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PREFACE

Background

In September 2014, the London Borough of Hammersmith and Fulham (LBHF) granted planning consent (ref. 2013/05115/OUT; hereafter referred to as the '2014 Consent') to Westfield Shoppingtowns Ltd. in the form of an Outline Planning Application for a retail led, mixed use development (hereafter referred to as the '2014 Consented Development') on land north of the Westfield Shopping Centre, Ariel Way, London (hereafter referred to as the 'Site').

The 2014 Consented Development comprised the following:

- Demolition of all buildings on-site;
- Creation of a plinth level (Plot P) to bridge across the road infrastructure that provides access to the existing Westfield London Shopping Centre and links Wood Lane (A219) to the West Cross Route (A3220);
- Erection of a series of perimeter blocks (at Plots A, B, C and K) and a number of taller blocks (at Plot D and Plot C) ranging from 2 - 23 storeys to accommodate:
  - up to 1,347 residential units or 127,216 m² gross external area (GEA) Residential use (C3);
  - up to 73,114 m² GEA Retail Use (A1) - net increase of 61,840 m²;
  - up to 8,170 m² GEA Restaurant and Bar Use (A3 - A5);
  - up to 2,065 m² GEA Office Use (B1);
  - up to 1,600 m² GEA Community Use (D1);
  - up to 3,500 m² GEA Leisure Use (D2); and
  - 1,328 basement and roof level car parking spaces.
- Provision of extensively landscaped open and amenity space at ground, plinth and roof levels including various squares and an internal pedestrian route (Ariel Walk) which connects West Cross Route and Wood Lane; and
- Alterations to the existing Westfield London Shopping Centre to provide a connection to the proposed new retail space.

The 2014 Consented Development itself forms part of a larger site area that benefits from an extant outline planning consent (ref. 2011/02940/OUT) that was granted in 2012 for a similar retail led, mixed use redevelopment (hereafter referred to as the '2012 Consent'). The larger site area of the 2012 Consent includes the existing Dimco Building and the White City Bus Station located to the west of the Site, as well as two additional residential development plots (Plots E and F) along Wood Lane to the west and south-west of the Site.

The Outline Planning Application for the 2014 Consented Development was accompanied by an Environmental Statement (hereafter referred to as the '2013 ES') which reported on the outcomes of an Environmental Impact Assessment (EIA) of the 2014 Consented Development. This ES built on an earlier EIA undertaken for the 2012 Consent.

The 2013 ES was prepared in accordance with the statutory procedures set out in the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 and comprised four volumes:

- ES Volume 1: Non-Technical Summary;
- ES Volume 2: Environmental Statement Main Report;
- ES Volume 3: Townscape, Heritage and Visual Impact Assessment;
In order to facilitate the implementation of the 2014 Consent, LBHF granted the following:

- Full Planning Consent (ref. 2013/05350/FUL) in July 2014 for enabling works ('the Enabling Works Consent'). These enabling works included the demolition of existing buildings and associated structures; the closure and temporary diversion of highways; construction of temporary highways; excavation and construction of a tunnel and support structures to connect to the existing Westfield London basement; utilities diversions; and other associated works.
- Reserved Matters Consent (ref. 2015/01447/RES) in July 2015 to discharge access, scale and layout for the Phase 1 engineering and construction operations comprising the formation of the basement and facilitating the future layout of the basement only ('the Basement Consent').

Following the 2014 Consent, detailed design work led to aspects of the scheme being reviewed to facilitate improvements to the 2014 Consented Development. This resulted in Westfield Europe Ltd. (hereafter referred to as 'the Applicant') submitting a Minor Material Amendment (S73) Planning Application (ref. 2015/02565/VAR), in June 2015 for the following amendments:

- Amalgamation of Plot B within Plot A, resulting in the omission of residential use within Plot B, and infilling of the circulation route previously between Plots A and B;
- Increase in the maximum building height (by 16.60 m) and mass of the southern extent of Block A at upper levels to accommodate additional leisure floorspace;
- Revised alignment to the rear of Block K where it meets Block A;
- Revised geometry of the western corner of Plot A facing Plot D;
- Reduction in the minimum width of Ariel Walk (the internal pedestrian route which connects the West Cross Route and Wood Lane) from 14.8 m to 12 m;
- Incorporation of the formerly external circulation connecting Ariel Walk with Relay Square to inside the ‘Public Room’;
- Adjustment of the ground floor uses and the minimum elevational height along the western side of Silver Street;
- Extension of the roof-top car parking decks over Ariel Walk to provide for car parking bridges at upper levels;
- Increase in the (D2) leisure floorspace by 2,831 m²;
- Increase in the (A1) retail floorspace by 3,012 m²;
- Reduction in the (A3 - A5) retail floorspace by 3,885 m²;
- Removal of all the (B1) office floorspace (less 2,065 m²);
- Removal of 200 non-residential car parking spaces;
- Increase in the residential cycle parking spaces by 765 spaces;
- Reconfiguration of the vehicular routes to the car parks west of the ‘H’-junction and the removal of the cycle routes to Plot P; and
- Change in the proposed Site levels at Block A by +0.1 mAD to +0.9 mAD to safeguard the existing underground Transport for London (TfL) tunnels.

The environmental effects of these amendments (hereafter referred to as the ‘2015 Amendments’) and of the 2015 Amended Proposed Development as a whole were subject to an updated EIA and the results were reported in an updated ES (hereinafter referred to as the ‘2015 ES’) which accompanied the 2015 S73 Planning Application. The 2015 ES was prepared by reference and as an
update to the 2013 ES, as the latter was considered to remain materially valid for the 2015 Amended Proposed Development. The 2015 S73 Planning Application was consented in September 2015 (hereinafter referred to as the ‘2015 Consent’) with the 2015 Consented Development (also referred to as the ‘Outline Scheme’) comprising the following:

- Demolition of all buildings on-site;
- Creation of a plinth level (Plot P) to bridge across the road infrastructure that provides access to the existing Westfield London Shopping Centre and links Wood Lane (A219) to West Cross Route (A3220);
- Erection of a series of perimeter blocks (at Plots A, C and K) and a number of taller blocks (at Plot D and Plot C) ranging from 2 - 23 storeys (with the block at Plot A increased from +48.20 mAOD to +62.75 mAOD and +43.05 mAOD to +46.15 mAOD) to accommodate:
  - up to 1,347 residential units or 127,216 m² gross external area (GEA) Residential use (C3);
  - up to 76,156 m² GEA Retail Use (A1) - net increase of 64,852 m²;
  - up to 4,285 m² GEA Restaurant and Bar Use (A3 - A5);
  - up to 1,600 m² GEA Community Use (D1);
  - up to 6,331 m² GEA Leisure Use (D2);
  - 1,736 basement and roof level car parking spaces (608 residential and 1,128 non-residential);
- Provision of extensively landscaped open and amenity space at ground, plinth and roof levels including various squares and an internal pedestrian route (Ariel Walk) which connects West Cross Route and Wood Lane; and
- Alterations to the existing Westfield London Shopping Centre to provide a connection to the proposed new retail space.

Subsequently, the following planning applications have either been consented or benefit from a resolution to grant consent (subject to S106 agreement) as part of the 2015 Consented Development:

- Reserved Matters Planning Application (RMA) (ref. 2015/05217/RES) approved in April 2016 for the retail block on Plot A comprising:
  - 75,019 m² GEA Retail Use (A1);
  - 3,000 m² GEA Retail Use (A3-A5);
  - 2,456 m² GEA Leisure Use (D2); and
  - 518 non-residential car parking spaces.
  This consent is hereafter referred to as the ‘Block A RMA Consent’;
- Full Planning Application (ref. 2015/05684/FUL) (was heard at committee on 6 April 2016, received a resolution to grant) for the delivery of the road network consistent with the 2015 Consented Development parameters and more specifically for the construction of a new road connecting Wood Lane and the West Cross Route to replace the existing road (Ariel Way), including a new point of egress from White City Bus Station, provision of a taxi drop off area, a new bus lane and a new roundabout connecting Marathon Way, Ariel Way and the Eastern Access Road (hereafter referred to as the ‘Road Alignment Consent’); and
- Full Planning Application (2015/05685/FUL) consented in September 2016 for the relocation of the existing White City Bus Station Layover facilities from the East Dimco Building to below Block C including 21 layover spaces and a driver’s facility (hereafter referred to as the ‘Bus Layover Consent’).
These three consents comprise detailed proposals consistent with the parameters assessed for the 2015 Consented Development. Accordingly additional environmental information did not need to accompany these applications other than a letter confirming conformity with the 2015 EIA required by the LBHF for the Block A RMA.

In addition, the following further planning applications were consented pursuant to the 2015 Consented Development:

- RMA (ref. 2016/02642/RES) (resolution to grant) relating to the scale, layout, appearance, access and landscaping for the residential block at Plot K comprising:
  - 74 residential units within a building ranging in height from 8 (Ground +7) to 14 (Ground +13) storeys; and
  - associated servicing, parking and landscaping.

- S96A Non-Material Amendment Application (ref. 2016/03604/NMAT) approved in September 2016 for the relocation of the energy centre flue stack from the block on Plot C to the block on Plot K and the associated increase in the maximum building height of the block from +62.4 mAOD to +67.4 mAOD;

Both of these applications were accompanied by EIA Screening Requests confirming that an EIA was not required for the applications. The applications were consistent with the parameters which informed the 2015 Consented Development, save only that minor changes were proposed to the overall height of Block K through the 96A Application.

Subsequently, as part of the detailed design associated with the retail block on Plot A (Block A) and the wider public realm, the Applicant explored opportunities to develop high quality and animated public spaces and to further activate the western façade of Block A. This led to the further rationalisation of internal floorspace within Block A and the introduction of a restaurant quarter (hereafter referred to as the ‘Restaurant Scheme’) along the western frontage of Block A.

This culminated in the Applicant submitting the following:

- S73 Application in August 2016 for amendments to the 96A Amended 2015 Consented Development (the ‘Outline Scheme’) (Ref. 2016/03944/VAR); and
- Full Planning Application in October 2016 for the Restaurant Scheme (Ref. 2016/04602/FUL).

The 2016 S73 Application for the Outline Scheme comprised the following amendments:

- Rationalisation of the retail and leisure floorspace:
  - Increase in the (A1) retail floorspace from 76,156 m² to 79,710 m² GEA;
  - Reduction in the (A3 - A5) retail floorspace by from 4,285 m² to 3,462 m² GEA;
  - Reduction in the (D2) leisure floorspace from 6,331 m² to 3,557.6 m² GEA; and
  - Reduction in total proposed floorspace by 42.4 m².

- Revision to the limit of deviation of the south eastern façade of Plot D to 5.0 m only to provide for a minimum separation distance of 12 m from the nearest adjacent building façade;

- Revision to the limit of deviation of the western canopy/entrance to Plot A from +/- 5 m to +11 m and - 5 m to introduce a wind lobby;

- Revision to the maximum building heights for Plot K from 8 and 14 storeys (+43.05 mAOD and +62.4 mAOD) to 10 and 16 storeys (+48.1 mAOD and +70.2 mAOD);

- Revision to the maximum height of the energy centre flue from +67.4 mAOD to +75.20 mAOD in light of the increase in the maximum building height at Plot K.

The Restaurant Scheme Application comprised the delivery of:
• 3,783 m² GEA A1 retail floorspace; and
• 3,057 m² GEA A3 - A5 retail floorspace.

The environmental effects of these amendments (hereafter referred to as the ‘August 2016 Proposed Amendments’) and of the 2016 Proposed Development as a whole were subject to a fully updated EIA and the results were reported in an updated ES (hereinafter referred to as the ‘2016 ES’) which accompanied both applications.

Both applications benefit from a resolution to grant consent (dated 9 November 2016 and 15 March 2017 respectively) subject only to completion of legal agreements. There is a high degree of certainty that these agreements will be concluded, thus it is reasonable to consider these proposals to be part of the consents considered for the Site.

The S96A Amended 2015 Consented Development, as amended by the August 2016 Proposed Amendments following the consent/resolution to grant of the above planning applications, is referred to in this document as the ‘March 2017 Consented Development’.

