

36 AVENUE ROAD, NW8

SUSTAINABILITY STATEMENT

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1 EXECUTIVE SUMMARY

This report summarises the sustainability strategy for the redevelopment of 36 Avenue Road. The proposal seeks to demolish the 1970's brown brick dwelling and replace with a new, sustainable family residence.

The objective is to deliver a dwelling with a high sustainability performance, taking into account design and financial constraints when developing a single house. To do this a balance has been sought between the various environmental, social and economic issues prioritising those that provide the greatest potential for the dwelling to limit its environmental impact.

A sustainability strategy has been developed by the project sustainability consultant for the proposed dwelling in consultation with the design team. The strategy has been informed by the energy strategy (see the energy statement that accompanies the application) and a preliminary Code for Sustainable Homes (CSH) assessment for which a target rating of 'Level 4' is being sought.

The following sustainability standards and targets have been met by the Dwelling in line with Camden's policy requirements:

❖ **Reduce energy demand and CO₂ emissions:**

- 19% reduction in CO₂ emissions against the Part L 2013 compliant dwelling, in line with CSH Level 4;
- High levels of insulation and air tightness to provide good thermal performance;
- Energy efficient lighting throughout and whole-house ventilation with heat recovery;
- Low carbon heating provided by air to water heat pumps.

❖ **Water use rate of 105 litres/person/day:**

- Water efficient bathroom fittings;
- Potential for greywater recycling.

❖ **No net gain in peak runoff from that of the existing development**

❖ **Net gain in biodiversity:**

- Creation of new habitats and use of locally valuable plant species.

❖ **Responsible use of materials:**

- New materials to have low environmental impact, as rated by the Green Guide;
- Responsibly sourced materials, including timber.

❖ **Responsible construction practices:**

- Exemplary performance under Considerate Constructors Scheme;
- Best practice site waste and environmental management plans.

2 INTRODUCTION

2.1 BACKGROUND

This sustainability statement details the proposed design strategies that have been adopted for the redevelopment of 36 Avenue Road, NW8 (hereafter referred to as the Dwelling) in order to deliver an advanced sustainability performance and to demonstrate compliance with national and local planning policy requirements.

The sustainability strategy for the Dwelling has been prepared by the project sustainability consultant in consultation with the design team. The strategy has been informed by a preliminary environmental assessment which has been carried out by a licensed assessor under the Code for Sustainable Homes 2014 scheme.

This document should be read in conjunction with all other documents submitted in support of the application.

2.2 DEVELOPMENT OVERVIEW

The site is situated close to Primrose Hill and Regents Park amongst a collection of large residential properties. The site is within the Elsworthy Conservation Area, but the existing building is not identified as a positive contributor and is out of character with the surrounding neighbourhood.

The proposal seeks to demolish the 1970's brown brick dwelling and replace with a family residence that is more in keeping with the surrounding architecture. Careful attention has been paid to the scale and materials of the surrounding buildings. The proposal will improve the existing streetscape and make a positive contribution to the conservation area.

The proposals will deliver a high quality single family dwelling that will contain the following:

- Ground Floor: reception, dining room and kitchen, family room, guest WC and study.
- First Floor: three bedrooms and lounge / study.
- Second Floor: four bedrooms and lounge.
- Lower Ground Floor: family lounge, staff accommodation, laundry, gymnasium, games room and swimming pool
- Basement: Cinema, wine cellar, salon, changing rooms, kitchen and larder, sauna and steam rooms and plant rooms.

The proposals provide a floor space of approximately 2,100 sqm (22,800sq.ft)

2.3 LOCAL POLICY DRIVERS – CAMDEN COUNCIL

Camden's Core Strategy sets out the key elements of the Council's vision for the Borough. Further detailed policies are provided within the Development Plan and particular regard has been given to Policy DP22 'Promoting sustainable design and construction' whereby the Council will expect new build housing to meet Code for Sustainable Homes Level 4.

3 PROPOSED SUSTAINABILITY MEASURES

To deliver a good sustainability performance within the constraints of the existing site a balance has been sought between the key environmental, social and economic issues. This means prioritising those issues that provide the greatest potential for the Dwelling to limit its environmental impact without compromising the viability of the scheme. A number of design measures are proposed in order to address these issues; key measures are summarised in the table below.

