



**Construction
& Property
Consultants**

Sonic Star Properties Ltd

**BREEAM Domestic Refurbishment
Pre-Assessment Report**

For

27 – 32 Market Place, Reading

18th November 2020



Document Sign Off Page

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BREEAM Domestic Refurbishment Pre-Assessment Report
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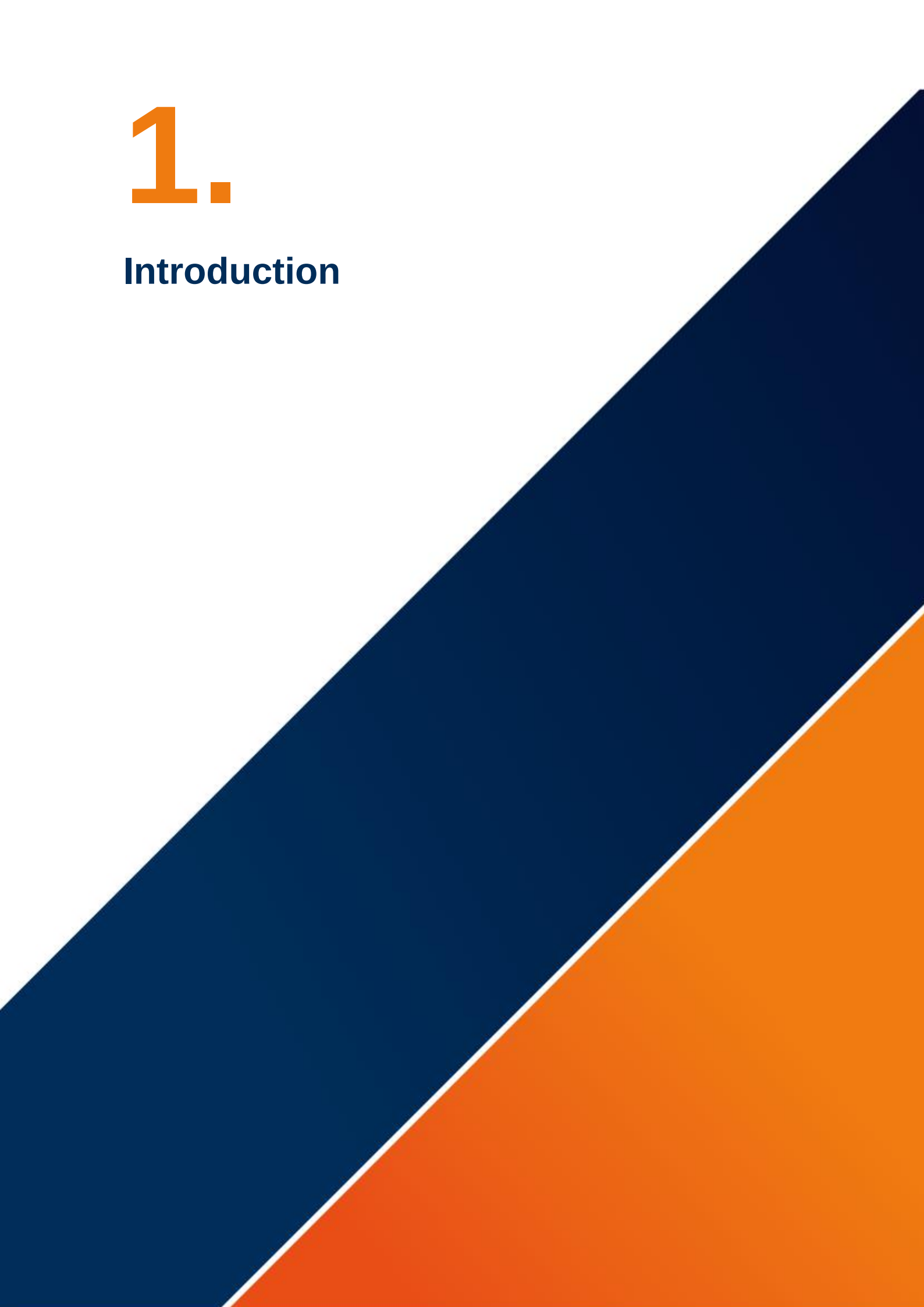
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1.

