western side of the road is defined by a strong hedge and tree belt with open agricultural fields that separate Fen Drayton from Fenstanton beyond. At the southern end of Mill Road where it joins Cambridge Road, there are two properties on the western side of the road that are included in the policy area but that were not part of the former LSA estate.

Figure c: Views of Mill Road, looking south-west towards the A14



- 3.15 Cootes Lane joins Mill Road at a right angle bend and runs broadly west to east to link the former LSA estate to the village of Fen Drayton. Although very similar in character to Mill Road, the style and layout of the dwellings along the southern side of Cootes Lane is different to all other areas of the former LSA estate. The dwellings are detached and do not follow the same uniform pattern and spacing as the pairs of semi-detached dwellings. A footpath runs along the northern side of the road. The almost continuous hedge and tree belts along both sides of the road are important in defining the character of the road.

Figure d: Views of Cootes Lane

- (i) Looking west towards the junction with Mill Road and Oaktree Road



- (ii) Looking east towards the village of Fen Drayton



- 3.16 Middleton Way is a private unmade road that lies to the east of, and runs parallel to Mill Road, and is accessed off either Cootes Lane or Huntingdon Road. Each of the residents of Middleton Way owns the section of road that abuts their front boundaries. On the western side of the road is an almost

continuous tree and hedge belt that marks the rear boundaries of the Mill Road smallholdings. Where there are breaks in the hedge and tree belt there are glimpses of large open areas within the Mill Road smallholdings that have a rural character. The eastern side of the road is lined by seven pairs of semi-detached dwellings interspersed with glasshouses and agricultural buildings. The dwellings are of a similar style, scale, mass and rhythm to those on Mill Road. Set slightly back from the road is a former farm shop that is now occupied as a dwelling.

Figure e: Views of Middleton Way

(i) Looking north-east along Middleton Way



(ii) Views of the Mill Road smallholdings from Middleton Way



3.17 Huntingdon Road provides the southern boundary of the former LSA estate and runs parallel to the A14. The road is wide and surfaced to provide access to both Bannolds Ltd and Cambridge Produce Brokers as well as to Middleton Way. Both sides of the road are defined by almost continuous tree and hedge belts.

- 3.18 Oaktree Road runs north-east from the junction with Mill Road / Cootes Lane before turning west and becoming a no through road. It provides the access to the northern section of the former LSA estate. The initial section of Oaktree Road is wide and surfaced to provide suitable access to the Wilderspin Garage and Stubbins Marketing Ltd sites; however beyond the commercial entrances, the road narrows to a single track private unmade road. The single track west to east section of Oaktree Road serves six pairs of semi-detached dwellings, three pairs on each side of the road, and is bordered by a wide grass verge and almost continuous hedge and tree belts. The verge is used in places for parking. Between the dwellings on the southern side of the road, there are views of the large glasshouses used by Stubbins Marketing Ltd.

Figure f: Views of Oaktree Road

- (i) Looking east along Oaktree Road



- (ii) Looking west along Oaktree Road



(iii) View of Wilderspin Garage from its junction with Oaktree Road



(iv) View of Stubbins Marketing Ltd from the west to east section of Oaktree Road



(v) View of Stubbins Marketing Ltd from its entrance on Oaktree Road



- 3.19 Springhill Road runs north-east from its junction with Oaktree Road and then turns east and becomes a no through road. It is a private unmade road that provides access to two pairs of semi-detached dwellings, a pair on the section running north-east and a pair on the west to east section. On the first leg of the road, the western side of the road is open and allows views across to the disused reservoir at the north of the former LSA estate whilst the eastern side of the road is lined by almost continuous hedge and tree belts. On the second leg of the road, almost continuous hedge and tree belts line the northern and southern sides.

Figure g: Views of Springhill Road

- (i) Looking east along the west to east section of Springhill Road



- (ii) View along the south-west to north-east section of Springhill Road from its junction with Oaktree Road



- 3.20 Park Lane is a private road accessed from within the village development framework of Fen Drayton. Daintree's Farm and 54 Park Lane are the only properties on Park Lane that are within the policy area as these are the only

properties along Park Lane that were part of the original LSA estate. The original access to these properties was through the former LSA estate from Springhill Road or Cootes Lane. The policy area boundary on the Adopted Proposals Map (published in January 2010) runs through the dwelling at Daintree's Farm and excludes the cow byre located to the east of the dwelling. For the purposes of determining planning applications, the cow byre and dwelling at Daintree's Farm are considered to be included within the policy area.

SCALE AND DESIGN OF EXISTING DWELLINGS AND NON-RESIDENTIAL BUILDINGS

- 3.21 The original dwellings were built in the 1930s and are generally modest red brick, plain gable ended, two storey semi-detached dwellings, built by Pannett and Needen (a London firm). Significant extensions have been added to many of these dwellings, replicating the plain design of the existing dwellings.

Figure h: A pair of extended semi-detached dwellings



- 3.22 The dwellings along the southern side of Cootes Lane are of a different design; these are two storey detached red brick dwellings. There are two different styles. The 'chalet' style dwellings have a steep pitched roof and the second storey is within the roof space with dormer style windows. The 'manager' style dwellings are L-shaped and have a gabled elevation as part of their frontage. These dwellings were designed by Fred Levitt of Biggleswade, the LSA appointed architect, and they are therefore similar in style to the dwellings on the LSA estates at Chawston, Wyboston and Potton. These dwellings have also been modified or extended over time. These dwellings do not have the uniformity of the semi-detached dwellings.

Figure i: A 'chalet' style dwelling



- 3.23 The existing non-residential buildings within the policy area are all single storey although they vary in height; some single storey buildings are of equivalent height to a two-storey dwelling. The piggeries are generally timber-clad buildings with a brick or block base to the walls and a pitched corrugated asbestos roof (see figure j). The agricultural buildings and packing sheds vary significantly in their design and construction depending on their original purpose. Some agricultural buildings are concrete framed with corrugated asbestos walls and steel sliding doors (see figure k) whereas others are steel framed with corrugated metal sheet walls (see figure l) and others are timber-clad buildings with steel sliding doors (see figure m).

Figure j: A piggery



Figure k: An agricultural building



Figure l: An agricultural building

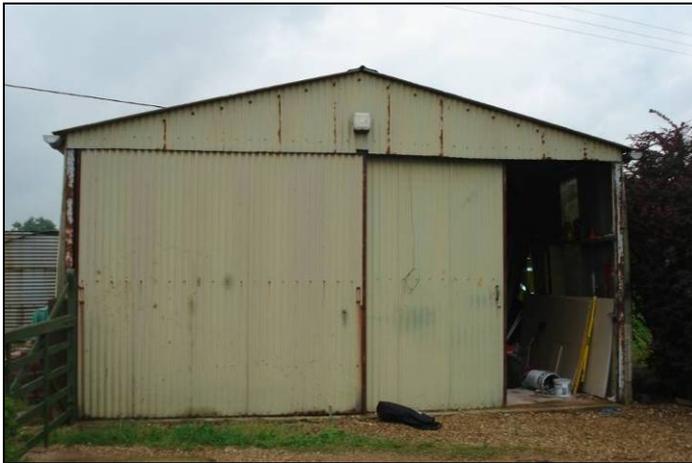


Figure m: An agricultural building



EXISTING TRANSPORT AND ACCESS

- 3.24 The village of Fen Drayton and the former LSA estate have easy vehicular access to the A14, allowing access to services and facilities in the surrounding villages, market towns and the City of Cambridge principally by car.
- 3.25 Existing public transport from Fen Drayton provides some access to services and facilities located in Cambridge, St Ives and Bar Hill. The bus timetables for Fen Drayton in January 2011 can be summarised as follows:

Service No.	Summary of Timetable
Citi 5	Services to Cambridge on Monday – Saturday every hour between 6.16 and 18.16 and services from Cambridge on Monday – Saturday every hour between 7.35 and 18.35.
95	A service to Cambridge city centre and Hills Road and Long Road Sixth Form Colleges on Monday – Friday during term time leaving Fen Drayton at 7.23 and returning from Long Road Sixth Form College via Hills Road Sixth Form College and Cambridge city centre at 16.15.
15	A service to St Ives on Monday - Friday leaving Fen Drayton at 9.40 and returning from St Ives at 12.10.
T3	Two services to Bar Hill (Tesco) every Thursday leaving Fen Drayton at 10.25 or 13.11 and returning from Bar Hill (Tesco) at 12.30 or 14.40.
15	A service from Cambridge to Fen Drayton on Monday – Saturday leaving Cambridge at 21.35.

- 3.26 Existing public transport from the neighbouring village of Fenstanton (which is in the district of Huntingdonshire) provides a better service, with regular routes operating between Huntingdon, St Ives, Fenstanton, Bar Hill and Cambridge. The bus timetables for Fenstanton in January 2011 can be summarised as follows:

Service No.	Summary of Timetable
Citi 5	Services to Cambridge on Monday – Saturday every hour between 6.10 and 18.10 and services from Cambridge on Monday – Saturday every hour between 7.35 and 18.35.
95	A service to Cambridge city centre and Hills Road and Long Road Sixth Form Colleges on Monday – Friday during term time leaving Fenstanton at 7.17 and returning from Long Road Sixth Form College via Hills Road Sixth Form College and Cambridge city centre at 16.15.
15	A service from Cambridge to Fenstanton on Monday – Saturday leaving Cambridge at 21.35.

