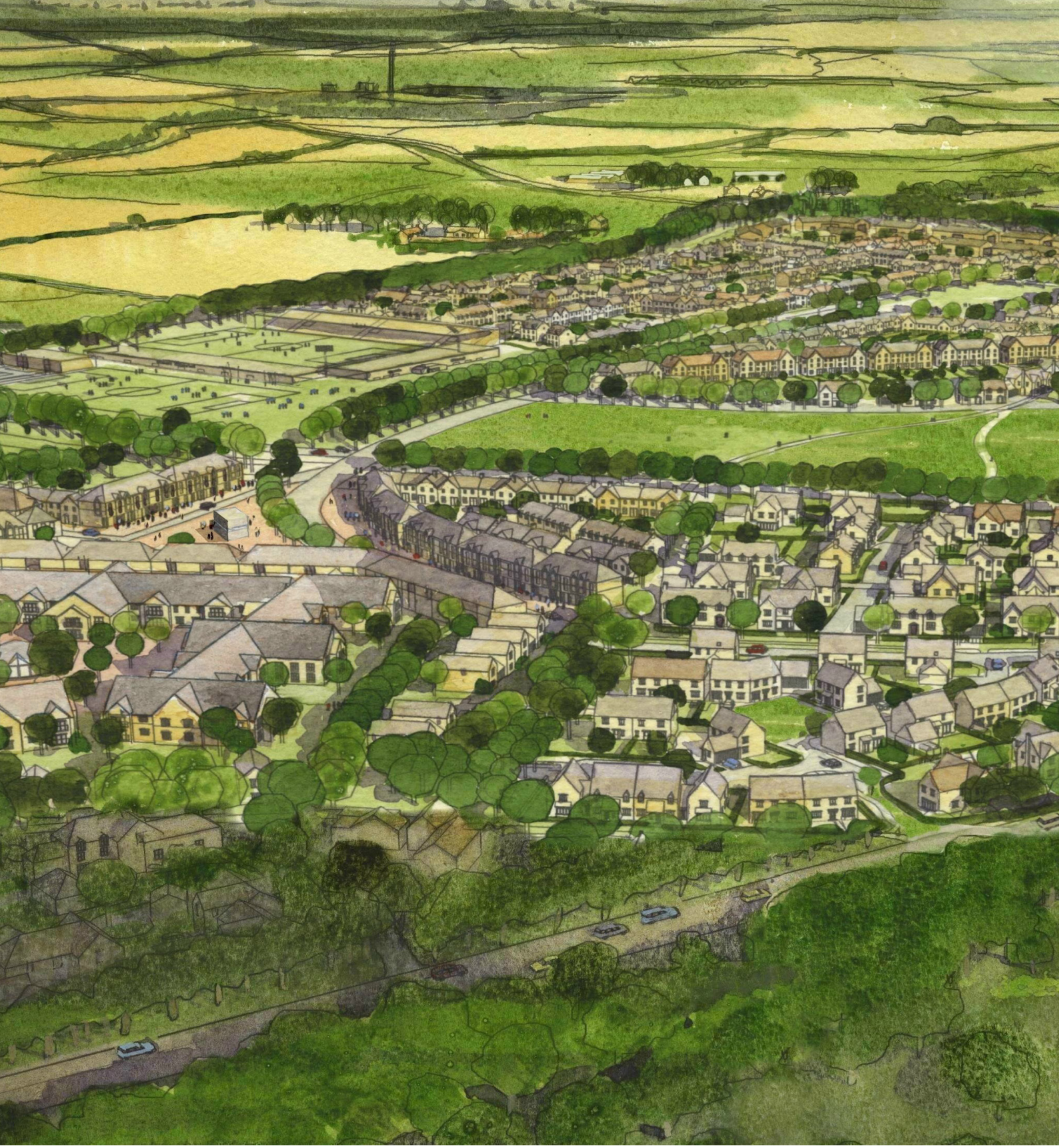

Environmental Statement Addendum - May 2015

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Woodstock East
May 2015

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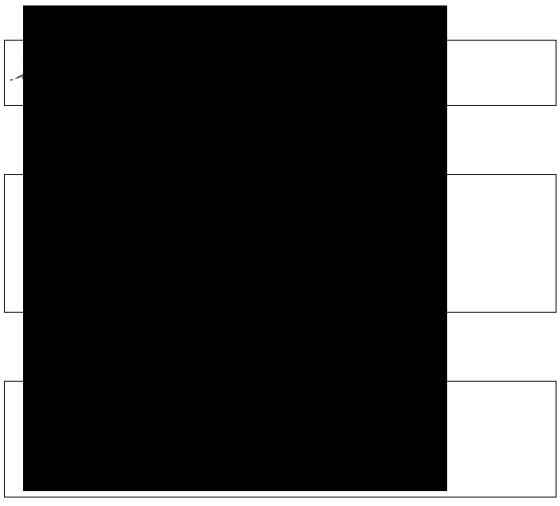

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1 INTRODUCTION

1.1.1 Pye Homes Ltd and the Vanbrugh Unit Trust submitted a hybrid planning application in December 2014 for a residential-led mixed-use development for up to 1,500 homes on land to the south east of Woodstock (known as Woodstock East).

1.1.2 The application falls across the boundary of two Oxfordshire District planning authorities: West Oxfordshire (ref: 14/02063/OUT) and Cherwell (ref: 14/02004/HYBRID) and was accompanied by an Environmental Statement and accompanying Non Technical Summary.

1.1.3 Since the submission of the application, a number of responses have been received during the statutory consultation period, and meetings held between the applicant and their agent, and consultees to discuss matters arising from the proposals.

1.1.4 As a result, the applicant has identified further constraints and opportunities of the development proposals and produced a revised indicative masterplan to demonstrate that the mixed-use development can go ahead without detriment to Woodstock or the surrounding area, and that accompanying facilities, including a school and sports grounds, can be provided in a sustainable and sensitive manner.

1.1.5 The amendments to the Masterplan have been informed by comments made from professional consultees taking into consideration the special qualities of the site's context close to the historic market town of Woodstock and adjacent to Blenheim Palace World Heritage Site.

1.1.6 This Environmental Statement addendum provides an assessment of the environmental impacts of the proposals as amended, and details any changes to the proposed mitigation measures as a result. The non technical summary is included at the beginning of the individual chapters where a re-assessment of environmental impact has been undertaken.

1.1.7 This addendum is accompanied by a Sustainability Statement, which highlights the key benefits, which the development offers. In particular this identifies the reasons that this site can contribute positively to the much-needed housing supply in Oxfordshire. A technical report has also been produced which addresses matters raised by statutory consultees and other interested parties in response to the planning application.

2 THE PROPOSALS

2.1 The Development

2.1.1 As a result of an ongoing review of the application proposals, the framework masterplan has undergone a number of changes as follows:

2.1.2 There were a number of key themes that ran throughout the consultee comments to the initial framework masterplan, which we have focused on improving to ensure that we create a seamless masterplan which is wholly appropriate for this place. A Design Response document has been produced setting out the masterplan, which has been submitted to accompany this document.

2.1.3 These keys themes were;

- Connectivity – creating a well connected, legible place with a clear mental map
- Landscape – creating a landscape led masterplan, based on a network of green spaces and taking inspiration from the Parkland at Blenheim Palace and the influence of Capability Brown.
- Character – creating a masterplan, which is more in character with Woodstock and the scale, form and character of existing spaces and places within the town. This helps to create identity and a sense of place.
- Heritage – ensuring that the masterplan responds sensitively and appropriately to the historic constraints including the proximity to the World Heritage Site and the setting of the Scheduled Monument, which is located in the centre of the masterplan.

2.1.4 The changes to the masterplan are outlined below;

- The East - West primary road, has been located to avoid as much of the archaeological remains as is possible. Following the point where it breaks through the north south hedge, this placemaking road curves down towards the east to meet the proposed new roundabout location on the A4095 – Upper Campsfield Road. This roundabout location is 70m south of the original location as illustrated in the submitted masterplan framework.

- The benefit of moving the roundabout further south, is that it reduces the need for removal of a higher number of 'category B' trees and crucially allows the parking area to be located closer to the A44 Oxford Road.
- The relocation of the primary road is part of a wider network of legible connected streets, which create a clear mental map of the places and spaces created within the development.
- Another of these key organising routes is the introduction of a more direct north south road, which runs parallel to the A4095. This route is vehicular but connects to the A44 Oxford Road and the Shipton Road by means of a pedestrian and cycle route. This has been introduced to improve connectivity of this area of the site and to the north takes access through an existing agricultural gap in the field edge.
- To the west, the primary road routes through the proposed local centre and is connected directly to a new route running towards the north west which gives access to a relocated Care Village and most importantly pedestrian and cycle connectivity to existing Flemings Way and Hedge End.
- The location of the Care Village has been moved from fronting the A44 Oxford Road to having a better relationship with the context of Woodstock and is now located to the west of the local centre. The Care Village still shares it's facilities with the wider community however it now has a better aspect onto the square and more of a presence.
- By relocating the Care Village to the north west, this frees up the plot to the Oxford Road for residential development. This provides the opportunity to create a better, two sided, legible and defined entrance to the scheme, which is more in keeping with the character of Woodstock.
- The scale, form and shape of the local centre has also been improved. This was previously a large square and is now expressed as a more organic and logical triangular space, which integrates all of the pivotal areas of the masterplan through the existing hedge line.

- The Primary School has maintained its location, however the access road to the school has been improved and is now a straight direct, legible street, which is walkable from the local centre.
- A green square has been introduced in the north –east part of the site. This space is for formal sports and begins to create a sports campus with the proposed MUGA and pitches to the south of Shipton Road.
- The sports provision is linked to the MUGA and football pitches by a green tree lined vista, which connects to the local centre.
- The employment area to the east has almost doubled in size from 7,500m^2 to 13,800m^2 of employment space, this provides much needed employment space for Woodstock and will reflect the need in the town. The increase in employment allows the parking area to be moved southward as described above.
- Pedestrian connectivity across the 7.5ha central green space has increased.
- Landscape enhancements have been made as well as an improved landscape network and strategy.
- Further pedestrian gaps have been shown in the landscape edge to the A44, this is to improve connectivity to bus stops, and connect to the existing footpath and cycle way to the south of the A44.
- In addition, the historic route of 'heh straet' used to run north/south across the site alongside the historic hedge and the pest house. We have introduced a pedestrian route alongside the hedge, which reinstates this historic route.
- A circular route around the outside of the development edge has been introduced. In total this route allows a circular walk of approximately 3km.

2.1.5 Due to the highly sustainable location of the development site for employment uses, and close proximity to the Oxford City Deal improvement area, it is considered that there is scope to increase the amount of floorspace made available at the site for business and employment use.

An area has now been allocated for up to 13,800sqm of commercial floorspace, and this potential increase has been assessed in this Environmental Statement addendum (combined with a consequent decrease in the number of dwellings to approximately 1,200). This proposal is a flexible option whereby the previous proposal of up to 1, 500 dwellings and 7,500 sqm of employment may be returned to should the higher employment need not be appropriate.

2.1.6 The development description as amended is:

'A mixed-use development comprising: Outline Planning Application (all matters reserved except for means of access to the development) for around 1,200/1,500 dwellings, including affordable housing and around a 120 - 150 unit care village (C2) with associated publicly accessible ancillary facilities; site for a new primary school; up to 930sqm of retail space; around 7,500/13,800 sqm of locally led employment (B1/B2/B8); including transport interchange; site for a Football Association step 5 football facility with publicly accessible ancillary facilities; public open space; associated infrastructure, engineering and ancillary works.'

3 COMMUNITY, ECONOMIC AND RETAIL

3.1 Community Impacts

3.1.1 The amendments to the framework masterplan have no impact on the outcome of the environmental impact assessment of community and social matters as they do not increase the number of dwellings on the development and will not therefore create additional demand for local community facilities.

3.1.2 There will be a positive impact in terms of additional sports and leisure provision at the site. The changes in the amount of sports provision have been set out in the Technical Response to Consultation report submitted to accompany this addendum.

3.2 Economic Impacts

NON-TECHNICAL SUMMARY

3.2.1 This addendum has been undertaken to assess an option proposed to increase the amount of employment floorspace proposed to 13,800 sqm, and a reduction in the number of dwellings to up to 1,200. The alternative option of 7,500 sqm employment floorspace and up to 1,500 dwellings has already been considered in the Environmental Statement (November 2014).

3.2.2 The highly sustainable location of the site has been identified by West Oxfordshire, Cherwell and Oxford City Local Authorities and therefore an area for potential expansion of the employment area has been identified through amendments to the framework masterplan. As with the original report submitted as part of the EIA, this addendum assesses the likely significant economic effects of the proposed development that may arise from the associated proposed housing, retail and employment uses as identified by this alternative option.

3.2.3 The development proposed by the planning application submitted in November 2014, was for up to 1,500 new homes, including a 150 unit care village, affordable housing, 7,500 sqm of employment floorspace and retail provision of up to 930sqm. An option of increasing the employment floorspace to 13,800 sqm to in response to feedback from economic development officers at both Cherwell District Council and at West Oxfordshire District Council has now been put forward.

3.2.4 The amended proposal will have some impact on the town of Woodstock and its economic offer and growth.

3.2.5 Woodstock is a sustainable town with local services that service the existing local population of around 3,000 people and the high number of visitors that are attracted to the town by the World Heritage Site. The main employer in the town is Mumford Owen, a medical technology company.

3.2.6 Within the wider area there are large employment sites including Oxford City Airport which lies directly to the south of the site; the Begbroke Estate a high-tech innovation park linked to Oxford

University; further afield business premises and offices can be found in the towns of Kidlington, Witney and Bicester, where the first phase of the Eco Town development are being progressed.

3.2.7 The area has low unemployment, with a higher than average economically active population, most of whom work within the managerial and professional sectors. The majority of housing is owner occupied with a very low level of affordable accommodation.

3.2.8 The proposed development will deliver up to 1,500 homes which will result in a population increase of approximately 3,247 people, or up to 1,200 homes should the higher amount of employment floorspace be provided. The proposed new dwellings will provide a positive effect on the provision of housing, both market and affordable in order to meet the local and area demand for housing and provide additional housing for those wanting to work in the area. The increase in the population will also aid Woodstock in becoming a more sustainable settlement, providing additional housing and services, reducing the need to travel.

3.2.9 The employment effects associated with the proposed development in both the construction and permanent phases of the scheme offer the opportunity for positive effects on local employment opportunities. The lower level of employment floorspace (7,500 sqm) could provide an additional 160 jobs in the area. With a larger scheme (13,800 sqm) this is likely to increase to closer to 300 new jobs to serve Woodstock and the surrounding catchment area.

3.2.10 In addition the retail space within the development could provide an additional 55 job opportunities, and increase the services to support the local population, both existing and proposed through the development with a convenience food store to supplement the existing that would reduce the need to travel.

3.2.11 The economic effects of the development are considered to be positive, enabling the creation of a more sustainable area. The proposals meet policy and also the identified demand for additional employment opportunities, housing and an expanded retail offer in the area.

	Effect analysis	Mitigation	Residual effects
Construction	Minor/ moderate over medium to long term	Minimise leakage of construction jobs	Moderately positive effect
Employment - Generation of potentially up to 160 jobs based on 7, 500sqm of floorspace	Moderate positive effect over the long term	None required	Major positive effect
Employment (alternative option) Generation of potentially up to 300 jobs based on 13,800 sqm of floorspace.	Moderate Positive effect over the long-term	None Required	Major Positive effect
Retail Generation of potentially up to 55 jobs	Moderate positive effect over the long term	None required	Moderately positive effect
Housing Delivery of up 1,500 new homes, including affordable housing	Moderate positive effect over the long term	None required	Moderately positive effect

INTRODUCTION

3.2.12 Lambert Smith Hampton has been appointed by Pye Homes Ltd and the Vanbrugh Unit Trust to produce as part of the Environmental Impact Assessment (EIA) for the Land at Woodstock East ("The Site") an economic assessment of the proposed development.

3.2.13 This addendum report assesses the likely significant economic effects of an alternative option to increase the employment floorspace form 7500 sqm to 13,800 sqm.

The Proposed Development (Revised)

3.2.14 The following components of the proposed scheme are relevant to the socio-economic assessment:

- The construction of residential units (Use Class C3) up to a maximum of 1,200 units, including affordable housing, a 150 units at a Care Village, with associated formal and informal open spaces, landscaping and recreation;

- The construction of a local hub that will include retail provision within Use Classes A1/A2/A3/A4 of up to 930 sqm and also link to the Care Village;
- Provision of a Care Village (Use Class C2 with ancillary A3/ A4/ D2) of up to150 homes within the residential provision. The Care Village is likely to have a component of public accessible services including a bar, restaurant and gym linked to the hub area;
- The provision of a 2-form entry primary school (Use Class D1);
- The construction of employment floorspace of up to 13,800 sqm of office (Use Class B1), light industrial (Use Class B2) and warehousing/storage (Use Class B8);
- The re-provision for the football club (Use Class D2).

3.2.15 The proposals have been left flexible so where 13,800sqm of development may be constructed, up to 1,200 homes are expected to be delivered. However, if this increased need for employment floorspace is not considered necessary, then the higher number of homes (1,500) can be delivered.

Site Context

3.2.16 The Site is located immediately to the south east of the town of Woodstock, within the administrative boundaries of Cherwell District Council and West Oxfordshire District Council. The town of Woodstock currently does not have a business or industrial estate. The town mainly consists of shops and services that serve the local population and the large numbers of visitors attracted to the area by the World Heritage Site. The largest company located in Woodstock is Owen Mumford, a leader in the medical technology market.

3.2.17 Within the wider area there are large employment areas and attractors including Oxford City Airport which lies directly to the south of the site; the Begbroke Estate a high-tech innovation park linked to Oxford University; further afield business premises and offices can be found in the towns of Kidlington, Witney and Bicester, where the first phase of the Eco Town development are being progressed.

