

The tracked changes in this document highlight the evolution of the Sustainability Action Plan (dated November 2006) approved by BioRegional in relation to the endorsement of the One Gallions development proposals under the One Planet Living initiative.

The vast majority of the changes outlined have resulted from the conclusion of 3 key issues:

- 1) The decision by the LDA as landowner and development partner to require assessment under the Code for Sustainable Homes rather than EcoHomes;
- 2) Changes to the building performance specification required by the LDA (this has now been included at the end of this document);
- 3) Clarification that the development proposals to be taken forward are to be based on the Variant rather than Compliant scheme as envisaged for the original competition bid.

Sustainability Action Plan

This outline Sustainability Action Plan describes the vision that BioRegional Quintain, Crest Nicholson and Southern Housing Group share in seeking to create a truly sustainable zero carbon community at Gallions Park in the London Borough of Newham.

The Plan has been conceived as a touchstone document recording our over-arching sustainability aspirations and commitments relating to the proposed One Gallions development using the framework of the ten One Planet Living¹ Principles developed by BioRegional and WWF.

This outline document will evolve and be refined over time as the detailed design and development phases unfold. Throughout this process, it is envisaged that the Sustainability Action Plan could be used to both express our sustainable vision to a wide stakeholder audience, in addition to being used by the design team to inform the development and construction processes to ensure that the ethos is delivered.

The Sustainability Action Plan will become a pivotal resource in acting as the location for coordinated responses to a range of specific sustainability requirements, standards and tools, for example:

- One Planet Living
- BRE Code for Sustainable Homes and BREEAM standards
- LDA Building Performance Specification
- Newham Environmental Sustainability Checklist for Major Development SPG:
 - Environmental Sustainability Framework
 - Materials Use of Purchasing Strategy
 - Sustainable Waste Management Strategy
 - Environmental Code of Construction
 - etc

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¹ One Planet Living is a joint initiative between WWF and BioRegional Development Group. The international initiative aims to make sustainable living affordable, attractive and easy through working with partners to support the creation of sustainable products, services and communities. 'One Planet Living' is a registered trademark of WWF and BioRegional. www.oneplanetliving.org

The One Planet Challenge

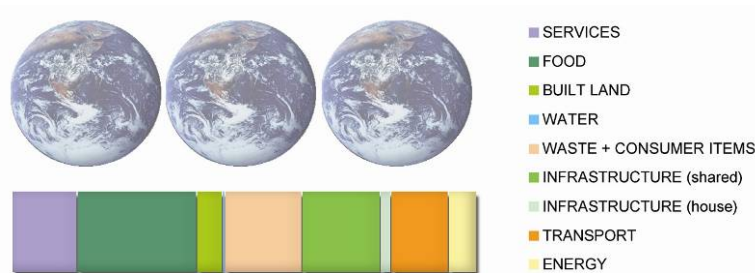
WWF's *Living Planet Report* states that if everyone on the planet were to consume natural resources and pollute the environment as we currently do in the UK, we would need three planets to support us.



This three-planet 'ecological footprint' suggests that the UK needs to reduce its consumption of fossil fuels and virgin materials by two-thirds to be environmentally sustainable as part of a concept of living within a fair share of the Earth's resources. To achieve this reduction in consumption, we need to develop buildings, infrastructure and lifestyles that are consistent with 'one planet' ways of living.

Importance of infrastructure and lifestyles

The diagram below illustrates one way of separating out the ecological footprint of a 'typical' UK individual into the component aspects of their lifestyle. The diagram highlights the relative importance of lifestyle choices compared to the impact of our buildings (i.e. the footprint associated with our food consumption compared to the impact of the materials used in our home). The diagram also shows the importance of our shared infrastructure and services (e.g. the impact of airport buildings, hospitals, banking and financial services etc.). It is difficult for individuals to address and reduce the impacts associated with these shared impacts.



Ecological Footprint of a 'typical' UK resident living in a new home built to 2002 Building Regulations
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In striving to achieve a sustainable future, we need to consider designing communities which enable people to choose to live sustainably. In such communities, the commuting distance between home and work, where the food comes from and how waste is dealt with will be as important as, if not more important than, the energy performance of the buildings.

To enable these sustainable lifestyle choices it is fundamental that communities are provided with appropriate efficient infrastructure (e.g. community zero-carbon heating solutions) and service provision (e.g. access to car clubs). In this regard, the greatest opportunities are achievable in new communities and those benefiting from extensive regeneration.

The understanding of where our environmental impacts come from and how to best support sustainable lifestyles has greatly informed the development of our proposals for One Gallions.

One Planet Living initiative

To help communicate the challenge we all face in reducing our environmental impact, and to facilitate change at local and global levels, BioRegional Development Group and WWF have recently launched the *One Planet Living* initiative. The initiative aims to build on the work of both organisations to promote the concepts of sustainable development and ecological footprinting.

The One Planet Living programme is structured around ten Principles, which act as a framework to express the sustainability challenge and a mechanism for developing and presenting solutions. Crest Nicholson, BioRegional Quintain and Southern Housing Group are using the ten One Planet Living Principles to inspire and structure their vision for the One Gallions zero carbon community.

Zero Carbon	Sustainable Water
Zero Waste	Natural Habitats and Wildlife
Sustainable Transport	Culture and Heritage
Local and Sustainable Materials	Equity and Fair Trade
Local and Sustainable Food	Health and Happiness

Sustainability targets, commitments and mechanisms

The series of 'Action Plan' tables starting overleaf records the aspirations, commitments and delivery mechanisms associated with the proposed development against the organising framework of the One Planet Living Principles. The ten 'Action Plan' tables should be viewed as 'snapshot' summaries representing key elements of the proposed development at this stage.