Service No.	Summary of Timetable
15	A service to St Ives on Monday - Friday leaving Fenstanton at 9.45 and returning from St Ives at 12.10.
T3	Two services to Bar Hill (Tesco) every Thursday leaving Fenstanton at 10.20 or 13.06 and returning from Bar Hill (Tesco) at 12.30 or 14.40.
20	Services to St Ives on Monday to Saturday leaving Fenstanton at 6.39, 7.09 and 7.39 and returning from St Ives at 18.25 and 18.55.
9	A service to St Ives on Monday to Friday leaving Fenstanton at 9.30 and returning from St Ives at 12.10.
1A / 1B	<p>Services to Cambridge on Monday to Friday leaving Fenstanton approximately every 30 minutes between 7.02 and 17.37. On Saturdays services leave approximately every 30 minutes between 8.07 and 17.37. On Sundays services leave approximately every hour between 9.30 and 21.30.</p> <p>Services to Fenstanton from Cambridge on Monday to Friday leaving approximately every 30 minutes between 7.45 and 18.45. On Saturdays services leave approximately every 30 minutes between 9.15 and 18.15. On Sundays services leave approximately every hour between 9.05 and 22.05.</p> <p>Services to Huntingdon via St Ives on Monday to Friday leaving Fenstanton approximately every 30 minutes between 7.10 and 19.10. On Saturdays services leave approximately every 30 minutes between 9.40 and 18.40. On Sundays services leave approximately every hour between 9.30 and 22.30.</p> <p>Services to Fenstanton from Huntingdon via St Ives on Monday to Friday leaving approximately every 30 minutes between 6.30 and 17.05. On Saturdays services leave approximately every 30 minutes between 7.30 and 17.30. On Sundays services leave approximately every hour between 9.00 and 21.00.</p>

Service No.	Summary of Timetable
5	<p>Services to Cambridge on Monday to Friday leaving Fenstanton at 7.42, 11.37, 13.37 and 15.07 and returning from Cambridge at 10.15, 12.15 and 14.15.</p> <p>Services to Cambridge on Saturday leaving Fenstanton at 11.37, 13.37, 15.07 and 15.37 and returning from Cambridge at 10.15, 12.15 and 14.15.</p> <p>Services to Huntingdon via St Ives on Monday to Friday leaving Fenstanton at 10.40, 12.40 and 14.40 and returning from Huntingdon at 7.00, 11.00, 13.00 and 14.30.</p> <p>Services to Huntingdon via St Ives on Saturday leaving Fenstanton at 10.40, 12.40 and 14.40 and returning from Huntingdon at 11.00, 13.00, 14.30 and 15.00.</p>

- 3.27 The closest existing residents within the policy area (White Gates) are approximately 0.5 km from the Rookery Place bus stop in Fenstanton and the furthest existing residents within the policy area (Daintree's Farm) are approximately 2.3 km from the Rookery Place bus stop in Fenstanton.
- 3.28 The Guided Busway will provide a frequent public transport service between Huntingdon and Cambridge, with a request stop at Fen Drayton Lakes. The Fen Drayton Lakes stop is approximately 1.5 km from the closest existing residents within the policy area (Daintree's Farm) and approximately 3.2 km from the furthest existing residents within the policy area (White Gates). Intended primarily as a stop for visitors to Fen Drayton Lakes, access to the stop from the village of Fen Drayton is via an existing unlit unclassified road or public footpaths. There will be no cycle parking at the Guided Busway stop; any cyclists would need to leave their bicycles at the public car parks within the nature reserve or use a fold up bicycle that can be put in a bag and carried onto the bus.
- 3.29 *Planning Policy Guidance note 13: Transport* states that short journeys of under 5 km have the potential to be undertaken by bicycle, especially if they form part of a longer journey by public transport, and that shorter journeys of under 2 km have the potential to be undertaken on foot. Both the Fen Drayton Lakes Guided Busway stop and the Rookery Place bus stop in Fenstanton are within 5 km of the policy area, and therefore allow for the possibility for the journey to the bus stop to be undertaken by bicycle. The majority of the policy area is within 2 km of the Rookery Place bus stop in Fenstanton, and therefore the journey to the bus stop could be undertaken on foot.
- 3.30 The network of public footpaths provide a link between Oaktree Road / Springhill Road and Park Lane, and also to Fen Drayton Lakes (to the

north), Fenstanton (to the west) and the village of Fen Drayton (to the east). The footpath along Mill Road is dual use for pedestrians and cyclists. There is also a footpath along Cootes Lane. The private roads of Middleton Way, Oaktree Road, Springhill Road and Park Lane do not have footpaths but are quiet roads.

SURVEY OF EXISTING BUILDINGS

- 3.31 Although at the creation of the LSA estate each smallholding was fairly uniform in the number, type and size of buildings on site, development within the policy area since its creation and particularly since the demise of the LSA has resulted in the removal of buildings on some smallholdings and the construction of additional buildings on other smallholdings. In the preparation of this SPD, the Council visited 51 former LSA smallholdings between May 2010 and February 2011, and the number, use and size of buildings were recorded.
- 3.32 The Council was unable to survey 4 former LSA smallholdings. However, a record of the location and presence of buildings on these smallholdings has been made using the Council's 2008 aerial photography and where possible a visual check has been made from the road. The maps in Appendix 3 record the former LSA smallholdings that the Council was unable to survey.

4. DEFINITIONS AND AN EXPLANATION OF TERMS

- 4.1 For the purposes of preparing planning applications and assessing those planning applications against Policy SP/11, there are a number of terms and phrases within the policy and its supporting text that need further definition and explanation. The definitions and explanation set out in this chapter are based on the Council's interpretation of the policy at the date of adoption of the SPD. As the policy requires ground breaking and experimental ways of sustainable living, which is a fast moving area, it may be necessary to review and update this SPD during the lifetime of the policy.

DEFINING THE ELIGIBLE BUILDINGS AND THEIR FOOTPRINT

- 4.2 Policy SP/11 requires that any change of use or redevelopment of eligible buildings must not occupy a larger footprint than existing buildings. The planning definition of footprint is taken from *Planning Policy Guidance note 2: Green Belts*. The **footprint** of a building is the area of land physically occupied by the building but excluding any temporary buildings or hardstandings. The footprint of a building is based on the external dimensions of the building and does not take account of the height of the building (i.e. the number of storeys). For example, a building of 17m by 5m would have a footprint of 85 sqm, whether it was a single storey or two storey building, and the eligible footprint remains 85 sqm whatever height of building might be acceptable.
- 4.3 The **footprint of the existing buildings** for the purposes of Policy SP/11 is defined as the footprint of the buildings deemed eligible at the time of the adoption of the policy on 28 January 2010. Therefore, any buildings demolished before this date or constructed after this date will not be included when calculating the footprint for any development proposal within the policy area.
- 4.4 To avoid an adverse impact on the countryside character of the area, the policy restricts development to the change of use or redevelopment of existing buildings where it can be demonstrated that they are no longer needed for agricultural purposes.
- 4.5 The Town and Country Planning Act 1990 (section 336) sets out the planning definition of a building as any structure or erection; this has been refined by planning case law to require a building to:
- have a degree of permanence (i.e. the building could be removed only if demolished or fully dismantled);
 - have a physical attachment to the site;
 - have a limited degree of motion within the site; and

- to be of a size that requires construction on site rather than being brought to the site ready made.
- 4.6 Therefore for the purposes of Policy SP/11, a **building** is defined as a structure that: has a physical attachment to the ground; has a roof and three or more walls; and cannot be easily removed from the site or around the site. This definition excludes any temporary structures, such as containers, and any hardstandings that remain from earlier buildings.
- 4.7 For the purposes of Policy SP/11 and as a departure from national and local planning policy, the structural condition of the building and its state of repair will not be a consideration in determining eligibility as the legacy of the Land Settlement Association (LSA) and subsequent agricultural consortiums is a patchwork of buildings of variable quality. This is different to other policies in the Local Development Framework (LDF) for the redevelopment of buildings in the countryside which in accordance with national planning policy require a building to be permanent, of substantial construction, structurally sound, not of a makeshift nature and not in a state of dereliction and disrepair, if it is to be considered for conversion.
- 4.8 Policy SP/11 specifically excludes **glasshouses**, this is due to glasshouses being considered as temporary structures but also due to their significant footprint. To allow the redevelopment of glasshouses would result in significant changes to character of the area and would not be consistent with the former LSA estate being designated as countryside in planning terms.
- 4.9 The Town and Country Planning Act 1990 (section 336) sets out the planning definition of agriculture, as follows:
- “**Agriculture** includes horticulture, fruit growing, seed growing, dairy farming, the keeping and breeding of livestock (including any creature kept for the production of food, wool, skins, fur, or for the purpose of the farming of the land), the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of the land for other agricultural purposes.”
- Planning case law has helped clarify the definition of agriculture to specifically exclude the breeding and keeping of horses, except where this is carried out in conjunction with a farming use. Buildings and structures specifically connected to horses are not agricultural buildings except where they are buildings required for farm horses.
- 4.10 Therefore for the purposes of Policy SP/11, piggeries and any associated extensions, general purpose agricultural buildings, agricultural workshops,

packing sheds, boiler houses and pump houses will be treated as agricultural buildings, whereas stables, field shelters and tack rooms constructed for the keeping of horses will not be treated as agricultural buildings. Other buildings not considered to be agricultural are non-agricultural workshops, kennels, offices, garden sheds, domestic garages and studios where the building was originally constructed for any such purposes or has been formally changed to this use through the implementation of a planning permission. The implementation of a planning permission extinguishes the previous use of the building.

