

# WELWYN HATFIELD SUSTAINABILITY CHECKLIST

## PROPOSED TWO-STOREY OFFICE & LABORATORY FACILITY at BIOPARK

Policy SD1 of the District Plan expects all applicants to demonstrate that their development will be consistent with the principles of sustainable development. Supplementary Design Guidance for Welwyn Hatfield includes a sustainability checklist which is to be submitted with an application, and which identifies the factors to be addressed in making development sustainable.

The Two-storey Office & Laboratory Facility at The Welwyn BioPark falls into the category of 'large scale development' (A) - more than 235 sq. metres of floorspace.

### A) SITING AND LAND USE

How will the development satisfy the following criteria?

#### 1. Use previously developed land as opposed to a green field site.

The scheme uses previously developed land and, by retaining and utilising existing structure, minimises waste and disturbance in the construction process.

#### 2. Avoid the loss of urban open spaces and, designated sites for nature conservation, and damage to the Historic Environment.

Not applicable.

#### 3. Make use of any derelict, under-used, or vacant land or buildings.

The scheme brings about more efficient use of previously under-used developed land and, thereby, extends the useful life span of that.

#### 4. Encourage a maximum lifespan for the development with the use of durable construction unless there are extenuating circumstances requiring more flexibility.

The new building is of durable construction compatible with existing structure and the proposed construction solution maximises the useful life span of the existing structure.

#### 5. Avoid areas of high quality agricultural land and floodplains.

Not applicable.

#### 5a Avoid the possible sterilisation of mineral resources identified in the Adopted Minerals Local Plan.

Not applicable.

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## **B) IMPACT AND FUTURE USE OF THE DEVELOPMENT**

How will the development satisfy the following criteria?

### **Minimisation of Pollution**

#### **1. Minimise noise, e.g. building design, use of quieter technology, operating hours and traffic reduction.**

The proposed building works in as part of an existing larger complex of buildings and servicing infrastructure, benefiting from centralised servicing arrangements already in place.

#### **2. Minimise light pollution, e.g. design of buildings, and lighting schemes, avoiding use of floodlighting.**

To suit proposed laboratory type use, limited numbers/sizes of window openings are proposed and this will keep light spillage to a reasonable minimum.

#### **3. Minimise odours from buildings and plant.**

Served by existing services infrastructure based in adjacent buildings of the BioPark complex (to be supplemented by some localised condensers adjacent to the proposed new build). Labs will have required handling of extract etc.

### **Management of Water Resources**

#### **4. Use local sources for the water supply and disposal of waste if possible.**

Uses existing building complex infrastructure for water supply and disposal of waste.

#### **5. Prevent pollution of ground and surface water and enhance water quality where possible e.g. renew sewers, waterway maintenance, reed beds for waste water treatment.**

Surface water drainage links into existing s.w. drainage points that previously drained the equivalent area of the upper car park deck.

#### **6. Protect the hydrology of the site and the surrounding areas e.g. use permeable surfaces for car parks, provide swells, and open water areas, minimise road length, avoid water run-off into water courses.**

Not applicable – Surface water/rainwater drain into existing system.

#### **7. Minimise water consumption through the use of water efficient fixtures and fittings, reed bed systems, ponds, rainwater storage and recovery and grey water re-use.**

Water efficient fixtures and fittings should be used where possible. Rainwater as noted above.

### **Energy Efficiency**

#### **8. Maximise passive solar gain by considering the siting and microclimate of the individual buildings e.g. making best use of the sun, avoiding overshadowing, size and orientation of windows, use of earth sheltering.**

Proposed building is laboratory facility and therefore different constraints apply. Solar gain is not beneficial in the circumstance as spaces have conditioned air systems and build up of heat has to be managed and limited.

Therefore the design, layout and siting of the proposed building all contribute to reducing load on air conditioning

systems through limiting window size and benefiting from shading provided by the adjacent buildings of the BioPark complex.

**9. Minimise heat loss and maximise energy efficiency through building design e.g. using sources of renewable energy, solar panels, insulation, using lobbies and conservatories as buffer zones, draught proofing, localised temperature controls, weather-breaking planting.**

Proposed building designed to be at or above current Building Regulations standards in terms of insulation, restriction of air leakage, temperature control systems etc. Servicing efficiency through provision from existing infrastructure of adjoining major buildings of the BioPark complex, giving fuller take-up of existing capacity of those systems.

**10. Reduce green house gas emissions through building design, e.g. use of condensing boilers.**

Efficiency gains and reduction in servicing loads generally as outline in items 8 & 9 above.