Zero Carbon Reducing carbon dioxide emissions by optimising building energy demand and supplying from zero/low carbon and renewable resources

Strategy	
Over-arching Zero Carbon Plan developed	<ul style="list-style-type: none"> Strategy developed that facilitates a net carbon-neutral development through addressing demand and supply issues Strategy developed with reference to: <ul style="list-style-type: none"> LB Newham UDP, including: 'S4 – Sustainable Development', 'EQ24 – Energy Efficiency' LB Newham LDF proposed core strategies, including: 'Energy efficiency and renewable energy' LB Newham Residential Planning Guidance SPG, including: 'Energy Efficiency and Sunlighting' LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Energy Use' and 'Microclimate' The London Plan, including; Policies 2A.1, 4A.7, 4A.8, 4A.9, 4A.10, 4A.15 GLA Sustainable Design and Construction SPD, including: 'Maximise use of natural systems', 'Conserve energy, water and other resources', 'Reduce noise, pollution, flooding and microclimatic effects', 'Ensure developments and comfortable and secure for users' London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'have access to secure reliable utilities' Project targets for: <ul style="list-style-type: none"> <u>Code for Sustainable Homes Level 4+ for all homes</u> <u>Maximum credits to be achieved for CSH categories Ene1 through to Ene7 inclusive</u> <u>Facilitating achievement of One Planet Living Common International Targets</u> <u>Net CO₂ emissions associated with providing heat and power for proposed development to be zero</u> <u>Space heating demands for residential elements of scheme to be less than 30 kWh/m²/annum</u> <u>Energy consumption for hot water heating for residential elements of scheme to be less than 35 kWh/m²/annum</u> <u>Electrical consumption (including ventilation) for residential elements of scheme to be less than 35 kWh/m²/annum</u>

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Deleted: <#>CO₂ emissions (as defined under EcoHomes) for residential elements of proposed development to be <#>10kg/m²/annum¶

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<#>Roofs 0.10 W/m²K¶
<#>Doors and windows 1.2 W/m²K (frame)¶
External shading devices utilised to achieve maximum shading factor of 0.2 and such the maximum overall solar transmittance factor of glazing is g=0.1

Deleted: COMPLIANT APPROACH¶
<#>Centralised renewable energy system to provide a carbon-neutral solution with ongoing management provided by London-wide Energy Services Company (ESCO)¶
<#>Solution to be focussed on biomass CHP system¶
VARIANT APPROACH¶

Approach	Mechanism
High thermal performance standards of built form	<ul style="list-style-type: none"> Insulation levels to be in excess of Building Regulation minimums <u>Heat Loss Parameter to be <#>0.8 W/m²K</u> <u>Thermal Mass Parameter >19</u> Air permeability <#>2m³/hr/m² of façade area @50pa <u>Subject to the requirements of good daylighting, glazed areas shall be limited to the extent that, with a g value of 0.25, they admit no more solar gain than would be the case had the reference Building Regulations compliant area of glazing (as set out in SAP 2005 Appendix R Table R1: Reference values) with a g value of 0.1 been used.</u>
Energy efficient appliances and fittings	<ul style="list-style-type: none"> Provide A-rated+ appliances in homes and information to occupants on purchasing energy-efficient goods Building design to incorporate opportunities for natural lighting to reduce the need for artificial lighting Energy efficient light fittings specified internally and externally Drying spaces in homes to provide energy efficient alternative to tumble driers Further 'extra energy efficient' appliances identified and offered as purchaser options All street lighting to be energy efficient with 0% upward transmission
Low/Zero carbon energy generation	<ul style="list-style-type: none"> <u>Centralised renewable energy system (biomass CHP) to provide a carbon-neutral solution with ongoing management provided by Community Energy Services Company (ESCO)</u> <u>Heating and hot water:</u>

Approach	Mechanism
	<ul style="list-style-type: none"> • Heating to each home provided by fresh air heating system with high efficiency heat recovery • Summer time temperatures limited by façade design and exposed thermal mass • Condition of non-residential tenancy agreements that centrally-produced hot water is purchased • In-kind biomass supply chain support offered to facilitate creation of Newham TreeStation (as BioRegional have established in LB Croydon) • <u>Electrical:</u> <ul style="list-style-type: none"> • Provided via biomass CHP with private wire arrangement and billing through community ESCO
Local Low Carbon Supply Chain	<ul style="list-style-type: none"> • Commitment to investigate with partners: <ul style="list-style-type: none"> • Twinning development with new larger-scale wind turbine array in the Newham area • Opportunities to grow biomass locally • Establishing a Newham tree-station as part of local biomass supply chain
Ongoing management strategy	<ul style="list-style-type: none"> • Appropriate commissioning programme and quality monitoring (as BREEAM guidance) undertaken • ESCO to undertake ongoing energy/carbon monitoring with annual reports produced

Deleted: <#>With Variant option, Energy Services Company (ESCO) established as part of Community governance organisation to manage sustainable energy supply. ESCO to maintain/upgrade infrastructure and provide affordable sustainable energy to community¶

Zero Waste *Reducing waste arising, then reclaiming, recycling and recovering*

Strategy	
Over-arching Zero Waste Plan developed	<ul style="list-style-type: none"> • Strategy developed in partnership with waste contractor(s) and other local stakeholders, which supports a long-term vision for a zero waste community • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'EQ54 – Promoting Sustainable Waste Management', 'EQ61 – Recycling', 'SH23 – Recycling (Retail)' • LB Newham LDF proposed core strategies, including: 'Sustainable Waste Strategy' • LB Newham Residential Planning Guidance SPG, including: 'Refuse Storage' • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Sustainable Waste Management' • The London Plan, including; Policies 2A.1, 4A.1, 4A.2 • GLA Sustainable Design and Construction SPD, including: 'Conserve energy, water and other resources' and 'Promoting Sustainable Waste behaviour' • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible' • Project targets for: <ul style="list-style-type: none"> • Code for Sustainable Homes Level 4+ for all homes • Facilitating achievement of One Planet Living Common International Targets • <i>By year 5: 70% of household waste to be recycled or composted</i> • <i>By 2020: 98% of household waste to be diverted from landfill (could include recycling, composting, clean energy-from-waste)</i> • <i>By year 5: 80% of all household organic waste to be composted on-site or collected</i>