In addition to the August 2016 Proposed Amendments, the Applicant also submitted the following RMA:
• 2nd Block A RMA (Ref. 2016/05319/RES. Resolution to grant);
• 2nd Block K RMA (Ref. 2016/04020/RES. Resolution to grant);
• Public Realm RMA (Ref. 2016/04664/RES. Pending determination under delegated authority); and
• ‘Public Room’ RMA (Ref. 2016/04581/RES. Pending determination under delegated authority).

**Scope of Proposed Amendments**

As part of the ongoing detailed design associated with the retail block on Plot A (Block A) and the Restaurant Scheme, the Applicant has explored opportunities to diversify the land use offering of the Restaurant Scheme. This has led to the introduction of an office element above the Restaurant Scheme.

Accordingly the Applicant is now seeking planning consent by means of a Full Planning Application for the delivery of:
• 4,995 m² (GEA) office floorspace (B1) spread across three floors; and
• An events space (sui generis) at the roof level.

The above proposals are collectively referred to as the ‘Office Scheme’. The March 2017 Consented Development, as amended by the Office Scheme sought in the above new Planning Application, is referred to in this document as the ‘April 2017 Proposed Development’.

**Reasons for Submission**

Because it is enlarging a proposed development which has previously undergone an EIA, the April 2017 Proposed Development falls within Schedule 2 (10(b)) of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (As Amended in 2015) (hereafter referred as the ‘EIA Regulations’). As this application will be submitted with its Environmental Statement before the 2017 EIA Regulations come into force, the transitional provisions in the latter mean that the application as a whole will be determined pursuant to the 2011 (as amended in 2015) EIA Regulations.

The EIA Regulations enable the consideration of changes or extensions to development already authorised through Schedule 2, point 13(b)(i), in which an EIA is required where “…the development as changed or extended may have significant effects on the environment”. The consideration is now
therefore whether any materially new or different significant environmental effects are likely to arise from the April 2017 Proposed Development as a whole, as extended by the Office Scheme.

In respect of the new Full Planning Application, the Office Scheme would comprise an extension to an existing EIA Development as it would not be able to be delivered as a self-standing/self-sufficient element and would be reliant on the Outline Scheme and the Restaurant Scheme for access, servicing and parking. Accordingly an ES must be submitted to accompany the Full Application as it is likely to have significant environmental effects.

Accordingly, the Applicant has commissioned Ramboll Environ UK Limited (Ramboll Environ) to prepare a fully updated EIA of the April 2017 Proposed Development which would accompany the Full Application. Having regard to the relevant national guidance and that of the Courts, including in the case of Baker -v- Bath & North East Somerset Council, the assessment that is being undertaken is of the Amended Proposed Development as a whole. The assessment is reported in this document (hereafter referred to as the ‘April 2017 ES’).

In respect of the 2nd Block A RMA, the 2nd Block K RMA, the Public Realm RMA and the ‘Public Room’ RMA, these detailed consents would be consistent with the parameters assessed as part of the April 2017 Proposed Development and have therefore not been considered within the EIA. The EIA therefore presents a worst case assessment in respect of the development proposals.

**Approach to 2017 ES**

The 2017 EIA has been undertaken of the April 2017 Proposed Development which comprises of the following:

- **Outline Scheme**: Plots A, C, D and K, together with associated road, utility, servicing infrastructure and landscaping;
- **Restaurant Scheme** together with associated access and servicing arrangements; and
- **Office Scheme** together with associated access and servicing arrangements.

The April 2017 EIA is consistent with the scope of the EIA/ES adopted for the 2016 EIA, 2013 EIA and the 2015 EIA as this is considered to remain valid. The April 2017 ES follows the same structure, format and chapter order presented within the 2016 ES, 2013 ES and 2015 ES. Accordingly, the April 2017 ES comprises:

- Volume 1: Non-Technical Summary;
- Volume 2: Environmental Statement Main Report;
- Volume 3: Townscape, Heritage and Visual Impact Assessment; and
- Volume 4A: Technical Appendices (including Flood Risk Assessment); and
- Volume 4B: Transport Assessment (including Travel Plans, Delivery and Service Management Plan, and Construction Logistics Plan)

This document comprises ES Volume 1 of the April 2017 ES.

Whilst detailed proposals of the Outline Scheme have been progressed through RMAs the EIA of the Outline Scheme considers the Outline parameters for assessment purposes. In addition, whilst it is acknowledged that the Site is now under construction, to assess the April 2017 Proposed Development as a whole, the fully occupied Site prior to commencement of demolition and construction works, have been adopted as the ‘Existing Baseline’. Therefore the EIA considers a worst case.

Additional documentation that will accompany the Office Scheme Full Planning Application will comprise the following:
• Application Cover Letter
• Planning Application Forms and Certificates
• Red line Site Plan
• Planning Statement
• Design and Access Statement
• Planning Drawings
• Sustainability Report
• Historic Environment Report
• Letter from Foreman Roberts (12 February 2017) updating the Energy Strategy as approved under the 2015 Consent
• Letter from Foreman Roberts (22 February 2017) comprising a BREEAM Pre Assessment for the proposed offices
• Statement of Community Involvement
• CIL Additional Information Form

**ES Availability**

The Office Scheme Full Planning Application will be available for viewing at:

London Borough of Hammersmith and Fulham
Planning Division, Environmental Services Department
Town Hall Extension
King Street,
London, W6 9JU

The April 2017 ES will be available for purchase (£10/CD copy) at:

Ramboll Environ UK Ltd
Artillery House
11-19 Artillery Row
London, SW1P 1RT
1. **INTRODUCTION**

EIA is a formal process in which the effects of certain types of development projects on the environment are identified, assessed and reported upon. The process must be followed in order for the effects to be taken into account before a decision is made on whether planning permission should be granted.

This ES has been prepared to accompany the Full Planning Application for the Office Scheme. It reports on the outcomes of the EIA that has been undertaken of the April 2017 Proposed Development as a whole.

The EIA has been undertaken in accordance with the EIA Regulations and considers the potential environmental impacts and likely environmental effects of the April 2017 Proposed Development during the demolition and construction stage, as well as during its subsequent completion and operational stage. The EIA takes into account the mitigation measures that are proposed by the Applicant including those mitigation measures that have been integrated into the planning and design of the April 2017 Proposed Development to prevent, reduce and, where possible, offset significant adverse effects. It then evaluates the significance of the residual effects.

This document is Volume 1 of the April 2017 ES and comprises the Non-Technical Summary (NTS). The aim of the NTS is to summarise the content and the main findings of the EIA in a clear and concise manner to assist the public in understanding what the environmental impacts and significant effects of the April 2017 Proposed Development are likely to be.

The NTS therefore provides a summary of the:

- key EIA process and methodology considerations;
- history and context of the Site;
- main characteristics of the physical, natural and built environmental surroundings of the Site;
- April 2017 Proposed Development;
- environmental effects likely to arise from the April 2017 Proposed Development; including the measures that would be adopted to avoid, reduce or control any adverse effects.

ES Volumes 2 and 3 and the supporting technical appendices (in ES Volume 4A and 4B) provide a more detailed description of the Site, the characteristics of the April 2016 Proposed Development and the findings of the ES.
2. **EIA PROCESS AND METHODOLOGY**

The April 2017 Proposed Development is in excess of 5 ha and is considered to fall within the definition of an “urban development project” described in 10(b) of Schedule 2 of the EIA Regulations and therefore requires an EIA.

2.1 **EIA Scoping and Consultation**

2.1.1 **Pre-2014 Consent**

Scoping is the term used in the EIA Regulations whereby the Applicant can request a formal opinion from the local planning authority on the content of the ES and the extent of the information to be considered in the assessments. The purpose of scoping is to focus the EIA on the environmental issues and potential impacts which need the most thorough attention, to identify those which are unlikely to need detailed study and to provide a means to discuss methods of impact assessment so as to reach agreement on the most appropriate.

An EIA Scoping Report was submitted to LBHF on 22 October 2013 in support of a formal request for an EIA Scoping Opinion for the 2014 Consented Development. The EIA Scoping Report provided a description of the emerging development proposals, the potential key environmental impacts and effects to be considered as part of the EIA, as well as the proposed scope and methodology to be followed within each technical assessment of the ES.

The LBHF consulted with both statutory and non-statutory consultees during the course of the EIA Scoping Process including the Great London Authority (GLA), Environmental Agency (EA), Transport for London (TfL) and Thames Water. A draft version of the LBHF’s Formal EIA Scoping Opinion was issued on Friday 22 November 2013 and confirmed the key issues which needed to be assessed in the EIA as:

- Development Programme, Construction Activity and Effects Management
- Socio-Economics;
- Archaeology;
- Townscape, Heritage and Visual Impact;
- Transport and Access;
- Air Quality;
- Noise and Vibration;
- Ground Conditions;
- Water Resources, Hydrology and Flood Risk;
- Ecology;
- Daylight, Sunlight and Overshadowing;
- Wind;
- Telecommunications;
- Waste; and
- Cumulative Effects.

It was agreed to scope Light Spill and Solar Glare out of the EIA as the 2014 Consented Development was considered unlikely to generate significant environmental effects in respect of these issues.

The 2013 EIA was subsequently undertaken and the 2013 ES prepared for the 2014 Consented Development.
2.1.2 Post 2014 Consent

Following the 2014 Consent the Applicant and its consulting team have been in consultation with the LBHF, consultees and relevant stakeholders to discharge planning conditions. These are discussed in each of the technical assessments as appropriate. In addition, consultations were undertaken in respect of the assessment viewpoints, cumulative schemes and presentational format of the 2015 EIA.

No formal EIA Scoping was undertaken for the March 2017 Consented Development because the identified receptors; potential environmental impacts; likely environmental effects; assessment scopes; and assessment methodologies considered within the 2013 ES, were considered to remain valid.

However, an informal request for EIA Scoping advice was submitted and liaison undertaken with the LBHF in August 2016 to confirm the scope of the updated EIA as a whole and the assessment methodologies to be adopted for the 2016 ES. It was confirmed that there would be no change to the EIA scope previously agreed as part of the 2013 EIA Scoping Process and that a pre-construction baseline would be adopted.

In addition, the LBHF was consulted in respect of the scope of viewpoints to consider within the THVIA, as well as the scope of Cumulative Developments to consider within the cumulative assessment.

2.1.3 Post-August 2016 ES

In respect of the EIA Process for the April 2017 Proposed Development, no formal EIA Scoping was undertaken because the identified receptors; potential environmental impacts; likely environmental effects; assessment scopes; and assessment methodologies considered within the 2013 ES and 2016 ES, were considered to remain valid for the April 2017 Proposed Development.

However, an informal request for EIA Scoping advice was submitted and liaison was undertaken with the LBHF in March 2017 to confirm the scope of the updated EIA as a whole and the assessment methodologies to be adopted for this ES. This process confirmed that there would be no change to the EIA scope previously agreed as part of the 2013 EIA Scoping Process and that a pre-construction baseline would be adopted.

2.1.4 Approach to EIA

The EIA has been undertaken in accordance with accepted best practice as set out within the Institute of Environmental Management and Assessment’s (IEMA) Guidelines for EIA and Government guidance. A consistent approach to the presentation of the EIA findings has been adopted for each of the technical areas, including the following:

- A review of policy and legislative requirements, as well as, planning standards of relevance to the specific technical area, at national, regional and local levels;
- An explanation of the information gathering and assessment methodology, including how the significance of residual effects were determined;
- A description of the baseline conditions including the identification of sensitive receptors;
- A description of the mitigation that has been incorporated into the April 2017 Proposed Development’s design and other proposed measures and management controls;
- The identification of the potential impacts during the demolition and construction works of the April 2017 Proposed Development and once the April 2017 Proposed Development has been completed;
• An assessment of the residual environmental effects these impacts are expected to cause and an evaluation of their significance against defined criteria; and
• A description of additional opportunities for mitigation to further reduce the significance of any adverse environmental effects, including the requirements for post-development monitoring if and where required.

The identification and assessment of cumulative impacts and effects are dealt with in a separate chapter of the April 2017 ES.

As with EIA, good practice in the preparation of the ES is defined in a number of sources, with more specific issues covered by ES review checklists. Many of these checklists are very detailed and go to some length. In terms of widely applicable and practical guidance, the IEMA Quality Mark indicator check was referenced in producing the ES.

2.2 Basis of EIA

As indicated in the Preface, the April 2016 Proposed Development comprises an Outline Scheme (Plots P, C, D and K with associated Blocks); the Restaurant Scheme; and the Office Scheme.

