

BREEAM Domestic Refurbishment Report



Site: 313, Basingstoke Road, Reading

Assessor: Ian Bacon

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Report produced by -

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1.0 Introduction

Blewburton Limited has been commissioned to review the sustainability of the refurbishment project at 313, Basingstoke Road, Reading against the BREEAM Domestic Refurbishment 2014 standard.

Blewburton Limited is a fully licensed BREEAM, Code for Sustainable Homes, Home Quality Mark and Part L energy assessor organisation of several years standing and has considerable expertise in all issues of sustainability.

Ian Bacon, who leads on BREEAM Domestic Refurbishment has been a licenced assessor of this scheme since its inception and also worked with its predecessor, EcoHomes.

In 2014, Ian was the assessor and consultant for the national BREEAM award winning project in this sector and was shortlisted for the same award in 2019.



2.0 The Project

The building on site is currently a detached, three-storey dwelling and is located to the east of Basingstoke Road (B3031), which is a main north/south arterial route between the M4 and central Reading. In terms of the character of the surrounding area, Basingstoke Road is largely residential, particularly on the eastern side, with some light industrial and office uses on the western side of the road.

The existing house currently has a reception hall, dining hall, kitchen and lounge on the ground floor. On the first floor, there are four bedrooms, a bathroom and a WC. On the second floor, there are four further bedrooms and a bathroom with storage space. To the front of the dwelling there is a driveway with space to accommodate four cars. There is also a double garage located to the rear of the property with vehicular access to this available adjacent to the northern boundary of the site.

The refurbishment will see the conversion of the existing dwelling into a ground floor flat and a maisonette over the 1st and 2nd floors. The ground floor unit will have three bedrooms, a living room, a kitchen, a dining room and a bathroom. The second dwelling will have three bedrooms, a kitchen, a terrace, a living room, a study, an office, a games room, two bathrooms and an additional WC.

Access to both dwellings will be via an existing stairwell which is located externally on the north side of the building. The rear garden will be subdivided to create a private area for each property, with secure cycle storage to the rear, bin storage to the south side of the plot and off-road parking for four vehicles to the front.

The project is therefore limited in scope to internal re-positioning of room layouts, the installation of two new windows on the south side elevation of the G/F property in bedrooms 2 and 3, in order to provide natural light and ventilation and some external tidying up and making good.

3.0 Planning Requirements

It is standard Reading Borough Council (RBC) policy to require domestic refurbishment projects to comply with the BREEAM Domestic Refurbishment Scheme to a level of at least 'Very Good'.

This has been detailed in the planning permission notice for the project, as shown below,

*4. *No development shall take place until a copy of an Interim BREEAM Certificate in accordance with the BREEAM Domestic Refurbishment Sustainability Standard demonstrating compliance with a minimum standard of BREEAM Very Good rating has been submitted to and receipt acknowledged in writing by the Local Planning Authority.*

Reason: To ensure that the development contributes adequately towards environmental sustainability, in accordance with Policy CS1 of the Reading Borough LDF Core Strategy 2008 (Altered 2015) and Policy DM1 of the Sites and Detailed Polices Document 2012 (Altered 2015).

5. Each flat hereby approved shall not be occupied until a Final BREEAM Certificate for each flat in accordance with the BREEAM Domestic Refurbishment Sustainability Standard following a post-construction stage review carried out by a licensed assessor has been submitted to and receipt acknowledged in writing by the Local Planning Authority, demonstrating that the development has attained as a minimum the standard set out in the Interim BREEAM Certificate referred to in the above condition.

Reason: To ensure that the development contributes adequately towards environmental sustainability, in accordance with Policy CS1 of the Reading Borough LDF Core Strategy 2008 (Altered 2015) and Policy DM1 of the Sites and Detailed Polices Document 2012 (Altered 2015).

However, as previously noted, this project involves very limited alterations, construction or refurbishment work and it can be argued that a full BREEAM assessment would, in this instance, not be appropriate for such a limited project and it is to this issue that the rest of the document is now addressed.

4.0 BREEAM Domestic Refurbishment

Before looking at the argument as to why a full BREEAM Domestic Refurbishment assessment should not apply to this project, it is worth making a few general points about the scheme.

BREEAM Domestic Refurbishment is a performance based assessment method and certification scheme for domestic buildings undergoing refurbishment, created and operated by the Building Research Establishment (BRE).

The primary aim of BREEAM Domestic Refurbishment is to improve the environmental performance of existing dwellings in a robust and cost effective manner.

This is achieved through integration and use of the scheme by clients and their project teams at key stages in the refurbishment process. This enables the client, through personnel qualified and licensed under the BREEAM Domestic Refurbishment Scheme and the BRE Global certification process, to measure, evaluate and reflect the performance of their refurbishment project against best practice in an independent and robust manner. This performance is quantified by a number of individual measures and associated criteria stretching across a range of environmental issues, which is ultimately expressed as a single certified BREEAM rating.