Sustainability Issue	Aim	Proposed Measures
Energy Efficiency	To improve energy efficiency performance to reduce the demand for fossil fuels such as gas and electricity.	High performance glazing. Highly insulated building fabric.
Climate Change	To use passive and low carbon measures to ensure CO ₂ emissions associated with the Dwelling are reduced as far as practicable.	Natural ventilation, when desired. Natural shading from retained mature trees. 100% efficient lighting through LEDs. Low carbon heating and hot water supplied via air source heat pumps. Whole house mechanical ventilation with heat recovery, for when opening windows isn't desirable.
Water Consumption	To reduce the demand for mains-supplied potable water.	Water efficient bathroom fittings. Greywater recycling (to be further investigated). Water efficient white goods.
Surface Water Runoff and Flood Risk	To ensure no additional burden on local drainage infrastructure and that the occupants aren't impacted by localised flood risk.	By containing the redevelopment within the existing footprint, no increase in surface water runoff is anticipated. The extent of the soft landscaping will provide permeable surfaces to allow for natural infiltration of surface water during rainfall.

Materials	<p>To use materials which have the lowest environmental impact.</p> <p>To use materials which are in keeping with the local area.</p>	<p>Construction materials, including insulation, will be assessed under the Green Guide to Specification to determine their environmental impact. Wherever possible, materials will be procured from responsible sources.</p> <p>All timber will be selected from legal sources, as directed by the UK Government Timber Procurement Policy.</p> <p>Replace the existing 1970's red brick house with that of a style appropriate to the existing architecture on Avenue Road.</p>
Biodiversity	<p>To increase urban greening and increase local biodiversity.</p>	<p>Retention of healthy, existing mature trees.</p> <p>Creation of new habitats, as guided by a qualified ecologist.</p> <p>Planting of locally valuable species, as guided by the Local Biodiversity Action Plan.</p>
Sustainable Travel	<p>To promote sustainable travel patterns to reduce transport-related emissions.</p>	<p>Home office to reduce the need to travel for work.</p> <p>Secure, dedicated cycle storage.</p>
Health & Wellbeing	<p>To provide a healthy and safe environment for occupants.</p>	<p>Improved thermal comfort through high levels of insulation and good quality glazing.</p> <p>Improved daylighting through additional windows and skylights.</p> <p>Advanced ventilation system to ensure adequate provision of fresh air all year round.</p> <p>Private outdoor garden to provide space for recreation and relaxation.</p> <p>Lifetime Homes standard.</p> <p>Implementation of Section 2 of Secured by Design.</p>

4 CODE FOR SUSTAINABLE HOMES PRELIMINARY ASSESSMENT

4.1 THE CODE FOR SUSTAINABLE HOMES

CSH seeks to minimise the adverse effects of new dwellings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants. The environmental implications of a new home are assessed and compared with good practice by independent assessors. An overall rating of the dwelling's performance is given which is defined by six levels, with level 6 being the highest. This is determined from the total number of CSH credit criteria met and their respective environmental weighting.

The total of all these scores is the overall rating, which is awarded according to the following scale:

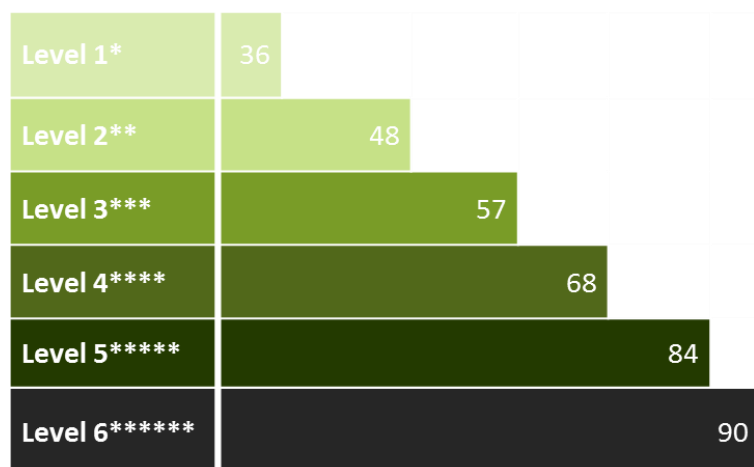


Figure 4.1 – Scores required for each Level rating

CSH addresses a range of sustainability issues under nine key categories as follows:

CSH Environmental Sections	
Energy and CO ₂	Pollution
Water	Health & Wellbeing
Materials	Management
Surface water runoff	Ecology
Waste	

