



THE GOODSYARD

Design and Access Statement

September 2019 - Part 18 of 21



ballymore.



10.0 SUSTAINABILITY & ENERGY

10.1 SUSTAINABILITY

10.1.1 Executive Summary

This report presents the Sustainability Strategy for the Proposed Development which has been informed by national, regional and local policies including:

- Greater London Authority (GLA) London Plan (2016);
- Supplementary planning guidance (SPG) on Sustainable Design and Construction (2014);
- Planning policies of London Borough of Tower Hamlets (LBTH) and London Borough of Hackney (LBH); and
- Applicant's own sustainability aspirations;
- Building Regulations Part L.

To capture the multi-faceted sustainability benefits and values that the proposed development potentially brings to the site, local community, surrounding businesses, and future building users, five defined factors; i.e., the people, the building, the social network, the natural environment, and the economic aspects inform our proposed sustainability framework. These are summarised below:

10.1.2 Social Aspect - Key Theme “Placemaking”

The Proposed Development will add value to the local community, its activities and economic outputs by taking into account the needs of the local community. Pertinent regulatory and planning policy requirements applicable to the Proposed Development in specific have been reviewed.

The Proposed Development adopts a new approach to public spaces, greater emphasis on connectivity and permeability of the site and retains more of the site heritage which helps



