
DETRAFFORD ESTATES

BREEAM 2014 New Construction Post Construction Report

Sky Gardens, Ellesmere Street, Manchester, M15

06 September 2021

Watt Energy & Consulting Engineers Ltd
40 King Street, Manchester, M2 6BA

t. 0161 43 43 103
w. www.wece.co.uk
e. office@wece.co.uk

watt 
Energy & Consulting Engineers

Issue Control

Director

Daniel Watt



First Issue Date	Revision Issue Date	Issue Revision	Issued By
06 Sep. 21	-	-	DW

Document Disclaimer

© Watt Energy & Consulting Engineers Ltd (WE&CE) own the copyright in this report and it has been written for the sole and confidential use of the client showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. It is not intended for and should not be relied upon by any third party. Any such party relies on this report at their own risk. No part of this report may be copied or duplicated without the express permission of WE&CE and the party for whom it was prepared.

Index

1	Executive Summary	4
2	Introduction	5
3	BREEAM Very Good Minimum Requirements	6
4	Credit Assessment	7
4.1	Management (Man)	7
4.2	Health and Wellbeing (Hea)	9
4.3	Energy (Ene)	11
4.4	Transport (Tra)	13
4.5	Water (Wat)	15
4.6	Materials (Mat)	16
4.7	Waste (Wst)	19
4.8	Land Use and Ecology (LE)	22
4.9	Pollution (Pol)	24
4.10	Innovation (Inn)	25
5	Development Summary	28

1 Executive Summary

This BREEAM 2014 New Construction Post Construction assessment report has been prepared by Watt Energy on behalf of DeTrafford Estates for the completed commercial unit at Sky Gardens, Ellesmere Street, Manchester.

The assessment covers the shell-only construction and was carried out using the BREEAM 2014 New Construction methodology. The project is required to achieve a minimum BREEAM rating of Very Good as a condition of planning.

The final BREEAM score of 56.1% which achieves the required Very Good rating (minimum 55% required) with a margin of comfort. All mandatory credits and criterion are met for a Very Good rating demonstrating compliance with the required planning condition.

2 Introduction

This BREEAM 2014 New Construction Post Construction assessment report has been prepared by Watt Energy on behalf of DeTrafford Estates for the completed commercial unit at Sky Gardens, Ellesmere Street, Manchester, M15.

This report details the target rating for the development and any mandatory requirements that this target rating is reliant on, a Post Construction credit assessment has been, detailing a breakdown of all credits achieved.

Under BREEAM 2014 New Construction everything the development integrates into the design either achieves or provides part of evidence to help achieve credits. These credits are broken down into 10 separate categories, these are listed below:

- Management (Man)
- Health & Wellbeing (Hea)
- Energy (Ene)
- Transport (Tra)
- Water (Wat)
- Materials (Mat)
- Waste (Was)
- Land Use & Ecology (LE)
- Pollution (Pol)
- Innovation (Inn)

The weighting of credits is based on the relative value of the above environmental sections on their contribution to the overall BREEAM score. Therefore, the weight of credit in each category differs, meaning that gaining or losing a credit in each category could result in a change in score by more or less than 1%. This report works on percentage and fractions of percentage as opposed to whole credits. This helps to clarify the true category value with respect to the overall BREEAM assessment.

Sky Gardens was set a required target BREEAM target rating of Very Good.

3 BREEAM Very Good Minimum Requirements

To comply with the planning requirement the proposed commercial unit at Sky Gardens must achieve a BREEAM rating of 'Very Good'. To comply with this target rating this the assessment must achieve a score of 55%.

In addition to achieving the 55% overall score, there are minimum standards that must be met, within certain credits, to achieve the BREEAM 'Very Good' score. These are summarised as the following:

- **Ene 02 – Energy Monitoring – 1 credit**
- **Wat 01 – Water Consumption – 1 credit**
- **Wat 02 – Water Monitoring – Criterion 1 only.**
- **Mat 03 – Responsible Sourcing – Criterion 3 only.**
- **LE 03 – Mitigating Ecological Impact– 1 credit**

The final BREEAM score of 56.1% which achieves the required Very Good rating with a margin of comfort.

