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1 Introduction

An Environmental Statement (ES) has been prepared on behalf of Orchid Runnymede Ltd in accordance with the statutory procedures set out in the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (SI 1999/293) (the Regulations), as amended by the Town and Country Planning (Environmental Impact Assessment) (Amendment) (England) Regulations 2008 (SI 2008/2093) (“the Regulations”) for the redevelopment of Runnymede Campus, on Cooper’s Hill Lane, Surrey (hereafter the Site).

The Proposed Development will see the redevelopment of the existing built part of the Site to provide a total of 43,384 m² GEA of mixed use, inclusive, sustainable development comprising residential uses (private, affordable, student and extra care), car parking and other ancillary uses. A more detailed description of the Proposed Development including the Full and Outline components of the ‘Hybrid Application’ and Listed Building and Conservation Area consents is provided in Section 5 of this NTS. This document is the Non-Technical Summary (NTS) of the ES for the Proposed Development. The aim of the NTS is to summarise the content and the main findings of the ES in a clear and concise manner to assist the public in understanding what the environmental impacts of the proposals are likely to be. It provides:

A summary of the Proposed Development;

– A summary of the main characteristics of the physical, natural and built environment around the Site;

– A summary of the likely significant environmental impacts arising from the proposals; and

– A summary of the measures that will be adopted to avoid, reduce or control any significant impacts and the main resulting (or residual) impacts.

The full ES and supporting Technical Appendices provide a more detailed description of the application area, the characteristics of the development proposals, and the findings of the Environmental Impact Assessment.

This ES comprises three documents: a non-technical summary (NTS), the main report and supporting technical appendices. The ES documents with the exception of Volume 4: Badger Assessment (which due to local wildlife crime in the vicinity of the Site is only available to RBC and the wildlife consultees), together with the planning applications and associated documents, will be available for viewing at:

Runnymede Borough Council Offices
Runnymede Civic Centre
Station Road
Addlestone
Surrey, KT15 2AH
Copies of the NTS are available free of charge from the Applicant’s agent ENVIRON at the address below. Copies of the main report and supporting technical appendices are also available from Savills at a cost of £300 for paper copies and £15 for an electronic version on CD.

ENVIRON
5 Stratford Place
London
W1C 1AX
2 EIA Process and Methodology

EIA is a process that identifies the likely significant environmental impacts (both beneficial and adverse) of a Proposed Development. Part of the process aims to prevent, reduce and mitigate any adverse significant environmental effects, where identified.

Scoping is the term used in the Regulations whereby the applicant can request an opinion from the competent authority on the content of the ES and the extent of the information to be elaborated and supplied for the assessment. A Formal EIA Scoping Opinion in connection with an earlier but similar scheme (Application Number RU.08/1168, RU.08/1169, RU.08/1170) was requested from RBC in March 2008, supported by a Scoping Report. The Scoping Report set out a description of the Proposed Development, the potential key environmental impacts and effects to be considered as part of the EIA, as well as, the proposed scope of and methodology to be followed within each technical assessment to be reported in the ES. RBC sought consultation responses from statutory and non-statutory consultees before providing a comprehensive Scoping Opinion was received from RBC in a letter dated 7th May 2008.

The likely significant effects identified as warranting more detailed consideration in the EIA were:

- Planning & Land Use;
- Demolition and Construction;
- Socio-Economics (principally effects on construction employment, end use employment, provision of new housing and other accommodation (including persons in need of care) and Impacts on community facilities);
- Archaeology;
- Landscape and Visual Impact;
- Ground Conditions;
- Water Resources and Flood Risk;
- Ecology;
- Waste;
- Transport & Pedestrian Accessibility;
- Air Quality;
- Noise and Vibration; and
- Cumulative Impacts.

Following receipt of the EIA Scoping Opinion Comments, an EIA was undertaken and an ES produced to support applications (RU.08/1168, RU.08/1169 and RU.08/1170) were
submitted in October 2008. The applications and the accompanying ES were subject to further extensive consultations with RBC, statutory and non-statutory consultees. Formal comments received during the post planning submission consultations on these earlier applications, for a broadly similar scheme to that proposed now, have informed the way in which the ES for the current Application has been scoped.

Given the Formal EIA scoping process undertaken in 2008 and the receipt of extensive post submission comments, an informal EIA scoping meeting was held with RBC’s Impact Assessment Unit on 12th October 2010. Following a briefing on the Proposed Development and the key differences between the 2008 scheme and the scheme now proposed an agreement was reached on the required scope of clarifications and updates of key technical assessments in light of the planned new Planning Application namely:

- confirmation from RBC that updated images for the long-distance views where the scheme is not visible will not be necessary;
- the need to include a new viewpoint from Cooper’s Hill Lane to fully capture the proposed new site access/egress;
- the decision to prepare fully rendered Visually Verified Model images of close-up views showing the detailed elements;
- the need to update the air quality modelling in line with the new traffic flows and energy strategy;
- confirmation that no updated baseline noise survey is required as the local noise climate at the Site has not changed significantly since the previous June 2007 survey but that updated noise modelling would be required;
- confirmation that the principles of the Outline Remediation Strategy should be provided;
- confirmation that there are no (new) cumulative schemes that need to be considered; and
- the need for the tree surveyors to return to the Site to survey the south-east section of the Site where the new site access/egress is proposed and to check the previous classifications of the Category B trees to be removed by the emerging design.

The EIA was undertaken in accordance with accepted best practice as set out within the *Institute of Environmental Management and Assessment's Guidelines for Environmental Impact Assessment, 2004*. A consistent approach to the presentation of EIA findings in the ES has been adopted for each of the technical areas, including:

- a review of policy and legislative requirements of relevance to the specific technical area, on national, regional and local level;
- an explanation of the information gathering and assessment methodology, including significance criteria;
– a description of the baseline conditions including the identification of sensitive receptors;
– a description of the mitigation that has been incorporated into the Proposed Development’s design;
– the identification of the potential impacts arising during the construction and completed development phases of the Proposed Development;
– an assessment of the environmental effects these impacts are expected to cause and an evaluation of their significance against defined criteria;
– a description of additional opportunities for mitigation to further reduce the significance of any adverse environmental effects, including the requirements for post-development monitoring; and
– the residual impacts following the implementation of proposed mitigation.
3 Description of the Existing Site

The Site of the Proposed Development is located within the former Brunel University Campus on Cooper’s Hill, which is immediately to the north of the village of Englefield Green and approximately 1.5 km north-west of Egham at NGR SU 994 722, as shown in Figure 1.

