

### Appendix 3 – Details of Environmental Implications (information provided by BCCBS)

The Blackbridge Community and Sports Hub will bring many more people into the Blackbridge field connecting them with the green space together with new opportunities to improve their well-being as residents and families. The development is committed to improving the local environment by –

- Creating the site to the *Building With Nature* building standard established as a national standard by Gloucestershire Wildlife Trust
- Improving biodiversity of the Blackbridge field through increased wildflower and tree planting (including the planting of over 100 new trees). The proposals will result in a 51.72% biodiversity net gain with regard to habitats, and 43.86% biodiversity net gain with regard to hedgerows.
- A full specification of habitats including relevant management will be produced within a Landscape and Ecological Management Plan (LEMP)
- Using sustainable urban drainage systems (SUDS) to improve local habitats as well manage site water flows
- Installation of bird and bat boxes
- Creation of a dark corridor between sports facilities and potential bat roosting areas together with specialist lighting to minimise impact
- Manage the woodland that borders the site in line with an agreed LEMP
- A Construction and Ecological Management Plan (CEMP) will also be prepared as part of the condition compliance
- The M&E design provides an environmental and energy efficiency solution to providing heating, comfort cooling, ventilation and hot water services, supplemented by an array of roof mounted photovoltaic panels.
  - Heating is provided via air source heat pump located on the plant deck. The efficiency of this type of system is approximately 400%, that means for every unit of electricity used 4 units of heat are produced.
  - Some rooms are provided with air source variable refrigerant comfort cooling and heating units. These are able to transfer heat removed from rooms requiring cooling and provide heating to rooms requiring heating, without the need to operate the compressor, thus providing energy efficient heating/cooling.
  - All ventilation is provided with plate heat exchangers to recover the heating (and cooling) from individual rooms, thus minimising the energy consumption of the systems.
  - The hot water for the development will be provided via air source heat pump water heaters located within the plant room.
  - Photovoltaics will allow the imported electrical energy to operate the foregoing systems to be minimised as they all require electricity to function.
  - All lighting is LED and offices are provided with absence detection and the stores, toilets and changing rooms etc are provided with presence detection to minimise the time these low energy fittings are operated.
- The proposed materiality of the Hub building prioritises the use of materials which are attractive, robust and with a long lifespan to reduce the need for maintenance and future replacement. Brickwork facing and rendered walls are proposed as the

external finishes. High performance double-glazed window systems are proposed for maximum solar gain and minimum heat loss.

- Encouraging cycling and walking to the site through the creation of safe dedicated access, and improved facilities