All mandatory credits and criterion are met for a Very Good rating.

4 Credit Assessment

4.1 Management (Man)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Man 01 - Project Brief & Design	One credit – Stakeholder consultation (project delivery). One credit - Stakeholder consultation (third party) One credit – BREEAM AP (concept design). One credit – BREEAM AP (development design) 2 credits achieved.	4 Credits (3.33%)	1 Credits (0.83%)
Man 02 - Life cycle cost and service life planning	Two Credits – For an elemental life cycle cost (LCC) analyses to be carried out. One Credit – Where a component level LCC plan will be developed. One credit – Where the predicted capital cost will be reported. 1 credit achieved.	4 Credits (3.33%)	1 Credit (0.83%)
Man 03 - Responsible construction practices	Pre-requisite - All timber and timber-based products used on the project is 'Legally harvested and traded timber' (see Relevant definitions). One Credit – Environmental management. One Credit – BREEAM AP (site) One Credit – Responsible construction management (compliance) One Credit – Responsible construction management (beyond compliance) One Credit – Monitoring Energy & Water Consumption on site. One Credit – Monitoring Site Transport. 6 credits achieved.	6 Credits (5.00%)	5 Credits (4.17%)
Man 04 - Commissioning and handover	One Credit – Commissioning – testing schedule and responsibilities One Credit – Commissioning – design and preparation One Credit – Testing and inspecting building fabric One Credit – Building User Guide developed prior to handover & training provided to FM team.	1 Credits (0.83%)	0 Credits (0.00%)



	0 credits achieved.		
Man 05 - Aftercare	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Total Points in this section:		15 Credits (12.50%)	8 Credits (5.83%)

4.2 Health and Wellbeing (Hea)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Hea 01 Visual Comfort	One Credit – Adequate glare control for building users. One / Two Credit(s) – All relevant building areas designed to achieve the appropriate daylight factors. One Credit – Adequate view out for building users. One Credit – Internal and external lighting systems were designed to avoid flicker and provide appropriate lux levels. Internal lighting is also zones to allow for occupant control. 2 credit achieved.	4 Credits (5.00%)	2 Credit (2.5%)
Hea 02 Indoor Air Quality	Pre-requisite – N/A One Credit – Building designed to minimise concentration and recirculation of pollutants 0 credits achieved – all others not applicable to shell and core development.	1 Credit (1.25%)	0 Credits (0.00%)
Hea 03 Safe laboratories	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Hea 04 Thermal Comfort	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Hea 05 Acoustic Performance	One Credit – Meet the appropriate acoustic performance requirements for indoor ambient noise levels or a suitably qualified acoustician (SQA) is appointed to design a bespoke set of performance targets for ambient noise levels. 0 credits achieved. Only 1 credit available for shell and core.	1 Credit (1.25%)	0 Credits (0.00%)



Hea 06 Safety and Security	One credit - The project team have accounted for security considerations in the new building design and site layout through consultation with a suitably qualified security consultant. Consultation with the suitably qualified security consultant occurred during or prior to the concept design stage (RIBA stage C) or equivalent. The final design embodies the recommendations/solutions of the suitably qualified security consultant and is built to conform to either: a. The principles and guidance of Secured by Design (SbD) 60 and/or Safer Parking (SP) Scheme61, or where SbD/SP is of less relevance to the building type/operation: b. A site specific security risk and threat assessment and subsequent security strategy and recommendations for security measures (as developed/recommended by the suitably qualified security consultant). One Credit – Safe external access 1 credit achieved.	2 Credits (2.50%)	1 Credit (1.25%)
Total Points in this section:		8 Credits (10.00%)	2 Credits (3.50%)