Figure 4.2 – Code for Sustainable Homes Environmental Sections

4.2 PRELIMINARY CSH ASSESSMENT

The Dwelling is seeking to achieve a Level 4 rating under the latest CSH 2014 version and there are a number of mandatory credits that must be achieved in order to achieve Level 4 certification. The most challenging of these apply to CO₂ emissions and water consumption:

- Credit issue Ene 1 - CO₂ emissions reduction of 19% compared against Part L 2013
- Credit issue Wat 1 - Maximum water use rate of 105 litres/person/day

Even if the number of credits targeted throughout the assessment results in sufficient points accrued overall (i.e. 68 or above) if the mandatory requirements are not met the building will not be awarded CSH Level 4 status.

A preliminary assessment has been prepared by Scotch Partners based on outputs from a number of sustainability workshops held with the project team. The key credits requiring early decisions and incorporation into the design proposals have been discussed and agreed. This has ensured the appropriateness and achievability of the credits targeted in order to attain the desired Level 4 rating.

The indicative baseline score for the Development is currently at **69.07%** which equates to a Level 4 rating with a potential score of **72.01%** which would provide a good margin for error. These potential credits are currently being investigated for technical feasibility and will be included within the baseline score once confirmed.

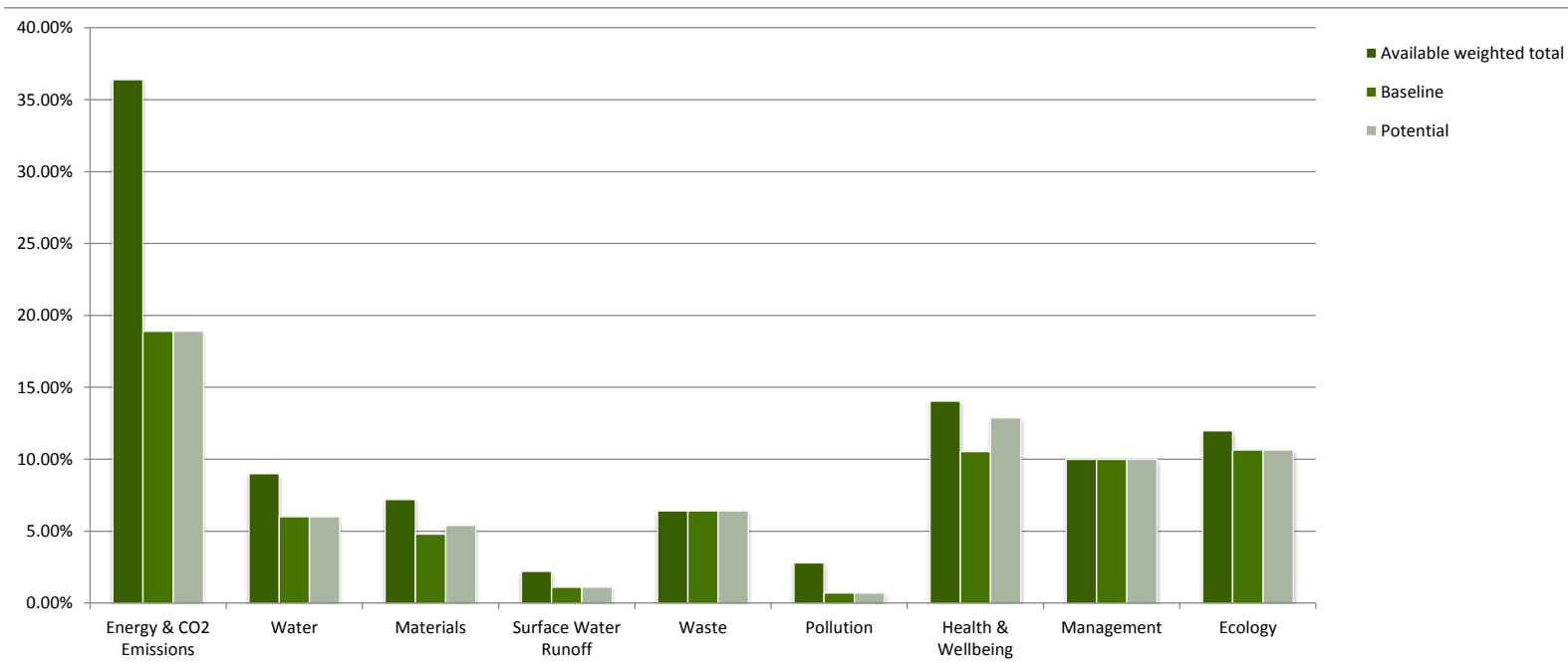
The preliminary assessment showing the current performance is provided in Appendix A. It is important to note that at this stage in the design the pre-assessment is not fixed and some credits may be replaced by others and additional credits may be targeted during design development.