FIELD SURVEY WORK: ECONOMIC DEVELOPMENT AND PLANNING POLICY OFFICERS AT WEST OXFORDSHIRE DISTRICT COUNCIL (REVISED)

3.2.18 The Economic development officer welcomed the inclusion and provision of employment space on the site. The Planning Policy Officer commented that the site is well located for employment space, close to the A44, Oxford Airport and nearby business parks, and that the site should take advantage of this by incorporating a meaningful employment allocation.

3.2.19 The type and scale of units included in the proposal were welcomed with an identified need for starter units and also medium sized spaces for firms to grow into; which would provide more Class B use space which the Officers believe there is demand for in the area.

3.2.20 A key element of the scheme will be how it is managed, whether there is an overall management of the site, and on what basis premises will be made available to businesses – leasehold, freehold or a combination of both.

3.2.21 The current evidence base for employment development in the district was confirmed at 60ha with 25ha of employment land need currently unallocated or identified. Although it was acknowledged that the location of most of the employment on this site is outside of the authority boundary, the13,800 sqm of employment provision will provide for some of the identified need for employment space for the wider area.

3.2.22 The linkage of the site with Woodstock and effect of the new development on the existing town centre will need to be considered, particularly how the development will function and the potential effect it may have on the vitality of the town centre. Officers acknowledge that one of the most significant issues for Woodstock town centre is the lack of parking.

3.2.23 Officers did consider that the area allocated for the employment use could be too small, and questioned whether enough space is provided to allow for growth, and a critical mass is usually needed to enable employment sites such as this to work and be successful. In response to these comments from the Council's Economic Development officers, an area has been allocated for employment space within the masterplan for up to 13,800 sqm should this be required.

3.2.24 Overall, the inclusion of employment space was considered to be positive, with the type and size of small and medium enterprise units considered to be of an appropriate scale. Consideration should be given to the link to Woodstock, the management and function of the employment site and any opportunity for future growth.

Economic Development Officers at Oxford City Council

3.2.25 Officers were supportive of the type and scale of development proposed with small and medium sized units, and considered these are right for the target market of Small and Medium Enterprises (SMEs).

3.2.26 Officers commented that Oxford as a whole has a limited market for employment space, with no new quality employment space coming forward in the city, and either end (high spec space and low level entry space) of the market is considered to be constrained. The science park is popular with very low if any vacancies.

3.2.27 Officers advised that part of the Town Hall has recently been converted into small start up spaces and these have been popular with 80% already taken up. Oxford City Council has also completed a starter unit study across the city as this is seen to be a key area to address.

3.2.28 There is an identified need in Oxfordshire for employment space. The Northern gateway should be coming forward to provide more high-tech and innovation space.

3.2.29 The city area has been losing many office blocks to residential use. The council is currently in the process of implementing an Article 4 direction in certain areas to try and prevent more loss of office stock.

3.2.30 Commuting is a major issue for the city, with in-commuting of around 45,000 of a working population of 110,000. 38,000 of these in-commuters are from neighbouring districts; of those living outside the city 70% travel by unsustainable means (i.e. the car). For those working and living in the city, their mode of travel is more sustainable, with 60% using sustainable means of travel. Approximately 16,000 people out-commute from Oxford to London.

3.2.31 One of the key issues for the City Council is changing the commuting pattern to be more sustainable and reduce car commuting.

3.2.32 Overall the officers felt that it was positive that the development would provide employment choice outside the city, and that the employment offered as part of the application would complement rather than compete with other employment locations within the County.

3.2.33 Given the officer response to the original scheme it is assumed that they will be supportive of an increased provision at the site to provide expansion space for firms beginning life in the incubator and starter units provided across the city and nearby.

Economic Development Officer, Cherwell District Council

3.2.34 Officers at Cherwell District Council have highlighted that this site is a highly suitable and sustainable location for employment uses. Regarding the scale and nature of the provision proposed, the officer considered that this would be appropriate. The Officer suggested that consideration should be given to the inclusion of a small business centre to help start-up businesses, with a suite of offices to support very small businesses. Since the initial conversation with officers the employment space has been increased to 13,800 sqm. We do not consider that this would materially change the opinion of the officers at Cherwell District Council.

3.2.35 The key issue highlighted was to include flexible space to allow businesses to grow and contract as necessary, and to accommodate different use and lease arrangements. It was also considered important that although it would provide B class jobs that warehousing was kept to a minimum.

3.2.36 Officers considered that it was important that any employment provision is of a complementary theme rather than repeating what is already provided in the wider area, such as Langford Lane.

3.2.37 The officer commented on the strength of the economy locally using the example of Begbroke where it can be very difficult to obtain space.

3.2.38 The officer commented that the Council through their economic strategy are looking for a balance of new housing and jobs. It was agreed that currently Woodstock has limited employment uses.

3.2.39 Commuting was raised as a potential issue, with the need for the employment provision to be somewhat self-contained to reduce potential in and out commuting and traffic congestion. Issues around public transport provision and parking have been addressed through the Transport and Accessibility chapter to the Environmental Statement. The proposals offer the opportunity to promote highly sustainable commuting patterns.

3.2.40 The officer commented that vacancy rates vary depending on the type of units. Modern units tend to go quickly with high take-up rates, whereas out-dated employment space can be vacant for longer periods of time. However demand is considered to be high in this part of the district particularly in Kidlington and the Begbroke Science Park.

3.2.41 The district is currently seeing some speculative development in Banbury and Bicester. There is currently a net deficit of employment land and additional land allocations are coming through the Local Plan, however these are in the green belt.

3.2.42 The Council is pro economic growth and work with the Cherwell Investment Partnership and the Local Enterprise Partnership.

3.2.43 Officers did comment that the proposed development would be a big change for Woodstock, but agreed that currently this is mainly a service centre for local residents and for tourists to the area.

3.2.44 It was considered that the location of the employment unit's worked well within the site, close to the airport. The layout plans need to ensure that there is adequate surveillance of the employment units during the weekends and evenings when there may not be people about, without creating any nuisances for nearby residential units. The routes for HGVs also need to be considered.

3.2.45 There was a concern that the park and ride may take up more space and reduce the proposed employment land take. This will be addressed by the increase in size of the employment provision. It was suggest that the design of the employment units should be underpinned by a set of design principles, together with additional land, to facilitate the ease of future expansion if required.

3.2.46 The location of the employment units in close proximity to the airport and the potential of a link access road was seen as positive; particularly in taking forward the idea of clustering employment uses around the airport promoted in the Cherwell Economic Development Strategy.

3.2.47 The provision of a good level of affordable housing within the scheme was also seen as key for attracting people and jobs to the area.

EVALUATION, IMPACTS AND MITIGATION

3.2.48 This section sets out the likely significant economic effects of the proposed development as amended. The economic effects can be expected through the construction phase and on completion of the scheme. This assessment is reliant on the information obtained through the baseline study and the details of the construction and completion of the scheme.

Construction Effects

3.2.49 These will be unchanged from those considered in the original report.

Employment Effects (Revised)

3.2.50 The proposed development will generate long-term jobs once completed. The development proposes 13, 500sqm of employment floorspace within B1, B2 and B8 Use Classes. The direct employment generated by the development is estimated by applying averages of the HCA employment density ratios for the land uses.

3.2.51 Based on these the number of jobs created by the development would be circa 300 FTE jobs. The new employment floorspace will improve the quality in the office and light industry units on offer in the area, and will provide for some of the identified additional need for employment land as recognised by both districts Employment Land reviews. This would be considered to be a major positive long-term effect.

3.2.52 The proposed employment floorspace gives the potential for enterprise growth through the provision of small units from 500 sqm to medium sized self contained units of 1,500 sqm, providing a range of sizes to enable start up businesses and the growth of companies through

follow on space. This will encourage more enterprise facilities and provide opportunities that have been identified through the consultation as needed within the area.

3.2.53 As identified earlier in the baseline, the area generally has low unemployment. However, local employment opportunities, particularly in Woodstock are limited, which means that residents will often have to travel further afield for employment. It makes perfect sense to create local employment opportunities to facilitate new start up businesses, and for local people.

3.2.54 An obstacle in creating employment opportunities for local people has been identified as a lack of flexible and small suitable spaces available in Woodstock and the surrounding area. . The proposed development, delivering this type of local employment space will go some way in mitigating this barrier. This approach to local employment aligns well with the economic growth strategy for the wider area in the Oxford City Deal and the Cherwell Economic Development Strategy.

3.2.55 The number of additional jobs and the opportunity for economic growth offered through the proposed development is considered to have a moderate positive effect over the longer term.

Mitigation

3.2.56 No mitigation is required as the proposed development is considered to provide for potential local employment and business growth in the area. However, to ensure that as large a proportion of local residents obtain access to these jobs and the opportunities, it is important that local residents are made aware of the opportunities coming forward and that there are linkages with local training initiatives to meet any local employer requirements or to enable local start up businesses.

Residual Effects

3.2.57 The residual employment effect is considered to be a major positive. The proposed development will provide a significant employment opportunity for Woodstock.

Retail Effects

3.2.58 These will be as considered in the original report.

Housing

3.2.59 These will be as considered in the original report.

CONCLUSIONS

3.2.60 This section has presented an evaluation of the economic effects resulting from the proposed development. It has assessed the proposed development in terms of the extent of its potential economic effects on population, employment, retail and housing.

3.2.61 The development mix within the proposed development has been shaped by planning policy both at the national and local level, considering emerging Local Plans and evidence base documents.

3.2.62 The proposed development will deliver both temporary and permanent employment on the site, through both the construction and operation phase of the development.

3.2.63 The proposed development will deliver up to 1,500 homes, which would result in a population increase of 3, 247 people. The proposed new dwellings will provide a positive effect on the provision of housing, both market and affordable both meeting the local and area demand for housing and provide additional housing for those wanting to work in the area. The increase in the population will also aid Woodstock in becoming a more sustainable settlement, providing additional housing and services, reducing the need to travel.

3.2.64 The employment effects associated with the proposed development in both the construction and operational phases of the scheme offer the opportunity for positive effects on local employment opportunities, with the completed employment floorspace likely to provide an additional 300 jobs in the area.

3.2.65 In addition the retail space within the development could provide an additional 55 job opportunities, and increases the services to support the local population, both existing and proposed through the development with a supermarket retail offer that would reduce the need to travel.

3.2.66 The economic effects of the development are considered to be positive, enabling the creation of a more sustainable area, which meets policy and identified demand for additional employment opportunities, housing and an expanded retail offer.

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3.3 Retail Impacts

3.3.1 The amendments to the framework masterplan have no impact on the outcome of the environmental impact assessment of retail matters as there is no change in the proposed retail floorspace.

4 TRANSPORT AND ACCESSIBILITY

NON TECHNICAL SUMMARY

4.1.1 Potentially significant environmental effects resulting from the traffic that are likely to be generated by the proposed development have been identified. The major direct potential impacts are increases in traffic congestion and delay. Indirect impacts of traffic on noise and air quality are assessed elsewhere within the Addendum ES. In summary therefore:

- The proposals significantly enhance the opportunity for future residents to travel by passenger transport options to all popular journey purpose destinations, including health, employment, retail, leisure, education and transport interchanges. The proposals also enhance public transport provision for existing residents in Woodstock and in a wider area within the catchment of the proposed link-and-ride interchange. This would result in a major beneficial impact.
- The operational implications of the additional vehicular traffic generated by the development has been assessed. Where junctions operate over capacity, mitigation measures are proposed to deal with this. These mitigation measures are detailed in full in the Transport Assessment (and Addendum). The overall significance of effect is negligible.
- Increases traffic flows on the A4095 are likely to give rise to severance impacts. Moreover, the public transport interchange and facilities within the site are likely to increase pedestrian demand. To mitigate this impact a footway is proposed on the south eastern side of the A4095 along the site frontage and provide pedestrian crossing points on all arms of the site access roundabout so that pedestrians and cyclists can cross the carriageways in two stages. Overall, the proposed mitigation reduces the potential impact such that the residual impact is negligible.
- Increases in delay to pedestrians seeking to cross the A4095 and A44 are forecast under both Option 1 and Option 2. The significance of effect is likely to be minor adverse. Mitigation measures are proposed including pedestrian crossings at the

site accesses and controlled pedestrian crossings at the Bladon Roundabout. These mitigation measures will result in a minor benefit.

- The A4095 Upper Campsfield Road and the A44 Oxford Road will experience increases in traffic flows which will affect the pedestrian amenity between the proposed development and Woodstock. The significance of effect is likely to be minor adverse. Enhancements to footway and cycle connections from the proposed development to Woodstock are proposed. These mitigation measures will result in a minor benefit.

- The change in additional traffic flows on the network as a result of the proposed development would be unlikely to have a significant effect on existing personal injury collision rates, although the number of personal injury collisions would increase as a function of flow increase. Mitigation measures are proposed for a number of junctions, including signal control, as detailed within the TA. The residual significance of effect would be negligible.

4.1.2 In conclusion the revised development proposals meets the key transport tests set out by the Local Highway Authorities in that it would allow for efficient maintenance and management of transport infrastructure, it will improve accessibility and provide healthier travel choices. In addition, it would provide for safer roads and communities and would reduce congestion which might otherwise occur through less sustainable development growth. Consequently, no major direct impacts will arise with regards traffic congestion and delay.

INTRODUCTION

4.1.3 This Addendum Environment Statement (ES) Transport Chapter assesses the transport and highway impacts of the revised development proposals. As part of the consultation process, the development has been revised both in terms of the indicative masterplan layout and the mix of land uses.

4.1.4 The layout has been revised:

- *the proposed site access onto the A4095 will be approximately 70m further south;*

- *the proposed transport interchange has been relocated from the north of the A4095 to the south of the A4095;*
- *development blocks have been repositioned internally; and,*
- *internal and external pedestrians linkages have been revised.*

4.1.5 The mix of land uses has also been revisited. The ES and Transport Assessment submitted with the application in December 2014 assessed the development proposals based on 1,500 dwelling including 150 bed care home, 7,500sqm of employment, 930sqm of retail space, primary school (2 form entry), football facility and public transport interchange with 300 car parking spaces. This scheme is referred to as Option 1 within this Addendum ES Chapter.

4.1.6 Following the submission of the Environmental Statement and Transport Assessment, an alternative development scenario has been assessed based upon:

- *up to 1,200 houses, including a 120 unit care village with associated publicly accessible ancillary facilities;*
- *Primary school (2 form entry);*
- *Up to 930sqm of retail space;*
- *Up to 13,800sqm of locally led employment (B1, B2 and B8);*
- *Site for a Football Association step 5 football facility;*
- *Public open space;*
- *Public Transport Interchange with 300 car parking spaces; and*
- *Associated infrastructure, engineering and ancillary works, with vehicular access.*

4.1.7 This scheme is referred to as Option 2 within this Addendum ES Chapter.

4.1.8 This assessment therefore considers the potential transport and highway impacts of the development proposals for Option 2. The methodology, results of desk study and field study as set out in Sections 5.5, 5.6 and 5.7 of the submitted December 2014 ES Transport Chapter remains unchanged.

4.1.9 The pattern of distribution of trips and the assignment of traffic onto the road network as set out in the Transport Assessment remain unchanged.

4.1.10 Potentially significant environmental effects resulting from the traffic that are likely to be generated by the proposed development have been identified. The major direct potential impacts are increases in traffic congestion and delay. Indirect impacts of traffic on noise and air quality are assessed elsewhere within this Addendum ES.

4.1.11 In conclusion the revised development proposals meets the key transport tests set out by the Local Highway Authorities in that it would allow for efficient maintenance and management of transport infrastructure, it will improve accessibility and provide healthier travel choices. In addition, it would provide for safer roads and communities and would reduce congestion which might otherwise occur through less sustainable development growth. Consequently, **no** major direct impacts will arise with regards traffic congestion and delay.

EVALUATION, IMPACTS AND MITIGATION

Construction phase

4.1.12 The development proposals for Option 2 are unlikely to change HGV movements from the levels identified within Option 1 with estimates to be in the order of 40 HGV movements and 40 LGV movements per day.

SIGNIFICANCE OF EFFECT

4.1.13 With regards to the significance of effect on severance, drive delay, pedestrian delay, accidents and safety and hazardous loads, the resulting significance of effect is negligible.

Development traffic

4.1.14 The completed development would be likely to give rise to a range of transport related impacts. These would be likely to include longer term benefits to the amenity of local pedestrians, cyclists and public transport users once the development is completed through the provisions of new and improved routes and facilities. It is expected that these would be of beneficial impact of moderate

significance, offering localised improvements to local routes and reduction in journey times and distances.

4.1.15 In addition, whilst not specifically relevant to the assessment of environmental impacts, the Transport Assessment and Addendum Transport Assessment sets out the wider beneficial impacts the Development would have in terms of meeting local and national policy objectives of achieving sustainable development growth in the area.

4.1.16 Without mitigation, adverse impacts from increased traffic flows would be likely on both local and strategic routes.

4.1.17 Table 5.1 sets out the traffic generation by land use for Option 2.

Land Use	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Residential	80	263	343	284	151	434
Retail	6	5	11	8	8	16
Employment	107	41	148	20	81	101
Care Home	5	5	9	8	9	17
Primary School	41	29	69	2	5	7
Football Pitch	2	0	2	5	2	7
Total	240	343	583	326	256	582

Table 4.1: Option 2 Development Traffic Generation

4.1.18 Table 5.2 below sets outs the forecast development flows for Option 2. The table also contains the forecast development flows for Option 1, with a comparison between the two also shown in the table.

	AM			PM		
	In	Out	Total	In	Out	Total
Option 1	230	426	656	413	268	680
Option 2	240	343	583	326	256	582
Difference	10	-83	-73	-86	-12	-98

Table 4.2: Vehicular Traffic Generation

4.1.19 As can be seen in Table 5.2 the development proposals for Option 2 will overall reduce the predicted vehicular traffic to/from the site.