CREATING VALUE



Fig 10.1.1: Proposed Framework for Sustainability - Creating Value

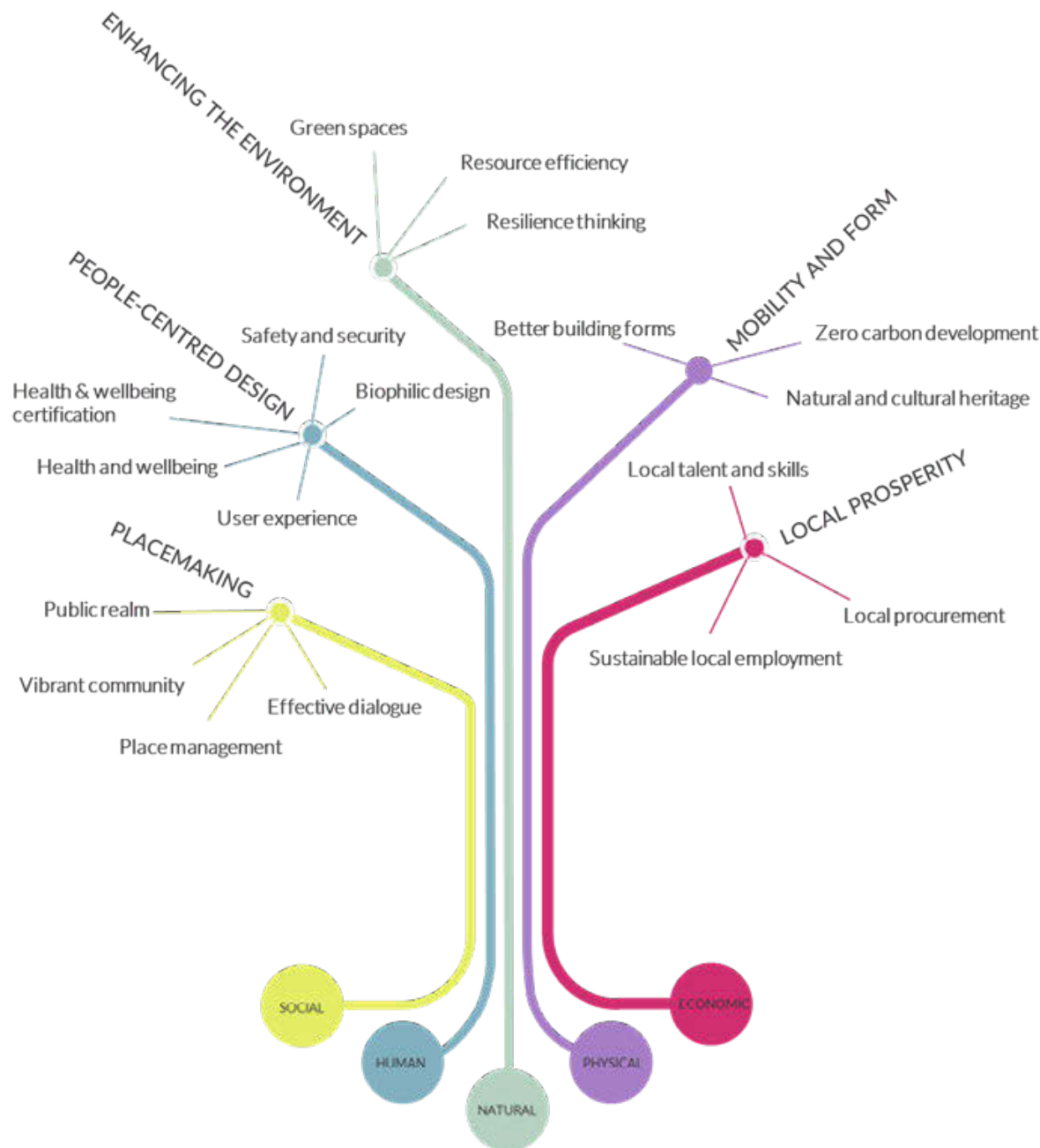


Fig 10.1.2: The Sustainability Strategy Illustrated - Key Themes and Focus Areas The Goodsyards

make this mixed-use development liveable and interactive. Extensive social infrastructure and local services will be provided to help create a community identity.

Initial outreach with regards to the Proposed Development began in 2011, followed by extensive consultation between 2013-2015, which engaged with over 1,500 local people during the process. This included a wide range of public events, regular newsletters, a steering group made up of local residents and a Community Liaison Group. The consultation recorded the areas of most importance locally, setting community aspirations and tracking where the proposals had and hadn't met these, and why. Consultation involving key stakeholders continued on the updated proposals in Autumn / Winter 2018.

10.1.3

Human Aspect - Key Theme: "People-Centred Design"

The Proposed Development will seek to enhance the health and wellbeing of residents, tenants and visitors alike by achieving good levels of internal and external lighting, thermal comfort and air quality. The site will also embrace biophilic design to bridge the gap between people and nature. Opportunities for urban farming will also be maximised to contribute towards urban ecology, healthy diets and also to encourage social interaction. Measures to encourage physical exercise such as the promotion of staircases and provision of cycling facilities will be implemented.

In order to create a healthy development which is also a good place for social interaction the site will seek to incorporate the principles of active design to give occupants opportunities for recreation and physical activity. External lighting will be designed to minimise night time light pollution and provide safe access to the Proposed Development.

10.1.4 Natural Aspect - Key Theme: “Enhancing the Environment”

The Proposed Development will explore opportunities to protect and enhance site biodiversity. The existing site's green infrastructure will be reimagined through the provision of a network of green open spaces that run along an axial east west linear route. The development will maximise visual amenity for the occupants whilst contributing to their well-being through re-establishing connections to nature. A suitably qualified ecology expert has been appointed to identify solutions and measures early in the project to influence key planning decisions. The development will be air quality neutral for transport and building emissions as a minimum.

Resource efficiency is a key priority for the site. The Proposed Development will consider incorporating reclaimed/recovered rain or grey water system into the design as a water reduction measure. Furthermore, the site will seek to achieve zero waste to landfill for all on-site construction and demolition waste. The recycling and reuse of materials on site or locally will be maximised. The Main Contractor will be required to implement an Environmental Management System (EMS) as well as a Site Waste Management Plan.

The site will seek to achieve greenfield run-off rates during peak flows plus allowance for climate change.

In support of the Proposed Amendments for the redevelopment of The Goodsyard, a new ecological assessment has been undertaken by a suitably qualified ecologist. This included an extended Phase 1 habitat survey, external and internal bat inspection, bat emergence surveys, black redstart surveys and invertebrate survey. The Site will implement the ecological enhancement recommendations set out in the



Fig 10.1.3: Illustrative view of the highline level, looking south west.

