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1. Introduction

Background

1.1 The University of Hertfordshire’s 2020 Estates Vision document sets out a framework for the development and management of its estate in accordance with its Strategic Plan.

1.2 The University is seeking the endorsement of Welwyn Hatfield Borough Council (WHBC) as it prepares to bring forward key elements of its Estates Vision, notably the redevelopment of student residences on the College Lane Campus.

1.3 The Borough Council has requested that submission of the 2020 Estates Vision document is supported by a Sustainability Appraisal, underpinned by an assessment of the potential environmental effects and including consideration of alternatives. This report sets out the findings of that appraisal.

Approach

1.4 The Sustainability Appraisal has been structured in accordance with the Borough Council’s Sustainability Checklist, and has drawn on the following information:

- Environment Agency mapping;
- the National Air Quality database;
- Google Earth;
- BGS geological mapping;
- the College Lane Campus Residencies Design Brief;
- Welwyn Hatfield Strategic Flood Risk Assessment (May 2009);
- Welwyn Hatfield Third Round (Air Quality) Updating and Screening Assessment (August 2006);
- Welwyn Hatfield Climate Change Strategy 2010-2013;
- University of Hertfordshire Parking Analysis: Supply and Demand Note (August 2011); and
- the University’s Sustainability Strategy.

1.5 In addition, a number of technical studies have been commissioned in relation to the redevelopment of the student accommodation at College Lane, which is one of the key projects in the 2020 Estates Vision. These studies comprise the following:

- an Extended Phase 1 Habitat Survey and Bat Survey;
- a Tree Survey;
- a Phase 1 Geotechnical Study;
- a Flood Risk Assessment, Drainage Survey and Sustainable Drainage Strategy; and
- a Transport Statement.

1.6 The University’s Sustainability Strategy comprises:

- an Environment and Sustainability Policy;
- a Carbon Management Plan;
- a Waste and Resource Management Strategy;
- a Travel Plan;
- Sustainable Construction Guidance; and
- the University’s Environmental Management System (EMS).

Limitations and Assumptions

1.7 It should be noted that the Council’s Sustainability Checklist is primarily intended to support planning applications. It therefore assumes that a greater level of information is available than is the case with the 2020 Estates Vision, which is a strategic document intended to provide a framework for development at the pre-application stage.

1.8 As a result, it has not always been possible to provide a detailed response to some of the criteria in the Checklist. In these cases, a commitment in principle is made, based on current best practice and guidance - and with reference to the University’s Sustainability Strategy - which will provide a basis for more detailed appraisal when applications are brought forward.
1.9 For the same reason, the impact assessment that can be achieved at this pre-application stage is also relatively “high-level”. It is assumed that individual applications will be supported by whatever specific environmental work may reasonably be required, including – where relevant - screening to determine whether environmental impact assessment (EIA) may be necessary.

1.10 However, as planning applications come forward, this high-level appraisal would frame the detail of the proposals in terms of sustainability and impact assessment.

1.11 The 2020 Estates Vision masterplan proposes that most development will take place on the College Lane Campus, together with some improvements to the de Havilland Campus. These two sites have therefore been the focus of this appraisal, with other sites referred to where relevant.

1.12 The Bayfordbury site - whilst referred to in the 2020 Estates Vision - is in East Hertfordshire District and has been excluded from this appraisal. However, this site is explored more fully within the current planning application already before East Herts District Council for consideration.

2. Baseline Conditions and Receptors

Scope

2.1 The following environmental topics are considered to be of relevance:
- Air Quality;
- Cultural Heritage;
- Ecology;
- Flood Risk and Drainage;
- Ground Conditions and Waste;
- Landscape and Views;
- Noise and Vibration; and
- Transport.

Air Quality

2.2 Local air quality is managed by LPAs by assessing compliance with the National Air Quality Objectives for relevant pollutants. Where exceedance of an objective is predicted, the LPA must declare an Air Quality Management Area (AQMA) and introduce appropriate remedial measures.

