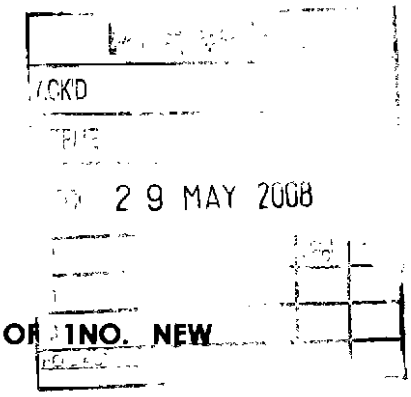

SUSTAINABLE HOMES PRE ASSESSMENT STATEMENT

ON BEHALF OF PA JOINERY LTD

SITE: 229 MOSTON LANE EAST, MOSTON, MANCHESTER

PROPOSAL: PLANNING APPLICATION FOR THE ERECTION OF 1NO. NEW DWELLINGS

1.0 INTRODUCTION

The following is sustainability pre accessment statement that describes how we could achieve energy efficiency within the proposed Dwelling at 229 Moston Lane East, New Moston, Manchester. The coming sections describe how we will achieve the require performance in the home in order to satisfy the government incentives with regards to energy efficiency and the reduction of carbon costs.
Building to the specification indicated will result in lower greenhouse gas emissions and lower fuel bills for the occupier, typical savings and CO2 savings compared with the minimum performance required by Building regulations Part L will be given in Table 1.

2.0 U values

The following are U-values stated in Building regulations – Part L:

2.1 Maximum permissible U-values (W/m2K) for exposed elements – Part L

Pitched roofs - insulation between rafters	0.20
- Insulation between joists	0.16
Wall	0.35
Floors	0.25
Windows, doors, roof lights	0.20

The following are U-values that will be used in the above development:

2.2 Maximum permissible U-values (W/m2K) for exposed elements – Part L

Pitched roofs - insulation between rafters	0.13
- Insulation between joists	0.13
Wall	0.25
Floors	0.20
Windows, doors, roof lights	0.18

The SAP calculations for the Building regulations submission will use the lower minimum U-values for exposed elements.

2.3 Average daylight Factor

Due to the orientation of the apartment block and windows in elevations the following minimum levels will be:

Living rooms, dining rooms	1.5%
Kitchens	2.0%
Bedrooms	1.0%

Based on BS 8206: part 2 Code of Practice for Daylight.

3.0 Domestic Wet central Heating System

3.1 Boiler

The individual condensing boilers will have a minimum SEDBUK (Seasonal Efficiency of Domestic Boilers in the UK) rating of 86%

3.2 Hot water storage

Regular boilers will have either a high performance hot water cylinder exceeding the requirements of BS 1566 and BS 7206 or a high performance thermal (primary) storage system. In the later case, the insulation properties will exceed the requirements of the Water heater Manufacturers' Association Performance Specification for Thermal Stores by 15% and satisfy its other requirements.

3.3 Controls

The controls will be as follows:

* A programmable room thermostat/thermostatic control.
* Thermostatic radiator valves on all radiators.
* An automatic bypass valve.

For systems with a separate storage cylinder, a cylinder thermostat will be fitted and the programmable room thermostat will have additional hot water timing capability.

3.4 Lighting

Low energy bulbs will be used throughout the dwelling in conjunction with the use of dimmer switches.

3.5 Ventilation

Passive Stack Ventilation (PSV) or assisted Passive Stack Ventilation (aPSV) systems will be installed, these systems will provide a continuous, controlled supply of fresh air, and both the supply and exhaust will be humidity controlled. If fans are used in the ventilation system, total fan power will be less than 1W per litre per second of extract air.

4.0 Pressure Testing

A pressure test (carried out to the procedure in CIBSE TM23 Testing Buildings for Air Leakage) will be carried out if required and will be accordance with council's standards. Satisfying the minimum requirement of less not than 1m3/h/m2 at 50Pa.

5.0 Electrical Appliances

Energy Efficiency Recommended (EER) electrical appliances are to be fitted. & use condensing washer dryer

6.0 Water Usage

Only appliances with low water consumption will be used within the dwellings.
* W.C.s will consume a maximum of approx 4 litres
* Showers will not deliver more than 6 litres/min
* Washing machines will use less than 50 litres per wash
* Dishwashers will use less than 16 litres per wash

Dead legs in piping will be avoided where possible.

7.0 Heat Loss Assessment

A post construction thermo graphic survey will be done to assess any missing insulation.

8.0 Renewable energy requirements

Renewable energy sources that have been considered are as follows:

8.1 Solar water heating
8.2 Solar photovoltaic (PV)
8.3 Wind
8.4 Ground source heat pumps

9.0 Recommendation/Conclusion

It was recovered that solar photovoltaic would be the best solution from life cycle costing post of view also would be the most economically viable.

Wind – due to the height and location of the dwelling would not be suitable for the development as the plant would have a large visual impact on the existing street scene.

Ground source heat pumps may be a suitable option however the only constrain being the small area in order to implement a scheme of this nature in order to receive the relevant life cycle.

I would conclude the above assessment by recommending that if a renewable source was used in order to achieve the requirements that solar gains would be the best renewable energy.

10.0 Calculations/Appendices

Table 1:

Savings in comparison with dwellings constructed to the minimum standard

Minimum standard

Fuel cost (£/yr)	SAP
238	101

Proposed standard

Cost saving (£/yr)	SAP	CO2 Saving kg CO2/yr
42	108	375

3 bed roomed house uses approximately 13,170 kwh/year total energy consumption – this figure includes heating, lighting, appliances and cooking.

In the proposed development we have one number 3 bedroomed house therefore the total energy consumption would be 13,170 kwh/year if you add on 5% for communal areas this gives us a total consumption of 13,828.5 kwh/year

To achieve a 10% renewable energy source we require approx. 1,382.8 kwh/year from solar photovoltaic panels.

10.0 Calculations/Appendices Cont....

The proposed solar panels achieve approximately 2.6 kwh/m2/day therefore 949 kwh/m2/year.

The proposal would be to install 1.5m2 of photovoltaic solar panels surface mounted to the main roof all fixing to manufacture/supplier details, on the south west facing slope.

11.0 REFERENCES

Central Heating System Specification (CHESS) (GIL59), July 2002
Building Regulations 2000 Approved Document Part L1A New dwellings 2006
Energy Efficiency Best Practice in Housing
Energy Efficiency in New Housing