APPENDIX A – CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT REPORT

SUMMARY PERFORMANCE & RATING

Credit section	No. Credits available	Credits targeted		Credit weighting	Available weighted total	Targeted weighted total	
		Baseline	Potential			Baseline	Potential
Energy & CO2 Emissions	31	16.1	16.1	1.17%	36.39%	18.90%	18.90%
Water	6	4	4	1.50%	9.00%	6.00%	6.00%
Materials	24	16	18	0.30%	7.20%	4.80%	5.40%
Surface Water Runoff	4	2	2	0.55%	2.20%	1.10%	1.10%
Waste	8	8	8	0.80%	6.40%	6.40%	6.40%
Pollution	4	1	1	0.70%	2.80%	0.70%	0.70%
Health & Wellbeing	12	9	11	1.17%	14.04%	10.53%	12.87%
Management	9	9	9	1.11%	9.99%	9.99%	9.99%
Ecology	9	8	8	1.33%	11.97%	10.64%	10.64%
TOTAL SCORE						69.06%	72.00%
CSH RATING						LEVEL 4 ****	LEVEL 4 ****

CSH RATING	Score
LEVEL 6 *****	90%
LEVEL 5 *****	84%
LEVEL 4 ****	68%
LEVEL 3 ***	57%
LEVEL 2 **	48%
LEVEL 1 *	36%
UNCLASSIFIED	<36%



DETAILED PRE-ASSESSMENT REPORT

Mandatory credits apply for Level 4



Credit at risk

1. ENERGY & CO ₂ Emissions		Credits Available	Credit Criteria	Targeted Credits		Comments
1.17%				Baseline	Potential	
Ene 01	Dwelling emission rate	10	% improvement DER/TER: 1 credit ≥ 6% 2 credits ≥ 12% 3 credits ≥ 19% (Level 4) 4 credits ≥ 32% 5 credits ≥ 44% 6 credits ≥ 56% 7 credits ≥ 70% 8 credits ≥ 84% 9 credits ≥ 100% (Level 5) 10 credits Zero net emissions (Level 6)	3.1	3.1	SAP output confirms that the Dwelling achieves a 22% reduction in CO2 over Part L 2013 compliant building.
Ene 02	Fabric energy efficiency	9	FEE kWh/m2/year (Detached, Semi & End Terrace) 3 credits ≤ 60 4 credits ≤ 55 5 credits ≤ 52 6 credits ≤ 49 7 credits ≤ 46 (Levels 5 & 6) 8 credits ≤ 42 9 credits < 38	3	3	SAP output confirms that the Dwelling achieves a FEE of 59.2 kWh/m2/year
Ene 03	Energy display devices	2	1 credit - Electricity OR primary heating fuel 2 credits - Electricity AND primary heating fuel (2 credits - Electricity is primary heating fuel)	2	2	To be installed.
Ene 04	Drying space	1	1-2 beds = 4m+ drying line 3+ beds = 6m+ drying line	1	1	A dedicated laundry will be provided with drying lines and appropriate ventilation.
Ene 05	Energy labelled white goods	2	1 credit - A+ rated fridges/freezers 1 credit - A rated washing machines & dishwashers plus B rated dryers or info to dwelling OR 1 credit - Info to dwelling only	2	2	To be installed.
Ene 06	External lighting	2	1 credit - Energy efficient space lighting & controls Plus 1 credit - Energy efficient security lighting & controls	2	2	To be installed.
Ene 07	Low & Zero Carbon Technologies	2	1 credit - 10% CO2 emissions reduction Or 2 credits -15% CO2 emissions reduction	0	0	Insufficient contribution from the Air Source Heat Pumps to achieve credits.
Ene 08	Cycle storage	2	1 credit: 1 bed - 1no spaces for every 2no dwellings 2 & 3 bed - 1no space per dwelling 4 bed - 2no spaces per dwelling 2 credits: 1 bed - 1no spaces per dwelling 2 & 3 bed - 2no spaces per dwelling 4 bed - 4no spaces per dwelling	2	2	Sufficient, secure and accessible cycle storage for 4 cycles will be provided within a dedicated space in the basement.
Ene 09	Home office	1	1.8m in a suitable room, plus adequate ventilation and 1.5% daylighting	1	1	A home office is to be provided.
Energy Section Credit Total		31		16.1	16.1	
Weighted Total		36.39%		18.90%	18.90%	