4.3 Energy (Ene)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Ene 01 Reduction of Energy Use and CO2 Emissions	The completed development achieves a 5.30% improvement in the Building Emissions Rate (BER) over the Target Emission Rate (TER). 3 credits achieved.	12 Credits (10.92%)	3 Credits (2.72%)
Ene 02 Energy Monitoring	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Ene 03 External Lighting	One Credit – The average luminous efficacy of the external light fittings was not less than 60 lumens/ circuit watt. All external light fittings are automatically controlled to prevent operating during daylight hours and prevent presence detection in areas of intermittent pedestrian traffic. 1 credit achieved.	1 Credit (0.91%)	1 Credit (0.91%)
Ene 04 Low Carbon Design	One Credit – Passive design analysis One Credit – Free cooling One Credit – The total LZC energy generation equals 1775299.30 kWh/year. 1 credit achieved.	3 Credits (2.72%)	1 Credit (0.91%)
Ene 05 EE Cold storage	CREDITS NOT APPLICABLE TO DEVELOPMENT		
Ene 06 Transport systems	CREDITS NOT APPLICABLE TO DEVELOPMENT		
Ene 07 EE Lab Systems	CREDIT NOT APPLICABLE TO DEVELOPMENT		



Ene 08 EE Equipment	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Ene 09 Drying Space	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Total Points in this section:		16 Credits (14.50%)	5 Credits (4.53%)

4.4 Transport (Tra)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Tra 01 Public Transport Accessibility	The public transport Accessibility Index (AI) for the completed unit has been calculated as 7.31. Scale map highlighting the location of the building and all public transport nodes in proximity of building has been produced. 3 credits achieved.	3 Credits (4.93%)	2 Credits (3.29%)
Tra 02 Proximity to amenities	One credit – Scale map showing at least two of the relevant amenities within 500m of the site. 1 credit achieved.	1 Credit (1.64%)	1 Credit (1.64%)
Tra 03 Cyclist facilities	2 Credits – Provide cycle storage facilities and enough spaces with these facilities/	2 Credits (3.29%)	0 Credits (0.00%)
Tra 04 Maximum car parking capacity	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Tra 05 Travel plan	One credit - A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the site and covers the following (as a minimum): a. Where relevant, existing travel patterns and opinions of existing building or site users towards cycling and walking so that constraints and opportunities can be identified. b. Travel patterns and transport impact of future building users. c. Current local environment for walkers and cyclists). d. Disabled access (accounting for varying levels of disability and visual impairment). e. public transport links serving the site. f. Current facilities for cyclists. 1 credit achieved.	1 Credit (1.64%)	1 Credit (1.64%)
Total Points in this section:		7 Credits (11.5%)	5 Credits (6.57%)



4.5 Water (Wat)

BREEAM Ref:	Item Details:	Credits / %	Credits / %
		Available	Available
Wat 01 Water Consumption	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Wat 02 Water Monitoring	One credit - There is a water meter on the mains water supply to the unit. It has a pulsed output. 1 credit achieved.	1 Credit (2.00%)	1 Credit (2.00%)
Wat 03 Water Leak Detection and Prevention	One credit - A mains water leak detection system must be installed on the building's mains water supply. Flow control devices are installed in each sanitary area / facility. 0 credits achieved.	1 Credit (2.00%)	0 Credits (0.00%)
Wat 04 Water Efficient Equipment	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Total Points in this section:		2 Credits (4.00%)	1 Credit (2.00%)



4.6 Materials (Mat)

BREEAM Ref:	Item Details:	Credits / %	Credits / %
Available	Available		
Mat 01 Life Cycle Impacts	The completed development achieves a total Mat 01 points score of 10.47 and embodied greenhouse emissions of 2143.47 kgCO ₂ eq./m ² 5 credits achieved.	5 Credits (6.73%)	5 Credits (6.73%)
Mat 02 Hard landscaping and boundary protection	One Credit – The completed development has included external hard landscaping and boundary protection. 1 credit achieved.	1 Credit (1.35%)	1 Credit (1.35%)
Mat 03 Responsible Sourcing	Pre-requisite (MANDATORY) - All timber and timber-based products used on the project must be 'Legally harvested and traded timber'. 1 credit - Sustainable procurement plan. The principal contractor must source materials for the project in accordance with a documented sustainable procurement plan. 3 credits - Responsible sourcing of materials (RSM) 80.0% of available RSM points have been achieved. 3 credits achieved.	4 Credits (5.38%)	3 Credits (4.04%)
Mat 04 Insulation	One credit – An insulation index score of 2.6 was achieved for the embodied impact of the installed insulation. 1 credit achieved.	1 Credit (1.35%)	1 Credit (1.35%)



