Land at St. Margaret's Business Centre

Sustainability Statement

Prepared for:	Godstone Development Ltd.
Date:	30 August 2020
Status:	Final

Document History and Status

Document Control			
Prepared By	George Jones		
Revision Details			
Version	**Date**	**Pages affected**	**Comments**
FINAL	30/08/2020	-	Issued for submission

Contents

1 Introduction

1.1 Introduction

1.1.1 Erban Consulting Ltd. was instructed by Godstone Development Ltd. to prepare a sustainability statement for the proposed development at Land at St. Margaret's Business Centre, Twickenham, London, TW1 1JN.

1.1.2 The purpose of this report is to demonstrate that the proposed development would meet high standards of sustainable design and construction throughout all stages of the development, including construction and operation, in accordance with policy LP 22 of the London Borough of Richmond Upon Thames *Local Plan* and policy 5.3 of *The London Plan*.

1.1.3 The report is formatted to provide commentary on the responses provided to the London Borough of Richmond-Upon-Thames *Sustainable Construction Checklist* which is included in Appendix A.

1.2 Development description

1.2.1 Erection of 4 no. residential dwellings (Class C3) with associated parking, access, and landscaping (incl. removal of existing trees).

2 Legislation, policy and guidance

2.1 Legislation, policy and guidance

2.1.1 The following national, regional and local planning policy guidance have been considered in applying the sustainability standards for the proposed development.

2.2 National: National Planning Policy Framework (NPPF) (February 2019)

2.2.1 The *National Planning Policy Framework (NPPF)* was designed to simplify and clarify planning policy and to make the planning system more accessible. It details the government's view of what sustainable development in England means in practice and states that there are three objectives to sustainable development:

- **an economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
- **a social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
- **an environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

2.2.2 The following are extracts from the NPPF that specifically relate to energy which have been referenced due to their relevance to this report.

> ***Paragraph 150***
>
> *New development should be planned for in ways that:*
>
> *a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through the planning of green infrastructure; and*
>
> *b) can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.*

> ***Paragraph 153***
>
> *In determining planning applications, local planning authorities should expect new development to:*
>
> *a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and*
>
> *b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.*

2.3 Regional: The London Plan (March 2016)

2.3.1 *The London Plan (incorporating Minor Alterations)* was adopted in March 2016. Policy 5.3 is the policy on sustainable design and construction:

> ***Policy 5.3 – Sustainable Design and Construction***
>
> ***Strategic***
>
> *A* *The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.*
>
> ***Planning Decisions***
>
> *B* *Development proposals should demonstrate that sustainable design standards are integral to the proposal, including its construction and operation, and ensure that they are considered at the beginning of the design process.*
>
> *C* *Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance…The standards include measures to achieve other policies in this Plan and the following sustainable design principles:*
>
> *a. Minimising carbon dioxide emissions across the site*
> *b. Avoiding internal overheating and contributing to the urban island heat effect*
> *c. Efficient use of natural resources (including water)*
> *d. Minimising pollution (including noise, air and urban runoff)*
> *e. Minimising the generation of waste and maximising reuse or recycling*
> *f. Avoiding impacts from natural hazards (including flooding)*
> *g. Ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions*
> *h. Securing sustainable procurement of materials, using local supplies where feasible, and*
> *i. Promoting and protecting biodiversity and green infrastructure*

2.3.2 *The London Plan* includes a further range of policies that deal with matters relating to sustainable design and construction as listed below:

- Policy 2.18: Green infrastructure
- Policy 3.2: Addressing health and reducing health inequalities
- Policy 3.5: Quality and design of housing development
- Policy 5.1: Climate change mitigation
- Policy 5.2: Minimising carbon dioxide emissions
- Policy 5.4: Retrofitting
- Policy 5.5: Decentralised energy networks
- Policy 5.6: Decentralised energy in proposals
- Policy 5.7: Renewable energy
- Policy 5.8: Innovative energy technologies

- Policy 5.9: Overheating and cooling
- Policy 5.10: Urban greening
- Policy 5.11: Green roofs and development site environs
- Policy 5.12: Flood risk management
- Policy 5.13: Sustainable drainage
- Policy 5.14: Water quality and waste water infrastructure
- Policy 5.15: Water use and supplies
- Policy 5.16: Waste self-sufficiency
- Policy 5.17: Waste capacity
- Policy 5.20: Aggregates
- Policy 5.21: Contaminated land
- Policy 6.1: Strategic approach
- Policy 6.3: Assessing effects of development on transport capacity
- Policy 6.14: Freight
- Policy 7.6: Architecture
- Policy 7.14: Improving air quality
- Policy 7.15: Reducing noise and enhancing soundscapes
- Policy 7.19: Biodiversity and access to nature
- Policy 7.20: Geological conservation
- Policy 7.21: Trees and woodlands
- Policy 7.22: Land for food

2.4 Regional: The Mayor's Sustainable Design and Construction SPG (April 2014)

2.4.1 The Mayor's *Sustainable Design and Construction SPG* provides guidance on the implementation of London Plan Policy 5.3 - Sustainable Design and Construction.

