



Sustainability Assessment

Grainger Plc

Woodcroft Farm

Submission

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Our team of technical specialists offer advanced levels of expertise and experience to our clients. We have a wide experience of the construction and development industry and tailor teams to suit each individual project.

We are able to advise at all stages of projects from planning applications to handover.

Our emphasis is to provide innovative and cost effective solutions that respond to increasing demands for quality and construction efficiency.

This report has been prepared by Richard Hodgkinson Consultancy (RHC) using all reasonable skill, care and diligence and using evidence supplied by the design team, client and where relevant through desktop research.

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EXECUTIVE SUMMARY

This Sustainability Assessment highlights the sustainable features that the proposed development at Woodcroft Farm by Grainger Plc will incorporate into the design.

The scheme has been assessed against relevant planning policies and sustainability frameworks.

The Application Site is located adjacent to Woodcroft Lane to the west of Waterlooville, within Havant Borough Council. The site covers a total of 10.51 ha, upon which a total of 293 residential dwellings are proposed. The proposed site is predominantly agricultural. The existing locally listed farm house will be retained and the existing farm outbuildings are to be demolished.

Through the incorporation of sustainable design and construction, energy, water and waste saving measures, as well as private space provision, a high quality and sustainable scheme will be developed.

This Sustainability Assessment should be read alongside the Energy Statement for the site, also prepared by Richard Hodgkinson Consultancy, and submitted as part of this planning application.

The key sustainability features of this development, described in this Statement, are listed below:

- > All dwellings to achieve a Code for Sustainable Homes Level 3 rating;
- > All dwellings to meet Building Regulations Part L and Code for Sustainable Homes energy requirements through energy efficiency alone, representing a very high level of sustainable design and construction;
- > Solar thermal panels to be specified to provide up to 3% of the development's total energy demand;
- > The reduction in total CO₂ emissions over the Building Regulations (2010) baseline will be 5.8%;
- > Water efficiency measures and devices will be installed to achieve a maximum water consumption of no more than 105 litres/person/day;
- > The incorporation of Sustainable Urban Drainage Systems (SUDS) will provide the opportunity for additional habitat creation, including ponds and swales;
- > Rainwater butts will be provided to provide irrigation to private gardens;

- > Areas of ecological value are to be retained where possible and planting of a landscape scheme utilising native species;
- > Large areas of public open space are proposed, providing social amenity value and capturing the existing ecological value of the site and helping to minimise surface water run-off;
- > Recycling facilities will be provided for domestic and construction related waste;
- > Safe and secure cycle storage will be provided, promoting a sustainable mode of transport and one which promotes exercise;
- > Where practical, building materials will be sourced locally to reduce transportation pollution and to support the local economy and all timber will be purchased from responsible forest sources;
- > Materials will be selected based on their environmental impact, with preference given to 'A+' or 'A' rated materials from the BRE Green Guide to Specification;
- > The site will be registered under the Considerate Constructors Scheme;
- > The dwellings will aim to meet the requirements of Lifetime Homes; and
- > The principles of Section 2 'Physical Security' from Secured by Design will be incorporated into the design to ensure a safe environment is created.

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1. INTRODUCTION

This Sustainability Statement has been prepared by Richard Hodgkinson Consultancy, an innovation, energy and sustainability consultancy, appointed by Grainger Plc. This Statement sets out the sustainable design and construction measures included in the proposals for the development of Woodcroft Farm, Waterlooville, Hampshire.

The formulation of the Sustainability Strategy for the Proposal Development has taken into account several important priorities, including:

- > To address all national and local planning policies and requirements;
- > To provide high quality homes that are adaptable to future changes in climate;
- > To minimise any negative impact of the development on both the local and wider climate and environment;
- > To create a pleasant, safe and friendly living environment that will be flexible to its residents' needs.

Development Proposals

- 1.1** The Application Site is located adjacent to Woodcroft Lane to the west of Waterlooville, within Havant Borough Council. The site covers a total of 10.51 ha, upon which a total of 293 residential dwellings are proposed providing a range of dwelling types and tenures. They will range from one bedroom apartments through to four bedroom houses, and 89 dwellings will be affordable. The proposed site is predominantly agricultural. The existing locally listed farm house will be retained and the existing farm outbuildings are to be demolished.
- 1.2** The site is allocated within Havant Borough Council's Core Strategy (2011) for a 340 mixed use development. It is also listed within the Strategic Housing Land Availability Assessment (2012) as an allocated strategic site. The proposed site layout is proposed below in Figure 1, with the site location in relation to Waterlooville shown in Figure 2.