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Approach	Mechanism
Reduced levels of construction waste	<ul style="list-style-type: none"> • Target for construction waste to be less than 15m³ per 100m² floor area (refer to Constructing Excellence EPI) and less than 0.2% of construction cost • Development of comprehensive construction waste management plan in partnership with contractor. Strategy will be developed with reference to DTI SWMP guidance and BRE SmartWaste approach • Investigate and promote (as appropriate) construction techniques that are efficient in the use of materials
Facilities and services to make recycling easy	<ul style="list-style-type: none"> • Provide space and storage within individual homes for the storage of segregated waste • Provide corresponding divided bins externally for the storage of segregated waste • Facilities designed and specified to secure maximum credits under Code for Sustainable Homes • Guidance notes, collection schedules and performance details available on community extranet and in OPL Centre
Composting facilities	<ul style="list-style-type: none"> • Subject to securing appropriate licensing etc., it is proposed that 'green' waste (including kitchen waste) would be segregated for either 'in-vessel' composting on-site, or for collection by local operator. Key aim to use compost generated on-site as part of a local closed loop food supply chain • The viability of co-collecting and treating domestic and non-domestic putrescible wastes generated on-site will be further investigated • Kitchen design and storage facilities to support collection and storage of organic waste
Community Recycling	<ul style="list-style-type: none"> • Provide notice board within OPL Centre and facility on community extranet for promoting the sale and or exchange of unwanted goods • Target to establish links between on-site non-residential occupants and existing local 'scrap stores'
Ongoing Management Strategy	<ul style="list-style-type: none"> • Negotiation with local authority of the terms for engagement of third party waste management contractor • Community trust to take responsibility for waste/recycling obligations and Green Enabler to undertake ongoing waste monitoring with annual reporting • Support Local Authority in development of a zero waste plan for Newham

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Sustainable Transport *Reducing the need to travel and providing sustainable alternatives to private car use*

Strategy	
Over-arching Sustainable Transport Plan developed	<ul style="list-style-type: none"> Strategy developed which supports a long-term vision for a community with minimised transport impacts Strategy developed with reference to: <ul style="list-style-type: none"> LB Newham UDP, including: 'S4 – Sustainable Development', 'S6 – Mixed Use Development', 'S35 – Encouragement of Alternatives to the motor car', 'S37 – Facilities for pedestrians and cyclists', 'EMP16 – Homeworking', 'T2 – Public transport accessibility', 'T15 – Parking standards', 'T19 – Improvement of conditions for pedestrians', 'T24 – Access by cycle and cycle parking' LB Newham LDF proposed core strategies, including: 'Employment and mixed use development', 'local shops and services' and policies covered under transport topic area LB Newham Residential Planning Guidance SPG, including: 'Car Parking' and 'Highways' LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Transport' The London Plan, including; Policies 2A.1, 3C.1, 3C.3, 3C.19, 3C.20, 3C.21 and 3C.22 GLA Sustainable Design and Construction SPD London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'provide a mix of uses at all scales', 'are developed at densities that make best use of land and strengthen the viability of public transport and facilities', 'have access to a range of employment opportunities', 'protect, enhance and link existing assets to provide a high quality public realm and walking and cycling routes' Project targets for: <ul style="list-style-type: none"> Code for Sustainable Homes Level 4+ for all homes Facilitating achievement of One Planet Living Common International Targets By 2020 - Annual total travel distance for residents of 20% below DfT NTS benchmark By 2020 - Annual road vehicle travel distance for residents of 80% below DfT National Travel Survey benchmark Ongoing target to reduce transport related carbon emissions, based on a local benchmark, to level consistent with 'one planet' level by 2020

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Target for EcoHomes and BREEAM standards which support achieving 'Excellent' ratings overall

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Approach	Mechanism
Alternative fuels	<ul style="list-style-type: none"> Diesel construction vehicles to be run on waste cooking oil bio-diesel Photovoltaic array to provide power for electric vehicles (TBC subject to confirmation on extent of parking provision) Proposal to provide charging points for electric vehicles (TBC subject to confirmation on extent of parking provision)
Reducing the need to travel	<ul style="list-style-type: none"> Homes provided with broadband infrastructure Homes provided with space within homes to support 'working from home' Transport Impact Assessment to be carried out Communal internet ordering point and collection facilities for on-line orders, e.g. food boxes
Alternatives to private car use: public transport	<ul style="list-style-type: none"> Site has access to established public transport connections including bus and Docklands Light Railway, with planned connection to proposed ELT Information on public transport options provided as part of residents' packs and via community extranet Work with car club and public transport operators to explore opportunities for offering limited discounted public transport travel as part of an over-arching sustainable mobility package
Alternatives to private car use: car clubs	<ul style="list-style-type: none"> Car club established to serve residential and non-residential users. Strategy to include promotion of club to wider neighbourhood Discounted car club membership offered to residents as part of Green Lifestyles Package options Commitment to work with car club operator to secure electric vehicles for car club

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Approach	Mechanism
	<ul style="list-style-type: none"> Limited private car parking provision (restricted to disabled and car club provision) as part of overarching Sustainable Transport Plan – Final extent of parking provision still TBC in consultation with numerous stakeholders
Alternatives to private car use: walking and cycling	<ul style="list-style-type: none"> Circulation and access points designed to give priority to pedestrians and cyclists over vehicles, with Homezone principles applied Secure and sheltered cycle storage provided for residential and non-residential users in-line with meeting highest CSH score External cycle parking provided for communal/casual use Information on walking/cycling for day-to-day journeys provided in residents' packs and community extranet (e.g. link to www.walkit.com) Discounted cycle purchase/service vouchers offered to residents Commitment to further investigate feasibility of a cycle club Commitment to support the provision of additional cycle parking facilities at Gallions Reach DLR station
Ongoing Management Strategy	<ul style="list-style-type: none"> Car parking configured to reduce dominance of vehicles and to support increased neighbourhood social interaction Parking management strategy developed and implemented Sustainable travel guidance provided as part of residents' pack with ongoing travel information provided via community extranet Personalised sustainable travel planning session offered to residents as part of Green Lifestyles Package Work with partners to explore future provision of low carbon public transport

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- Deleted: <#>Showering/charging facilities promoted within non-residential spaces¶

