

Sustainable design criteria for new and refurbished buildings.

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Please note that we do not require BREEAM Certification, however, we have used some of these methods where it is appropriate to do so.

A written report of design recommendations and supporting documentation shall be provided to the Environmental Services Team for comment and approval against all the requirements listed below.

	Criteria	New build (>£250k)	Major refurbishment (>£1 million)	Minor refurbishment (£250k to £1 million)
1. Energy & Carbon				
1.a	Energy used for space heating	The space heating requirement of the building shall be designed to be 25% better than that of a notional building designed to Part L 2010 of the building regulations (kWh/m ² /year). This will be demonstrated by the contractor by providing design stage calculations to the Environmental Services Team (e.g. SBEM or SAP calculations undertaken at design stage).		
1.b	Photovoltaic Panels	Contractors shall prioritize available roof space to maximise the yield of photovoltaic panels. PV panels are to be installed by the contractor as they are now part of our minimum spec (due to the recent drops in the cost per kWp of PV). Contractors shall supply a yield analysis and information on the cost of the PV system during the design phase. All systems shall be installed according to MCS standards and certificate provided upon completion.		
1.c	Energy generation from renewable and other low carbon sources	In order to satisfy local planning requirements additional renewable/low carbon sources of energy generation will be required above the energy contribution from the PV system. A cost benefit analysis will be provided by the contractor at design stage for these systems to demonstrate that the most advantageous solution is specified.		
1.d	Heating and cooling	Contractors shall prioritise connections to any centralised heat and/or cooling networks.		
1.e	Lighting	Minimum efficacy of lighting shall be 100lm per circuit watt and lighting controls shall be provided to allow for individual control of fittings and emergency self-test (e.g. Simmtronic or similar hardwired).		
1.f	Appliances	A+++ efficiency rating for appliances where specified.		
1.g	Metering (building and sub-metering)	<p>Must be compliant with Oxford Brookes document 'Metering – contractor requirements for new and refurbished buildings'.</p> <p>The metering arrangement will also infer distribution board layout.</p>		

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2. Wellbeing & future proofing

2.a	Indoor environmental performance	<p>The principles of CIBSE Guide A: Environmental Design Standards 2015 shall be adopted.</p> <p>For new build and major refurbishment projects contractors shall validate the indoor environmental performance by undertaking a Post Occupancy Evaluation as per the requirements of 2.b below to ensure the building is operating as intended.</p>		
2.b	Building Performance Evaluation	<p>The contractor will appoint an independent Building User Survey (BUS) Partner to carry out a Building Performance Evaluation within one year of building occupation. The results will be formally submitted to the BUS website (www.busmethodology.org) and the contractor will take reasonable steps to implement any remedial action.</p> <p>If available to undertake this work, Low Carbon Building Group of Oxford Institute for Sustainable Development is the preferred BUS Partner.</p>	<p>Formal Building Performance Evaluation not required, follow ups and defects dealt with by space planning and projects teams only.</p>	
2.c	Space cooling	<p>CIBSE overheating criteria shall be used to assess all new-builds and refurbishments. All buildings shall achieve no more than 1% of occupied hours above 28°C using the 2050 high emissions 50% probability weather data. Mechanical cooling should not be specified for general office spaces and residential areas. Only areas such as IT suites, network rooms, sports gyms and some lecture rooms should be considered for mechanical cooling.</p>		
2.d	Post-occupancy aftercare	<p>Seasonal commissioning will be carried out to heating/cooling and control systems in accordance with the guidance contained in BSRIA BG 44/2013.</p>		

3. Water

3.a	Designing in water efficient devices	<p>Where new fittings are being provided an assessment of the efficiency of the building's domestic water consuming components is undertaken using the BREEAM Wat 01 calculator. A minimum of a 50% reduction in water use shall be achieved compared to the BREEAM baseline. Alternatively fixtures and fittings can be specified to performance level 4 in Table - 34: Water efficient consumption levels by component type (BREEAM Technical Guide 2014 page 200-201)</p>		
3.b	Water metering provision	<p>Fiscal meters and mains supply into each building shall have automatic meter readers installed. This will include the metering of any rainwater harvesting systems. Please see guidance as provided in section 1.g.</p>		
3.c	Rainwater provision	<p>Contractors explore the options for rainwater harvesting systems.</p>		
3.d	Consideration of surface water run-off and flow rates	<p>SUDS to be included to meet planning requirements. Consideration to the following should be undertaken:</p> <ul style="list-style-type: none"> Permeable surfaces and filter drains Filter strips and swales Infiltration devices Basins and ponds 		