2.3 WHBC have not declared any AQMAs. The Third Round USA Report (2006) confirmed that there was no significant risk of exceedance of the AQ Objectives for carbon monoxide, benzene, 1,3-butadiene, lead, nitrogen dioxide, sulphur dioxide and PM10 (for 2004). A risk of exceedance of the PM10 objective for 2010 in parts of the Borough was identified, although this did not require any action at the time.

2.4 Although no baseline data have been reviewed for the purpose of this appraisal, it is likely that air quality across most of the University estate is typical of urban background conditions. Locally elevated levels of PM10 and nitrogen dioxide would be expected in the vicinity of major roads, e.g. at College Lane close to the A1(M). University buildings are likely to be the main fixed source of emissions (e.g. from heating plant) in the vicinity of any future development.

2.5 Several development sites within the University estate are located close to receptors such as residential and commercial properties, whilst all sites are used by staff and students to varying degrees. Such receptors would be sensitive to any deterioration in local air quality due to, for example, construction dust or increases in operational traffic.
Cultural Heritage

2.6 No part of the University estate within Welwyn Hatfield falls within an Archaeological Priority Area or Conservation Area; neither does it include any listed buildings or scheduled monuments. The original Technical College buildings at College Lane, whilst unlisted, are of local interest.

2.7 Most parts of the University estate are already developed to varying degrees and have been subject to extensive ground disturbance. They are therefore relatively unlikely to be of archaeological interest.

Ecology

2.8 The College Lane campus includes Hazel Grove, which is an area of ancient woodland comprising hornbeam coppice with oak standards, designated as a County Wildlife Site.

2.9 The remainder of the University estate is relatively built-up and of limited ecological value. On the majority of sites, interest is likely to be confined to any mature trees, any buildings with the potential to support bat roosts, any waterbodies with the potential to support breeding amphibians, and any areas of scrub or dense ornamental planting (which may support breeding birds).

2.10 Parts of the University estate are known, or have the potential, to support protected species such as badgers, bats and reptiles (e.g. College Lane). Such species impose specific requirements in terms of the surveys and mitigation procedures that may be necessary before development can proceed.

Flood Risk and Drainage

2.11 None of the University estate within Welwyn Hatfield falls within areas of identified flood risk. Most of the developed parts of the University are assumed to be connected to the urban stormwater drainage system. However, it is known that drainage on at least part of the College Lane campus discharges to soakaways.

Ground Conditions and Waste

2.12 BGS mapping indicates that most of the University estate is located on glacial sands and gravels overlying Lambeth Group clay, silt, sands and gravels and/or London Clay, in turn overlying White Chalk.

2.13 Chalk mining has occurred in the local area, creating a potential risk of subsidence across parts of the University estate (e.g. at College Lane).

2.14 The White Chalk is a major aquifer of regional importance and parts of the University estate fall within Source Protection Zones. In addition, perched groundwater may occur within any superficial sand and gravel deposits.

2.15 Most existing uses within the University estate are unlikely to pose a risk of ground contamination. However, the possibility that localised contamination may have occurred (e.g. from sources such as oil tanks or chemicals storage) cannot be ruled out.

2.16 Residual contamination from any historic uses is unlikely to have persisted; sites previously in industrial use (e.g. de Havilland Campus) would have been investigated, and any remediation carried out, prior to their redevelopment by the University.

Landscape and Views

2.17 The two main campuses, College Lane and de Havilland, are located in built-up areas, as are most of the outlying parts of the University estate. The main exception is the Angerland park-and-ride facility, which is located to the south of Hatfield; however, no major urban development is proposed at this location.

2.18 The de Havilland and College Lane Campuses already accommodate buildings of varying height and form. Apart from the proximity of residential properties to parts of College Lane, the townscape setting of these sites is not highly sensitive, suggesting that taller buildings may well be acceptable in design terms.
2.19 Whilst large-scale redevelopment will result in the displacement of existing buildings and spaces, many of these are of essentially functional design, and the proposals will provide an opportunity for improvements in architectural quality and site character.