Figure 1: Proposed Site Masterplan



Site Location

Methodology

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- richard
HODKINSON
consultancy

2. PLANNING POLICIES AND PROJECT REQUIREMENTS

National Planning Policy

- 2.1** The National Planning Policy Framework (NPPF) was published on 27 March 2012. This document states that:

“At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking.

For decision-taking this means:

- > Approving development proposals that accord with the development plan without delay; and*
- > Where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*
 - > Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
 - > Specific policies in this Framework indicate development should be restricted.*

- 2.2** Paragraph 95 of the NPPF states that:

“To support the move to a low carbon future, local planning authorities should: Plan for new development in locations and ways which reduce greenhouse gas emissions;

- > Actively support energy efficiency improvements to existing buildings; and*
- > When setting any local requirement for a building’s sustainability, do so in a way consistent with the Government’s zero carbon buildings policy and adopt nationally described standards.”*

- 2.3** The document also makes it clear that the delivery of a wide choice of well-designed high quality homes is central to delivering sustainable development.

Local Planning Policy

- 2.4** The Havant Core Strategy was adopted in March 2011. It sets out the spatial planning strategy for the borough up to 2026.

2.5 **Policy CS14 – Efficient Use of Resources**

- > Locally contribute to the delivery of the PUSH target of 100MW of renewable energy by 2020 for the whole of the PUSH area. Major areas of development must ensure that their on-site renewable energy production is maximised and resource efficiency is maximised.
- > On completion, unless proven to be financially or technically unviable, meets the following standards:
 - > Residential development – Level 3 of the Code for Sustainable Homes;
 - > Multi-occupation homes and non-residential development over 500sqm – BREEAM standard ‘very good’;
 - > Particular attention should be paid to water efficiency measures.

- 2.6** The informative text to this policy requires developers to ‘submit an independently assessed Code rating with their planning applications together with another on completion’.

- 2.7** Major Development Areas are defined as 250 or more dwellings and 5,000 sqm of non-residential floorspace.

- 2.8** The Havant Core Strategy also identifies the site as a ‘strategic site’, supporting development up to 340 dwellings. It also requires that development on this site meets Code for Sustainable Homes requirements and appropriate renewable energy provision.

Environmental Assessment Methods



- 2.9** In order to meet Policy CS14, all of the dwellings in the proposed development will be assessed against the Code for Sustainable Homes, the nationally recognised environmental assessment method. This will involve meeting a Code Level 3 rating for all dwellings.
- 2.10** Appendix A illustrates the route by which the apartments and the houses can achieve a Code Level 3 rating. These routes are illustrative at this stage and are subject to changes during detailed design stage.
- 2.11** The above therefore sets out in full the sustainability parameters and influences that the following report has been written to consider. In doing so, it will aim to demonstrate how the proposed scheme by Grainger Plc can be considered sustainable during the development construction and occupation.

3. MAXIMISING USE OF NATURAL RESOURCES

Daylighting

- 3.1** Natural daylight will be maximised throughout the development where possible and all dwellings will be assessed to gain credits under HEA 1 'Daylighting' of the Code for Sustainable Homes assessment.
- 3.2** Up to three credits are available for this issue, where an Average Daylight Factor (ADF) of 2% is achieved in the kitchen, an ADF of 1.5% is achieved in all living, dining rooms and studies, and at least 80% of the working plane (desk level height) receives a view of the sky. The calculations will be carried out during the design stage.

Natural Ventilation

- 3.3** The use of natural ventilation will be incorporated into the design where possible and all dwellings will benefit from openable windows allowing natural cross-ventilation, convective ventilation and night-purging. It is not proposed to provide any mechanical cooling to the dwellings.

4. FLEXIBILITY, ACCESSIBILITY AND SECURITY

- 4.1** The proposed development incorporates a number of key measures to ensure that the comfort and accessibility to all areas is enhanced for everyone, together with a design that has been influenced by the need for a secure, high quality environment. These measures ensure the development complies with the guidelines of the Code for Sustainable Homes assessment.
- 4.2** Particular attention has been focused on achieving high standards in respect to the following:
- > Good Average Daylighting Factors being achieved where possible in the development;
 - > Natural ventilation to be provided through openable windows;
 - > Sound insulation measures to be included to limit the transfer of noise from room to room;
 - > Home office provision to provide residents with the option of working from home;
 - > All communal areas to be accessible for wheelchair users;
 - > Lighting in communal areas is to be designed in accordance with CIBSE guidance and the British Standards where possible to promote visual comfort for users;
 - > The provision of outdoor space, in the form of landscaped open areas and private gardens will create amenity value;
 - > Secured by Design – Section 2 standards to be sought through careful design.

