



**Draft for Consultation**

**London Borough of Richmond upon Thames**

**Supplementary Planning Document**

**Sustainable Construction Checklist**

**Guidance Document**

**December 2019**

Checklist Section	Further support / information
<b>1 Minimum policy compliance (Residential and Non-Residential)</b>	
Energy Assessments	Please see the Baseline Energy Demand table below.
Carbon dioxide emissions reduction	Please see the Summary of CO2 Reduction table below.
<b>1A Minimum policy compliance (Non-Residential and Domestic Refurbishment)</b>	
Environmental Rating: BREEAM	Two BREEAM pre-assessments were undertaken for the development. These were undertaken according to the Richmond Local Plan with the requirement of >100sqm achieving Excellent.

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	<p>The following BREEAM assessments were undertaken and the subsequent scores achieved (as incorporated in the Sustainability Statement)</p> <p>New-Build elements: BREEAM New Construction (2018) - Office (72.2%, Excellent)</p> <p>Refurbishment elements: BREEAM Refurbishment and Fit Out (2014) - Assembly and Leisure (72.2%, Excellent)</p> <p>Please see the accompanying Sustainability Statement</p>
<b>1B Minimum policy compliance (Residential)</b>	
Water Usage	<p>The development at Twickenham Studios aims to reduce water consumption to less than 105 litres per person per day, in line with the recommended target set out in the Part G enhanced target, through the use of water efficient fittings.</p> <p>The proposed development aims to incorporate water saving fixtures and fittings to achieve over 40% reduction over industry baseline. This is equivalent to 3 credits in the BREEAM Wat01 category.</p>
<b>Section 2: Energy use and pollution</b>	
Need for cooling	<p>The cooling demand was reduced according to the hierarchy below:</p> <ul style="list-style-type: none"> <li>- MINIMISING INTERNAL HEAT GENERATION THROUGH ENERGY EFFICIENT DESIGN</li> <li>- REDUCING THE AMOUNT OF HEAT ENTERING THE BUILDING IN SUMMER</li> <li>- USE OF THERMAL MASS AND HIGH CEILINGS TO MANAGE THE HEAT WITHIN THE BUILDING</li> <li>- PASSIVE/MECHANICAL VENTILLATION</li> </ul> <p>Please see the energy demand table below and accompanying Energy Statement</p>
Heat generation	<p>Heat Generation was achieved through the Be Lean, Be Clean and Be Green measures.</p>

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	<p>Please see the Baseline consumption table below.</p> <ul style="list-style-type: none"> <li>• Be Lean; material efficiency and passive measures such as improved air permeability and transmittance values.</li> <li>• Be Clean; a DHN was not available in the vicinity of the site. A central on-site plant was not found to be viable.</li> <li>• Be Green; ASHP and Photovoltaics were incorporated making the scheme completely electric.</li> </ul>
Pollution: Air, Noise and Light	<p>Air: Air pollution risks from construction and demolition activities on site will be minimal in line with the SPG 'The control of dust and emissions from construction and demolition' Overall, the development will meet 'air quality neutral' benchmarks set out in the London Plan. (Please see accompanying Air Quality Assessment)</p> <p>Noise: The development will incorporate design and building fabric measures to mitigate potential noise levels from the proposed development, and ensure the impact of any external sources on internal ambient noise levels are within acceptable limits.</p> <p>Light: The lighting design of the proposed development will follow the recommendations of the Institution of Lighting Engineers' Guidance Notes for the Reduction of Obtrusive Light (2005), to minimise light pollution.</p>
Pollution: Air, Noise and Light	
<b>3. Transport</b>	
Provision for the safe, efficient and sustainable movement of people and goods	The development has been designed to encourage cycling. To avoid overprovision of car parking and promote more sustainable means of transport, the proposals allow for limited and scattered parking throughout. The site's location in close proximity to St Margaret's train station enables travel, as it is just 26 minutes from London Waterloo.
Provision of charging points for electric cars	Regarding EV parking, the proposal is allocating 3 bays within the undercroft car park for Block H and a further 2 in the external parking immediately opposite the car park entrance
Provision of cycle parking	Cycle parking will be provided for visitors in dedicated cycle storage spaces as well as appropriate showering / changing rooms for staff. To avoid over provision of car parking and promote more sustainable means of transport,

