energycouncil
engineering sustainable buildings

BREEAM Report

Norman Court, Albion Road, Barnsley

For

CRL Architects



breeamAP

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1.0 Introduction

This assessment has been undertaken to examine the feasibility of development, know as Norman Court, securing a BREAM very good rating.

2.0 BREEAM Assessment

Please refer to the attached BREEAM scoresheet (appendix 4.1) highlighting a predicted score of 46.28. You will note this is a considerable way below the 55 points required for a very good rating. In reality, at this stage of an assessment we would expect to see a score of 59+. Below we have highlighted a number problematic areas:

Timing of consultant appointments. A number of BREEAM credits are dependent upon consultants being appointed and various appraisals being carried out at specific Riba stages. For example at Riba stage 2 a sustainability champion should be appointed and a crime impact assessment carried out. At Riba Stage 1 a material efficiency strategy, climate change adaption strategy appraisal, functional adaptation strategy appraisal should be produced. This limits the credits available to the developer. The requirement for a BREEAM assessment was only highlighted as a planning condition (Planning condition No. 10), once planning has bene granted. At this point the scheme is too far progressed to secure a number of the "easy win" credits discussed above.

Life cycle costs analysis. The project does not warrant undertaking full lifecycle cost analysis and service life planning due to complexity and financial costs.

External Material specification. Due to the nature of the external works specification it is unlikely that 80% of the external landscaping could be deemed as achieving a green guide rating of A or better. The heavy trafficked areas would need to be laid on a recycled sub base, which I believe could prove extremely expensive.

Indoor air quality assessment. An Indoor air quality assessment has not been carried out nor is it practical to do so.

Waste. Possible need for compactor or baler – Dependent upon the final usage, the BRE could deem there is the requirement for a of a waste compactor or baler to be provided. As discussed the contactor has no allowance for this in their costs

Transport. Please refer to Appendix 4.2, Correspondence from Karen Smith, which highlights due to the location and nature of the scheme zero transport credits will be achieved. This has had serious detrimental effect upon the predicted BREEAM score sheet.

Cyclist facilities. Cyclist facilities will not be provided due to site spatial constraints and constraints with the user group of the building.

Site Safety. No allowance has been made for separate pedestrian, cycle and delivery routes from the site entrance to the building.

Ecology. The Brooks ecological report highlights only one credit will be available under LE 03 and LE 04. We would expect two credits under both elements.

3.0 Conclusion

As highlight by the items discussed above, a very good rating is now practically out of reach. However a good rating is achievable.

We also take the opportunity to highlight that the units are performing above the minimum carbon emissions standards for both Building Regulations part L1A 2010 and a BREEAM very good rating. This highlights that the developer has taken practical steps, where possible, to secure an efficient building.

4.0 Appendix

4.1 BREEAM scoresheet
4.2 Correspondences from Karen Smith (transport consultant)
4.3 Part L1A Brukl Doc unit 1

BREEAM 2014 New Construction - Simple Buildings Assessment Report: Assessment Issue Scoring

BREEAM® UK

Building name	Norman Court
Building score (%)	46.28%
Building rating	Good
Minimum standards level achieved	Excellent level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Stakeholder consultation (project delivery)	No	1	0
Stakeholder consultation (third party)	No	1	0
Exemplary level : Accredited sustainability Champion (design)	No	1	0
Exemplary level: Accredited sustainability Champion (monitoring progress)	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Capital cost reporting		1	0
Capital cost of the project		£/m^2	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Man 03 Responsible construction practices

No. of BREEAM credits available	4	Available contribution to overall score	4.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Environmental management (Criteria 2-3)	No	1	0
Considerate construction (Criteria 7-8)	2	2	2
Monitoring of construction impacts - Utility consumption (criteria 9-14)	Yes	1	1
Exemplary level performance (criterion 18)	No	1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	3
Total contribution to overall building score	3.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Man 04 Commissioning and handover

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Commissioning schedule and responsibilities (criteria 2-4)	Yes	1	1
Handover - Building User Guide (criteria 9)	Yes	1	1
Handover - Training schedule (criteria 10)	Yes		

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Aftercare support (criteria 1-2)	No	1	0
Seasonal commissioning (criterion 3)	Yes	1	1
Post occupancy evaluation (criteria 4-5)	No	1	0
Exemplary level performance (criterion 6)	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Case Study of the finalised project for review by external sources required.