Sound Insulation

- 4.3** All dwellings will be aiming to achieve airborne sound insulation values that are at least 5dB higher, and impact sound values that are at least 5dB lower, than the performance standards outlined in the Building Regulations for England and Wales, Approved Document E.
- 4.4** This will be demonstrated at the design stage through either a regime of sound testing or compliance with approved Robust Details.
- 4.5** Detached properties will automatically achieve maximum credits for sound insulation as part of the Code for Sustainable Homes assessment.

Flexibility

- 4.6** Home office services will be installed within all dwellings to provide residents the option of working from home, therefore potentially reducing the number of people travelling to work and therefore reducing traffic.
- 4.7** This provides residents with greater work/ life flexibility.
- 4.8** The following services will be provided as part of the Home Office area:
 - > Multiple power outlets;
 - > Data points for the connection to the internet;
 - > Telephone points;
 - > Large windows to enhance the use of natural daylight, and adequate ventilation.

Accessibility and Inclusivity

- 4.9** In order to achieve any Code for Sustainable Homes rating, the Applicant must design all new build dwellings in accordance with the Inclusive Design Principles (IDP).

- 4.10** This checklist summarises British Standards BS8300:2009, BS5709:2006, BS1703:2005 and Approved Documents Part M and H. The IDP Checklist ensures inclusive access routes, wheelchair turning spaces, level access, and switches and sockets positioned at heights where they are usable to all.

Lifetime Homes

- 4.11** All of the apartments in the proposed development will aim to meet the principles of Lifetime Homes. The Lifetime Homes standards are intended to ensure accessible and adaptable accommodation is provided for everyone; young families, elderly people, individuals with a temporary or permanent physical impairment, and also allow for residents to stay in their homes despite developing disabilities.
- 4.12** The 16 principles of Lifetime Homes enable flexibility, visitability (facilitating ease of visiting access to the dwelling by everyone, regardless of mobility or disability) and future-proofing i.e. the accommodation will be adaptable and will be able to respond to changing environmental conditions and requirements of the occupant. This will ensure that the highest standards of flexibility and accessibility are provided, for example:
- > Level thresholds at all entrances;
 - > Switches and sockets between 450mm and 1200mm;
 - > 800mm clear front doorways; and
 - > Spacious bathrooms and toilets which are also adaptable for future ease of use.

Security

- 4.13** The design of the scheme will also include the principles of Section 2 'Physical Security' of Secured by Design. This relates to the physical properties of the development and will assist in providing a safe environment for the occupiers to enjoy. An Architectural Liaison Officer or a Crime Prevention Design Advisor will be consulted to ensure that the requirements are met.

5. MATERIALS

Environmental Impact of Materials

- 5.1** While a major consideration in materials selection is the external appearance of the buildings, from a sustainability perspective it is equally important that the Applicant seeks to minimise the environmental impact of the materials used over the lifetime of the building – from manufacture, usage, to eventual demolition and disposal.
- 5.2** For building materials, the Applicant will, where viable and practical, specify 'A' or 'A+' rated materials using the BRE Green Guide to Specification. This will assist in achieving Code for Sustainable Homes certification.
- 5.3** All insulation materials will have an Ozone Depleting Potential (ODP) of zero and a Global Warming Potential (GWP) of less than 5.
- 5.4** Timber used in the proposed development for both basic and finishing elements will be sourced from sustainable sources (e.g. PEFC and FSC), where possible. This also includes timber used during the construction stages, such as hoarding and site fencing.