2.5 Regional: Draft GLA Energy Assessment Guidance (April 2020)

2.5.1 The draft GLA *Energy Assessment Guidance* provides detail on how to prepare an energy assessment to demonstrate compliance with policies SI2, SI3 and SI4 of the *Intend to Publish London Plan.*

2.6 Local: London Borough of Richmond Upon Thames Local Plan (July 2018)

2.6.1 Policy LP 22 (A) is the Council's sustainable design and construction policy:

> ***Sustainable Design and Construction***
>
> *A. Developments will be required to achieve the highest standards of sustainable design and construction to mitigate the likely effects of climate change. Applicants will be required to complete the following:*
>
> 1. *Development of 1 dwelling unit or more, or 100sqm or more of non-residential floor space (including extensions) will be required to complete the Sustainable Construction Checklist SPD. A completed Checklist has to be submitted as part of the planning application.*
> 2. *Development that results in a new residential dwelling, including conversions, change of use, and extensions that result in a new dwelling unit, will be required to incorporate water conservation measures to achieve maximum water consumption of 110 litres per person per day for homes (including an allowance of 5 litres or less per person per day for external water consumption).*
> 3. *New non-residential buildings over 100sqm will be required to meet BREEAM 'Excellent' standard.*
> 4. *Proposals for change of use to residential will be required to meet BREEAM Domestic Refurbishment 'Excellent' standard (where feasible).*

2.7 Local: London Borough of Richmond Upon Thames Sustainable Construction Checklist Guidance Document SPD

2.7.1 The Council's *Sustainable Construction Checklist Guidance Document SPD* informs developers on sustainability issues relevant to their development. Submission of the Checklist forms a mandatory part of the planning application for all new residential development providing 1 or more new dwellings.

3 Assessment

3.1 Energy assessment and carbon dioxide emissions reduction

3.1.1 The development would adopt a fabric-first approach and would be constructed in accordance with the energy hierarchy:

1) Be lean: use less energy
2) Be clean: supply energy efficiently
3) Be green: use renewable energy

3.1.2 Using SAP 10 carbon factors, it is estimated that energy efficiency measures would enable the dwellings to achieve a 2 per cent reduction in CO_2 emissions beyond the baseline emissions. It is proposed that individual air source heat pumps are installed in each of the dwellings to provide space heating and hot water and to provide a further 44 per cent reduction in CO_2 emissions. It is estimated that a combination of energy efficiency measures and the installation of heat pumps would enable the proposed dwellings to achieve a 45 per cent on-site reduction in CO_2 emissions.

3.1.3 Unregulated operational CO_2 emissions would be minimised by:

- Ensuring that any fridges or fridge-freezers installed would have an A+ rating under the EU Energy Efficiency Labelling Scheme;
- Ensuring that any washing machines or dishwashers installed would have an A rating under the EU Energy Efficiency Labelling Scheme;
- Ensuring that any tumble dryers or washer dryers installed would have a B rating under the EU Energy Efficiency Labelling Scheme;
- Providing building users with a leaflet explaining the EU Energy Efficiency Labelling Scheme to encourage responsible purchasing of white goods;
- Installing an energy display device in each dwelling to display electricity fuel consumption data to building users; and
- Providing all external space lighting with energy efficient lamps and passive infrared red (PIR) sensors.

3.1.4 Furthermore, each dwelling would be provided with a home user guide to encourage future residents to reduce energy use and to educate them in how to run their home efficiently. The home user guide would cover the following topics:

- Easy to understand operating and maintenance instructions for each of the fixed building services;
- Water saving measures;
- Information about recycling and waste collection;
- Public transport;
- Local amenities; and
- Responsible purchasing.

3.1.5 Further details of the measures adopted to reduce the CO_2 emissions of the development are provided in the *Energy Assessment* submitted as part of the planning application.

3.2 Water Usage

3.2.1 Water usage in the dwellings would be restricted by:

- Installing low flush toilets;
- Installing low capacity baths;
- Installing flow restrictors on the taps and showers to reduce flow rate; and
- Where applicable, installing water efficient white goods.