HEALTH & WELLBEING

Hea 01 Visual comfort

No. of BREEAM credits available	4	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Glare control	Yes	1	1
Daylighting (Building type dependant)	0	1	0
View out	No	1	0
Internal and external lighting levels, zoning and controls	Yes	1	1
Exemplary level performance - daylighting	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.50%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Hea 02 Indoor air quality

No. of BREEAM credits available	3	Available contribution to overall score	3.75%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Ventilation (Criteria 2-3)	No	1	0
VOCs (products) (criteria 6-7)	No	1	0
Adaptability - potential for natural ventilation (criteria 13-14)	No	1	0
Exemplary level performance (criteria 15-20)			

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	3.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Thermal modelling	No	1	0
Adaptability - for a projected climate change scenario	No	1	0
Thermal zoning and control strategy	No	1	0

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	
Predicted Percentage Dissatisfied (PPD)	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Hea 06 Safety and security

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Safe external access	No	1	0
Security of site and building	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.25%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	9.00%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

Ene 01 Calculator

Country of the UK where the building is located	England	Confirm building regulation and version used:	England Part L2A 2013

Building floor area	380	m2
Notional building heating and cooling energy demand	9.00	MJ/m2yr
Actual building heating and cooling energy demand	6.00	MJ/m2yr
Notional building primary energy consumption	60.00	kWh/m2yr
Actual building primary energy consumption	55.00	kWh/m2yr
Target Emission Rate (TER)	9.60	kgCO2/m2yr
Building Emission Rate (BER)	8.60	kgCO2/m2yr
Building Emission Rate improvement over TER	10.42%	
Heating & cooling demand Energy Performance Ratio (EPR_{ED})	0.246	
Primary consumption Energy Performance Ratio (EPR_{PC})	0.172	
CO_2 Energy Performance Ratio (EPR)	0.136	
CO2 Energy Performance Ratio (EPR_{CO2})	0.554	

Where specified, please confirm the energy production from onsite or near site energy generation technologies	INA
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative' ?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported	

Total BREEAM credits achieved	7
Total contribution to overall building score	5.25%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Excellent level

Assessor comments/notes:

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Sub-metering of major energy consuming systems	Yes	1	1
Sub-metering of high energy load and tenancy areas	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.50%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Passive design analysis	No	1	0
Free cooling	No	1	0
Low and zero carbon technologies	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 06 Energy efficient transportation systems — **Assessment Issue Not Applicable**

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Present?	Major impact?
Ref A Small power and plug in equipment	Yes	Yes
Ref B Swimming pool		
Ref C Communal laundry	No	
Ref D Data centre	No	
Ref E IT-intensive operation areas	No	
Ref F Residential areas	No	
Ref G Healthcare	No	
Ref H Kitchen and catering facilities	No	

	Compliant	Credits available	Credits achieved
Significant majority contributors BREEAM compliant	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.50%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Ene 09 Drying space **Assessment Issue Not Applicable**

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

TRANSPORT

Tra 01 Public transport accessibility

No. of BREEAM credits available	3	Available contribution to overall score	4.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Business (office/industrial)

Assessment Criteria	Compliant	Credits available	Credits achieved
Public transport accessibility index	1.96	3	0
Building dedicated bus service			0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Tra 02 Proximity to amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Close proximity and accessible to applicable amenities	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Tra 03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Business - offices, Industrial
Number of compliant cycle storage spaces provided	0
Cyclist facilities types provided	No compliant facilities

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	No	2	0
Cyclist facilities	No		

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

WATER

Wat 01 Water consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Please select the calculation procedure used	Standard approach

Standard approach data

Water Consumption from building micro-components	18.18	L/person/day
Water demand met via greywater/rainwater sources	0.00	L/person/day
Total net water consumption	18.18	L/person/day
Improvement on baseline performance	43.23%	%

Key Performance Indicator - use of freshwater resource

Total net Water Consumption	4.60	m3/person/yr
Default building occupancy	358.00	

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	3
Total contribution to overall building score	2.63%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