4.1.20 Table 5.3 and Table 5.4 below summarises the key traffic changes on the main routes in and around the proposed development for Option 1 and Option 2. Table 5.5 summarises the overall difference in flows between Option 1 and Option 2.

Route	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
A44 north	67	106	174	98	70	167
A34 N	9	20	29	21	13	33
A34 S	35	91	126	94	53	147
A40 (Oxford)	14	40	53	41	22	63
A40 East	14	27	41	27	19	46
Frieze Way	0	0	0	0	0	0
Kidlington	18	40	58	40	24	64
Total A44 S	*89*	*219*	*308*	*223*	*132*	*354*
A4095 West	49	81	130	73	51	124
A4095 East	8	7	16	6	7	12
A4260	2	4	6	4	3	7
Shipton Rd	13	8	21	9	7	16
Total (excl. Total A44 S)	229	426	655	412	268	680

Table 5.3: Option 1 Traffic Flows by Route

Route	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
A44 north	75	90	165	79	71	150
A34 N	8	16	24	16	11	27
A34 S	30	68	98	72	45	117
A40 (Oxford)	11	29	40	31	18	49
A40 East	16	22	38	22	19	41
Frieze Way	0	0	0	0	0	0
Kidlington	17	31	48	31	21	52
Total A44 S	*82*	*166*	*249*	*172*	*116*	*288*
A4095 West	55	67	122	58	51	110
A4095 East	12	8	20	5	9	14
A4260	3	3	6	3	3	6
Shipton Rd	13	8	21	9	7	16
Total (excl. Total A44 S)	239	343	582	326	256	582

Table 5.4: Option 2 Traffic Flows by Route

Route	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)		
	IN	OUT	TOTAL	IN	OUT	TOTAL
A44 north	8	-17	-9	-19	1	-17
A34 N	0	-5	-5	-5	-1	-6
A34 S	-5	-23	-27	-22	-8	-30
A40 (Oxford)	-3	-11	-14	-10	-4	-14
A40 East	2	-5	-3	-6	0	-5
Frieze Way	0	0	0	0	0	0
Kidlington	-1	-9	-10	-9	-3	-12
Total A44 S	*-7*	*-52*	*-59*	*-51*	*-16*	*-67*
A4095 West	5	-13	-8	-15	1	-14
A4095 East	3	0	4	0	2	2
A4260	0	-1	0	-1	0	-1
Shipton Rd	0	0	0	0	0	0
Total (excl. Total A44 S)	10	-83	-73	-86	-12	-98

Table 5.5: Difference between Option 1 and Option 2 Traffic Flows by Route

5.1.1 The development proposals for Option 2 will overall reduce vehicular movements on all of the key routes; A44 north, A44 south, A34 S and A4095 west.

5.1.2 The percentage change on the key local highway links is set out in Table 5.6 below.

Link	**2031 Base + Development Flows**	**Percentage Change**
A4095 Upper Campsfield Road	17,139	15.5%
A44 Oxford Road	25,483	5.1%
A4095 Grove Road	23,864	3.7%
A44 Woodstock Road	40,975	4.5%
A4260 Banbury Road	14,435	1.1%
A34	92,771	0.7%
A40	61,137	0.0%

Table 5.6: Option 2 Percentage Change on Local Highway Links

4.1.21 The percentage change on the key local highway links based on the proposals under Option 2 will result in a reduction in vehicular flows relative to Option 1 on the above key routes.

4.1.22 The main development site accesses are located on the principal road network directing the majority of flows onto A44 and A4095. The site does also connect onto Shipton Road. This is important for the integration of the site into the town to allow existing residents access to the facilities within the site. It is therefore to facilitate traffic which is already on the local road network. **As such, no material changes in traffic flow conditions on local access roads including Hensington Road and Shipton Road are forecast.**

SIGNIFICANCE OF EFFECT

Severance

4.1.23 With regards to the significance of effect on severance, the revised development proposals under Option 2 will result in a reduction of vehicular trips on the local highway network. Whilst the IEMA Guidelines refer to the effect of traffic on severance of 30%, 60% and 90% changes producing "slight", "moderate" and "substantial" changes in severance respectively, it is suggested that caution be applied to relying on these quantums of change.

4.1.24 The development impact on the links in Table 5.6 would continue to be below the 30% "slight" impact of severance. There are a small number of residential properties to the south east of Upper Campsfield Road which are potentially affected by an increase in traffic flow. The pedestrian demand is however low (by virtue of the small number of dwellings and distance to local services etc) and there no existing provision for pedestrians by way of footways or crossing points.

4.1.25 Whilst the development flows for Option 2 will reduce when compared against the development flows for Option 1, the development flows for Option 2 will continue to impact on traffic flows on the A4095. Moreover, the public transport interchange and facilities within the site are likely to increase pedestrian demand. To mitigate this impact it is proposed to introduce a footway on the south eastern side of the A4095 along the site frontage and provide pedestrian crossing points on all arms of the site access roundabout so that pedestrians and cyclists can cross the carriageways in two stages.

4.1.26 **Overall, the proposed mitigation reduces the potential impact such that the residual impact is negligible.**

Driver Delay

4.1.27 The development proposals under Option 2 will reduce vehicular flows along key routes such as along the A44 corridor.

4.1.28 The IEMA's Guidelines for the Environmental Assessment of Road Traffic sets out that impacts on driver delay are only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system. In this case this only tends to occur for short periods during the day such as the peak network periods.

4.1.29 The reduction of vehicular flows will improve the capacity of key junctions along the A44 towards Oxford. However where junctions operate over capacity, mitigation measures are proposed to deal with this. These mitigation measures are detailed in full in the Transport Assessment.

4.1.30 **The overall significance of effect is negligible**.

Pedestrian Delay

4.1.31 With regards to pedestrian delay, the reduction in vehicular flows under Option 2 will continue to lead to increases in delay to pedestrians seeking to cross. The significance of effect therefore is likely to be minor adverse. However, mitigation measures are proposed as set out in the submitted December 2014 ES Chapter. These **mitigation measures will result in a minor benefit**.

Pedestrian Amenity

4.1.32 There is an existing good level of pedestrian and cycling infrastructure in Woodstock and along the A44 Woodstock Road south of the site. The highway links in the vicinity of the proposed development, such as the A4095 Upper Campsfield Road and the A44 Oxford Road will experience increases in traffic flows which will affect the pedestrian amenity between the proposed development and Woodstock. The significance of effect therefore is likely to be minor adverse.

4.1.33 Enhancements by way of footway and cycle connections from the proposed development to Woodstock are proposed and these are set out within the Mitigation below. These **mitigation measures will result in a minor benefit.**

Highway Accidents and Safety

4.1.34 As set out within the December 2014 Transport Assessment report there are a number of areas where clusters of collisions were identified. An analysis of the data showed there are no trends in the collisions recorded. Whilst the accident record is broadly in line with national averages in terms of the number of incidents, there were locations on the A44 where the speed of traffic clearly contributes to a higher than average severity in incidents.

4.1.35 The change in additional traffic flows on the network as a result of the proposed development would be unlikely to have any significant effect on existing personal injury collision rates, although the number of personal injury collisions would increase as a function of flow increase. However mitigation measures are proposed for a number of junctions as detailed within the TA. **The residual significance of effect would be negligible.**

Air Quality and Noise

4.1.36 Increased traffic flows arising from the development have the potential to raise issues relating to Air Quality and Noise impacts. Traffic flow data has been provided to the appropriate consultants and this is dealt with in Chapters 8 and 9. **The overall significance of effect would be negligible.**

Hazardous Loads

4.1.37 There would be no change in the level of hazardous loads in the area as a result of the proposed development. **The overall significance of effect would be negligible**.

MITIGATION

4.1.38 Whilst the number of vehicular and person trips will reduce under the proposals for Option 2, the mitigation measures will remain unchanged. The mitigation measures are detailed below.

4.1.39 In developing the proposals for development, careful consideration was given to ways of reducing and mitigating the likely significant effects of development traffic. This has involved consideration of the development content, with the consequent implications for travel demand and the delivery of key elements of highway infrastructure serving the development.

4.1.40 'Guidance on Transport Assessment' suggests that an iterative approach may need to be taken to Transport Assessment, dealing with: reducing the need to travel by car, sustainable accessibility, dealing with residual trips and mitigation measures. The guidelines indicate that an iterative approach ensures that the stages of the Transport Assessment are not viewed in isolation and ensures that the full implications of each stage are thought through and modifications made to the proposals if necessary, with the objective of reducing the need to travel.

4.1.41 In developing the proposals, the overall policy guidance was considered with the objective of reducing the need to travel. This in turn led to the consideration of the type and mix of uses and how this affects travel demand. Furthermore, it is fundamental that the Transport Strategy focuses on the following key criteria:

- Reducing the need to travel, especially by car, and managing traffic growth and congestion;
- Significantly improving opportunities for walking and cycling;
- Improving the reliability, capacity, quality accessibility and coverage of the public transport network;
- Making better use of the existing transport network through better management; and,
- Only developing additional highway capacity when all other measures have been considered.

4.1.42 Following a detailed review of travel demand for residents, employees and other users of the site by trip mode and purpose, the Transport Assessment sets out a detailed strategy as to how the

site can be best and most appropriately served from a transport perspective. **The proposal is in full accordance with existing OCC transport policies.**

TRAVEL PLAN

4.1.43 Although a fundamental part of the scheme, the Travel Plan includes a wide range of initiatives and strategies which would further reduce the dependency on the private car and the need to travel generally. The Travel Plan includes a process of monitoring to ensure that the success can be continually tested and further mitigation measures required if necessary in the future.

WALKING AND CYCLING

4.1.44 Pedestrian desire lines between the site and local facilities have been reviewed previously. Principal destinations from the site include the following:

- Woodstock Town Centre;
- Leisure facilities;
- Places of education;
- Medical practices; and,
- Places of employment.

4.1.45 There will be a number of improvements to the pedestrian accessibility and permeability of the site to provide a coherent pedestrian access strategy within the site to the surrounding areas.

4.1.46 The footpath connections to the site therefore include:

- Direct Access to Shipton Road / Marlborough School via a new 3m wide combined walking and cycling route;
- Connections to Hedge End and Flemmings Road to the west;
- Connections to the A44 towards Woodstock; and,
- Connections via Upper Campsfield Road to Bladon Roundabout.

4.1.47 The aforementioned pedestrian links be fully integrated into the proposed site's internal road layout and residential scheme. This will significantly increase the permeability of the site and provide a coherent network of pedestrian routes between the site and the local area. This will afford residents direct routes to local facilities and integrate the site to the existing Woodstock community.

4.1.48 The internal layout adopts contemporary guidance, including Manual for Streets, to establish the 'place' function within the site that will seek to manage vehicle speeds to around 20mph to the benefit of cycling by all. Development within the site will be provided with secure locations to store bicycles. This may be within garages, bespoke cycle storage or incorporated within the streetscape.

4.1.49 The site benefits from being well located in terms of the existing cycle network and this will be maintained and increased as part of the development. The proposed cycling infrastructure within the site will connect the development to the existing cycle network and create an integrated network that permeates the site.

4.1.50 There are three key external links that will need to be provided as part of the development:

- An enhanced off-road cycle path from the site along Shipton Road to Marlborough School;
- An enhanced off-road cycle path from the Bladon Roundabout to the site access roundabout on A4095 Upper Campsfield Road; and
- An enhanced off-road cycle path from the Bladon Roundabout into the site on the A44 Oxford Road frontage.

4.1.51 In addition to these links it will be necessary to provide appropriate crossing facilities at key local junctions. The site access roundabout on A4095 Upper Campsfield Road will include splitter islands on all approaches. The preliminary designs have made allowance for the inclusion of uncontrolled crossings on all arms. Similar provision will be made on the A4095 Upper Campsfield Road arm of the Bladon Roundabout.

4.1.52 In this regard the residual beneficial impact is of moderate significance.

PUBLIC TRANSPORT STRATEGY

4.1.53 The site benefits from significant and high quality public transport services. This is based around the Stagecoach's premium S3 service but OCC are progressing proposals to also improve other routes which serve the town, most notably the 233.

4.1.54 The public transport strategy seeks to improve the bus services, through increased frequency and increased capacity, improved journey times and reliability and to make interchange easier.

4.1.55 Improvements to the bus services for the site have been devised in consultation with the local operator, Stagecoach, who have recommended that the S3 be upgraded to three to four departures per hour each way between Woodstock and Oxford city centre during the weekday and Saturday inter-peak periods, and that enhancements to off-peak, i.e. evening and Sunday, service frequency would also be desirable. The site layout has been designed to offer flexibility in terms of future bus accessibility and to account for likely development phasing.

4.1.56 As an overall principle, the site access strategy has been developed to allow a direct route for bus services into the site. This includes two points of access onto the A44 and the A4095 to allow services to route from either road through the site. Internally the site layout has been designed to facilitate penetration of buses to enable residents and employees of all parts the development to access public transport services.

4.1.57 This is reflected in the overall internal layout of the roads, including routes with 6.5m carriageways able to easily accommodate two-way bus movements, and the location of stops to provide good coverage and excellent accessibility. As such all of the development would be within 400m of the nearest bus stop. The layout of the development ensures that all pedestrian routes to these stops are convenient and safe.

4.1.58 In addition to this stopping provision will be made on the A44 itself. Two sets of stops are proposed, the first at the northern site access. This will serve, at least in the early phases, all of the northern element of the site which will be within 500m of the bus stops. It is expected that a heritage type shelter will be provided on the southbound stops. A further set of stops will be

provided adjacent to the Bladon Roundabout with a pedestrian route through the frontage landscaping to provide access to the existing S3 / A44 route.

4.1.59 With respect to the journey times, there is currently an additional 18 minutes timetabled for the journey from Woodstock to Oxford during the morning peak period relative to off peak periods. The LTP3 identifies the absence of bus priority on the corridor as being a constraint to the development of public transport in the corridor. It is proposed to provide capacity enhancements on the A44 corridor which would benefit bus services:

- Make use of under-used carriageway on the A44 to provide bus lanes from the Bladon Roundabout to Yarnton;
- Signalise the Loop Farm roundabout; and,
- Signalise the Cassington Road roundabout.

4.1.60 A transport interchange will be created on the site that would allow a wider catchment area to be served by the bus services by enabling users from adjacent villages to drive or cycle into the interchange before travelling onwards to Woodstock or Oxford. The transport interchange will also support the Local Transport Plan 3 Policy PT3 which states that Oxfordshire County Council will support and promote the development of high quality public transport interchanges.

4.1.61 The interchange would be located to the East of the site adjacent to the site access roundabout. The interchange would have circa 300 car parking spaces as well as cycle parking spaces. Amendments to the masterplan have resulted in the interchange being sited closer to the A44 corridor.

4.1.62 In addition to public transport services, the strategy also considers school transport. Currently school coaches use a route via Shipton Road route from the A4095 Upper Campsfield Road to Hensington Road. The linking of Shipton Road through the site also significantly improves access to Marlborough School particularly for school coaches. At present however there are no dedicated set down provision for these coaches. It is proposed that this will be addressed by the creation of a dedicated coach park area to allow the safe boarding of coaches. A design for this facility is shown in the TA.

4.1.63 Overall, the proposals significantly enhance the opportunity for future residents to travel by passenger transport options to all popular journey purpose destinations, including health, employment, retail, leisure, education and transport interchanges. The proposals also enhance public transport provision for existing residents in Woodstock and in a wider area within the catchment of the proposed link-and-ride interchange. **This would result in a major beneficial impact.**

Driver Delay

4.1.64 Off-site highway works to enhance highway capacity are proposed and these are detailed within the Transport Assessment. **This would result in a minor beneficial effect.**

Severance / Pedestrian Amenity / Pedestrian Delay

4.1.65 Enhancements by way of footway and cycle connections from the proposed development to Woodstock. **Overall the development would result in a minor beneficial effect.**

Highway Accidents and Safety

4.1.66 There are no specific mitigation measures proposed to deal the highway accidents and safety; however off-site highway works to enhance highway capacity are proposed for a number of junctions, which will enhance the overall safety of the junctions.

4.1.67 **The overall significance of effect would be negligible**.

Hazardous loads

4.1.68 The proposed development will not be associated with the movement of hazardous loads. No mitigation measures are therefore proposed.

Residual Effects

4.1.69 Table 5.6 below summarises the significance of effect arising from the planned growth in Cherwell and West Oxfordshire. Based on the NTEM forecasts, vehicular peak hour traffic demand will increase by 24% across the area which includes sections of the local transport network that already experiences excess demand during the peak hour period. At present there

is no explicit strategy which sets out the mitigation measures required to accommodate this growth. A summary of significance of effect of the planned growth excluding development but within its area of influence is set out in Table 5.7.

Potential Effect	Significance of Potential Effect (Pre-Mitigation	Mitigation Measures	Significance of Residual Effect	Duration
Severance	Minor Adverse	Undefined	Minor Adverse	Long Term
Driver Delay	Moderate Adverse	Undefined	Moderate Adverse	Long Term
Pedestrian Amenity / Pedestrian Delay	Minor Adverse	Undefined	Minor Adverse	Long Term
Highway Accidents and Safety	Minor Adverse	Undefined	Minor Adverse	Long Term
Hazardous Loads	Negligible	Undefined	Negligible	Long Term

Table 5.7: Summary of Significance of Effect – Planned Growth excluding Development

5.1.3 The development will generally give rise to a small change in traffic patterns that the wider growth plans will deliver. The cumulative impact of the planned growth, committed developments sites (as set out within the TA) and the development at East Woodstock are set out in Table 5.8. This table shows that the significance of potential effect (pre-mitigation) is the same as planned growth, i.e. cumulatively the change in magnitude is insufficient to reclassify the future impacts (pre-mitigation). The tables do however differ significantly in the significance of residual effect. The Transport Strategy and mitigation measures do effectively address the impacts within the area of influence of the development such that the residual effects are negligible or minor beneficial.