3.2.2 A water efficiency calculation is included in appendix B which sets out the specification that it is anticipated would be adopted to restrict the dwellings' internal water usage to 105 litres per person per day. It should be noted that this is subject to change as the technical design of the development progresses. The commitment to restrict the dwellings' internal water usage to 105 litres per person per day will not change.

3.2.3 In addition, each dwelling would be provided with a water meter to allow them to be individually metered.

3.3 Need for cooling

3.3.1 The buildings have been designed in accordance with the cooling hierarchy to reduce the risk of overheating and to reduce the demand for active cooling.

3.3.2 Internal heat generation would be minimised by:

- Specifying a heating system that does not require permanently heated distribution pipework;
- Insulating all hot water pipes beyond Building Regulation standards;
- Installing low energy lighting; and
- Installing energy efficient equipment where applicable.

3.3.3 Heat entering the buildings would be minimised through:

- High levels of insulation; and
- Specifying glazing with a solar transmittance value that has been carefully considered to strike the balance between useful solar gain in the winter and unwanted solar gain in the summer.

3.3.4 Passive ventilation has been designed for by:

- Avoiding small, south facing single façade units; and
- Including openable windows to all rooms.

3.3.5 In addition, soft landscaping and the installation of a sedum flat roof would provide evaporative cooling around the buildings.

3.3.6 These measures mean that the dwellings would be at reduced risk of overheating and would not be specified with active cooling systems.

3.4 Heat generation

3.4.1 The publication of SAP 10 carbon factors has considerably strengthened the case for electric heating solutions and, in particular, highly-efficient electric heat pump technology that uses local secondary heat sources. In the development of the energy strategy, calculations have been undertaken which show that a strategy based on electric heat pumps could provide the dwellings with up to a 44% reduction in CO_2 emissions compared to a communal heating system served by gas boilers or a gas combined heat and power (CHP) system. An even greater disparity between an electric solution and a gas solution is evident if SAP10.1 carbon factors are considered.

3.4.2 It is proposed that individual air source heat pumps are installed in each of the dwellings to provide space heating and hot water. In addition to achieving greater CO_2 emissions reductions than a communal gas heating solution, there are no on-site emissions associated with combustion and so the heating strategy has no impact on local air quality.

3.5 Pollution: Air, Noise and Light

Control of dust

3.5.1 Contractors would follow the guidance set out in the *Control of Dust and Emissions during Construction and Demolition SPG*. Measures to control dust would be adopted such as:

- Dust sheets;
- Proposals to regularly damp down the site in dry weather; and
- Covers to skips.

Air pollution

3.5.2 The proposed development would incorporate the following good design and best practice measures to reduce air pollution:

- A Construction Method Statement would be adopted to minimise the environmental impacts of the construction work;
- All four car parking spaces would be equipped with electric vehicle charging points from occupation;
- Each dwelling would be provided with secure cycle storage facilities for 2 cycles; and
- Electric heat pumps would be installed that have no point of use emissions such as Nitrogen Oxides (NOx) or Sulphur Oxides (SOx).

3.5.3 Occupants would experience acceptable air quality without any additional measures to those listed above. Furthermore, the proposed development would generate fewer vehicle movements than the existing use of the site. This means that the development is considered air quality neutral. Further details are provided in the *Air Quality Assessment* submitted as part of the planning application.

Noise pollution

3.5.4 Noise pollution from the construction of the development would be minimised by:

- Where practical using quiet machines and/or quiet methods of working; and
- Limiting working hours.

3.5.5 Noise within the development would be managed by:

- Providing glazing and ventilation measures capable of meeting the relevant noise criteria inside habitable rooms as recommended by BS8233:2014;

- Ensuring that all dwellings would achieve airborne sound insulations values and impact sound insulation values which are better than the performance standards set out in Approved Document E of the Building Regulations;
- Insulating and soundproofing doors, walls, windows, floors and ceilings; and
- Sealing air gaps around windows.

3.5.6 Further details are provided in the *Noise Assessment* submitted as part of the planning application.

Light pollution

3.5.7 To minimise light pollution, lighting would be directed downwards wherever practical. In addition, lighting sensors would be installed to limit lighting to the times it is required.

3.6 Transport

Proximity to amenities

3.6.1 It is generally accepted that two kilometres and five kilometres represent reasonable distances to replace short car trips by walking and cycling respectively. The site is located within a 1km of Twickenham town centre and is therefore within reasonable walking distance of a variety of everyday retail, employment, education, health and leisure services. This benefits both future residents and the wider community in the following ways:

- it reduces the impact of the proposed development on road congestion;
- it reduces the carbon footprint of future residents;
- it encourages a healthier lifestyle; and
- it encourages community interaction and integration.