For the Outline Scheme, only the principal means of vehicular access from the A3220 via the existing H-junction and from Wood Lane via Arial Way, is fixed. All other details are reserved for subsequent approval by the LBHF at a later date.

Outline proposals can be subjected to EIA, so long as there is sufficient:

• information provided in the ES to enable the local planning authority, in this case the LBHF, to form a view on all the potential likely environmental effects of the project as a whole; and
• prescription in how the future details are to be submitted for approval.

In this case the Applicant volunteered parameters for the 2014 Consented Proposed Development on the basis that the reserved matters must fit within the scope of these parameters. This approach remains valid for the April 2017 Proposed Development.

The assessment has been undertaken on this assumption i.e. that the reserved matters brought forward for the Outline Scheme will fall within the parameters that have been tested. Adopting this approach allows the EIA to be carried out in a manner which is legally robust. In order to ensure that the Outline Scheme remains strictly within the scope of the assessment the LBHF will be invited to impose a condition on any resultant planning permission requiring that the details to be submitted for approval at a later date must be generally in accordance with the parameters assessed at the outline stage.

The parameters are explained by a supporting set of Parameter Plans, a Parameters Report and Schedules accompanied by Design Codes, which have been used as the basis of the EIA. Together, these define the overall quantum of development and provide a controlling set of design codes and principles in relation to each block, as well as routes and spaces, street widths, residential unit numbers and mix within which the reserved matters will be brought forward.

The parameters for the Outline Scheme in summary comprise the following:

• Existing Site;
• Planning Application Area;
• Existing Site Levels;
• Demolition;
• Development Plots: Ground;
The Parameters Report describes the committed components within the April 2017 Proposed Development including the maximum quantum of development per use class area and residential unit mix.

Whilst detailed RMA proposals have been progressed pursuant to the 2014, 2015 and 2016 Consented Developments, these are materially consistent and accord with the parameters of the April 2017 Proposed Development assessed within this EIA. The EIA would therefore focus on the ‘worst case’ effects of the April 2017 Proposed Development.

The assessment of the Restaurant Scheme was undertaken based on the detailed application drawings, schedules and information that accompanied the Full Application.

The assessment of the Office Scheme has been undertaken using a comparable approach, with the detailed application drawings, schedules and information that will accompany the Full Application used as a basis for the assessment.

In addition, a number of accompanying documents have been reviewed and considered in undertaking the EIA including:

- A Flood Risk Assessment (FRA) 2016 which is appended to the ES in ES Volume 4A;
- A Transport Assessment (TA) 2017;
- An Energy and Utilities Strategy 2013;
- A Sustainability Statement (SS) 2017; and
- A Retail Assessment 2016.

### 2.2.1 Baseline

The purpose of EIA is to predict how environmental conditions may change as a result of a proposed development. This requires that the environmental conditions now (or at least in the near future, before construction of a proposed development gets underway) and in the future assuming no development, are established.

This is referred to as the ‘baseline’ and is usually established through a combination of desk-based research, site survey and empirical studies and projections. Together, these describe the current and future character of a site and the value and vulnerability of key environmental resources and receptors.

Whilst it is acknowledged that the Site is now under construction (the industrial units demolished; basement excavation, piling and the majority of ground works completed; superstructure works associated with Blocks A and K are at an advanced stage; the energy centre under construction, and the Bus Layover Scheme completed), this is a temporary and constantly evolving state and not
representative of the conditions that have prevailed across the Site for many years and that still prevail across the wider White City Opportunity Area (WCOA) to the north. Moreover the effects during construction stage of what is now happening form part of the earlier assessments.

Accordingly the fully occupied Site condition prior to the commencement of demolition and construction works has been adopted as the ‘Existing Baseline’, as this presents the worst case.

For the purposes of the Transport and Access, Air Quality and Noise and Vibration assessments the ‘Existing Baseline’ that has been adopted in respect of the local highway network and traffic flows, is based on surveys undertaken in 2014 (with walking, cycling and public transport updated surveys undertaken in 2016), as agreed in consultations with TfL and remains valid for the April 2017 ES.

Furthermore for the purposes of the Transport and Access, Air Quality and Noise and Vibration assessments, a ‘Future Baseline’ of 2026 has been considered, as this is the ‘year of opening’ for the April 2017 Proposed Development. This was agreed with TfL and the LBHF Highways during consultations on the Bus Layover Scheme and the Road Alignment Scheme and remains valid.

2.2.2 Mitigation Measures

One of the main aims of EIA is to identify and assist in developing mitigation measures to prevent, reduce and where possible, offset any potential significant adverse impacts of a development. Mitigation measures can relate to design, construction or the activities associated with the proposed development.

The Outline Scheme of the April 2017 Proposed Development is born out of the 2014 Consented Development which was, because of the constraints and requirements/aspirations imposed by the existing Site condition/context, planning policy and the 2012/2014 Consented Developments, subject to an extensive iterative design process that aimed to deliver a balanced response to the diverse and challenging range of issues and requirements connected with the Site.

The Proposed Amendments to the March 2017 Consented Development and the introduction of the Office Scheme have arisen in response to the detailed design process and the Applicant’s aspiration to diversify the land use offering of the Restaurant Scheme.

2.2.3 Impacts and Effects

As a general rule, the EIA assesses the residual effects that are likely to arise as a consequence of a potential impact/change to the baseline (and associated environmental receptors) following the application/consideration of mitigation measures.

A range of potential impacts have been considered in the April 2017 EIA including direct, indirect and cumulative impacts. Direct impacts are those which arise as a direct consequence of a project action, e.g. the loss of habitat or the run-off of surface water to a watercourse. Indirect impacts include, for example, the decline in the abundance of a species as a result of the loss of habitat or the damage to aquatic vegetation as a result of water pollution. Other common examples include the impact on air quality and ambient noise as a result of increased traffic movements.

Cumulative impacts are those that occur at the same time and combine on a site to give rise to ‘impact interactions’ or combine with other planned development to give rise to ‘in-combination effects’. The other developments may generate their own individual impacts and effects but when considered together, could give rise to significant cumulative effects for example, combined townscape and visual impacts from two or more (proposed) developments.
How the development might affect the environment relies on predictions about what impact a certain action will have. Some predictions can be made using mathematical or simulation models, particularly where there are well known relationships between cause and effect. For example:

- The degree to which noise levels may increase as a result of additional traffic flows can be predicted using a mathematical equation;
- The level of air pollution from a known traffic flow can be predicted from a computer-based simulation model; and
- The visibility of a building can be predicted by accurately superimposing its outline and position over a photograph.

Other impacts are less easy to predict in quantitative terms; for example, whilst the extent of a loss of a habitat can be measured, the effect on the abundance of individual species is more difficult to predict. In such cases, the EIA attempts to qualify the anticipated scale of impact using empirical experience, literature and professional judgement.

In all cases, the overall approach and specific methods of predicting the likely nature and scale of impact and effect has been set out in each of the technical assessments. Where used, recognised specific predictive methods are referenced. Any assumptions or limitations to knowledge are stated. In either case the thought process leading to the conclusions is based on reasonably reliable data and so is considered to be legally robust.

2.2.4 Significance

The assessment of residual environmental effects is important in that it informs the determination by the competent authority of the overall acceptability of the proposal. Determining significance relies on accepted thresholds and criteria where available or, for situations in which such are not available, expert interpretations and value judgments.

Significance is usually a function of the vulnerability or importance of the baseline receptor affected (resource) and the scale (magnitude and duration) of the potential impact. Importance might be a function of international designation or local relevance. Thus, significance is a concept that can be applied objectively to individual effects. Throughout the April 2017 ES the same terminology has been used to describe these individual effects, unless specific alternative terminology exists in recognised issue specific guidance (for example air quality).

Significance has been evaluated with reference to definitive standards, accepted/published criteria and legislation, where available. Where it has not been possible to quantify potential impacts and residual effects, qualitative assessments have been carried out, based on expert knowledge and professional judgement. Where uncertainty exists, it has been noted in the relevant assessment.

Specific conventions have been developed to define significance, wherever possible, defined and structured as transparently as possible using the following criteria:

- Sensitivity of the receptor to the change or potential impact, based on a scale of high, medium and low;
- Magnitude of the potential impact, based on a scale of high, medium, small, neutral and unknown;
- Likelihood of the effect occurring, based on a scale of certain, likely or unlikely;
- Duration of the effect, based on a scale of long, medium and short term; and
- Reversibility of the effect, being either reversible or irreversible.
In order to provide a consistent approach to the presentation of the significance of residual effects, the following terminology has been used throughout the April 2017 ES to describe the type/nature of residual effect:

- **Adverse** - detrimental or negative effect to an environmental receptor or resource;
- **Neutral** - an effect that on balance, is neither beneficial nor adverse to an environmental receptor or resource; and
- **Beneficial** - advantageous or positive effect to an environmental receptor or resource.

The scale of the predicted residual effect has then been classified according to the following semantic scale:

- **Negligible** - imperceptible effect;
- **Minor** - slight, very short or highly localised effect;
- **Moderate** - limited effect (by magnitude, duration, reversibility, value and sensitivity of receptor) which may be considered significant; and
- **Major** - considerable effect (by magnitude, duration, reversibility, value and sensitivity of receptor) which may be more than of a local significance or lead to a breach of a recognised environmental threshold, policy, legislation or standard.

Effects have been predicted as either 'significant' or 'not significant'. Significant effects are considered material to the planning decision process. Based on the above, moderate and major effects may be considered significant.

There are some exceptions to this scale due to established terminology for certain topic specific assessments. For example, the Air Quality assessment uses ‘slight’ instead of ‘minor’ and the Ecology assessment follows the guidelines set out by the Chartered Institute for Ecology and Environmental Management (CIEEM).

The specific benchmarks have been established by the project team using available national, regional and local policy together with other relevant guidance, recognised best practice and expert judgement. The development of these benchmarks is explained in more detail in each assessment or technical appendix of the April 2017 ES.

Assumptions and limitations have been identified in undertaking the EIA.
3. PLANNING CONTEXT

3.1 Relevant Planning Policy

Planning policy of relevance to the April 2017 Proposed Development operates at three levels:

- At national level, the National Planning Policy is set out within the National Planning Policy Framework (NPFF) which came into force on 27 March 2012. Supporting the NPFF, the ‘Planning Practice Guidance’ (PPG) provides additional online guidance and interpretation of the Government’s strategic policies outlined in the NPPF.

- At regional level, the Greater London Authority’s (GLA’s) London Plan published in March 2016. The London Plan sets the overall strategic plan for London’s development over the next 20 - 25 years. It forms part of the statutory development plan for Greater London. A number of Supplementary Planning Guidance (SPGs) supporting the London Plan include the Sustainable Design and Construction SPG, 2014 and The Control of Dust and Emissions During Construction and Demolition in London SPG, 2014;

- At local level, the adopted development plan for LBHF comprises the Core Strategy (2011); the Development Management Local Plan (2013); Planning Guidance Supplementary Planning Document (2013); and White City Opportunity Area Planning Framework (WCOAPF) (2013).

Given the current status of the recently published Draft Local Plan (2017), as a document seeking representations on policy options, the document has little strategic weight for the consideration of planning applications. As such, for the purposes of the updated EIA undertaken of the April 2017 Amended Proposed Development, the relevant policies of the CS DPD and DM DPD considered within the 2016 ES, remain appropriate.

As reported in the ES, the April 2017 Proposed Development has been informed and has evolved by reference to development plan policies set out in these documents, and other relevant guidance.

The ES also confirms that the April 2017 Proposed Development would make efficient use of previously developed land by delivering high density, mixed use development in a location that is highly accessible by public transport, and thus responds positively to policy at the national, regional and local levels which encourages sustainable development.

The Site is located within one of the London Plan’s allocated Opportunity Areas (White City Opportunity Area), which are defined as areas providing the capital’s major reserve of brownfield land with significant capacity to accommodate new housing, commercial and other development due to their strategic location and proximity to public transport links.

The WCOAPF identifies the potential for the existing Metropolitan Town Centre around Shepherd’s Bush/Westfield London Shopping Centre to be extended to the north to assist meeting the identified retail need (particularly for comparison goods floorspace). It goes on to highlight that this extension could accommodate additional retail, leisure and residential uses to create a high quality environment and public realm and creating better links to the north of the opportunity area.