- 4.11 Where any original agricultural buildings have been legitimately replaced with newer agricultural buildings in existence at the qualifying date, either under permitted development rights¹ or through a planning permission, these will be treated as eligible buildings if they are no longer needed for agricultural purposes. Where a replacement building is unauthorised either because it is not permitted development or because it has not been granted planning permission, the building will not be treated as an eligible building.
- 4.12 To help provide as much certainty as possible as to which buildings can be deemed to be **eligible buildings**, the SPD identifies in Appendices 2 and 3 those buildings that are eligible, non-eligible and not surveyed. In cases where the Council has been unable to survey a smallholding and assess the eligibility of its buildings, and in any other exceptional circumstances, any planning application will need to demonstrate how the buildings proposed for change of use or redevelopment are eligible under the terms of Policy SP/11 based on the definitions and criteria set out in this SPD.
- 4.13 To demonstrate that an eligible building is **no longer needed for agricultural purposes**, the applicant must submit a supporting statement demonstrating that the agricultural use for the building has ceased. Where it is satisfactorily demonstrated that an eligible building is no longer required for agricultural purposes, and the associated planning permission for its reuse or redevelopment has been implemented, a later planning application for a new agricultural building on the same smallholding will not normally be permitted for a period of 10 years from the date of the first occupation of the new building.

DEFINING GROUNDBREAKING AND EXPERIMENTAL SUSTAINABLE LIVING

- 4.14 Policy SP/11 requires that any new development within the policy area must be for experimental or other groundbreaking forms of sustainable living.

¹ The General Permitted Development Order specifies various classes and types of development which may be undertaken without the permission of the Local Planning Authority or Secretary of State.

The supporting text accompanying Policy SP/11 states that in this location, a requirement of sustainable living will be a development that is carbon neutral.

- 4.15 The planning system cannot directly influence all aspects of sustainable living. However through policies in the LDF, the planning system can create sustainable developments that allow residents the opportunity to have a lifestyle that aspires to the principles of sustainable living. The overarching development strategy for South Cambridgeshire set out in the LDF focuses the majority of development on the most sustainable locations where both residential and non-residential uses are accessible by high quality public transport. It is recognised that the former LSA estate at Fen Drayton is not one of the most sustainable locations within the district; however the policy area does have significant opportunities to pursue sustainability principles related to energy generation and food production.
- 4.16 The concept of sustainable living encapsulates more than simply the design and sustainability of any new buildings within the policy area. **Sustainable living** can be defined as a lifestyle that attempts to reduce an individual's use of resources and therefore their carbon footprint. This is generally achieved by changing either an individual's or a community's methods of transport, types and amount of energy consumption, level of water consumption, sources of food and other products, and home and work locations.
- 4.17 Developments of highly sustainable buildings will go some way to achieving the principles of sustainable living and should ensure that carbon emissions in construction and occupation are minimised. The Code for Sustainable Homes (CfSH) and the Building Research Establishment Environmental Assessment Method (BREEAM) for non-residential buildings are nationally recognised assessments for measuring the sustainability of buildings and pay particular attention to their carbon emissions.
- 4.18 The CfSH is used to assess the sustainability of new dwellings built in the UK. Each new dwelling is assessed against nine sustainability categories: energy / carbon dioxide; water; materials; surface water run-off; waste; pollution; health and wellbeing; management; and ecology. Within each category a number of credits are available. Credits for each of the categories are weighted and added together to produce a single overall score. The score is translated into a rating from 1 to 6 stars to provide the overall sustainability performance of a dwelling. CfSH Level 6 (6 stars) is the highest rating and dwellings meeting this standard are seen as exemplar sustainable dwellings as the development must be zero carbon.
- 4.19 The CfSH also includes mandatory targets relating to the reduction of carbon emissions that will be introduced through changes to UK Building

Regulations. From 2016, all new dwellings constructed are expected to be zero carbon.

- 4.20 The Standard Assessment Procedure (SAP) is the recommended method for calculating the energy efficiency and carbon dioxide emissions of new dwellings. The calculation is used to ensure that the dwelling complies with building regulations and is also used to inform the CfSH rating.
- 4.21 Energy Performance Certificates (EPCs) are statutorily required for all new dwellings and when a dwelling changes ownership or tenancy. The certificates provide a measure of the energy efficiency and carbon dioxide emissions. Each dwelling assessed is graded 'A' to 'G', with 'A' being the most energy efficient and least polluting in terms of CO_{2e}. EPCs also provide a detailed recommendation report suggesting improvements to the dwelling to increase its energy efficiency and reduce its carbon emissions.
- 4.22 The BREEAM non-residential standard is used to assess the environmental performance of new and refurbished non-residential buildings, such as offices, schools, prisons, hospitals and multi-residential buildings (e.g. sheltered housing or halls of residence). The BREEAM non-residential standard assesses each building against ten categories: energy; water; materials; waste; pollution; health and wellbeing; management; land use and ecology; transport; and innovation. Within each category a number of credits are available and the credits for each of the categories are added together to produce a single overall score. The score is translated into a rating from 'pass' to 'outstanding' to provide the overall sustainability performance of a building. It is the Government's intention that all new non-residential buildings are zero carbon from 2019.
- 4.23 A **zero carbon** (or **carbon neutral**) development can be defined as one where the building and its use contribute no net additional carbon dioxide emissions to the atmosphere during occupation in a calendar year. This includes emissions from 'regulated' energy use covered under Part L of the UK Building Regulations (space and water heating, lighting and ventilation) as well as those relating to 'plug loads' or 'process loads' (electricity usage by 'unregulated' appliances and equipment used within the building). In a calendar year, to be zero carbon the emissions from both 'regulated' energy use and expected energy use from 'unregulated' appliances, must be cancelled out by the generation of renewable energy. As renewable energy is generated irregularly throughout the year and may not allow a match between supply and demand at any given time, the net amount of renewable energy generated in the year is used (i.e. imports to and exports from the National Grid should be equal).
- 4.24 The net annual emissions figure is used as otherwise there would be a need for each building to include an energy storage device, as it would in essence have to be 'off-grid' and surplus energy generated would need to

be stored for use at a later time. The net annual emissions definition permits the use of the National Grid as both a virtual storage device and backup supply. It should be noted that, for the purposes of Policy SP/11, this definition does not seek to preclude or disincentivise development that achieves independence from the National Grid.

- 4.25 At the time of preparing this SPD, the definition of zero carbon for new dwellings included in the CfSH correlates with that set out above; however, there is not a definition of zero carbon for new non-residential buildings included in the BREEAM non-residential standard. The Government is however in the process of preparing a revised zero carbon definition that could extend to include both new dwellings and new non-residential buildings; therefore during the lifetime of Policy SP/11, it is likely that the definition of zero carbon (or carbon neutral) will be changed.
- 4.26 The Government has previously consulted on a revised definition of zero carbon that includes the option of investment in off-site 'allowable solutions' for tackling any remaining carbon emissions that cannot be offset on site. 'Allowable solutions' might involve: the establishment of off-site renewable energy generation; the export of excess renewable heat for use in a nearby community; the installation of agreed energy conservation and efficiency measures in a nearby community; or simply a financial contribution (per tonne of CO_{2e} needing to be offset) to a locally held fund for use on carbon reduction measures in the local area. It is also possible that the Government will set out different 'allowable solution' levels to be applied to different scales and types of development according to how practical and viable it is to approach a comprehensive zero carbon standard through solely on-site means.
- 4.27 Therefore for purposes of Policy SP/11, the Council will use the definition of zero carbon (or carbon neutral) as included in the CfSH or BREEAM non-residential standard at the time that any planning permission is granted. Until a zero carbon definition for non-residential buildings is included in the BREEAM non-residential standard or in a new Code for Sustainable Buildings, the Council will adopt the definition of zero carbon as set out in this SPD (see paragraph 4.23).
- 4.28 There are no standard definitions for the terms **groundbreaking** and **experimental**, however they are generally interpreted to mean innovative and being ahead of the times. Therefore, **experimental and groundbreaking forms of sustainable living** can be defined as development that is innovative and ahead of the times by achieving standards significantly above those required and achieved elsewhere and that would allow a lifestyle that aspires to the principles of sustainable living. Any proposal should achieve zero carbon (or carbon neutral) development ahead of the Government's requirements. The development and design

principles set out in Chapter 5 provide guidance on how to ensure that any proposed development meets this definition.