Introduction

1. Introduction

Summers-Inman have an experienced team of licensed BREEAM assessors to undertake BREEAM assessments for a wide range of project types and can tailor our service level to suit the specific project requirements. Our assessors also have BREEAM Accredited Professional (AP) status and are therefore able to provide specialist advice.

The BREEAM AP qualification is a formal recognition of specialist skills in the design of sustainable buildings combined with a high level of competence in the BREEAM assessment process. BREEAM AP's provide the design team with expert advice on built environmental sustainability design and assessment. They will facilitate your team's efforts to successfully schedule activities, set priorities and negotiate the trade-offs required to achieve a target BREEAM rating.

Summers-Inman believes that the key to achieving exemplary ratings with any building assessment is to work as an integrated member of the team by developing relationships with the client, design and construction team throughout the project and working together as a group of professionals to find successful solutions. Our approach engages the team and aims to provide clear step by step guidance, with commercial and targeted advice to ensure that cost plans reflect the sustainable design solutions proposed.

Summers-Inman have been commissioned to carry out a Pre-Assessment of the proposed development at 27-32 Market Place. The development aspiration is to demonstrate a Very Good rating against the BREEAM Domestic Refurbishment 2014 scheme and concludes the preliminary BREEAM score and rating the development could achieve based on the individual credits targeted.

The project proposals comprise the refurbishment of the existing building at 27-32 Market Place in Reading to provide 9nr residential apartments above retail units at ground and basement level. The apartments will be split over three floors with 3nr apartments on each floor. The apartments are a mixture of 1, 2 and 3 bedrooms.

The results presented are indicative only and do not represent a formal certified BREEAM assessment or rating and must not be communicated as such.

2.

BREEAM Domestic Refurbishment 2014

2. BREEAM Domestic Refurbishment 2014

BREEAM is the world's first and leading sustainability assessment and certification scheme for the built environment. It is an international standard that is locally adapted, operated and applied through a network of scheme operators, assessors and industry professionals.

BREEAM Domestic Refurbishment assessments are intended as an integral part of the refurbishment design and specification process. This is to ensure that the refurbishment of existing dwellings result in the greatest savings in energy use and carbon while reducing impacts on water, waste, flooding, resources and health.

The assessment criteria covers a range of environmental issues which are categorised as follows:

- Management
- Health and Wellbeing
- Energy
- Water
- Materials
- Waste
- Pollution
- Innovation

BREEAM Scoring and Reporting

There are a number of elements that determine the overall performance of a new construction project assessed using BREEAM. They are:

1. The BREEAM rating level benchmarks
2. The minimum BREEAM standards
3. The environmental section weightings
4. The BREEAM assessment issues and credits

The rating benchmarks for projects assessed using the 2014 version of BREEAM Domestic Refurbishment are:

BREEAM Rating	% Score
Outstanding	≥ 85
Excellent	≥ 70
Very Good	≥ 55
Good	≥ 45
Pass	≥ 30
Unclassified	< 30

BREEAM sets minimum standards (mandatory credits) against fundamental environmental issues that must be achieved in order for a rating to be achieved; without achievement of this credits, regardless of the score achieved, the rating will not be achieved. These standards are summarised as follows:

BREEAM Issue	Minimum standards by BREEAM rating level				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02: Energy Efficiency Rating Post-Refurbishment	0.5 credits	1 credit	2 credits	2.5 credits	3.5 credits
Wat 01: Internal Water Use	-	-	1 credit	2 credits	3 credits
Hea 05: Ventilation	1 credit	1 credit	1 credit	1 credit	1 credit
Hea 06: Safety	1 credit	1 credit	1 credit	1 credit	1 credit
Pol 03: Flooding	-	-	-	2 credits	2 credits
Mat 01: Environmental Impact of Materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only

3.