2.20 A number of sites include mature trees, some of which may need to be removed in the course of development.

Noise and Vibration

2.21 Traffic is likely to be the main influence on the noise climate at most sites, especially those close to busy roads (e.g. College Lane and de Havilland). Where sites are adjoined by uses such as residential properties and teaching or research facilities, noise and vibration could be a potential source of impact. This is most likely to occur during the demolition and construction phase, but could also result from any increases in operational traffic or from new fixed sources of noise such as building services plant.

Transport

2.22 The two main campuses, College Lane and de Havilland, are sustainably located within walking distance of each other and close to bus services, pedestrian and cycle routes providing good access to Hatfield town centre and railway station. Both sites are also served by the UNO bus service, which includes an inter-campus shuttle connecting to the Angerland park-and-ride facility. Parking surveys indicate that there is currently a significant over-provision of parking capacity across the University.

2.23 The University operates a Travel Plan applicable to staff and students. The 2011 update indicates that 35% of students drive alone to the campus, 27% use the bus and 26% walk. The equivalent figures for University staff are 67%, 8% and 8% respectively.

2.24 Further details are set out in the Transport Statement, which has been prepared in support of the 2020 Estates Vision.

Previously Developed Land (Criterion A.1)

3.1 All development proposed in the 2020 Estates Vision will take place within the existing University estate and on land already “developed” to accommodate related uses. Even where land may not have been built on, it is likely to have been disturbed (e.g. by earthworks to form sports pitches) and is therefore not in its original greenfield condition.

3.2 Major development will be confined to the College Lane and de Havilland Campuses. The College Lane Campus has been in educational use for nearly 60 years, having been developed as Hatfield Technical College in 1952. The de Havilland Campus was developed in 2003 on the former British Aerospace site, which originated as the de Havilland aircraft factory in 1930.

3.3 The University estate includes no genuinely greenfield land and no acquisition of such land is proposed; at Angerland, for example, those parts of the site not currently occupied by the park-and-ride facility were previously used as sports pitches. Vacant land such as College Lane North is proposed for disposal.

3.4 A major advantage in terms of developing an existing University site is that the proposals will benefit from the well-established sustainable travel infrastructure already in place, which has been proven to work well.

Open Space, Nature Conservation Sites and Historic Environment (Criterion A.2)

3.5 Where development is proposed as part of the masterplan, it will generally result in an increase in the proportion of the campuses occupied by buildings, partly at the expense of open space (e.g. at College Lane).
However, the open space at College Lane no longer fulfils a sports function as this was transferred to the de Havilland Campus on the opening of the Sports Village.

3.6 Where there are specific sports facilities on the College Lane Campus, these will be maintained or re-provided alongside the proposed residences. In addition, qualitative improvements to open space across the campuses will enhance their character and capacity, so that no net reduction in amenity will occur.

3.7 The only designated nature conservation site that could be affected by the proposals is Hazel Grove, which is a County Wildlife Site. The University is committed to the protection and enhancement of this site; no encroachment into it is proposed, whilst a range of management initiatives will be put in place as part of a forthcoming Management Plan.

3.8 There are no listed buildings within those parts of the University estate where redevelopment is proposed, and none of the work is of sufficient scale to affect the setting of any such buildings or Conservation Areas in the vicinity. The original Technical College buildings at College Lane are to be retained.

3.9 Since the main proposals will take place on previously developed land, these sites are unlikely to retain any archaeological interest. Where necessary, site-specific archaeological assessments will be carried out as individual proposals are brought forward for planning.

Derelict, Under-Used or Vacant Land and Buildings (Criterion A.3)

3.10 A key aim of the masterplan is to replace buildings that are no longer fit for purpose. This is particularly the case at College Lane, where 41% of the buildings are considered to be sub-standard in terms of their condition, their suitability for existing or proposed uses, and their compliance with current standards of energy performance.