Access to low carbon transport nodes

3.6.2 The proposed development has adequate access to public transport and has a public transport accessibility level (PTAL) of 2.

3.6.3 The site benefits from being located within 300m of bus stops at St Margaret. The bus stops provide sheltered waiting areas with seating. The H37 and 969 bus routes are served by the bus stops and provide a frequent service to Hounslow, Isleworth and Richmond.

3.6.4 The nearest National Rail station is St Margaret's Station which is located approximately 300m to the east of the site. The station is served by South Western Railway Trains and has services to Chiswick, London Waterloo, and Wimbledon.

Electric vehicle charging points

3.6.5 All four car parking spaces would be equipped with electric vehicle charging points from occupation.

Cycle storage

3.6.6 Each dwelling would be provided with secure and convenient storage for 2 bicycles by way of a lockable cycle store in the rear garden.

3.6.7 Further details of the transport and highways implications of the proposed development are provided in the *Transport Statement* submitted as part of the planning application.

3.7 Biodiversity

Trees

3.7.1 The proposals would result in the removal of trees to facilitate the development of the site. This includes five moderate value trees and five low value trees. One tree located off-site within the adjoining pavement would be retained. To mitigate, new tree planting would be included where space permits and, if required, financial contributions for off-site tree planting would be made. Further details are provided in the *Arboricultural Impact Assessment* submitted as part of the planning application.

Improving on-site biodiversity

3.7.2 Circa 100 sqm of extensive green roof is proposed on the rear flat roofs to improve biodiversity, to provide a habitat for plants and wildlife, to provide a source of insect forage, to reduce surface water runoff rates and volumes discharged from the site, to reduce the heat-island effect, and to improve air quality.

3.7.3 Circa 60 sqm of soft-landscaped garden is proposed, and, subject to the soft-landscaping design, it is anticipated that circa 30 sqm of native scrub habitat would be provided on the eastern and northern boundaries.

3.7.4 In addition, it is anticipated that bat boxes, bird boxes and swift boxes would be installed.

3.7.5 Further details of the ecological considerations and potential enhancements are provided in the *Preliminary Ecological Appraisal and Preliminary Bat Roost Assessment* submitted as part of the planning application.

3.8 Flooding and drainage

3.8.1 The development is located in Flood Zone 2, in an area assessed to be at medium probability of flooding from the River Crane. The residual risk of flooding to the site would be effectively managed by setting the proposed building ground floor levels at 6.34m above ordnance datum.

3.8.2 A surface water drainage strategy has been developed for the site in line with the SuDS hierarchy. It has been established that a combination of green roofs, water butts, pervious pavements and below ground geocellular storage systems would be the most appropriate SuDS components for minimising the rate of discharge, volume and environmental impact of surface water runoff from the development. The site would discharge to the surface water sewer, with flows restricted to a maximum allowable discharge rate of 2.0l/s for all analysed rainfall events up to and including the 1 in 100 year return period with 40% allowance for climate change. The systems would also provide sufficient capacity for excess runoff to be stored and attenuated on site for all rainfall events up to and including the 1 in 100 year storm return period with 40% allowance for climate change.

3.8.3 Further details of the flood risk and the proposed drainage strategy are provided in the *Flood Risk Assessment & Drainage Strategy Report* submitted as part of the planning application.

3.9 Improving resource efficiency

Contaminated land

3.9.1 The potential for contamination to be present within the proposed development area is considered to pose a moderate risk to future site residents through direct exposure in garden areas and vapour intrusion into proposed buildings. The potential for on-site migration of contamination from adjacent historical industrial sites and existing business centre/substation is considered to pose a moderate/low risk. The risk of permeation of any organic contaminants, again if present, through water service pipes has been assessed as moderate/low.

3.9.2 Any exposure risk to construction workers associated with contamination has been assessed as moderate/low although these can be readily mitigate through the use of Personal (or Respiratory) Protective Equipment.

3.9.3 The risk posed to groundwater and surface water from on-site contamination is considered to be moderate/low, on the basis of the underlying principal aquifer and nearby watercourse would be vulnerable to pollution.

3.9.4 The potential UXO risk posed is considered to pose a moderate/low risk at the site.

3.9.5 To remediate the potential risk of contamination, it is proposed that a Phase 2 Site Investigation be undertaken at the site, which can be secured through a planning condition. If this investigation finds unacceptable exposure risk to be present, remediation and/or vapour protection measures would be adopted to mitigate potential risk. Further details are provided in the *Phase 1 Contaminated Land Assessment* submitted as part of the planning application.