Sustainable and Local Materials

Materials chosen for buildings and infrastructure to give high performance in use with minimised impact in manufacture and delivery

Strategy	
Over-arching Sustainable and Local Materials Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a community with optimised material lifecycle impacts • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'EQ60 – Aggregates recycling' • LB Newham LDF proposed core strategies, including: 'local shops and services' • LB Newham Residential Planning Guidance SPG • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Sustainable Construction Materials' • The London Plan, including; Policies 2A.1, 3B.12, 4A.4, 4B.6 • GLA Sustainable Design and Construction SPD, including: 'Conserve energy, water and other resources' • London Thames Gateway Development and Investment Framework: Sustainable Communities...'are environmentally responsible' • Project targets set for: <ul style="list-style-type: none"> • <u>Code for Sustainable Homes Level 4+ for all homes</u> • Meeting the Newham's requirements for a Materials Use and Purchasing Strategy • Facilitating achievement of One Planet Living Common International Targets • Embodied CO₂ to be less than 700kg/m² (excluding any energy/ventilation plant e.g. wind turbines) • 25% (by weight) of construction materials to come from recycled/reclaimed sources (including recycled aggregate) • 75% (by weight) of external hard landscaping and timberwork to be reclaimed or recycled • 25% (by weight) of construction materials to be locally sourced within a 50km radius

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Approach	Mechanism
Materials with low embodied energy	<ul style="list-style-type: none"> • Life cycle methodology and 'whole life costing' approach to be used alongside other parameters to inform selection of materials • <u>Requirement to score 10+ credits under CSH Mat1 category relating to the environmental impact of materials</u>
'Healthy' and non-toxic materials	<ul style="list-style-type: none"> • Within the materials specification, identified high toxicity materials will be prohibited/minimised including PVC, VOC, formaldehyde etc • No insulation products specified with Ozone Depleting Potential (ODP) or Global Warming Potential (GWP) greater than 5
Sustainable timber	<ul style="list-style-type: none"> • All timber products will be from sustainably certified sources, such as FSC • Key landscape furniture pieces sourced from sawmills in the South East
Specifying local materials	<ul style="list-style-type: none"> • Subject to life cycle analysis, the use of local construction products will be optimised within the materials specification • Local materials could include tiles, timber, aggregates etc
Reused and recycled materials	<ul style="list-style-type: none"> • Project target to minimise import/export of fill materials, contaminated materials or top soil through development process • Consideration of long-term decommissioning/demolition implications and opportunities for reclamation/recycling in informing design and specification. Strategy to be developed in consideration of guidance on design for deconstruction • Construction specification developed to optimise opportunities for including materials from recycled and reclaimed sources, as well as those derived from waste products
Sustainable management of build process	<ul style="list-style-type: none"> • In consultation with the contractor partners, a comprehensive sustainable construction plan will be developed detailing the following: <ul style="list-style-type: none"> • Construction waste management during the build process • Minimisation of pollution risk (via air, water and noise)

Deleted: Target for 80% of construction materials to be at least B-rated under BRE Green Guide, but recognising the other sustainability considerations may be in conflict with this approach. This approach is in-line with Newham's Environmental Sustainability Checklist for Major Development

Approach	Mechanism
	<ul style="list-style-type: none"> • Dust mitigation measures • Transport strategy • Liaison strategy with existing community
Multi-skilling approach	<ul style="list-style-type: none"> • The development team is committed to adopting a 'multi-skilling' approach to construction to facilitate increased efficiencies arising from reduced build time and wastage
Ongoing Management Strategy	<ul style="list-style-type: none"> • Through their One Planet Products initiative, BioRegional Development Group are seeking to establish a buyers group for developers to bulk purchase 'green' building products to secure the associated economy of scale benefits. BioRegional Quintain <u>is a member of One Planet Products and will encourage appointed contractors to work with OPP to source suitable sustainable products</u>

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Sustainable and Local Food Consumption of local, seasonal and organic produce, with reduced amount of animal protein and packaging

Strategy	
Over-arching Sustainable and Local Food Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a community which enables people to choose low impact produce • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'OS13 - Allotments' • LB Newham LDF proposed core strategies, including: 'local shops and services' • LB Newham Environmental Sustainability Checklist for Major Development SPG • The London Plan, including; Policies 2A.1, 4B.1 • GLA Sustainable Design and Construction SPD • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible' • Project targets set for: <ul style="list-style-type: none"> • <i>Facilitating achievement of One Planet Living Common International Targets</i> • <i>2020 target for at least 25% of food consumed (by weight) within the development to be sourced from within a radius of 50km</i> • <i>2020 target for at least 10% of food consumed (by weight) within the development to be from certified organic and/or fair-trade sources</i> • <i>Year 5 target of 50% of residents purchasing from local organic food box scheme</i>

Approach	Mechanism
Opportunities for on-site food-growing	<ul style="list-style-type: none"> • Area of mini-allotments proposed on open space adjacent to Gallions Reach DLR stop – <u>Now considered less likely to happen as proposed site is out of the control of the stakeholders party to the One Gallions project</u> • Communal greenhouse proposed on-site • Roof-top containerised mini-allotment areas (with weed-free topsoil mix to create lightweight growing medium) to provide for growing selected plants for food • Balconies, where provided, to include integrated planters suitable for growing selected plants for food • Planting strategy for external areas to include opportunities for 'edible landscaping', e.g. fruit trees and herbs etc
Opportunities for off-site food-growing	<ul style="list-style-type: none"> • Explore opportunities to link with existing local allotments (Allotments are available at 7 sites across the borough – the nearest to site is Pennyroyal Avenue)
Connections to existing local farmers networks and food box schemes	<ul style="list-style-type: none"> • Link established with the Newham Food Access Partnership to support programme and explore opportunities for role of community centre in facilitating community access to local and sustainable food • Residents able to receive trial membership of local food box schemes as part of Green Lifestyles Package. Secure drop-off storage space in OPL Centre • Links established with local farmers and box networks to support creating local closed loops with farmers delivering produce and taking wastes for composting
Supporting fresh food preparation	<ul style="list-style-type: none"> • Encouraging fresh food preparation will be an important driver for residential kitchen design • Kitchens to include storage areas for fresh food and products/appliances to encourage home-cooking • Envisaged that, through a food group within the community trust, recipes and guidance will be available to residents via extranet. Available support may include provision of food hygiene and cooking lessons using local ingredients
Supporting sustainable food waste management	<ul style="list-style-type: none"> • Kitchens to include spaces suitable for compostable waste storage • Putrescible wastes composted on site or collected for processing on local farms • Resulting compost made available to residents with mini-allotments and for use on communal grounds
Ongoing Management Strategy	<ul style="list-style-type: none"> • The ongoing implementation and development of the Sustainable and Local Food Plan would be led by the community trust, it is envisaged that this process will be undertaken in consultation with key local stakeholders