3.11 The 2020 Estates Vision proposals provide an opportunity both to improve the efficient use of the University estate and to achieve long-term savings in management and environmental costs. New development will be required to incorporate low- or zero-carbon design in order to make a positive contribution towards the University’s Carbon Management Plan.

Durable Construction (Criterion A.4)

3.12 New-build projects will be carried out in accordance with the University’s Sustainable Construction Guidance. This includes a requirement for design and procurement to adopt a long-term perspective, delivering buildings that are flexible in their use and future-proofed against climate change.

Agricultural Land and Floodplains (Criterion A.5)

3.13 None of the proposals will affect any agricultural land and no work will take place within functional floodplains.

Mineral Resources (Criterion A.5a)

3.14 None of the proposals will sterilise any mineral resources as defined in the Adopted Minerals Local Plan.
4. Impact and Future Use

Minimisation of Pollution (Criteria B.1-B.3)

4.1 The proposals will incorporate measures intended to minimise any operational noise emissions (Criterion B.1) in accordance with a BREEAM Excellent rating. It is assumed that specific developments will be subject to the Borough Council’s normal noise control powers and will comply with relevant standards such as BS4142.

4.2 Design measures are likely to include the specification of building fabric to minimise any noise breakout from sources such as machinery and music, whilst the University will be prepared to accept reasonable limitations on the timing of any noise-generating activities. The University’s Travel Plan aims to restrain car use and traffic movements, and thereby associated sources of noise.

4.3 The design of buildings and external spaces will aim to minimise any sources of light pollution, e.g. due to light spill beyond the property boundary (Criterion B.2). This will be achieved through the detailed design of each development (e.g. in the location and selection of light fittings), which will be required to demonstrate that, for sensitive locations, the lowest acceptable levels of lighting can be achieved consistent with functional and safety requirements.

4.4 The design of buildings will seek to minimise any sources of odour (Criterion B.3) through the appropriate location and specification of ventilation plant and extractor fans.

Management of Water Resources (Criteria B.4-B.7)

4.5 Water supply and wastewater treatment will be provided by Thames Water, who it is assumed will use the most appropriately located facilities (Criterion B.4). There are no independent sources of supply (e.g. boreholes) within the University estate.

4.6 New developments will be connected to the Thames Water sewerage system in accordance with all relevant requirements. Operational areas and wastes will be managed so as to minimise any risk of ground- or surface-water pollution (e.g. any areas of oil or chemical storage). Any hazardous aqueous waste will be disposed of in accordance with relevant guidance (Criterion B.5).

4.7 Drainage systems will be designed in accordance with sustainable principles, so as to minimise runoff and pollution risks, e.g. by adopting a “management train” approach to stormwater appropriate for each development (Criterion B.6).

4.8 Water consumption will be minimised through the incorporation of features such as rainwater harvesting, dual-flush toilets and grey water recycling, where appropriate for each development, in accordance with achieving a BREEAM excellent rating for new buildings (Criterion B.7).

Energy Efficiency (Criteria B.8-B.12)

4.9 New buildings will aim to achieve the highest affordable standard of energy efficiency, so as to achieve a minimum BREEAM Excellent rating and an Outstanding rating where possible. This will be achieved through design and specification so as to optimise passive solar gain and cooling, whilst minimising heat loss (Criteria B.8/B.9).

4.10 Energy efficient buildings will help to restrain carbon emissions, supplemented with low-carbon strategies for the provision of heat and power, as appropriate for each development, in order to make a positive contribution towards the University’s Carbon Management Plan. The University’s aim is to achieve a 60% reduction in regulated carbon emissions (over a 2005/6 baseline) by 2020, including a zero-carbon target for new residential accommodation.