The BRE state that the scheme has been designed to avoid the need for additional experts where possible to reduce cost, however, for some areas this cannot be avoided due to the specialist nature of some particular issues, for example, where advice is required for a property at risk from flooding. In reality, to achieve anything other than the most basic rating, a 'Pass', additional consultants and therefore, cost, will be required.

The BRE also state that documentation of evidence is a key requirement of the BREEAM Domestic Refurbishment scheme. This is a requirement to ensure that there is an audit trail to verify how the BREEAM Domestic Refurbishment score was achieved. The process also provides confidence to those funding refurbishment over what has been delivered, ensuring that the projects green credentials have been verified. This is entirely laudable and fair, however, this focus on process, whilst working well for most projects, is not applicable to projects where so little is actually being undertaken, as in this case.

robust enough by the BRE, going back to the issue of cost effectiveness to the developer and the degree of 'robustness' being too high for a development of this size and scale.

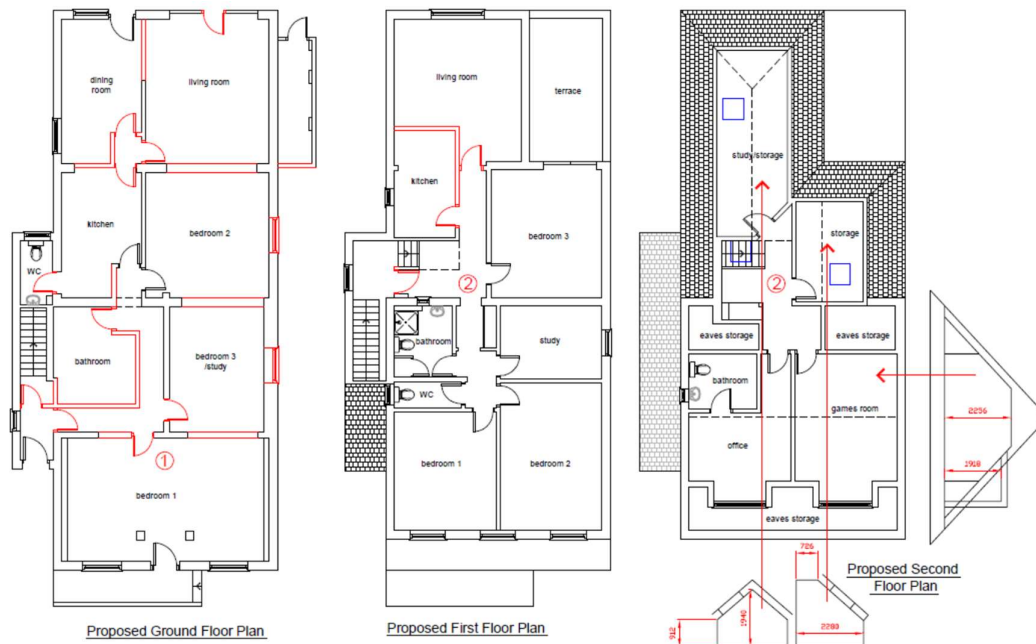


Figure 2: Proposed floor plans

To further demonstrate our contention that the degree of robustness is too strong and the cost effectiveness too minimal to justify a full BREEAM Domestic Refurbishment assessment for this project, we will now review all the categories of the scheme with a view to their applicability to this project in general terms of evidence required, additional cost, benefit to the project/building and relevance to this project. This information is presented in Table 1, below.

Category	Applicability
Management 01 – Home User Guide	A Home User Guide could and should be produced for the two properties as this is not an onerous undertaking and is relevant to the situation.
Man02 – Responsible Construction Practices	This would involve signing the site up to the Considerate Constructors Scheme and would be appropriate for a more involved, longer-term project, but can be considered unnecessary for this scale of redevelopment.
Man03 – Construction Site Impacts	Whilst it would be normal for the main contractor to set targets and monitor energy and water use on site, given the limited nature of this project and the fact that the developer is unlikely to repeat the process

	and therefore not gain any significant learning from the action, it does not make sense for this to be a required action.
Man04 - Security	It is understood that retained door and windows will comply with BREEAM requirements regarding locking mechanisms etc. and that new windows will comply with BS 7950:1997 (36) or LPS 1175 Issue 7 Security Rating 1 or equivalent. A Secure by Design review is likely to specify the details above regarding doors and windows, so is not deemed to be worth a formal undertaking.
Man05 - Ecology	An ecology survey would be an unnecessary undertaking for this site as the rear garden, complete with mature tree, is to be retained and the only potential upgrade could be a bird box located on the north facing side of the building.
Man06 – Project Management	As an assessor I find this category unnecessary in that it involves a listing of the project team and their roles, which for a small project is limited and offers no benefit to the final building. A programme of works is also required, but again, for such a small scheme as this, one is unlikely to be produced and offers limited to no benefit.
Health & Wellbeing 01 - Daylighting	The refurbishment will see a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study, which would comply with BREEAM requirements for a credit.
Hea02 – Sound Insulation	Sound testing will be undertaken and will expect to comply with Part E of the Building Regulations, which would yield a BREEAM credit
Hea03 - VOCs	This is very proscriptive credit to gain the evidence for compliance and would not normally be targeted. What can be said for this project is that as far as possible, low VOC paints and varnishes will be specified to meet the ethos of this category.
Hea04 – Inclusive Design	This is another category that is too onerous to gain the required evidence for as an expert who is a member of the National Register of Access Consultants is required to write a report and this instance this is an expense that cannot be justified for such a limited project.
Hea05 - Ventilation	Ventilation will be supplied to meet both sections 5 & 7 of Part F of the Building regulations for the award of full BREEAM credits.
Hea06 - Safety	Mains operated, with battery back-up, CO and fire alarms will be supplied to both dwellings in compliance with BREEAM requirements.
Energy 01 – Improvement in Energy Efficiency Rating (EER)	The evidence for this category is taken from a comparison of notional (B. Regulations compliant to minimum standards) and actual (as in what is proposed) SAP calculations for the dwellings in question. This has been undertaken and with very little additional work being undertaken, there are no credits scored.
Ene02 – EER Post Refurbishment	The score for this category is taken from the actual SAP calcs and in this instance the project scores well, with an average EER of 79, for three out of four credits.
Ene03 - Primary	This is also scored as for Ene02 and again the average score is excellent, with all seven credits scored.