Pre-Assessment Summary

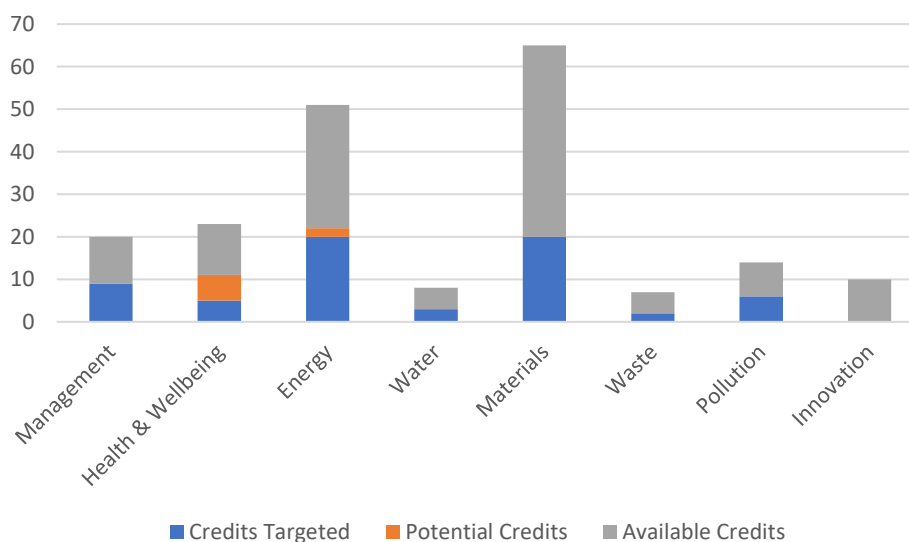
3. Pre-Assessment Summary

The Pre-Assessment has indicated that the scheme would be expected to achieve a score of 62.36% which is equivalent to a Very Good rating.

The development has been assessed based on the drawings, other information provided and the assumptions detailed within the assessment.

The credits targeted meet the minimum BREEAM standards (mandatory credits) and the report demonstrates that the development can achieve the aspired Very Good rating under the BREEAM Domestic Refurbishment 2014 scheme.

BREEAM Section	Credits Available	Credits Targeted	% of Credits Achieved	Section Weighting	Section Score
Management	11	9	81.8%	12%	9.82
Health & Wellbeing	12	5	41.7%	17%	7.08
Energy	29	20	69.0%	43%	29.60
Water	5	3	60.0%	11%	6.60
Materials	45	20	44.4%	8%	3.56
Waste	5	2	40.0%	3%	1.20
Pollution	8	6	75.0%	6%	4.50
Innovation	10	0	0.0%	10%	0.00
Current Target BREEAM Score				62.36%	
Current Target BREEAM Rating				Very Good	



As part of report, we have identified further potential credits that could be targeted under two situations as follows:

- Targeted to off-set any of the currently targeted credits which are deemed unachievable
- Targeted in addition to those currently targeted which, if all are attainable, would result in an improved score (73.98%) and rating (Excellent).

4.