4.11 Based on current thinking at College Lane, energy supply is likely to be based on a combined-heat-and-power (CHP) plant using high-efficiency gas and biofuel boilers, supplemented by selected renewable technologies such as photovoltaics. Opportunities for creating local (campus-wide) supply networks will be pursued where feasible. (Criteria B.10/B.11)

4.12 All new developments will encourage sustainable modes of travel and will adopt the University’s Travel Plan (Criterion B.12). The University already successfully operates UNO Buses, providing sustainable travel choices for those visiting the University and for the wider community.
4.13 A review of these services will be considered at each stage of the masterplan, with a view to identifying any need for improvements. Such changes will take account of the underlying travel demands at the time each phase of the 2020 Estates Vision is brought forward, with information sourced from the Travel Plan and bus usage data.

4.14 Furthermore, the development proposals will also benefit from continued use of the Angerland park-and-ride scheme, which reduces congestion and traffic-related emissions.

Waste Management (Criteria B.12a-B.15)

4.15 All developments will comply with the University’s Waste and Resource Management Strategy, by ensuring both that appropriate facilities are incorporated (e.g. for segregated waste storage) and that exemplary waste management practices are followed (e.g. adherence to the waste hierarchy). The University aims to achieve a recycling rate of 90% by 2014/15 across its estate, with residual arisings managed as at present by licensed contractors.

Habitats and Species (Criteria B.16-B.22)

4.16 Proposals within the 2020 Estates Vision strategy will comply with site-specific Management Plans where these are applicable (e.g. College Lane). These plans will reflect the priorities and targets set out in the Borough-wide BAP. The core aim will be to ensure that existing biodiversity is protected and enhanced so as to achieve a net benefit in the long-term across the University estate. (Criteria B.16-B.16a)

4.17 Particular attention will be given to the Hazel Grove County Wildlife Site and to protected species such as bats and badgers, which are known to be present in the local area, together with key habitats such as veteran trees, hedgerows, rough grassland and mixed scrub. (Criteria B.17-B.18)

4.18 As each development is brought forward, its ecological impacts will be assessed and appropriate mitigation or enhancement measures will be proposed. For example, where relevant, buildings to be demolished will be inspected to confirm whether they are likely to provide roosting opportunities for bats. Trees of conservation interest will be protected wherever possible and clearance of vegetation will avoid the nesting season for birds.

4.19 Habitat enhancement measures will include the use of native plant species, sustainable management and horticultural practice (e.g. selective mowing of grasslands), erection of bird and bat boxes, provision of information boards, and the creation of other features where appropriate (e.g. waterbodies, hibernacula for reptiles and amphibians, log piles for stag beetles). Waste management practices will ensure that wildlife is protected, whilst procurement during construction will encourage the use of sustainably-sourced timber. (Criteria B.19-22)

Community Provision and Equity (Criteria B.23-B.29)

4.20 The University is committed to its role at the centre of the local community, both in the way in which it implements the 2020 Estates Vision and in pursuing further opportunities for engagement and for public use of its facilities.

4.21 Public consultation has been a key influence on development of the 2020 Estates Vision document, including two public exhibitions. (Criterion B.23)

4.22 The University includes an on-site nursery, pharmacy and GP practice to meet staff and student needs, and is supported in this by its own Occupational Health department. (Criterion B.25)

4.23 The masterplan aims to provide new and enhanced amenity space for use by staff, students and visitors. Community use of University facilities such as the sports centre and Student Forum is already well established, and will continue - where appropriate - as new facilities are brought forward. (Criteria B.26-B.29)
### Accessibility (Criteria B.30-B.36)

4.24 The University’s Travel Plan commits the University to achieve statutory targets of 60% and 20% single occupancy vehicle (SOV) use for staff and students respectively by 2013. As each component of the 2020 Estates Vision is brought forward, the principles of the University’s Travel Plan will be applied through the preparation of project-specific Travel Plans. (Criterion B.35)

4.25 The Travel Plan will be reviewed incrementally as the masterplan unfolds, so as to reflect changes in travel patterns or policy over time. It will therefore remain a “live” document that is likely to evolve around a series of core principles.