Waste management

3.9.6 To minimise waste on site, a site waste management plan would be prepared that contained:

- Target benchmarks for resource efficiency set in accordance with best practice;
- Procedures and commitments to minimise non-hazardous construction waste;
- Procedures for minimising hazardous waste; and
- The monitoring, measuring and reporting of hazardous and non-hazardous site waste production according to the defined waste groups.

3.9.7 In the first instance, waste would be re-used on site in situ or for new applications. Where it is not possible to recycle waste for use on site, where practical waste would be either:

- Re-used on other sites
- Salvaged/reclaimed for re-use
- Returned to the supplier via a 'take-back' scheme
- Recovered and recycled using an approved waste management contractor
- Composted

3.9.8 Where waste is unavoidable, it would be treated and disposed of in an environmentally acceptable manner.

3.9.9 To reduce waste during occupation, space would be provided to house the Local Authority's waste and recycling bins. Each dwelling would be provided with information on recycling as part of the home user guide and would be encouraged to recycle through provision of space for internal recycling bins.

3.10 Accessibility and adaptability

3.10.1 The dwellings would meet the requirements of the nationally described space standard for internal space and layout. Internal layouts would be adaptable with lightweight partitions incorporated wherever practical. This would allow for adjustments to or removal of internal walls, as well as potentially more radical reconfigurations through the merging together of rooms. This increases the adaptability of the dwellings for long-term use.

4 Conclusions

4.1.1 The proposed development at St Margaret's Road is considered to be a good example of a sustainable development and would have a positive economic, social, and environmental impact:

- **An economic role** – the erection of 4 dwellings would provide homes in an area with opportunities for employment, growth and change. The proposed development would create local jobs on site during its construction. In addition, the increase in the local population would benefit local businesses increasing demand for their services and products.
- **A social role** – the proposed development would support a strong, vibrant and healthy community. The development has good access to local services to support the community's health, social and cultural well-being. It is located within safe walking and cycling distance of bus stops, railway stations and all key amenities. High-quality buildings would provide energy efficient, healthy and sustainable homes.
- **An environmental role** – the proposed development would incorporate soft landscaping and green roofs to increase biodiversity. The development would encourage the prudent use of natural resources by minimising energy and water use. Waste and pollution would be minimised throughout the construction and operation of the dwellings, and measures such as passive cooling design and the integration of SuDS would be adopted to mitigate and adapt to the risks posed by climate change.

5 Appendix A: Sustainable Construction Checklist

LBRUT Sustainable Construction Checklist - June 2020

This document forms part of the Sustainable Construction Checklist SPD. This document **must** be filled out as part of the planning application for the following developments: all residential development providing **one or more new residential units (including conversions leading to one or more new units)**, and all other forms of development providing **100sqm or more of non-residential floor space**. Developments including new non-residential development of less than 100sqm floor space, extensions less than 100sqm, and other conversions are strongly encouraged to comply with this checklist. Where further information is requested, please either fill in the relevant section, or refer to the document where this information may be found in detail, e.g. Flood Risk Assessment or similar. **Further guidance** on completing the Checklist may be found in the Justification and Guidance section of this SPD.

Property Name (if relevant): Land at St Margaret's Business Centre

Application No. (if known):

Address (include. postcode): Land at St. Margaret's Business Centre, Twickenham, London, TW1 1JN

Completed by: George Jones of Erban Consulting Ltd.

For Non-Residential
Size of development (m2)

For Residential
Number of dwellings: 4

1 MINIMUM COMPLIANCE (RESIDENTIAL AND NON-RESIDENTIAL)

Energy Assessment

Has an energy assessment been submitted that demonstrates the expected energy and carbon dioxide emissions saving from energy efficiency and renewable energy measures, including the feasibility of CHP/CCHP and community heating systems? If yes, please select TRUE. — **TRUE**

Carbon Dioxide emissions reduction

What is the on site carbon dioxide emissions reduction against a Building Regulations Part L (2013) baseline — 45 %

Policy LP 22 B. and Draft London Plan Policy 9.2.5 require a 35% onsite reduction in CO_2 emissions beyond Building Regulations 2013.

What is the percentage reduction from efficiency measures alone — 2 %

Policy LP 22 C. and Draft London Plan Policy 9.2.6 require a 10% onsite reduction in CO2 emissions beyond Building Regulations 2013 from efficiency measures for residential and 15% for non-residential.