6. ENERGY

- 6.1** The full Energy Statement for the site has also been prepared by Richard Hodgkinson Consultancy, and is submitted as part of the application. Full reference should be made to this report, but a summary is provided below.
- 6.2** The proposed energy efficiency measures will enable all dwellings to meet the Building Regulations (2010) baseline and the Code Level 3 energy requirements through energy efficiency measures alone. This represents a very high level of sustainable design and construction and prioritises the

reduction in energy demand over the generation of renewable energy. The following measures illustrate a possible route to achieving this:

- > Very good insulation standards exceeding Part L requirements;
- > Approved Document Part L & F compliant ventilation;
- > Air tightness to conform to, and exceed, Approved Document Part L requirements;
- > Design to meet Accredited Construction Details to reduce thermal bridging;
- > High efficiency SEDBUK 'A' rated gas boilers;
- > Maximise winter solar gains;
- > 100% low energy lighting, with appropriate control mechanisms (e.g. PIR);
- > Low energy white goods, where specified.

6.3 The full spectrum of low carbon and renewable energy technologies has been assessed in the Energy Statement prepared by Richard Hodgkinson Consultancy. It has been concluded that the most appropriate technology is solar thermal panels for 59 of the 89 affordable dwellings. It has been shown that the specification of solar thermal panels across the site meets the policy requirement for the provision of renewable technologies without affecting development viability. This will enable 3% of the development total energy demand to be generated from renewable energy technologies.

6.4 The Summary Table, below, shows the overall reductions expected from the combination of energy efficiency measures and renewable energy technologies. The table below shows the overall reductions expected from the combination of energy efficiency measures and renewable energy technologies.

Summary Table		
	Regulated CO ₂ (kg/yr)	Total Energy (kWh/yr)
Building Regulations (2010) Baseline	454,500	2,510,400
Proposed Energy Efficiency Specification	442,000	2,437,300
Proposed Renewable Energy Generation	428,008	2,366,600
Total Reduction over Baseline	5.8%	5.7%

- 6.5** It can be seen that a reduction of 5.8% in Regulated CO₂ emissions and 5.7% reduction in Total energy demand is expected through a combination of energy efficiency and renewable energy generation. This represents a high level of sustainable design and construction, which substantially exceeds the mandatory energy requirements of Level 3 of the Code for Sustainable Homes.

Education

- 6.6** Home User Guides will be provided to the occupants of all dwellings, providing advice and information on how best to operate the services within their home. This method can be one of the most effective means to reduce use and wastage, both in the short and long term.

7. WATER MANAGEMENT

Flooding

- 7.1** According to the Environment Agency's Flood Map, the site and its surrounding area lies in a low flood risk zone, indicating that the probability of flooding is 0.1% (1 in 1000 years). This is confirmed in the Flood Risk Assessment, prepared by Peter Brett Associates. Reference should be made to this document for full detail on the flood risk and surface water drainage strategy.

- 7.2** The surface water drainage strategy does not discharge surface water to ground as results from the Site Investigation confirm infiltration to not be a suitable methodology. Instead, a restricted off-site discharge is proposed from three separate drainage networks (due to site topography), and SUDS in the form of cellular storage, ponds and a swale are utilised to provide attenuation up to and including the 1 in 100 year +30% climate change rainfall event.
- 7.3** The use of Sustainable Urban Drainage Systems (SUDS) will provide excellent opportunities for additional habitat creation, as well as providing a level of treatment to the surface water.

Water Consumption

- 7.4** Internal water consumption will be significantly reduced through the use of practical and hygienic water saving measures in line with the mandatory requirements of the Code for Sustainable Homes. An evaluation of the devices to be used will be undertaken based on technical performance, cost and appeal. Consideration of water efficiency measures is a particular requirement of Policy CS14 of the Havant Borough Core Strategy.
- 7.5** As a guide, the following measures will be used in all dwellings to achieve the required water consumption rate of less than 105 litres/person/day:
- > Water efficient taps, showers (less than 9L/min) and low dual flush WCs (6/4L or below);
 - > Flow restrictors to reduce flow rates;
 - > Should white goods be provided, they will be both water and energy efficient;
 - > Water meters will be included to detect leakages and ensure no excess wastage occurs.

Rainwater Collection

- 7.6** Rainwater will be collected, where feasible, by installing water butts in the gardens of the houses. The collection of this natural resource will reduce mains water consumption where rainwater can be used for the irrigation of gardens and car washing.

8. WASTE AND RECYCLING

- 8.1** Waste reduction is a key principle of sustainability development. A reduction in waste offers benefits not only to the environment, but also to the developer and the occupiers of the building.
- 8.2** The two main waste issues that Grainger Plc has considered are:
- > **Construction waste:** to incorporate various techniques to reduce waste by the contractors.
 - > **Domestic waste:** to incorporate various techniques to reduce waste by the new residents and building occupiers.