![Site Location](image.png)

**Figure 1: Site Location**

The Site (see Figure 2) covers an area of approximately 27.1 ha and is generally irregular in shape. The majority of the Site is open parkland comprising woodland, sports fields, a disused informal golf course and tennis courts. Buildings formerly used by Brunel University (and latterly Royal Holloway College) and some commercial buildings, roads and paths occupy the remainder of the Site, predominantly in the central southern part of the former Runnymede Campus. The buildings on the Site were used by Brunel University until July 2007 along with some additional commercial uses. The former university buildings are currently vacant, with the last commercial occupier in the small science park area on-site vacating in January 2011.
Figure 2: Site Boundary and Surroundings

To the north of the Site land use is predominantly agricultural land, woodland and grassland of the River Thames flood plain, which forms part of the National Trust’s Runnymede Estate. The Thames flows in a north-easterly direction approximately 500 m to the north-east of the Site. Approximately 450 m to the east of the area of the Site to be developed is the Commonwealth War Graves Commission Air Forces Memorial Monument (as shown in Figure 3), and memorial park.
To the north east of Runnymede Estate is a large woodland area which forms part of Langham Pond Site of Special Scientific Interest (SSSI) managed by the National Trust. The Site is bounded to the south by Cooper's Hill Lane in Englefield Green which links up to Egham to the east of the Site. Parts of Cooper's Hill Lane and a small section of the south-western part of the Site are in Englefield Green Conservation Area. To the west of the Campus is an area of woodland which is surrounded by dispersed housing including institutions and retirement homes. Windsor Forest and Great Park Special Area of Conservation (SAC) and SSSI (as shown in Figure 4), which is managed by the Crown Estate is situated approximately 700 m from the Site in a west-northwest direction.

Figure 3: Commonwealth War Graves Commission Air Forces Memorial
The Site is presently accessed by pedestrians, cyclists and vehicles via Cooper’s Hill Lane which has a separate exit and entrance with a loop road connecting the different areas of the Site plus Oak Lane for access to Oak Lane Cottages. Cooper’s Hill Lane connects to the Egham By-pass (A30) that links with the M25 to the east. Additionally, Cooper’s Hill Lane connects to St Judes Road (A328) to the west which links with Windsor Road (A308). A footpath is situated on the western boundary of the Campus, which connects to paths that run along the River Thames to the north-east of the Site. The main motorway network around the Site is the M25 to the east. This motorway has connections to other major motorways which include the M4, M3, M40 and M1 leading to other major cities in the UK. The local bus route passing the Site (number 71/3 bus) operates between Slough and Staines on a half-hourly basis. Rail services operate from Egham and run eastwards to London Waterloo and to Reading in the west.
4 Alternatives and Design Evolution

In accordance with the Regulations and EIA guidance, the ES includes a discussion of the alternative development options and various constraints and opportunities which influenced the ultimate design of the Proposed Development.

A key part of the design process undertaken was a review of Site constraints and opportunities. Identified constraints and opportunities which influenced the design included:

- the Site’s location within the Metropolitan Green Belt, albeit it is designated as a Major Development Site within the Green Belt;
- local land use sensitivities such as the Englefield Green village residents on Coopers Hill Lane, Englefield Green Conservation Area, the Mews and Club House Grade II listed buildings and other locally listed buildings, Commonwealth Air Forces Memorial, Langham Ponds SSSI;
- existing socio-economic conditions (i.e. demands for affordable housing, accommodation for people in need of care, and student accommodation provision);
- the Site’s location within a designated Area of Landscape Importance and in a Campus context on a ridgeline visible from a large area of the River Thames floodplain and some sensitive locations (albeit the current buildings are largely screened on by trees);
- the nature of the existing development on the Site as a former university campus with a range of architectural styles the most recent of which are considered to be of poor quality; and
- existing Site conditions – the low ecological value of the Site and low risk of contamination.

Guidance on the preparation of an EIA suggests that the evolution of a site in the absence of specific proposals should be addressed, which can be described as the ‘Do Nothing’ alternative. The ‘Do Nothing’ scenario is a hypothetical alternative conventionally considered, albeit briefly, in EIA as a basis for comparing the development proposal under consideration.

In this situation, one ‘Do Nothing scenario’ above would comprise the Site remaining as it currently is, i.e. a vacant site comprising a range of university campus buildings and ancillary structures, a sports hall building, a timber store, unused but deteriorating tennis courts, plus associated areas of amenity grassland and roads/pavements. In the absence of development and long term management buildings could be expected to deteriorate further, whilst amenity grassland and scrub could become overgrown with poor quality and dying trees becoming a higher Health & Safety risk.

However it is considered highly unlikely that the ‘Do Nothing’ scenario would ever arise as local planning policy recognises the Site’s suitability for development and Site benefits from an extant outline planning permission.
No alternative sites were considered by the Applicant as:

- the Site is owned by the Applicant, who are only intending to develop this Site and not any other site which is the property of a third party;
- the Site is previously developed brownfield land and is currently vacant. Its redevelopment and reuse would accord with PPS1 in regards to the reuse of brownfield land;
- the Site is a former University Campus estate, so the proposed uses would be broadly in keeping with former land uses;
- the Site is subject to an authorised extant outline planning permission of a similar built scale and land use;
- the Site is designated as a Major Development Site within the Green Belt.

The design of the Proposed Development layout has evolved through a number of stages, design team reviews, consultations with RBC and consultees and most significantly (Local) Community Planning Weekend and Forum Events.

The first step involved the identification of Site constraints and opportunities. This was undertaken in conjunction with the local community at a Community Planning Weekend (CPW) on the 12 & 13th October 2007. Key themes emerging from the CPW were:

- understanding the implications of development on Englefield Green;
- maintaining existing views into the Site;
- future management and maintenance of the estate;
- respecting the heritage and importance of Site;
- providing access for pedestrians wanting to enjoy the existing parkland and woodland;
- concern about the impact of traffic;
- proposed uses and importance of providing student accommodation;
- the location and character of new development; and
- the consultation process, the opportunity for residents to be as involved as possible.

This culminated in the submission in 2008 of Planning Applications RU.08/1168-70 for the masterplan shown in Figure 5. Proposed uses included a residential institution for those in need of care, student accommodation, a mix of residential accommodation types (with a mix of tenure), and commercial space for small businesses. The majority of the Site was proposed to remain as open space and woodland, although detailed proposals were made for the enhancement and future utilisation of the landscape.
Since the submission of the 2008 Applications, further design development and community/dialogue with RBC occurred as shown in Figure 6 which demonstrates the design evolution between June 2010 and January 2011.

June 2010          September 2010          January 2011

The preferred option is shown in Figure 7. The main proposed components (uses) of the scheme remain as before, and in the same proposed locations on the Site. However, the design evolved further to:
– provide a different mix of residential accommodation (fewer residential apartments, more detached or semi-detached dwellings);
– create a sustainable mix of private and affordable residential housing provided through appropriate dwelling types;
– reduce the building mass on Coopers Hill Lane;
– reduce the amount of impermeable buildings and hardstanding on-site;
– provide a reconfigured collegiate style of student accommodation scheme with a new, dedicated access;
– omit the commercial space beneath the proposed affordable housing; and
– retain the Club House building to provide sports changing facilities and a multi-purpose space for student use.