2. WATER		Credits Available	Credit Criteria	Targeted Credits		Comments
1.50%				Baseline	Potential	
Wat 01	Indoor water use	5	1 credit ≥ 120 l/p/d (Levels 1 & 2) 2 credits ≥ 110 l/p/d 3 credits ≥ 105 l/p/d (Levels 3 & 4) 4 credits ≥ 90 l/p/d 5 credits ≥ 80 l/p/d (Levels 5 & 6)	3	3	Space allowance to be made for a greywater recycling system to support the water efficient sanitaryware in achieving maximum rate of 105 l/p/d.
Wat 02	External water use	1	System to collect and reuse water for external use	1	1	Likely that wastewater from greywater recycling would be used for irrigation (supply to outside tap)
Water Section Credit Total		6		4	4	
Weighted Total		9.00%		6.00%	6.00%	
3. MATERIALS		Credits Available	Credit Criteria	Targeted Credits		Comments
0.30%				Baseline	Potential	
Mat 01	Environmental impact of materials	15	A+ to D rated materials in the Green Guide for at least 3No of the following: - roof, - external walls, - internal walls, - upper and ground floors, - windows.	10	10	The use of traditional building materials should assist in achieving high Green Guide ratings.
Mat 02	Responsible sourcing - basic building elements	6	80% of assessed materials in building elements are responsibly sourced, plus 100% timber	4	5	To form part of the Contractor Employer Requirements
Mat 03	Responsible sourcing - finishing elements	3	80% of assessed materials in finishing elements are responsibly sourced, plus 100% timber	2	3	To form part of the Contractor Employer Requirements
Materials Section Credit Total		24		16	18	
Weighted Total		7.20%		4.80%	5.40%	
4. SURFACE WATER RUNOFF		Credits Available	Credit Criteria	Targeted Credits		Comments
0.55%				Baseline Type 1	Potential Type 1	
Sur 01	Management of SWR from developments	0	Hydraulic controls criteria: No increase in peak runoff rate and volume runoff rate, plus design for local drainage failure	~	~	Part of the ongoing design.
		2	Water quality criteria: 1 credit - No discharge for rainfall up to 5mm And 1 credit - Treatment of runoff to minimise pollution	0	0	Unlikely to be achieved.
Sur 02	Flood risk	2	1 credit - Zone 2 or 3 plus at least 600mm above design flood level Or 2 credits - Zone 1	2	2	Confirmed by EA Flood Risk Map
SWR Section Credit Total		4		2	2	
Weighted Total		2.20%		1.10%	1.10%	
5. WASTE		Credits Available	Credit Criteria	Targeted Credits		Comments
0.80%				Baseline	Potential	
		0	Household (apply IDP Checklist) : Adequate, inclusive external storage space (larger volume of either BS5906 requirements or LA-provided container).	~	~	Sufficient, compliant storage space to be provided.