1. WC effective flush volume 4.5 litres (Dual Flush 6/4litre)
2. WHB Taps flow rate 3.0 litres/min
3. Shower Flow rate 8 litres/min
4. Kitchen sink tap flow rate 4.0 litres/min
5. Domestic sized dishwashers 12 litres/cycle (if provided)
6. Automatically operated flushing cisterns - 5 litre capacity, flushing 3 times an hour

Wat 02 Water monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Water meter on the mains water supply to the building(s)	Yes	1	1
Metering/monitoring equipment on supply to plant/building areas	N/A		
Pulsed output on all relevant water meters	Yes		
Existing BMS connection	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Wat 03 Water leak detection and prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Leak detection on main water supply OR flow valves installed at relevant locations	No	1	0
Flow control device to each sanitary area/facility	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

MATERIALS

Mat 01 Life cycle impacts

No. of BREEAM credits available	2	Available contribution to overall score	2.70%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

Assessment Criteria

Total Mat01 credits achieved	2
Total Mat01 points achieved	14.00
Number of building elements assessed	6
Exemplary level compliant?	No
Has IMPACT compliant software been used?	No

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m^2	Total impact $kgCO_2$ eq.	Area of element impact data relevant to m^2
External walls			
Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	$kgCO_2$ eq.		$kgCO_2$ eq./m^2
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	2
Total contribution to overall building score	2.70%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Mat 02 Hard landscaping and boundary protection

No. of BREEAM credits available	1	Available contribution to overall score	1.35%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External hard landscaping and boundary protection	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Mat 03 Responsible sourcing

No. of BREEAM credits available	4	Available contribution to overall score	5.40%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber/timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	No	1	0
Percentage of available responsible sourcing points achieved	60.00%	3	3

Please confirm the route used to assess Mat03	Route 2: Proportion of materials responsibly sourced

Total BREEAM credits achieved	3
Total contribution to overall building score	4.05%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Mat 04 insulation

No. of BREEAM credits available	1	Available contribution to overall score	1.35%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Embodied impact - insulation index	2.50	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.35%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	1.35%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Protecting vulnerable parts of the building from damage	Yes	1	1
Protecting exposed parts of the building from material degradation	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.35%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Mat 06 Material Efficiency

No. of BREEAM credits available	1	Available contribution to overall score	1.35%
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Material efficiency measures identified, investigated and implemented during all stages	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	1.35%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

WASTE

Wst 01 Construction waste management

No. of BREEAM credits available	4	Available contribution to overall score	3.78%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?
Construction resource efficiency (criteria 9 only)	Yes
Construction resource efficiency (criteria 10 and 11)	Yes
Diversion from landfill (criteria 4 and 5)	Yes
Exemplary level credit (criteria 12-14)	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported		
Non-hazardous construction waste (excluding demolition/excavation)		FALSE
Total non-hazardous construction waste generated	INA	FALSE
Non-hazardous non-demolition const. waste diverted from landfill		%
Total non-hazardous non-demolition const. waste diverted from landfill	INA	FALSE
Total non-hazardous demolition waste generated		FALSE
Non-hazardous demolition waste diverted from landfill		%
Total non-hazardous demolition waste to disposal	INA	FALSE
Material for reuse		FALSE
Material for recycling		FALSE
Material for energy recovery		FALSE
Hazardous waste to disposal		FALSE

Total BREEAM credits achieved	4
Total contribution to overall building score	3.78%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Wst 02 Recycled aggregates

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
Total % of high-grade aggregate that is recycled/secondary aggregate	81%

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	
Bitumen/hydraulically bound base, binder and surface courses for paved areas and roads	
Building foundations	
Concrete road surfaces	
Pipe bedding	
Granular fill and capping	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 03 Operational waste

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Segregation and storage of operational recyclable waste volumes	Yes	1	1
Static waste compactor(s) or baler(s)	Yes		
Vessel(s) for composting suitable organic waste	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.94%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Space provision for Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space.