As the commercial accommodation proposed in the 2008 application was no longer considered viable this has been omitted from the proposals whilst the previously proposed accommodation ‘for people in need of care’ has been changed to ‘extra care’ accommodation.

Additionally, further Energy Strategy design work was undertaken which resulted in refinement of the design of the preferred option.
The changes to the scheme outlined in the bullets are considered to have a number of environmental benefits over the earlier masterplans including:

- a scheme that is more sympathetic to the local site context and existing features of the Site and Englefield Green Conservation Area in terms of visual and landscape setting and a layout which is more in keeping with small Surrey villages by the removal of large apartment blocks and creation of courtyards;
- the retention of the nationally listed Club House;
- the reduction in proposed basement car parking and potential archaeological impacts through excavations, as well as amount of spoil material required to be exported off-site;
- reduced car parking provision and trip generation;
- re-alignment of student accommodation in relation away from two of the most sensitive receptors (two private houses) and relocation of parking away from the boundary shared with these properties;
– reduction in impermeable site coverage (buildings/hardstanding): the proposed area of site impermeable to surface water has been reduced by some 1,800sqm as compared to the previous application; and

– a greater proportion of the units now proposed are suitable as family accommodation as compared to that of the previous application (which featured a larger number of 1- and 2-bed apartment dwellings).
5 Project Description

The objective of the Proposed Development is to create a high quality and attractive, sustainable community on this brownfield on the Site of this former University Campus. Key principles have been applied to optimise the potential of the Site in the context of the authorised outline permission and to build on the existing qualities of the setting to ensure that the Proposed Development has its own sense of place whilst fitting into the wider community.

The Proposals comprise the demolition of most of the buildings on the Site and the construction of a mixed-use scheme. Buildings to be retained include the President/Pillar/College Hall complex, which would be converted to Extra Care accommodation, as well as, the listed Mews building and the Cub House, the Chapel, Oak Lane Cottage and the Lodge.

Within this Hybrid Application:

- full planning permission is sought for:
  - 528 student bedspaces (plus a small shop);
  - 59 units of extra care accommodation;
  - 31 units of affordable housing; and
  - 17 units of private housing comprising: 10 units through conversion of the Mews (7), and the Chapel (2) and refurbishment of the Lodge (1); and 7 through new-build construction; and the Conversion of the Club House to sports pavilion.

- Outline planning permission is sought for approval of ‘Access’, ‘Layout’, ‘Scale’ and ‘Landscaping’ (with ‘Appearance’ to be determined at a later stage as a reserved matter) for 56 units of private accommodation;

- Listed Building consent is also sought for: Refurbishment and alterations of the Mews to provide 7 residential dwellings (Use Class C3); and refurbishment, alterations, extension and partial demolition to the Club House; and

- Conservation Area consent is sought for: Demolition of the Principal's House, former Gardener's Cottages (and sections of wall to the north and east sides that make up part of their external envelope), and part of the concave sections of walling at the main entrance to the Site.

The height and massing of proposed buildings would not exceed that of the tallest existing buildings on-site. They would be located predominantly on previously developed areas in the central part of the Site as illustrated in the proposed masterplan in Figure 10.
Table 1: Provides a Summary of floor area, number of units and use

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<th>Use</th>
<th>GIA Floorspace (m²)</th>
<th>Number of units</th>
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<tr>
<td>Private residential</td>
<td>18,084</td>
<td>73</td>
</tr>
<tr>
<td>Student Accommodation</td>
<td>14,491</td>
<td>528 bedspaces</td>
</tr>
<tr>
<td>Affordable residential</td>
<td>2,823</td>
<td>31</td>
</tr>
<tr>
<td>Extra Care Accommodation</td>
<td>7,986</td>
<td>59</td>
</tr>
<tr>
<td>Club House</td>
<td>369</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Development</strong></td>
<td><strong>43,384</strong></td>
<td>-</td>
</tr>
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There are four vehicular entrances to the Site off Coopers Hill Lane. The primary access is located in the south west corner of the Site, the existing wall would be widened for both access and egress. A short way into the Site this would split into internal routes one to the north towards President Hall, and the second to the east. Within the Site, the road and footpath layout will be designed to provide a pedestrian friendly environment following appropriate urban design principles so that residents and visitors will find moving around the site to be easy and logical. Three further accesses are proposed to serve the Coopers Hill Lane housing, the student accommodation, the Mews and sports pavilion.

Pedestrian access to the Site is proposed in five locations, four with the vehicle access along Coopers Hill Lane. The fifth is a proposed access from Oak Lane. During daylight hours, public access to the Site will be available, with pedestrians encouraged to use the main existing access point from Coopers Hill Lane.

To secure the long term conservation and appropriate management of the Site, a Landscape Strategy (see Figure 8), and Draft Heads of Terms of the Landscape & Ecology Management Framework Plan (LEMFP) have been prepared and submitted with this application. The purpose of the LEMFP is to identify the landscape and ecological resources at the Site and to set out how these resources can be managed in the future to balance the objectives of biodiversity conservation and enhancement with those of the Proposed Development’s activities in particular amenity and public access.

Specific management objectives and specifications will be developed during the detailed design process for identified landscape areas and protected species zones, including a Parkland Recreational Area, a Parkland Conservation Area, a Woodland Conservation Area, the Chestnut Walk ‘avenue’ and the Playing Field. The Landscape Strategy and LEMFP will be implemented according to an anticipated planning condition.

A separate, stand alone Energy Strategy report has been prepared to support the Application. The report has calculated the predicted energy demand of the Proposed Development as 4,039,000 kWh/annum, and has considered the options available to reduce energy demand and to ensure compliance to relevant planning policy. A total of 19% of the Sites energy provision will be from on-site renewable sources (i.e. installation of Solar Water
Thermal for the new private residential, Gas fired CHP for the Student Accommodation and Air Source Heat Pumps for the Affordable Housing (including the five new build private units to the east of the area of affordable housing).

In addition, a Sustainability Management Framework has been produced which has been integrated into the development design and has informed the sustainability credentials of the Proposed Development. Overall the Proposed Development is considered to be contributing positively to the sustainability principles used to review the development.

Key sustainable elements of the Proposed Development include *inter alia*:

- Re-use of Brownfield land;
- Sensitive landscape proposals and enhancement measures;
- \( \text{CO}_2 \) reduction through the introduction of renewable technologies;
- Meeting Part L Building Regulations 2010 and insulation value specification;
- Space and hot water heating for the student accommodation supplied through a communal heating system fired by high efficiency gas boilers;
- The installation of a range of Sustainable Urban Drainage Systems (SUDS) measures to reduce surface water run-off rates;
- Net reduction in impermeable surfaces and surface water run-off;
- Implementation of a Landscape and Environmental Management Framework Plan for the medium and long term sympathetic management of the Site;
- Site layout, provision of signage and cycle storage encouraging non-car use and pedestrian and cycle friendly site routes;
- A commitment to achieve reduced water consumption rates of 105 litres per person per day;
- Ensuring preference will be given to the use of local materials and suppliers where viable during the development works; and

An aspiration to attain a Code for Sustainable Homes level 3 rating for the affordable accommodation element of the scheme.
Figure 8: Proposed Landscape Strategy
6 Planning and Land Use

The ES describes the land use context of the Site and the planning background within which the proposals have evolved. It also explains the planning policy framework, assessing relevant planning considerations that relate to the proposals.