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<b>4. Biodiversity</b>	
Minimising the threat to biodiversity from new buildings, lighting, hard surfacing and people	The protection of natural features of ecological value and the improvement of biodiversity on site through green roofing. To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, thereby reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.
<b>5. Flooding and drainage</b>	
Is your site located in a high risk flood zone?	The development is in Flood Zone 1. with Flood Zone 3 areas in close proximity. Further details on the Flood Risk and flood resilience measures for this scheme can be found in the Flood Risk and Drainage Assessment submitted in support of the planning application.
Sustainable drainage and measures to mitigate surface water flooding risk	Sustainable urban drainage systems (SUDS), comprising permeable paving and an extent of green roof, will be incorporated on site and the buildings' fabric and structure will be designed to minimise risk of infiltration and damage via flooding where possible. Attenuation would be provided within high-level geocellular tanks on the respective Block roofs. Further details on the incorporation of SUDS and flood resilience measures for this scheme can be found in the Flood Risk and Drainage Assessment submitted in support of the planning application.
<b>6. Improving Resource Efficiency</b>	
Re-use and recycling of construction materials	The development is primarily of a refurbishment nature, retaining most on-site materials. A site waste management plan (SWMP) will be prepared for the development, and will include a pre-demolition audit to identify any key materials suited for recovery and reuse.
Site on contaminated land	Not applicable due to the refurbishment nature of the scheme.
Composting	There is no scope for on-site composting.

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Water Conservation	The proposed development aims to incorporate water saving fixtures and fittings to achieve over 40% reduction over industry baseline. This is equivalent to 3 credits in the BREEAM Wat01 category.

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<b>7. Design Standards and Accessibility</b>	
<p>Ensure flexible and adaptable use of long term structures</p>	<p>Mat 05 Designing for durability and resilience has been targeted to reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.</p>

Where it has not been possible to reach the target, a clear explanation should be provided.

### Notes on presentation

An Energy Statement should present technical data while remaining easy to read and to understand. Clearly laid out tables should be used to present data for ease of reading and comparison. Site plans should be used where possible, e.g. to indicate suitable roof areas for installing solar technologies or the location of a plant room. References should be used to explain where data has been obtained from.

### Example Tables

#### 1. Summary of baseline energy demand.

This table may be amended or duplicated to show energy demand before and after the application of energy efficiency measures or renewable energy technologies.

	Total Energy Demand (kWh/yr)	Associated Total CO <sub>2</sub> (kgCO <sub>2</sub> /yr)
Hot water	17,950	4,064
Space Heating	217,170	49,255
Fixed Electrical	435,460	98,927
Appliances/Non-regulated	719,500	167,644
... (any other energy consumption)	231,550	52,601
Total	1,621,630	372,490
30 year total	11,174,700	KgCO <sub>2</sub>
	30 year total regulated and unregulated using baseline figures	
Predicted offset cost	15,390	£
	Offset for zero carbon on new build at £95 per annum (5.4x30)	

#### 2. Summary of CO<sub>2</sub> emissions reductions

	Total CO <sub>2</sub> emissions (kgCO <sub>2</sub> /year)
Baseline emissions	204,800
Improved emissions (after application of energy efficiency measures)	142,900
Improved emissions (after incorporation of efficient energy supply)	142,900
Improved emissions (after incorporation of renewable)	118,600



energy technology)	
% CO <sub>2</sub> displaced in total	42.1%
% CO <sub>2</sub> displaced by energy efficiency measures	30.2%
% CO <sub>2</sub> displaced by efficient supply of energy	0.0%
% CO <sub>2</sub> displaced by renewable energy	11.9%