<p>ecologist's report to the extent possible.</p> <p>The main contractor will be required to source materials in accordance with a sustainable sourcing strategy. Low-impact materials will be prioritised where possible.</p> <p>10.1.5 Physical Capital - Key Theme: “Mobility and Form”</p> <p>The Site aims to increase the physical value of the area through a design focused on longevity and with mobility in mind. The building heights have been amended and the space planning has been re-thought to respond more effectively to diverse land use needs. Innovative construction methods, materials and processes will be explored to improve efficiency and deliver better building forms.</p> <p>The Proposed Development is car-free in line with local planning policy with on-site parking limited to delivery vehicle loading bays as justified through the Transport Assessment. Sustainable modes of transport including walking, cycling and public transport will be encouraged throughout the design including appropriate bicycle network and storage. The site also benefits from excellent public transport connection links reflected in its overall PTAL level of 6b, which indicates the “best” access.</p> <p>The Energy Strategy is in line with the principles of the Energy Hierarchy, that is “Be Lean”, “Be Clean” and “Be Green”. For further details on the passive and energy efficient measures incorporated into the design please refer to the Energy strategy report.</p> <p>Through the implementation of passive design measures, energy efficiency measures and the incorporation of air source heat pumps (ASHP), a 35% reduction in the overall CO2 emissions compared with the Part L 2013 baseline in accordance with GLA policy in the Energy Planning Guidance is anticipated.</p>	<p>10.1.6 Economic Aspect - Key Theme: “Local Prosperity”</p> <p>To deliver whole life value from the Proposed Development and promote economic sustainability, as well as boost the local economy, the use of local workforce and local suppliers during construction will be encouraged. Consideration will also be given to engaging with small and medium-sized enterprises (SMEs) to stimulate economic activity through Meet the Buyer events or equivalent initiatives.</p> <p>In addition to employment during construction, the site will also generate long-term employment opportunities associated with a number of the use types it introduces. It will also seek to promote youth employment and talent development through apprenticeships.</p> <p>The project is for a commercial-led mixed-use development which will comprise a combination of A, B, C and D class floorspace consisting of retail, office, hotel, residential, non-residential institution, assembly and leisure and sui generis space thus helping to meet various needs of different social groups.</p> <p>10.1.7 Sustainability Strategy Overview</p> <p>A holistic, interdisciplinary approach has been adopted to define and communicate the sustainability strategy for the Goodsyards. The proposed framework utilises systems thinking and spans the whole project lifecycle with the project legacy in mind from day one.</p> <p>The design of the Proposed Development is based on sustainable design and construction principles as informed by planning requirements and industry best practice. It is on this basis that we are utilising a sustainability framework based on five defined factors; i.e., the people, the building, the social network, the natural environment, and the economic aspects as illustrated in Figure 1.1.4 to capture the multi-</p>	<p>faceted sustainability benefits and values that the proposed development potentially brings to the:</p> <ul style="list-style-type: none"> • Application Site, • Local community, • Surrounding businesses, and • Future building users. <p>10.1.8 The Delivery Framework</p> <p>Working with all key stakeholders an overall vision for the development has been defined and agreed. Workshops have been held in collaboration with the client and project team to help create a charter including innovative strategies and key objectives to be delivered as a result of the project. The strategy responds to the five elements of our defined framework; and is intended that the agreed objectives are tracked and monitored throughout project delivery and operational phases.</p> <p>10.1.9 Environmental Assessment</p> <p>In line with Planning policy, an outline BREEAM strategy for the Proposed Development has been prepared which described the site's overall ambitions. All new-build commercial areas will be assessed under the applicable BREEAM scheme as they come forward in detail, to encourage continuous performance improvement and innovation, assessed against scientifically rigorous requirements that go beyond regulations.</p> <p>10.1.10 Health and Wellbeing Assessment</p> <p>In light of the emerging awareness of the impact of the built environment on occupant health and wellbeing, a number of assessment methodologies such as the WELL Building Standard were considered for the Proposed Amendments, and the masterplan sustainability strategy set out in this document incorporates some of the key principles of these standards.</p>
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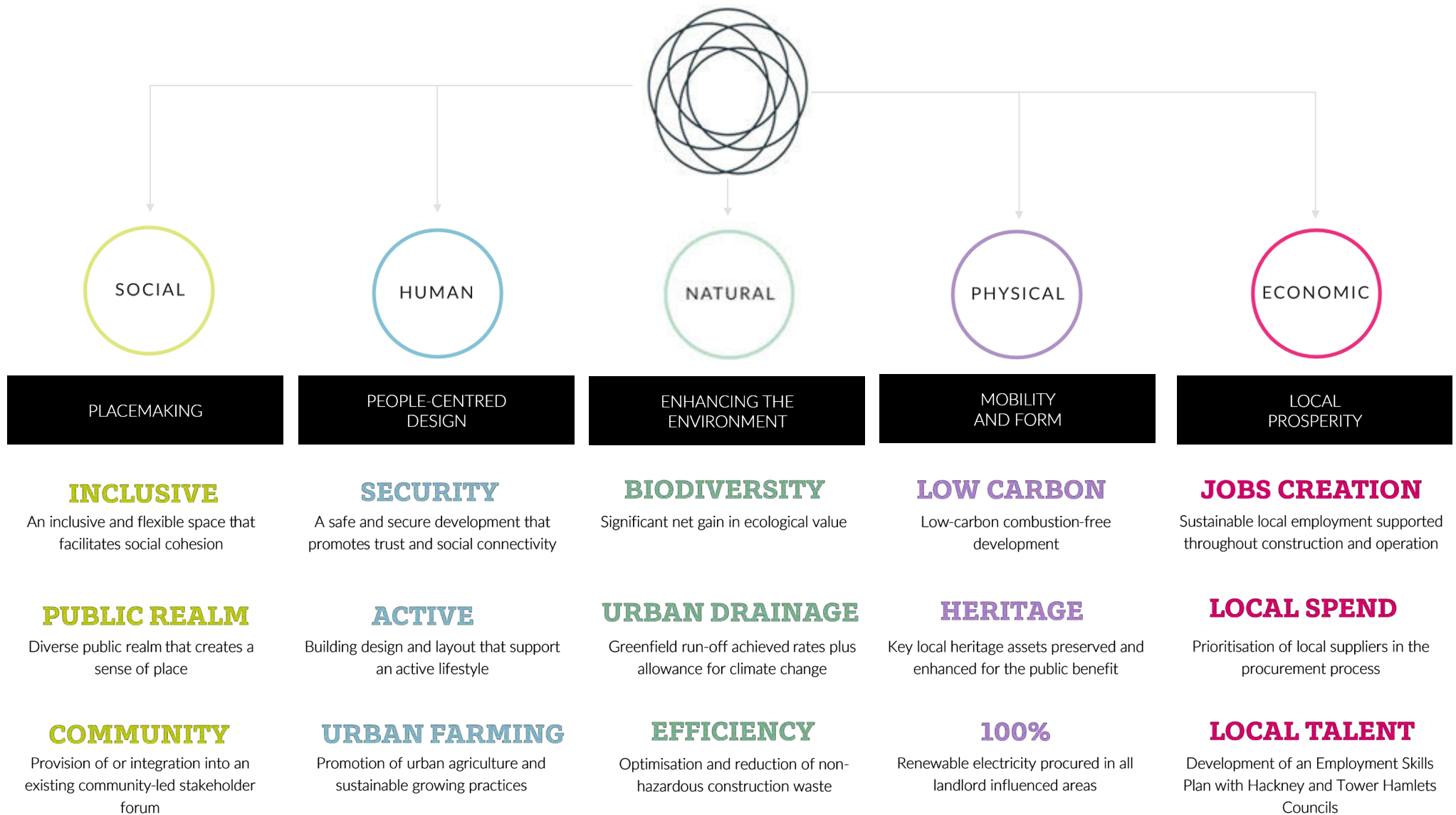