Planning policy relevant to the Site is contained within national, regional and local planning policy documents. The relevant documents comprise:

- Planning Policy Guidance Note (PPG) 2 – Green Belts (1992)
- PPS3 – Housing (2010);
- PPS5 – Planning for the Historic Environment (2010);
- PPS9 – Biodiversity and Geological Conservation (2005);
- PPG13 – Transport (2011);
- PPG17 – Planning for Open Space, Sport and Recreation (2002);
- PPS23 – Planning and Pollution Control (2004);
- PPG24 – Planning and Noise (1994);
- PPS25 – Development and Flood Risk (2010);
- South East Plan (2009);
- The Surrey Structure Plan (2004); and

With regards to PPG2 it should be noted that the Campus is designated as a Major Developed Site in the Runnymede Local Plan.

Emerging planning policy that has also been considered within the ES includes the Core Strategy Preferred Options which were published for consultation in June 2009.

The two key planning applications granted at the Site are RU.93/0359 and RU.03/0112, which relate to significant redevelopment of the Site to provide additional student accommodation and education facilities. Permission RU.03/0112 is still extant.

A further application was made in hybrid form (RU.08/1168) by Oracle Residential, to redevelop the Site for a mixed use development (530 student Accommodation; 73 units for an institution providing accommodation for people in need of care; 153 new dwelling units of which 92 units are to be private and 61 are to be affordable; and some 788 sq.m of commercial space). Accompanying this application were applications for Listed Building Consent (RU.08/1169) and Conservation Area Consent (RU.08/1170). Extensive
consultation with neighbouring residents and consultees was undertaken during the course of applications RU.08/1168-1170, the applications have been withdrawn prior to determination.

The key planning policy issues at the Site are compliance with policy relating to the Green Belt and whether the introduction of residential development (Use Class C3) to the Site complies with the objectives of policy on housing. The Campus is a Major Developed Site in the Green Belt and as such the Proposed Development is considered to be appropriate development. The Proposed Development will reduce the built envelope footprint and floor area of the existing and consented buildings at the Site; will not exceed the height of the tallest existing buildings; will have less impact on the openness of the Green Belt and the purposes of including land in it; and will contribute to the achievement of the objectives for the use of land in the Green Belt. As such it accords with the detailed requirements of PPG2 on the redevelopment of Major Developed Sites in the Green Belt, and Policy GB10 of the Runnymede Local Plan.

The status of the Site as previously developed land means it is sequentially preferable to other safeguarded sites in the Runnymede Local Plan. It will contribute towards Runnymede Borough Council meeting its housing requirements set out in the South East Plan, making efficient use of a previously developed land in line with PPS3.
7 Summary of Potential Impacts

7.1 Development Program and Construction Environmental Management

Effects from site preparation and construction are generally temporary, short-term and intermittent. Nevertheless, they can be sources of potentially significant effects on environmental resources and residential amenity. The ES describes the proposed programme of site preparation, demolition and construction works for the Site and the key activities that will be undertaken during the works. It identifies, in general terms, the likely potentially significant short-term, local environmental impacts associated with the activities and outlines the proposals for their mitigation.

Subject to obtaining the necessary consents and approvals, for the purposes of the EIA it has been assumed that the demolition, site preparation, excavation and construction works would take place between Summer 2011 and Autumn 2016 (see Figure 9: Phasing Plan).

Figure 9: Indicative Demolition and Construction Phasing Plan

Control of the demolition and construction process would be achieved by adherence to a Construction Environmental Management Plan (CEMP) which includes references to the demolition and construction proposals and environmental and amenity protection (i.e. measures to reduce dust generation, protection of trees to be retained). The CEMP would be discussed and agreed with RBC and the consultees and secured by an appropriately worded planning condition.

The CEMP would provide the necessary level of management and control of demolition and construction practices. This includes advance notice of operations and duration of work that
may cause noise, disruption to access, or other effects. The CEMP would ensure a high level of control of potential demolition and construction effects.

Contractors will be required to demonstrate how they would work within these provisions, identify communication channels for exchange of information, and set out programmes for monitoring and auditing of environmental control systems. Measures to control potential environmental impacts would be implemented, secured by appropriate planning conditions, including defined working hours, quiet techniques, waste minimisation and recycling, drainage and spill prevention, construction traffic routing and management, and suppression of dust.

7.2 Socio-Economics

A socio-economic assessment has been undertaken in line with current planning policy to assess the likely impact of the Proposed Development on the local and regional economy in both quantitative and qualitative terms. In particular, it considered the potential effects of the Proposed Development on housing provision, on local social and community facilities (i.e. anticipated population increase demands on healthcare, education and community resources), employment opportunities and local spending.

The baseline analysis reviewed the socio-economic conditions at the Site using five spatial scales; Local (Englefield Green West and Englefield Green East wards), District (Runnymede), County (Surrey), Regional (South East), and National (England) and information from Government data sources including the Census of Population 2001 and the Indices of Deprivation 2007.

During the demolition and construction phase, a loss of approximately 1,275 m² poor quality, currently vacant or soon to be vacated, business space was identified. In the absence of mitigation, this would likely to result in a temporary negligible impact at a local scale and a negligible impact at all other scales.

Employment opportunities would be created during the demolition and construction phase. However due to the relatively mobile nature of the construction industry, it is not particularly meaningful to consider its effect on the local level, with a resulting negligible impact at a regional level.

The Proposed Development would include the construction of 528 student bed spaces, 59 Extra Care accommodation units, and 104 residential units (31 of which would be affordable units). The effect of new family housing provision, including affordable housing, student accommodation and Extra Care accommodation, was therefore assessed as having a moderate beneficial impact at district level and negligible at all other levels.

The Proposed Development does not include any specific commercial floorspace, however, there would be some employment arising from the extra care units and student accommodation in the form of maintenance, security, porter etc. Overall the effect on employment was considered to be negligible at all levels.
Implementation of the Proposed Development would result in an estimated new population of 830 residents, including 27 children, which could potentially create demand for community facilities, in particular primary healthcare and education facilities. This demand was not however estimated as sufficient to create a need for on-site provision of these facilities. Instead, as discussed with RBC and as will be detailed in the Section 106 agreement, an appropriate community contribution would be made in respect of any adverse impacts on existing local community services and infrastructure, resulting in a negligible residual impact.

To maintain a patient list size of 1,800 patients per GP, which is the most commonly used planning assumption, it was estimated that approximately half an additional GP would be required to cater for the new population yield due to the Proposed Development. An appropriate contribution, secured by means of the Section 106 agreement, would be available to address this requirement as part of the community contribution.