Sustainable Water Reduced water demand with rain and waste water managed sustainably

Strategy	
Over-arching Sustainable Water Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a community with optimised water usage • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'EQ62 – Protection of the flood plain', 'EQ63 – Surface water disposal' • LB Newham LDF proposed core strategies, including: 'Water use, supply and quality', 'flood protection and sustainable drainage' • LB Newham Residential Planning Guidance SPG • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Flood risk and sustainable drainage', 'Water supply and conservation' • The London Plan, including; Policies 2A.1, 4A.11, 4A12, 4A13, 4B.6, 4C.6, 4C.7, 4C.8 • GLA Sustainable Design and Construction SPD, including: 'Maximise use of natural systems', 'Reduce the noise, pollution, flooding and microclimatic effects' • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'have access to secure reliable utilities' • Project targets set for: <ul style="list-style-type: none"> • <u>Code for Sustainable Homes Level 4+ for all homes</u> • <u>Facilitating achievement of One Planet Living Common International Targets</u> • <u>Target for residential water use to be <105lpppd as modelled using Code for Sustainable Homes</u>

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Approach	Mechanism
Water efficient fittings and appliances	<ul style="list-style-type: none"> • All units to be fitted with low-flush dual-flush WCs and water-saving taps/fittings • No 'power' showers will be specified • Provided washing machines to be higher performing water-efficient models
Rainwater and grey water management	<ul style="list-style-type: none"> • Porous paving and roof design (both green and brown) for attenuating surface water used throughout <u>subject to further suitability tests regarding ground conditions and contamination</u> • Individual or communal rainwater butts provided to all residential units • Rainwater utilised on roof terraces and within landscape as part of irrigation strategy • Grey water recycling used for non-potable domestic uses – toilet flushing
Flooding	<ul style="list-style-type: none"> • The site is within a Flood Zone 3 and is therefore at risk of flooding by tidal waters during a 1 in 200 year event although the site is protected by the Thames Defence wall which has been designed to retain 1 in 1000 year flood waters – <u>Position is subject to further clarification from the EA</u> • Flood Risk Assessment would be undertaken, if required, as part of design development work
Ongoing Management Strategy	<ul style="list-style-type: none"> • Water consumption monitored on an annual basis with feedback to residents to encourage water efficiency • Guidance provided through residents' packs and via community extranet on the environmental impacts of unsustainable water consumption to help inform lifestyle and purchasing choices

Natural Habitats and Wildlife Existing biodiversity conserved and opportunities taken to increase ecological value

Strategy	
Over-arching Natural Habitats and Wildlife Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a development which optimises ecological value within an urban site • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'S10 – Neglected, derelict and vacant land', 'EQ11 – Species protection', 'EQ15 – Inclusion of tree planting', 'EQ16 – Green corridors', 'EQ21 – New development landscaping', 'OS9 – Improvements to parks and public opens spaces' • LB Newham LDF proposed core strategies, including: 'Biodiversity and nature conservation', 'species protection' and policies covered under Open Space and Outdoor Recreation topic area • LB Newham Residential Planning Guidance SPG, including: 'Landscape', 'Play areas and public open space' • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Nature conservation / biodiversity', 'Trees and woodland', 'Contaminated land' • The London Plan, including; Policies 2A.1, 3D.12, 4B.6 • GLA Sustainable Design and Construction SPD, including: 'Reuse land and buildings', 'Maximise use of natural systems', 'Conserve and enhance the natural environment and biodiversity' • London Thames Gateway Development and Investment Framework: Sustainable Communities...'are environmentally responsible', 'reuse previously developed land' • Project targets set for: <ul style="list-style-type: none"> • Code for Sustainable Homes Level 4+ for all homes • <i>Facilitating achievement of One Planet Living Common International Targets</i> • <i>Supporting the vision for the East London Green Grid</i> • <i>Minimum of two measures written up as case studies to demonstrate implementation – to include identification of local area where local biodiversity and/or regenerative capacity could be increased</i>

Deleted: EcoHomes and BREEAM standards which support achieving 'Excellent' ratings overall

Approach	Mechanism
Protection of existing ecologically-valuable features	<ul style="list-style-type: none"> • Gallions Park zero carbon community would be created on previously developed land with low ecology value • Accredited ecological consultant to be appointed to advise on site strategy • Strategy to be developed with reference to local Biodiversity Action Plan and in consultation with local ecology officers to incorporate habitats to support key species and promote biodiversity
Interventions to enhance ecological biodiversity	<ul style="list-style-type: none"> • Envisaged features/characteristics include; <ul style="list-style-type: none"> • Incorporating bird and bat boxes and feeding points into buildings and the surrounding environment • 'Green' and 'Brown' wildlife roofs to encourage biodiversity, particularly to attract invertebrates and birds such as the black redstart • Richly planted communal gardens including areas of wildlife planting using native species where appropriate • Measures to discourage flocking birds in consideration of airport proximity • Suitable local area will be identified for measures to increase regenerative capacity as part of One Planet Living Common International Targets
Ongoing Management Strategy	<ul style="list-style-type: none"> • Ongoing implementation of the Natural Habitats and Wildlife Plan will be managed by the community trust who will advise in the appointment and remit of landscaping contractors. It is envisaged that this will include working with partners to facilitate monitoring of biodiversity levels