5. DEVELOPMENT AND DESIGN PRINCIPLES

- 5.1 The development and design principles set out in this chapter provide a framework against which any development proposals (for individual or groups of buildings) will be judged. Each planning application submitted will be assessed on its individual merits. The development and design principles have emerged from the site appraisal (see Chapter 3) and considering the definitions and explanations for various terms included in the policy (see Chapter 4).
- 5.2 When preparing a planning application, applicants are advised to consider the guidance in this SPD and also that included in the Core Strategy, Development Control Policies DPD, District Design Guide SPD and any other relevant SPDs depending on their proposed development. Applicants may wish to discuss their proposals with the Council prior to submitting a planning application. For detailed information on the Council's pre-application planning advice procedures, visit:
<http://www.scams.gov.uk/Environment/Planning/pre-AppAdvice.htm>
- 5.3 When submitting a planning application, applicants should provide information in their Design & Access Statement on how the development and design principles set out in this chapter have been considered, including clearly setting out how the design of the development responds to its context and setting. More information is available in the Council's Design & Access Statements Briefing Note (April 2010):
http://www.scams.gov.uk/documents/retrieve.htm?pk_document=909263.
- 5.4 Any applications within the policy area for the replacement and / or the extension of existing dwellings that are unrelated to proposals coming forward under Policy SP/11 would need to comply with Policies HG/7 (replacement dwellings in the countryside) and / or HG/6 (extensions to dwellings in the countryside).

USE OF THE ELIGIBLE BUILDINGS AND THEIR FOOTPRINT

- 5.5 To meet the requirements of the policy, all development proposed must be able to be incorporated within a footprint no larger than the existing footprint of the buildings deemed eligible (see Appendix 3). The definition of footprint is included in Chapter 4 (see paragraphs 4.2 and 4.3). Eligible buildings can be used to provide new residential or non-residential buildings that either in connection with the existing dwellings or separate from the existing dwellings promote the principles of sustainable living in their reuse. For example, this could be achieved through the provision of 'live-work' units, or through the provision of a 'work' unit in association with an existing dwelling.

- 5.6 Policy SP/11 does not allow for any increased footprint within the policy area and therefore it would not be appropriate to allow additional footprint within the policy area without it being subject to scrutiny through the planning application process. Any new dwellings permitted under Policy SP/11 will be subject to a condition removing their permitted development rights² to: enlarge, improve or alter the dwelling (Class A); and provide or alter a building or enclosure within the curtilage of the dwelling for a purpose incidental to the enjoyment of the dwelling (Class E). Planning permission will therefore be required for any development that falls within Classes A and E of Part 1 of Schedule 2 of the General Permitted Development Order. Any planning application submitted will be assessed on its individual merits, with the key objective being to minimise any impact on the countryside
- 5.7 Because of the nature of some renewable energy technologies, the plant and equipment associated with them may require buildings or structures to accommodate them separately from the proposed new dwelling or non-residential building, unlike the use of a conventional fossil fuel energy supply. Additional buildings and structures required in such instances may be provided in addition to that of the existing footprint where it is better provided separate from the main building. Examples would include: heat pumps (ground, air and water); woodchip, pellet or log storage and hoppers for biomass boilers; and ground-anchored photovoltaic panels.
- 5.8 The current location of the eligible buildings, often adjacent to the existing dwellings, may not always be the most appropriate location for proposed new buildings both in terms of the design of the new building and the impact on the existing dwelling, and in particular in ensuring there is appropriate space between all buildings. Individual eligible building footprints may also not be of a size that is compatible with any proposed development. Therefore, a development proposal within the policy area can use the footprint of one or more existing eligible buildings flexibly by combining or dividing the footprint within a plot or between one or more plots, subject to the development proposal being in accordance with the design considerations and the principles of sustainable living set out in this SPD.
- 5.9 Any planning application submitted should identify which eligible buildings are the sources of the footprint for the proposed development; these buildings must then either be incorporated within the development proposal through their refurbishment or redevelopment, or must be demolished if the new building is located elsewhere. This will be required through a planning condition on all planning permissions allowed under Policy SP/11. It is also proposed that any planning permission allowed will include a condition that

² The General Permitted Development Order specifies various classes and types of development which may be undertaken without the permission of the Local Planning Authority or Secretary of State.

specifies that on the implementation of the planning permission the use of any buildings to be demolished will be extinguished.

SITING AND SCALE OF NEW BUILDINGS

- 5.10 Any new buildings must be designed having regard to their impact on the surrounding landscape and character. As described in Chapter 3, the existing dwellings are generally two storeys, although some include rooms in the roof space. The non-residential buildings are all single storey although they vary in height; some single storey former agricultural buildings are of equivalent height to a two storey dwelling. To retain the rural nature of the area, it is important that any new development does not have a greater impact on its surroundings than the existing development.
- 5.11 Any new dwellings proposed should be no higher than two residential storeys plus a roof, resulting in a maximum building height of 9 metres. The roof space could potentially contain an additional half storey. Development proposals for non-residential buildings should also be no higher than 9 metres. The height of any proposed new building is not restricted by the height of the building(s) it is replacing.
- 5.12 Any new buildings should be located having regard to their impact on the surrounding landscape and character as well as the need for them to be groundbreaking and experimental in sustainability terms. As described in Chapter 3, the former LSA estate has a unique character and spatial pattern; therefore it is important that any new buildings are not located where they would be out of character with the layout of the former LSA estate. The rural character of the policy area should be protected in the siting of any new buildings.

Cootes Lane, Middleton Way and Mill Road

- 5.13 Along the existing Cootes Lane, Middleton Way and Mill Road frontages, infill between the existing dwellings with contemporary sustainable buildings would not be appropriate as the existing rural street scene (defined by the scale, massing and rhythm of the existing dwellings) would be altered and the character of the area would become urbanised. Any new buildings should therefore be located away from the road frontages.
- 5.14 New buildings could be set back from road frontages and to the rear of the existing dwellings provided that their design addresses their relationship with the existing buildings and the extensive open areas. Buildings set back from the main building line have the potential to be suitably orientated to achieve the required sustainability standards without disrupting the predominant building line, to share access with the existing dwellings if

appropriate, and to reduce the costs and practical issues associated with conventional service provision. The architectural design of any new buildings in this broad location should respect the height, massing, scale, rhythm and style of the existing buildings. To protect the rural character created by the existing building line, any new buildings should be set back a minimum of 10 metres from the rear of the existing dwellings.

- 5.15 The creation of a new building line along the undeveloped western side of Middleton Way would change the existing rural street scene and should be avoided. Where it can be demonstrated that there will be no harm to the character of the road, any development proposals for the western side of Middleton Way should ensure that any new buildings are set back at least 14 metres from the edge of the road (which is the same distance as the existing dwellings along the eastern side of the road are set back from the road edge) and follow the same scale, massing and rhythm as the existing dwellings on the eastern side of the road.
- 5.16 New buildings could be located in the existing large open areas within the existing smallholdings, away from any road frontages. This location away from the existing dwellings and associated buildings would allow any new buildings the flexibility to be suitably oriented to achieve the required sustainability standards. The resulting physical separation between the new and existing buildings would minimise the architectural restrictions on the new properties enabling greater innovation in the design of the properties. Properties in these areas should protect and retain the rural character of the area. To prevent the visual intrusion of new buildings into the wider landscape, the existing trees and hedges that define and contain these areas should be strengthened with additional planting.

Oaktree Road and Springhill Road

- 5.17 The character of Oaktree Road and Springhill Road is very different to the character of Cootes Lane, Middleton Way and Mill Road due to the smaller plot sizes, greater spacing between the dwellings and the absence of glasshouses and large horticultural buildings. Along these two roads, the plot sizes do not allow development to be sufficiently set back from the existing building line and therefore infill development along the road frontage will be permitted subject to any new buildings being designed to respect the architectural design, massing, scale, rhythm and style of the existing buildings. The orientation of these two roads allows any new buildings to follow the existing building orientation and also achieve maximum solar gain. It is likely that the siting of the existing piggeries will be the most appropriate location for any new buildings.

USE OF THE LAND

- 5.18 To promote the principles of sustainable living which includes allowing any new residents to grow their own produce, each new dwelling should have a dedicated garden area and a separate dedicated area of land that could be used as an allotment of at least 250 sqm. All planning applications must clearly define each of these areas. The District Design Guide SPD sets out the required private amenity space for all types of dwellings; for example, dwellings in rural areas with three or more bedrooms should have a private garden space of at least 80 sqm. The traditional allotment size is approximately 250 sqm, and although they tend to vary in size depending on the size of the site and demand for allotments, this is considered an appropriate standard to use in this SPD consistent with its objectives to maximise opportunities for sustainable living.
- 5.19 It is recognised that an allotment of 250 sqm may be unmanageable for some occupants, therefore on all planning permissions for new dwellings permitted under Policy SP/11, a condition will be attached that will allow the dual use of the allotment area as either an allotment or garden without the need for planning permission to change the use. The condition is necessary as otherwise planning permission would be required to legitimately change the use of the land from allotment (agricultural) to garden (residential). For planning purposes, the dual use area will not form part of the residential curtilage; i.e. the residential curtilage will include only the dwelling and its garden and will exclude the dual use allotment / garden area.
- 5.20 Policy SP/11 does not specifically deal with the existing dwellings. However, in order that the existing dwellings can also retain opportunities for sustainable living consistent with the policy for the former LSA estate, any development proposals should also consider the amount of land that remains associated with the existing dwelling. The existing dwelling should retain a dedicated garden area in accordance with the private amenity space guidelines set out in the District Design Guide SPD and where there is sufficient space, a separate dedicated allotment area.
- 5.21 Any remaining land within the former LSA estate can either be utilised for any activities that support the principles of sustainable living (where accompanying buildings are not required) or for any other countryside uses. Examples include the use of land for:
- food production or the keeping of animals, either for individual consumption or resale locally;
 - land share schemes [e.g. www.landshare.net]; or
 - renewable energy technologies e.g. photovoltaic panels.