Construction Waste

- 8.3** Construction operations generate waste materials as a result of general handling losses and surpluses. These wastes can be reduced through appropriate selection of construction methods, good site waste management practices and identifying opportunities to avoid creating unnecessary waste.
- 8.4** Recycling materials from the construction waste stream can produce valuable construction materials and relieve existing pressures on landfill sites. By maximising the value extracted from these materials, the demand for newly-sourced materials is greatly reduced, which creates a long-term beneficial impact on the conservation of mineral resources.
- 8.5** The amount of waste materials on site can be reduced by introducing regular audits to monitor and control site activities more closely, for example by reviewing the ordering of materials. Attention will be given to the quantities of materials purchased and the way materials are off-loaded, labelled and stored to reduce the amount of materials wasted. Wherever possible, the use of packaging and non-returnable pallets should be avoided, recycling or re-used.

8.6 Measures that will be implemented at Woodcroft Farm and driven in part through a fully compliant Site Waste Management Plan include:

- > An earthworks strategy to avoid removal of excavated material from site outside of any remediation work for possible contamination, if this is necessary;
- > Minimisation of the need to import fill to the site through the use of recycled material from the existing buildings and hard landscaping;
- > Careful and appropriate materials storage on site;
- > Identification of materials to be diverted from landfill to meet national targets;
- > Selection of materials and design styles that minimise waste;
- > Engagement of the supply chain and site team in waste and packaging issues;
- > Site training and information on waste issues;
- > Reducing waste at source, re-using or recycling material wherever practical with over 85% of all waste generated from construction to be diverted from landfill;
- > Segregation of waste streams on site;
- > Waste monitoring and report performance against local or national benchmarks;
- > Site security measures to prevent loss through vandalism or theft.

Domestic Waste

8.7 The Applicant is committed to supporting the government's targets for recycling and landfill waste reduction. The following measures will be implemented:

- > Refuse storage is to be provided where both recyclable and non-recyclable waste can be stored;
- > Space will be provided for segregated recycling waste bins within the kitchen areas. This will involve the installation of recycling bins, in addition to non-recyclable bins, where waste can be segregated into paper, cans, plastics and glass;
- > Internal and external storage for food and garden waste is also to be provided to each dwelling.

Education

- 8.8** Similarly to energy efficiency, much of the task in reducing waste is associated with educating users. Information on the subject will be provided in the Home User Guides which will be supplied to the residents and tenants of the development.

9. BIODIVERSITY AND ECOLOGY

- 9.1** The site currently comprises six fields of grassland, separated by mature hedges. Habitat surveys undertaken by WSP have concluded that the existing hedges and trees are of local importance.
- 9.2** The development proposes to preserve existing hedgerows and trees wherever possible, to be complimented with additional planting of native species, and species of value to wildlife. The only hedgerows to be removed in their entirety are those with little or no ecological value.
- 9.3** The proposed lighting strategy has been designed to maintain dark corridors around the development to mitigate impact of any local bat populations.
- 9.4** The landscaping proposals also include large open landscaped areas which will provide space for residents to enjoy. The landscaped areas will include a range of plants and shrubs which will be specified by an ecologist to replicate locally important habitats.
- 9.5** Additionally, the houses will have private gardens that will exceed the size requirements of the Code for Sustainable Homes under HEA 3: Private Space.
- 9.6** As part of the Code for Sustainable Homes assessment, a CSH Ecology Report will be prepared during detailed design and will outline key and additional recommendations for enhancing the site's ecological value. The Applicant will commit to adopting all key and at least 30% of additional recommendations, which are likely to involve soft landscaping, the inclusion of native species and species of value for wildlife, as well as the provision of bird and bat boxes.

- 9.7** Please refer to the Ecology Report by WSP for more detail on these surveys, as well as the mitigation proposals.

10. TRANSPORT

Site Access

- 10.1** There is currently a range of bus services along Eagle Avenue, within a 400m walk for most of the site serving destinations to Southsea and Havant.

Cycle Parking

- 10.2** Cycle parking at the development will be provided in accordance with Havant Borough Council's Residential Parking and Cycle Provision' (Supplementary Planning Document, March 2010). This breaks down cycle parking requirements into 'long-stay' (i.e. secure parking within garages, sheds or cycle stores) and 'short-term' (cycle hoops or similar).
- 10.3** Only the 'long-stay' type would achieve credits as part of the Code for Sustainable Homes assessment, as there is a requirement for the storage to be covered and secure.