4.26 The Travel Plan aims to encourage individual and organisational behavioural change through the development and implementation of sustainable travel choices. Measures that promote car sharing and public transport use (bus and train), and that increase the attractiveness of walking and cycling through infrastructure and marketing improvements, are outlined and promoted within the travel strategy. (Criteria B.31-B.34)

4.27 Accessibility will be a key concern in the design of specific proposals, both to underpin these sustainable choices and for reasons of equity, e.g. for the mobility impaired. (Criterion B.32) Design and Access Statements will be prepared for larger developments.

4.28 As more student accommodation is being provided on site, overall car trips on the network are expected to decrease (since fewer journeys to campus will occur). (Criterion B.36)

4.29 It is acknowledged that a small proportion of staff and students presently choose to park on the roads surrounding the College Lane Campus. As part of the car parking strategy, a fine balance will be struck between providing an appropriate level of on-site parking, encouraging sustainable travel choices and reducing any impact the University has on its neighbours.

4.30 The University is committed to improving the utilisation of its parking stock, as it has been demonstrated that a significant level of parking is presently under-utilised. As part of the 2020 Estates Vision it is anticipated that this parking stock will be consolidated as part of an overall review of parking policy.

### Contribution to the Economy (Criteria B.37-B.40)

4.31 The University is a major contributor to the local economy. It provides more than 2,500 jobs and its turnover of over £250million represents a significant input in terms of salaries and expenditure on goods and services. Implementation of the 2020 Estates Vision will consolidate this role by facilitating the University’s continued success as a national and international centre of excellence. (Criterion B.38)

4.32 The University has a track record in spin-off technology- and knowledge-based businesses, and this would continue, providing further diversification (Criterion B.40). The University’s commitment to sustainable business practice will be exported via its supply chain (Criterion B.39). The UNO bus operation provides a good example of how the University provides both economic and environmental benefits to the local community.

4.33 The University already offers a range of training opportunities for local people, and these are anticipated to increase as its facilities and its breadth of research and teaching expand. (Criterion B.37)

### Health and Safety (Criteria B.41-B.43)

4.34 All development will take place in accordance with the University’s Health and Safety Policy. The design of specific developments will aim to improve safety by designing-out crime and by managing the interface between pedestrians and vehicles, e.g. through segregation or traffic calming (Criterion B.41-42). Hazardous materials such as chemicals will be stored and handled in accordance with the relevant safeguards. (Criterion B.43)
5. Construction

Generally

5.1 All construction will take place in accordance with the University’s Sustainable Construction Guidance, consistent with prevailing best practice and regulations. Contractors will be required to register all sites under the Considerate Contractors Scheme (Criterion C.14) and to develop a project-specific Construction Management Plan (or equivalent). The CMP will comply with guidance such as BREEAM and will include provisions for community liaison. (Criterion C.14)

5.2 The University estate is well located for direct access to the strategic highway network, which will minimise any temporary disruption to the local community during the construction process.

5.3 It is anticipated that there will be agreement between the development team, the Local Planning Authority, Highway Authority and Highways Agency with regard to appropriate hours of construction.

Energy Efficiency (Criteria C.1)

5.4 The CMP will include a strategy for minimising energy consumption through design, procurement and site management, within the overall principles of the University’s Carbon Management Plan.

Minimisation of Pollution (Criteria C.2-C.6)

5.5 Any construction sites that may have been subject to residual contamination will be subject to a site investigation (SI) prior to the start of work. The scope of the SI will be agreed with the Borough Council, and may include intrusive investigations and testing of soil and groundwater samples, as necessary, in accordance with industry best practice. Any need for remediation will also be agreed with the Borough Council and, where necessary, the Environment Agency. (Criterion C.2)

5.6 Where existing buildings are to be demolished or altered, an asbestos survey - and, where necessary, removal - will be carried out in accordance with health and safety legislation.