Potential Effect	Significance of Potential Effect (Pre-Mitigation	Mitigation Measures	Significance of Residual Effect	Duration
Severance	Minor Adverse	On and off-site pedestrian and cycle measures to be delivered	Negligible	Long Term
Driver Delay	Moderate Adverse	Off-site highway works to enhance highway capacity is proposed at a number of junctions	Negligible	Long Term
Pedestrian Amenity / Pedestrian Delay	Minor Adverse	On and off-site pedestrian and cycle measures to be delivered	Minor beneficial	Long Term
Highway Accidents and Safety	Minor Adverse (Bladon R'bout)	Off-site highway works to enhance highway capacity and safety is proposed	Minor beneficial	Long Term
Hazardous Loads	Negligible	Not required	Negligible	Long Term

Table 5.8: Summary of Significance of Effect – Cumulative Development

4.1.70 Table 5.9 sets out a summary of significance of effect arising from the construction traffic during the early stages of build out of the site. Construction traffic will be managed in accordance with a Construction Traffic Management Plan which will set out routes as well as any restrictions on timings etc. In this context, as can be seen from this Table 5.9 the significance of potential effect is negligible. As the development progresses the mitigation measures set out above will be implemented such that the cumulative effect within the area of influence will be managed.

Potential Effect	Significance of Potential Effect (Pre-Mitigation	Mitigation Measures	Significance of Residual Effect	Duration
Severance	Negligible	CEMP	Negligible	Temporary
Driver Delay	Negligible	CEMP	Negligible	Temporary
Pedestrian Amenity / Pedestrian Delay	Negligible	CEMP	Negligible	Temporary
Highway Accidents and Safety	Negligible	CEMP	Negligible	Temporary
Hazardous Loads	Negligible	CEMP	Negligible	Temporary

Table 5.9: Summary of Significance of Effect – Construction Traffic

CONCLUSIONS

4.1.71 This Chapter has reviewed the highways and transport implications of the revised residential-led mixed use development proposals at East of Woodstock.

- The changes to the position of the site access onto the A4095 Upper Campsfield Road will not have a material bearing on the distribution or assignment of traffic;
- The change to the position of the interchange responds to operational considerations rather than the forecast function; and,
- The change in the development mix in Option 2 provides more balance in and out flows to the development site itself but in the wider context these changes do not materially change the traffic flows on the wider network or the appraisal of its impact.

4.1.72 With respect to all of the planning policy requirements set out in the NPPF, the development is sustainable in transport terms. Specifically in terms of the requirements of paragraph 32 it has been demonstrated that safe and suitable access can be achieved moreover that the impacts of the development can be appropriately mitigated and that there will be no severe residual impact.

5 FLOOD RISK, DRAINAGE AND WATER RESOURCES

NON TECHNICAL SUMMARY

5.1.1 This addendum has been compiled to address an option to the outline master plan detailed within the earlier Infrastruct CS Ltd flood risk and drainage statement (Ref. 13-1363.08.001 Rev A)

5.1.2 The amended master plan reflects the revised main spine road position that takes account of a more detailed assessment of archaeological remains, an elevated employment provision to 13,800 sq metres and reducing the amount of residential housing to approximately 1,200 units, including a 120 unit care home. The position of the junction onto the A4095 has been relocated further south.

5.1.3 This addendum confirms that the site wide drainage strategy remains un-affected by these proposed changes, and a further detailed assessment of the proposed detention basin within the Phase 1 parcel, has established that the proposed storage volume caters for the master plan changes.

INTRODUCTION

5.1.4 The Client, Pye Homes Limited and The Vanburgh Unit Trust (acting on behalf of Blenheim Estates), has commissioned Infrastruct CS Ltd to prepare an addendum to the Flood Risk Assessment (FRA) and drainage statement, Report No. 13-1363.08.001 Rev A, to address potential amendments to the site master plan prepared by West Waddy ADP and shown on dwg 273-SK114 following further consultation with stake holders.

5.1.5 This flood risk addendum has been compiled in accordance with the recommendations of the National Planning Policy Framework and the Planning Practice Guidance to the National Planning Policy Framework.

5.1.6 This addendum is to determine whether the site wide drainage strategy would remain unaffected should the master plan be altered, which is to include a further assessment of the proposed detention basin within the Phase 1 parcel, to ensure the amendments in land allocation and density will not impact on the size of the feature.

FLOOD RISK

5.1.7 The amendments to the master plan do not impact on the earlier assessment of flood risk both to and from the development site and so the initial assessment documented in report No 13-1363.08.001 Rev A, remains true.

IMPACT OF THE DEVELOPMENT ON THE GROUND WATER TABLE

5.1.8 The potential amendments to the master plan involve re-organisation of the site to incorporate comments from various stakeholders, but importantly do not introduce additional land uses which have the potential to elevate the risk to the ground water table. The proposed option to increase the employment area, which is associated with a low risk, low occurrence category, do not significantly elevate the risk to the ground water table. As such the assessment made within the original flood risk and drainage statement remains unchanged.

PROPOSED DRAINAGE STRATEGY

Foul Water

5.1.9 The potential amendments to the master plan have been assessed in terms of their impact on the site wide foul infrastructure. The principles of the drainage strategy will remain the same, in that the scheme will incorporate a central adoptable foul pumping station close to the eastern boundary of the site, with a gravity system serving the whole development.

5.1.10 Flows from the pumping station will be pumped direct to the Woodstock sewerage treatment plant via a dedicated rising main as agreed with Thames Water during the consultation stage.

5.1.11 Principle changes would therefore solely relate to the configuration of the on-site system and the routes these will take across the scheme. The principle routes have been reflected within Appendix A of this addendum and due consideration has been made to ensuring the foul sewer from the western half of the site follows the alignment of the spine road to reduce its impact on the area of archaeological interest.

5.1.12 Finally should the area of employment be increased, resulting in a reduction of residential dwellings from 1,500 down to 1,200, there will be a nett reduction in the proposed foul drainage rates leaving the development site.

Surface Water

5.1.13 As with the foul drainage, the site wide surface water drainage strategy will not be substantially impacted by the potential amendments to the master plan. Key drainage elements such as the detention basin within Phase 1, have been retained within the amended scheme.

5.1.14 Following the surface water hierarchal drainage approach listed within the main Infrastruct CS Ltd FRA report, the development scheme should still seeks to infiltrate as much of the surface water generated into the underlying ground strata to mimic the current surface water regime for the site.

5.1.15 As such it is the proposed intention to replicate this arrangement with the proposed drainage system for the site and incorporate a drainage system which utilises the more permeable ground conditions associated with the eastern half of the site.

5.1.16 The development area associated with the less permeable western half of the site will replicate the current surface water regime and discharge at an attenuated rate into the open ditch system running along the A44 Oxford Road.

5.1.17 Surface Water Strategy for western half of the development site

5.1.18 Appendix B of the main Infrastruct report 13-1363.08.001 Rev A, makes an assessment with regards the underlying strata's ability to accommodate infiltration techniques. The results of this exercise suggest land to the west of the existing hedgerow running north-south through the development site, will shed surface water into the existing ditch systems both within and adjacent to the site.

5.1.19 In order to replicate the current green field drainage regime for this half of site, the proposed surface water drainage network will collect flows from this area of the site and direct them via piped systems and swales, down towards the existing ditch system running along the A44 Oxford Road.

5.1.20 The original FRA assessment proposed to reduce surface water flows down to QBAR for all storm events, which equated to a rate of 50.1 l/s for this portion of the site. Further consultation with WODC drainage engineers, as part of a review of the main FRA report, have resulted in a requested to further improve the discharge rate to match the 1 in 2 yr flow rate of 44.1l/s.

5.1.21 For the purposes of this addendum, this lower rate of 44.1l/s has been used as the acceptable discharge rate for the western half of the site.

Calculation of Impermeable Areas

5.1.22 The latest master plan for the western half of the development site consists of the following land uses, as detailed within the master plan found within Appendix B of this report. These land uses mirror those of the original master plan, however the principle changes relate to the re-positioning of the care village and reconfigured spine road and residential areas.

- Care Village
- School
- Phase 1 residential land parcel (detailed)
- Remaining residential land parcels (outline)
- Commercial units
- Associated road networks

5.1.23 In order to establish the required volume of storage required for the surface water drainage system, the main FRA report made an assessment of these areas in terms of the area of drained hard standing being proposed.

5.1.24 For ease of calculation the road network area has been accounted for in each individual land parcel with the commercial units included within the remaining residential land parcel.

5.1.25 The proposed areas associated with the school, care village and Phase 1 works have been calculated off the original master plan. The calculation for the remaining residential land parcels have been set to mirror that of the detailed phase 1 residential parcel.

5.1.26 The results for the original master plan are provided within table 5.1 below;

Land Use	Approximate Area (sqm)	% of hard standing and roof area	Approximate area of drained hard standing and roof areas (sqm)
Care Village	22,375	50%	11,187
School (Building and car parks)	2,580	100%	2,580
Phase 1 Residential land parcel (29 units)	15,700	30%	4,710
Remaining residential land parcels	77,790	Assumed at 30%	28,337
		Total Area	**46,814**

Table 5.1 – impermeable areas for western half of the site (original masterplan)

5.1.27 The revised master plan has been separately assessed to establish any variance from the areas above and to assess the impact this may have on the surface water drainage for this half of the site, principally to the detention basin.

5.1.28 The results for the revised master plan are provided within table 5.2 below;

Land Use	Approximate Area (sqm)	% of hard standing and roof area	Approximate area of drained hard standing and roof areas (sqm)
Care Village	27,120	50%	13,560
School (Building and car parks)	2,151	100%	2,151
Phase 1 Residential land parcel (29 units)	15,700	30%	4,710
Remaining residential land parcels	64,392	Assumed at 30%	19,317
Local Centre	4043	100%	4,043
		Total Area	**43,781**

Table 5.2 – Impermeable Areas for Western Half of the site (revised master plan)

5.1.29 The tables above demonstrate that the potential amendments to the master plan could slightly reduce the extent of impermeable surfacing draining from the western half of the development.

PROVISION OF SURFACE WATER STORAGE (WESTERN HALF OF THE SITE)

5.1.30 Section 11.7 of the main Infrastruct CS Ltd report Ref. 13-1363.08.001 Rev A and associated appendices demonstrate that there is sufficient fall across the western half of the site to install a gravity fed drainage network to collect surface water flows and convey these to the proposed detention basin positioned on the southern boundary to the site.

5.1.31 The proposed basin is shown with a plan area of 1,800sqm and a maximum depth of 1.3m, which can accommodate a maximum storm volume of 2,187.5cum.

Swales

5.1.32 To provide a level of biological treatment associated with the main road network, it is the intention to implement a swale drainage feature to one side of the main spine road which will collect and convey the surface water down towards the detention basin. The amended proposals are to utilise approximately 390 linear metres of swale, which at 2m wide, will provide up to 97cum of storage. This is a reduction to the original master plan.

Further storage

5.1.33 There are additional elements of storage that can be utilised such as the volume found within the piped network serving this half of the site together with the potential to incorporate elements of permeable pavements. To ensure the surface water strategy provides a robust approach, the storage available from these additional elements has not been taken into account at this stage. In doing so the required storage provision has been specified within major drainage elements to ensure sufficient space has been allocated for these within the site masterplan.

5.1.34 It is still the recommendation that during the detailed design of the infrastructure phase, that maximum flow rates are set and defined on a constraints drawing, together with the detailed design of the detention basin so that future development of the site controls the surface water flow restrictions for each land parcel. This will reinforce the strategy and future proof the surface water system to take account for variations in density within each land parcel over and above the assumption made within table 5.2.

Simulation of surface water storage

5.1.35 The combined effects of the detention basin and swales have been calculated in Microdrainage to simulate the performance of the system associated with a 1 in 100 year storm event with an additional allowance of 30% for climate change. This assessment has confirmed that the storage provision would still accommodate the storm event with the reduced outlet flow rate of 44 l/s.

5.1.36 Of significance is that the system has been designed to completely drain down and with the amended discharge rate and latest master plan, the pond will have a slightly longer half drain down time of 418 minutes (as compared to 390 minutes previously) or approximately 7 hours during an a 1 in 100 year event, with a full drain down time of twice that.

5.1.37 The results of this Microdrainage calculation assessment can be found within Appendix C of this addendum.

SURFACE WATER DRAINAGE STRATEGY FOR EASTERN HALF OF THE DEVELOPMENT SITE

5.1.38 The surface water drainage proposals for the eastern half of the site associated with the more permeable strata, will still follow the principles set within the main FRA report and utilise three main SuDS measures;

- Infiltration Swales
- Permeable Pavements
- Cellular soakaways

5.1.39 The amended site wide surface water drainage strategy has been shown on Infrastruct CS Ltd Drawing 13-1363-100, which can be found within Appendix D of this addendum.

CONCLUSION

5.1.40 The potential amendments to the site wide master plan have been assessed within this addendum report to determine the associated impact on both the proposed surface water and foul drainage strategies detailed and documented in the main flood risk assessment and drainage statement compiled by Infrastruct CS Ltd, Ref. 13-1363.08.001 Rev A.

5.1.41 This addendum has assessed the changes to the master plan against the strategies proposed and can confirm that the principles set within the original document are not affected by the amended layout.

5.1.42 Furthermore a detailed assessment of the western half of the site has demonstrated that the proposed detention basin is able to accommodate the proposed surface water runoff volumes utilising a reduced allowable discharge rate of 44 l/s, as required by WODC. This has principally been achieved through a reduction in proposed impermeable surfacing from the western half of the development site.

5.1.43 This report therefore concludes that the potential changes to the master plan can be accommodated and that the principals and conclusions set within the original FRA and drainage statement remain unchanged

APPENDICES

Appendix A: Foul Water

Appendix B: Masterplan

Appendix C: Microdrainage Calculations

Appendix D: Surface Water Drainage Strategy

6 LIGHTING

INTRODUCTION

6.1.1 The revised West Waddy ADP masterplan for the proposed development reflects the revised option of increasing employment provision to 13,800 sqm and reducing the amount of residential provision to up to 1,200 units including a 120 unit care home.

6.1.2 The uses of the proposed development remain similar to those previously proposed although the location of these uses has been amended in response to comments received from Cherwell District Council and West Oxfordshire District Council during consultation (See Drawing SK114 submitted with this supplementary information). The route of the primary traffic route through the site has also been diverted to avoid the Scheduled Monument (SM) as identified on the Land Use Plan.

6.1.3 The lighting strategies and typologies which relate to the proposed land uses are detailed in the GIA Equation Lighting Masterplan dated 27th November 2014. These lighting strategies are relevant to the revised Land Use Plan and can be applied to the new locations on the site.

6.1.4 Sample calculations were included in the Lighting Masterplan which demonstrated that by applying good practice lighting design principles to lighting installations within the proposed development, potentially adverse impacts such as light spill and light pollution can be avoided.

6.1.5 The Glow Plan (Appendix A) illustrates the relative brightness of the various lighting typologies as applied to the revised land use plan. The brightest zones are the primary route and the commercial areas of the site. The darkest zones are the perimeter of the site and the open amenity areas.

6.1.6 In addition, the drawing in Appendix B illustrates the relative zones of darkness on the revised land use plan. It can be seen that the majority of the site is designed to be comparatively dark, with lighting provided only for safety, security and amenity. The external perimeter is unlit, with the exception of principal pedestrian routes, where these connect from tertiary residential streets to the A44 Oxford Road.

EVALUATION OF IMPACTS

6.1.7 The potential impacts of the proposed development have been reviewed taking into consideration the existing baseline and the revised Land Use Plan (Drawing SK114 WWADP).

Construction Phase Impacts

6.1.8 During the construction phase of the project, temporary site lighting will be an integral part of the on-site security and the health and safety requirements of the building contractors. Any potentially adverse effects associated with construction site lighting are considered to be medium term in duration and temporary in nature. They have therefore been scoped out of the addendum to the assessment.

Operational Phase Impacts

6.1.9 For the purposes of this addendum to the Lighting Impacts Assessment it is assumed that the lighting for the proposed development will be designed in accordance with current good practice and the Society of Light & Lighting recommendations and the ILP *"Guidance Notes for the Reduction of Obtrusive Light"* as described in the main "Lighting Impacts" chapter.

6.1.10 It is also assumed that the strategies recommended in the GIA Equation Lighting Masterplan dated 27th November 2014 will be incorporated in the final design.

6.1.11 The proposed development has substantial planting at the southern perimeter, LED street lighting with micro-processor based dimming controls is proposed and lighting would be focused onto task areas throughout the proposed development with minimal light spill to the surrounding area. Lighting would also be dimmed after an agreed curfew and when the amount of vehicular and pedestrian traffic on the site reduces in the evening.

6.1.12 Dark zones are identified within the Lighting Masterplan in order to maintain existing bat foraging routes and in acknowledgement of the intrinsically dark nature of parts of the surrounding landscape.

6.1.13 The lighting scheme for the proposed development has also been designed in accordance with BS5489 “Code of Practice for the Design of Road Lighting”, to create a safe and secure environment for residents and for visitors.

6.1.14 The A44 Oxford Road which borders the World Heritage Site is currently illuminated to the levels recommended in BS5489. An average illuminance of 20 Lux was been measured on the carriageway at the time of the baseline survey in November 2014.

6.1.15 As a result, the proposed development should not materially alter the existing illuminance levels outside the site boundaries or adversely affect the use and enjoyment of nearby buildings and open spaces.

CONCLUSION

6.1.16 The sample illuminance calculations contained in the Lighting Masterplan clearly illustrate that no light spill from the proposed development would affect the World Heritage Site or its setting.

6.1.17 Consequently there will be no harmful impact, or “loss of tranquillity” to the adjacent World Heritage Site and no harm will arise from the development of the existing open fields with respect to the lighting of the proposed development when considering the revised Land Use Plan.