Fig 10.1.4: Sustainability Approach

10.1.11 Sustainability Strategy: Application to Plot 2

Plot 2 will integrate key measures from the site-wide sustainability strategy with particular focus on elements applicable to office use and the specific location of the building.

10.1.12 Social Aspect - Key Theme “Placemaking”

An open, accessible and well-connected place that delivers social value to local communities

- Plot 2 will satisfy the requirements of all five principles of inclusive design to ensure it creates a place everyone can use and pre-emptively design out any potential barriers that create undue effort to enter and navigate inside the building. This will include straightforward measures such as:
- wheelchair and pushchair access
- highly visible doors
- non-slip mats and automatic doors

But will also build in flexibility in use so that the created spaces can adapt to changing uses and demands.

- Locally distinctive and durable street furniture will be installed within and around Plot 2 to encourage social interaction and general connectedness with the wider development.
- The site plan for public space management intended to keep spaces safe and lively will cover Plot 2 and address specific requirements associated with the interaction between office and retail space.
- Hammerson commits to the landlord will hold annual sustainability engagement forums with commercial tenants to discuss sustainability ambitions for the building and gather feedback in order to continuously improve its approach.

10.1.13 Human Aspect - key Theme: “People-Centred Design”

Distinctive spaces that enhance health and wellbeing

- Plot 2 will achieve all ten of the principles for active design formulated by Public Health England and Sport England. Particular focus will be placed on creating an active building through the provision of opportunities for activity inside and around it. The internal layout will promote the use of stairs by making them prominent and easy to access. In addition, tenants will be encouraged to create flexible and distinctive workplaces that discourage sedentary behaviour through, for example, the introduction of standing desks.
- Plot 2 will incorporate 100% high efficiency external lighting with limited upward light transmission to help create a safe and secure environment without generating light pollution.
- The building will create an indoor thermal environment that provides comfortable thermal conditions to support the occupant health, wellbeing and productivity.
- The building will incorporate key recommendations provided by the Metropolitan Police Designing Out Crime Officer (DOCO) in order to offer a safe and secure environment. These will include a set of security controls around the 24-hour access envisaged for the site and specific recommendations relating to the existing rail assets.

