

As Proposed Residential Development, Queens Road, Reading.

BREEAM Assessments



BREEAM Domestic Refurbishment Pre-Assessment Report

December 14th 2018

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1. EXECUTIVE SUMMARY

Encon Associates Limited have been appointed by Ivy Crescent to undertake a BREEAM Domestic Refurbishment Pre-Assessment to evaluate the as proposed development at Queens Road, Reading against the BREEAM Domestic Refurbishment methodology. The project consists of an existing Office building being converted into five refurbished flats.

This BREEAM Domestic Refurbishment Pre-Assessment report has been undertaken based on a desktop study completed by Nathan Kempson of Encon Associates Limited who is a qualified and licensed BREEAM assessor. All BREEAM credits have been reviewed based on the design data available, and in some cases, assumptions have been made where credits could be achieved with minimal effort.

This BREEAM Domestic Refurbishment Pre-Assessment report highlights that the as proposed development of five flats at Queens Road, Reading could meet a BREEAM “Good” Level of **46.04%** if the scheme was to be formally assessed against the BREEAM Domestic Refurbishment methodology. It is also predicted that a “Good” rating of **54.69%** is achievable should the highlighted potential credits be targeted.

It should be noted that the building in question is listed and as such the scheme is very limited in terms of improvements that can be made against the BREEAM Assessment methodology, however the assessment shows that the scheme can achieve a Good rating with the current proposed scope of works. As noted, the scheme is limited in terms of total works, with proposals showing only minimal internal fit out limited to new partitions, internal doors and some secondary glazing. As such the scheme would struggle to achieve a BREEAM rating above “Good” without significant alterations to the existing fabric and additional expenditure which would in turn result in the project becoming financially and economically unviable.

Furthermore, several limiting factors exist within the scheme preventing the targeting of additional potential credits, items such as POL 01 NOx emissions could be targeted should

a gas boiler system be installed within the dwellings, this in turn could result in an additional 3 credits, however, due to the listed building status, installing new gas boiler systems would involve cutting flue exit points into the external envelope of the building breaching the listed building status. Furthermore, the internal outer wall insulation could be updated to attempt to gain further credits, however, this too would detrimentally impact the listed building, and require highly intrusive work to the internal walls which we would not recommend given the heritage nature. Ultimately, the listed status of the existing building and the viable scope of works is the limiting factor in terms of the BREEAM rating, the potential rating shows that with additional cost options, further credits could be achieved, however, this would still fall short of required percentage for the “Very Good” rating. It is our professional opinion that the required rating be reduced from a “Very Good” to a “Good” to enable the scheme to maintain its listed building status and for the project to remain financially and economically viable. Much of the works required to gain significant credits would alter the heritage nature of the building due to changes required to the fabric of the building, this would go against the original plan which is one of minimal development.

2. INTRODUCTION

This BREEAM Domestic Refurbishment Pre-Assessment report summarises the buildings performance against the BREEAM Domestic Refurbishment methodology to establish its BREEAM rating in line with planning requirements in support of a full planning application.

The BREEAM Domestic Refurbishment scheme is a performance based assessment method and certification scheme for refurbished buildings. The primary aim of BREEAM is to mitigate the life cycle impacts of refurbished buildings on the environment 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 design and construction process. This enables the client, through the BREEAM Assessor and the BRE Global certification process, to measure, evaluate and reflect the performance of their building against best practice