6.1.18 In addition, there are not considered to be any residual significant effects with regard to electric lighting installations within the proposed development during either the construction or operational phases of the scheme

APPENDICES

Appendix A: Glow Plan

Appendix B: Zones of Darkness

7 AIR QUALITY

NON-TECHNICAL SUMMARY

7.1.1 The air quality assessment has been updated to account for revisions to the masterplan for the proposed development. This revision affects traffic flows once the development is open. Consequently, it has been necessary to update the operational phase air quality assessment to reflect the revised traffic flows, in-particular the air quality impacts on human receptors, and sensitive ecological resources in Oxford Meadows SAC and Blenheim Park SSSI. The updated assessment concludes that there would be no significant air quality effects in relation to human receptors and ecological resources.

Description of changes

7.1.2 This chapter should be read in conjunction with the ES Air Quality chapter and with reference to subsequent correspondence with Natural England concerning air quality effects on designated sites (letter from WSP dated 11th March 2015, reference 70004428/L01JG).

7.1.3 Aspects of the ES Air Quality chapter that remain completely unchanged include:

- Relevant Legislation and Guidance
- Planning Policy Context
- Baseline Conditions

7.1.4 Construction phase assumptions for the revised masterplan have been considered to determine any aspects that would change the findings as presented in the ES Air Quality chapter. It has been determined that there would be no material differences to the findings of the construction phase assessment as presented in the ES.

7.1.5 Operational phase assumptions for the revised masterplan have been considered to determine any aspects that would change the findings as presented in the ES Air Quality chapter. The proposed reduction in residential use with increased employment use gives rise to different vehicle movements with the Proposed Development in 2033 (the opening year) to those

previously considered in the ES Air Quality assessment. Traffic data for all other scenarios are unchanged. The revised traffic data are given in Table 7.1 (below). An assessment of air quality impacts in terms of human receptors and designated sites has been undertaken using these new traffic data; this is discussed in the next section.

7.1.6 As the Proposed Development is not expected to be open until 2033, consideration has been given to future vehicle emissions and background pollutant concentrations and the likely differences with the base year of 2013.

7.1.7 In recent years it has been apparent in many urban areas that previously foreseen improvements in ambient air quality in relation to annual mean nitrogen dioxide (NO_2) concentrations have not been achieved. This has been attributed to a number of factors, in-particular the greater proportion of diesel cars within the vehicle fleet than previously anticipated (diesel cars tend to emit more oxides of nitrogen (NOx) than petrol cars). Between now and 2033, the older more polluting vehicles will be substantially replaced within the vehicle fleet by those conforming to stricter emissions standards such as EURO VI(6) (Further information is given on the European Union website: http://europa.eu/legislation_summaries/environment/air_pollution/l28186_en.htm) and lower emitting hybrid vehicles.

7.1.8 The assumptions concerning future vehicle emissions and background concentrations have therefore been revised to be in-line with DEFRA's forecasts. As these forecasts only extend to 2030 no account can be made of any further improvements concerning vehicle emissions in the years between 2030 and the opening year of 2033. Vehicle emissions and background concentration data for 2030 have therefore been used in the assessment for this ES Addendum. An additional degree of conservatism has also been incorporated in the assumptions concerning background concentrations in that there has been no removal of major road contributions to the assumed background. (The background concentration datasets published by DEFRA allow the user to adjust background concentrations downwards to remove contributions from one or more source sector (such as major roads). This is usually done where all sources in a particular source sector within background grid squares are explicitly modelled. Where only a fraction of the sources are explicitly modelled or where there is uncertainty regarding these sources it is

reasonable not to adjust the background data.); this means that there is some exaggeration of the major road contribution to total ambient NO_x, NO_2 and PM_{10} concentrations and nitrogen deposition as the major roads have also been explicitly included as sources in the dispersion modelling.

Table 7.1 Revised 2033 'With Development' Traffic Data

		24 hour AADT			
Link Identity	Link Name	vehicles	HDV	%HDV	speed (km/hr)
1	A44 Oxford Road	23,307	2,096	9	67.3
1a	A44 Oxford Road Queue	23,307	2,096	9	30
2	A44 Manor Road	17,216	1,458	8.5	58.1
3	A44 Woodstock Road	38,434	2,525	6.6	68.4
3a	A44 Woodstock Road Queue	38,434	2,525	6.6	30
4	A4095 Upper Campsfield Road	16,012	1,106	6.9	66.1
4a	A4095 Upper Campsfield Road Queue	16,012	1,106	6.9	30
5	A4095 Grove Road	22,762	1,111	4.9	48.3
5a	A4095 Grove Road Queue	22,762	1,111	4.9	30
6	Shipton Road	2,594	187	7.2	52.3
6a	Shipton Road Queue	2,594	187	7.2	30
7	Hensington Road	4,068	99	2.4	40.1
7a	Hensington Road Queue	4,068	99	2.4	30
8	Site Access - Upper Campsfield Road	2,301	109	4.7	48.3
9	Site Access - A44 Oxford Road	1,731	0	0	48.3
10	Banbury Road	14,468	245	1.7	80.5
11	A34	85,497	7,247	8.5	112.7
12	A40	60,085	6,053	10.1	96.6

7.1.9 With regard to the significance of changes in nitrogen deposition rates on the designated ecological sites, an impact is considered to be significant where there is a change in Process Contribution (PC) of over 1% of a long term critical load for the ecological site under consideration.

7.1.10 In terms of the Oxford Meadows SAC the long term critical load taken for the feature present in the SAC that is the most sensitive to nitrogen deposition is 20 to 30 kg N/ha/year and for Blenheim Park SSSI it is 15 to 20 kg N/ha/year (data from the APIS website).

7.1.11 The percentage changes presented in the ES Air Quality chapter were the percentage change in nitrogen dry deposition rates due to the proposed development, i.e. they were not percentage changes in the critical load as a result of the development.

7.1.12 In terms of annual mean NOx concentrations, the 1% criterion described above does not apply. The significance criteria that do apply are given on page 10 of the Interim Advice Note 174/13 (published by the Highways Agency for DMRB users). These relate to the magnitude of change in annual mean NOx concentrations due to a proposal, and whether or not there are predicted exceedances of the UK Air Quality Strategy objective for this pollutant and averaging period set for the protection of vegetation and ecosystems, of 30$\mu g/m^3$.

7.1.13 These criteria are as follows:

- *"Where NOx concentrations are assessed to be below their objective then significant effects are not anticipated.*
- *If the objective is exceeded, then significant effects may occur, and further consideration should be given to the magnitude of change. The exception to this is where changes are less than 0.4$\mu g/m^3$, then effects are considered to be imperceptible and unlikely to be significant.*
- *Where changes in NOx concentrations are greater than 0.4$\mu g/m^3$ then this information along with changes in nutrient nitrogen deposition should be provided to the scheme ecologist to determine the significance of effects based on their professional judgement."*

ASSESSMENT OF IMPACTS

Human receptors

7.1.14 The ES Air Quality chapter found no significant effect in terms of human receptors. For the ES Addendum, the predicted concentrations have been found to be lower than those presented in

the ES, which is as a consequence of assuming DEFRA 2030 forecasts for vehicle emissions and background concentrations. Previously, in the ES, the receptor with the greatest change in annual mean NO_2 concentration was R5 (Upper Campsfield) with an increase of 1.18μg/m^3; this is now expected to be 0.82μg/m^3. The ES also indicated an exceedance of the objective for annual mean NO_2 (40μg/m^3) both without and with the Proposed Development at R13 (Oxford Road); the 'with development' concentration at this receptor is now expected to be 18μg/m^3. The Proposed Development would therefore have no significant effect in relation to air quality at human receptors.

Ecological receptors

7.1.15 The results in Table 7.2 show that there are exceedances of the objective for annual mean NOx concentrations of 30μg/m^3 at receptors in the A34 and A40 transects within the SAC, both with and without development. The Proposed Development does not cause any new exceedances. The change in concentrations due to the development proposals is greater than 0.4μg/m^3 (highlighted in bold) to the edge of the A34 but not extending within the SAC. The changes are not considered to be significant.

7.1.16 Therefore, the Proposed Development will not have a significant effect on annual mean NOx concentrations at the SAC.

Table 7.2 Predicted Annual Mean NOx Concentrations for Oxford Meadows SAC

Receptor Names	Distance from road centre (m)	2033 Without Development Annual Mean NO_x concentration ($\mu g/m^3$)	2033 With Development Annual Mean NO_x concentration ($\mu g/m^3$)	Change due to development ($\mu g/m^3$)
Predicted Annual Mean NO_x Concentrations with distance away from the centre of the A34				
Oxf Mead A34 T1 CENTRELINE	0	174.1	175.2	**1.13**
Oxf Mead A34 T2	5	162.3	163.3	**1.03**
Oxf Mead A34 T3 KERB	10	113.0	113.6	**0.62**
Oxf Mead A34 T4	15	74.4	74.8	0.34
Oxf Mead A34 T5	20	58.6	58.8	0.25
Oxf Mead A34 T6	25	50.4	50.5	0.17
Oxf Mead A34 T7	30	44.7	44.8	0.17
Oxf Mead A34 T8	35	40.7	40.9	0.12
Oxf Mead A34 T9	40	37.7	37.8	0.12
Oxf Mead A34 T10	60	31.4	31.5	0.07
Oxf Mead A34 T11	80	28.0	28.0	0.05
Oxf Mead A34 T12	100	26.0	26.0	0.05
Oxf Mead A34 T13	120	24.6	24.7	0.02
Oxf Mead A34 T14	140	23.7	23.7	0.02
Oxf Mead A34 T15	160	23.1	23.1	0.02
Oxf Mead A34 T16	180	22.5	22.6	0.02
Oxf Mead A34 T17	200	22.2	22.2	0.00
Predicted Annual Mean NO_x Concentrations with distance away from the centre of the A40				
Oxf Mead A40 T1 CENTRELINE	0	135.5	135.5	0.02
Oxf Mead A40 T2	5	74.5	74.5	0.02
Oxf Mead A40 T3 KERB	10	52.9	52.9	0.00

Receptor Names	Distance from road centre (m)	2033 Without Development Annual Mean NO_x concentration ($\mu g/m^3$)	2033 With Development Annual Mean NO_x concentration ($\mu g/m^3$)	Change due to development ($\mu g/m^3$)
Oxf Mead A40 T4	15	42.3	42.3	0.00
Oxf Mead A40 T5	20	37.1	37.1	0.00
Oxf Mead A40 T6	25	33.9	33.9	0.00
Oxf Mead A40 T7	30	31.3	31.3	0.00
Oxf Mead A40 T8	35	29.7	29.6	-0.02
Oxf Mead A40 T9	40	28.4	28.4	-0.02
Oxf Mead A40 T10	60	25.3	25.3	0.00
Oxf Mead A40 T11	80	23.7	23.7	0.00
Oxf Mead A40 T12	100	22.8	22.8	0.00
Oxf Mead A40 T13	120	22.2	22.2	0.00
Oxf Mead A40 T14	140	21.8	21.8	0.00
Oxf Mead A40 T15	160	21.5	21.5	0.00
Oxf Mead A40 T16	180	21.3	21.3	0.00
Oxf Mead A40 T17	200	21.1	21.1	0.00

7.1.17 The results in Table 7.3 (below) show that there are no exceedences of the objective for annual mean NOx concentrations of 30$\mu g/m^3$ at receptors in the Park Street and Oxford Road transects within the SSSI both with and without development. The Proposed Development does not cause any new exceedances. The change in concentrations due to the development proposals is greater than 0.4$\mu g/m^3$ (highlighted in bold) up to a distance of between 15 and 20m from the centreline of Park Street; however, the annual mean NOx concentrations are below 30$\mu g/m^3$. These changes are not considered to be significant.

7.1.18 Therefore, the Proposed Development will not have a significant effect on annual mean NOx concentrations at the SSSI.

Table 7.3 Predicted Annual Mean NOx Concentrations for Blenheim Park SSSI

Receptor Names	Distance from road centre (m)	2033 Without Development Annual Mean NO_x concentration ($\mu g/m^3$)	2033 With Development Annual Mean NO_x concentration ($\mu g/m^3$)	Change due to development ($\mu g/m^3$)
Predicted Annual Mean NO_x Concentrations with distance away from centre of Park Street				
BP Park Street T1 CENTRELINE	0	61.7	63.5	**1.88**
BP Park Street T2	5	38.4	39.5	**1.03**
BP Park Street T3 KERB	10	26.7	27.3	**0.59**
BP Park Street T4	15	22.0	22.4	**0.43**
BP Park Street T5	20	19.5	19.8	0.33
BP Park Street T6	25	17.9	18.1	0.27
BP Park Street T7	30	16.8	17.0	0.24
BP Park Street T8	35	15.9	16.1	0.20
BP Park Street T9	40	15.3	15.5	0.18
BP Park St T10	60	13.9	14.0	0.12
BP Park St T11	80	13.1	13.2	0.09
BP Park St T12	100	12.7	12.7	0.09
BP Park St T13	120	12.3	12.4	0.06
BP Park St T14	140	12.1	12.2	0.06
BP Park St T15	160	11.9	12.0	0.04
BP Park St T16	180	11.8	11.8	0.04
BP Park St T17	200	11.7	11.7	0.05
Predicted Annual Mean NO_x Concentrations with distance away from centre of Oxford Road				
BP Oxford Road T1 CENTRELINE	0	39.4	39.7	0.29
BP Oxford Rd T2	5	24.3	24.5	0.15

Receptor Names	Distance from road centre (m)	2033 Without Development Annual Mean NO_x concentration ($\mu g/m^3$)	2033 With Development Annual Mean NO_x concentration ($\mu g/m^3$)	Change due to development ($\mu g/m^3$)
BP Oxford Rd T3 KERB	10	18.9	19.0	0.10
BP Oxford Rd T4	15	16.7	16.8	0.06
BP Oxford Rd T5	20	15.5	15.5	0.05
BP Oxford Rd T6	25	14.7	14.8	0.05
BP Oxford Rd T7	30	14.2	14.2	0.04
BP Oxford Rd T8	35	13.8	13.9	0.04
BP Oxford Rd T9	40	13.5	13.5	0.02
BP Oxford Rd T10	60	12.8	12.8	0.02
BP Oxford Rd T11	80	12.4	12.4	0.02
BP Oxford Rd T12	100	12.2	12.2	0.03
BP Oxford Rd T13	120	12.0	12.1	0.01
BP Oxford Rd T14	140	11.9	12.0	0.02
BP Oxford Rd T15	160	11.9	11.9	0.00
BP Oxford Rd T16	180	11.8	11.8	0.02
BP Oxford Rd T17	200	11.7	11.8	0.02

7.1.19 The results in Table 7.4 (below) show that the minimum critical load for the Oxford Meadows SAC of 20 kg N/ha/yr is just exceeded at a distance of up to 10m from the edge of the A34 and not at all from the edge of the A40 both with and without the development. The Proposed Development does not cause any exceedances. All predicted nitrogen deposition rates from edge of road into

the SAC are below the maximum critical load for this site of 30 kg N/ha/yr. The process contribution (PC) at the receptors located with increasing distance away from the A40 show generally no or very little PC because there is predicted to be no change in traffic flows along this road as a result of the Proposed Development.

7.1.20 The predicted PCs to the minimum nitrogen deposition critical load are all less than 1% and therefore, the Proposed Development will not have a significant effect on nitrogen deposition at the SAC.

Table 7.4 Predicted Nitrogen Dry Deposition Rates for Oxford Meadows SAC

Receptor Names	Distance from road centre (m)	2033 Without Development Total Deposition (kg N/ha/yr)	2033 With Development Total Deposition (kg N/ha/yr)	Process Contribution (kg N/ha/yr)	Minimum Critical Load (kg N/ha/yr)	Percentage of Critical Load (%)
Predicted Dry Deposition Rates with distance away from the centre of the A34						
Oxf Mead A34 T1 CENTRELINE	0	22.3	22.3	0.026	20	0.13
Oxf Mead A34 T2	5	22.1	22.1	0.023	20	0.11
Oxf Mead A34 T3 KERB	10	20.8	20.9	0.016	20	0.08
Oxf Mead A34 T4	15	19.7	19.7	0.010	20	0.05
Oxf Mead A34 T5	20	19.1	19.1	0.011	20	0.05
Oxf Mead A34 T6	25	18.8	18.8	0.008	20	0.04
Oxf Mead A34 T7	30	18.6	18.6	0.009	20	0.05
Oxf Mead A34 T8	35	18.4	18.4	0.004	20	0.02
Oxf Mead A34 T9	40	18.3	18.3	0.004	20	0.02
Oxf Mead A34 T10	60	18.0	18.0	0.000	20	0.00
Oxf Mead A34 T11	80	17.8	17.8	0.000	20	0.00
Oxf Mead A34 T12	100	17.7	17.7	0.000	20	0.00
Oxf Mead A34 T13	120	17.7	17.7	0.000	20	0.00
Oxf Mead A34 T14	140	17.6	17.6	0.000	20	0.00
Oxf Mead A34 T15	160	17.6	17.6	0.000	20	0.00
Oxf Mead A34 T16	180	17.6	17.6	0.000	20	0.00
Oxf Mead A34 T17	200	17.6	17.6	0.000	20	0.00

Receptor Names	Distance from road centre (m)	2033 Without Development Total Deposition (kg N/ha/yr)	2033 With Development Total Deposition (kg N/ha/yr)	Process Contribution (kg N/ha/yr)	Minimum Critical Load (kg N/ha/yr)	Percentage of Critical Load (%)
Predicted Dry Deposition Rates with distance away from the centre of the A40						
Oxf Mead A40 T1 CENTRELINE	0	19.7	19.7	0.000	20	0.00
Oxf Mead A40 T2	5	18.9	18.9	0.000	20	0.00
Oxf Mead A40 T3 KERB	10	18.5	18.5	0.000	20	0.00
Oxf Mead A40 T4	15	18.2	18.2	0.000	20	0.00
Oxf Mead A40 T5	20	18.1	18.1	0.000	20	0.00
Oxf Mead A40 T6	25	18.0	18.0	0.000	20	0.00
Oxf Mead A40 T7	30	17.9	17.9	0.000	20	0.00
Oxf Mead A40 T8	35	17.8	17.8	0.000	20	0.00
Oxf Mead A40 T9	40	17.7	17.7	0.000	20	0.00
Oxf Mead A40 T10	60	17.6	17.6	0.000	20	0.00
Oxf Mead A40 T11	80	17.6	17.6	0.000	20	0.00
Oxf Mead A40 T12	100	17.6	17.6	0.000	20	0.00
Oxf Mead A40 T13	120	17.5	17.5	0.000	20	0.00
Oxf Mead A40 T14	140	17.5	17.5	0.000	20	0.00
Oxf Mead A40 T15	160	17.5	17.5	0.000	20	0.00
Oxf Mead A40 T16	180	17.5	17.5	0.000	20	0.00
Oxf Mead A40 T17	200	19.7	19.7	0.000	20	0.00

7.1.21 The results in Table 7.5 (below) show that the minimum and maximum critical loads for the Blenheim Park SSSI of 15 kg N/ha/yr and 20 kg N/ha/yr respectively are exceeded at all receptors adjacent to both Park Street and Oxford Road. The Proposed Development does not cause any new exceedances.