Culture and Heritage *Cultural heritage acknowledged and interpreted. Sense of place and identity engendered to contribute towards future heritage*

Strategy	
Over-arching Culture and Heritage Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a culturally rich community • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'S11 – Protection of the Borough's Heritage', 'CS3 – Meeting place', 'EQ26 – Buildings of local interest', 'EQ43 – Archaeology' • LB Newham LDF proposed core strategies, including: 'Arts, culture, entertainment and heritage' • LB Newham Residential Planning Guidance SPG • LB Newham Environmental Sustainability Checklist for Major Development SPG • The London Plan, including; Policies 2A.1, 33A.14, 4B.6, 4B.10, 4B.11 • GLA Sustainable Design and Construction SPD • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'provide a mix of uses at all scales', 'are culturally diverse and enjoy high levels of cultural participation' • Project targets set for: <ul style="list-style-type: none"> • <i>Facilitating achievement of One Planet Living Common International Targets</i> • <i>Main focus on engendering future community culture of sustainable living</i> • <i>Minimum of two measures written up as case studies to demonstrate implementation</i>

Approach	Mechanism
Community consultation and cohesion	<ul style="list-style-type: none"> • Community consultation and engagement process will be undertaken to understand the local community in terms of cultural heritage and aspirations • It is envisaged that a proportion of local consultees may become members of the community governance organisation • Community extranet to be developed. The proposed system would have inward and outward facing roles. The system could be used to provide: <ul style="list-style-type: none"> • supporting information on sustainability issues to residents and some access to wider community • mechanisms to establish a time bank • information on upcoming events • guidance on sustainable travel options • information on the development to the wider community • A Gallions Park events programme will be developed and supported by the community trust to support engendering a sense of community identity
Marketing strategy	<ul style="list-style-type: none"> • Marketing strategy designed to promote sustainable lifestyles in support of the One Planet Living ethos
Culture of Sustainability	<ul style="list-style-type: none"> • 2000 copies of One Planet Living book offered to local secondary schools with accompanying talks to students • Opportunities explored to reflect local culture and heritage, and to establish a culture of sustainability, e.g.: <ul style="list-style-type: none"> • Reinterpreting the 'energy heritage' of Beckton gas works into 21st century decentralised zero carbon energy generation • Reflecting and celebrating through design and operation the diversity of London's most multi-cultural borough • Creating a landmark sustainable zero carbon community for London
Ongoing Management Strategy	<ul style="list-style-type: none"> • Ongoing implementation of the Culture and Heritage Plan will be the responsibility of the community trust • Requirement to review the Plan periodically to ensure that it both reflects the culture and heritage of the area, promotes a culture of sustainability to all, and strives to ensure that facilities and services are promoted which support the future culture of the community

Equity and Fair Trade *Create a sense of community. Provide accessible, inclusive and affordable facilities and services*

Strategy	
Over-arching Equity and Fair Trade Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for an equitable community • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'S20 – Affordable housing', 'S46 – Community services: accessibility', 'H7 – Affordable housing in new residential development', 'H8 – Achieving mixed communities' • LB Newham LDF proposed core strategies, including: 'Creating an accessible environment', 'affordable housing', 'Accessible housing', 'Community facilities in new development locations' • LB Newham Residential Planning Guidance SPG, including: 'Mobility/general accessible housing and wheelchair housing' • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Access for all' • The London Plan, including: Policies 2A.1, 3A.4, 3A.7, 3A.23, 3D.12, 4B.5, 4B.6 • GLA Sustainable Design and Construction SPD, including: 'Ensure developments are comfortable and secure for users', 'Conserve and enhance the natural environment and biodiversity' • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'provide a mix of uses at all scales', 'have access to a range of employment opportunities', 'are socially mixed and cohesive through managed integration and different tenure types and values of housing, and the delivery of an improved quality of life for all' • Project targets set for: <ul style="list-style-type: none"> • <i>Facilitating achievement of One Planet Living Common International Targets</i> • <i>Target established for boosting local economy through supporting local contractors and suppliers in delivering the community</i> • <i>Minimum of two measures written up as case studies to demonstrate implementation</i>

Approach	Mechanism
Affordability	<ul style="list-style-type: none"> • 35% affordable housing provision - TBC • Newham has the greatest number of households with 5 residents or more (20%) than anywhere in the UK and the variant proposals make provision for a greater percentage of larger units
Accessibility	<ul style="list-style-type: none"> • All of the homes will be designed in accordance with the Lifetime Homes standard • Buildings and landscaping designed to achieve high levels of accessibility for all • Proportion of units accessible to disabled people to meet local requirements
Encouraging the local workforce	<ul style="list-style-type: none"> • A construction stage plan will be developed, and incorporated into construction contracts, which promotes the use of local contractors, suppliers and workforce in the development • Contractors will be required to demonstrate investment in training, apprenticeships and staff development • Sustainability Construction Training Pack will be created to disseminate the development ethos to construction workforce • Adherence to Considerate Constructors standard • Partnership sought with local stakeholders to explore opportunities for identifying employment for disadvantaged people and the long-term unemployed
Fairtrade Borough status	<ul style="list-style-type: none"> • All tea and coffee provided within the community centre to be certified Fairtrade • Seek to support the Newham Food Access and other stakeholders in the recently launched programme to make Newham and FairTrade Borough
Ongoing Management Strategy	<ul style="list-style-type: none"> • Ongoing implementation of the Equity and Fair Trade Plan will be the responsibility of the community trust

Health and Happiness Promote health and wellbeing. Establish long-term management and support strategies