Energy Demand	
Ene04 – Renewable Technologies	No renewable energy technologies have been specified for this scheme.
Ene05 – Energy Labelled White Goods	Those white goods supplied will meet the BREEAM energy rating requirements.
Ene06 – Drying Space	A drying space for each dwelling is supplied in the rear garden area assigned to each property.
Ene07 - Lighting	Low energy lighting is specified throughout both dwellings and will comply with BREEAM standards.
Ene08 – Energy Display Devices	At this point there is no plan to install an Energy Display Device, although investigations as to whether the utility supplier can provide these will be undertaken.
Ene09 – Cycle Storage	Adequate, BREEAM compliant cycle storage is supplied to the rear of the building for both dwellings.
Ene10 – Home Office	Both dwellings will offer the required space and connection regimes to allow for home working.
Water 01 – Internal Water Use	A specification for baths, showers, WCs, basin & kitchen taps and washing machines will be in place to deliver a daily water usage figure of <118l/person/day, for two credits.
Wat02 – External Water Use	The option to include an external water butt for use by both properties will be explored.
Wat03 – Water Meter	There will be water meters for both properties, but no consumption display unit as only one such product exists and at over £450 each, they are not considered a cost effective option.
Materials 01 – Environmental Impact of Materials	As the vast majority of building elements will be reused in situ it can be expected that the building would score very highly in this section if formally assessed as re-use is always preferable to new construction.
Mat02 – Responsible Sourcing of Materials	The new elements that this section would be concerned with are primarily timber, plasterboard, doors and windows and the aim will be for all timber to be FSC or PEFC certified and the plasterboard to come from a company with an appropriate environmental management system in place, such as ISO1440 or BES6001 (most suppliers have this).
Mat03 - Insulation	All new insulation will be specified to meet the requirements set out under BREEAM.
Waste 01 – Household Waste	RBC operate appropriate waste, recycling and kitchen waste schemes, there is adequate external provision for storage and two bins of minimum 30 litres capacity will be supplied in each dwelling kitchen, to see full BREEAM compliance.

Was02 - SWMP	For such a limited project as this, it is not considered realistic to develop a full SWMP, however, the skip company selected will be checked for recycle rates at the waste transfer station they use, with an aim to appoint a company that will see over 85% of waste arising diverted from landfill.
Pollution 01 – NOx Emissions	The boilers in situ will be retained and both have decent NOx emission values to gain two BREEAM credits.
Pol02 – Surface Water Run-off	There is no increase or decrease in impermeable area, so one credit would be gained under BREEAM requirements.
Pol03 - Flooding	The EA flood risk mapping shows the site to be a low risk area from flooding.

Table 1: BREEAM category and its applicability to this project

6.0 Summary

It can be seen from Table 1 in the previous section, that there are a number of issues normally required and/or undertaken for a BREEAM Domestic Refurbishment assessment that either offer no benefit to a scheme of this limited scope and nature, or make no sense with regards to commissioning evidence to state what is already in place. Other potential categories that a more involved scheme might target are also too limited in scope for the generation of evidence for evidences sake to demonstrate BREEAM compliance.

What can also be seen, however, is that there are strong elements of sustainability within the scheme that marry up well with the requirements and/or the ethos of the BREEAM Domestic Refurbishment scheme and with this in mind, the development can be said to comply with the thinking behind the general sustainability policies of RBC.

As BREEAM assessors of longstanding, Blewburton Limited suggest that Condition 4 of the Planning Permission is removed and that variation the wording of Condition 5 is applied, subject to the approval of an s.73 application.

We confirm that in our professional opinion, this scheme can and will be delivered to a good level of sustainability and suggest that a sign off BREEAM Compliance Review be produced by ourselves (or any other appropriately qualified organisation), to include images taken from the completed site and that this would be sufficient to discharge an 'amended' Condition 5 of the planning decision notice for this site.