Framework Travel Plan

- 10.4** A Residential Framework Travel Plan has been prepared for the site by Peter Brett Associates. This represents a strategy to reduce the number of vehicle trips, particularly single occupancy vehicle trips to and from the site, by encouraging the use of more sustainable modes of travel and reducing the need to travel.
- 10.5** Examples of some of the Travel Plan measures to be implemented include:

- > Welcome packs to all dwellings (can be linked to the Code for Sustainable Homes Home User Guides);
- > Information on walking and cycling routes;
- > Incentives for sustainable travel;
- > Promotion of car sharing schemes.

10.6 A Transport Assessment and Framework Travel Plan have been prepared for the site by Peter Brett Associates. Reference should be made to these reports for full detail.

11. SUSTAINABLE CONSTRUCTION

11.1 The proposed development will be registered under the Considerate Constructors Scheme (CCS).

11.2 This scheme has recently undergone a transformation for 2013, resulting in a new five-point Code of Considerate Practice. For sites to be registered with the new scheme, the contractor will need to comply in terms of the following:

- > Enhancing the **appearance** of the site, ensuring the area looks professional and well managed;
- > Respecting the **community**, giving utmost consideration to impacts on neighbours and the public;
- > Protecting and enhancing the **environment**;
- > Attaining the highest levels of **safety**; and
- > Providing a supportive and caring working environment for the **workforce**.

11.3 During the construction processes, control procedures will be put in place to minimise noise and dust pollution, such as monitoring emissions. The management systems will generally comprise procedures and working methods that are approved by the development team together with commercial arrangements to ensure compliance.

- 11.4** An above best practice score will be targeted, which to secure the Code for Sustainable Homes credits will require an overall score of 35 to be achieved with no section scoring less than 7.

Noise

- 11.5** Any impact of construction traffic will be minimised by restricting deliveries and arrival times. Work will be limited to appropriate hours to be agreed with the local authority, and suppressors will be used to reduce noise from machinery.

Pollution

- 11.6** The building materials within the proposed development will be carefully selected to ensure that pollutants are not emitted and harmful cleaning agents and solvents are avoided. As previously mentioned, only insulation materials with a GWP of less than 5 will be used.
- 11.7** The proposed development will reduce emissions by using renewable energy technology, encouraging sustainable transport behaviour and reducing air and water pollution during construction.
- 11.8** Specific actions will be taken to minimise disruption and nuisance from construction traffic to the surrounding neighbourhood, such as keeping roads clean. Regular consultation is to take place where the existing community and residents will to be kept informed about onsite construction activities, and a procedure for recording complaints will be established.
- 11.9** The Code for Sustainable Homes assessments award credits for sustainable construction practices. Energy and water consumption will be metered and monitored, and all construction timber will be sourced in accordance with the Government's Timber Procurement Policy where possible.
- 11.10** Low NOx emission boilers will be specified, reducing pollution from this source and also helping to secure credits under the Code for Sustainable Homes.

12. CONCLUSION

- 12.1** The proposed development at Woodcroft Farm can be considered sustainable and has considered the issue of climate change and its effects within its design for the construction and operational stages of the development, and this will be demonstrated through a commitment to achieve Code for Sustainable Homes level 3 certification for all dwellings.
- 12.2** In particular, the inclusion of energy and water efficiency measures, the use of SUDS, the management of waste and recycling and the materials used throughout the development will be addressed.
- 12.3** In relation to sustainability, Grainger Plc is committed to addressing Policy CS14 of the Havant Borough Core Strategy.
- 12.4** The following summarises the development sustainability strategy:
- > All dwellings to achieve a Code for Sustainable Homes Level 3 rating;
 - > All dwellings to meet Building Regulations Part L and Code for Sustainable Homes energy requirements through energy efficiency alone, representing a very high level of sustainable design and construction;
 - > Solar thermal panels to be specified to provide up to 3% of the development's total energy demand;
 - > The reduction in total CO₂ emissions over the Building Regulations (2010) baseline will be 5.8%;
 - > Water efficiency measures and devices will be installed to achieve a maximum water consumption of no more than 105 litres/person/day;
 - > The incorporation of Sustainable Urban Drainage Systems (SUDS) will provide the opportunity for additional habitat creation, including ponds and swales;
 - > Rainwater butts will be provided to provide irrigation to private gardens;