Wst 04 Speculative floor and ceiling finishes

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
The building's occupant(s)/tenant(s) have specified floor/ceiling finishes	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.94%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 05 Adaptation to climate change

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Adaptation to climate change – structural and fabric resilience	No	1	0
Exemplary performance level: Responding to adaptation to climate change	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Functional adaptability (criteria 1-2)	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

LAND USE & ECOLOGY

LE 01 Site selection

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Previously occupied land	Yes	2	0
Contaminated land	No		

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

LE 02 Ecological value of site and protection of ecological features

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Ecological value of the land defined using	A Suitably Qualified Ecologist

Assessment Criteria	Compliant?	Credits available	Credits achieved
Land of low ecological value	Yes	1	1
Protection of ecological features	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.25%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

LE 03 Minimising impact on existing site ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Data sourced for calculating the change in ecological value from	Suitably Qualified Ecologist site survey of plant species

Assessment Criteria

Change in ecological value	-1.00	Plant species richness

Total BREEAM credits achieved	1
Total contribution to overall building score	1.25%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

LE 04 Enhancing site ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Has local expertise and guidance been used? (criterion 7)				
Suitably Qualified Ecologists appointment (SQE)	Yes	2	1	
Ecologist's report and recommendations (criteria 1-3)	Yes			
Increase in ecological value (criteria 4-6)	-1			Plant species richness

Total BREEAM credits achieved	1
Total contribution to overall building score	1.25%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

POLLUTION

Pol 02 NO_x emissions

No. of BREEAM credits available	1	Available contribution to overall score	1.43%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

NOx emission level - space heating and, if applicable, hot water: office and associated areas	200.00	mg/kWh
NOx emission level - cooling (where applicable)	0.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?	N/A	
Energy consumption: heating and hot water	100.00	kWh/m2/yr

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Pol 03 Surface water run-off

No. of BREEAM credits available	5	Available contribution to overall score	7.14%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Annual probability of flooding	Low	2	2
Flood Risk Assessment	Yes		
SWRO: decreased impermeable area (A) or source control (B) (criteria 22)		0	0
SWRO: no increase impermeable area (A) or increase in impermeable area (B) (criteria 23)		0	0
Minimising watercourse pollution(criteria 14-21)	No	1	0
Exemplary level (Criteria 4 to 13)	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

Pol 04 Reduction of night time light pollution

No. of BREEAM credits available	1	Available contribution to overall score	1.43%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.43%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 01 Project brief and design	No	1	0
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	No	1	0
Hea 01 Visual comfort	No	1	0
Hea 02 Indoor air quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water consumption	No	1	0
Mat 01 Life cycle impacts	No	1	0
Mat 03 Responsible sourcing	No	4	0
Wst 01 Construction waste management	No	0	0
Wst 02 Recycled aggregates	No	1	0
Wst 05 Adaptation to climate change	No	1	0
Pol 03 Surface water run-off	No	1	0
Number of 'approved' innovation credits achieved?			

Total BREEAM innovation credits achieved	0
Total contribution to overall building score	0.00%
Minimum standard(s) level	N/A

Assessor comments/notes:

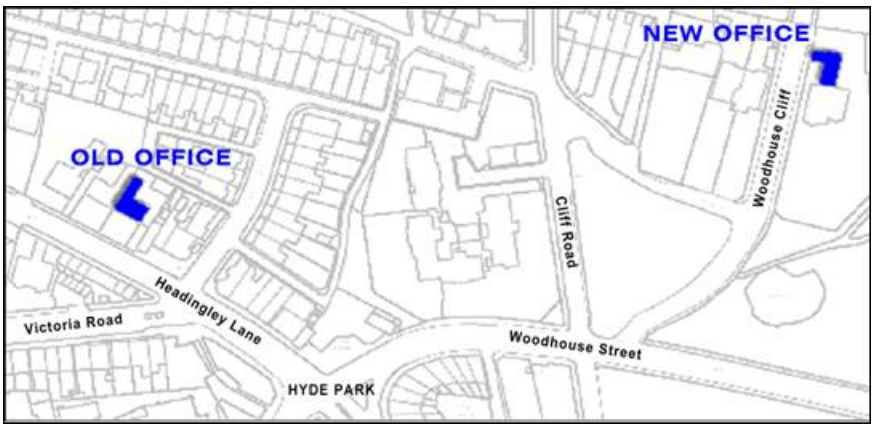
Matthew Holland

From: Gary Wilson <gary@crlarchitects.co.uk>
Sent: 13 August 2015 12:01
To: Matthew Holland
Subject: FW: 84198A - Norman Court
Attachments: Albion Road - Unit 1_brukl.pdf; 84198A Norman Court BREEAM_2014_Simple Building_Pre-Assessment_25-03-15MG.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