Mat 05 Designing for Durability & resilience	One credit - Vulnerable and exposed areas of the building were identified (both internal and external) suitable durability and protection measures have been implemented. These measures were in accordance with the BREEAM Criteria. 1 credit achieved.	1 Credit (1.35%)	1 Credit (1.35%)
Mat 06 Material Efficiency	One Credit - Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction 0 credits achieved.	1 Credit (1.35%)	0 Credits (0.00%)
Total Points in this section:		13 Credits (17.50%)	11 Credits (14.80%)

4.7 Waste (Wst)



BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Wst 01 Construction Waste Management	3 Credits - There is a compliant Site Waste Management Plan (SWMP) & Non-hazardous construction waste (excluding demolition and excavation waste) generated by the building's design and construction meets or exceeds the following resource efficiency benchmarks: 1 credit – 13.3m³ or 11.1 tonne per 100m² 2 credits – 7.5m³ or 6.5 tonne per 100m² 3 credits - 3.4m³ or 3.2 tonne per 100m² - Exemplary level – 1.6m³ or 1.9 tonne per 100m² 3 credits achieved.	4 Credits (5.50%)	3 Credits (4.13%)
Wst 02 Use of recycled and sustainably sourced aggregates	One Credit - The percentage of high-grade aggregate that is recycled of secondary aggregate specified in each application did not meet the following minimum % levels: Structural Frame – 15% Paved Areas & Roads – 30% Building Foundations – 20% Concrete Road Surfaces – 15% Pipe bedding – 100% Granular fill and capping – 100% 0 credits achieved.	1 Credit (1.38%)	0 Credits (0.00%)
Wst 03 Operational Waste	One Credit - There is a dedicated space to cater for the segregation and storage of operational recyclable waste volumes generated. 1 credit achieved.	1 Credit (1.38%) (Mandatory)	1 Credit (1.38%) (Mandatory)
Wst 04 Floor and Ceiling Finishes	CREDIT NOT APPLICABLE TO DEVELOPMENT		



Wst 05 Adaption to Climate Change	One Credit - A climate change adaptation strategy was for structural and fabric resilience was not carried out. 0 credits achieved.	1 Credit (1.38%)	0 Credits (0.00%)
Wst 06 Functional adaptability	One Credit - A building-specific functional adaptation strategy study was not undertaken by the client and design team by Concept Design (RIBA Stage 2). 0 credits achieved.	1 Credit (1.38%)	0 Credits (0.00%)
Total Points in this section:		8 Credits (11.00%)	4 Credits (5.50%)

4.8 Land Use and Ecology (LE)



BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
LE 01 Site Selection	A geo-environmental investigation report was produced for the site which includes photographs of the previous land uses. 75% of the proposed development's footprint is on an area of land which has previously been developed by industrial, commercial, or domestic purposes in the last 50 years. 2 credits achieved.	2 Credits (2.60%)	2 Credits (2.60%)
LE 02 Eco Value of Site Protection of Features	Ecology report was produced. It determined that the land is not defined as 'land of low ecological value' however all existing features of ecological value were adequately protected from damage during clearance, site preparation and construction activities prior to any preliminary site construction or preparation works. 1 credit achieved.	2 Credits (2.60%)	1 Credit (1.30%)
LE 03 Mitigating Eco Impact	Ecology report determined there to be a change of -1.49 in ecological value. 1 credit achieved.	2 Credits (2.60%)	1 Credit (1.30%)
LE 04 Enhancing Site Ecology	A suitably qualified ecologist was appointed, and report produced which both determined that an increase in ecological value of 1 was achieved. 2 credits achieved.	2 Credits (2.60%)	2 Credit (2.60%)
LE 05 Long Term Impact on Biodiversity	A landscape and habitat management plan was produced that covered at least the first five years after project completion. This report outlined 2 applicable measures that could be implemented. Both measures were implemented. 2 credits achieved.	2 Credits (2.60%)	2 Credits (2.60%)
Total Points in this section:		10 Credits (13.00%)	7 Credits (10.40%)