Strategy	
Over-arching Health and Happiness Plan developed	<ul style="list-style-type: none"> • Strategy developed which supports a long-term vision for a healthy and happy community • Strategy developed with reference to: <ul style="list-style-type: none"> • LB Newham UDP, including: 'S4 – Sustainable Development', 'S15 – Control of environmental hazards and nuisances', 'EQ26 – Safety', 'EQ45 – Pollution', 'EQ46 – Air quality management', 'EQ47 – Noise impact statement', 'EQ48 – Noise: sensitive development', 'EQ49 – Contaminated land' • LB Newham LDF proposed core strategies, including: 'Community safety and design', 'Community facilities in new development locations' and policies covered under Open Space and Outdoor Recreation topic area • LB Newham Residential Planning Guidance SPG, including: 'Safety and security', 'Overlooking and privacy', 'Daylighting and outlook', 'Noise', 'Private gardens and amenity space', 'Front garden space' • LB Newham Environmental Sustainability Checklist for Major Development SPG, including: 'Noise', 'Air quality', 'Pollution from light/glare' • The London Plan, including; Policies 2A.1, 3A.15, 3A.17, 3A.20, 4A.6, 4A.14, 4B.6 • GLA Sustainable Design and Construction SPD, including: 'Maximise use of natural systems', 'Reduce the noise, pollution, flooding and microclimatic effects', 'Ensure developments are comfortable and secure for users', 'Conserve and enhance the natural environment and biodiversity' • London Thames Gateway Development and Investment Framework: Sustainable Communities... 'are environmentally responsible', 'protect, enhance and link existing assets to provide a high quality public realm and walking and cycling routes', 'are socially mixed and cohesive through managed integration and different tenure types and values of housing, and the delivery of an improved quality of life for all', 'exhibit excellent architectural and urban design, and make London Thames Gateway an attractive place to live, work and visit', 'have excellent public services' • Project targets set for: <ul style="list-style-type: none"> • Code for Sustainable Homes Level 4+ for all homes • <i>Facilitating achievement of One Planet Living Common International Targets</i> • <i>Minimum of two measures written up as case studies to demonstrate implementation</i>

Deleted: EcoHomes and BREEAM standards which support achieving 'Excellent' ratings overall

Approach	Mechanism
Buildings and infrastructure designed to promote wellbeing	<ul style="list-style-type: none"> • Issues of noise pollution, access to daylight and indoor air quality are drivers of the building design • Material specification, thermal and ventilation strategies implemented to achieve 'healthy' internal environments/air quality • Access to private outdoor space provided through private gardens for family units, communal gardens and accessible rooftop areas
Establishing a community trust	<ul style="list-style-type: none"> • Community trust established as key vehicle to support ongoing fair and equitable community governance • Community trust will support establishing and maintaining a community 'spirit' • Community trust would act as the client for facilities management of buildings/infrastructure • Community trust to facilitate and enable residents in establishing healthy lifestyle patterns regarding consumption and travel etc • Community trust to organise one open day per year in consultation with Newham LA21 Officer
Community extranet	<ul style="list-style-type: none"> • The community extranet will aim to facilitate social interaction within the local community and interest groups
Safety and security	<ul style="list-style-type: none"> • Buildings will incorporate Secure by Design principles
One Planet Living Centre	<ul style="list-style-type: none"> • Provided as a focus for the community and for sustainability information/activities. To include information on sustainable lifestyles, space for residents to meet, relax and work informally, storage facilities for food box deliveries etc
Ongoing Management Strategy	<ul style="list-style-type: none"> • Green caretaker/enabler post created to act as the day-to-day face of the community trust and to support members of the community in leading sustainable lifestyles through the provision of information, guidance and monitoring

Approach	Mechanism
	<ul style="list-style-type: none">• Production of 'green lifestyles' induction information, establishment of 'green' benefits package for residents and the provision of ongoing support via the community trust and extranet• Commitment to develop a programme of ongoing monitoring of building performance and occupant satisfaction to be undertaken by the community trust in partnership with other stakeholders• Gathered information would be used to both inform changes to the operation of the development in the future and help to inform future sustainable community best practice

Gallions Park Performance Specification

1 Building Performance

1.1 General

In order to create a development that is socially, economically and environmentally sustainable, the design of the development must respond to both the local and global environmental issues.

Buildings will be constructed to meet the specified performance targets, set out below.

The developer's proposals are required to show a rational approach to the energy hierarchy, passive means, active means, and renewable means.

1.2 Assessment Requirements; Dwellings

The developer will be expected to ensure that the residential units obtain Code For Sustainable Homes rating of Level 4, making reasonable endeavours to achieve level 5 but with the sale of Renewables Obligation Certificates allowed. Level 6 criteria must be satisfied for the Energy criteria (i.e. Ene1 and Ene2).

Code for Sustainable Homes (March 2007) credit categories

<u>Code for Sustainable Homes (March 2007) requirements:</u>		
<u>Level 4 overall</u>	<u>Using both mandatory & tradable Credits with weighting conversion to Points</u>	<u>Aim to try to achieve level 5 if possible (84 points)</u>
<u>Level 6 for Energy</u>	<u>'True Zero Carbon', including Heat Loss Parameter (HLP) ≤ 0.8 W/m²K but with the sale of Renewables Obligation Certificates allowed.</u>	<u>Required</u>
<u>Ene 1</u>	<u>Dwelling Emission Rate, plus renewables for appliances & cooking</u>	<u>15 credits required</u>
<u>Ene 2</u>	<u>Heat Loss Parameter: ≤ 1.1 W/m²K</u>	<u>2 credits required</u>
<u>Ene 3</u>	<u>Internal lighting: 75% low energy</u>	<u>2 credits required</u>
<u>Ene 4</u>	<u>Drying space provision</u>	<u>1 credit required</u>
<u>Ene 5</u>	<u>Energy labelled white goods</u>	<u>2 credits required</u>
<u>Ene 6</u>	<u>External lighting: low energy / controlled</u>	<u>2 credits required</u>
<u>Ene7</u>	<u>Low or zero carbon technologies) but with the sale of Renewables Obligation Certificates allowed.</u>	<u>2 credits required</u>
<u>Ene 8</u>	<u>Cycle storage</u>	<u>1 credit or higher required</u>
<u>Ene 9</u>	<u>Home office</u>	<u>0 credits required</u>
<u>Wat 1</u>	<u>Internal potable water use: ≤ 105 litres/person/day</u>	<u>3 credits required</u>
<u>Wat 2</u>	<u>External water use: rainwater for irrigation</u>	<u>1 credit required</u>
<u>Mat 1</u>	<u>Environmental impact of materials</u>	<u>10 credits or higher required</u>