See below

Gary Wilson
Architect
For and on behalf of
CRL architects
Maple Lodge - Woodhouse Cliff - Leeds - LS6 2HF - Tel: 0113 274 2511



-----Original Message-----
From: Matthew Gibson [mailto:Matthew.Gibson@energycouncil.co.uk]
Sent: 01 April 2015 17:48
To: Gary Wilson
Cc: 'David Cook'
Subject: 84198A - Norman Court

Dear Gary,

Please find attached the updated BREEAM assessment, which includes for the SBEM results and with credits modified based on our meeting and to meet Good rating. The current predicted BREEAM score is around 49, with a good rating at 45+. We'll now formulate a short report for planning on this basis.

On the SBEM outputs we noted that on pg 2 of the attached BRUKL, the heating and cooling efficiencies for the proposed heat pumps (6 and 4 respectively) are extremely high. It would be worthwhile checking this, as it will impact on the final Part L2 compliance and the associated BREEAM scoring if incorrect.

Trust this assists.

Best Regards,

Matthew Gibson
BEng(Hons) CEng CEnv MEI MEIT SocEnv

Director

energycouncil
engineering sustainable buildings

Viridor House, No.3 Bolholt Terrace, Bury, Greater Manchester, BL8 1PP **| Tel:** +44 (0)161-762 1055 | **Fax:** +44 (0)161-761 1094 | **E-mail:** Matthew@energycouncil.co.uk **Web:** www.energycouncil.co.uk

Energy Assessments (Part L) (EPC), Low Energy and Sustainable Buildings (Code and BREEAM), Air Leakage Testing, Infra Red Thermography, Renewable Energy Studies, Low Carbon Consultants, Part F Ventilation Compliance, Part G Water Compliance

Vat Registration: 803266746
Company Registration: 5615580
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Please consider the environment before printing, thank you

From: Gary Wilson [mailto:gary@crlarchitects.co.uk]
Sent: 26 March 2015 10:21
To: Matthew Gibson
Cc: 'David Cook'
Subject: Norman Court

Dear Matthew,

It was good to meet yesterday and get up to speed on the requirements for BREAM with regards to this site.

I have attached the BRUKL's for each dwelling from Award Energy.

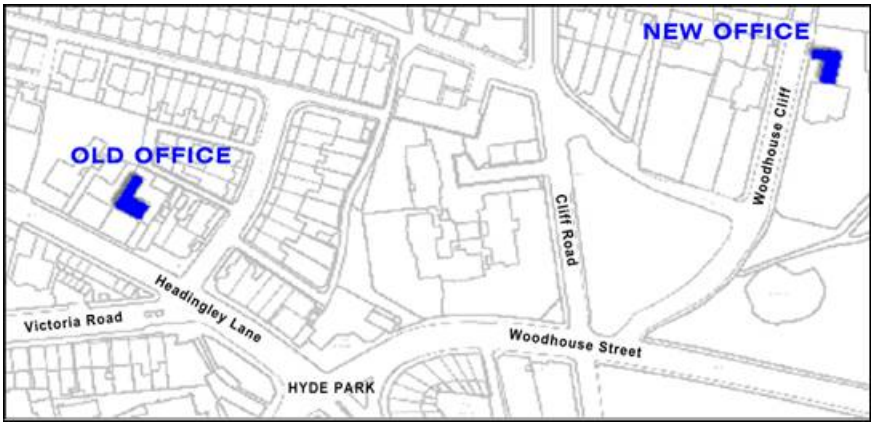
Also attached is the transport statement which we briefly discussed. Section 4 makes reference to sustainability, not sure if this is suitable or should be expanded upon?