Pre-Assessment Credits

4. Pre-Assessment Credits

MANAGEMENT				
Criteria	Credits Available	Status	Credits Targeted	Assumptions
Man 01 – Home User Guide				
Where a Home User Guide containing the information listed in the 'User Guide Contents List' has been produced and supplied to all homes	3	Targeted	3	A Home User Guide will be produced containing the information listed in the User Guide Content List
Man 02 – Responsible Construction Practices				
Principal contractor uses the Considerate Constructors scheme (CCS)	2	Targeted	2	Principal contractor will register the scheme with Considerate Constructors scheme and achieves a score of at least 35 with a score of 7 in each of the sections assessed
Man 03 – Construction Site Impacts				
Principal contractor achieves 2 or more of the following construction site impacts: a. Monitor, report and set targets for CO₂ production of energy use arising from site activities b. Monitor, report and set targets for water consumption arising from site activities c. Have an environmental materials policy d. Operate an Environmental Management System e. Reclaim, reuse or responsibly source 80% of site timber	1	Targeted	1	Principal contractor will achieve at least 2 of the construction site impact actions
Man 04 – Security				
Where retained, external doors and accessible windows comply with the minimum security requirements. Newly added external doors and windows are appropriately certified	1	Targeted	1	All new doors and windows will meet the required PAS or LPS standards and any retained doors/windows will be of good quality, have working key locks, sturdy frames and double glazing where glazing is included
Compliance with the principles and guidance of Secured by Design Section 2 (Physical Security) and consult an ALP or CPDA and implement their recommendations	1	Not Targeted	0	It is assumed that the design team will not work with an ALO or CPDA or achieve Secured by Design certification
Man 05 – Protection and Enhancement of Ecological Features				
Project team member or suitably qualified ecologist undertakes a site visit to determine the presence of ecological features and any identified ecological features are maintained and protected during the works	1	Targeted	1	Site survey will be undertaken by a project team member or suitably qualified ecologist. Principal contractor maintains and protects any ecological features during the works
Man 06 – Project Management				
All project team members are involved in the decision-making and the project manager assigns individual and shared responsibilities through the various stages	1	Not Targeted	0	It is assumed that this credit will not be targeted as the requirements are too onerous and time consuming for a project of this size and nature
Handover meeting is arranged and 2 or more of the following items are committed to: a. A site inspection within 3 months of occupation b. Conduct post-occupancy interview with building occupants or a survey via phone or posted information within 3 months of occupation c. Longer term after care (helpline, nominated individual or other appropriate system) is provided to support building users for at least the first 12 months of occupation	1	Targeted	1	It is assumed that a project team member will arrange a handover meeting, undertake a site inspection within 3 months of occupation and that the principal contractor will provide aftercare support for the first 12 months of occupation
HEALTH AND WELLBEING				
Hea 01 – Daylighting				
The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study. Where the property is being extended the new spaces achieve minimum daylighting levels and the extension does not reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties	1	Targeted	1	It is assumed that a neutral impact of the daylighting levels within existing rooms will be achieved and all newly created rooms will achieve the daylighting standards
Dwelling achieves minimum daylighting levels in the kitchen (2%), living room, dining room and study (1.5%) + 80% of working plane receives direct sunlight	1	Not Targeted	0	It is assumed that the areas will not achieve the minimum daylighting levels
Hea 02 – Sound Insulation				
Sound testing is undertaken for airborne sound insulation and impact sound insulation	4	Potential	0	Existing party walls are solid brick walls which may meet the Part E requirements however pre-completion acoustic testing will need to be carried out to confirm if and how many of the credits are achievable
Hea 03 – Volatile Organic Compounds				
Specification and use of internal finishes and fittings with low emissions of volatile organic compounds (VOCs)	1	Targeted	1	All applicable internal finishes and fittings will be specified/used with low emissions of VOCs
Hea 04 – Inclusive Design				
An access expert or suitably qualified member of the design team (an architect is deemed suitably qualified) has completed sections 1 and 2 of Checklist A8; Access Statement Template	2	Potential	0	Currently not targeted but if required, a suitably qualified member of the design team would complete the access statement to demonstrate reasonable provision to provide accessibility to the dwelling, covering sections 1 and 2 of Checklist A-8
Hea 05 – Ventilation				
Minimum background ventilation in the form of trickle ventilation (or an equivalent means of ventilation) should be provided for all habitable rooms, kitchens, utility rooms and bathrooms compliant with Section 7 of Part F 2010, a minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bathrooms) compliant with Section 5 of Part F 2010, a minimum level of purge ventilation is provided in all habitable rooms and wet rooms compliant with Section 7 of Part F 2010 and ventilation is provided for the dwelling that meets the requirement of Section 5 of Part F 2010 in full	2	Targeted	2	It is a minimum requirement for 1 credit to be achieved in order to achieve a Very Good rating Ventilation will be provided to the apartments in compliance with Sections 5 and 7 of Part F 2010

