

TECHNICAL NOTES



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Subject: Great Haddon's contributions towards Peterborough's aspirations to become UK's Environment Capital.
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Item	Subject
1.	<p><u>BACKGROUND</u></p> <p>Since being recognised as an Environment City in 1993, Peterborough has high level ambitions to become the UK's Environment Capital.</p> <p>The Adopted Peterborough Core Strategy Development Plan Document (February 2011) is a crucial factor for delivering Peterborough's Sustainable Community Strategy. The first Community Strategy for Peterborough (Greater Peterborough Partnership, 2005) has been replaced by the new Peterborough's Sustainable Community Strategy for 2008-2021 and one of the four objectives is to become the UK's Environment Capital. This ambitious aspiration has been developed forward within the Core Strategy Policy CS10 which requires <i>development to make a positive contribution, whilst offering the developer flexibility in the way in which that contribution is made.</i></p> <p>In addition to that, the Peterborough's Manifesto establishes the environmental aspirations for Peterborough and these have been grouped on four fundamental sustainability areas, namely: <i>Conserving Natural Resources; Cleaner and Greener; Environmental Goods and Services and Sustainable Transport.</i></p> <p>David Lock Associates and Peter Brett Associates prepared a Draft Sustainability Statement (DSS) in November 2009 on behalf of O&H Properties Ltd, Marlborough Oasis Ltd, and David Wilson Homes, which provided an integrated sustainability model for the Great Haddon Development. This model identified the main sustainability credentials, interfaces, aims and targets, as well as the specific practical measures incorporated within the Masterplan layout and those to be implemented at the detailed design stage which will contribute positively to the aspirations of Peterborough to become the UK's Environment Capital.</p> <p>The main focus to truly achieve this unique sustainable community was based on a practical, realistic and deliverable strategy to support the protection and enhancement of the existing natural environment for the present and future generations, in order to contribute positively for both the adaptation and reduction in the climate change, evolving economic growth and employment in a sustainable way as well as creating healthy, safe and attractive places to live, enjoy and work, and thereby, improving considerably the quality and standard of life for Great Haddon site and equally, due to the positive synergy created, to neighbouring areas in Peterborough.</p>

2.	<p><u>RATIONALE</u></p> <p>The key purpose of this document is to show what contribution Great Haddon Development will make to the Environment Capital agenda of Peterborough and how the proposed development site performs against the environmental aspirations set up in the Core Strategy Policy CS10 and the Peterborough's Manifesto.</p>
3.	<p><u>METHODOLOGY</u></p> <p>The specific commitments and deliverables incorporated into the Development Framework Masterplan (DLA Drawing PST021-DFP-01) as well as practical measures and strategic options that may be potentially implemented as part of the detailed scheme have been assessed against the environmental aspirations set up in the Core Strategy Policy CS 10 and the Peterborough's Manifesto.</p> <p>These sustainable principles were integrated within the following PBA LLP's reports, which should be read in conjunction with this report:</p> <ul style="list-style-type: none"> • PBA LLP's Sustainability Strategy, July 2009. • David Lock Associates and PBA LLP Draft Sustainability Statement (DSS), November 2009. • PBA LLP's Sustainable Energy Strategy, January 2011. • PBA LLP's Residential Travel Plan, November 2011.
4.	<p><u>GREAT HADDON'S CONTRIBUTIONS TOWARDS PETERBOROUGH'S ASPIRATIONS TO BECOME UK'S ENVIRONMENT CAPITAL.</u></p> <p><u>CONSERVING NATURAL RESOURCES</u></p> <p><i>Reduce water consumption in homes and businesses across the city</i></p> <p>(Refer to <i>Topic 4: Water</i>, within the DSS for more details)</p> <ul style="list-style-type: none"> ■ Reduce average water consumption by 30% by incorporating on site low flow/flow restrictors, low flush toilets, rainwater harvesting network and grey water collection systems in both residential and employment areas. ■ Reducing the water demand for the development as a whole will also save energy and reduce Carbon Dioxide (CO₂) emissions. ■ Achieve a sustainable strategic water management cycle for the site. <p><i>Increase recycling and recovery rates whilst reducing waste at source</i></p> <p>(Refer to <i>Topic 5: Materials, Waste and Recycling</i>, within the DSS for more details)</p> <ul style="list-style-type: none"> ■ All homes will be built to the required standards of the Code for Sustainable Homes. ■ Great Haddon will incorporate facilities to eliminate, minimise, re-use and recycle waste; minimise the pollution potential of unavoidable waste, and dispose of unavoidable waste in an environmentally acceptable manner. ■ Through the waste strategy all homes and businesses will be able to meet the current Peterborough 65% of domestic waste recycling target and include a Household Recycling Centre in the employment area. Non-residential building will aim to achieve BREEAM very good / excellent.