Percentage of **total** site CO2 emissions saved through renewable energy installation? — 44 %

What is the total remaining carbon to be offset — 4.4 Tonne

Policy LP 22 B. and Draft London Plan Policy 9.2.4 require Major developments to achieve Zero Carbon after offsetting.

Are remaining emissions going to be offset through offset fund payment in accordance with current guidelines issued for the cost per tonne of CO2? — **FALSE**

What is the total predicted cost of offset? — N/A £

The London Plan sets this as £95/tonne per year over 30 years, this should be updated based on As Build calculations.

1A MINIMUM POLICY COMPLIANCE (NON-RESIDENTIAL AND DOMESTIC REFURBISHMENT)

Please check the Guidance Section of this SPD for the policy requirements

Environmental Rating of development:

Non-Residential new-build (100sqm or more)			
BREEAM Level	**Please Select**	Have you attached a pre-assessment to support this?	**Please Select:**
Excellent required under Policy LP22 A 3			
Extensions and conversions for residential dwellings			
BREEAM Domestic Refurbishment	**Please Select**	Have you attached a pre-assessment to support this?	**Please Select:**
Excellent required under Policy LP22 A 4			
Extensions and conversions for non-residential buildings			
BREEAM Level	**Please Select**	Have you attached a pre-assessment to support this?	**Please Select:**
Excellent required under Policy LP 22			

Score awarded for Environmental Rating:

BREEAM: Good = *0*, Very Good = 4, Excellent = *8*, Outstanding = *16*

Subtotal 0

1B MINIMUM POLICY COMPLIANCE (RESIDENTIAL)

	Score	
Water Usage		
Internal water usage after gray/rainwater systems limited to 105 litres person per day. (Excluding an allowance 5 litres per person per day for external water consumption). Calculations using the water efficiency calculator for new dwellings have been submitted.	*1*	**TRUE**
110l/p/d Required for new dwellings under Policy LP22 A 2 105l/p/d required under Draft London Plan Policy SI5		

Subtotal 1

2. ENERGY USE AND POLLUTION

2.1 Need for Cooling

		Score	
a.	How does the development incorporate cooling measures? Tick all that apply:		
	Energy efficient design incorporating specific heat demand to less than or equal to 15 kWh/sqm	6	FALSE
	Reduce heat entering a building through providing/improving insulation and living roofs and walls	2	TRUE
	Reduce heat entering a building through shading	3	FALSE
	Exposed thermal mass and high ceilings	4	FALSE
	Passive ventilation	3	TRUE
	Mechanical ventilation with heat recovery	1	FALSE
	Active cooling systems, i.e. Air Conditioning Unit	0	FALSE
	See Draft London Plan SI4		

2.2 Heat Generation

		Score	
b.	How have the heating and cooling systems, with preference to the heating system hierarchy, been selected (defined in London Plan policy **SI3)** Tick all heating and cooling systems that will be used in the development:		
	Connection to existing heating or cooling networks powered by renewable energy	6	FALSE
	Connection to existing heating or cooling networks powered by gas or electricity	5	FALSE
	Site wide CHP network powered by renewable energy	4	FALSE
	Site wide CHP network powered by gas	3	FALSE
	Communal heating and cooling powered by renewable energy	2	FALSE
	Communal heating and cooling powered by gas or electricity	1	FALSE
	Individual heating and cooling	0	TRUE
	See Draft London Plan SI3		

2.3 Pollution: Air, Noise and Light

a.	Does the development plan to implement reduction strategies for dust emissions from construction sites?	2	TRUE
b.	Does the development plan to include a biomass boiler?		FALSE
	If yes, please refer to the biomass guidelines for the Borough of Richmond, please see guidance for supplementary information. If the proposed boiler is of a qualifying size, you may need to complete the information request form found on the Richmond website.		
c.	Has an air quality impact assessment been provided		TRUE
	If yes, has 'Emissions Neutral' been achieved	1	TRUE
	If yes, have occupants of new development been protected from existing pollution	1	TRUE
	If no to any of the above are there any sensitive receptors as defined in Policy LP 10 present?	-1	FALSE
	see Policy LP 10		
d.	Please tick only one option below		
	Has the development taken measures to reduce existing noise and enhance the existing soundscape of the site?	3	FALSE
	Has the development taken care to not create any new noise generation/transmission issues in its intended operation?	1	TRUE
	see Policy LP 10		
e.	Has the development taken measures to reduce light pollution impacts on character, residential amenity and biodiversity?	3	TRUE
	see Policy LP 10		
f.	Have you attached a Lighting Pollution Report?	-	FALSE