The Proposed Development would include 20 ha of accessible landscaped areas on-site, including natural play areas, landscaped gardens, woodland areas and sport pitches to which public access will be permitted on a basis to be agreed with RBC and appropriate ecology groups. The provision of open space was accordingly assessed as a major beneficial effect at the local level and a negligible effect at all other levels.

The new residential population would increase levels of local household spending collectively by an additional £5.7 million, resulting in a minor beneficial at the local level.

### 7.3 Archaeology

An archaeological assessment of the Proposed Development’s impact on potential archaeological remains has been undertaken, informed by an updated Archaeological Desk-Based Assessment. A separate Heritage Assessment has been prepared and accompanies the Application to specifically assess the Proposed Development against Planning Policy Statement 5 (PPS5): Planning for the Historic Environment (2010).

Known baseline conditions and the potential for further discovery of archaeological remains (within a 1.5km–radius) around the Site were established by a desk-based assessment and site inspection. Additionally, predictions were made on the magnitude of impacts upon known or potential archaeological resources to determine what measures would be required to mitigate any adverse effects. Figure 10 shows the recorded archaeological features on and close to the Site.
Figure 10: Map showing Recorded Archaeological Features
The archaeological assessment found that the Site does not contain any nationally designated (protected) sites, such as Scheduled Monuments or Registered Parks and Gardens. Of the existing buildings on-site, the President’s Hall (as shown in Figure 11) complex (including the College and Pillar Halls) is locally listed. The Mews building and the Club House which is located within its curtilage (as shown in Figure 12) are Grade II listed. The Chapel (as shown in Figure 13) to the south of the President’s Hall is not listed, but is an important part in the overall institution.

Figure 11: Locally listed Presidents Hall viewed from the West
Figure 12: The Grade II listed Mews building: east range, east elevation (southern end)
Further findings of the assessment were that the Site has:

- an uncertain but possibly moderate potential for Prehistoric remains;
- an uncertain but possibly low potential for Roman remains;
- an uncertain but possibly low potential for Medieval remains; and
- a high potential to contain archaeological remains dating to the Post-Medieval period.

To mitigate any potential effects on archaeological remains that may have survived on-site a Written Scheme of Investigation will be prepared as part of an agreed archaeological mitigation strategy.

It is proposed that archaeological field evaluation (trenching) is carried out in order to assess and define the presence or nature of any archaeological remains within those areas affected by the Proposed Development (including areas of temporary works where site preparation such as topsoil removal, is carried out, e.g. construction compounds). The evaluation results would be used to develop the proposed mitigation strategy into a more detailed project design for preservation by record (e.g. targeted archaeological excavation and recording.
and/or archaeological watching brief) as per an agreed Written Scheme of Investigation submitted to RBC for approval following planning consent and well in advance of construction. The work would form part of a standard archaeological planning condition.

7.4 Landscape and Visual Impact
An assessment of the landscape and visual impact of the Proposed Development in terms of townscape/landscape character, the setting of designated areas/buildings (including features of cultural heritage interest), specific views and visual amenity has been undertaken in relation to the Proposed Development. The assessment has comprised a walkover survey of the Site and surrounding area, the review of policy and Proposed Development information, preparation of modelled views and identification/evaluation of effects.

From a regional perspective, the Site falls within the Thames Valley CCA as defined in the document ‘The Future of Surrey’s Landscape and Woodlands (Surrey County Council, 1997). Immediately to the south, the Site is bound by the Thames Basin Heaths CCA. The Thames Valley CCA is sub-divided into two County Landscape Character Areas (CLCAs): Thames Floodplain and River Thames. However, the characteristics of the Site are not consistent with either of these.

Relevant landscape designations are shown on Figure 14. The Site is defined as a ‘Major Developed Site’ within the Metropolitan Green Belt. The Green Belt designation covers the surrounding area, apart from the closest built-up part of Englefield Green, which is south of Cooper’s Hill Lane.

The Site also lies within an Area of Landscape Importance (ALI). This designation covers the crest and slopes of Cooper’s Hill, together with the area of Runnymede extending northwards to the river. The southern boundary of this area follows Ridgemead Road, part of Cooper’s Hill Lane and the built-up edge of Englefield Green.
In regards to local landscape character, (i.e. within about a 2km radius of the Site) the Site is relatively diverse, reflecting differences in topography and the interplay between historic and existing land use. Topography provides the basis for distinguishing between two main
character areas: the Thames Floodplain and the Cooper’s Hill Ridge (as shown in Figure 15).

![Map of Local Landscape Character Areas]

**Figure 15: Local Landscape Character Areas**

Cooper’s Hill is a prominent feature which overlooks the Thames Valley. In views from the north, the hill retains a largely undeveloped skyline, which forms a background to the nationally important area of Runnymede, which includes the Kennedy and Magna Carta memorials. The Commonwealth Air Forces Memorial, to the east of the Site, is designated as a landmark and is Grade II * listed.
The Proposed Development will essentially involve the demolition of some of the existing buildings, and their replacement with a series of buildings of broadly comparable scale, within the central part of the Site, with refurbishment of other retained buildings. Although the elevated location of the Site suggests a potential for a high degree of visibility, viewing opportunities are in practice constrained by tree cover, variations in terrain and surrounding land use as illustrated in many of the existing baseline photography views which have been submitted as part of the ES.

Whilst construction features are likely to be relatively prominent, they will be temporary and are therefore not considered to give rise to significant effects. The predicted long-term effects that relate to site character, area of landscape importance and Green Belt are considered to have no significance.

With regards to the completed development, the overall effect on the character of the Site will be to replace the existing buildings with a series of new buildings and landscaped spaces. The proposed buildings will be of broadly similar scale to and no higher than the buildings they will replace, and will be confined to the area currently occupied by the main cluster of buildings and hardstanding. The new dwelling to replace Oak Lane Cottages will occupy the existing footprint of the building and its immediate curtilage. In addition, the degree of tree loss will be limited.

To help illustrate the potential visual impacts of the Proposed Development, as part of the assessment, a series of wireline images were proposed whereby the outline of the Proposed Development is superimposed on the existing baseline photographic images. Examples of these images are included in this NTS in Figures 16-18.

Figure 16 shows the entrance to the Site and is located in the Englefield Green Conservation Area.
Figure 16: Existing View and Proposed View from Cooper’s Hill Lane: vicinity of main entrance, looking north
Figure 17: Existing View and Proposed View from parkland within the west of the Site, close to south west boundary
Figure 18: Existing View and Proposed View from Runnymede Pleasure Grounds: location at west end close to river
The degree of impact on the setting of the Englefield Green Conservation Area was considered to be Medium. The Conservation Area is considered to be of high sensitivity, and the resulting effect Moderate. Since the special interest of the Conservation Area would be unaffected, and the visual influence of the development limited, this effect is regarded as neutral and not significant.