Map 3.1 of the WCOAPF illustrates the land use strategy for the OA, with the Site designated for potential commercial, housing and metropolitan centre uses, firmly supporting mixed use development.
4. SITE DESCRIPTION

4.1 Site Location and Context

The location of the Site for the April 2017 Proposed Development is shown in Figure 4.1.

Figure 4.1: Site Location

The Site lies to the north of the existing Westfield London Shopping Centre in Shepherd’s Bush and is centred on Ordnance Survey (‘OS’) National Grid Reference 523500, 180500. To the east of the Site on the opposite side of the West Cross Route is the neighbouring Royal Borough of Kensington & Chelsea (RBKC).

More specifically, the Site is located within the WCOA which has been identified in regional and local policy as an area for large scale regeneration. Three intervention areas have been identified within the OA, namely Shepherd’s Bush Town Centre in the south, White City East in the north-east and White City West in the north-west. The Site is located within White City East, where capacity for 4,500 houses and 1,260 student homes have been identified.

The Site’s immediate surroundings are of mixed character; however, residential uses predominate around a core of commercial and industrial led uses, as shown in Figure 4.2.
Figure 4.2: Site Location and Surrounding Existing Land Uses

Further details of the surrounding land uses are provided in Table 4.1.

<table>
<thead>
<tr>
<th>Direction</th>
<th>Aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>White City Industrial Estate comprising a number of two storey industrial buildings currently in use for a range of industrial uses (B1, B2 and B8). This area also forms part of the proposed WCOA.</td>
</tr>
<tr>
<td></td>
<td>The Wood Lane Conservation Area (CA) designated in 1991 and centred on the BBC Television Centre, which is located beyond Wood Lane to the west of the Site. This building is designated as a Building of Merit (BOM) and is Grade II listed.</td>
</tr>
<tr>
<td></td>
<td>Wood Lane Underground Station served by the Hammersmith and City Line, with the White City Underground Station served by the Central line, further north.</td>
</tr>
<tr>
<td>East</td>
<td>Notting Hill and residential areas within the RBKC with a small area of commercial use adjacent to the West Cross Route.</td>
</tr>
<tr>
<td>South</td>
<td>Shepherd’s Bush residential areas, Shepherds Bush Common and Shepherds Bush CA to the south of the Westfield London Shopping Centre.</td>
</tr>
<tr>
<td></td>
<td>Shepherd’s Bush Underground Station (served by the Central Line) and London Overground Station (served by the West London Line and Southern train services) to the south of Westfield London Shopping Centre.</td>
</tr>
<tr>
<td>West</td>
<td>Shepherd’s Bush Market and Residential Areas.</td>
</tr>
<tr>
<td></td>
<td>The Wood Lane CA.</td>
</tr>
<tr>
<td></td>
<td>Shepherd’s Bush Market Underground Station served by the Hammersmith and City Line.</td>
</tr>
</tbody>
</table>
The Site's immediate boundaries are defined by the:

- Hammersmith and City railway line to the north and north-west, which runs elevated above-ground;
- London Overground and Southern services on the West London Line Railway and the West Cross Route (A3220) to the east;
- Westfield London Shopping Centre to the south; and
- Wood Lane (A219), the Dimco Building, Bus Stabling Area (White City Bus Station) and a substation serving London Underground to the west.

4.2 Site Description

4.2.1 Background

Since the 2014 Consent the physical condition of the Site has changed from that described below. As such the Site is currently under construction as part of the implementation of the extant Enabling Works Consent, the Basement Consent, the Road Alignment Consent and the Block A and Block K RMA Consents. As of the end of March 2017 the majority of the pre-commencement conditions have been discharged; the industrial units have been demolished; the basement excavation, piling and the majority of ground works have been completed; superstructure works associated with Blocks A and K are at an advanced stage; energy centre under construction and the Bus Layover Scheme has been completed.

This is a temporary and constantly evolving state and not representative of the conditions that have prevailed across the Site for many years and that still prevail across parts of the wider WCOA to the north. Accordingly, the baseline position and environmental sensitivities of the Site as presented in the section below, is of the pre-demolition and construction site conditions which is considered to remain materially valid and representative for the purpose of the April 2017 EIA.

4.2.2 Physical Site Condition

The redline boundary of the Outline Scheme covers an area of 7.64 ha and is irregular in form as shown in Figure 4.3.

The majority of the Restaurant Scheme and Office Scheme redline boundaries fall within the Outline Scheme redline boundary, the Restaurant Scheme covers an area of 0.17129 ha as shown in Figure 4, and the Office Scheme covers a roughly triangular area of 0.227082 ha as shown in Figure 5. A small area of the Restaurant and Office Schemes (284 m²) falls beyond to the south and covers the existing access to the White City Bus Station, but remains within the land ownership boundary of the Applicant. The combined area of 7.811 ha has been assessed within the April 2017 EIA.

The prevailing topography of the Site is flat with ground levels at approximately 7.0 - 8.0 m Ordnance Datum across the Site.

The Site is occupied by a series of low rise and low density light industrial units and a seven storey office building (Network House) that form part of the White City Industrial Park; a component part of the Westfield London Shopping Centre; as well as key infrastructure that provides the primary vehicular access to the Westfield London Shopping Centre and links Wood Lane to the West Cross Route.

In addition, there are two below ground London Underground Limited (LUL) Central Line rail tunnels traversing the Site. One tunnel runs in a north-west to south-east orientation and one runs adjacent to Wood Lane on the western boundary of the Site.
Figure 4.3: Outline Scheme Redline Boundary

Figure 4.4: Restaurant Scheme Redline Boundary
Figure 4.5: Office Scheme Redline Boundary

The Site predominately comprises buildings and hardstanding and supports very little natural or semi-natural habitat. Vegetation is generally limited to areas of amenity grassland and landscape planting close to road verges and outside some of the commercial units. Naturally occurring vegetation is limited to scattered scrub alongside the railway line in the east of the Site. A range of semi-mature and sapling trees (18 in total) are located throughout the Site.

The following access roads cross the Site:
- Ariel Way, running east-west in the south of the Site;
- Silver Road, running north-south in the east of the Site; and
- Relay Road, running north-south in the west of the Site.

These roads converge at a roundabout providing access to the existing Westfield London Shopping Centre car park and the West Cross Route (A3220).

Vehicular access to the Site is from the West Cross Route (A3220) and ‘H’-junction to the east and Wood Lane (A219), to the west.

The Site’s Public Transport Accessibility Level (PTAL) varies from 5 to 6 ('Very Good’ to 'Excellent’), with the following public transport facilities available to the Site:
- White City Bus Station, located immediately to the west of the Site within the Dimco Building;
- Wood Lane Underground Station (Hammersmith and City Line), immediately to the west of the Site;
- White City Underground Station (Central Line), 600 m to the north-west of the centre of the Site;
- Shepherd’s Bush Underground Station (Central Line) and Overground Station (served by London Overground and Southern services with rail services operating between Shepherd’s Bush and
Stratford, Clapham Junction, East Croydon and Milton Keynes Central), 700 m south-east of the centre of the Site;
- Shepherd’s Bush Bus Station, 700 m south of the centre of the Site; and
- Shepherd’s Bush Market Underground station (Circle Line and Hammersmith and City Lines), 700 m south-west of the centre of the Site.

4.3 Site Sensitivity

Ground conditions beneath the Site comprise a sandy clay / silt, this is further underlain, at greater depth, by river deposits which include a mixture of gravel, sand and clay.

The nearest identified surface watercourse to the Site is the River Thames, located approximately 2.1 km to the south-west of the Site at the nearest point, flowing in a broadly easterly direction. This stretch is within the tidal limits of the River Thames and is approximately 20 km upstream of the Thames Barrier. Groundwater from surrounding strata will be ‘drained’ by the river (and consequently groundwater flow is likely to be broadly in a southerly direction). The nearest surface water feature to the Site, is a pond/lake in Hammersmith Park, 200 m west of the Site.

The Site is situated within Environment Agency classified Flood Zone 1 (Low Probability). This zone comprises land assessed as having a less than 0.1% (1 in 1000) chance of flooding in any given year from rivers or the sea. Localised incidents of flooding just south of Holland Park (at Counters Creek) have however been reported.

No statutory designated sites are found within the boundaries of the Site. The closest Local Nature Reserve (LNR) to the Site is Wormwood Scrubs, approximately 1.1 km to the north-west of the Site. The LNR is important for its diversity of flora and fauna including woodland and scrub, birds and common lizard. There are no further statutory local, nationally or internationally designated sites within 2 km of the Site.

There are 27 Sites of Importance for Nature Conservation (SINCs) within a 2 km of radius of the Site. The majority of these SINCs are at some distance and have no obvious ecological links with the Site; however as identified within the Local Development Framework Proposals Map, the following two nature conservation areas within the Wood Lane CA within close proximity to the Site:
- Central Line West of White City SINC, a strip of landscaping approximately 70 m north of the Site, extending to West Cross route approximately 450 m north. This is a Site of Borough Grade I Importance for Nature Conservation and comprises an embankment that is well vegetated with scrub, occasional grassy clearings and patches of woodland; and
- Hammersmith Park SINC, a well-tended park with a variety of wildlife habitats including a number of trees, shrubs and a pond, situated approximately 150 m west of the Site. This is a Site of Borough Grade II Importance for Nature Conservation.

- The on-site habitats are considered to be of negligible to site-level ecological value.

The Site is not located within an Archaeological Priority Area.

With the exception of the BBC Television Centre and Dimco Building (Grade II Listed), located immediately adjacent to the Site boundary to the west, there are no other listed buildings within the immediate surrounds, apart from a listed Pillar Box at 59 Wood Lane.

The Wood Lane CA lies directly north and west of the Site. The CA was designated in 1991 and centred on the vacated BBC Television Centre, which is located beyond Wood Lane to the west of the Site. This building was designated a Building of Merit (BOM) by LBHF in 1991 and has since been designated a Grade II listed building. The CA aims to protect the landmark BBC building from any insensitive development nearby. The Wood Lane CA comprises three sub-areas including the
vacated BBC Television Centre and environs, White City Station and industrial area and White City Close.

The Shepherds Bush CA, designated in 1984, lies to the south of the Westfield London Shopping Centre.

There are three Registered Parks and Gardens of Special Historic Interest within 2 km of the Site. The closest is Ladbroke Estate (10.7 ha) 660 m east of the Site. Holland Park (22 ha) is located 800 m south-east, and Kensington Gardens (115 ha) is located approximately 2 km east of the Site.

With regard to identified strategically important views within London, the Site lies outside any protected or strategic views identified in the Mayor’s 2012 London View Management Framework.

The Site is located in Shepherd’s Bush Green ward. According to the Indices of Multiple Deprivation, the Site is located within an area classified amongst the top 20 % most deprived in the UK. There are pockets of deprivation classified within the top 10 % most deprived in the UK bordering the Site to the west and south.

Given the physical context of the Site, within a busy urban environment, the Site is subject to background noise from surrounding roads and the railway.

The Site is located within an area of poor air quality (referred to as an Air Quality Management Area (AQMA)) due to exceedances of annual limits that have been set for the borough.

Finally, the Site falls outside the designated London Congestion Charging Zone.

4.3.1 Receptors

The immediate surroundings of the Site including the buildings, roads, uses within buildings and open areas, together with the people who reside in, access and use them, would be most at risk of being exposed to likely effects as a result of the April 2017 Proposed Development.

Typically, occupants of residential properties, cultural and recreational facilities (such as children’s play equipment, seats and eating areas) and medical or health facilities are more sensitive than the occupants of commercial properties. Commercial occupants spend the majority of their time inside and they generally do not have responsibility for the maintenance and cleaning of the exterior, which is usually the responsibility of an off-site agent.

Adjacent land uses and properties that may be sensitive to potential environmental impacts on account of the April 2017 Proposed Development, include the following:

- existing occupants of the Site;
- existing community facilities in proximity of the Site;
- existing residential communities in proximity of the Site, and in particular those along Wood Lane and Macfarlane Road (these being the closest to the Site boundary);
- any potential buried heritage (archaeological) assets remaining on-site;
- above ground heritage assets including listed buildings and conservation areas such as the Grade II listed Dimco Building, the Grade II listed BBC Television Centre, the Wood Lane and the Shepherd’s Bush Conservation Areas;
- short, medium and long distance views to and from the Site from within LBHF and the neighbouring RBKC;
- local air quality;
- local public (bus, underground and rail) and private (highway network) transport infrastructure capacity;
- water resources, in particular ground water, surface water features and potable water supplies;
- pedestrians and road users of the surrounding roads and footpaths; and
- telecommunication and radio signal reception.