- > Areas of ecological value are to be retained where possible and planting of a landscape scheme utilising native species;
- > Large areas of public open space are proposed, providing social amenity value and capturing the existing ecological value of the site and helping to minimise surface water run-off;
- > Recycling facilities will be provided for domestic and construction related waste;
- > Safe and secure cycle storage will be provided, promoting a sustainable mode of transport and one which promotes exercise;
- > Where practical, building materials will be sourced locally to reduce transportation pollution and to support the local economy and all timber will be purchased from responsible forest sources;
- > Materials will be selected based on their environmental impact, with preference given to 'A+' or 'A' rated materials from the BRE Green Guide to Specification;
- > The site will be registered under the Considerate Constructors Scheme;
- > The dwellings will aim to meet the requirements of Lifetime Homes; and
- > The principles of Section 2 'Physical Security' from Secured by Design will be incorporated into the design to ensure a safe environment is created.

APPENDICES

A) Code for Sustainable Homes Level 3 Pre Assessment

Code for Sustainable Homes Pre-Assessment - Woodcroft Farm (typical house & apartment)						
 		Apartments		57.93	Total Predicted Score	Development Description
		Houses		57.88		
		Level 1 Level 2 Level 3 Level 4 Level 5 Level 6				36 Points 48 Points 57 Points 68 Points 84 Points 90 Points
	Issue	Credits Available	Houses - credits predicted	Apartments - Credits predicted	Design Assumptions Made	
Energy & Carbon Dioxide Emissions	ENE 1 Dwelling Emission Rate	10	0	0	Credits unlileky to be achieved for this issue.	
	ENE 2 Fabric Energy Efficiency	9	4	6	This would stipulate a FEE of less than (or equal to) 43 kWh/m2/year for houses and 52 for flats. Credits based on sample SAPs undertaken as part of the Energy Statement.	
	ENE 3 Energy Display Devices	2	0	0	Credits for this issue may not be sought.	
	ENE 4 Drying Space	1	1	1	Retractable line may be provided in a fixed location over the bath and adequate ventilation, or rotary driers in the garden. For 1-2 bedroom dwellings a line length of at least 4m is required, for 3+ bedrooms a line length of 6m + is required.	
	ENE 5 Energy Labelled White Goods	2	2	2	The following white goods would need to be provided to secure both credits in this category: - A+ rated fridge-freezer - A rated washing machine - A rated dishwasher	
	ENE 6 External Lighting	2	2	2	Energy efficient external lighting, controlled with either PIR, daylight sensor or time-switch.	
	ENE 7 Renewable Technologies	2	0	0	A credit may be achieved for this issue if there is at least a 10% reduction in CO2 as a result of LZC technology	
	ENE 8 Cycle Storage	2	1	1	One credit requires the following storage numbers to be provided: - 1 bedroom dwellings -storage for 1 cycle for every two dwellings; - 2 & 3 bedroom dwelling - storage for 1 cycle per dwelling; - 4 bedroom dwelling - storage for 2 cycles per dwelling.	
	ENE 9 Home Office	1	1	1	Adequate provisions for a Home Office to be provided. To include 1.8m of wall, with 2 double power soclets, double telephone point (or one with broadband) and minimum daylight level of 1.5%. Room must have adequate ventilation.	
Energy & CO2 Category Predicted Score		31	11	13	Credit Weighting - 1.17	
Water	WAT 1 Indoor Water Use	5	3	3	Mandatory issue Low flow water appliances to be specified throughout, to ensure 105 litres/person/day is not exceeded. To include something as follows: - WC 6/3litres - Wash basin taps - 4l/min - Shower flow rate - 7l/min - Bath volume - 180l - kitchen taps - 4l/m - Default white good water usage (white goods to be checked for water usage)	
	WAT 2 External Water Use	1	1	0	Compliant water butts may be provided to the houses.	
Water Category Predicted Score		6	4	3	Credit Weighting - 1.5	