7.1.22 The predicted PCs to the minimum nitrogen deposition critical load are all less than 1% and therefore, the Proposed Development will not have a significant effect on nitrogen deposition rates at the SSSI.

Table 7.5 Predicted Nitrogen Dry Deposition Rates for Blenheim Park SSSI

Receptor Names	Distance from road centre (m)	2033 Without Development Total Deposition (kg N/ha/yr)	2033 With Development Total Deposition (kg N/ha/yr)	Process Contribution (kg N/ha/yr)	Minimum Critical Load (kg N/ha/yr)	Percentage of Critical Load (%)
Predicted Dry Deposition Rates with distance away from centre of Park Street						
BP Park Street T1 CENTRELINE	0	36.8	36.8	0.07	15	0.47
BP Park Street T2	5	35.8	35.9	0.04	15	0.29
BP Park Street T3 KERB	10	35.3	35.3	0.03	15	0.18
BP Park Street T4	15	35.1	35.1	0.02	15	0.13
BP Park Street T5	20	35.0	35.0	0.02	15	0.13
BP Park Street T6	25	34.9	34.9	0.02	15	0.10
BP Park Street T7	30	34.8	34.8	0.02	15	0.10
BP Park Street T8	35	34.8	34.8	0.01	15	0.07
BP Park Street T9	40	34.8	34.8	0.01	15	0.07
BP Park St T10	60	34.7	34.7	0.01	15	0.07
BP Park St T11	80	34.7	34.7	0.01	15	0.03
BP Park St T12	100	34.6	34.6	0.00	15	0.03
BP Park St T13	120	34.6	34.6	0.01	15	0.03
BP Park St T14	140	34.6	34.6	0.00	15	0.00
BP Park St T15	160	34.6	34.6	0.01	15	0.03
BP Park St T16	180	34.6	34.6	0.00	15	0.00
BP Park St	200	34.6	34.6	0.00	15	0.00

Receptor Names	Distance from road centre (m)	2033 Without Development Total Deposition (kg N/ha/yr)	2033 With Development Total Deposition (kg N/ha/yr)	Process Contribution (kg N/ha/yr)	Minimum Critical Load (kg N/ha/yr)	Percentage of Critical Load (%)
T17						
Predicted Dry Deposition Rates with distance away from the centre of Oxford Road						
BP Oxford Road T1 CENTRELINE	0	35.9	35.9	0.01	15	0.09
BP Oxford Rd T2	5	35.2	35.2	0.01	15	0.06
BP Oxford Rd T3 KERB	10	35.0	35.0	0.01	15	0.03
BP Oxford Rd T4	15	34.9	34.9	0.01	15	0.03
BP Oxford Rd T5	20	34.8	34.8	0.01	15	0.03
BP Oxford Rd T6	25	34.8	34.8	0.00	15	0.00
BP Oxford Rd T7	30	34.7	34.7	0.01	15	0.03
BP Oxford Rd T8	35	34.7	34.7	0.00	15	0.03
BP Oxford Rd T9	40	34.7	34.7	0.00	15	0.03
BP Oxford Rd T10	60	34.7	34.7	0.00	15	0.00
BP Oxford Rd T11	80	34.6	34.6	0.00	15	0.00
BP Oxford Rd T12	100	34.6	34.6	0.01	15	0.03
BP Oxford Rd T13	120	34.6	34.6	0.00	15	0.00
BP Oxford Rd T14	140	34.6	34.6	0.00	15	0.00
BP Oxford Rd T15	160	34.6	34.6	0.00	15	0.00
BP Oxford Rd T16	180	34.6	34.6	0.00	15	0.00
BP Oxford Rd T17	200	34.6	34.6	0.00	15	0.00

Mitigation

7.1.23 The mitigation given in the ES still apply. No additional mitigation is required.

CONCLUSIONS

7.1.24 No material differences to the findings presented in the ES in relation to human receptors.

7.1.25 No material differences to the findings in relation to designated sites (see letter from WSP dated 11th March 2015, reference 70004428/L01JG).

8 NOISE AND VIBRATION

NON-TECHNICAL SUMMARY

8.1.1 An alternative development layout option has been proposed for the East Woodstock site. It is referred to as "Option 2" within this report.

8.1.2 The main potential effect on the noise assessment are associated with new traffic flow data. This new data has been assessed and there have been no significant changes to the conclusion of the assessment. The noise impact on existing sensitivities associated with changes in road traffic flow, as a result of the development, has been assessed as Negligible in the worst case. The assessment takes account of cumulative impacts as a result of a nearby committed development scheme called "Northern Gateway". Tables setting out the revised assessment are contained in Appendix A to this chapter.

8.1.3 With the new layout option there was potential for residential use to have been moved into areas affected by aircraft noise. The revised layout has been plotted against the aviation noise contours produced as part of the original ES.

8.1.4 It remains that only non-residential areas are located above the 57dB $L_{Aeq,16h}$ contour.

8.1.5 Revised figures illustrating the new layout against the noise contours are included in Appendix A to this Chapter.

INTRODUCTION

8.1.6 Following the original ES chapter produced in November 2014, an alternative layout option for the development has been proposed. It shall be referred to as "Option 2". The key features of the new revised scenario are as follows:

8.1.7 Up to 1,200 houses, including a 120 unit care village with associated publicly accessible ancillary facilities;

- Primary school (2 form entry);
- Up to 930sqm of retail space;

- Up to 13,800sqm of locally led employment (B1, B2 and B8);
- Site for a Football Association step 5 football facility;
- Public open space;
- Public Transport Interchange with 300 car parking spaces; and
- Associated infrastructure, engineering and ancillary works, with vehicular access.

8.1.8 The only changes that require consideration in terms of noise are the new traffic flow information and the potential for aircraft noise to affect different land uses on the site. Therefore as part of this Addendum, the road traffic assessment has been repeated with the new figures (although the road links have not altered) and the site layout against aircraft noise contours have been reviewed, with updated plans overlaying the contours above the new "Option 22 layout.

8.1.9 The remaining elements of the original ES listed below have not altered:

- Planning policy context
- Assessment methodology (existing sensitivities)
- Assessment methodology (proposed sensitivities)
- Baseline conditions

ROAD TRAFFIC

8.1.10 The key differences from the earlier development scenario and the new "Option 2" scenario are that employment has increased from 7,500 to up to 13,800 sq m and residential has been reduced to up to 1,200. This involves using the location originally proposed for the car park to provide employment and the loss of some residential on the other side of the access road from the A4095 to provide the car park.

8.1.11 It is noted that the "Option 2" masterplan observes the following distances between the edge of the residential development plots and the nearest road noise source:

- A44 kerb to nearest residential plot – 25 metres
- A4095 kerb to nearest residential plot – 45 metres

- Nearest kerb of Roundabout at intersection of A44/A4095 – 80 metres

8.1.12 As a result of the changes connected with the "Option 2" scenario, the traffic flows have been revised. Our assessment has therefore been revised in line with the new traffic flow figures provided by David Tucker Associates.

8.1.13 Attached Appendix A has been revised from the original ES and sets out the new assessment based upon the latest traffic flows. It can be seen that the conclusions have not altered since the original assessment. The following sections set out the assessment.

EVALUATION, EFFECTS AND MITIGATION FOR EXISTING SENSITIVITIES

Potential Effects

8.1.14 The local road link diagram, traffic data and calculated changes in noise level (based on the assessment methodology described in sections 5.7 – 5.10 of the original ES) are set out in the revised Appendix A. It can be seen from the schedule that the predicted noise level changes on the local road network due to the cumulative effect of all proposed development are Negligible in the worst case. This is the same conclusion as the original ES.

Mitigation

8.1.15 There is no change to the mitigation strategy for the "Option 2" scenario from the original ES. The expected effect upon existing sensitivities of noise due to road traffic changes arising from the "Option 2" development is no greater than Negligible. Therefore no mitigation measures are necessary and none are proposed.

Residual Effects

8.1.16 The "Option 2" scenario has been assessed and whether considering the proposed development in isolation or together with other committed developments in the area, no noise effect has been assessed to be any higher than Negligible in the worst case. This is the same conclusion as the original ES.

STATEMENT OF SIGNIFICANCE (WITH DEVELOPMENT)

8.1.17 A summary of the potential effects on existing noise sensitive premises is set out in the following table. The results are unchanged from the assessment of the original scheme.

Noise Source	Residual Effect	Effect Significance	Duration
Road Traffic	None to Negligible	Low	Short Term
Road Traffic	Negligible	Low	Long Term

Table 8.1 Summary of Effects without Committed Development

STATEMENT OF SIGNIFICANCE (WITH COMMITTED DEVELOPMENT)

8.1.18 A summary of the potential effects on existing noise sensitive premises is set out in the table below. These are no different to those set out in the original ES.

Noise Source	Residual Effect	Effect Significance	Duration
Road Traffic	None to Negligible	Low	Short Term
Road Traffic	Negligible	Low	Long Term

Table 8.2 Summary of Effects with Committed Development

EVALUATION, EFFECTS AND MITIGATION FOR PROPOSED SENSITIVITIES

8.1.19 The proposed residential areas of the site have been set back from the road traffic noise sources in order to ensure a suitable internal and external noise environment will be provided. The required minimum distances between key road traffic noise sources and any residential development are highlighted in Appendix A to this chapter.

8.1.20 Allowing for this, the noise levels at proposed residential locations are low enough that standard thermal double glazing and un-attenuated trickle vents are sufficient to achieve the internal noise criteria in all locations.

ACOUSTIC DESIGN STRATEGY FOR PROPOSED SENSITIVITIES

8.1.21 The design strategy has not changed for the "Option 2" scenario and noise has been taken into account in developing the new layout and design of the proposed residential scheme as necessary. Standard thermal double glazing and standard trickle ventilation will be sufficient to achieve the required internal noise level criteria in all areas.

AVIATION NOISE

Noise evaluation, effects and mitigation for proposed sensitivities

Airborne Aircraft

8.1.22 Although the development layout has changed, to the areas potentially affected by aircraft noise (i.e. the north-eastern part of the site) there has been no significant change in proposed land uses. The aircraft noise contour plots are illustrated over the new "Option 2" scenario layout in figures included as part of attached Appendix A.

8.1.23 The same assessment conclusions as per the original ES hold true. The only areas which are exposed to noise levels in excess of those represented by the 57dB noise contour are for employment use only. The areas exposed to levels between 54-57dB will require consideration as previously noted.

8.1.24 The text below is mostly unchanged from the original report and is included for completeness and ease of reference.

8.1.25 For both present day operations and the maximum capacity sensitivity operations no part of the site is located in an area that is exposed to a Significant Observable Adverse Effect Level (66dB $L_{Aeq,16h}$) and there is therefore no necessity to avoid noise sensitive development because of airborne aircraft noise.

8.1.26 For the current level of activity it is clear that the entire site is exposed to noise levels that fall below the Lowest Observable Adverse Effect Level (LOAEL). While that does not mean that aircraft noise will be inaudible, it does effectively mean that it has no material effect on the site.

8.1.27 For the sensitivity contours prepared on the basis that the assumed current level of activity is scaled up to maximum capacity, a proportion, approximately 25% of the total area of the development site to the north east quadrant would be expected to be exposed to noise representing the Lowest Observable Adverse Effect Level range that requires mitigation (>54dB $L_{Aeq,16h}$).

8.1.28 There is a small and narrow wedge shaped section of the site towards the north east sector immediately opposite the western end of the cross runway, that also lies in the Lowest Observable Adverse Effect Level, but above 57dB $L_{Aeq,16h}$, the threshold of significant community disturbance. All of this part of the site is designated for employment use only.

8.1.29 With regards to rotary aircraft movements, even on the sensitivity contours, with only limited numbers of helicopters undertaking circuits which overfly the site (with the vast majority of flights being general arrivals and departures, which do not overfly the site), no part of the site is exposed to noise level from these aircraft above 51dB $L_{Aeq,16h}$, the lowest contour suggested to be plotted by the London Heliport study.

8.1.30 If one takes the very worst case of the full capacity airborne aircraft sensitivity noise contours, a section of the site in the north east corner is identified as being above the LOAEL of 54dB $L_{Aeq,16h}$. Dwellings in this area may therefore need to be constructed so as to incorporate inherent noise mitigation measures as described in section 8.18 and 8.19 of the original ES.

Ground Running

8.1.31 The majority of the site is expected to be exposed to engine ground running noise levels below the NOEL value of 50dB $L_{Aeq,16h}$.

8.1.32 A north eastern segment of the site is exposed to noise levels between 50 $L_{Aeq,16h}$ and 55dB $L_{Aeq,16h}$, indicating that the noise levels are above the LOAEL threshold and should be identified but not necessarily mitigated.

8.1.33 There is a small part of the site in the north east corner that is expected to be exposed to engine ground noise levels above 55dB $L_{Aeq,16h}$, meaning that properties in this area are expected to be

exposed to engine ground noise levels that should be mitigated; however the buildings in this area are all designated for employment use only.

8.1.34 This is the same area that has been identified above as being exposed to the highest levels of airborne aircraft noise; and the internal environments will again be protected in the case of ground running noise.

ACOUSTIC DESIGN STRATEGY FOR PROPOSED SENSITIVITIES

8.1.35 The acoustic design strategy has not changed since the original design scenario and aviation noise has been taken into account in developing the "Option 2" layout and design of the proposed scheme. The employment zone has been sited in the area most affected by aircraft noise, leaving only a small amount of residential accommodation exposed to noise levels that require consideration; and this is only based upon the worst case scenario of full permitted use of the airport.

CONCLUSIONS

8.1.36 A revised development scenario ("Option 2") has been proposed since the original ES statement was produced. The main changes that affect the noise assessment relate to traffic flows. The layout changes have also been evaluated relative to the aircraft noise contours previously assessed.

8.1.37 The noise effects at existing residences due to changes in the revised traffic flows on the local road network associated with the development have been assessed. In the short term and long term, in the worst case situation, a Negligible impact has been assessed to occur to nearby dwellings.

8.1.38 Potential effects upon proposed residences within the development have been considered in terms of road traffic and aviation noise.

8.1.39 The noise generated by aircraft activities at London Oxford Airport have been measured and modelled, and in the present circumstances found not to have any material impact on the proposed site in terms of noise levels and no specific mitigation would be required.

8.1.40 Only if one was to consider significantly higher numbers of aircraft movements (approximately 4 times the current operations) in line with the maximum the airport is allowed to operate, would aircraft noise have a material effect on the site. Even in this scenario, only a quarter of the development site would fall within an area where mitigation, in the form of inherent measures such as suitable glazing and ventilation, should be considered and currently part of this area is designated for non-residential use. Therefore any potential adverse impacts can be suitably mitigated for.

8.1.41 Both road traffic and aviation noise are mitigated as an inherent part of the layout and design of the proposed development to ensure a suitable noise environment is provided for future occupiers.

APPENDICES

Appendix A: Noise Assessment Report (Cole Jarman ref: 14/0299/R01 (Rev 2))

9 LANDSCAPE AND VISUAL IMPACTS

NON TECHNICAL SUMMARY FOR THE LANDSCAPE CHAPTER TO THE ES ADDENDUM

9.1.1 Aspect Landscape Planning is instructed by Pye Homes and the Vanburgh Unit Trust to address the landscape and visual matters arising from the proposed mixed use development at land to the east of Woodstock. Following the receipt of comments from statutory consultees, Aspect has prepared an addendum to the submitted Landscape and Visual Impact Assessment (LVIA). The LVIA Addendum picks up the following points:

- Changes and enhancements to the landscape proposals;
- Arboricultural effects of proposed layout changes;
- Visual effects arising from seasonal changes to the vegetated setting of the site; and
- Anticipated visual effects upon the additional viewpoints within the WHS.

9.1.2 With regard to the proposed changes to the application layout, it is considered that the proposed changes to the layout represent an enhancement to the submitted Woodstock East scheme. For the most part, the internal changes to development parcels and road layout do not affect the conclusions of the submitted LVIA or this Addendum. The proposals retain those key landscape features which have been proposed from the outset in response to the identified constraints and it is considered that the landscape proposals will not only mitigate the identified adverse effects of the proposals but also make a positive contribution to the receiving landscape setting and visual environment. The changes to the landscape represent an improvement to the previously submitted scheme, ensuring that the proposals respond positively to the historic landscapes to the south west and that the proposed development can be integrated in this location without significant harm.