ASSESSMENT OF SUSTAINABILITY

- 5.22 Based on the definitions set out in Chapter 4, any proposed new dwellings within the policy area must meet the Code for Sustainable Homes (CfSH) Level 6 and any proposed non-residential buildings within the policy area must meet the BREEAM non-residential outstanding standard. This will ensure that any development proposals are groundbreaking and experimental in their design and sustainability, especially in the context of a rural location adjacent to a South Cambridgeshire village.
- 5.23 The assessment of the proposed new buildings against either the Code for Sustainable Homes or the appropriate BREEAM non-residential standard must be carried out by a certified assessor at both the detailed design stage and the post construction stage. At each stage a certificate of attainment will be issued that must be submitted to the Council. The buildings must not be occupied until the final certification has been issued and the Council is satisfied that the required standard has been met.
- 5.24 It is recognised that achieving CfSH Level 6 is a challenging target for an individual new dwelling and also that the focus in Policy SP/11 entirely on the new sustainable buildings will leave the existing dwellings in stark contrast to the new sustainable buildings in terms of their energy efficiency and carbon emissions. Therefore in certain circumstances where there is agreement between the Council and the applicant and as an alternative to achieving CfSH Level 6 on a proposed new dwelling, the Council will consider development proposals for a less comprehensive carbon reduction standard on the new dwelling provided that the proposals include retrofitting of energy efficiency solutions and/or renewable energy micro-generation technologies to the existing dwelling. This alternative can only be applied where an existing dwelling is included in the proposed development. For each existing dwelling a maximum of one new CfSH Level 5 dwelling can be proposed.
- 5.25 In practical terms, this would mean:
- (a) that the proposed new dwelling must achieve CfSH Level 5 which requires annual net zero carbon emissions from the 'regulated' energy uses within the proposed new dwelling (essentially space and water heating, lighting and ventilation);

AND

- (b) the energy performance rating of the existing dwelling must be significantly improved through a comprehensive scheme of energy and carbon reduction measures to be agreed with the local planning authority.

- 5.26 To guide the energy and carbon reduction measures necessary to improve the energy performance rating of the existing dwelling, a full Standard Assessment Procedure (SAP) based report with recommendations, carried out by an accredited assessor, must be undertaken and submitted with the planning application. Based on the recommendations in the report, a list of improvement measures must be agreed with the local planning authority. As an indicative guide, the cost of the improvement measures to the existing dwelling should be equivalent to around 10% or more of the total cost of materials, equipment and construction of the new CfSH Level 5 dwelling. The agreed improvements will be subject to a planning agreement (in the form of either an s106 agreement or a unilateral undertaking). The new dwelling must not be occupied until the improvements to the existing dwelling have been undertaken and the final certification for the new dwelling has been issued and the Council is satisfied that the required standards have been met.
- 5.27 The Council will accept development proposals that involve combining of the footprint of the existing house and any eligible footprint, provided that the resulting dwelling achieves CfSH Level 5. The Council will accept this less comprehensive carbon reduction standard, as the demolition of the existing dwelling will achieve a reduction in carbon emissions that should be recognised. Development proposals involving the use of eligible footprint to extend or upgrade the existing dwelling will not be permitted as they cannot achieve the sustainability levels required by Policy SP/11.

DESIGN PRINCIPLES

- 5.28 To design a building that meets the level of sustainability expected by Policy SP/11, the proposed development will need to include sustainable design solutions that will affect the internal design and layout of the building and the external appearance and location of the building. The Code for Sustainable Homes: Technical Guide (May 2009) [<http://www.communities.gov.uk/publications/planningandbuilding/codeguide>] outlines how a development can achieve the different CfSH levels. Similarly detailed assessor manuals are available covering the implementation of the BREEAM non-residential standards. The following paragraphs summarise the key design principles that should be considered when creating a development seeking to achieve CfSH Level 6 or BREEAM non-residential outstanding standard. This SPD should also be read alongside the general design principles for all developments in the district that are set out in the Development Control Policies DPD and the District Design Guide SPD.

Energy, Materials and Health & Wellbeing

- 5.29 To achieve a zero carbon development, the design and construction of each building needs to incorporate very high energy efficiency measures. Any wasted or misused energy sourced from fossil fuels (oil, gas or national grid electricity) would increase carbon emissions from the site and therefore need to be offset by increased renewable energy generation on site.
- 5.30 The energy efficiency of a building can be improved through the implementation of one or more of the following measures:
- insulation of the loft, roof, walls and floor;
 - double glazing;
 - draught proofing;
 - installation of a highly energy efficient boiler;
 - improvements to central heating controls e.g. room thermostats, radiator valves; and / or
 - installation of mechanical ventilation and heat recovery systems.
- For the highest standards of CfSH (Levels 5 and 6) and BREEAM non-residential outstanding standard, the implementation of all these measures to a high standard would be taken as the default position.
- 5.31 The internal and external layout of a proposed building, its orientation and the amount of shading from adjacent buildings or vegetation all have a direct effect on the amount of daylight and heat from the sun that enter the building and therefore the demand for energy, heat and cooling. A south facing elevation and roof plane enable optimal use of solar power in all its forms: solar panels (for electricity and hot water), passive solar heat gain, and natural light. The fabric of the building is also important in determining the energy demands of the building. High performance building materials and construction methods can minimise the loss of energy and carbon from the building.
- 5.32 Improving the energy efficiency of a building through its design, construction and materials should always be considered before low and zero carbon renewable energy technologies are installed to provide heat and power. However to achieve the highest levels of sustainability, it will be necessary to include some of these technologies, such as solar thermal panels, photovoltaic panels, biomass boilers or wind turbines, to provide energy for hot water, lighting, cooking and the use of other electrical appliances. Micro domestic scale Combined Heat and Power (CHP) systems are very much a rarity and tend to be gas powered.
- 5.33 Some technologies are more suited to multi-dwelling or mixed-use developments, by providing energy from a single shared source. For example, a community scale biomass CHP system maybe an option for Fen Drayton but it would require a very high level of co-ordination and

management between the different building owners to facilitate effective heat distribution.

- 5.34 The renewable heat technologies most likely to be applicable under Policy SP/11 are:
- biomass boilers for space and water heating – using logs, wood pellets or chips in place of fossil fuels;
 - heat pumps – collecting heat from the air, water or ground and using compression and expansion (like a refrigerator in reverse) to magnify the heat and transfer it to a space and/or water heating system inside the dwelling; or
 - solar hot water – capturing the heat from the sun to raise the hot water tank temperature via a solar panel.
- 5.35 The use of different types of renewable electricity generating technologies is likely to be more restricted in Fen Drayton. The two options available are wind turbines or photovoltaic panels. The wind speed data for the local area suggests that this resource is not sufficient to make wind turbines an especially viable option. Photovoltaic cells are likely to prove a more universal solution although large areas of coverage are likely to be required to produce enough electricity.
- 5.36 The Council would also consider the case for several applicants to work together in the financing and construction of a more community scale installation that could serve more than one dwelling or non-residential building.
- 5.37 The Government has recently shifted its financial support for local renewable energy projects away from one-off grants to the offer of a guaranteed income stream from all the energy that has been renewably generated. For electricity this is termed the Feed-in Tariff and was introduced on 1 April 2010 – it offers a guaranteed return for each kWh generated. The Renewable Heat Incentive (due to be introduced 1 April 2011) should do something similar for all renewable heat energy technologies.
- 5.38 A building will be more sustainable over its lifetime if it is designed to be adaptable to the different needs of its occupiers over time. The Joseph Rowntree Foundation has developed the Lifetime Homes standard that sets out standards relating to the accessibility of a dwelling that would allow it to be adapted to the changing needs of its occupiers. This includes measures such as ensuring that the approach to all entrances is level or gently sloping, including sufficient circulation and turning spaces for wheelchair users, and ensuring that the downstairs space is designed to allow the adaption of rooms to include a shower room and bedroom. Achievement of Lifetime Homes standard is a mandatory requirement for CfSH Level 6.