**11. Generate power efficiently from a local source e.g. combined heat and power plant, heat/methane recovery from waste and other forms of renewable energy.**

Again, dependant on efficiency gains from utilising existing servicing infrastructure/capacity.

**12. Encourage energy efficient modes of transport e.g. cycling walking and buses.**

The proposed building benefits from central location, good railway and bus links nearby and the University's own bus service which links to this site. Walking and the use of mass transport systems are encouraged by BioPark, as is cycling to work.

## **Waste Management**

**12a Follow the Waste Strategy Hierarchy of Minimisation, Re-use, recovery, and disposal as a last resort.**

Existing BioPark arrangements will be part of the servicing infrastructure for the proposed building. Efficiency benefits will come from this. Wherever possible waste is separated and recycled, specifically paper, cardboard, ink cartridges as a matter of policy every cost effective recycling opportunity that is identified will be adopted.

**13. Maximise facilities on site to help with recycling, including home composting.**

As item 12a above.

**14. Include facilities for separation and storage of different types of waste for collection.**

As item 12a above.

**15. Include public facilities for recycling of waste and consider the need for access by various disposal contractors.**

As item 12a above.

## **Habitats and Species**

**16. Ensure that there will be no overall net loss of biodiversity i.e. the quantity and variety of species.**

It is believed that, because of the nature of the proposed development – re-use of existing structure/built form to provide site/support for the new building – this should be not applicable.

**16a. Contribute to the priorities and targets set out in the Local BAP (Biodiversity Action Plan).**

As item 16 above.

**17. Protect designated sites and other sites/features of nature conservation importance, including SSSIs, and County Wildlife Sites.**

Not applicable.

**18. Conserve protected species where found.**

Yes – but considered unlikely to be applicable – see item 16 above.

**19. Make positive provision to nature conservation e.g. nature reserves, naturally shaped watercourses, native planting to encourage wildlife, or other wildlife- friendly landscape features.**

Not applicable.

**20. Provide for the ongoing management of habitats where applicable.**

Not applicable.

**21. Ensure that waste products do not harm wildlife.**

Waste products are to be dealt with appropriately through the use of existing University/BioPark infrastructure and facilities management.

**22. Encourage use of timber from sustainably managed sources.**

Timber, where used in construction, should be from sustainably managed sources.

**Community Provision and Equity**

**23. Involve the local community in the development of proposals.**

The proposed development is clearly one that will be of benefit to the local community and has been discussed with planning officers on a pre-application basis.

**23a Contribute to the provision of education facilities where appropriate.**

Yes – by definition of the buildings intended use of the proposed building.

**24. Provide affordable housing, or commuted payment for affordable/ social housing where appropriate.**

Not applicable.

**25. Provide appropriate health and childcare facilities where appropriate to satisfy local demand.**

BioPark has organised that when required the child care facilities at the YMCA, which is very close, can be used.

**26. Improve leisure and recreational facilities e.g. recreation grounds, playing fields, children's play areas.**

Not applicable.

**27. Make positive provision for open spaces e.g. provide parks, village greens, and committed sums for future maintenance.**

Not applicable.

**28. Improve and maintain access to existing open space.**

Not applicable.

**29. Improve community, cultural and social facilities e.g. community centres, public art.**

Not applicable.

### **Accessibility**

**30. Improve or enable convenient access to employment centres, shops, recreation and community facilities and schools.**

Siting of proposed building in central location consistent with these aims, both through convenient access to existing facilities and by provision of a further employment/educational facility into that context.

**31. Maximize access for the pedestrian/cyclist to & within the development & give priority to footpaths and cycle ways over private transport modes.**

The proposed development will utilise existing provision at BioPark.

**32. Improve access to buildings for everyone (wheelchair users, people with young children and disabled people).**

The proposed building design takes account of the Disability Discrimination Act and will be in accordance with Building Regulations Part M requirements.

**33. Give public transport priority over private transport modes.**

Not applicable.

**34. Improve facilities and conditions for cycling especially safety aspects e.g. secure covered cycle storage, cycle paths, signals and lanes.**

The proposed scheme will benefit from use of existing cycle parking facilities on site.

**35. Meet the requirements for the preparation and implementation of a Green Transport Plan.**

A Travel Plan is being prepared.

**36. Minimize car parking e.g. appropriate levels/standards of parking, car free neighbourhoods, park and ride.**

It is thought that the proposed development, through building on existing upper parking deck, will reduce present over capacity down to overall levels of provision appropriate to the overall BioPark facility when this development is complete. University bus, green travel policies/arrangements encourage reduction in car use.