10.1.14 Natural Aspect - Key Theme: “Enhancing the Environment”

Seamless integration of built and natural environment which promotes resource efficiency

- In line with the rest of the development, Plot 2 is considered to have an overall low

ecological value. Through a comprehensive ecology and landscaping strategy, the building is expected to make a positive contribution to biodiversity. Plot 2 will incorporate large terraces with extensive planting on Levels 15 and 16. Preference will be given to plant species which require manual irrigation only to reduce water demand.

- General and recyclable waste will be segregated. In line with the BREEAM requirements for Wst 03 Operational waste credit, the building will have a designated recycling area at B1 level covering approximately 80m² which is expected to include 35 bins of 1100l capacity.
- Some of the existing unlisted arches on the site will have to be removed as part of the construction works. A pre-demolition audit will be carried out to maximise the recovery of material for subsequent high grade or value applications on Plot 2 or elsewhere on the wider site.
- The Goodsyards site lies in Zone 1 – the zone of lowest fluvial and tidal flood risk. Furthermore, Plot 2 will achieve the surface water runoff from the development will be restricted to greenfield run-off rate during peak flows. Due to space restrictions blue roof systems are not considered to be appropriate for Plot 2. Therefore, as per the drainage consultant's recommendation, surface water attenuation will be achieved through storage including geo-cellular systems located at podium level.

10.1.15 **Physical Capital - Key Theme: “Mobility and Form”**

A low-carbon place which preserves the site's heritage while also embracing innovative solutions

- Off-site assembly will be considered at detailed design stage to explore opportunities

for improving construction efficiency and reducing health and safety risks on site.

- A travel plan has been carried out for the wider scheme which covers Plot 2. Plot 2 will provide dedicated cyclist access separate from pedestrian access. 900 cycle long-stay storage spaces will be provided for the building which will all be located in a safe and secure location inside the building on the ground floor. These will be complemented by hire bikes available around the wider site. In alignment with the rest of the development and as per local planning policy, the proposed building will be car-free with on-site parking limited to delivery vehicle loading bays as justified through the Transport Assessment
- Plot 2 will seek to achieve Wired certification for digital infrastructure to create a truly connected and digitally enabled building capable of meeting the requirements of future tenants.

10.1.16 **Economic Aspect - Key Theme: “Local Prosperity”**

Inclusive growth which creates opportunities for local communities and improves quality of life

- The proposed building will deliver at least significant full-time equivalent jobs during construction and employment opportunities throughout the operational phase associated with the office and retail space.
- All main contractor staff working on Plot 2 will be paid at or above the Living Wage for London as defined by the Living Wage Foundation.
- Plot 2 will prioritise local suppliers where feasible targeting a minimum proportion of the procurement budget to be spent on suppliers “local” to the site.
- Building on the findings from the Socio-Economic environmental impact assessment

(EIA), the Project team will work with Hackney and Tower Hamlets Councils to identify the most significant socio-economic issues / ambitions for the area and develop a strategy including an Employment Skill Plan to deliver adequate training and create opportunities for the local community.

10.1.17 **Sustainability Strategy: Application to Plot 7**

Plot 7 will integrate key measures from the site-wide sustainability strategy with particular focus on elements applicable to retail use and the specific location and characteristics of the plot.

10.1.18 **Social Aspect - Key Theme “Placemaking”**

An open, accessible and well-connected place that delivers social value to local communities