Criteria	Credits Available	Status	Credits Targeted	Assumptions
Hea 06 – Safety				
Dwelling is provided with a compliant fire detection and alarm system, dwelling is supplied with mains gas or where any other form of fossil fuel is used within the building (e.g. coal), a compliant fire and carbon monoxide detector and alarm system is provided and where the project involves electrical re-wiring the power supply for the smoke alarm and compliant carbon monoxide alarm systems are derived from the dwellings main electricity supply (else from a battery supply).	1	Targeted	1	It is a minimum requirement for this credit to be achieved in order to achieve a Very Good rating We assume the apartments will be supplied with mains gas, therefore a compliant fire and carbon monoxide detector and alarm system will be provided The power supply for the smoke alarm and carbon monoxide alarm systems must be derived from the dwelling's main electricity supply (and not battery operated)
ENERGY				
Ene 01 – Improvement in Energy Efficiency Rating				
Refurbishment results in an improvement to the dwelling's energy efficiency rating	6	Targeted	4	Based on initial SAP calculations, the average improvement in EER is 40 therefore 4 credits have been targeted
Ene 02 – Energy Efficiency Rating Post Refurbishment				
Dwelling meets a minimum energy efficiency rating as a result of the refurbishment	4	Targeted	3	It is a minimum requirement for 2 credits to be achieved in order to achieve a Very Good rating Based on initial SAP calculations, the EER in the proposed development range between 76 and 82 therefore 3 credits have been targeted
Ene 03 – Primary Energy Demand				
Dwelling meets the primary energy demand targets as a result of the refurbishment	7	Targeted	7	Based on initial SAP calculations, the average primary energy demand is 116..20 kWh/m ² /yr therefore 7 credits have been targeted
Ene 04 – Renewable Technologies				
Supply a % of the dwelling's primary energy demand per annum by low or zero carbon technologies	2	Not Targeted	0	It is assumed that no complaint renewable technologies are planned for this development
Ene 05 – Energy Labelled White Goods				
Fridges and freezers or fridges/freezers have an A+ rating, washing machines have an A++ rating, washer-dryers or tumble dryers have an A rating and dishwashers have an A+ rating or better under the EU Energy Efficiency Labelling Scheme OR Where no white goods or washer dryer or tumble dryer are provided to the dwelling(s), the EU Energy Efficiency Labelling Scheme Information Leaflet is provided to each dwelling	2	Targeted	2	It is assumed that the specified white goods, washing machines etc. will have the recognised ratings
Ene 06 – Drying Space				
Provide an adequate, secure internal or external space with posts and footings drying line	1	Not Targeted	0	It is assumed that no compliant drying space is being provided
Ene 07 – Lighting				
External lighting – energy efficient space lighting and security lighting is provided	1	Targeted	1	Compliant lighting to be provided along with appropriate controls
Internal lighting – provision of a maximum average wattage across the total floor area of the dwelling of 9 watts/m ²	1	Targeted	1	Compliant lighting to be provided
Ene 08 – Energy Display Devices				
Provision of accessible equipment to display energy consumption data to occupants (electricity and primary heating fuel)	2	Potential	0	Design team to consider the cost implications of providing the accessible equipment
Ene 09 – Cycle Storage				
Provision of adequate and secure cycle storage facilities	2	Targeted	1	8nr cycle storage spaces being provided in the rear external yard
Ene 10 – Home Office				
Sufficient space and services are provided to allow occupants to set up a home office in a suitable room with adequate ventilation	1	Targeted	1	It is assumed that a space and facilities for a home office will be provided in the bedroom of each unit
WATER				
Wat 01 – Internal Water Use				
Low water use fittings meeting the terminal fitting consumption standards	3	Targeted	2	It is a minimum requirement for 1 credit to be achieved in order to achieve a Very Good rating It is assumed that water fittings will be specified such that the total water consumption per dwelling is less than 117 litres/person/day using the following standards as guidance: • Showers – 8 l/min • Baths – 140 l (overflow) • WC – 4lt effective flush volume • Bathroom taps – 5 l/min • Kitchen taps – 5 l/min • Dishwasher – 13 l per cycle • Washing machine – 60 l per use
Wat 02 – External Water Use				
Provision of a compliant rainwater collection system	1	Not Targeted	0	It is assumed that a rainwater collection system will not be provided
Wat 03 – Water Meter				
An appropriate water meter for measuring and storing usage data of mains potable water has been provided	1	Targeted	1	It is assumed that a compliant water meter (that provides a visible display of mains potable water consumption to occupants and stores the data) will be provided
MATERIALS				
Mat 01 – Environmental Impact of Materials				
Assessment of the following building elements based on their Green Guide to Specification rating and Thermal Performance: - Roof - External walls - Internal walls (including separating walls) - Upper and ground floors - Windows	25	Targeted	10	Price & Myers assumptions utilising the Mat 01 calculator tool indicates 10 credits are expected to be achieved