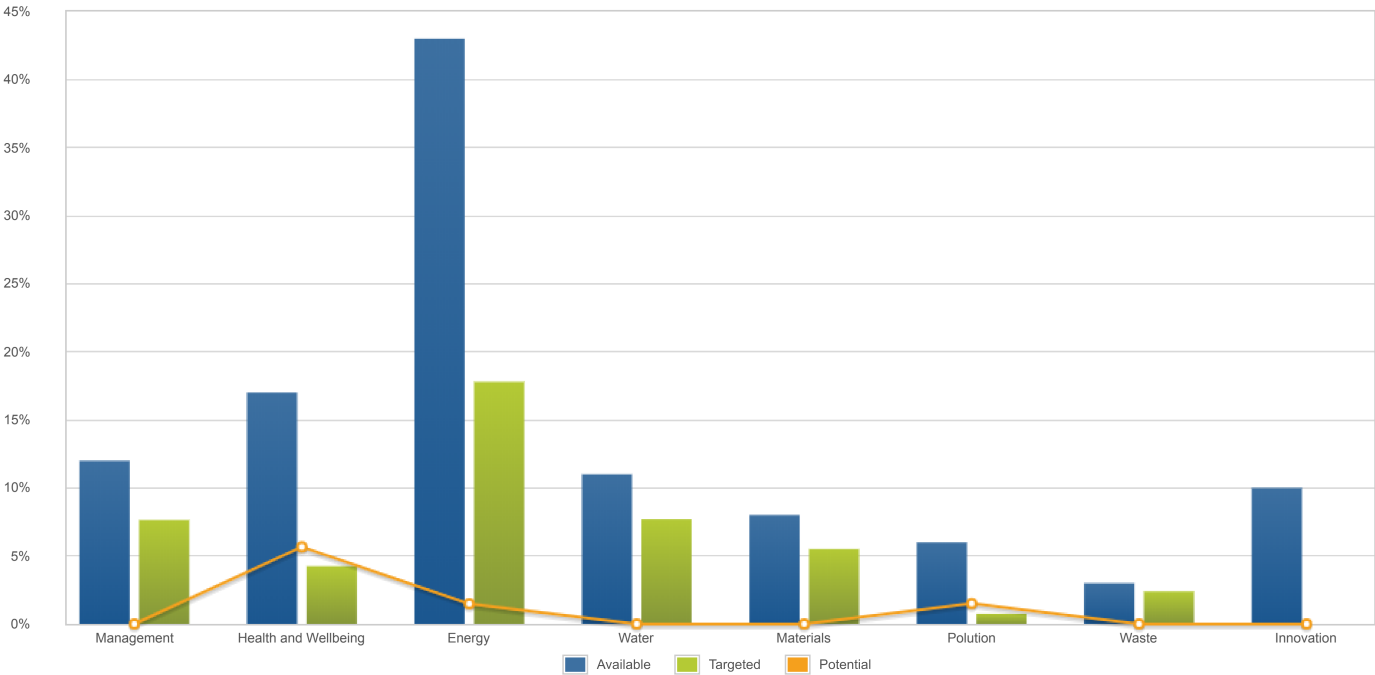
in an independent and robust manner. This performance is quantified by a number of individual measures and associated criteria stretching across a range of nine environmental issues which is ultimately expressed as a single certified BREEAM rating.

Section Summary

Project:	A4088 - Queens Road Reading
Report:	Pre-Assessment Stage
Design Target:	Good - 46.04%
Potential Rating:	Good - 54.69%

Section	Available		Targeted		Potential	
	Credits	Percent	Credits	Percent	Credits	Percent
Management	11	12%	7	7.64%	0	0%
Health and Wellbeing	12	17%	3	4.25%	4	5.67%
Energy	29	43%	12	17.79%	1	1.48%
Water	5	11%	3.5	7.7%	0	0%
Materials	45	8%	31	5.51%	0	0%
Polution	8	6%	1	0.75%	2	1.5%
Waste	5	3%	4	2.4%	0	0%
Innovation	10	10%	0	0%	0	0%
Total	125	110.00%	61.5	46.04%	7	8.65%

Performance by Section



Criteria Summary

Project:	A4088 - Queens Road Reading
Report:	Pre-Assessment Stage
Design Target:	Good - 46.04%
Potential Rating:	Good - 54.69%