**Contribution to the Economy**

**37. Increase job opportunities for local people e.g. training courses, inward investment, and small business units.**

Proposed building will bring about a number of new employment opportunities, provide education, business and, in particular, start-up/nursery business facilities.

**38. Demonstrate how the proposal will add to the generation of income in the local area.**

Through extension of the existing BioPark complex, increasing existing local employment, income and expenditure opportunities.

**39. Promote socially and environmentally responsible business practice e.g. waste minimization, office recycling, energy saving schemes and noise reduction.**

Wherever possible waste is separated and recycled, specifically paper, cardboard, ink cartridges as a matter of policy every cost effective recycling opportunity that is identified will be adopted.

**40. Add to diversity of the local economy.**

The present BioPark facility is part of the existing diverse local economy. The proposed building will add further to that and bring further diversity through the provision of start-up/nursery business facilities.

**Health and Safety**

**41. Minimise opportunities for crime through the layout of buildings and spaces e.g. natural surveillance of paths overlooking of paths, appropriate landscaping and mixed uses.**

Buildings benefit from each in the complex having views across to the others, giving natural surveillance. The BioPark infrastructure and facilities management regime also provide active security arrangements.

**42. Segregate vehicles from all other modes of transport wherever possible.**

Existing arrangements for complex remain.

**43. Store potentially hazardous materials safely.**

Existing appropriate arrangements for storage of materials, as part of BioPark facilities management, will provide for this.

### **C) CONSTRUCTION PERIOD**

How will the development satisfy the following criteria?

#### **Energy Efficiency**

**1. Demonstrate how the energy costs of developing the site will be minimised in terms of extraction, manufacture, transport, use and disposal in construction e.g. minimise changes in site levels during construction, avoid use of aluminium.**

Use of existing structure to support new building and linking to existing drainage and servicing systems keeps arisings, removals/disposals very low, through limiting demolitions and excavations to a minimum. Levels for the support of the proposed building are already established by existing structure, therefore no changes in site levels. Limited use of aluminium in construction – mainly window/door framing system externally. Aluminium in this form is highly recyclable and benefits from long life coatings applied in controlled manufacturing environment and avoids the need for regular/frequent re-treatment with paints and coatings in use.

#### **Minimisation of Pollution**

**2. Include a site investigation to identify areas of soil contamination and take correct measures for decontamination.**

Site investigation measures should include testing of any arisings (as noted in item 1 above, relatively minor quantities anticipated) and Contractor to undertake appropriate measures for treatment/disposal etc.

**3. Minimise noise levels and light pollution during the building processes e.g. use of quieter technology, restriction of operating hours and traffic reduction.**

Contractor will be expected to take reasonable measures in these respects and will work in liaison with the University/BioPark to minimise disturbance to existing BioPark complex buildings, which will stay in use during the construction period.

**4. Minimise air and dust pollution during construction.**

As item 3 above.

**5. Prevent pollution of ground and surface water.**

Contractor will be expected to take reasonable measures in these respects – legal requirements.

**6. Minimise odours from buildings and plant.**

As item 3 above.

#### **Waste Management**

**7. Identify the volumes and type of waste generated during development through construction and occupation and take measures to minimise, reuse and recycle waste.**

What little arisings are generated (see item 1 above) will be considered by the Contractor for potential re-use, where suitable/appropriate – for example crushed concrete as fill material.

**8. Encourage the use of renewable recycled, recyclable and durable products e.g. building materials, salvage material for re-use/ recycling, use demolition materials for hardcore and aggregate.**

As item 7 above.

**8a. Promote the use of local materials first, followed by low embodied energy materials, and finally high embodied energy imported materials.**

This will be an aim of later detailed design.

#### **Habitats and Species**

**9. Ensure the protection of trees, hedgerows and other plants during construction.**

Existing small planted area of structure over lower level basement parking entry remains and Contractor will be expected to protect this.

**10. Preserve wildlife habitats on site during construction either in situ or by translocation.**

Not known if any – but Contractor will be required to be aware and action appropriately.

#### **Health and Safety**

**11. Use clean hazard-free technologies for plant and building operation and maintenance.**

Building construction and maintenance subject to the requirements of H&SaWA and CDM regulations and will be monitored through the normal processes of the CDM Coordinator, Contractor and, later, building owner/operator.

**12. Store potentially hazardous materials safely.**

As item 11 above.

**13. Avoid unsafe building materials e.g. asbestos, lead paints, organochlorides.**

As item 11 above.

**14. Encourage liaison with the local community as part of a 'Considerate Contractor' approach to the construction phase.**

Contractor will be encouraged in this approach through general liaison requirements with University/BioPark and through their own policies and procedures.