Was 01	Storage of non-recyclable and recyclable household waste	4	Recyclable (apply IDP Checklist): 2 credits - Internal storage where no external storage, no LA collection and 60l capacity provided Or 4 credits - Internal storage to support LA recycling collection scheme (30l - single or multiple bins)	4	4	Sufficient, compliant storage space to be provided.
Was 02	Construction site waste management	1	Minimising construction waste: Targets for resource efficiency; procedures for minimising construction waste; monitoring, measuring & reporting.	1	1	To form part of the Contractor Employer Requirements
		2	Diverting waste from landfill: Achieve the above plus procedures to sort and divert waste to achieve either: 1+1 credits - 50% by weight or volume (non-haz) 1+2 credits - 85% by weight or volume (non haz)	2	2	To form part of the Contractor Employer Requirements
Was 03	Composting	1	Individual composter, or community scheme, or LA collection	1	1	Achieved either through an individual composter, or local authority collection scheme if available.
Waste Section Credit Total		8		8	8	
Weighted Total		6.40%		6.40%	6.40%	
6. POLLUTION		Credits Available	Credit Criteria	Targeted Credits		Comments
0.70%				Baseline	Potential	
Pol 01	Global warming potential (GWP)	1	Roofs, walls, floors, external walls and building services to have insulation using substances with GWP <5 (manufacture and installation)	1	1	To form part of the Contractor Employer Requirements
Pol 02	Nitrous Oxide (NOx) emissions	3	Dry Nox level (mg/kWh): 1 credit - ≤ 100 2 credits - ≤ 70 3 credits - ≤ 40	0	0	Air Source Heat Pumps are to be used to provide low carbon heating and hot water, in order to comply with Ene 01. However, due to the use of grid electricity to operate the pumps it is unlikely that credits can be achieved for low NOx.
Pollution Section Credit Total		4		1	1	
Weighted Total		2.80%		0.70%	0.70%	
7. HEALTH & WELLBEING		Credits Available	Credit Criteria	Targeted Credits		Comments
1.17%				Baseline Type 1	Potential Type 1	
Hea 01	Daylighting	3	Average daylight factor: 1 credit - Kitchens 2% 1 credit - Living & dining, studies, home office 1.5% 1 credit - 80% working plane direct light from sky	0	2	Daylighting levels to be reviewed as part of the ongoing design
Hea 02	Sound insulation	4	Airborne and impact sound insulation values improvement over Part E: 1 credit - 3dB 3 credits - 5dB 4 credits - 8dB Or Use of construction assessed as Robust Details to the standards above. (Default: 4 credits - detached dwellings)	4	4	Maximum credits achieved by default for detached dwellings,
Hea 03	Private space	1	Inclusive private (1.5sqm/bed) or semi-private (1sqm/bed) outdoor space. Accessible only to intended occupants	1	1	Achieved.
Hea 04	Lifetime Homes	4	Compliance with all principles of Lifetime Homes. Unless exemption of criteria 2 and/or 3 applies (awarded 3 credits)	4	4	Confirmed by architect that LTH principles have been applied
Health & Wellbeing Section Credit Total		12		9	11	

Weighted Total	14.04%		10.53%	12.87%	
8. MANAGEMENT	Credits Available	Credit Criteria	Targeted Credits		Comments
1.1%			Baseline	Potential	
Man 01 Home user guide	3	2 credits - Checklist Man 1, Part 1. Available in alternative formats. Plus 1 credit - Additional info on the site & surroundings	3	3	To form part of the Contractor Employer Requirements
Man 02 Considerate Constructors Scheme	2	1 credit - Score ≥5 in every section, total score 24 - 34 2 credits - Score ≥7 in every section, total score 35 - 50	2	2	To form part of the Contractor Employer Requirements
Man 03 Construction site impacts	2	1 credit - 2 or more items 2 credits - 4 or more items	2	2	To form part of the Contractor Employer Requirements
Man 04 Security	2	Consult ALO/CPDA at design stage and incorporate recommendations. Plus compliance with SBD Section 2 <i>Physical Security</i>	2	2	Confirmed that the local crime prevention design advisor / secured by design officer has been consulted.
Management Section Credit Total	9		9	9	
Weighted Total	10.00%		10.00%	10.00%	
9. ECOLOGY	Credits Available	Credit Criteria	Targeted Credits		Comments
1.33%			Baseline	Potential	
Eco 01 Ecological value of site	1	Site is confirmed as land of low ecological value	1	1	Forms part of the ecology report
Eco 02 Ecological enhancements	1	Suitably qualified ecologist + report. Adopt all key recommendations and 30% of additional recommendations.	1	1	Forms part of the ecology report
Eco 03 Protection of ecological features	1	Eco features and maintained and protected	1	1	Arboriculture report confirms that the only tree being removed is permitted and recommended
Eco 04 Change in ecological value	4	Species per hectare change: 1 credit -9 and ≤ -3 2 credits -3 and ≤ +3 3 credits 3 and ≤ 9 4 credits +9	3	3	Determined by the ecology report.
Eco 05 Building footprint	2	Ratio of net internal floor area:net internal ground floor area 1 credit: Houses - ≥ 2.5:1 Apartments - ≥ 3:1 2 credits: Houses - ≥ 3:1 Apartments - > 4:1	2	2	Achieved.
Ecology Section Credit Total	9		8	8	
Weighted Total	11.97%		10.64%	10.64%	
TOTAL PRE-ASSESSMENT WEIGHTED SCORE			69.07%	72.01%	
CODE FOR SUSTAINABLE HOMES RATING			Level 4	Level 4	

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