	<p><u>Establish a network of sustainable energy and transport facilities and increase the provision of renewable energy to new and existing buildings</u></p> <p>(Refer to <i>Topic 1: Energy Efficiency and Carbon Reduction</i>, within DSS for more details)</p> <p>The Sustainable Energy Strategy (PBA, January 2011) investigated the suitability of a range of renewable energy technologies and concluded that:</p> <ul style="list-style-type: none"> ■ Energy Efficiency measures should be implemented where possible in order to reduce energy demand. ■ It is technically feasible that through a combination of energy efficiency measures and sustainable energy technologies, carbon emissions reduction targets imposed by the CSH and Building Regulations can be met, and even exceeded in some cases. ■ It has been shown that if the targets required by the CSH and Building Regulations are met, then the 10 % Local Policy reduction target can also be easily achieved. ■ Renewable Energy and Low Carbon technologies that were considered appropriate for potential inclusion at Great Haddon Energy are; biomass boilers, heat pumps, combined heat and power, solar thermal panels, wind turbines, solar photovoltaic panels, and new and emerging technologies. ■ The technologies that were considered and then discounted include: hydroelectric power, fuel cells, anaerobic digestion and energy from waste. ■ It is proposed that during each phase of the Great Haddon development, innovative and experimental technologies are incorporated where feasible. These will also help to go beyond the requirements set out in the Building Regulations. ■ It has been shown that approximately 24% of Great Haddon’s “whole” predicted energy demand will be met through renewable energy technologies, thus exceeding the 10% policy target. ■ Furthermore it has been demonstrated that through the incorporation of energy efficiency measures and renewable energy technologies, the carbon emission reduction targets required by different levels of the CSH and future Building Regulations can be met. The required targets and the recommended technologies that could be included in order to meet the targets can be viewed in the table overleaf. <p><u>Cut energy consumption in homes and business through energy efficiency measures and excellent building standards</u></p> <p>See above.</p> <p>The possibility of retrofitting existing housing stock (e.g. in Peterborough City Centre) has also been investigated and this exercise has concluded, in respect of carbon reduction, that for every £1,000 spent on new energy infrastructure, there is a six-fold carbon reduction for the same sum (£1,000) when spent on retrofitting the existing housing stock, (by improved insulation, etc).</p>
5.	<p><u>ENVIRONMENTAL GOODS AND SERVICES</u></p> <p>(Refer to <i>Topic 6: Businesses and Employment</i>, within the DSS for more details)</p>

	<p><u>Support and encourage environmental goods and services businesses and organisations to grow and thrive in the city</u></p> <ul style="list-style-type: none"> ■ Great Haddon will provide a vibrant mix of retail, community, employment, education and residential uses which offer strategic opportunities to maximise the economic benefits for the development and maintenance of <i>green businesses</i> and a number of measures will be pursued. ■ The developers should work with local agents and development agencies to promote the neighbourhood centre to appropriate prospective occupiers. ■ Potential opportunities to maximise local employment, will be fully addressed at the detailed designed stage of the development.
<p>6.</p>	<p><u>CLEANER AND GREENER</u></p> <p>(Refer to <i>Topic 9: Landscape and Biodiversity</i>, within the DSS for more details)</p> <p><u>Improve the city's green infrastructure for the benefit of the people and wildlife, including parks, gardens, energy and water.</u></p> <ul style="list-style-type: none"> ■ The proposed development incorporates approximately 135ha (35% of the total site area) of public open space for amenity and informal purposes, playing fields, existing woodland and proposed woodland as part of the proposals in order to ensure that the general recreational needs of the future residents are adequately provided. ■ A variety of spaces, routes and experiences which are both safe and attractive will be provided to maximise accessibility for all users through site permeability. ■ The design is based on sustainable design principles to such as to avoid flood risk on the development itself or downstream area, reduce energy demand and the greenhouse gases as well as the strategic assessment to integrate potential low zero carbon strategies within the development, sustainable strategy for the waste management and the encouragement to use sustainable transport modes. ■ Sustainable urban Drainage Systems (SuDS) to manage and attenuate the surface water runoff will be located within public open space throughout the development to cater for rainfall events up to and including the 1 in 100 year plus climate change event. The limiting discharge will be limited to the greenfield rate thus the post-development catchment will mimic the existing natural greenfield conditions in terms of in terms of volume, rate and quality of runoff. <p><u>Improve the quality of local public spaces, to create places for people.</u></p> <ul style="list-style-type: none"> ■ The development proposals will potential lead to positive, active and healthy lifestyles, such as the promotion of considerable open spaces to practice sports outdoors; the enhancement of the existing environment and natural water resources to involve people with the natural environment and the promotion of green routes corridors to encourage walks and an alternative to motorised vehicles. ■ Access to local sports and recreational facilities to contribute to the quality of life and well-being of the people who live and work at Great Haddon will be supported. ■ An extensive public open space network will support sports, leisure, children's play