With the introduction of the April 2017 Proposed Development, the following new receptors would also be introduced:

- residential occupants of the April 2017 Proposed Development;
- commercial occupants of the April 2017 Proposed Development; and
- users of proposed retail and community facilities on-site.
5. **DESIGN EVOLUTION AND ALTERNATIVES**

The April 2016 Proposed Development aims to realise the comprehensive redevelopment of the Site in order to meet the wider development objectives set out within the WCOAPF. Specifically it seeks to develop a Masterplan framework for the long-term development of the Site that has potential to extend Shepherd’s Bush Metropolitan Town Centre to the north as the Hammersmith and City Line Viaduct through the provision of retail, high quality housing and leisure uses.

In accordance with EIA Regulations and guidance, the April 2017 ES includes a discussion of the alternative development options and various constraints and opportunities which influenced the ultimate design of the April 2017 Proposed Development.

5.1 **'Do Nothing' Alternative**

The Site is located within the ambitions of the WCOAPF, but it also benefits from extant outline planning consents granted in 2012, 2014, 2015 and 2017 as well as a resolution to grant for the detailed Restaurant Scheme. As such, in the event that the April 2017 Proposed Development is not approved, it is considered likely that the Applicant would implement the component parts of the 2012 Consent (Blocks E and F); as well as the March 2017 Consented Development (including the Bus Layover Scheme, the Road Alignment Scheme, the Block A and the Block K RMA Schemes).

5.2 **Site and Land Use Alternatives**

No alternative sites have been considered by the Applicant for the following reasons:

- The Site (other than highways land) is owned by the Applicant as opposed to alternative sites which are the property of a third party;
- The Applicant is seeking to optimise the Site’s potential in line with NPPF;
- The Site is located within the WCOA which envisages that it be developed for retail, commercial, leisure, community and residential land uses; and
- The Applicant has already been granted planning consents for similar schemes at the Site.

The Site provides not only the size but also the connectivity to existing developments that are unavailable throughout the ward and borough. Therefore it is considered that there is no alternative that would deliver on the aspirations of the WCOAPF and that of the Applicant.

The proposed land uses were consistent with those described in the WCOAPF and accordingly, no other alternative land uses were considered.

5.2.1 **Site Layout and Built Form Alternatives**

The April 2017 Proposed Development is as a result of proposed amendments to the March 2017 Consented Development, which itself was a result of amendments to the S96A Amended 2015 Consented Development. Prior to this, the S96A Amended 2015 Consented Development was subject to minor material amendments to the 2014 Consented Development. Therefore it is appropriate to provide a brief summary of the alternatives considered for the 2014, S96A Amended 2015, and March 2017 Consented Developments.

**2014 Consented Development**

A range of alternative designs were considered through the course of the design evolution process of the 2014 Consented Proposed Development, building on the basis of the 2012 Consented Development. The alternatives responded to the Applicant’s brief and consultation responses from the LBHF’s planning department, the Design Review Panel, the GLA and stakeholders.
In addition, the iterative nature of the EIA assisted in the adoption of key considerations (wind, daylight, sunlight, overshadowing, noise, air quality), the identification of potential environmental effects and consequently the further refinement of masterplan alternatives, as shown in Figure 5.1.

November 2011 ('2012 Consented Scheme') August 2013

September 2013 November 2013

**Figure 5.1: Pre-2014 Consent Site Layout and Built Form Alternatives**

The following key changes were made to the 2012 Consent and progressively refined through the design review process:

- Relocation of the residential units from the sides and top of Plot A and redistribution across the Site with corresponding increase in building heights and the introduction of a new plot (K); and
- Relocation of the White City Bus Station from around the Dimco Buildings to an alternative location on Ariel Way, along the eastern boundary where it meets the H-junction connecting to the West Cross Route, whilst the bus layover was relocated to the basement of Plot C.

However the height increases, especially along the western Site boundary, and Bus Station provoked considerable discussion among the stakeholders, who expressed concern over potential townscape and visual impacts, and relationships with the Dimco Building to the immediate west and with the listed former BBC television centre to the north-west.
These concerns were addressed through the design review process, with:

- significant reductions in building height made along the western Site boundary;
- increases in building heights and massing made to Plots K and C;
- refinements made to internal layouts to maximise the levels of sunlight and daylight entering residential units; and
- relocation proposals for the Bus Station withdrawn to explore further in consultation with London Buses.

The Preferred Alternative for the 2014 Consented Development responded to visual and townscape concerns raised by stakeholders and ensures appropriate noise, air quality and microclimate conditions are provided in a highly accessible location to deliver an energy efficient and sustainable development.

Furthermore, it delivered the following:

- Improved permeability and accessibility through the Site;
- Integration of the Site with the wider urban context with improved public realm, physical and visual connectivity and animated ground floor uses;
- Biodiversity enhancements within the landscaping proposals; and
- Well-defined zones for residential housing, leisure uses and commercial uses that creates the basis for a successful mixed-use development.

### 2015 Consented Development

Following the 2014 Consent, on-going detailed design work resulted in improvements to the 2014 Consented Development. The changes sought to respond to requests by commercial tenants and market demand, through improving the architectural built form in terms of layout, patron circulation and servicing arrangements.

The resulting Amended Development represented an extension of the pre-2014 Consent design evolution process and built upon the 2014 Consented Development. Due to the minor nature of the amendments, no divergent site layout and built form alternatives were considered.

### March 2017 Consented Development

Following the 2015 Consented Development, the need to relocate the energy centre stack from Block C to Block K was identified to ensure that the development programme of Block A and Block K could be achieved and to avoid the need for a temporary stack solution.

Simultaneously, as part of the ongoing detailed design associated with Block A and the wider public realm, the Applicant explored opportunities to create high quality and animated public spaces and to further activate the western façade of Block A. The Applicant also consulted with the LBHF to explore opportunities to deliver increased affordable housing at Block K early on in the development programme.

This led to amongst others, the rationalisation of internal floorspace within Block A; the introduction of the Restaurant Scheme along the western frontage of Block A, opposite Block D; and the addition of two floors to Block K.

The resulting amendments represented a further extension of the pre-2015 Consent design evolution process and built upon the S96A Amended 2015 Consented Development. Due to the minor scale and nature of the proposed amendments, no divergent site layout and built form alternatives were therefore considered for the Outline Scheme. In respect of the Restaurant Scheme, alternative
layout options were constrained due to limited space available between Block A, Block D and Ariel Way.

The views of the LBHF on the emerging Restaurant Scheme design were sought through an extensive consultation process with weekly workshops held over June, July and August 2016. During the course of these consultations, comments were raised in respect of the setting and visibility of the Dimco building; the height and massing of the Restaurant Scheme relative to Block D, the activation of the facades, as well as the choice of façade materials and design quality.

In response to these comments, a number of amendments were made to the massing and material palette of the emerging proposals and the facade was graded to make clear distinction between the various floor levels.

The resulting preferred option for the Restaurant Scheme as shown in Figure 5.2, acknowledged the citing of the Dimco building by enhancing pedestrian flow across the Site from White City Green, Relay Square and to Dimco building.

Figure 5.2: Preferred Option for Restaurant Scheme

The Restaurant Scheme improves the framing of Relay Square and would encourage circulation through the square. Ground floor restaurants would spill out into the square to provide animation and activation of the public realm.

The massing of the Restaurant Scheme forms a continuation and development of the existing built line of Block A to help create a hierarchy and definition of space. The new building addresses the consented anchor store and frames the entrance to the extended Shopping Centre of Block A. It also frames the Dimco building and draws pedestrians across the public space to circulate across and into the Dimco building.

April 2017 Proposed Development

Following the March 2017 Consented Development, further design refinements have been made associated with the retail block on Plot A (Block A) and the Restaurant Scheme. The Applicant has explored opportunities to diversify the land use offering of the Restaurant Scheme. This has led to the introduction of the Office Scheme.
The layout and configuration of the Office Scheme was constrained due to the location above the Restaurant Scheme, with limited space available. As such, alternative options were not considered.

The design evolution of the Office Scheme has occurred through a process of testing and evaluation, comprising the following stages:

- The Restaurant Block volume was first extruded up to the appropriate number of levels;
- Set-backs were introduced in response to the terrace height of John Lewis and to DIMCO gable heights. These set-backs would provide roof terraces to the adjacent office space, reducing obstructions to daylight and sunlight, and on views of the Dimco building;
- The façade and materiality has been refined to provide a more open appearance to the topmost office level; and
- An additional set-back and terrace was introduced to enhance the provision of the additional event space at roof level as part of the Office Scheme.

The views of the LBHF were sought through discussions and workshops with the following groups to inform them about the Office Scheme and to receive feedback: LBHF officers; LBHF members - Leader Stephen Cowan and Cllr Andrew Jones, the wider local community and local residents.

In terms of broader consultation, briefings have been conducted with representatives of all key groups as set out above and a public exhibition has also been undertaken.

In addition, the views of the general public were sought at a public exhibition held in on the Office Scheme proposals at the existing Westfield London Shopping Centre from 3 pm - 7 pm, 30 March 2017; and from 3 pm – 7 pm, 31 March 2017. Further details on how public comments informed the Office Scheme proposals are provided in the Design and Access Statement, as well as in the Statement of Community Engagement which accompanies the Office Scheme Planning Application.

The resulting April 2017 Proposed Development as shown in Figure 5.3, provides additional commercial uses as the result of three additional storeys comprising office floorspace and an events space at roof level. This provides additional uses to the Restaurant Scheme, diversifying the land use offering and providing additional employment opportunities.
Figure 5.3: Preferred Option for Office Scheme
6. APRIL 2017 PROPOSED DEVELOPMENT

The April 2017 Proposed Development comprises an Outline Scheme, Restaurant Scheme and Office Scheme.

6.1 Proposed Land Uses

The Outline Scheme redevelopment proposals comprise the demolition of all existing buildings and structures, and the construction of four development plots (A, C, D and K) on which development blocks would be located, and Plot P representing a plinth level that would be constructed over the public highway to amongst others, enable continued access to the Westfield London Shopping Centre and surrounding road network. A basement would underlay Plot A, C and K.

The public realm network includes the provision, in the northern part of the Site, of a section of the White City Green; a new public park as envisaged in the WCOAPF.

The principal means of vehicular access would be from the A3220 via the existing H-junction off West Cross Route and from Wood Lane via Ariel Way.

For the Outline Scheme, land uses are envisaged to be arranged across the Site and have therefore not been allocated on a plot-by-plot basis at this stage. However, it is anticipated that Plots A would predominantly comprise retail uses and would be delivered as an extension of the existing Westfield London Shopping Centre, with Plots D and K predominantly comprising residential uses.

In order to facilitate the link with the existing Westfield Shopping Centre, it would be necessary to demolish existing retail floorspace in the shopping Centre.

The April 2017 Proposed Development would deliver 1,347 new residential units, of which 163 units are proposed to be affordable housing, 95 social rented and 67 shared ownership. This equates to a 12% affordable housing contribution.

The following elements of the Outline Scheme are 'fixed' for the Site as a whole:

- site area;
- maximum land use classes and quantum of development;
- siting of development plots and blocks;
- maximum basement extent and depth based on the existing and proposed site levels;
- scale and massing (height) of blocks;
- extent of landscaping and public realm; and
- access and circulation.

For the Outline Scheme, a set of Parameter Plans and Schedules (covering the fixed elements); a Parameters Report (in which the development commitments are contained); and a Design Code (in which the key controlling design commitments are contained) have been used as the basis of the EIA. Together, these define the overall quantum and nature of development and provide a controlling set of design codes and principles in relation to each plot and block, as well as routes and spaces, street widths, residential unit numbers and mix, within which the reserved matters would be brought forward. Reserved matters applications would accord with the parameters.

The Restaurant Scheme redevelopment proposals comprise the construction of a 4 storey (ground + 3 storey) building with restaurant and retail uses. The Restaurant Scheme frames Relay Square and ground floor restaurant spill out to activate the edges of the public realm.
The Full Application for the Restaurant Scheme was made in detail and has a resolution to grant in March 2017. Detailed planning applications and schedules have been used as the basis of the EIA.