Management	Available		Targeted		Potential	
Man 01: Home Users Guide	3	3.27%	3	3.27%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Home user guide to be completed						
Man 02: Responsible Construction Practices	2	2.18%	2	2.18%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - Scheme classed as Large Scale - Registration with CCS should be undertaken to secure these credits.						
Man 03: Construction Site Impacts	1	1.09%	1	1.09%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - All timber to be sourced from suppliers capable of providing FSC/PEFC certification - Monitoring of Construction site impacts to be undertaken (See Appendix A Man 03)						
Man 04: Security	2	2.18%	0	0%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Secured by Design not targeted. Therefore credit not included.						
Man 05: Protection and Enhancement of Ecological Features	1	1.09%	0	0%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> No outdoor spaces. Therefore credit not targeted.						
Man 06: Project Management	2	2.18%	1	1.09%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - Project team responsibilities will be set at an early stage, therefore first credit targeted. - No BREEAM AP appointed, therefore second credit withheld.						
Management Totals	11	12.00%	7	7.64%	0	0.00%

Health and Wellbeing	Available		Targeted		Potential	
Hea 01: Daylighting	2	2.83%	0	0%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> This credit not targeted						
Hea 02: Sound Insulation	4	5.67%	0	0%	4	5.67%
<u>Desktop Pre-Assessment 13/12/18</u> - All acoustics will be in line with Building Regulations Part E, however no acoustic testing has been carried out and an acoustician has not been consulted therefore Historic credits unlikely, marked as potential cost option. - Acoustics not likely to improve over Building Regulations Part E, therefore credit cannot be achieved.						
Hea 03: Volatile Organic Compounds	1	1.42%	1	1.42%	0	0%

Energy	Available		Targeted		Potential	
Ene 01: Improvement in Energy Efficiency	6	8.9%	2	2.97%	0	0%
Desktop Pre-Assessment 13/12/18 Sample SAP calculations not undertaken at this early stage, therefore two credits have been assumed based on proposals. This is subject to change once SAPs information can be gathered.						
Ene 02: Energy Efficiency Rating Post Refurbishment	4	5.93%	1	1.48%	0	0%
Desktop Pre-Assessment 13/12/18 Sample SAP calculations not undertaken at this early stage, therefore one credit has been assumed based on proposals. This is subject to change once SAPs information can be gathered.						
Ene 03: Primary Energy Demand	7	10.38%	2	2.97%	0	0%
Desktop Pre-Assessment 13/12/18 Sample SAP calculations not undertaken at this early stage, therefore two credits have been assumed based on proposals. This is subject to change once SAPs information can be gathered.						
Ene 04: Renewable Technologies	2	2.97%	0	0%	0	0%
Desktop Pre-Assessment 13/12/18 - Sample SAP calculations not undertaken at this early stage. - No LZC technologies are proposed on the scheme, therefore credit withheld.						
Ene 05: Energy Labelled White Goods	2	2.97%	1	1.48%	0	0%
Desktop Pre-Assessment 13/12/18 - No white goods will be provided for the dwellings but EU Energy Labelling advice will be provided, therefore first credit achieved. - Second credit cannot be achieved as no white goods fitted.						
Ene 06: Drying Space	1	1.48%	1	1.48%	0	0%
Desktop Pre-Assessment 13/12/18 Internal space for drying line can be provided, therefore credit could be targeted.						
Ene 07: Lighting	2	2.97%	2	2.97%	0	0%
Desktop Pre-Assessment 13/12/18 Energy efficient lighting will be installed throughout, therefore credit targeted.						

Ene 08: Energy Display Devices	2	2.97%	2	2.97%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Energy display devices readily available and these are to be installed within the properties.						
Ene 09: Cycle Storage	2	2.97%	1	1.48%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Cycle storage noted to be provided for each dwelling, with 1 space per apartment. Therefore 1 credit targeted.						
Ene 10: Home Office	1	1.48%	0	0%	1	1.48%
<u>Desktop Pre-Assessment 13/12/18</u> Provisions for home office not currently included, but could easily be introduced into design. Marked as potential credit.						
Energy Totals	29	43.00%	12	17.79%	1	1.48%

Water	Available		Targeted		Potential	
Wat 01: Internal Water Use	3	6.6%	1.5	3.3%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - Dwellings have been designed in line with Building Regulations Part G, therefore 125 litres/person/day 1.5 Credits have been assumed						
Wat 02: External Water Use	1	2.2%	1	2.2%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> No external spaces. Therefore credit withheld.						
Wat 03: Water Meter	1	2.2%	1	2.2%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Water meters will be fitted in line with requirements, therefore credit targeted.						
Water Totals	5	11.00%	3.5	7.70%	0	0.00%