	<p>areas.</p> <p><u>Improve the city's wildlife habitats</u></p> <ul style="list-style-type: none"> ■ The Great Haddon development seeks to embrace existing landscape features and the wide range of native habitats as a vital element of a multifunctional integrated landscape. ■ The Historic Environment will be preserved and enhanced. ■ New ecological habitats will be created. ■ Native fruit tree will be planted for every new home in Great Haddon. ■ Funding will be provided so that every school child can plant a new tree in Great Haddon. ■ Extensive network of green infrastructure. ■ Habitat management plan to ensure ecological value is maintained. <p><u>Improve access to natural green spaces</u></p> <ul style="list-style-type: none"> ■ Accessible open space accessible to both the residential areas and the business park, which is safe and secure will be provided by ensuring that development overlooks the open space, has robust edges and is well used. ■ Continuous and unified landscape network which is easily understood, and is an aid to orientation and legibility will be created. ■ Continuity through a network of open space will be developed.
7.	<p><u>SUSTAINABLE TRANSPORT</u></p> <p>(Refer to <i>Topic 3: Sustainable Transport</i>, within the DSS)</p> <p><u>Make the city more accessible for people by enabling and encouraging walking, cycling, public transport and car sharing leading to a sustained behaviour change.</u></p> <p>A residential travel plan produced by PBA (dated November 2011) set out the guiding principles, outcomes, targets and measures to be implemented to facilitate and deliver opportunities to travel by sustainable modes at the Great Haddon residential area.</p> <p>This Framework Travel Plan provides a mechanism for the delivery of hard measures, in the form of new bus services, walking and cycling measures as well as a commitment to reducing the dependency on the private car, in such a way to allow flexibility in the delivery of the measures. Model split targets were set up to achieve 24% for walking, 5% cycling, 51% car journeys, 15% car share and 6% for bus use. Measures to be implemented include:</p> <ul style="list-style-type: none"> ■ Producing maps for residents showing safe walking routes, with the distances and travel times to the most common destinations. Raising awareness about the health, environment and social benefits walking through the distribution of promotional measures. Promoting walking

activities and events for both leisure and walk to school purposes. Providing information on safety and awareness training in the local area.

- **Engaging with and raising awareness about Bicycle User Groups (BUG) that may be operating within the local area. These groups are composed of like-minded individuals interested in improving local facilities for cyclists and encouraging others to cycle. Promoting BikeBUDI; a joint initiative involving Cambridgeshire CC offering a free and simple service, which matches individuals with other cyclists so they can ride together.**
- **Providing cycle parking and storage facilities for households in accordance with cycle parking standards. Highlighting opportunities for cycle training, such as Peterborough CC's cycle training for children and adult cycle training. Raising awareness about the economic, social, environmental and health benefits of cycling.**
- **Bus stops at accessible locations within the site, within the recommended distance of 400m from dwellings. Personalised travel advice to assist residents in making sustainable travel choices. A one month free bus passes, which will be offered to every resident upon occupation**
- **Providing every resident with up to information on timetables and bus routes within the site and surrounding area. This information would be provided in the Welcome Packs, community internet or on notice boards located throughout the site.**

Provide practical solutions to sustainable transport challenges through the use of technology, innovation and good practice

The existing Framework Travel Plan ensures that good practice guidelines are embraced as far as possible to encourage the adoption of sustainable modes of travel by the residents to and from Great Haddon.

- There will be a 60% reduction in traffic through the existing village of Yaxley.
- Car journeys will be reduced by 20%.
- Reducing the dependence on the car (pedestrian and cycles), creating a walkable neighbourhood and promoting the public transport:
- There will be strategic footpaths and cycle paths provide connections to main facilities and neighbouring areas. Amenity routes will provide pleasant alternatives through the linear parks and green lanes and provide opportunities for a variety of circular walks.
- New residents will be within convenient walking/cycling distance of the local schools, employment areas, play areas and new community facilities. The location of these uses within close proximity to one another will help reduce car usage by ensuring that multiple activities can be completed in a single journey.
- It is intended to achieve a journey time saving of 15 minutes by using public transport from Great Haddon to Peterborough City Centre. It is aimed to provide every new home with a free bus pass, in the first phase of development, for local travel.

8.	<p><u>CONCLUSIONS</u></p> <p>In light of the above, it can be seen that through best practice design and compliance with the existing codes and regulations, Great Haddon will align fully with the ambitions set up in the Policy CS10 of the Core Strategy and the Peterborough's Manifesto vision for creating the UK's Environment Capital.</p>
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