5.7 Construction noise will be managed on the basis of a Noise Control Plan forming part of the CMP. Noise control will be based on best practicable means reflecting the requirements of BS5228. Temporary lighting will also be managed so as to minimise any risk of off-site pollution. (Criterion C.3)

5.8 Air pollution due to sources such as plant exhaust, fugitive dust emissions or odour will be minimised through effective monitoring and the application of measures such as wheel-washing and use of wheel bowsers where appropriate. (Criteria C.4 and C.6)

5.9 Pollution of ground- or surface-waters will be minimised by adherence to the EA’s Pollution Prevention Guidance. Preventative actions will include controls on the handling of materials such as hydrocarbons and cement slurry, implementation of temporary drainage measures where necessary, and responsible disposal of aqueous wastes such as water from excavations. (Criteria C.5)

Waste Management (Criteria C.7-C.8a)

5.10 All work will be subject to a Site Waste Management Plan (SWMP) prepared in accordance with the University’s Waste and Resource Management Strategy. The SWMP will characterise and quantify the waste arisings and set out how each waste stream is to be managed in accordance with the waste hierarchy. This will include specific targets for recycling (90%) and materials recovery. (Criteria C.7-C.8)

5.11 The CMP will include a procurement strategy which seeks to reduce energy consumption by prioritising the use of local and low embodied-energy materials where practicable. (Criterion C.8a)
5.12 The CMP will include provision for the protection of habitats and species, especially those identified as priorities in any site-specific BAP. Sensitive areas will be fenced and activities such as unauthorised access, fires or fly-tipping will be controlled. Trees will be protected in accordance with BS5837:2005.

5.13 Any specific mitigation requirements will be adhered to; at College Lane, for example, these are likely to include avoidance of vegetation clearance during the bird nesting season, erection of temporary fencing around Hazel Grove, maintenance of grassland to deter reptiles from entering working areas, and management of excavations to minimise hazards to badgers.

Health and Safety (Criteria C.11-C.14)

5.14 All work will be undertaken in accordance with statutory health and safety requirements and with relevant University procedures. This will include safe working practices, training, public protection measures and provisions for the avoidance, handling and disposal of hazardous materials.

6.1 This appraisal indicates that the 2020 Estates Vision masterplan performs very well against the criteria set out in the Sustainability Checklist. Sustainable features of the masterplan may be summarised as follows:

- the central location of the two main sites where redevelopment is proposed: College Lane and de Havilland;

- the opportunity to build on the success of the Angerland park-and-ride scheme and UNO bus service;

- the intention to increase the proportion of students living on-campus, which will bring benefits such as a reduction in car trips;

- the opportunity to replace energy-inefficient premises with modern buildings achieving a minimum BREEAM Excellent rating;

- the commitment to ensure that all construction is managed in accordance with best practice;

- an energy strategy based on the achievement of low- and zero-carbon targets by 2020, underpinned by efficient design and the selective use of renewable technologies such as biofuels and photovoltaics;

- the opportunity to design-in complementary features such as sustainable drainage and low water use; and

- the long-term commitment to reinforce the University’s pivotal role in the local community and economy, including community use of campus facilities.

6.2 The commitments made in this document, and through specific University policies and plans, will be applied to each development as it is brought forward, so as to ensure that the highest practicable standards of sustainable design and management are achieved.
Appendix A: Alternatives

1. Background

1.1 A key aim of the 2020 Estates Vision is to optimise the efficient use of the University’s estate, for which the existing pattern of sites provides the starting point. The consolidation of activities on the two largest and most sustainably located sites – College Lane and de Havilland – represents both the most cost-effective solution and the best opportunity for minimising the University’s environmental footprint.

1.2 As the 2020 Estates Vision document explains, a “do nothing” alternative is not viable, since this locks the University into dependence on the continued separation of student accommodation and teaching, and on buildings that are in many cases no longer fit for purpose, spread across multiple sites and buildings.

1.3 In addition, in sustainability terms, the do-nothing scenario would maintain current patterns of mobility, including a high number of home-to-campus and inter-campus trips for students. This would place additional demands on parking capacity and on the effective operation of the Angerland park-and-ride and UNO bus services.