Materials	Available		Targeted		Potential	
Mat 01: Environmental Impact of Materials	25	4.44%	15	2.67%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> • Evaluation of the major building elements highlights that the following credits could be awarded based on assumptions - Roof - Existing roof no changes to be made - External Walls - Existing Walls, no changes to be made - Upper Floor - Existing floor, no changes to be made - Internal walls to be timber stud with plasterboard - Windows - Secondary glazing Based on the above a predicted score of 15/25 is assumed.						
Mat 02: Responsible Sourcing of Materials	12	2.13%	8	1.42%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> • Limited materials to be procured, therefore responsible sourcing of materials should be straight forward. • Assumed 8 credits from 12 at this stage.						
Mat 03: Insulation	8	1.42%	8	1.42%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> • Only internal rockwool type insulation assumed for partition elements which is responsibly sourced to BES6001. • Therefore full credits assumed.						

Materials Totals	45	8.00%	31	5.51%	0	0.00%
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Polution	Available		Targeted		Potential	
Pol 01: Nitrogen Oxide Emissions	3	2.25%	0	0%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> Boiler to be removed as part of works. Only electric heating to be provided, therefore credits cannot be targeted.						
Pol 02: Surface Water Runoff	3	2.25%	1	0.75%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> No increase in surfaces noted, therefore 1 credit targeted.						
Pol 03: Flooding	2	1.5%	0	0%	2	1.5%
<u>Desktop Pre-Assessment 13/12/18</u> - Flood risk assessment carried out to local adjacent property confirming site is low risk. - Flood risk report is from 2006 and likely to need updating to confirm BREEAM compliance. This is not necessary for development and therefore not being procured. Credits not targeted.						
Polution Totals	8	6.00%	1	0.75%	2	1.50%

Waste	Available		Targeted		Potential	
Was 01: Household Waste	2	1.2%	2	1.2%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - A triple bin system will be installed in each dwelling. At this stage two credits can be awarded. - It is understood that a Local Authority composting service is in place						
Was 02: Refurbishment Site Waste Management	3	1.8%	2	1.2%	0	0%
<u>Desktop Pre-Assessment 13/12/18</u> - A Site Waste Management policy is to be put in place. - Good practice waste benchmarks will be targeted.						
Waste Totals	5	3.00%	4	2.40%	0	0.00%

Innovation	Available		Targeted		Potential	
Inn 01: Innovation	10	10%	0	0%	0	0%
Man 02: Responsible Construction Practices	1	1%	0	0%	0	0%
Man 05: Protection and Enhancement of Ecological Value	1	1%	0	0%	0	0%
Man 06: Project Management	2	2%	0	0%	0	0%
Hea 04: Inclusive Design	1	1%	0	0%	0	0%
Ene 02: Energy Efficiency Rating	2	2%	0	0%	0	0%
Ene 08: Display Energy Divices	1	1%	0	0%	0	0%
Wat 01: Internal Water Use	1	1%	0	0%	0	0%
Pol 02: Surface Water Run-off	1	1%	0	0%	0	0%
Was 02: Refurbishment Site Waste Management	1	1%	0	0%	0	0%
Innovation Totals (Up to a maximum of 10 credits)	10	10.00%	0	0.00%	0	0.00%
Overall Totals	125	110.00%	61.5	46.04%	7	8.65%

3. ASSESSOR DECLARATION

This Pre-Assessment report has been prepared by Nathan Kempson of Encon Associates Ltd based on a desktop Pre-Assessment completed 14/12/18.

Signed (Encon Associates)



Nathan Kempson BREEAM Accredited Assessor (NB24)
Senior Environmental Consultant
Encon Associates Limited

REVISION HISTORY

Date

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| 1. | Initial Submission | 14/12/18 |
| 2. | Revised in line with client comments | 19/12/18 |
| 3. | Further revision in line with client comments | 21/12/18 |