- Plot 7 occupies a central place within the Goodsyards masterplan. It incorporates:
- the Grade II listed Braithwaite Viaduct and adjoining unlisted arches, and
- London Road, which sits east-west on the site between Brick Lane and straddles Braithwaite (formerly Wheler) Street Grade several listed and unlisted arches.
- The cultural heritage and unique character of Plot 7 will be preserved and restored to attract local residents and visitors to explore the site. The historic arches together with the community spaces created among them will serve to promote a sense of neighbourliness and social cohesion acting as a social glue between the residential and office elements of the wider site.
- The Hydraulic Accumulator which represents the largest and most significant piece of existing engineering remaining on site with Plot 7 will be restored and opened to the public as a visitor attraction with education and visitor offering to the public thereby enhancing the accessibility and inclusivity of

	the overall development.		20400 Sustainable procurement guidance will be implemented.	
<p>10.1.19 Human Aspect - Key Theme: “People-Centered Design”</p> <p>Distinctive spaces that enhance health and wellbeing</p> <ul style="list-style-type: none"> • To the extent possible, Plot 7 will adhere to the key overarching principles informing the design of the overall development including active design, noise levels optimisation, circadian lighting, incorporation of nature, and health and safety considerations. • Plot 7 will follow the applicable ‘Secured by design’ principles to create a safe and secure environment inviting residents and the wider community alike to take advantage of the abundant opportunities for entertainment generated by the various types of retail provided on site including shops, restaurants and cafes. 	<p>10.1.20 Natural Aspect - Key Theme: “Enhancing the Environment”</p> <p>Seamless integration of built and natural environment which promotes resource efficiency.</p> <ul style="list-style-type: none"> • In line with the rest of the development, Plot 7 is considered to have an overall low ecological value. Through a comprehensive ecology and landscaping strategy, Plot 7 is expected to make a positive contribution to biodiversity in the wider context of the masterplan. • Plot 7 will adhere to the site-wide strategy for water efficiency and waste minimisation both during construction and operation. • Low-impact and renewable materials will be prioritised to help towards the site-wide goal of being net positive for resource use. A robust sustainable sourcing strategy aligned with industry best practice such as the ISO 	<p>10.1.21 Physical Capital - Key Theme: “Mobility and Form”</p> <p>A zero-carbon place which preserves the site’s heritage while also embracing innovative solutions</p> <ul style="list-style-type: none"> • Heritage lies at the heart of the Plot 7 design. The site comprises various listed assets and elements with distinctive character. Preserving these assets and enhancing their tangible value by opening them to the public is crucial to help shape a sense of identity and continuity in a fast-changing world for future generations. • In line with planning policy and the sustainability ambitions of the developer, Plot 7 will be low-carbon and combustion free. This will be achieved through on-site and certified off-site sources. Plot 7 will be served by air sourced heat pumps (ASHP). • The site will contribute to the effective management of supply chain carbon intensity seeking to reduce carbon emissions from materials and manufacturing through strict procurement policies and use of carbon neutral certified products when feasible. 	<p>10.1.22 Economic Aspect - Key Theme: “Local Prosperity”</p> <p>Inclusive growth which creates opportunities for local communities and improves quality of life</p> <ul style="list-style-type: none"> • Plot 7 will seek to boost the socio-economic value of the wider site by creating the necessary point of interaction between the several building use types part of the masterplan. Attractive and publicly accessible spaces will act as a focal point for people to visit, interact and enjoy spending time in. It will help bring the local community together and 	<p>develop a sense of place thus enhancing the relationships between the physical, natural and social environments.</p> <ul style="list-style-type: none"> • The location and strategy for Plot 7 make it a natural social and economic generator. It will attract additional flows of social and economic benefits to the local area which will improve the quality of life of the people who live, work and socialise there. It will also support/ create employment opportunities both during construction and operation associated with the site’s primary retail offering. • In alignment with the wider site, Plot 7 will promote local procurement and collaboration with small and medium sized businesses. Likewise, all main contractor staff working on Plot 7 will be paid at or above the Living Wage for London as defined by the Living Wage Foundation. • Building on the findings from the Socio-Economic environment impact assessment (EIA), the joint venture will work with Hackney and Tower Hamlets Councils to identify the most significant socio-economic issues / ambitions for the area and develop a strategy including an Employment Skill Plan to deliver adequate training and create additional opportunities for the local community.

10.2 ENERGY

10.2.1 Approach to Energy

10.2.2 Introduction

This section provides an overview of the approach to the energy strategy for the Goods Yard. This document details the current and emerging drivers which will influence the development of the strategy. The site wide energy strategy will be used to influence the detailed design for individual plots and buildings as they come forward.

10.2.3 Policy and Drivers

Key policies and drivers applicable to the Proposed Amendments include the target to achieve 'zero carbon' for new build dwellings, corresponding to a 100% reduction in regulated CO₂ emissions beyond the requirements of the Building Regulations Part L (2013), and a 35% reduction for non-dwelling areas, as set out in the London Plan (2016) and in the London Borough of Hackney Local Plan (2015) and Tower Hamlets Core Strategy (2010).