Water

- 5.39 The East of England is an area of serious water stress as it is one of the driest areas in the UK. A key part of achieving sustainable development is making sure new developments are as water efficient as possible. To meet the CfSH Levels 5 or 6, predicted water consumption must be below 80 litres per person per day. Typical water usage in a standard home is approximately 150 litres per person per day.
- 5.40 Part of the water saving required can be achieved through water efficiency measures such as low flush toilets and water efficient taps, showers, dishwashers and washing machines. However for any development proposal to achieve CfSH Levels 5 or 6, water recycling through rainwater harvesting or greywater recycling is required.
- 5.41 Rainwater harvesting involves capturing the rainwater that lands on the roof and storing it in a tank for later use. Due to the size of storage tank required to capture enough rainwater to supply the occupants until the next rainfall, the tank is often located externally, and in most cases underground. Greywater recycling involves treating and reusing waste water from the bath, shower and sinks. Unlike rainwater harvesting systems, the supply of greywater is available on a daily basis, so the storage tanks for greywater systems are much smaller and can be incorporated into the dwelling and in some cases concealed within the bathroom of the dwelling. Information guides on greywater recycling and rainwater harvesting are available from the Environment Agency (see Chapter 6 for further details). Further details on the practicalities of using greywater recycling and rainwater harvesting are included in the Cambridge Water Cycle Strategy (Phase 2), which is due to be published in Spring 2011.

Surface Water Run-off

- 5.42 Any development on the site should not increase either peak or annual run-off rates. Sustainable Drainage Systems (SuDS) are the preferred approach to managing rainfall runoff and should be used in any proposed development. They can be used to reduce the rate and volume of surface water discharges from sites to the receiving environment (e.g. watercourses), as well as reduce pollutants, maintain recharge to groundwater and provide a natural amenity and green space within a development. SuDS comprise of a range of techniques that allow surface water to be managed through infiltration and attenuation in a more natural manner through the use of permeable surface treatments and swales, basins and ponds. In a well designed SuDS scheme a number of different features should be provided in sequence, referred to as the management train. Evidence should be provided that all potential SuDS options have been considered and suitable justifications given where

options have been discounted. Further guidance on SuDs can be found in the District Design Guide SPD.

Waste and Recycling

- 5.43 Waste management should be considered during and after construction. All developments must minimise waste during construction and include suitable spaces in the buildings, and where appropriate across the site, for the storage of waste and recycling when the building is occupied. More detailed guidance is provided in the RECAP Waste Management Design Guide SPD, which is due for adoption in 2011.
- 5.44 Both the CfSH and BREEAM non-residential standard incorporate design and construction elements to promote the recycling of waste through local authorities conventional collection and disposal practices. In South Cambridgeshire, the local authority kerbside collection service achieves a recycling rate for household waste of over 50% with a revised target of 65% for 2011/12, aiming towards an estimated maximum of 90%.
- 5.45 To improve the household waste recycling levels beyond those already achieved in the district would require a change in the behaviour of the occupants of the new sustainable buildings constructed on the former LSA estate. Occupants would need to embrace the two vital waste management elements of a more sustainable lifestyle: reducing the extent and altering the nature of consumption so that less waste is generated in the first place and, where possible, reusing goods that are no longer required either as their original use or for alternative uses.
- 5.46 Organic compostable waste produced can be usefully collected for on-site usage or brought together to develop one or more community composting facilities in suitable locations that could serve as many members of the local community as possible without the need for vehicular transportation (e.g. via a wheelbarrow). Generating and using compost locally reduces the transport costs associated with a more conventional local authority collection, and draws attention to the benefits of reusing or recycling a resource within local boundaries.
- 5.47 In designing developments, sustainably managing sewage waste should be considered. Because of the availability of land within the policy area, relatively natural reed-bed solutions may be an option. Other options to consider include the use of composting toilets. The Council would welcome the incorporation of such measures in accordance with the appropriate Codes of Practice and British Standards.

Ecology

- 5.48 Any new development proposal should consider the existing ecology and biodiversity of the site and minimise its impact during and post construction. Opportunities should be taken to enhance biodiversity where possible. More information is provided in the Biodiversity SPD.

Summary of Design Principles

- 5.49 Drawing together the various aspects of sustainable design covered in this chapter, the following list is a summary of the design principles that should be considered when developing any proposals:
- orientation of buildings to face within no more than 45 degrees of south to maximise solar gain;
 - provision of shelter and shading from vegetation and other buildings to minimise heat loss in winter and provide adequate shading in summer;
 - consideration of the internal layout and position of windows, doors and roof lights to make best use of higher temperatures and daylight – to maximise solar gain, circulation rooms (e.g. living rooms and kitchens) incorporating tall windows should be located along the south facing elevation whilst operational rooms (e.g. bathrooms and utility spaces) with small windows should be located along the northern elevation;
 - use of high specification insulation materials and draught proofing to minimise heat escape;
 - reduction of energy demand through the use of energy efficient appliances and lighting;
 - use of materials with reduced energy inputs (e.g. sustainably produced timber) or that are locally manufactured or made from recycled materials;
 - use of exposed materials with a high thermal mass, such as concrete or masonry, to allow the building to store heat in warmer temperatures and release heat in cooler temperatures;
 - inclusion of suitable renewable energy technologies for heat and power generation;
 - inclusion of design solutions that allow the building to meet the Lifetime Homes standard;
 - use of water efficient or water limiting systems such as low flow taps and showers;
 - inclusion of water recycling systems such as greywater recycling or rainwater harvesting;
 - inclusion of SuDS to control surface water run-off;
 - use of sustainable construction processes which avoid or reduce waste;

- inclusion of suitable spaces for the storage of recycling within the building; and
- use of measures to sustainably manage sewage waste.

An Example

- 5.50 The ZED factory have developed the rural ZED kit house to provide a zero carbon housing solution for schemes where the density is less than 50 dwellings per hectare. The rural ZED can be tailored to meet CfSH Levels 3 to 6. A typical 3 bedroom two storey rural ZED house or a 4 bed two and half storey rural ZED house has a footprint of 68.25 sqm (10.5m x 6.5m). More information is available at www.ruralzed.com.

TRANSPORT AND ROADS

- 5.51 The supporting text accompanying Policy SP/11 indicates that any development proposal should introduce measures to restrict car use and promote sustainable forms of travel and commuting. However, the physical location of the former LSA estate at Fen Drayton and its existing sustainable transport choices make this policy requirement more difficult to implement in this location than in other locations with good quality public transport. All development proposals should consider the requirements of Policies TR/1, TR/2, TR/3 and TR/4, as well as the guidance set out in this SPD.
- 5.52 Measures to restrict car use, such as restrictions on parking or the number of trips, would not be reasonable in this location. Therefore to meet the requirements of Policy SP/11, any new developments should facilitate and promote opportunities that would allow the new occupants to reduce their car use and increase their use of sustainable forms of transport. This could be achieved by:
- designing the car parking so that it does not dominate the appearance of the site;
 - providing secure cycle parking;
 - providing a dedicated space to allow home-working regularly or intermittently;
 - initiating car sharing schemes that allow residents to share car journeys to / from work and other locations;
 - developing car and cycle club schemes that allow residents to hire a pool car or bicycle;
 - creating or upgrading pedestrian and cyclist friendly routes to encourage walking and cycling within the development and to nearby locations; and
 - developing or improving community transport schemes and public transport services.

- 5.53 Where an individual development cannot provide opportunities for the promotion of sustainable transport on site, financial contributions for the provision of offsite opportunities will be sought. Due to the importance of transport within the concept of sustainable living, the Council will prioritise contributions for improving sustainable transport infrastructure.
- 5.54 Reducing car use (especially lone driver car use) and encouraging more sustainable travel choices also requires a change in behaviour. Behavioural change can be supported by the broader community and in locations such as Fen Drayton options such as car sharing schemes could be most effectively brought forward at a parish level. The District Council is developing experience in helping to bring forward community car sharing schemes and other initiatives.
- 5.55 Transport should also be considered in the construction process. The sustainability of materials can be undermined if they are transported significant distances. Therefore wherever possible it is important to use locally sourced sustainable materials. It is also important to consider the number of trips to the site undertaken in the construction process by builders, contractors or suppliers. Co-ordinating the delivery of materials or ensuring that all materials from one supplier are delivered together can reduce the carbon emissions from construction transport.
- 5.56 Any development proposal for the redevelopment of the whole site will need to consider whether it is necessary to upgrade the private roads and also whether it is necessary to upgrade the junctions with the public roads. Pre-application discussions with the County Council Highways team should be undertaken. For smaller or individual developments, the County Council Highways team is unlikely to have any objections, however it will be consulted where appropriate during the planning application process.

DELIVERY

- 5.57 All planning applications for development proposals within the policy area will be considered against Policy SP/11 together with the additional advice and guidance set out in this SPD. All development proposals will also be required to meet the criteria set out in other relevant policies of the Local Development Framework, such as Policies DP/3 (development criteria) and DP/4 (infrastructure and new developments) which require all development proposals to make proper provision to meet their needs and prevent unacceptable adverse impacts. To achieve this, it may be necessary to provide infrastructure such as affordable housing, educational facilities, community facilities, public open space, routes for pedestrians, cyclists or equestrians, or public and community transport; or a financial contribution towards off-site provision of such infrastructure. Development viability will

be a material consideration when the Council assesses the implications of all relevant policies.