The Office Scheme proposals comprise the construction of a three storey office space, as an extension on top of the Restaurant Scheme. In addition, the Office Scheme also comprises an events space proposed at roof level.

For the Office Scheme, detailed planning applications and schedules have been used as the basis of the EIA.

The quantum of each land use within the April 2017 Proposed Development is set out in Table 6.1.

<table>
<thead>
<tr>
<th>Use Class</th>
<th>Use</th>
<th>Outline Scheme (Maximum Quantum)</th>
<th>Restaurant Scheme</th>
<th>Office Scheme</th>
<th>Total GEA (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 use</td>
<td>Retail</td>
<td>79,710</td>
<td>3,783.4</td>
<td>0</td>
<td>83,493.4</td>
</tr>
<tr>
<td>A3–A5 uses</td>
<td>Retail (restaurants, bars, cafes)</td>
<td>3,462</td>
<td>3,057.5</td>
<td>0</td>
<td>6,519.5</td>
</tr>
<tr>
<td>B1 use</td>
<td>Offices</td>
<td>0</td>
<td>0</td>
<td>4,995.1</td>
<td>4,995.1</td>
</tr>
<tr>
<td>C3 use</td>
<td>Residential (1,347 units)</td>
<td>127,216</td>
<td>0</td>
<td>0</td>
<td>127,216</td>
</tr>
<tr>
<td>D1 use</td>
<td>Community/Health/Cultural</td>
<td>1,600</td>
<td>0</td>
<td>0</td>
<td>1,600</td>
</tr>
<tr>
<td>D2 use</td>
<td>Leisure</td>
<td>3,557.6</td>
<td>0</td>
<td>0</td>
<td>3,557.6</td>
</tr>
<tr>
<td>Sui Generis</td>
<td>Event Space</td>
<td>0</td>
<td>0</td>
<td>276.4</td>
<td>276.4</td>
</tr>
</tbody>
</table>

6.2 Proposed Development Layout

As shown in Figure 6.1, the Outline Scheme would comprise four development plots, three of which (A, C and K) would lie on a raised plinth level together with a significant proportion of the proposed public spaces.

The plinth would span the public highways crossing the Site, allowing a pedestrian connection to be made with the lowest level of the existing Westfield London Shopping Centre to the south and with the existing pedestrian crossing of the West Cross Route to the south-east of the Site. The plinth would be approximately two storeys in height. Plot D would be located at ground level.

The area below the plinth would comprise the retained public highway connections across the Site and to Westfield London Shopping Centre, a site-wide Energy Centre, a new retail service bay, basement car park, together with cycle parking and ancillary uses.

The blocks within the development plots would be arranged as either perimeter blocks with internal courtyard features or a combination of linear or square blocks.

The central part of the Site would be occupied by Plot A, comprising primarily of an anchor department store at the northern end of the Plot and retail mall connecting to the existing Westfield London Shopping Centre at the southern end. The upper floors of the latter would match the heights of the existing shopping centre; however its western elevation would be set back to define and enhance the setting of the Dimco Building and would have openings for proposed roads. A multi-
storey car park would also be situated on top of the retail block, and recessed further with an access ramp to the east of the Plot.

The eastern part of the Site would contain Plot C and Plot K, the majority of which would comprise residential uses. Blocks within Plot C would be arranged around the perimeter to form an internal communal amenity courtyard space, whilst the block at Plot K would link to Plot A.

The western part of the Site would contain Plot D, triangular in shape and comprising residential uses with communal amenity space at lower roof level. As shown in Figure 6.2, the Restaurant Scheme forms a continuation and development of the existing built line of the block at Plot A to help create a hierarchy and definition of space, and as shown in Figure 6.3, the Office Scheme would be located on top of the Restaurant Scheme. The new building would address the anchor store at Plot A and would frame the entrance to Block A as well as Relay Square.
Figure 6.1: Outline Scheme Development Plots: Plinth Parameter Plan
Figure 6.2: Restaurant Scheme Ground Level Floor Plan
Figure 6.3: Office Scheme Level One Plan (Level 60)
Figure 6.4 presents an aerial view of the April 2017 Proposed Development’s layout.

![Figure 6.4: April 2017 Proposed Development Aerial 3D Massing](image)

### 6.2.1 Block Height and Massing

The height and mass of the Outline blocks within each plot have been defined by building line, maximum building height and minimum elevational height parameters.

In terms of the maximum building heights for the Outline Scheme:

- Plot A would be up to 6 storeys high generally and would increase in height by 16.6 m at the southern extent where it would link to the existing Westfield London Shopping Centre.
- Plot C would comprise perimeter blocks arranged around a central courtyard space:
  - The northern and western blocks would be up to 11 storeys high;
  - The eastern blocks would in light of the context of the West Cross Route be up to 11-storeys high with a series of alternating taller elements, including two 12-storey elements; one 14-storey element; and two 23-storey elements at the north-eastern and south-eastern corners of Plot C.
  - The southern block would be up to 8 storeys high.
- Plot D would comprise a stepped triangular block up to 10 and 12 storeys high, with a two storey element facing to the south.
- Plot K would comprise a part 10, part 16 storey block.

Figure 6.5 shows the maximum building height parameters for the Outline Scheme.
Figure 6.5: Outline Scheme Maximum Building Heights Parameter Plan
The building height of the Restaurant Scheme is 4 storeys. The Office Scheme introduces additional massing on top of the Restaurant Scheme, through the introduction of three storeys of office use and a rooftop events space.

### 6.2.2 Block Appearance

Whilst appearance is a reserved matter for the Outline Scheme, the intended design principles of future blocks are described within Design Codes. Key principles include:

- For the most part, the buildings would be designed to be light in colour, employing materials with a light reflectance value of 50% or greater;
- The majority of the lower built volume would comprise the following materials; clay brick, natural stone, reconstituted stone, glass reinforced concrete or plaster. Upper parts of the built volume would be less restricted;
- Balconies would be either recessed, semi recessed or projecting but, for most of the buildings, cannot be joined together to form large groupings of balconies; and
- Openings for windows, doors and ventilation would be expected to have vertical sides.

The Restaurant Scheme appears as a distinct and separate intervention to Block A in response to consultations. The vertical scale of the building will be graded into three elements and articulated through the provision of a clear base with expressed columns uniting ground and first floor levels; a series of horizontal string courses at second and third floors; and a parapet extended beyond the roof level to match the break created by the main entrance to Block A.

The building materials will comprise stone, vertically expressed GRC masonry panels, glazing, aluminium.

The Restaurant Scheme has been extruded up by three additional storeys to account for the Office Scheme. Set backs have been introduced and these would provide roof terraces for the office space. The façade provides a more open appearance to the topmost office level.

The Office Scheme building facade would comprise natural anodised aluminium projecting fins, giving unity to the facade and reinforcing the connection to the Restaurant Scheme. On lower areas of glazing, a ceramic frit treatment is proposed for privacy.

### 6.2.3 Landscaping and Public Realm

The Outline Scheme would introduce a number of new north-south and east-west routes to provide the essential linkages between Shepherd’s Bush Metropolitan Town Centre to the south and the remainder of the WCOA to the north and west. These routes would substantially increase local permeability and accessibility and would furthermore be fully accessible for pedestrians, cyclists and servicing where appropriate. The routes can be summarised as follows:

- **North-South Routes**
  - Relay Square at ground level, between Plots A and D, which would connect to the viaduct and the Dimco building;
  - Silver Street at plinth level, between Plots A and C, which would connect the viaduct and development plots along the eastern Site boundary; and
  - Marathon Way at ground level along the eastern Site boundary which would connect the viaduct with the Eastern Access Road.
- **East-West Routes**
- Ariel Way/Ariel Walk at ground and plinth level, bisecting Plot A and between Plots A and C. It would connect Wood Lane with Ariel Square and at its western extent would be covered by Block A to form an atrium space referred to as the ‘Public Room’; and
- White City Green at ground level immediately north of Plots A and C.

In addition, as shown in Figure 6.6, three types of amenity space would be provided on-site:

- Public amenity space (which covers all areas of the Site accessible to the public);
- Private amenity space, excluding gardens (adjacent to all ground floor units); and
- Shared private amenity space (for residents of the April 2017 Proposed Development).

As the Restaurant Scheme fits within the overall masterplan site, no specific landscape proposals accompanied the Full Application.

Consistent with the approach taken for the Restaurant Scheme, no public realm or landscaping proposals accompany the Office Scheme application; however, set-backs were introduced in response to the terrace height of John Lewis and to DIMCO gable heights. These set-backs would provide roof terraces to the adjacent office space, and reduce the impact on views of the DIMCO building as well as further framing Relay Square.
Figure 6.6: Outline Scheme - Landscaping Parameter Plan
The Outline Scheme would include high quality hard and soft landscaping to all areas of the public realm. In addition, design principles for each amenity space have been included in the Design Code that accompanies the Application. A summary of these principles for the key amenity spaces is set out below:

- **Relay Square** – a hard landscaped space complimenting the activities associated with the surrounding ground floor uses. Designed to be a flexible space, capable of accommodating a range of events and community activities;

- **Ariel Square** – a small pocket park providing a substantial amount of neighbourhood and youth playspace with formal and informal equipment catering for several age groups;

- **Silver Street** – a pedestrianised zone which will contain hard landscaping together with a series of green spaces providing play for young children and also planting and lawn areas with seating areas for older children and adults;

- **White City Green Edge** – a linear green space which would form the northern boundary to the Site adjacent to the railway viaduct. The space would be accessible to the local residents and surrounding neighbourhood and would be broken down into a series of spaces which would accommodate a range of activities where equipped and natural elements of play can be provided to form a ‘play trail’ along its length. The park would accommodate a range of spaces with a variety of uses; and

- **Marathon Way** – is proposed along the eastern Site boundary and would comprise a broad strip of soft landscaping, as well as defensible landscaped space for residential units. A boundary wall would deflect noise from both rail and road with the inclusion of shrubs, climbers and trees to soften its appearance.

In accordance with London Plan requirements, the April 2017 Proposed Development would provide publicly accessible open space to meet the benchmark of 10 m² of playable space per child.

Nineteen low and poor quality trees on-site would be replaced with at least 120 trees consisting of a variety of native and landscape species to be planted on-site. In addition, the roofs of the blocks would be designed to provide 5,893 m² of green and brown roofs.

The proposed tree planting and provision of green and brown roofs would benefit a range of ecological and nature conservation features, in particular invertebrates and ground nesting birds.

### 6.2.4 Access, Car Parking and Cycle Arrangements

As part of the Outline Scheme, all existing vehicular transport movements across the Site would be retained or redesigned within the April 2017 Proposed Development. This includes access arrangements to and from the White City Bus Station, access to and from Westfield London Shopping Centre and across the Site between Wood Lane and the West Cross Route.

Access to the April 2017 Proposed Development would be via a revised layout of Ariel Way, with the existing roundabout replaced with a number of priority junctions, a mini-roundabout at the eastern end of Ariel Way, and a new signalised junction on Eastern Access Road. Access to White City Bus Station would be via a priority junction on Ariel Way. These modifications would not affect the operation of the White City Bus Station.

Step-free pedestrian access would be provided across the Site. Buildings would be designed to meet current accessibility requirements including some non-statutory provisions. All residential buildings would meet the relevant Lifetime Homes requirements. In addition, 10% of all dwellings would meet requirements for Wheelchair Housing standards, including car parking.

Car parking and cycle storage provision for the April 2017 Proposed Development are outlined in Table 6.2.
### Table 6.2: Car Parking and Cycle Storage Provision

<table>
<thead>
<tr>
<th>Use</th>
<th>Total Car Parking Spaces</th>
<th>Disabled</th>
<th>Electric Vehicle</th>
<th>Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td>608</td>
<td>61</td>
<td>122</td>
<td>122</td>
</tr>
<tr>
<td>Non-residential</td>
<td>1,128</td>
<td>40</td>
<td>113</td>
<td>113</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1,736</td>
<td>101</td>
<td>235</td>
<td>235</td>
</tr>
</tbody>
</table>

In addition, five car club spaces would be provided. The car parking spaces would be located in three areas:

- A new retail / leisure car park in the basement of below Plot A - 820 spaces;
- A new multi-storey rooftop car park on Plot A - 508 spaces; and
- A residential car park in the basement below Plot C - 608 spaces.