Regards,

Gary Wilson
Architect
For and on behalf of

CRL architects

Maple Lodge - Woodhouse Cliff - Leeds - LS6 2HF - Tel: 0113 274 2511


NEW OFFICE
OLD OFFICE
Woodhouse Cliff
Cliff Road
Headingley Lane
Victoria Road
Woodhouse Street
HYDE PARK

BRUKL Output Document

HM Government

Compliance with England and Wales Building Regulations Part L 2010

Project name

Albion Road - Unit 1

As designed

Date: Fri Aug 08 10:45:27 2014

Administrative information

Building Details

Address: Unit 1, Norman Court, Albion Road, BARNSLEY, S71 3HW

Certification tool

Calculation engine: SBEM

Calculation engine version: v4.1.e.5

Interface to calculation engine: iSBEM

Interface to calculation engine version: v4.1.e

BRUKL compliance check version: v4.1.e.5

Owner Details

Name: Information not provided by the user

Telephone number: Information not provided by the user

Address: Information not provided by the user, Information not provided by the user, Information not provided by the user

Certifier details

Name: Gavin Russell

Telephone number: 01423 873892

Address: Brentwood Design Partnership, Harrogate, HG2 8NB

Criterion 1: The calculated CO_2 emission rate for the building should not exceed the target

1.1	CO_2 emission rate from the notional building, $kgCO_2/m^2.annum$	15
1.2	Target CO_2 emission rate (TER), $kgCO_2/m^2.annum$	15
1.3	Building CO_2 emission rate (BER), $kgCO_2/m^2.annum$	12.3
1.4	Are emissions from the building less than or equal to the target?	BER =< TER
1.5	Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and the building services should achieve reasonable overall standards of energy efficiency

2.a Building fabric

Element	$U_{a\text{-}Limit}$	$U_{a\text{-}Calc}$	$U_{i\text{-}Calc}$	Surface where the maximum value occurs*
Wall**	0.35	0.26	0.26	z0/01/s
Floor	0.25	0.22	0.22	z0/01/f
Roof	0.25	0.18	0.18	z1/01/c
Windows***, roof windows, and rooflights	2.2	1.6	1.6	z0/01/s/g
Personnel doors	2.2	0.81	0.81	z0/01/e/d
Vehicle access & similar large doors	1.5	-	-	"No external vehicle access doors"
High usage entrance doors	3.5	-	-	"No external high usage entrance doors"

$U_{a\text{-}Limit}$ = Limiting area-weighted average U-values [$W/(m^2K)$]
$U_{a\text{-}Calc}$ = Calculated area-weighted average U-values [$W/(m^2K)$]
$U_{i\text{-}Calc}$ = Calculated maximum individual element U-values [$W/(m^2K)$]

* There might be more than one surface where the maximum U-value occurs.
** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.
*** Display windows and similar glazing are excluded from the U-value check.
N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air Permeability	Worst acceptable standard	This building
$m^3/(h.m^2)$ at 50 Pa	10	5

2.b Building services

The building services parameters listed below are expected to be checked by the BCO against guidance. No automatic checking is performed by the tool.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- Office AC

Heating seasonal efficiency	**Cooling nominal efficiency**	**SFP [W/(l/s)]**	**HR seasonal efficiency**
6	4	-	-
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system			NO

1- Local HWS

Heating seasonal efficiency	**Hot water storage loss factor [kWh/litre per day]**
1	-

Local mechanical ventilation and exhaust

Zone	**Supply/extract SFP [W/(l/s)]**	**HR seasonal efficiency**	**Exhaust SFP [W/(l/s)]**
z0/03	-	-	0.4
z0/04	-	-	0.4
z0/05	-	-	0.4
z0/01	1.4	0.75	-
z1/01	1.4	0.75	-

General lighting and display lighting

Zone	**General lighting [W]**	**Display lamps efficacy [lm/W]**
z0/02	560	-
z0/03	50	-
z0/04	10	-
z0/05	20	-
z0/01	110	-
z1/01	140	-

Criterion 3: The spaces in the building should have appropriate passive control measures to limit solar gains

Zone	**Solar gain limit exceeded? (%)**	**Internal blinds used?**
z0/02	N/A	N/A
z0/01	YES (+96.7%)	NO
z1/01	YES (+114.1%)	NO

Criterion 4: The performance of the building, as built, should be consistent with the BER