As demonstrated by the modelled views proposed, the visibility of the Proposed Development would be limited, and is unlikely to have an urbanising effect or to be perceived as contributing to the coalescence of existing built-up areas. The skyline of the Cooper’s Hill Ridge would not be affected in views from the River Thames Floodplain. Key characteristics of the Site, the Green Belt and River Thames Floodplain – notably its open areas, its tree cover and the visually recessive role of the existing buildings – will be retained. The magnitude of the impact would be low, with the residual effect Negligible.

Following on from the above, the magnitude of the effect on the Area of Landscape Importance would be low and the residual effect on the Area of Landscape Importance Negligible.

The degree of impact on the character of the Site was considered to be low (in terms of built footprint and height) to high (in terms of spatial configuration/massing, urban design and building typology) and beneficial. On balance the impact would be medium. The Site is considered to be of low to medium sensitivity and therefore on balance, the residual effect would be Minor Beneficial and not significant.

The degree of impact on the setting of The Mews and The Club House was considered to be medium. Since the settings of these listed buildings are considered of high sensitivity, the predicted effect would be Moderate Beneficial.

The impact on the setting of Presidents Hall was considered to be medium and beneficial; as a locally-listed building, this setting is of medium sensitivity, resulting in a Minor Beneficial effect.

The Proposed Development takes account of the setting of the Commonwealth Air Forces Memorial and its sensitivity as a place of remembrance. New buildings are confined to the central, already developed part of the Site, separated from the Memorial by open space and mature vegetation along the eastern boundary. Whilst there has been a very slight eastward shift of proposed buildings, the heights of the student accommodation have been varied to reduce potential visibility from the memorial. Over all, the residual effect would be Negligible.

### 7.5 Ground Conditions

Part IIA of the Environmental Protection Act 1990 provides the basis for the current UK contaminated land regime. The legislation provides local authorities with the power to require investigation and remediation of contaminated land. The legislation aims to protect human health, controlled waters, ecosystems and property from the adverse effects of contaminated land thought the use of the source-pathway-receptor model. Only when a complete pollutant linkage is present, is the land deemed to be a significant risk. Further
guidance is provided in Planning Policy Statement 23 (PPS23): Planning and Pollution Control, 2004 which advocates the use of the precautionary principle and the use of planning conditions/obligations to make any development site suitable for use.

The assessment of ground conditions at the Site included a Phase 1 Environmental Review of the Site and relevant information to assess the Site setting, sensitive receptors and sensitivity. Additionally, two Intrusive Phase II investigations have been undertaken by Soiltechnics and STATS.

The Phase 1 review concluded that there are a two localised areas of contamination on the Site – namely the larger boiler room and associated tanks located in the north east of the Site with an electrical transformer and an area of ashy made ground in the south west and centre of the development part of the Site.

The Phase II concluded that there are localised areas of shallow Polycyclic Aromatic Hydrocarbons (PAH), Total Petroleum Hydrocarbons (TPH)) and metal contamination. These areas will require further consideration and investigation prior to future development as part of the detailed design work.

A number of remediation measures have been identified in an Outline Remediation Strategy. These are considered sufficient to either remove identified sources or break pathways such that the ground conditions at the Proposed Development would be suitable for the particular uses. In addition, measures would be implemented during the demolition and construction phase to ensure that additional contamination sources would not be introduced to the Site or any additional pathways created. The operation of the Proposed Development, once completed was not anticipated to require the use of hazardous chemicals that are likely to result in alteration of the ground conditions at the Site.

The assessment concluded that there was no significant risk that the demolition and construction or completed development phases of the Proposed Development would cause or be impacted by ground contamination. Demolition and construction activities would be managed in accordance with the CEMP to be implemented and secured by an appropriately worded planning condition.

The Site is located in a relatively sensitive area in terms of Controlled Waters and in particular with Langham Ponds SSSI. However, following the implementation of the CEMP, secured by an appropriately worded planning condition and other detailed design mitigation measures, no source-pathway-receptor linkage would be created. Accordingly no potential impacts to these receptors were identified.

In considering the nature of the Proposed Development, it was not anticipated that there would be any significant impacts during the completed development phase of the development.

7.6 Water Resources and Flood Risk

An assessment on water resources and flood risk was completed to identify the potential impacts of the Proposed Development on water quality and hydrology in the study area -
defined as that within a 1km radius of the Site, although certain issues are considered at the catchment level.

The assessment of effects encompasses surface water and groundwater quality, surface water and groundwater resources (in terms of water quantity) and flooding. Particular attention has been given to the potential for contamination to affect Langham Ponds located some 700 m from the Site boundary.

Based on the topography, geology and hydrogeology, the total catchment area for the Langham Ponds is assumed to be in the region of 1 km².

Baseline studies and analysis completed indicated that Langham Ponds are likely to be fed by several water sources but that these do not include the Site. Direct runoff from the slopes of Cooper's Hill is unlikely to form a substantial component of the water feeding Langham Ponds. In fact the area of the Site proposed to be developed represents less than 6% of the western catchment draining into the ponds – whilst this catchment itself represents only a part of the total catchment area draining into the Thames valley basin which is the main source of water to the ponds. Most runoff from the slopes was considered to be 'lost' through evapotranspiration. No water channels or streams were found that drain from Cooper's Hill to Langham Ponds. Additionally, it is noted that the Site is situated on the top of Cooper's Hill which is not located directly up-gradient of the Langham Ponds SSSI (i.e. surface water would not directly runoff in the direction of the Langham ponds and equally groundwater beneath the Site may not flow towards the ponds).

Much of the impermeable surface of the Site drains either to a soakaway, by overland discharge or to foul sewer.

No significant existing contamination is believed to be present on-site, although there are some localised hotspots and the Proposed Development will not introduce any new sources or source-pathway-receptor linkages.

During the demolition and construction phase of the Proposed Development, a number of measures, to be outlined in a CEMP, would be implemented to ensure no contamination occurs. These measures would include, the use of settlement and oil interception facilities, appropriate discharges to the storm sewer to be agreed with the Environment Agency and Thames Water PLC and appropriate site working procedures as prescribed in the EA's Pollution Prevention Guidance Note 6 'Working at Construction and Demolition Sites’. The residual impact following successful implementation of the CEMP, to be secured by an appropriately worded planning condition, was therefore considered to be negligible.

With regard to flood risk, although the Site is outside of the River Thames floodplain (see Figure 19 below), a Flood Risk Assessment (FRA) was prepared in accordance with National Planning Guidance PPS25. The results of the FRA indicate that there will be a moderately beneficial impact on the Site as a result of the improvements to surface water run-off, including the introduction of a range of Sustainable Urban Drainage Systems (SUDS) such as permeable pavements, soakaways and a pond.
The drainage designs would facilitate the removal of all surface water discharges, with reduced sewer discharges as a result of drainage being controlled on-site via SUDs. In addition, the drainage design, through the use of SUDS, would improve the water quality of the Site drainage and would improve the quality of the underlying ground conditions. Accordingly it was predicted that there would be negligible impacts on local surface and ground water resources.