- 5.58 The Council will consider fully any application that seeks to demonstrate that it is not viable to achieve the requirements set out in Policy SP/11 and this SPD, however the application will normally be refused unless there are some very special circumstances that justify granting planning permission as an exception to the policy.

COMMUNITY INVOLVEMENT IN SUSTAINABLE LIVING

- 5.59 Although not a requirement in achieving planning permission, what will raise any development proposals submitted under Policy SP/11 to a higher 'experimental' and 'groundbreaking' level are opportunities to achieve personal behaviour change and include wider interaction with the local community. The objective being to ensure that not only is any new sustainable building used sustainably, but also that the development makes a practical and useful contribution to the overall environmental sustainability of the whole community.
- 5.60 Experience has shown that support from within local communities at the village or parish level, when combined with real working examples of change by 'first-mover' residents and households within the community is one of the most effective routes to creating voluntary carbon reduction changes in people's lives. This approach ensures that low-carbon actions and measures are tailored to, and tested against, local circumstances. Establishing shared and active links between what individuals have done locally and what other residents and householders within the wider community may be interested in or encouraged to take up themselves is a core element in creating more sustainable communities.
- 5.61 Creating a partnership to promote sustainability will require local leadership and co-ordination alongside volunteer-based commitment and capacity. A delivery framework for bringing forward such a partnership already exists in the district in the form of the South Cambridgeshire Sustainable Parish Energy Partnership (SPEP) which was established in March 2009. As at September 2010, 18 Parish Councils had joined the partnership and were working in their local areas with committed groups of volunteers to help their residents cut fuel bills, reduce their carbon emissions and build more sustainable and resilient futures for their local communities. The District Council provides a range of support measures from which parishes can develop a 6-12 month rolling delivery plan (the extent and content of this plan will depend upon the capacity of local volunteer support).
- 5.62 The delivery of Policy SP/11 has the potential to directly support Fen Drayton as a whole in developing its own Plan to secure a more sustainable

and resilient future for the parish and all its residents by making sure local energy use and supply (in buildings, transport, food and shopping) is as sustainably secure as possible.

6. CONTACTS AND FURTHER GUIDANCE

CONTACT DETAILS

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FURTHER INFORMATION AND GUIDANCE

South Cambridgeshire District Council documents and references

Core Strategy DPD (adopted January 2007): www.scambs.gov.uk/ldf/corestrategy

Development Control Policies DPD (adopted July 2007):

www.scambs.gov.uk/ldf/dcpoliciesdpd

Site Specific Policies DPD (adopted January 2010): www.scambs.gov.uk/ldf/sspdpd

Adopted Proposals Map: www.scambs.gov.uk/ldf/adoptedproposalsmap

District Design Guide SPD (adopted March 2010):

www.scambs.gov.uk/Environment/Planning/DistrictPlanning/LocalDevelopmentFramework/SPDs/DistrictDesignGuideSPD.htm

Biodiversity SPD (adopted July 2009):

www.scambs.gov.uk/Environment/Planning/DistrictPlanning/LocalDevelopmentFramework/SPDs/biodiversity_SPD.htm

Design & Access Statements Briefing Note (April 2010):

http://www.scambs.gov.uk/documents/retrieve.htm?pk_document=909263

South Cambridgeshire Sustainable Parish Energy Partnership:

www.scambs.gov.uk/Environment/SPEP/default.htm

National Planning Policy Statements and Guidance

www.communities.gov.uk/planningandbuilding/planningsystem/planningpolicy/planningpolicystatements/

Planning Policy Statement 1 – Delivering Sustainable Development (published January 2005)

Supplement to Planning Policy Statement 1 – Planning and Climate Change (published December 2007)

Planning Policy Guidance note 2 – Green Belts (published January 1995)

Planning Policy Statement 4 – Planning for Sustainable Economic Growth (published December 2009)

Planning Policy Statement 7 – Sustainable Development in Rural Areas (published August 2004)

Planning Policy Guidance note 13 – Transport (published April 2001)

Planning Policy Statement 22 – Renewable Energy (published August 2004)

Sustainability documents and references

Cambridge Carbon Footprint: <http://cambridgecarbonfootprint.org/>

Carbon Trust: www.carbontrust.co.uk

Centre for Alternative Technology: <http://info.cat.org.uk/>

Energy Saving Trust: www.energysavingtrust.org.uk

ZED Factory: <http://www.zedfactory.com/>

Rural ZED: <http://www.ruralzed.com/>

Cambridge Water Cycle Strategy (Phase 2):

http://www.cambridgeshirehorizons.co.uk/our_challenge/environment_sustainability/water_cycle_strategy.aspx

Cambridgeshire & Peterborough RECAP Waste Management Design Guide SPD:
<http://www.cambridgeshire.gov.uk/environment/planning/mineralswasteframework/>

Communities & Local Government (2009) Code for Sustainable Homes – Technical Guide: <http://www.communities.gov.uk/publications/planningandbuilding/codeguide>

Communities & Local Government (2008) Definition of Zero Carbon Homes and Non-Domestic Buildings [consultation document]:
<http://www.communities.gov.uk/publications/planningandbuilding/zerocarbondefinition>

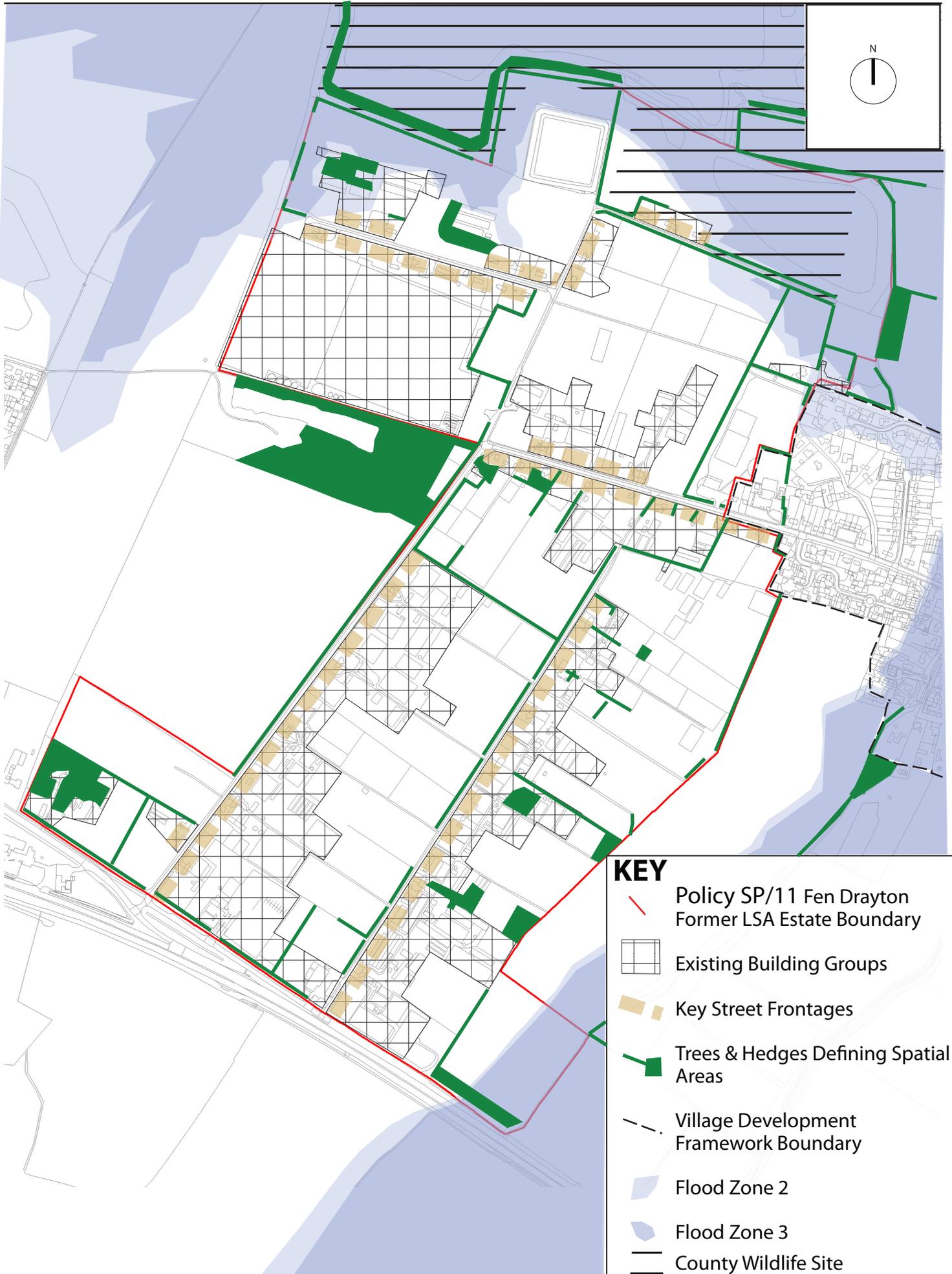
Environment Agency (2008) Greywater - An Information Guide:
<http://publications.environment-agency.gov.uk/pdf/GEHO0408BNWQ-E-E.pdf>