10.2.4 Decarbonisation of the Grid

The carbon factor of the National Grid – the amount of carbon dioxide released per kWh of electricity produced and distributed – is recognised as significantly lower than the current Building Regulations figure, due to increased proportion of low and zero carbon electricity generation. SAP10 carbon factors have therefore been utilised in the assessment as per GLA guidance (October 2018)

10.2.5 Energy Strategy

The outline strategy promotes passive measures in the first instance to reduce energy demand through energy efficient form, fabric and systems as well as energy demand reduction/management. The Proposed Amendments are anticipated to achieve up to a 5% reduction in CO₂ emissions beyond the 'Gas boiler baseline' prior to the consideration of any Low or Zero Carbon (LZC) technologies, i.e. via passive design and energy efficiency measures.

The feasibility of connecting to any existing district heating networks has been reviewed, but no opportunities have been identified in the vicinity of the site. Future-proofing measures will be implemented to enable connection to any future low carbon district heating network. On-site CHP is not proposed due to limited carbon reduction potential in light of recent grid decarbonisation (i.e. SAP10 carbon factors), and the adverse impact on air quality from flue emissions. Therefore, no additional carbon reductions are anticipated at the clean stage.

A feasibility assessment of integrating low and zero carbon energy systems has been undertaken. It has been found that Air Source Heat Pumps (ASHP) and Photovoltaic panels (PVs) would be the most suitable options. It is proposed that ASHP technology will be utilised on a plot-by-plot basis to provide space heating and a proportion of domestic hot water. PV provision will be determined on a building by building basis within subsequent reserved matters applications, dependant on available roof space once ASHP plant is accommodated.

The ability to share thermal energy through an energy loop has been investigated and enabled for the Proposed Amendments. Heating and cooling loads have been estimated based on current weather data and Building Regulations Part L methodology, and on operational energy

models (CIBSE TM54) to determine the scale of heating and cooling demands and potential to share energy between plots.

Initial investigation into energy sharing within Plots of the development suggests approximately 15% carbon reduction over an individual ASHP strategy. Connection of all plots to a shared energy loop does not significantly increase the potential benefit. Further opportunities to share energy between plots will be enabled, via space provision for distribution pumps and heat exchangers, and safeguarding of distribution routes between plots. Connection of plots will be reviewed as future phases of the site come forward in detail via reserved matters applications.

10.2.6 Energy Strategy - Application to Plot 2

The Plot 2 energy strategy will promote a 'fabric-first' approach whereby the energy demand is reduced through energy efficient form, fabric, ventilation and lighting. The façade proposes a framework of brise soleil and vertical fins with the intention of significantly reducing the solar gain into the building and the subsequent cooling demand.

As per the masterplan strategy, Plot 2 building will adopt an electrically-led strategy for heating, cooling and hot water, driven by Air Source Heat Pumps (ASHPs) at roof level.

Considering the cumulative energy savings at the 'Be lean', 'Be clean' and 'Be green' stages within the Plot 2 building, a 35% carbon reduction over the gas boiler baseline is predicted. Preliminary calculations for the energy sharing within the Plot 2 building indicates a further 36% carbon reduction over the baseline.

10.2.7 Energy Strategy - Application to Plot 7

The Energy Strategy has been developed using a 'fabric first' approach with energy savings through the 'be Lean', 'be Clean', 'be Green' energy hierarchy.

Plot 7 consists of the refurbishment / conversion of the existing historic arches, which are listed, into new retail units, via the addition of glazed shop-fronts to the arches. Given the heritage nature of the listed structure, there is no opportunity to enhance the thermal performance of the existing building fabric, which is predominantly Victorian brickwork with considerable heritage value. Similarly, the form and orientation of the units are fixed. Opportunities for carbon reduction are therefore limited to the new glazed facades, the energy systems provided by the landlord, and the incoming tenant fit-outs (lighting, fan powers).

However, in order to benchmark against the outline strategy for the Proposed Amendments, Plot 7 has been assessed against the same standard as for new buildings, i.e. Part L2A (as per Plot 2). Therefore, the carbon emission reported for the 'Lean', 'Clean' and 'Green' stages of the energy hierarchy should be viewed in this context.

As per the masterplan strategy, Plot 7 will adopt an electrically-led strategy for heating, cooling and hot water, driven by Air Source heat Pumps (ASHP) located on adjacent plots.