The Applicant would develop a car parking management strategy in conjunction with the LBHF, which would ensure that the number of roof top spaces in operation (508) are netted off by the equivalent number of spaces in the existing Westfield London Shopping Centre car park. Consequently there would be no more than 820 additional spaces in operation at any time across the Site.

The Restaurant Scheme's and Office Scheme's access would be from the proposed access points of the Outline Scheme.

#### 6.2.5 Basement

The proposed basement of the Outline Scheme is envisaged to be one to two storeys deep. Accordingly the depth would vary from approximately 5 m below grade to 10 m below grade.

Access to the basement would be from Ariel Way and the Eastern Access Road. The following would be provided within the basement:

- Car, motorcycle and cycle parking spaces;
- Energy Centre; and
- Service Yards for Retail Units.

The Restaurant Scheme and Office Scheme would not introduce any basement floorspace.

#### 6.3 Servicing and Waste Management

The April 2017 Proposed Development’s Delivery and Service Management Plan draws upon the Applicant’s extensive experience gained at the existing Westfield London Shopping Centre. As there is some spare servicing capacity within the existing centre to serve some of the new retail, it is proposed that the new retail elements in Plot A would be served from two of the existing three service yards.

A combination of the existing and additional service yards would provide an appropriate quantum of delivery bays to accommodate the deliveries associated with the retail and office elements of the April 2017 Proposed Development.

In terms of servicing, the Restaurant Scheme and Office Scheme would rely on all of the arrangements already in place for the Outline Scheme of the April 2017 Proposed Development.

#### 6.4 Resource Use, Emissions, Residues and Sustainability

Precise details of materials to be used in the construction are not yet known and would be determined at the detailed design stage, but the April 2017 Proposed Development is anticipated
to be constructed of steel columns, concrete central cores or braced steel bays, with composite metal decked suspended floor slab construction and piled foundations. Possible façade materials include clay brick, natural stone, reconstituted stone, glass reinforced concrete or plaster.

Energy used in the extraction, fabrication and transportation of the building’s major components during demolition and construction would be assessed using the BRE’s online Green guide specification. Furthermore, tendering contractors would be required not to use insulation materials containing substances that contribute to ozone depletion or have high Global Warming Potential, as well as not to use unsustainable materials such as peat or natural weathered limestone within the April 2017 Proposed Development and to source materials locally where possible, including using recycled aggregates.

The Energy Strategy for the April 2017 Proposed Development proposes to reduce the energy consumption and carbon emissions associated with the April 2017 Proposed Development by improving the thermal performance of the structure, as well as, through the introduction of energy efficiency measures such as: energy efficient lighting and control of lighting; energy efficient display lighting; zonal thermal controls; and heat recovery in ventilation systems. Additionally, it is proposed to generate electricity on-site through the installation of Photo-voltaics (PV) panels with an array area of 1,500 m².

Detailed information of the measures to be implemented in order to help minimise the water demand for the April 2017 Proposed Development are not available at this stage; however, the Applicant has committed to achieving a water consumption rate of 105 litres per person per day and provide rain water collection for watering the communal and private planting areas.

The main air quality impacts once the April 2017 Proposed Development has been completed are anticipated to arise due to the increase in vehicle movements along the adjacent road network and from emissions associated with CHP units in the Energy Centre.

A Flood Risk Assessment of the August 2016 Proposed Development was undertaken and remains valid for the April 2017 Proposed Development, the results of which were used to inform the development proposals and ensure measures for managing surface water runoff to achieve the Environment Agency and planning policy in the form of the Mayor’s essential standard will be met and were integrated into the design.

The results of the Flood Risk Assessment concluded that the use of environmentally sensitive surface water management features within the April 2017 Proposed Development is constrained by the Site’s underlying geology, Site layout and adjacent infrastructure.

However, the development proposals would provide substantial landscaped areas, underground water storage tanks and oversized pipes to reduce the current surface water runoff rates, reducing the risk of existing drains and the Counters Creek flooding.

To reduce demolition and construction waste, where possible demolition wastes (such as bricks, mortar and concrete) would be crushed and reused on-site as a piling matt or recycled off-site, along with metal. Additionally, the Applicant has committed to recycle 50% of non-hazardous construction waste.


It achieves the majority of the Mayor’s sustainability priorities and demonstrates good practice in respect of the following:

- Reduction of carbon emissions through the on-site generation of renewable energy;
- No loss of biodiversity and access to nature;
- Reduction in areas of deficiency in access to nature; and
• Provision of recycling facilities on site which are as easy to access as waste facilities.

The April 2017 Proposed Development would also deliver a net gain in biodiversity and access to nature. Practical examples of the scheme’s sustainability in addition to those described elsewhere in this chapter with regards energy, biodiversity enhancements and water use include:

• Construction materials would be selected following the Building Research Establishment (BRE) ‘Green Guide to Specification’ and the LBHF Planning Guidance SPD; and

• Recyclable materials would be used wherever possible and deleterious and hazardous materials not considered at all.

To assess the sustainability of the emerging designs, the April 2017 Proposed Development was assessed against the published and widely-used BRE benchmarks of the BREEAM New Construction (applicable for assessing mixed-use non-residential developments) and the Code for Sustainable Homes (applicable for assessing residential developments). The pre-assessment results show that the April 2017 Proposed Development is capable of obtaining a BREEAM ‘Very Good’ score and a Code for Sustainable Homes Level 4 rating.

6.5 Demolition and Construction Environmental Management

Demolition and construction commenced on-site in Q4 of 2014 following the grant of the Enabling Works Consent and the Basement Consent.

The April 2017 Proposed Development’s most up-to-date development programme indicates that development works are likely to be undertaken over a 12 year period, with completion targeted for Q1 2026.

The April 2017 Proposed Development would be brought forward over several phases. It is anticipated that each construction phase of the April 2017 Proposed Development would be occupied once complete.

Demolition and construction works have the potential to cause temporary environmental impacts, from noise, emissions to air, traffic movements, wastes and surface water runoff.

A Construction Environmental Management Plan (CEMP) was secured by means of an appropriately worded planning condition as part of the Enabling Works Consent (planning condition 19). The CEMP framework presented in ES Volume 2, Chapter 5: Construction Environmental Management of the 2013 ES formed the basis of the CEMP and other documents required under the Enabling Works Consent planning conditions (e.g. Construction Logistics Plan (planning condition 23), Demolition Method Statement (planning condition 21), etc.).

As such the CEMP defines relevant policies, legislative requirements, thresholds/limits, procedures, roles and responsibilities for the implementation of environmental and management controls throughout the duration of the works. It includes a Site Waste Management Plan (SWMP) and was prepared in accordance with standard best practice, regulatory requirements, as well as LBHF’s Planning Guidance SPD.

It is expected that the updated framework presented in this ES would continue to inform ongoing (and outstanding) demolition and construction works at the Site.
7. **SUMMARY OF POTENTIAL IMPACTS AND LIKELY EFFECTS**

This ES presents an up-to-date assessment of the April 2017 Proposed Development.

**7.1 Socio Economics**

The Site of the April 2017 Proposed Development is located to the north of the existing Westfield London Shopping Centre in Shepherd's Bush Green Ward, LBHF. This Site is located within the WCOA which has a target of delivering 6,000 new homes and 10,000 jobs.

The Site is occupied by an industrial estate accommodating 410 jobs and by a component part of the existing London Westfield Shopping Centre accommodating 659 jobs.

The Site is located within an area classified amongst the top 20% most deprived in the UK. There are also pockets of deprivation classified within the top 10% most deprived in the UK bordering the Site to the west and south. Both LBHF and RBKC have significant pockets of deprivation in the north.

The April 2017 Proposed Development comprises a retail-led mixed-use development which includes the extension of the Westfield London Shopping Centre. It would deliver new homes, additional retail, office, leisure, and community floorspace and high quality public realm and open space.

The construction of the April 2017 Proposed Development is estimated to generate in the region of 910 full time construction jobs. The effect of construction related employment would be Negligible at the regional level. The Applicant has previous experience in engaging with employment and training initiatives to maximise the benefit of construction employment opportunities locally.

Additional spending as a result of the construction workforce would give rise to Minor Beneficial effects at a local level. There would be temporary Minor Adverse effects due to the loss of retail jobs within the Westfield London Shopping Centre.

Upon completion, the April 2017 Proposed Development would deliver 1,347 new homes that would help to meet the LBHF housing targets as set out in the London Plan and in the objectives of the WCOAPF. Therefore, the direct effect of the April 2017 Proposed Development in terms of its contribution to meeting housing targets is considered to be of permanent, Major Beneficial significance at the local and borough level and Minor Beneficial significance at the regional level.

It is estimated that the residential units would accommodate around 2,285 people, of which 31 would be of primary school age and 13 would be of secondary school age. These residents would result in an increased demand for education and health facilities.

There are 15 primary schools within 1 km of the Site, with a total of 381 surplus places within these schools. Capacity at reception level is low, and therefore it is assessed that mitigation would be required to contribute to the expansion of existing primary schools. This would be delivered through Section 106 contributions or the Development Infrastructure Funding (DIF) tariff, such that the residual effect on primary schools would be Negligible. There is sufficient surplus capacity available to meet the additional demand for secondary school places. The residual effect on secondary school provision would be Negligible.

There is limited existing capacity within local healthcare facilities. Additional capacity is planned for the WCOA which will be funded through the DIF tariff. The April 2017 Proposed Development may be required to mitigate additional demand through financial contributions towards expansion of provision locally. The residual effect on healthcare provision would be Negligible.
It is expected that the completed development would create up to 3,171 net additional jobs. The residual effect on employment generation would be permanent Major Beneficial at the local and borough level and Minor Beneficial at the regional level.

The collective indirect effect of the spending expected to be generated by the new residents and employees would be permanent Moderate Beneficial at the local level and Minor Beneficial at the borough level. This effect is not considered to be significant.

In total, 184 children would be introduced to the Site with a corresponding demand for 1,840 m² of playable space.

The April 2017 Proposed Development includes the provision of amenity and open space that includes communal and publically accessible open space. This also includes the provision of a range of playable spaces suitable for various age groups. The residual effect on open space and playspace would be permanent Minor Beneficial at the local level.

The conclusions of the April 2017 Socio-Economic assessment remain unchanged from that previously concluded in the 2016 ES.

7.2 Archaeology

The Site contains no nationally designated (protected) heritage assets, such as scheduled monuments. In addition, the Site does not lie within an Archaeological Priority Area as defined by the LBHF.

In all likelihood the area of the Site was heavily wooded throughout the prehistoric and Roman periods until it was brought into agriculture, probably in the medieval period. Little evidence of activity during these periods has been recorded close to the Site, although this may be due to the low level of past archaeological investigation in the vicinity.

In the post-medieval period the Site was located in open fields to the north of settlement at Shepherd's Bush. Areas of the Site were developed from at least the mid-18th century, probably earlier, particularly at the west of the Site, and later 19th century mapping suggests parts of the Site were quarried. The Site was extensively developed from the early 20th century and was generally used for industry, transport infrastructure and waste disposal.

Archaeological remains are likely to be fragmentary within the Site due to past land use, in particular brick-earth extraction, and development from the late 19th onwards which will have caused widespread and localised truncation.

The main archaeological potential is for building and evidence of activity of later post-medieval date, which is considered to be of low to medium significance.

The potential impact of the April 2017 Proposed Development would be from substructure works, including the construction of the extensive basement area, piling and ground works. Such works have the potential to remove any surviving archaeological deposits on the Site.

Archaeological evaluation works undertaken in the north-eastern and western extents of the Site to discharge planning condition 10 attached to the Enabling Works indicate that the Site was largely affected by quarrying and development from the 19th century onwards.

No heritage assets of very high significance are anticipated that might merit permanent preservation on the Site. The likely environmental effects of the April 2017 Proposed Development on any assets would be successfully mitigated by a suitable programme of archaeological investigation as part of the planning condition to form preservation by record and therefore would have a Negligible effect. In addition, a watching brief would be maintained during geotechnical and site investigation works.

The conclusions of the April 2017 Archaeology assessment remain unchanged from that previously concluded in the 2016 ES.
7.3 **Townscape, Heritage and Visual Impact**

The Site offers little that is positive to the local townscape and views within the wider area. The architectural quality of the buildings on the Site is low and much of the Site is occupied by an unsightly network of roads. In urban design terms, a lack of built form leads to weak definition of streets within and around the Site, and the network of roads impedes pedestrian movement across the Site.