Separate submission

Criterion 5: The necessary provisions for enabling energy-efficient operation of the building should be in place

Separate submission

EPBD (Recast): Consideration of alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Area [m^2]	420.3	420.3
External area [m^2]	1084.5	1084.5
Weather	LEE	LEE
Infiltration [m^3/hm^2@ 50Pa]	5	7
Average conductance [W/K]	315.73	409
Average U-value [W/m^2K]	0.29	0.38
Alpha value* [%]	12.85	47.8

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	A1/A2 Retail/Financial and Professional services
	A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
	B1 Offices and Workshop businesses
	B2 to B7 General Industrial and Special Industrial Groups
100	**B8 Storage or Distribution**
	C1 Hotels
	C2 Residential Inst.: Hospitals and Care Homes
	C2 Residential Inst.: Residential schools
	C2 Residential Inst.: Universities and colleges
	C2A Secure Residential Inst.
	Residential spaces
	D1 Non-residential Inst.: Community/Day Centre
	D1 Non-residential Inst.: Libraries, Museums, and Galleries
	D1 Non-residential Inst.: Education
	D1 Non-residential Inst.: Primary Health Care Building
	D1 Non-residential Inst.: Crown and County Courts
	D2 General Assembly and Leisure, Night Clubs and Theatres
	Others: Passenger terminals
	Others: Emergency services
	Others: Miscellaneous 24hr activities
	Others: Car Parks 24 hrs
	Others - Stand alone utility block

Energy Consumption by End Use [kWh/m^2]

	Actual	Notional
Heating	0.59	4.58
Cooling	7.22	2.1
Auxiliary	1.3	0.9
Lighting	10.64	19.23
Hot water	4.25	5.04
Equipment*	34.11	34.11
TOTAL**	**23.99**	**31.85**

* Energy used by equipment does not count towards the total for calculating emissions.
** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m^2]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0

Energy & CO_2 Emissions Summary

	Actual	Indicative Target
Heating + cooling demand [MJ/m^2]	263.03	334
Primary energy* [kWh/m^2]	69.35	81.66
Total emissions [kg/m^2]	12.3	15

* Primary energy is net of any electrical energy displaced by CHP generators, if applicable.

HVAC Systems Performance

System Type		Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] No Heating or Cooling										
	Actual	146.6	27.3	0	0	0.2	0	0	0	0
	Notional	252	78.4	0	0	0.2	0	0	----	----
[ST] Split or multi-split system, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity										
	Actual	61.5	574.7	3.1	37.5	5.8	5.59	4.26	6	6
	Notional	207.9	141	23.8	10.9	3.8	2.43	3.6	----	----

Key to terms

Heat dem [MJ/m2] = Heating energy demand
Cool dem [MJ/m2] = Cooling energy demand
Heat con [kWh/m2] = Heating energy consumption
Cool con [kWh/m2] = Cooling energy consumption
Aux con [kWh/m2] = Auxiliary energy consumption
Heat SSEFF = Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER = Cooling system seasonal energy efficiency ratio
Heat gen SSEFF = Heating generator seasonal efficiency
Cool gen SSEER = Cooling generator seasonal energy efficiency ratio
ST = System type
HS = Heat source
HFT = Heating fuel type
CFT = Cooling fuel type

Key Features

The BCO can give particular attention to items with specifications that are better than typically expected.

Building fabric

Element	$U_{i\text{-}Typ}$	$U_{i\text{-}Min}$	Surface where the minimum value occurs*
Wall	0.23	0.26	z0/01/s
Floor	0.2	0.22	z0/01/f
Roof	0.15	0.18	z1/01/c
Windows, roof windows, and rooflights	1.5	1.6	z0/01/s/g
Personnel doors	1.5	0.81	z0/01/e/d
Vehicle access & similar large doors	1.5	-	"No external vehicle access doors"
High usage entrance doors	1.5	-	"No external high usage entrance doors"

$U_{i\text{-}Typ}$ = Typical individual element U-values [W/(m²K)] $U_{i\text{-}Min}$ = Minimum individual element U-values [W/(m²K)]

* There might be more than one surface where the minimum U-value occurs.

Air Permeability	Typical value	This building
m³/(h.m²) at 50 Pa	5	5