Environment Agency (2008) Harvesting Rainwater for Domestic Uses - An Information Guide:
<http://publications.environment-agency.gov.uk/pdf/GEHO0108BNPN-E-E.pdf>

Land Settlement Association documents and references

Dearlove, P. (2007) Go Home You Miners! Fen Drayton and the LSA

APPENDIX 1: KEY CONSTRAINTS AND OPPORTUNITIES MAP



FEN DRAYTON FORMER LAND SETTLEMENT ASSOCIATION KEY OPPORTUNITIES & CONSTRAINTS



APPENDIX 2: SCHEDULE OF BUILDINGS ACCORDING TO SCDC DEFINITIONS

Address	Building Number	Use as Surveyed	Footprint	Eligible?
1 Mill Road	1	Piggery	118.68 sqm	✓
Thimbleset Nursery, Mill Road	111	Buildings used for potting plants and storage of machinery and tools related to plant nursery and landscape gardening business	29.81 sqm	✓
	112		29.81 sqm	✓
	113		29.81 sqm	✓
3 Mill Road	2	Piggery	118.05 sqm	✓
	121	Pump house	6.79 sqm	✓
4 Mill Road	3	Piggery	118.50 sqm	✓
5 Mill Road	4	Packing shed	64.66 sqm	✓
	5	Agricultural building	32.76 sqm	✓
	6	Piggery	116.96 sqm	✓
	7	Agricultural building	58.24 sqm	✓
	8	Agricultural building	54.22 sqm	✓
	122	Pump house	1.44 sqm	✓
6 Mill Road	9	Field shelter for horses	-	✗
	10	Garden shed	-	✗
	11	Piggery	116.58 sqm	✓
	12	Agricultural building (now garage)	30.31 sqm	✓
7 Mill Road	13	Piggery	118.32 sqm	✓
8 Mill Road	14	Piggery	118.64 sqm	✓
	15	Agricultural building	71.42 sqm	✓
	123	Outside toilet	2.45 sqm	✓
9 Mill Road	16	Agricultural building (now garage)	19.14 sqm	✓
	17	Piggery	118.68 sqm	✓
	18	Packing shed	112.76 sqm	✓
	19	Outside toilet	2.57 sqm	✓
	20	Storage container	-	✗
	124	Pump house	3.07 sqm	✓

Address	Building Number	Use as Surveyed	Footprint	Eligible?
10 Mill Road	21	Piggery	118.74 sqm	✓
	22	Agricultural workshop and storage (previously packing shed)	193.33 sqm	✓
	23	Storage container	-	✗
	24	Outside toilet	3.29 sqm	✓
	125	Pump house	4.34 sqm	✓
Sandfield, Mill Road	150	Agricultural building	57.35 sqm	✓
38 & 39 Middleton Way	65	Stables	-	✗
	66	Piggery	66.34 sqm	✓
	67	Stables	-	✗
	68	Stables	-	✗
	69	Piggery	66.19 sqm	✓
	70	Chicken shed	68.42 sqm	✓
	71	Hay store for horses	-	✗
40A Middleton Way	72	Lean-to extension	-	✗
	58	Agricultural workshop	32.66 sqm	✓
	59	Pig shed	22.63 sqm	✓
	60	Kennels	-	✗
	61	Kennels	-	✗
	62	Goat / animal shed	10.09 sqm	✓
	63	Extension to agricultural workshop	14.37 sqm	✓
	64	Pigsty	-	✗
	126	Pump house	4.59 sqm	✓
	127	Chicken shed	-	✗
128	Sheep shed	-	✗	
41 Middleton Way	54	Agricultural building	88.07 sqm	✓
	55	Concrete hardstanding	-	✗
	56	Storage container	-	✗
	57	Replacement building on piggery hardstanding	-	✗
Land adjacent (north-east) to 42 Middleton Way	129	Piggery	65.54 sqm	✓
	130	Extension to piggery	-	✗
	131	Pump house / outhouse	3.95 sqm	✓

Address	Building Number	Use as Surveyed	Footprint	Eligible?
43 Middleton Way	50	Agricultural building	44.58 sqm	✓
	51	Piggery	86.32 sqm	✓
	52	Packing shed	34.29 sqm	✓
	53	Open sided storage	-	✗
	132	Extension to piggery	2.14 sqm	✓
	133	Extension to piggery	11.13 sqm	✓
	134	Pump house	4.28 sqm	✓
	135	Boiler house	3.80 sqm	✓
44 Middleton Way	46	Piggery	66.73 sqm	✓
	47	Re-sited agricultural building (used for blocking machine and other equipment)	16.60 sqm	✓
	48	Packing shed (now stables)	93.46 sqm	✓
	49	Stables	-	✗
45 Middleton Way	45	Piggery	66.09 sqm	✓
	136	Boiler house	22.77 sqm	✓
	137	Boiler house	2.32 sqm	✓
47 Middleton Way	44	Piggery	65.35 sqm	✓
49 Middleton Way	36	Agricultural building	73.70 sqm	✓
	37	Agricultural building	65.30 sqm	✓
	38	Agricultural building	63.52 sqm	✓
	39	Piggery	66.52 sqm	✓
	40	Agricultural building	60.60 sqm	✓
	41	Agricultural building	46.57 sqm	✓
	42	Agricultural building	138.75 sqm	✓
	43	Outside toilet	2.61 sqm	✓
	138	Pump house	4.56 sqm	✓
50 Middleton Way	34	Packing shed	37.51 sqm	✓
	35	Piggery	67.45 sqm	✓
	139	Pump house	4.05 sqm	✓

Address	Building Number	Use as Surveyed	Footprint	Eligible?
51 Middleton Way	25	Agricultural building	59.84 sqm	✓
	26	Agricultural building	35.37 sqm	✓
	27	Agricultural building	90.72 sqm	✓
	28	Agricultural building	55.36 sqm	✓
	29	Agricultural building	41.68 sqm	✓
	30	Agricultural building	9.11 sqm	✓
	31	Agricultural building	14.60 sqm	✓
	32	Agricultural building	5.11 sqm	✓
	33	Agricultural building	8.97 sqm	✓
11 Cootes Lane	73	Piggery	87.16 sqm	✓
	74	Garden shed	-	✗
12 Cootes Lane	75	Piggery	87.43 sqm	✓
	76	Garden shed / studio	-	✗
	77	Garage	-	✗
13 & 14 Cootes Lane	78	Piggery	87.82 sqm	✓
	79	Piggery	88.15 sqm	✓
	80	Packing shed	73.09 sqm	✓
	81	Garden shed	-	✗
27 Cootes Lane	82	Piggery (now workshop)	56.64 sqm	✓
	83	Tractor shed (now tack room)	9.49 sqm	✓
	84	Stables	-	✗
	85	Stables	-	✗
	86	Hay store	33.76 sqm	✓
	87	Garage	-	✗
28 Cootes Lane	88	Piggery	58.53 sqm	✓
	89	Extension to piggery	16.35 sqm	✓
	90	Hay store (now general storage)	30.97 sqm	✓
	91	Lean-to extension	-	✗
29 Cootes Lane	92	Piggery	56.70 sqm	✓
	93	Agricultural storage building	78.74 sqm	✓
30 Cootes Lane	94	Piggery	77.55 sqm	✓

Address	Building Number	Use as Surveyed	Footprint	Eligible?
31 Cootes Lane	114	Piggery (became sorting shed, now tractor storage)	56.73 sqm	✓
	115	Storage shed	-	✗
	116	Storage container	-	✗
	117	Garden shed	-	✗
	118	Storage container	-	✗
32 Cootes Lane	119	Piggery	55.81 sqm	✓
	120	Storage shed (partial roof)	-	✗
33 Cootes Lane	95	Piggery	94.98 sqm	✓
	140	Boiler house	3.75 sqm	✓
	141	Pump house	3.80 sqm	✓
34 Cootes Lane	142	Piggery	113.72 sqm	✓
Land adjacent (east) to 34 Cootes Lane	143	Piggery	64.28 sqm	✓
54 Park Lane	96	Implement store & wood shed	-	✗
	97	Storage building (became office, now garden room and garage)	-	✗
Daintree's Farm, Park Lane	98	Barn	93.67 sqm	✓
	99	Cow byre	74.22 sqm	✓
16 Oaktree Road	100	Non-agricultural workshop	-	✗
	101	Goat shed	29.68 sqm	✓
	144	Boiler house	3.98 sqm	✓
21 Oaktree Road	102	Piggery	135.48 sqm	✓
22 Oaktree Road	103	Piggery	96.39 sqm	✓
23 Oaktree Road	104	Piggery	118.33 sqm	✓
24 Oaktree Road	105	Piggery	118.37 sqm	✓
	106	Extension to piggery	15.44 sqm	✓
26 Springhill Road	107	Piggery	164.16 sqm	✓
52 Springhill Road	108	Piggery	109.92 sqm	✓
	109	Extension to piggery	7.31 sqm	✓
53 Springhill Road	110	Piggery	108.59 sqm	✓
White Gates, Cambridge Road	145	Storage building	-	✗
	146	Extension to storage building	-	✗
	147	Extension to storage building	-	✗
	148	Storage building	-	✗
	149	Wood shed	-	✗