	Issue	Credits Available	Houses - credits predicted	Apartments - Credits predicted	Design Assumptions Made
Materials	MAT 1 Environmental Impact of Materials	15	8	8	Mat 1 calculator to be used to determine the overall score for this credit.
	MAT 2 Responsible Sourcing of Materials - Basic Building Elements	6	2	2	Where possible materials will be sought from responsibly sourced suppliers, which represent an ISO14001/EMAS. This will be assessed in greater detail at the detailed design stage when the supply chain for materials has been established.
	MAT3 Responsible Sourcing of Materials - Finishing Elements	3	0	0	
Materials Category Predicted Score		24	10	10	Credit Weighting - 0.3
Surface Water Run-off	SUR 1 Management of surface water run-off from developments	2	0	0	Mandatory Issue The mandatory element of this issue must be met through ensuring that no additional run off from the site is produced as a result of the new development.
	SUR 2 Flood Risk	2	2	2	The majority of the proposed development lies in Flood Zone 1. FRA to confirm.
Surface Water Run-off Category Predicted Score		4	2	2	Credit Weighting - 0.55
Waste	WAS 1 Storage of non-recyclable waste & recyclable household waste	4	4	4	Mandatory Issue Wheelie bins for waste and recycling to be provided. They must be adequately sized to accommodate the larger of either Havant's requirements or BS5906, whichever is the larger. Internal provisions for the storage of waste and recycling material to also be provided. In addition, an extensive new Checklist of Inclusive Design Principles required to be completed to show wheelchair accessibility. All design criteria to be included.
	WAS 2 Construction Site Waste Management	3	3	3	SWMP to be drawn up for the development by the contractor to set procedures for the minimising, reporting & measuring of both non-hazardous and hazardous waste. In addition, at least 85% of construction waste to be diverted from landfill.
	WAS 3 Composting	1	1	0	Home composting facilities may be provided to the houses.
Waste Category Predicted Score		8	8	7	Credit Weighting - 0.8
Pollution	POL 1 Global Warming Potential (GWP) of Insulants	1	1	1	All insulation to have a GWP of less than 5.
	POL 2 NOx Emissions	3	3	3	Boilers to be specified at Class 5 or better.
Pollution Category Predicted Score		4	4	4	Credit Weighting - 0.7

	Issue	Credits Available	Houses - credits predicted	Apartments - Credits predicted	Design Assumptions Made
Health & Wellbeing	HEA 1 Daylighting	3	2	2	Daylighting assessment to be undertaken during design stage. Actual credits awarded to be established at this stage, but credits are awarded on the basis of 2% ADF for kitchens, 1.5% ADF for living rooms, home offices and dining rooms, and where the at least 80% of the room has a view of the sky.
	HEA 2 Sound Insulation	4	3	3	Target for at least a 5dB improvement over Part E, for both impact and airborne sound. Detached dwellings to achieve 4 credits by default.
	HEA 3 Private Space	1	1	1	All dwellings to have access to a private or semi-private garden space. To be accessed with level thresholds (no greater than 15mm) and meeting all requirements of Checklist IDP.
	HEA 4 Lifetime Homes	4	4	4	All 16 requirements of Lifetime Homes to be met.
Health & Wellbeing Category Predicted Score		12	10	10	Credit Weighting - 1.16
Management	MAN 1 Home User Guide (HUG)	3	3	3	Home User Guide to be provided to all dwellings.
	MAN 2 Considerate Constructors Scheme	2	2	2	Considerate Constructor's Scheme to be signed up to prior to commencement of construction phase. Above best practice score to be targetted, with at least 35 scored overall and with no less than 7 in each section.
	MAN 3 Construction Site Impacts	2	2	2	Construction site impacts to be monitored, including best practice in terms of minimising ground water pollution, air pollution, monitoring site water use and using sustainably sourced construction timber.
	MAN 4 Security	2	2	2	All requirements of ALO to be taken on board, and Section 2 of SbD to be achieved.
Management Category Predicted Score		9	9	9	Credit Weighting - 1.11
Ecology	ECO 1 Ecological Value of Site	1	0	0	Site is assumed as having an ecological value. This to be confirmed by a Suitably Qualified Ecologist.
	ECO 2 Ecological Enhancement	1	1	1	Enhancements to be made to increase the ecological value of the site through recommendations made by a Suitably Qualified Ecologist.
	ECO 3 Protection of Ecological Features	1	0	0	It is not thought at this stage that this credit will be achieved, to be confirmed during detailed design stage by a Suitably Qualified Ecologist.
	ECO 4 Change of Ecological Value of Site	4	2	2	A neutral change in ecological value presumed, to be confirmed by a Suitably Qualified Ecologist.
	ECO 5 Building Footprint	2	0	0	It is presumed at this stage that this credit will not be achieved.
Ecology Category Predicted Score		9	3	3	Credit Weighting - 1.33