![Flooding from rivers or sea without defences](image)

*Figure 19: EA Indicative Floodplain Map of the Site*

### 7.7 Ecology

An ecological assessment of the Proposed Development was undertaken in accordance with Institute of Ecology and Environmental Management (IEEM) guidance.

The Site comprises a complex of buildings with associated roads set within an extensive area of parkland, woodland and playing fields. The Site’s location on the summit and forward slope of a terrace of the River Thames known as Coopers Hill, gives it a distinctive landscape setting.

The evaluation of the ecological value of the Site was informed by a review of relevant legislation and planning policy, a desk-based ecological research of a 2 km study area around the Site, an extended Phase I Habitat Surveys of the Site (see Figure 20), a review of habitats/species and surveys of badgers, bats and reptiles undertaken between 2007 and January 2011.
The findings of the Phase I Habitat Survey showed that the Site comprises the following Habitats:

- Buildings and Areas of Hard-Standing;
- Grassland;
- Scattered Mature and Veteran Trees;
- Woodlands and Tree Belts;
- Hedgerows and Mixed Scrub;
- Ruderal Species;
- Ornamental Plantings and Pond; and
- Invasive species.

Figure 20: Phase 1 Site Habitat Map (please note badger setts not shown)
Based on the recommendations of the Phase I Habitat Survey a series of more detailed Protected Species were undertaken. These confirmed the presence of badger, bats and grass snakes at the Site.

The overall ecological value importance of the Site was considered to be at the geographical Local Planning Authority scale.

The Proposed Development has been designed to avoid adversely affecting the existing landscape and ecological setting, to use additional and complementary planting to blend the Proposed Development into the existing landscape and to enhance its ecological status. In this regard, a Draft Landscape & Environmental Management Framework Plan (LEMP) has been prepared to guide the future management of the estate. The LEMP would be discussed and agreed with the key wildlife consultees and be monitored and reviewed on a regular basis to ensure it is relevant and appropriate. Its objectives include ensuring more appropriate ecological management of the wider estate with a grazing and mowing regime for grassland areas, thinning and more appropriate management of woodland habitat, the enhancement of woodland edge, hedgerow and other habitat linkages, the introduction of a pond and fruit trees; and the integration of bird and bat boxes into new and existing buildings and other structures.

No significant features were identified by the baseline study that have warranted a change of the proposed design. The impact on notable trees has been considered and where possible the removal of such specimens has been avoided, although one Category A tree would need to be removed to accommodate the Proposed Development.

Accordingly, the loss of habitats following redevelopment is anticipated to have a negligible impact on wildlife and biodiversity as those habitats are restricted in size and value. The important habitats on-site, namely the grassland and woodland areas would remain intact, largely unaffected by the development and would be enhanced by the implementation of the LEMP to be secured by an appropriately worded planning condition.

Impacts on bats are the most sensitive issues and would require extensive mitigation under licence from Natural England. However, many of the buildings containing bat roosts are due to be retained and with the proposed mitigation measures and monitoring set out in the ES. Accordingly it was considered that the long term impacts on bats would be Neutral.

Impacts on badgers are considered to be negligible since the locations of the one identified badger sett is outside the footprint of the area to be built on. However, pre-construction surveys would be carried out to confirm that any actively used setts would not be adversely impacted by the works. If any sett will be affected, then a Natural England licence would be applied for accompanied by a detailed Method Statement for mitigation of likely impacts.

Following the implementation of mitigation measures during the demolition and construction phase, potential for off-site impacts are considered to be negligible with no significant impacts anticipated. Similarly, impacts on the off-site during the completed development phase are also considered to be negligible.
7.8 Waste
A desk study for the assessment of waste was undertaken following the national, regional and local policy context with respect to waste management in RBC. The desk study also established existing waste generation and disposal facilities within the borough.

Industry Building Research Establishment benchmarks and British Standard 5906 were used to predict the likely waste generation from the Proposed Development during demolition and construction work once the development is completed.

It was anticipated that the demolition of existing buildings at the Site would result in 14,700 m$^3$ of waste and the construction would result in 5,750 m$^3$ of waste (equating to 21.5m$^3$ (32.2 tonnes) per week throughout the 268 week construction period).

The implementation of a Site Waste Management Plan (SWMP) would facilitate the minimisation, re-use and recycling of waste to avoid unnecessary landfilling. It was therefore considered that the Proposed Development will accord with the principles of the waste hierarchy. All waste would be managed in accordance with relevant legislation. Implementation of the SWP would ensure that construction waste generation would have a negligible impact.

It was anticipated that the total household waste to be generated by the completed development would be 74.8 m$^3$ per week. This equates to approximately 3.5% of collected household waste arisings in Runnymede in 2009/10. However, with the proposed mitigation measures, it is anticipated that a much higher percentage than during the previous occupation of the site or currently, would be recycled/composted. This was therefore considered to be a minor beneficial impact.

Recycling would be encouraged through the provision of storage facilities for segregated waste which are easily accessible to all residents. Consideration would also be given to dedicated storage areas within each unit for segregated waste. Regular information provision on waste management would also be provided.

7.9 Transport and Pedestrian Accessibility
Following discussions with Surrey County Council officers to agree the scope of the Transport Assessment (TA) a TA was prepared to accompany the application. The TA was compiled with reference to Department for Transport Guidance on Traffic Assessments. Based on work undertaken for the TA an assessment of the impacts of the Proposed Development on transport and pedestrian accessibility was completed for the ES. The significance of impacts was determined by reference to IEMA and DoT Guidance.

A detailed review of the existing transport conditions was undertaken for each mode of travel. This included assessments of:

- the facilities within walking distance of the Site and the potential for travel by this mode;
- the suitability of the routes for pedestrians;
– a site visit to assess the current condition of footways and suitability of routes;
– existing cycle routes undertaken using Surrey County Council cycle route maps; and
– a desktop assessment of the accessibility of the Site by public transport.

Traffic counts were also undertaken on local roads at the junction of Cooper’s Hill Lane and St Jude’s Roads, with a qualitative assessment of the existing highway network was undertaken during a site visit. This included the existing road layouts, parking and loading restrictions, junction layouts and speed limits.

Survey data from the nearby Royal Holloway College Kingswood Hall of residence was also used to establish likely trip generation from the student element of the Proposed Development.

The assessment undertaken predicted that the increase in traffic on St Jude’s Road and Priest Hill would be less than 10%. Accordingly as per IEMA guidelines it was concluded that the environmental impact of the additional traffic on these routes would be negligible.

The percentage increase in traffic on Cooper’s Hill Lane to the west of the Site access was predicted above 90%, and therefore based upon the trigger level this could be considered a large impact. However, this high percentage increase is more a function of the existing low baseline flows along this road. The maximum increase in traffic on Cooper’s Hill Lane during either peak hour is approximately 110 vehicle movements which is an average of 1.9 additional vehicle movements per minute. This was considered unlikely to significantly impact upon the existing conditions on Cooper’s Hill Lane.