9.1.3 With regard to potential arboricultural effects, it is considered that the proposed changes to the layout do not give rise to any significant effects and the conclusions reached within the submitted

LVIA, that the proposed development is acceptable from an arboricultural perspective, remain valid.

9.1.4 With regard to the anticipated effects of the proposals upon the winter views, it is considered that the conclusions reached within the submitted LVIA remain valid and the proposals can be integrated within the receiving visual environment without significant harm. Seasonal differences to views is a standard constraint and one which the comprehensive scheme of landscaping has identified and mitigated. The landscape proposals represent a high quality and appropriate response to the setting of the proposed development to ensure that the identified receptors are not adversely affected. As such the incorporation of a comprehensive scheme of landscaping will ensure that not only will the proposals be integrated without significant harm, but that the landscape treatment will make a positive contribution to the existing visual environment and landscape setting.

9.1.5 With regard to the anticipated effect of the proposals upon the additional viewpoints identified within the Blenheim WHS, the proposals will not significantly harm views from the WHS parkland or the landscape setting of the designation. The long term management of the parkland landscape, together with the proposed comprehensive landscape scheme associated with the proposals, will ensure that the wooded backdrop to the parkland is maintained and that the proposed built environment can be integrated into the site without adversely affecting the character or qualities of the WHS.

9.1.6 As set out within the submitted LVIA and this supporting Addendum, it is considered that the proposals are entirely in accordance with the local landscape character and visual environment, and indeed, the high quality landscape led scheme will be of significant merit and will make a positive contribution to the landscape character of the receiving environment.

9.1.7 National and local policy identifies that there is a general presumption in favour of sustainable development unless any significant impacts would significantly and demonstrably outweigh the benefits. It is considered that the application site and receiving environment have the capacity to accommodate the proposals. It is therefore considered that, as identified within the submitted

LVIA, the proposed development can be integrated in this location and is supportable from a landscape and visual perspective.

INTRODUCTION

9.1.8 Aspect Landscape Planning is instructed by Pye Homes and the Vanburgh Unit Trust to address the landscape and visual matters arising from the proposed mixed use development at land to the east of Woodstock.

9.1.9 As part of this involvement, Aspect prepared the Landscape and Visual Impact Assessment (LVIA) chapter of the Environmental Statement (ES) which was submitted as part of the planning application.

9.1.10 Following the submission of the planning application comments were received from statutory consultees and stakeholders and as such the proposed masterplan has been reviewed in order to address the various points raised. WWADP provide an overview of the key changes to the layout, however, as part of the design review the landscape proposals have also been revisited to ensure that a comprehensive, appropriate and high quality soft landscape scheme will be achieved.

9.1.11 The comments from the statutory consultees were received during February 2015 and as such the visual assessment has been updated to include winter views from all of the agreed viewpoints within the submitted LVIA.

9.1.12 Within the responses from the statutory consultees, English Heritage and ICOMOS requested additional views from within the parkland of Blenheim Palace WHS. ICOMOS also requested a view from the first floor rooms of the palace looking towards the site. Using the ZTV model prepared for the application and observations in the field a number of additional viewpoints were identified.

9.1.13 This addendum therefore addresses the following points:

- Changes and enhancements to the landscape proposals;
- Arboricultural effects of proposed layout changes
- Visual effects arising from seasonal changes to the vegetated setting of the site;

- Anticipated visual effects upon the additional viewpoints within the WHS

CHANGES AND ENHANCEMENTS OF THE LANDSCAPE PROPOSALS

9.1.14 Whilst this is an outline application, the importance of a comprehensive and high quality scheme of landscaping has been acknowledged from the outset. As such a significant degree of work has been done to develop a logical and appropriate landscape scheme that acknowledges the setting of the site and will ensure that a high quality environment in which to live, work and visit is achieved.

9.1.15 As noted within the submitted LVIA, the landscape proposals have been informed by the various parkland landscape components associated with the Blenheim Estate to the south west. The landscape proposals include tree avenues, copses, woodland and individual specimen trees. The species choice has also been informed by the parkland landscape to ensure that the proposals acknowledge this historic landscape and sit comfortably alongside. The landscape proposals include a mix of broadleaf and evergreen species which can be found within the parkland so that the landscape proposals create a natural extension to the landscape features present to the south west. Species such as Cedar and Holm Oak are included to provide year round visual interest and containment. Copper Beech, Chestnut and Oak are then included as specimens, both within the woodland belts and the areas of proposed parkland, to create a high quality setting for the proposals which have been informed by the designed landscapes to the south west.

9.1.16 The proposed woodland belt along the south western boundary forms a key feature within the landscape proposals, ensuring that the proposed built form can be integrated in this location as well as enhancing the approach to Woodstock from the south east. The concept for the proposed planting is not to create a dense screen to just screen the proposed built form. The woodland belt seeks to reflect the woodland planting which can be found within the Blenheim estate and the wider setting of the site. These woodlands form a landscape feature within the designed landscape of the parkland, forming a backdrop to views or defining vistas. The proposed woodland belt therefore seeks to form a backdrop to the open spaces within the site as well as

extending the rural character of the approach to Woodstock to the south east. Currently, as the viewer moves along the A44 towards Woodstock, the character changes from woodland on one side and agricultural fields to one of a more wooded approach once the viewer reaches the "Woodstock Historic Town" sign. From this point the approach has a landscaped feel, with the existing built form to the north east set back from the road behind maturing vegetation. The proposals will extend this character to the south east, with the landscape presence forming the key characteristic of the road corridor. As noted above, the proposed woodland planting will incorporate species which characterise the woodlands within the Blenheim Estate, as well as those within the immediate context of the site. Rather than create a dense edge to the development which is not characteristic of the localised setting, the south western extent of the proposed landscape belt will comprise just tree planting, with a more dense understorey located away from the road, to the north east. This will ensure that views of the proposed built form are contained, as experienced within the existing streetscene to the north west, whilst ensuring that the proposed woodland reflects the existing landscape features to the south west and north west. The proposed incorporation of specimen trees within an avenue in the verge further emphasise this designed, landscaped approach to Woodstock.

9.1.17 A further point to make is that this planting will form part of the works associated with the earliest phases of the wider development. It is envisaged that the proposed built form will be phased so as to extend east over a 10 – 15 year period. This therefore gives the planting the opportunity to mature in advance of the development of the eastern parcels. The links to the Blenheim Estate ensure that the landscaping and its long term management adopt a generational, legacy approach. The planting is considered to form a positive extension to the parkland to the south east and the approach to Woodstock to the north west, and as such will be designed to reflect this and managed accordingly to ensure the long term establishment and success of this feature.

9.1.18 In conclusion, it is considered that the proposed changes to the layout represent an enhancement to the submitted Woodstock East scheme. For the most part, the internal changes to development parcels and road layout do not affect the conclusions of the submitted LVIA or this Addendum. The proposals retain those key landscape features which have been proposed from

the outset in response to the identified constraints and it is considered that the landscape proposals will not only mitigate the identified adverse effects of the proposals but also make a positive contribution to the receiving landscape setting and visual environment. The changes to the landscape represent an improvement to the previously submitted scheme, ensuring that the proposals respond positively to the historic landscapes to the south west and that the proposed development can be integrated in this location without significant harm.

ARBORICULTURAL EFFECTS OF PROPOSED LAYOUT CHANGES

9.1.19 The proposed amendments to the layout will give rise to some changes in relation to the arboricultural effects identified within the submitted LVIA.

9.1.20 The key change is the relocation of the access from Upper Campsfield Road (A4095) on the eastern boundary into the site. The proposed roundabout will be relocated some 70m to the south and will necessitate the removal of 35 trees, 2no. of which are Category B. The previous iteration resulted in the loss of 33 trees, however, 6no. of these were Category B. The change is therefore not considered significant and is acceptable from an arboricultural perspective.

9.1.21 A proposed pedestrian / cycle route is proposed from the site onto Shipton Road in the north eastern part of the site. Aspect has coordinated with the design team to ensure that this element utilises an existing break in the planting, as a result of a field gate, thereby avoiding any adverse effects upon the existing tree belt. This feature can therefore be integrated without harm to the existing trees on this boundary.

9.1.22 The location of the proposed care village within the previous iteration required the removal of around 60m of the existing east-west internal hedgerow. The revised layout relocates the care village and replaces it with residential development. As a result, whilst breaks are still proposed within the hedgerow to ensure circulation between parcels, the breaks can be reduced to ensure that more of the hedge can be retained. This is considered positive from an arboricultural perspective.

9.1.23 It is therefore considered that the proposed changes to the layout do not give rise to any significant effects and the conclusions reached within the submitted LVIA, that the proposed development is acceptable from an arboricultural perspective, remain valid.

VISUAL EFFECTS ARISING FROM SEASONAL CHANGES UPON THE AGREED VIEWPOINTS

9.1.24 As part of the further work undertaken by Aspect, a winter visual assessment has been carried out to demonstrate the seasonal differences in the agreed viewpoints which accompanied the submitted LVIA. The winter views are presented alongside the summer views for comparison purposes and are included within Appendix C to this chapter.

9.1.25 For reference, the assessment of effects within the submitted LVIA considers the viewpoints in winter in line with good practice. The additional winter views within the revised Photographic Record (Appendix C) ensure that readers of the LVIA have an appreciation of the seasonal changes to the agreed viewpoints.

9.1.26 As identified within the submitted LVIA, views within the immediate setting of the proposed development will experience the greatest degree of change as a result of the introduction of the built form. It is concluded that without appropriate mitigation Viewpoints 3-5, 7-10, 13, 24 and 26 will experience a Major / Moderate Adverse effect as a result of the introduction of built form into the site. As noted above, the assessment considers the worst case scenario and as such, the loss of foliage will not increase the significance of the effect.

9.1.27 A coordinated and comprehensive scheme of mitigation has been developed from the outset which has shaped the design development of the layout and will assist the integration of the proposals. The proposed landscape mitigation has taken account of seasonal changes and includes evergreen species as well as those which develop a dense canopy structure, to ensure year-round visual interest and containment. The proposed species have been informed by the established planting within the Blenheim Parkland to ensure a logical and natural extension to the planting of this high quality landscape.

9.1.28 As is concluded within the submitted LVIA, the introduction of a high quality, comprehensive scheme of landscaping, reduces the significance of the effect from Major / Moderate Adverse to Moderate Adverse (in the case of the most localised views) to Moderate Neutral at Day One.

9.1.29 As the landscape treatment matures, this will further integrate the proposals, reducing the presence of the proposed built form in those views which will experience adverse effects, and enhancing the landscape presence in terms of the A44 road corridor to create a balanced, landscaped approach to Woodstock. As such the assessment of residual effects identifies that the localised views will experience an effect of moderate – minor neutral significance, with the established landscape proposals representing a benefit to the visual environment, extending the rural approach to Woodstock and creating a balanced, landscaped streetscene.

9.1.30 Taking into account seasonal changes to the identified viewpoints (as illustrated in the revised photographic record within Appendix C), it is considered that the conclusions reached within the submitted LVIA remain valid and the proposals can be integrated within the receiving visual environment without significant harm. Seasonal differences to views is a standard constraint and one which the comprehensive scheme of landscaping has identified and mitigated. The landscape proposals represent a high quality and appropriate response to the setting of the proposed development to ensure that the identified receptors are not adversely affected. As such the incorporation of a comprehensive scheme of landscaping will ensure that not only will the proposals be integrated without significant harm, but that the landscape treatment will make a positive contribution to the existing visual environment and landscape setting.

ADDITIONAL VISUAL ASSESSMENT FROM BLENHEIM PALACE WHS

9.1.31 Aspect has also undertaken a further visual assessment from within the Blenheim World Heritage Site parkland, during the winter months, in response to comments made by English Heritage and ICOMOS. This separate photographic record (Views A – Z) is included for reference within Appendix B.

9.1.32 The comments received from English Heritage and ICOMOS identified the need for further viewpoints within the WHS, particularly from the more elevated areas to the north of the palace, to

demonstrate that the proposals would not give rise to adverse effects upon the parkland landscape of the WHS. A total of 26 additional views were identified, including viewpoints within the Upper Park, and these were taken during early March prior to the leaves appearing on the trees, shrubs, hedges and understorey. The views therefore represent the worst case scenario from a visual perspective.

9.1.33 The views demonstrate the extensive tree cover that characterises the WHS and its setting. As such views of the site from within the parkland, and the intervisibility between the site and the north eastern edge of the estate are well contained, even during winter months.

9.1.34 As an overview, View A is taken from one of the upper floor rooms within the palace which has a south easterly aspect. This is provided in response to a request from ICOMOS. The view illustrates the presence of established evergreen treescape within the designed parkland setting. This planting forms a year-round screen and contains views from the palace towards the site.

9.1.35 Views B – K are taken from various points around Lower Park. Within these views the wooded edge to the parkland, which creates a green backdrop to the designed landscape in the foreground, creates a robust buffer between the parkland and the wider landscape to the north east in which the site is set. The views illustrate that the landscape belt around the Cow has been thinned and the glimpsed views of the A44 and the roofscape of Honeystone Cottage. This thinning of the estate buffer has been identified and has informed the comprehensive landscape strategy, with the proposals including a robust belt of native woodland planting along the south western boundary of the site, to reinforce the separation between the parkland and the landscape to the north.

9.1.36 Views L – S are taken from Great Park to the north of the palace. Viewpoints L and M are located to the south west of the Column of Victory and illustrate the extent of mature treescape between the site and this elevated part of the parkland, ensuring that views towards the site are contained. Viewpoints N – S illustrate how intervening topography and established vegetation cover contains views of the site within the context of these middle and longer distance views.

9.1.37 Views T – Y are taken from the A4095 and A44 outside of the World Heritage Site, looking back towards the parkland. These views are included to illustrate the vegetated edge of the parkland within the context of viewpoints which were included within the submitted LVIA (Viewpoints 8, 9, 10, 24, 25 and 26). In line with good practice guidelines, the views are not exhaustive but provide a fair representation of the views towards the park by receptors moving north west along the A44. The views illustrate the density and maturity of the planting associated with the north eastern edge of the estate which filters views between the A44 and the closest parts of the parkland.

9.1.38 View Z is taken centrally within the site, from a location that is not publicly accessible, but provides an appreciation of the wooded edge of the parkland landscape. From this location, the palace, Column of Victory and other key features of the WHS are not visible and the treescape forms a robust buffer between the site and the historic landscape to the south west.

Assessment of Effects

9.1.39 Views A – S have been assessed in line with the methodology of the LVIA to provide a detailed review of the potential changes to these views as a result of the proposals. These additional views should be considered alongside the views (1 – 26) within the submitted LVIA. The assessment of Views A – R is included within Addendum Table 10.1.

9.1.40 Views T – Z have not been assessed. Views T – Y look away from the proposed development and are included for reference only. As such these views will not experience any change as a result of the proposals. View Z is located centrally within the site away from any of the public rights of way associated with the site. As such this existing view is only experienced by the farmer and not the public.

9.1.41 As an overview, as illustrated within Appendix B to this Chapter, the proposals will result in change of Minor Neutral to Negligible Neutral within the context of views from within the Lower Park. The significance of the effect is reduced as a result of the continued high quality management of the treecover within the parkland, together with the proposed woodland edge along the south western boundary of the site, which will ensure that the qualities and amenities of views from within Lower Park are not compromised or adversely affected by the proposals.

9.1.42 Within the wider context to the north, within Great Park, it is considered that the proposals will not be perceived and as such views will experience no change as a result of the proposed development.

9.1.43 Aspect therefore concludes that, as set out within the submitted LVIA, the proposals will not significantly harm views from the WHS parkland. The long term management of the parkland landscape, together with the proposed comprehensive landscape scheme associated with the proposals, will ensure that the wooded backdrop to the parkland is maintained and that the proposed built environment can be integrated into the site without adversely affecting the character or qualities of the WHS.

CONCLUSIONS

9.1.44 As set out within the submitted LVIA and this supporting Addendum, it is considered that the proposals are entirely in accordance with the local landscape character and visual environment, and indeed, the high quality landscape led scheme will be of significant merit and will make a positive contribution to the landscape character of the receiving environment.

9.1.45 The proposals adopt a comprehensive and high quality landscape scheme which makes a significant contribution to making this a sustainable development. The proposed development has been informed by the prevailing landscape character and is suitable for this location. It is therefore considered that the proposals are in line with the aims and objectives of the NPPF.

9.1.46 Concerns were raised regarding the possible increased visibility of the site during the winter months. A winter visual assessment, together with an additional assessment of views within and adjacent to the Blenheim WHS, demonstrate that these views will not experience a significant change. The more sensitive south western boundary has been acknowledged from the outset of the design process, resulting in the proposed woodland belt along this edge. This feature is entirely in keeping with the local landscape character and will also soften the existing settlement edge, assist in integrating the proposals and create a balanced, landscaped approach to Woodstock.

9.1.47 Concerns were also raised in relation to the potential effects of the proposals upon the wider parkland setting of the WHS. A further visual assessment has therefore been undertaken which identifies that the proposals can be integrated without significant harm to middle and longer distance views within the WHS.

9.1.48 National and local policy identifies that there is a general presumption in favour of sustainable development unless any significant impacts would significantly and demonstrably outweigh the benefits. It is considered that the application site and receiving environment have the capacity to accommodate the proposals. It is therefore considered that, as identified within the submitted LVIA, the proposed development can be integrated in this location and is supportable from a landscape and visual perspective.

APPENDICES

Appendix A: Assessment of Effects Upon Additional Viewpoints

Appendix B: WHS Additional Views

Appendix C: Summer/Winter Views

10 GROUND CONDITIONS

10.1 Agricultural Land Quality

10.1.1 The amendments to the landscape masterplan do not have any material impacts on the Agricultural Land Quality Environmental Impact Assessment (EIA), which has been undertaken for the development proposals.

10.2 Contamination

10.2.1 The amendments to the landscape masterplan do not have any material impacts on the Contamination Environmental Impact Assessment (EIA), which has been undertaken for the development proposals.