1.4 As its building stock ages, the University would constantly be playing catch-up to meet increasingly onerous energy efficiency and other sustainability targets, with compliance achieved only through expensive retrofitting or refurbishment.

1.5 As a result, the only feasible alternatives to the preferred masterplan comprise:

- different degrees of consolidation on existing sites;
- consolidation on an entirely new single site; or
- different configurations of development on the two main campuses.

2. Consolidation on Existing Sites

2.1 Only the College Lane and de Havilland Campuses offer scope for differing levels of consolidation. Since the facilities at de Havilland are modern, there is no case for wholesale redevelopment, and opportunities at this campus are confined to the remaining parcels of vacant land and the enhancement of external spaces, as envisaged in the 2020 Estates Vision.

2.2 Because of its lower density and its high proportion of time-expired buildings, College Lane provides more scope for redevelopment. In theory, the campus could accommodate more research and teaching activities, and more student accommodation, than are envisaged in the masterplan.

2.3 However, this would require a number of environmental trade-offs. Areas of open space and outdoor sports facilities would be lost. Significant increases in floorspace or student beds would create additional travel demand, which could exacerbate parking overspill onto nearby streets, as well as giving rise to issues of peak-period congestion and possible impacts on noise and air quality.

2.4 It is likely that the new buildings would need to be larger and taller than currently proposed, it would therefore be more difficult to retain the original Technical College buildings. A significantly larger staff and student population would require a concomitant increase in support facilities, whilst increased disturbance could adversely affect the adjoining Hazel Grove woodland.

3. Consolidation on a New Site

3.1 None of the existing sites could accommodate all of the University’s activities. Furthermore, many of its facilities are purpose-built, and the University could not justify replicating them elsewhere before they have reached the end of their design life.
3.2 A single-campus alternative would require the purchase of a suitable site and could only be implemented over a far longer timeframe than the 2020 Estates Vision. It could also have adverse environmental implications, since there are few previously-developed sites available in the Hatfield area, whilst greenfield sites are constrained by designations such as Green Belt.

3.3 Even if such a site were to become available and could successfully negotiate the planning process, its sustainability is likely to be compromised by distance from the town centre and associated public transport links, resulting in an increased dependence on car travel.

4. Variants of the Campus Masterplans

4.1 The 2020 Estates Vision represents a response to specific drivers facing the strategic direction of the University:

1. The Strategic Plan of the University which sets out a vision for the future shape and profile of the University, and in particular a stable student body.

2. The introduction of higher tuition fees will be one of the most profound policy changes in the Higher Education Sector seen for a generation. This will have a significant impact on student expectations for quality across all aspects of their University life, including the need to deliver a campus-based experience.

3. The need to fully engage with the community whilst reducing the impact of the University’s operations.

4. The requirement under the Welwyn Hatfield District Plan to bring forward a framework for the University’s intentions for its estate.

4.2 The response to these drivers has generated a quantum and distribution of development across the University Estate that is focussed on consolidation and renewal. In developing a masterplan to structure this development, there are some key factors to account for:

- The de Havilland Campus is a relatively recent development conceived as a single set-piece campus.

- The College Lane Campus has experienced nearly 60 years of piecemeal development, with many areas and buildings requiring renewal and replacement. It is the natural focus for the majority of development.

- The Main Building at College Lane is seen as an important part of the University’s heritage and is to be retained.

- Around the Main Building are some important zones: a strong residential zone to the east and a student zone around the Forum to the south.

- Existing buildings must be retained until their replacements become operational.

4.3 Whilst the masterplanning team considers it has arrived at an optimum solution, the need to preserve strong east/west and north/south axes of movement will feature in any plan, as will the need to concentrate new development in the undeveloped portions of the campus.

4.4 In short, alternative masterplans would result in similar configurations and solutions and would not result in substantial differences in the external impacts of the overall quantum of development.