It is anticipated that overall up to 20% reduction in CO2 emissions can be achieved beyond the Building Regulations Part L 2013 baseline, inclusive of all measures. Given the inherent constraints imposed by the heritage nature of Plot 7 this represents a significant carbon reduction.

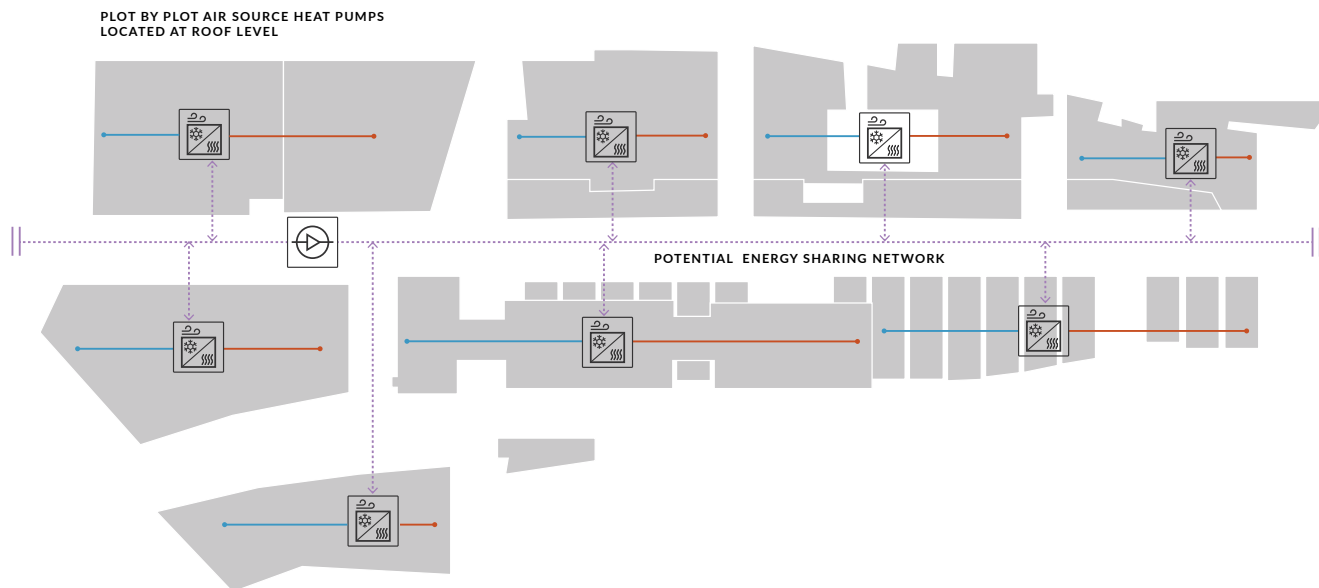


Fig 10.2.1: Energy Strategy Approach

11.0 SUMMARY

11.1 SUMMARY

The revised masterplan will transform the Goodsyard into one of London's most vibrant, lively and purposeful places to work, live, relax and shop.

These proposals have evolved over the last 4 years. Following extensive analysis of the feedback received from GLA, Boroughs, consultees and stakeholders with regard to the plans submitted in 2015, the masterplan has been reconsidered. Great care has been taken to use the inputs to positively reshape the revised proposals.

The chapters of this document have been structured to share the story of how the masterplan has been reconceived to ensure the delivery of a truly balanced and appropriately scaled mix use place.

Proposals have worked hard to realise appropriate value for the city by maximising the volume of employment and living space alongside public open space, cultural, leisure and retail uses.

Significantly the masterplan has been restructured to reduce its scale, whilst engaging and retaining more of the sites many treasured historic features. The development strategy holds onto the structures, grain and texture visible from previous eras, building on, around and within them, to create a characterful city place that people will enjoy for years to come.

The sites historic structures and retained artifacts will provide the characterful foundation on which a new 'Goodsyard' identity can evolve.

The masterplan continues to engage generously with its context, providing increased amounts of usable public space to surrounding streets. The most significant feature that will benefit the wider community is the extended public realm at the upper platform level. This green space, accessible to all, makes an environmentally positive connection between Shoreditch High Street and Brick Lane.

Revised proposals have been crafted to enable the phased delivery of an aspirational new city quarter. The Design and development team passionately believe that the revised structure of a redeveloped Goodsyard will have positive benefits for all.

The proposed redevelopment of the Goodsyard successfully balances, history, culture, and character with the need for large scale development and the delivery of much needed landscape parkland.