Subtotal 13

Please give any additional relevant comments to the Energy Use and Pollution Section below

3. TRANSPORT

3.1 Provision for the safe efficient and sustainable movement of people and goods

a.	Does your development provide opportunities for occupants to use innovative travel technologies?		FALSE

Please explain:

		Score	
b.	Does your development provide for 100% active provision for electric vehicle charging point(s) and have you successfully demonstrated that it would be able to operate satisfactorily in the future expectation of all vehicles being electrically powered?	2	TRUE
c.	**For major developments ONLY**: Has a Transport Assessment been produced for your development based on TfL's Best Practice Guidance?		
	If you have provided a Transport Assessment as part of your planning application, please tick here and move to Section 3 of this Checklist.	5	Please Select:
	See policy LP44		
d.	**For smaller developments ONLY**: Have you provided a Transport Statement?	5	TRUE
e.	Does your development provide cycle storage? (Standard space requirements are set out in the Council's Parking Standards - Local Plan Appendix 3)	2	TRUE
	If so, for how many bicycles?	8	
	Is this shown on the site plans?		TRUE
	See Local Plan Appendix 3		
f.	Will the development create or improve links with local and wider transport networks? If yes, please provide details.	2	FALSE

Subtotal 9

Please give any additional relevant comments to the Transport Section below

4 BIODIVERSITY

4.1 Minimising the threat to biodiversity from new buildings, lighting, hard surfacing and people

a.	Does your development involve the loss of an ecological feature or habitat, including a loss of garden or other green space? (Indicate if yes)					-2	FALSE
	If so, please state how much in sqm?				sqm		
b.	Does your development involve the removal of any tree(s)? (Indicate if yes)						TRUE
	If so, has a tree report been provided in support of your application? (Indicate if yes)						TRUE
c.	Does your development plan to add (and not remove) any tree(s) on site? (Indicate if yes)						FALSE
d.	Please indicate which features and/or habitats that your development will incorporate to improve on site biodiversity:						
	Pond, reedbed or extensive native planting	6	Area provided:		sqm		FALSE
	An extensive green roof	5	Area provided:	100	sqm		TRUE
	An intensive green roof	4	Area provided:		sqm		FALSE
	Garden space	4	Area provided:	60	sqm		TRUE
	Additional native and/or wildlife friendly planting to peripheral areas	3	Area provided:	30	sqm		TRUE
	Additional planting to peripheral areas	2	Area provided:	Native planting is indicated above	sqm		Please Select:
	A living wall	2	Area provided:		sqm		FALSE
	Bat boxes	0.5					TRUE
	Bird boxes	0.5					TRUE
	Swift boxes	0.5					TRUE
	Other	0.5					FALSE
e.	Does your development use at least 70% of available roof plate as green/brown roof					1	FALSE
	Policy LP 17 requires 70%						
						Subtotal	**13.5**

Please give any additional relevant comments to the Biodiversity Section below

5 FLOODING AND DRAINAGE

5.1 Mitigating the risks of flooding and other impacts of climate change in the borough

a.	Is your site located in a high flood risk zone (Zone 3)? (Indicate if yes)					-2	FALSE
	Have you submitted a Flood Risk Assessment? (Indicate if yes)						TRUE
b.	Which of the following measures of the drainage hierarchy are incorporated onto your site? (tick all that apply)						
	Store rainwater for later use					5	FALSE
	Use of infiltration techniques such as porous surfacing materials to allow drainage on-site					3	FALSE
	Attenuate rainwater in ponds or open water features					4	FALSE
	Store rainwater in tanks for gradual release to a watercourse					3	TRUE
	Discharge rainwater directly to watercourse					2	FALSE
	Discharge rainwater to surface water drain					1	TRUE
	Discharge rainwater to combined sewer					0	FALSE
	Have you submitted a Drainage Statement (Indicate if yes)						TRUE
	See Policy LP 21 and Draft London Plan SL 13						
c.	Please give the change in area of permeable surfacing which will result from your development proposal:			0	sqm		
	Please provide details of the permeable surfacing below		*please represent a loss in permeable area as a negative number*				
						Subtotal	**4**

Please give any additional relevant comments to the Flooding and Drainage Section below