11 ARCHAEOLOGY AND CULTURAL HERITAGE

11.1 Archaeology

11.1.1 This document has considered modifications to the project masterplan since its original submission.

11.1.2 The vast majority of the proposed changes on the new masterplan cause little or no new effects on the archaeological heritage on the site.

11.1.3 In particular the realigned main access road still traverses a gap in the plan of the enclosure complexes located by geophysical survey, well to the north of the scheduled monument. Positioning of the access road in this location was considered to have minimal impact on either the archaeological or setting aspects of the scheduled monument and other nearby deposits and this position is therefore maintained. The effects on any archaeological deposits within the section of the road corridor well north of the scheduled monument would still be mitigated by an appropriately worded condition attached to any consent gained.

11.1.4 Areas further to the north of the access road containing archaeology (in the area of the mixed use games area) and to the north east (allotments) were considered to be of lesser significance than those adjacent to the scheduled monument and the effects of the development on them would also be addressed by appropriately worded condition attached to any consent gained. This situation has not changed.

11.2 Cultural Heritage

11.2.1 After the compilation of the Environmental Statement to support the original submission, there has been considerable discussion with local planning authorities and other third parties resulting in a revised scheme 273/SK102. This addendum considers the changes against the cultural heritage views expressed in Chapter 12.2 of the original Environmental Statement.

11.2.2 The most significant change is the realignment of the principal access road which is now taken further north and further away from the buried Roman villa (covered by Chapter 12.1 'Archaeology' in the original Environmental Statement). The curved alignment now proposed is considered more attractive in its own right and has the additional benefits of creating spaces with greater informality such as the relocated urban space to the west and the crossroads to the east with roads branching at different angles as is found in the historic centre of Woodstock. The relocated urban space with its more informal layout presided over by a potential focal building is redolent of many historic town centres. The use of varying street widths also picks up a common and attractive feature of historic townscape and is therefore also commended.

11.2.3 The alignment of the old Romano-British 'Heh Straet' will be emphasised as a footpath. The open spaces will be promoted as retaining the former 'common' character of this area straddling the former boundaries of Bladon and Hensington parishes. It is intended that structural landscaping will be conceived to echo the planting designed by Capability Brown in Blenheim park, the importance of which underlies the inscription of Blenheim as a World Heritage Site.

11.2.4 The revised scheme as set out in drawing 273/SK102 is considered therefore to offer significant advantages for cultural heritage interests over the earlier submitted layout.

12 ECOLOGY AND NATURE CONSERVATION

NON TECHNICAL SUMMARY

12.1.1 With specific regard to Paragraph 109 of the NPPF, the proposed development minimises impacts on biodiversity and provides net gains in biodiversity. It contributes to the Government's commitment to halting the overall decline in biodiversity. In so doing, it establishes a coherent ecological network that will be more resilient to current and future pressures. In this way, the proposal meets national policy requirements.

12.1.2 In brief, the proposal:

- will have significant positive impacts on ecology;
- will have significant positive impacts on nature conservation;
- will result in a net gain in biodiversity.

12.1.3 All habitats of value will be retained in part, or in their entirety. Significant new habitats will be created. Benefits will arise for a variety of wildlife, including great crested newts, woodlands, grasslands, hedgerows, reptiles, birds, dormice and invertebrates. There will be no significant impact at any geographical level for bats and badgers.

12.1.4 There will be no significant impacts on statutory and non-statutory sites, during the construction phases or as a result of the development.

INTRODUCTION

12.1.5 Following the preparation of the Environmental Statement (ES) for Woodstock East in November 2014, the ES and accompanying application was submitted to Cherwell and West Oxfordshire District Councils who consulted statutory and non statutory consulates. The responses from consultees were used to inform and revise the master plan (drawing SK114 WWADP)

DEVELOPMENT DESIGN MITIGATION

12.1.6 The development of the planning application area includes two options regarding areas for Residential and Employment:

- Option 1 - the erection of up to 1,500 houses, with up to 7,500 m^2 of locally led employment (B1, B2, B8) space.
- Option 2 - the erection of up to 1,200 houses, with up to 13,800 m2 of locally led employment (B1, B2, B8) space.

12.1.7 Further developments include a site for new primary school (2 form entry); up to 930 m^2 retail space; site for a Football Association step 5 football facility; public open space; public transport interchange with 300 car parking spaces; and associated infrastructure, engineering and ancillary works, with vehicular access provided from Upper Campsfield Road (A4095), Shipton Road and Oxford Road (A44). A coach park for Marlborough School is to be located within the existing arable field to the north of the site.

12.1.8 On Site habitat creation will be integrated into this area including two woodland areas (W8 and W9, and hedgerow H11 as shown of Appendix B). A large section of the development will comprise open space in the form of formal and informal semi-natural habitat. The total proposed development Site area is 74.4 ha, of which 24.3 ha is proposed to be open space (including a Scheduled Monument and Common Land) including 4.0 ha of outdoor facilities (football pitch).

12.1.9 The master plan has been designed to allow the retention of certain ecologically valuable habitats, in particular those that support protected species and species of conservation importance. In addition, the scheme design has built-in features that include both compensation for the loss of certain habitat types and enhancement of habitat for protected and notable species. Measures and features that have been incorporated in to the scheme design for ecological protection of the identified receptors as well as ecological enhancement are summarised below and shown in Appendix A. Mitigation strategies to reduce potential impacts of the development upon ecological receptors include:

- Habitat retention and protection;
- Habitat creation;
- Off site habitat creation; and

- Design of lighting strategy

HABITAT RETENTION AND PROTECTION

12.1.10 The main habitats of valued ecological receptors are shown in Appendix B and will be retained entirely or in large part, as follows:

- The majority of the woodland along the northern and eastern Site boundary (W1) will be retained, although a small loss of woodland habitat (60 m) will be required to allow for the construction and operation of a roundabout on Upper Campsfield Road A4095.
- All woodland (and rows of trees) that will be retained will be protected throughout the construction by following *BS 5837:2012 Trees in Relation to Design, Construction and Demolition – Recommendations*.
- The hedgerows within the centre and running south to north of the site (H1 and H2) will be retained, although small sections of hedgerow (in total 20 m) will be removed from H1 and H2 to accommodate pedestrian and vehicular access routes.
- The hedgerow (H3) which runs west to east within the site, will be retained although 3 small sections of the hedgerow will be removed to allow alignment of road from A44 Oxford Road (25 m), to the south of the site, and to allow vehicular access to the Residential area and Care village (in total 20 m).
- The mature hedgerow (H4) which surrounds the Pest House, on the northern boundary of the site will be retained. To allow for the realignment of Shipton Road from the north into the site, a section will be lost from this hedgerow, with a further sections removed from the western section.
- The hedgerow (H6) on the northern boundary of the site, adjacent to Shipton Road, will be retained. A section will be removed to allow for the realignment of Shipton Road from the north into the site.
- The hedgerows to the south of the site (H7 and H8), adjacent to the A44 road, will be retained. A section will be removed from H7 to allow for the alignment of road from A44

into the site (25 m). Two small sections of hedgerow will be removed to provide pedestrian/cycle access (in total 10 m)

- The field margin areas of semi improved grassland which are associated with the hedgerows within the site will be retained. The semi improved grassland margin adjacent to the hedgerow (H6) and the broadleaved semi-natural woodland (W1) which border the north and eastern sections of the site (SI1) will be retained. A small section will be removed to allow for the realignment of Shipton Road into the site. A section of semi improved grassland will be removed to allow for the construction and operation of a roundabout on Upper Campsfield Road A4095.
- The semi improved grassland field margins (SI3) associated with the hedgerows located within the central section of the site (H1, H2 and H4) will be retained although a small area will be removed to allow for the alignment of road within the site, south of the Pest House.
- The field margin areas (SI2) associated with Hedgerow (H8) will be retained.

12.1.11 The detailed design of the Green Network will be developed in the next stages of the project. However the planting scheme will;

- Provide an overall increase in area of habitats of valued ecological receptors within the site including woodland, hedgerow and grassland. The area of conservation/amenity grassland will include a wild flower meadow, which will provide benefits to other receptors including terrestrial invertebrates and bats. The lines of trees and areas of scattered trees, which will be created through the central eastern section of the site will contribute to the conservation value of the site by creating new woodland and parkland habitat.
- Retain and enhance functional ecological corridors throughout the Site for commuting, foraging and dispersal of receptors.
- Provide improved foraging and commuting routes for bat species throughout the site, and in particular the north-south, and east-west commuting routes which are of importance for Barbastelle and *Myotis sp*. The planting scheme will result in the development of a north

south habitat corridor through the creation of additional hedgerows (H12, H13 and H14), and woodland sections (W3, W6, W8 and W9) as shown in Appendix A. The habitat corridor will provide a dark route through she site which will benefit the light intolerant bat species. Further detail relating to planting design is found in the Landscape Framework Plan.

- Two additional woodland areas will be created to the north and south of the coach park (W9 and W8). The areas will be planted up with standard, mature, native trees of local provenance increasing woodland area. This area will form the northern section of dark corridor to allow for the foraging and commuting of bats through the site. In the southern section of the area, adjacent to Shipton Road, large mature trees will be planted to strengthen the commuting route for bat species.
- The creation of this area will increase the suitable habitat for reptiles within the area, and will provide suitable areas for translocation of any reptiles located within the site during construction phase of development.
- The central reservation of the new road alignment will be planted up with a line of mature standard trees.
- The area will provide additional suitable habitat for foraging, nesting and commuting habitat for dormouse between the site and suitable habitats to the north of the site. The hedgerow (H11) will be planted up with species, which are beneficial to dormouse including hazel, honeysuckle, and blackthorn. The planting of large mature trees in the southern section of the area will provide an arboreal bridge to strengthen commuting routes between habitats within the north of the site and habitats off Site.

12.1.12 A summary of the habitat loss throughout the site is shown in Table 1.

Habitat	Existing Ha/m^2	Loss	% Loss of existing habitat	Value at Parish /International	Value at Site/Negligible
Arable	59.08	59.8 ha	100		Site
Woodland	3.09	0.18 ha	4	Parish	

Habitat	Existing Ha/m^2	Loss	% Loss of existing habitat	Value at Parish /International	Value at Site/Negligible
Semi improved grassland - field margins	1.99	0.08 ha	3.8	Parish	
Amenity	4.18	0	0	-	-
Hedgerows	2672	188 m	7	Parish	
Dry Ditches	754	754	0		Site

Table 1. Habitat loss throughout the site

Habitat creation

12.1.13 The Green Network that has been incorporated into the master plan will extend throughout the site. Table 2 and Appendix A provide a summary of the habitat types within the green network, Habitat of Principal Importance status, location and area/length, to be created within the site.

Habitat	Habitat of Principal Importance	Location	Area / Length of habitat created	% Habitat increase following mitigation
Woodland	Yes	W2	1.7 ha	131
Woodland	Yes	W3	0.99 ha	
Woodland	Yes	W4	0.22 ha	
Woodland	Yes	W5	0.25 ha	
Woodland	Yes	W6	0.412 ha	
Woodland	Yes	W7	0.308 ha	
Woodland	Yes	W8	0.13 ha	
Woodland	Yes	W9	0.05 ha	
Total area of planted woodland area within the site and off site			**4.06 ha**	
Hedgerow	Yes	H11	198 m	30
Hedgerow	Yes	H12	55 m	

Habitat	Habitat of Principal Importance	Location	Area / Length of habitat created	% Habitat increase following mitigation
Hedgerow	Yes	H13	340 m	
Hedgerow	Yes	H14	224 m	
Total length of planted hedgerow within the site and off site			**817 m**	
Total length of planted lines of trees/scattered trees within the site and off site			3095 m	100
Conservation/Amenity grassland	Yes	South to central section of Site	7.51 ha	100
Amenity		Grassland within avenue of trees in central section of The Site, Football and training pitch, school grounds	9.17 ha	220
Amenity		Gardens within residential areas	12.56 ha	100
Total area conservation/amenity grassland within the site			**29.24**	

Table 2: Habitat creation throughout the site as shown in Appendix B

Off Site Habitat Creation

12.1.14 The Green Network will form part of the Off Site habitat creation. The Green Network will enhance the available grassland habitat for yellowhammer through the provision of skylark plots consisting of 4-6 undrilled patches approximately 3 m wide, 16-24 $m^2$and 2 per hectare. The plots will be positioned in fields off Site but within Blenheim Estate. The positioning of the undrilled plots have the potential to increase the connectivity of habitat within the larger area to the north of The Site.

Design of a sensitive lighting strategy

12.1.15 The external lighting strategy for the hybrid planning application acknowledges that one of the key principles that will be carried forward to the design coding stage will be to retain dark corridors where bats are using lines of trees as flight paths. The corridor with significant bat activity levels is along the west east hedgerow (H3), and along the north south hedgerows (H1, H2 and H4). It is proposed that additional new hedgerows (H11 and H12) and woodland sections (W3, W5, W6, W8 and W9) will form a corridor through The Site, and therefore this corridor will be retained as dark as reasonably possible to minimise alterations in the use of this corridor by bats.

Assessment of Potential Impacts

12.1.16 This section considers the potential impacts on the ecological receptors identified in the Environmental Statement, resulting from the proposed development of the revised master plan. Impacts are identified with reference to the scheme design which includes a number of design features aimed to avoid or minimise negative impacts on ecological receptors as the following section details.

12.1.17 Once the assessment of impacts resulting from scheme design have been considered, mitigation measures aimed to avoid or reduce any identified negative impacts are set out in Appendix A. The residual impacts of the development in light of these mitigation measures are then considered in Appendix C.

Residual impacts

12.1.18 Residual ecological impacts are those remaining once the appropriate mitigation measures (including design mitigation) have been taken into account. The residual impacts of the development on the ecological receptors identified during the baseline studies are summarised in Appendix C.

12.1.19 The proposed development has sought to minimise impacts on biodiversity through mitigation (including development design mitigation) and compensation. In addition, measures such as woodland creation, native species planting, and the provision of new bird nesting and bat roosting opportunities, the site is likely to be of enhanced ecological value in the long term. It is therefore considered that main objectives of the planning policy relevant to this scheme have been met.

Cumulative effects

12.1.20 The only project to be considered as part of the assessment of cumulative effects is located to north of the Site and along Shipton Road, and to the north east of Marlborough School. The development (Application 13/0982/P/FP) includes the erection of 58 residential dwellings, new access for vehicles, pedestrians and cyclist, formal open space, car parking and landscaping improvements.

12.1.21 Given the distance of this development to the Site; the lack of ecological connectivity (either directly or indirectly) between the sites; and the avoidance of significant impacts through scheme design and on-site mitigation/compensation, it is considered that there will be no cumulative ecological impacts as a result of this devolvement project and Woodstock South East.

CONCLUSIONS

12.1.22 The nature of the development at Woodstock East will result in changes to the ecological conditions and types of habitat within the planning application area. The current Site conditions are characterised by a range of ecological receptors, both species and habitats, which are found throughout southern England.

12.1.23 The Site has several statutory and non-statutory sites nearby and the adoption of appropriate working methods during construction phase, in conjunction with national and local government policies i.e. regarding vehicular emissions, will result in no significant impact during the operational phase, upon these sites.

12.1.24 The main habitats within the Site include arable, semi-improved grassland along field margins, broadleaved semi-natural woodland, and hedgerows. The adoption of appropriate working methods during the construction and the provision of large areas of green infrastructure post development, will reduce the direct and indirect on these habitats during the construction and operational phases.

12.1.25 Through design, habitats of value (greater than site level) will be retained in part or in their entirety and developed through the Green Network including;

- 4.06 ha of newly created woodland composed of a native species mix; and 3095 m of scattered and individual trees.
- additional tree line and hedge planting of 817 m in length.
- conservation species-rich lawns (7.51 ha);
- amenity grassland (9.17 ha); and
- amenity grassland (gardens) (12.56 ha)

12.1.26 Through the adoption of design mitigation including Green Network and Lighting Design Strategy, no negative residual impact will remain.

12.1.27 The retention and creation of new and additional habitats will have a probable near certain long term impact at Parish level for the following ecological receptors:

- woodlands (broad leaved semi natural and plantations):
- grasslands (Semi-improved, conservation rich species grasslands)
- hedgerows
- great crested newt terrestrial habitat
- reptiles
- breeding bird community
- sky lark and yellow hammer (off Site)
- dormouse
- invertebrates

12.1.28 The retention and creation of new and additional habitats will have no significant impact at any geographical level for bats and badgers.

12.1.29 Overall the project is likely to lead to significant positive impacts upon the Ecology and Nature Conservation and will provide net gain in biodiversity for The Site.

APPENDICES

Appendix A: Plan of Mitigation Measures

Appendix B: Phase 1 Habitat Plan

Appendix C: The residual impacts of the development on the ecological receptors identified during the baseline studies and marked on Figure 3 (Appendix B).

SCHEDULE OF APPENDICES

CHAPTER 5: FLOOD RISK, DRAINAGE AND WATER RESOURCES

Appendix A: Foul Water

Appendix B: Masterplan

Appendix C: Microdrainage Calculations

Appendix D: Surface Water Drainage Strategy

CHAPTER 6: LIGHTING

Appendix A: Glow Plan

Appendix B: Zones of Darkness

CHAPTER 8: NOISE AND VIBRATION

Appendix A: Noise Report

CHAPTER 9: LANDSCAPE AND VISUAL IMPACTS

Appendix A: Assessment of Effects Upon Additional Viewpoints

Appendix B: WHS Additional Views

Appendix C: Summer/Winter Views

CHAPTER 12: ECOLOGY AND NATURE CONSERVATION

Appendix A: Plan of Mitigation Measures

Appendix B: Phase 1 Habitat Plan

Appendix C: The residual impacts of the development on the ecological receptors identified during the baseline studies and marked on Figure 3 (Appendix B).