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		External works should seek to limit areas of impermeable hardstandings.		
3.d	Surface water contamination	<p>'Use and design of oil separators in surface water drainage systems: Pollution Prevention Guidance 3 (PPG3)' shall be followed. This will mean that all catering and car park drainage facilities >800m² shall have oil interceptors installed.</p> <p>Pollution Prevention Guidance was previously maintained by the Environment Agency, but has now been withdrawn from use. Oxford Brookes considers this guidance to be good practice until a replacement guidance series titled 'Guidance for Pollution Prevention (CCPs)' are made available.</p>		

4. Cyclists facilities

4.a	Cycle storage spaces	<p>Oxford Brookes requires a minimum of half of all cycle parking provision, at both academic and residential projects, to be covered and lit.</p> <p>This minimum requirement is supplemental to, and does not override, the need for all of our developments to satisfy local planning requirements Oxford City Council Policy HP15 and other supplementary planning guidance</p>		
4.b	Cycle changing facilities	Provision of showers and space for lockers to be considered. All bathroom and shower refurbishments must include coat hooks to enable staff and students to change.		

5. Materials & Waste Management

5.a	Materials Management	Demonstration of 'whole life costing' analysis at the design phase. Consideration should be given to re-using aggregates and building materials at the design phase. Local noise impact will need to be considered when reclaiming materials.		
5.b	Recycled content	<p>It is recommended that all aggregate, plastic piping and metal products are made of recycled materials as a minimum in each project.</p> <p>For the construction and building product types listed within the WRAP Construction Recycled Content Product Database, we would expect these product types to achieve a minimum of 20% recycled content, regardless of project scale to meet our University target</p>		
5.c	Concrete	Contractors shall demonstrate that the use of cement substitutes and recycled aggregates on projects has been optimised by providing a list of products used. The list will detail the amount of cement substitutes and recycled aggregates that have replaced the use of virgin materials.		
5.d	Timber	100% of timber products have FSC or PEFC Project Certification.		
5.e	Indoor air quality	<p>Fixtures and furnishings shall reduce, or remove, off gassing due to:</p> <ul style="list-style-type: none"> ● HCFCs ● PVC ● Formaldehyde (e.g. formaldehyde glued chipboard) ● Low VOC (e.g. paint, furniture etc...) 		
5.f	Waste bins provision.	Space to be designed in to enable food, liquids, mixed recycling and general waste segregation within the building.		
5.g	Minimisation of construction waste (on and off-site)	As required the contractor shall provide a sustainable waste management plan for the minimisation of waste during any demolition or construction. 90% of non-hazardous construction waste must be recycled and all		

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		<p>Contractors must store and dispose of all of their waste products responsibly. Waste reports will be produced and an audit will be undertaken before the end of the project.</p> <p>Use of proprietary systems that are built offsite should be considered to minimise waste. Avoid bespoke design where possible.</p> <p>Copies of waste transfer notes, waste consignment notes and waste carrier licences must be supplied to Oxford Brookes University.</p>
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6. Biodiversity

6.a	Biodiversity	<p>Creation of ecological viable (and where appropriate valuable) habitats in line with Oxfordshires Biodiversity Action Plan (BAP) and the 2017 State of Nature in Oxfordshire report. Special consideration should be given to all sites within Oxfordshires Conservation Target Area and the local BAP habitat targets. There should be no net loss of habitats. Where any habitat is altered or lost during development then equivalent habitat (in terms of both size and biodiversity) should be created.</p> <p>A qualified ecologist should be commissioned to provide advice on the appropriate habitats for the project based on local context and connectivity.</p> <p>Contractors will need to evaluate associated ongoing maintenance costs.</p> <p>Nature of the project to be discussed with the Environmental Services Team to determine if a formal biodiversity plan needs to be arranged. Ecological surveys will be required for some planning applications with mitigation measures determined from surveys.</p>	Please discuss with Oxford Brookes.
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7. Outdoor Air Quality

7.a	Reduce local air quality impacts	<p>Through the specification of building services plant that :</p> <ul style="list-style-type: none"> - have the lowest emissions possible. - will minimise potential health risk.
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8. Noise

8.a	Construction Noise	<p>Construction noise and disruption should be minimised. The Construction Plan method statement and/or the Construction Phase H&S Plan produced to satisfy planning requirements shall detail the techniques adopted. This may involve the use of techniques such as the use of framed construction and prefabricated components. Construction activities should be planned to limit both the level and duration of noise, to minimise disturbance.</p> <p>Consider CFA bored piles rather than driven.</p> <p>Avoid scabbling, drilling by detailed cast-in components.</p>
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		Avoid power floating/trowelling of concrete surfaces.		
8.b	Internal noise	The performance standards and design guidance contained in 'Acoustic Design of Schools (BB93)' shall be adopted.		