During the construction phase, the Site would generate fewer trips than during the operational phase and as such the impact of the traffic generated during this period was predicted to be negligible. However, the construction activities would generate more lorry movements than the completed development. On average over the duration of the demolition and construction phase it is was predicted that there would be approximately one HGV per hour. This would represent less than a 5% increase in HGV movements on Priest Hill which is within typical daily variations. As such the increase in traffic was not expected to have a perceptible impact on the environment on Priest Hill. The number of additional lorry movements on Cooper’s Hill Lane would represent a relatively high percentage increase in HGV on the route. However, the actual level of increase is very low. Therefore, the impact was considered to be negligible.

7.10 Air Quality

An assessment of the impacts from the demolition and construction, and completed development phases of the Proposed Development on air quality was undertaken. National legislation and relevant planning policies were reviewed.

The assessment methodology broadly follows the guidance provided by the EPUK for the completion of air quality assessments for planning applications. It was carried out in a number of stages. First, existing air quality in the vicinity of the Site was derived from a number of sources of baseline data. Second, potential sources of air pollutants were
identified and, where relevant, quantified. Third, impacts of the identified emissions arising as a result of the proposed development, on existing air quality, were predicted and their significance evaluated. Finally, where necessary, methods and measures to mitigate predicted significant impacts were proposed.

A review of available air quality monitoring data near the Site indicated that background concentrations of commonly occurring pollutants (nitrogen dioxide and PM_{10}) are comfortably below objective levels. Accordingly existing air quality conditions at the Site are considered to be good.

During demolition and construction activities it is anticipated that some dust would be generated which could potentially affect nearby residential properties located to the north, south, east and west. Whilst most local properties are more distant, there are a number of houses located within 200m of the Site boundary and therefore there is the potential for nuisance impacts. However, with attention to Site management, dust controls and other mitigation techniques that would be employed as part of the CEMP, dust emissions can be effectively controlled resulting in at worse temporary, short term minor adverse impacts on nearby properties. Whilst the Proposed Development would generate some heating and cooling demand the Proposed Development has been designed to meet the requirements of Part L of the Building Regulations 2010 which would result in a carbon reduction of 25% less than those built under the 2006 building regulations. As required under the policy SE2 of the Surrey Structure Plan and NRM of the South East Plan the Site aims to achieve 10% of the developments energy requirement from on-site renewable or low carbon sources.

The Proposed Development will include for the provision of a gas fired CHP boiler to provide heat and hot water for the Student Accommodation. Emission from this boiler will be vented through the Clock Tower at a height of 3 m above the adjacent buildings. Once detailed information is available on the CHP plant to be used a detailed modelling assessment will be undertaken to confirm the impact of potential emission on local air quality. At this stage, however it is anticipated that given the good air quality conditions at the Site which comfortably meet Air Quality Standard objectives and appropriately designed plant, as a worst case the CHP boiler may cause a highly localised minor adverse impact in the immediate vicinity of the vent.

Impacts from the Proposed Development during its operation stage may also arise from increased traffic levels on the roads around the Site. Predicted modelling of traffic related emissions concluded that nitrogen dioxide and PM_{10} concentrations would be well within the relevant objectives and the increases would be of negligible significance with no requirement for additional mitigation.

However, additional mitigation to reduce traffic levels would be provided through promoting the use of cycling and available public transport in the area which includes bus and rail travel. Nitrogen dioxide, PM_{10} and PM_{2.5} concentrations in 2016, at the Site, were predicted to be comfortably below the objective limits for all three pollutants. Therefore, impacts on future residents of the Proposed Development were considered to be negligible.
7.11 Noise and Vibration

An assessment of the potential noise and vibration impacts of the Proposed Development during the demolition and construction works was undertaken based on recognised standards and guidelines. Existing nearby properties were also considered within the assessment in line with the Planning Policy Statement 24: Planning and Noise (PPG 24).

A baseline noise survey was conducted as part of the assessment, which revealed that the principal noise sources during the day was road traffic and at night aircraft noise from nearby Heathrow Airport and that the Site’s baseline noise levels equate under national planning policy guidance PPG 24 to Noise Exposure Category (NEC) level B during the day and A at night. Accordingly and in line with local planning policy BE22, further roof upgrading construction is recommended as part of the Proposed Development while standard double glazed window units would suffice to meet the indoor noise levels criteria.

Based on typical demolition and construction methods, noise and vibration levels during demolition and construction work were predicted. In the absence of mitigation, the predicted noise levels would exceed the set criteria at noise sensitive receptors located less than 250m from the Site. Mitigation measures which would be implemented as part of a CEMP would be secured by an appropriately worded planning condition and would attenuate the predicted impact to localised minor and moderate adverse significance.

The predicted vibration, without any mitigation, would be of minor to moderate significance at the nearest receptors, i.e. up to 20m distance from the Site. The moderate significance is attributed to peoples sensitivity to vibration and the likelihood of complaints but not in relation to recognised building’s vibration limits, which was predicted to be below the set criteria.

Levels of demolition and construction traffic, and completed development traffic, were also considered as possible sources of significant levels of noise. The number of additional lorry movements on Cooper’s Hill Lane would represent a relatively high percentage increase in heavy vehicles on the route. However, the actual level of increase was considered to be very low, only 1 HGV movements per hour. So as with completed development traffic movements and the increase in vehicle movements would be too low to generate significant increases in road traffic noise resulting in any changes being of no significance.

7.12 Cumulative Impacts

An assessment of the cumulative impact(s) associated with the Proposed Development has was undertaken with two types of cumulative impact considered:

Combined effects of different types of impact, for example noise and dust and visual impacts resulting together from the construction of the development. These are also known as ‘impact interactions’; and

Impacts from the other planned developments together with the development which individually might be insignificant, but when considered together could amount to a significant cumulative impact.
The assessment of the combined effects of the Proposed Development indicated that whilst there was the potential for some impact interactions and adverse impacts to occur during the demolition and construction works, in the absence of mitigation, these would be temporary and occur for short periods of time. Even then, not all receptors would experience impact interactions during this time. The majority of interactions arise from activities such as noise and vibration from the construction plant and vehicles, general demolition works, dust from the plant vehicles, passing HGVs and the visual impact of the works. The level of such impacts would be reduced however by standard demolition and construction management practices and mitigation measures contained in a CEMP, which would be implemented as required by an appropriately worded planning condition.

In the consideration of potential cumulative impacts with other developments, criteria were established and agreed with RBC as a basis to identify sites within 2 km of the Site that could generate cumulative impacts. The search identified that there were no such sites (100 dwelling units or 10,000 m² floorspace) within a 2 km radius of the Site. It was also confirmed by RBC that there is unlikely to be any major development as this surrounding area is constrained by Green Belt. Accordingly, no cumulative impacts with other developments nearby were identified.