6 IMPROVING RESOURCE EFFICIENCY

6.1 Reduce waste generated and amount disposed of by landfill though increasing level of re-use and recycling

a.	Will demolition be required on your site prior to construction? *[Points will only be awarded if 10% or greater of demolition waste is reused/recycled]*					1	FALSE
	If so, what percentage of demolition waste will be reused in the new development?				%		
	What percentage of demolition waste will be recycled?				%		
b.	Does your site have any contaminated land?					1	TRUE
	Have you submitted an assessment of the site contamination?					2	TRUE
	Are plans in place to remediate the contamination?					2	TRUE
	Have you submitted a remediation plan?					1	FALSE
	Are plans in place to include composting on site?					1	FALSE
c.	Will a waste management plan and facilities be in place in line with Policy LP24			TRUE			

6.2 Reducing levels of water waste

a.	Will the following measures of water conservation be incorporated into the development? (Please tick all that apply):						
	Fitting of water efficient taps, shower heads etc					1	TRUE
	Use of water efficient A or B rated appliances					1	TRUE
	Rainwater harvesting for internal use					4	FALSE
	Greywater systems					4	FALSE
	Fit a water meter					1	TRUE
						Subtotal	**8**

Please give any additional relevant comments to the Improving Resource Efficiency Section below

7	ACCESSIBILITY		
7.1	**Ensure flexible adaptable and long-term use of structures**		
a.	**If the development is residential,** will it meet the requirements of the nationally described space standard for internal space and layout?	*1*	**TRUE**
	If the standards are not met, in the space below, please provide details of the functionality of the internal space and layout		
AND			
b.	**If the development is residential**, will it meet Building Regulation Requirement M4 (2) 'accessible and adaptable dwellings'?	*2*	**FALSE**
	If this is not met, in the space below, please provide details of any accessibility measures included in the development.		
	For major residential developments, are 10% or more of the units in the development to Building Regulation Requirement M4 (3) 'wheelchair user dwellings'?	*1*	**Please Select:**
OR			
c.	**If the development is non-residential,** does it comply with requirements included in Richmond's Local Plan LP1, LP28.B, LP30 & LP45	*2*	**Please Select:**
	Please provide details of the accessibility measures specified in the Local Plan that will be included in the development		
		Subtotal	**1**

Please give any additional relevant comments to the Design Standards and Accessibility Section below

LBRUT Sustainable Construction Checklist- Scoring Matrix for *New Construction* **(Non-Residential and domestic refurb)** ***TOTAL*** ***49.5***

Score	Rating	Significance
84 or more	*A+*	Project strives to achieve highest standard in energy efficient sustainable development
75-83	*A*	Makes a major contribution towards achieving sustainable development in Richmond
56-74	*B*	Helps to significantly improve the Borough's stock of sustainable developments
40-55	*C*	Minimal effort to increase sustainability beyond general compliance
39 or less	*FAIL*	Does not comply with SPD Policy

LBRUT Sustainable Construction Checklist- Scoring Matrix for New Construction **Residential new-build**

Score	Rating	Significance
85 or more	A++	Project strives to achieve highest standard in energy efficient sustainable development
68-84	*A+*	Project strives to achieve higher standard in energy efficient sustainable development
59-67	*A*	Makes a major contribution towards achieving sustainable development in Richmond
39-58	*B*	Helps to significantly improve the Borough's stock of sustainable developments
24-38	*C*	Minimal effort to increase sustainability beyond general compliance
23 or less	*FAIL*	Does not comply with SPD Policy

Authorisation:

I herewith declare that I have filled in this form to the best of my knowledge

Signature G. Jones **Date** 30.08.2020

6 Appendix B: Water efficiency calculation for the dwellings

Installation type	Unit of measure	Capacity/ flow rate	Use factor	Fixed use (litres/ person/ day)	Litres/ person/day (l/p/d)
WC (dual flush)	Full flush volume (litres)	6	1.46	0.00	17.64
	Part flush volume (litres)	3	2.96	0.00	
Taps (excluding kitchen/utility)	Flow rate (litres/minute)	3	1.58	1.58	6.32
Bath	Capacity to overflow (litres)	150	0.11	0.00	16.50
Shower	Flow rate (litres/minute)	9	4.37	0.00	39.33
Kitchen/utility taps	Flow rate (litres/minute)	6	0.44	10.36	13.00
Washing machine	Litres/kg dry load	8.17 (default)	2.10	0.00	17.16
Dishwasher	Litres/place setting	1.25 (default)	3.60	0.00	4.50
Waste disposal unit	Litres/use	0	3.08	0.00	0.00
Water softener	Litres/person/day	0	1.00	0.00	0.00
Calculated Use	Litres/person/day				114.45
Normalisation factor					0.91
Total internal consumption	Litres/person/day				104.15
External Use	Litres/person/day				5.0
Total internal and external consumption	Litres/person/day				**109.15**