4.9 Pollution (Pol)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Pol 01 Impact of Refrigerants	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Pol 02 NOx Emissions	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Pol 03 Flood risk management and reducing surface water run- off	2 Credits – A Flood Risk Assessment (FRA) confirmed that there is a low risk of flooding from all sources. 2 Credits – Reduce rate and volume of surface water run-off showing calculations to provide evidence. 1 Credit – The site is designed to minimise watercourse pollution. 2 credits achieved.	5 Credits (5.00%)	2 Credits (2.00%)
Pol 04 Reduction of Night-time Light Pollution	One Credit - External lighting was designed and installed in accordance with BREEAM requirements. 1 credit achieved.	1 Credit (1.00%)	1 Credit (1.00%)
Pol 05 Noise Attenuation	NOT APPLICABLE TO DEVELOPMENT		
Total Points in this section:		6 Credits (6.00%)	3 Credits (3.00%)

4.10 Innovation (Inn)

BREEAM Ref:	Item Details:	Credits / % Available	Credits / % Available
Man 03 Responsible construction practices	One Credit - A CCS Score of Over 40 has been achieved. 0 credits achieved.	1 Credit (1.00%)	0 Credits (0.00%)
Man 05 Aftercare	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Hea 01 Visual Comfort	One Credit - Relevant building areas meet exemplary daylight factor(s) and the relevant criteria in Table – 15 of the BREEAM 2018 manual. Or relevant building areas meet exemplary average and minimum point daylight illuminance criteria in Table – 16 of the BREEAM 2018 manual. 0 credits achieved	1 Credit (1.00%)	0 Credits (0.00%)
Hea 02 Indoor Air Quality	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Ene 01 Reduction of energy use and carbon emissions	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Wat 01 Water Consumption	CREDIT NOT APPLICABLE TO DEVELOPMENT		



Mat 01 Life Cycle Impacts	One Credit - Where the design team has used an IMPACT compliant software tool to measure the environmental impact of the building. The design team can demonstrate how the use of an IMPACT compliant software has benefited the building in terms of measuring and reducing its environmental impact. The design team submit the building information model (BIM) from the IMPACT compliant software tool for the assessed building to BRE Global 0 credits achieved.	3 Credits (3.00%)	0 Credits (0.00%)
Mat03 Responsible Sourcing of Materials	One Credit – 80% of the available RSM points was not achieved. 0 credits achieved.	1 Credit (1.00%)	0 Credit (0.00%)
Wst01 SWMP	One Credit - 90% of waste will be diverted from landfill 0 credits achieved.	1 Credit (1.00%)	0 Credits (0.00%)
Wst02 Recycled Aggregates	One Credit - The percentage of high-grade aggregate that is recycled or secondary aggregate, specified in each application (present) must meet the exemplary minimum levels as defined in the BREEAM 2018 manual 0 credits achieved.	1 Credit (1.00%)	0 Credits (0.00%)
Wst 05 A climate change	CREDIT NOT APPLICABLE TO DEVELOPMENT		
Total Points in this section:		10 Credits (10.00%)	1 Credit (1.00%)

5 Development Summary

The final post construction assessment shows that a score of 56.10% was achieved resulting in the required target rating of 'Very Good' being achieved.

See table below for a breakdown of the percentage score available and subsequently achieved for each section.



