

APPENDIX 12: SPECIFIC SUSTAINABLE ISSUES INCORPORATED IN DESIGNS

The four priorities addressed by the design and construction process were

- Minimising energy demand
- Maximising efficiency
- Control use to avoid waste
- Maintaining effectiveness

In addition the Authority required that sustaining employment and training should also be considered.

The above priorities have been addressed throughout the design of buildings and the proposed construction methods. In particular by

- a. Geothermal ground source heat used to heat the ground floors of Secondary schools and all floors of the Primary schools and Early Education and Childcare Centres via under floor heating. The Geothermal effect will also be used for cooling.
- b. Rainwater and grey water harvesting will save up to 30% in the use of mains water to each site.
- c. The use of condensing boilers to maximise their environmental benefit by not using them for constant temperature circuits.
- d. Careful consideration of the proportions of classrooms has allowed for a maximisation of effective natural ventilation of classrooms.
- e. Solar windcatchers used in Primary schools will use sunlight to power ventilation fans during the Summer period.
- f. The use of proximity sensors and sensors which switch off classroom lighting when there is sufficient natural light will occasion energy savings.
- g. The flexibility of classroom design and careful location of services will allow for changes in room size and shape with minimum disruption and cost.
- h. On site crushing and reuse of materials from demolished buildings will reduce quantities going to land fill.
- i. The proposed use of local sub-contractors will contribute to vocational training as well as to sustaining local employment levels.