<u>Mat 2</u>	<u>Responsible Sourcing: Building elements</u>	<u>4 credits or higher required</u>
<u>Mat 3</u>	<u>Responsible Sourcing: Finishing elements</u>	<u>2 credits required</u>
<u>Sur 1</u>	<u>Reduction of Surface Run-off</u>	<u>0 credits required</u>
<u>Sur 2</u>	<u>Flood Risk</u>	<u>1 credit required</u>
<u>Was 1</u>	<u>Household Waste Storage</u>	<u>4 credits required</u>
<u>Was 2</u>	<u>Site waste Management Plan</u>	<u>2 credits required</u>
<u>Was 3</u>	<u>Composting</u>	<u>1 credit required</u>
<u>Pol 1</u>	<u>Insulant Global Warming potential</u>	<u>1 credit required</u>
<u>Pol 2</u>	<u>NOx Emissions</u>	<u>0 credits or higher required</u>
<u>Hea 1</u>	<u>Daylighting</u>	<u>0 credits or higher required</u>
<u>Hea 2</u>	<u>Sound insulation: Verification by site testing option, not 'robust details' (* - see note below)</u>	<u>1 credit or higher required</u>
<u>Hea 3</u>	<u>Private Space</u>	<u>0 credits required</u>
<u>Hea 4</u>	<u>Lifetime Homes</u>	<u>4 credits required</u>
<u>Man 1</u>	<u>Home User Guide</u>	<u>3 credits required</u>
<u>Man 2</u>	<u>Considerate contractors scheme</u>	<u>2 Credits required</u>
<u>Man 3</u>	<u>Construction site impacts</u>	<u>2 credits required</u>
<u>Man 4</u>	<u>Security</u>	<u>2 credits required</u>
<u>Eco1</u>	<u>Ecological value of site</u>	<u>1 credit required</u>
<u>Eco 2</u>	<u>Ecological enhancement</u>	<u>1 credit required</u>
<u>Eco 3</u>	<u>Protection of ecological features</u>	<u>1 credit required</u>
<u>Eco 4</u>	<u>Change of ecological value of site</u>	<u>2 credits or higher required</u>
<u>Eco 5</u>	<u>Building footprint</u>	<u>2 credits required</u>

In total a minimum of 77 credits are required for each home, however in order to achieve this credits can be moved between all categories except Ene 1 – Ene 7 inclusive; Wat 1, Wat 2 and Hea 2. For these categories credits can only be increased (where possible), not decreased.

With regards to Hea 4, 97% of all properties must achieve 4 credits. For the remaining housing units, only requirement 9 in the checklist set out in the Code for Sustainable Homes: Technical Guide March 2007 can be relaxed in terms of achieving Lifetime Homes accreditation.

1 credit minimum is required for all units under the CSH Sound Insulation. This will be achieved using CSH option 1, ie on-site testing, and not option 2.

The CLG Code for Sustainable Homes March 2007 technical guidelines have been used for the purposes of this document, however there is a presumption in favour of using the updated technical guidelines for this project as and when they become available and where changes as a result of adopting the recent guidance can be reasonably accommodated within the development.. Overall however, regardless of the date of the guidance, the requirement in para 1.2 remains.

Requirements in addition to Code for Sustainable Homes credits:

<u>Additional non-Code for Sustainable Homes requirements:</u>	
<u>Lighting</u>	<u>All lighting should be low energy, ie the 25% and security lighting not included in the Code shall be ≥ 'B' energy rated (or equivalent lumens/W)</u>
<u>Air permeability</u>	<u>2m³/hr/m² @ 50Pa test pressure tf façade area</u>
<u>Thermal mass</u>	<u>Thermal Mass Parameter (TMP) of ≥19, calculated as set out in Appendix P4 of SAP 2005.</u>
<u>Secure natural ventilation</u>	<u>Locks to be provided on windows to allow them to be securely left open (50mm ground floor, 100mm upper floors) to provide cool night time ventilation.</u>
<u>Shading</u>	<u>Subject to the requirements of good daylighting, glazed areas shall be limited to the extent that, with a g value of 0.25, they admit no more solar gain than would be the case had the reference Building Regulations compliant area of glazing (as set out in SAP 2005 Appendix R Table R1: Reference values) with a g value of 0.1 been used.</u>
<u>Mechanical ventilation</u>	<u>Where provided; total specific fan power shall be ≤ 1.5 W/l/s & heat recovery efficiency ≥ 80%</u>
<u>Heating system</u>	<u>Space heating & domestic hot water shall use a site wide district heating mains.</u>
<u>Metering</u>	<u>Consumers shall be individually metered for electricity and water. Meters shall provide monitoring. The meters shall be smart meters with visual displays in an easily seen location to allow consumers to monitor their consumption. Heat metering is optional because that heating and hot water demand is low (HLP ≤ 0.8 & 4 credits for water use)</u>
<u>Annual Zero Carbon statements</u>	<u>An annual 'Net Neutral Carbon' account will be provided to each consumer showing the combination of electrical and heat sources use, and their carbon impact (negative in the case of renewable sources and fuels and positive in the case of fossil fuels) aggregated to zero, with any positive offset identified for mitigation in the succeeding year. An overall development-wide total annual Net Neutral Carbon Balance will be made available for inspection for the whole development. The extent of sharing and dissemination of such carbon statements will be subject to compliance with the Data Protection Act and with all other data protection legislation in force from time to time.</u>
<u>Lifetime Homes</u>	<u>A minimum of 97% of all units on site. As set out above, for the remaining housing units, only requirement 9 in the checklist set out in the Code for Sustainable Homes: Technical Guide March 2007 can be relaxed in terms of achieving Lifetime Homes accreditation.</u>
<u>Wheelchair homes</u>	<u>10% of all units on site</u>
<u>Secure by Design</u>	<u>100% units will be designed to meet Secure by Design standards</u>
<u>CHP Operation</u>	<u>The CHP system shall be brought fully into operation by no later than the date at which 70% of the residential unit sales have been completed.</u>