Criteria	Credits Available	Status	Credits Targeted	Assumptions
Mat 02 – Environmental Impact of Materials				
Timber and timber-based products used on the project are legally harvested and traded timber	Pre-Requisite	Targeted	0	All new timber and wood-derived products will be sourced from only independently verifiable legal and sustainable sources or FLEGT (forest law enforcement, governance and trade) licensed timber or equivalent timber.
Principal contractor sources materials in accordance with a documented sustainable procurement plan OR Principal contractor addresses parts 1, 2 and 3 of Checklist A-9 Sustainable Procurement Statement	3	Targeted	3	Principal contractor will provide a sustainable procurement plan
Applicable building materials are responsibly sourced	12	Targeted	4	Materials will be responsibly sourced (i.e. FSC, PEFC, EMS) as to achieve at least 18% of credits within the BREEAM Mat 02 calculator.
Mat 03 – Insulation				
Insulation index for new insulation is ≥ 2 based on the Green Guide rating and thermal performance and $\geq 80\%$ of the new thermal insulation used is responsibly sourced (for key processes and supply chain) for the following building elements a. External walls b. Ground floor c. Roof d. Building services	8	Targeted	6	All new insulation for external walls, ground floor, roof and building services will be specified with a Green Guide rating of A or A+ (where possible) and at least 80% of the new thermal insulation will be responsibly sourced (i.e. with EMS certification)
WASTE				
Was 01 – Household Waste				
Provision of dedicated storage facilities for dwellings recyclable waste streams	2	Targeted	1	Reading Council operate a roadside collection scheme for mixed recycling and so a 30 litre recycling bin (in addition to a container for non-recyclable/general waste) will be provided within a kitchen cupboard. Reading Council do not provide a kitchen waste collection service therefore the second credit is not achievable.
Was 02 – Refurbishment Site Waste Management				
Implementation of a compliant site waste management plan, measure non-hazardous construction waste and non-hazardous demolition waste against resource efficiency benchmarks and undertake a pre-refurbishment audit of the existing building	3	Targeted	1	Principal contractor will implement a compliant site waste management plan. The resource efficiency benchmark credits are not currently targeted as the waste generated cannot be accurately predicted
POLLUTION				
Pol 01 – Nitrogen Oxide Emissions				
Reduce the emission of nitrogen oxides (NO_x) into the atmosphere	3	Targeted	3	We assume the current ME strategy is to use gas fired boilers and so it is expected that the dry NO_x emissions will be ≤ 40 mg/kWh
Pol 02 – Surface Water Run-Off				
Refurbishment scheme to have either a neutral impact on surface water run-off from the site or reduce the run-off	3	Targeted	1	The existing site is hard landscaping and the proposed site will not add any further hard landscaping (some additional garden/planting may be carried out) therefore a neutral impact on surface water run-off is expected. The additional credits are not expected to be achieved as compliant SUDS (infiltration) will not be provided for this development.
Pol 03 – Flooding				
Flood risk assessment carried out and the dwellings are defined as having a low annual probability of flooding	2	Targeted	2	A flood risk assessment will be required to be undertaken to confirm the site is in a low risk flood zone

5.

Conclusion

5. Conclusion

This Pre-Assessment Report demonstrates that a Very Good rating can potentially be achieved based on the credits currently targeted and the implementation of the assumptions detailed within.

The score provides a reasonable buffer above the 55% threshold required for a Very Good rating.

Achieving the targeted BREEAM credits through the design and post construction stages will require rigorous adherence to the credit criteria. As some details for full compliance may not be included in this summary report, it is essential for the design team to remain in contact with the assessor as the project develops to confirm that all specifications and designs are in line with the pre-assessment.

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