For the purposes of the assessment, the surrounding townscape was divided into townscape character areas which have readily identifiable characteristics, such as topography, natural characteristics, patterns of land use, urban grain and building form, in common. The Site was identified as being located in townscape character area A, 'Westfield London, BBC TV Centre, BBC Media Village and environs', the character of which is dominated by modern buildings, warehouses, and light industrial/commercial sheds of poor architectural quality.

Built heritage assets, including CAs, listed buildings, and buildings of merit within CAs, were identified within the townscape study area around the Site. The potential for the setting of each asset to be affected to a significant extent in townscape and visual terms was considered, following a site visit, and where such potential was identified, the heritage asset in question was considered in the assessment.

A selection of 31 viewpoints was agreed with LBHF and RBKC for assessment purposes, including a range of local, medium and long range views, views identified in planning policy, and representative townscape views.

Accurate Visual Representations (AVRs) of the view as proposed and the view as proposed with other cumulative developments were prepared for each view. AVRs were produced by accurately combining images of the April 2017 Proposed Development (typically created from a three-dimensional computer model) with a photograph of its context as existing. The AVRs show the April 2017 Proposed Development with a red wireline and shaded volume to represent the maximum parameters of the Outline Scheme. In addition, the Restaurant Scheme and Office Scheme are shown photorealistic.

A selection of the AVRs are shown in Figures 7.1-7.3.
Figure 7.1: Wood Lane at Railway Bridge (View 7) - Existing View (above) and Proposed View (below)
Figure 7.2: Holland Park Roundabout (View 10) - Existing View (above) and Proposed View (below)
Figure 7.3: Hunt Close (View 20) - Existing View (above) and Proposed View (below) looking towards the Site from Hunt Close

The April 2017 Proposed Development would represent a significant improvement in townscape and urban design terms compared to the existing situation, and would form an appropriate response to its location.
The overall massing of the April 2017 Proposed Development is appropriate for the surrounding context of large scale buildings, including the Westfield London Shopping Centre and the BBC TV Centre. The manner in which the massing varies across the Site provides a successful response to context; the tallest elements are located adjacent to the open space of the West Cross Route within Plot C.

The April 2017 Proposed Development would have a number of significant urban design benefits. It would define routes within the Site and around its perimeter. The blocks on Plot C would help to define the West Cross Route. The April 2017 Proposed Development would improve permeability across the Site, and in the wider area, through the provision of dedicated pedestrian routes aligned east-west and north-south. The tower at the south-eastern corner of Plot C, together with the taller block at Plot K in some views, would help to mark the entrance to the Ariel Way east-west route across the Site, improving legibility.

The greatest visibility of the April 2017 Proposed Development would be in short range views from Wood Lane, and to a lesser extent in views from the roads immediately east of the West Cross Route. The April 2017 Proposed Development would be a beneficial addition to such views, providing a coherent development which strengthens the definition of surrounding roads and internal routes within the Site. The Restaurant Scheme and Office Scheme would appear as a coherent part of the overall development in these views, combining to form an overall building with a calm and ordered quality, and helping to define Aspen Way.

The scale and location of the April 2017 Proposed Development, and the nature of development in surrounding areas, are such that there would be limited or no visibility of the April 2017 Proposed Development in many medium to long range views from street locations. In views from open spaces to the south of the Site there is no visibility or very minor visibility of the April 2017 Proposed Development. The April 2017 Proposed Development is visible in some views from open spaces to the north, where it appears in a manner consistent with the existing character of such views.

In terms of nearby listed buildings, the April 2017 Proposed Development would improve the setting of the Dimco building adjacent to the Site; what is currently an incoherent and ill-defined setting would be replaced with a better defined setting in which the blocks on Plots A and D, and the Restaurant Scheme and Office Scheme, would help to define the space around the building and provide a coherent backdrop for views. This is in line with the policy objective of the WCOAPF that development “should look to improve the setting of the Grade II Listed Dimco building”. The April 2017 Proposed Development would have a beneficial effect on the setting of the BBC TV Centre and a neutral effect on all other listed buildings and buildings of merit within the wider area. The April 2017 Proposed Development would not be seen in significant views towards these listed buildings or buildings of merit, or would be seen in a manner consistent with their existing setting.

The April 2017 Proposed Development would be visible in some views from the Wood Lane CA, and in some cases to a significant extent. In such views, it would appear as a coherent development in the background of the views. The Restaurant and Office Schemes would appear as a coherent part of the overall April 2017 Proposed Development, helping to define RelaySquare, and with a relatively simple form and expression such that they would together form a calm companion building for Dimco. The April 2017 Proposed Development would have a beneficial effect on the CA’s townscape setting.

The April 2017 Proposed Development would have a neutral effect on CAs in the wider area. In each case, it would not be visible to any significant extent from the CA in question or would be visible to a minor extent which would be consistent with the existing setting of the CA.

The April 2017 Proposed Development would have a neutral effect with regard to Registered Parks and Gardens of Special Historic Interest.

The April 2017 Proposed Development would be consistent with national, regional and local policy on design and townscape, including the London Plan and CABE/ EH Guidance on Tall Buildings,
including in terms of its appropriate scale relative to its context, its definition of the public realm, and the neutral or beneficial effect it has on the setting of heritage assets. The increased permeability and connectivity that would be delivered by the April 2017 Proposed Development, and the variation in scale and grain it provides across the Site, are consistent with the White City Opportunity Area Planning Framework. The south-eastern tall building marks a key entrance and exit to the Site, improving legibility, and its proportions as defined by the Parameter Plans would ensure it has a tower-like, as opposed to slab-block, appearance.

The Restaurant Scheme would be an attractive building which would help to define Ariel Way and Relay Square. Its architecture would have a clear sense of order, it would have a relatively simple form, and a limited palette of materials would be used in its elevations, such that it would have a calm, well-ordered and robust appearance overall. The ‘pleated’ GRC panels of the upper floors would provide the elevations with a regular, textured quality.

The additional three levels of the Office Scheme would form a simply expressed element above the Restaurant Scheme. The setting back of the office levels from the building line of the accommodation below would be such that they would have a recessive quality in respect of nearby buildings, including the existing Dimco building and the proposed Plot D. The extensively glazed nature of their elevations would provide them with a relatively light quality. The Office Scheme would appear as a well-defined ‘top’ to the Restaurant Scheme.

The consideration in this section of the effect of the April 2017 Proposed Development leads to the conclusion that it would have a beneficial effect on the townscape character area within which it is located through the provision of a development which is coherent in its massing, urban design benefits including increased permeability across the Site and local area, and improved definition of streets and routes. It would have a beneficial or neutral effect on other townscape character areas.

The April 2017 Proposed Development would be beneficial in views in which it is most prominent – close range views, particularly from Wood Lane – through its introduction of appropriately scaled built form and its definition of internal and external routes. It would have a neutral or beneficial effect on the setting of heritage assets in the local and wider area. The contribution of the Restaurant and Office Schemes would be as coherent parts of the overall April 2017 Proposed Development, each with a relatively simple form and expression that would combine to form an overall building with a calm and ordered quality to its appearance.

### 7.3.1 Transport and Access

The Site benefits from very good access to public transport facilities, as well as a good provision of pedestrian and cyclist facilities. The main links on the highway network in the vicinity of the Site carry a significant volume of traffic.

The April 2017 Proposed Development would increase the number of trips on all transport networks during both the construction and operational stages. However the scale of change would be small, with the exception of the change in traffic flows at the H-Junction and on approach / exit to car parks.

A number of mitigation measures have been integrated within the development proposals to minimise the magnitude of potential demolition and construction impacts. These measures include the following:

- The preparation of a Construction Logistics Plan and a CEMP which would set out best practice management controls and measures to be implemented during the demolition and construction works;
- The provision of new pedestrian routes and public amenity facilities that would improve the permeability and accessibility of the Site;
- The on-site management of parking;
• The delivery of improvements to overground rail platforms;
• The implementation of Travel Plans and a Delivery and Service Plan; and
• Financial contributions towards bus services and off-site environmental improvements to the highway network (primarily aimed at walking and cycling enhancements).

Accordingly, the assessment concluded that during the demolition and construction stage, the April 2017 Proposed Development would have temporary Negligible Adverse effects on all identified receptors.

Upon completion, the April 2017 Proposed Development would have:
• Minor Adverse effects on Traffic flows;
• Negligible Adverse effects on Underground services;
• Neutral effects on:
  – Bus services;
  – Servicing Arrangements;
  – Parking;
  – Accidents;
• Minor Beneficial effects on:
  – Pedestrian capacity and comfort;
  – Pedestrian severance;
  – Pedestrian fear and intimidation;
  – Cycle capacity and comfort;
  – Overground services;
  – Junction capacity;
  – Driver delay;
• Moderate Beneficial effects on:
  – Pedestrian delay; and
  – Pedestrian amenity.

The conclusions of the April 2017 Transport and Access assessment remain unchanged from that previously concluded in the 2016 ES.

7.4 Air Quality

A review of monitoring data from the air quality monitoring stations most representative of air quality at the Site, indicates that air quality at the Site would be expected to meet all of the objectives set by the Air Quality (England) 2000 Regulations with the exception of annual mean nitrogen dioxide (NO₂). This is the most stringent of all the air quality objectives and high concentrations are commonplace in heavily trafficked urban areas which predominate throughout much of London.

The Review and Assessment of baseline Air Quality carried out by the LBHF concluded that NO₂ would exceed the national air quality objectives adjacent to a number of busy roads throughout the borough. Accordingly LBHF declared the whole borough as an AQMA.

During construction and demolition works, there is the potential that emissions of dust arising from the Site could result in "loss of amenity" impacts at nearby properties. Typically, impacts are restricted to within 100 m of the Site boundary. The nearest sensitive receptors are residential and open space located to the east and west. These properties would be susceptible to dust impacts during demolition and construction works. Additionally, as the April 2017 Proposed Development
would be built in phases, residential properties built in the earlier phases of the April 2017 Proposed Development would be sensitive to impacts during the construction of the latter phases.

Based on criteria set out in the IQMA the construction works present a high risk of resulting in dust impacts in the absence of appropriate mitigation.

With the implementation of suitable mitigation measures, which would be set out within the Site’s CEMP and Construction Method Statements to be agreed with LBHF, it is anticipated that dust effects could be mitigated to at worst a temporary Slight Adverse effect at existing receptors and at those residential receptors that would be introduced by the April 2017 Proposed Development within the early stages, whilst construction continues on the later phases of the scheme.

Based on the most up-to-date demolition and construction traffic flow data, the emissions associated with the worst case demolition and construction traffic, which may persist for a maximum of 18 months, are predicted to give rise to a moderate adverse impact at one off-site receptor location.

Emissions arising from construction traffic for the vast majority of the construction period ‘the typical construction scenario’ are predicted to be negligible at all off-site receptors and all applicable on-site receptors. On this basis it is concluded that the residual effect is considered to be at worst temporary Slight Adverse during the period of worst case construction traffic decreasing to Negligible for the majority of the construction period.

The proposed Office Scheme would have no discernible impact on the effects arising from the Demolition and Construction Works.

The April 2017 Proposed Development is located within an AQMA and would result in the introduction of new residents at the Site and a slight increase in pollutant concentrations at some existing receptors.

The air quality impacts once the April 2017 Proposed Development has been completed would arise due to the increase in vehicle movements associated with the April 2017 Proposed Development both accessing the Site from the main road network and using the internal roads to access on-site car parks. Additionally emissions would arise from the centralised energy centre housing both CHP units and conventional boilers.

The introduction of the Office Scheme, including the roof top event space, would not introduce additional sensitive receptors to air quality into the April 2017 Proposed Development. Furthermore, it is noted that the completed development effects as a result of the Office Scheme would have no discernible impact or effect on air quality over and above the March 2017 Consented Development. The Office Scheme is predicted to result in a maximum increase in 98 vehicles per day on any one link over and above that predicted arising from the March 2017 Consented Development. An increase of this magnitude would not be expected to have a significant impact on air quality.

Additionally, the proposed Office Scheme would not result in a change to the specification of the proposed energy centre or impact the emissions arising from it.

The maximum increase in annual mean NO₂ concentrations as a result of the combined impact of the traffic and energy centre emissions associated with the Proposed Development is small at off-site receptors. However, because of the existing high NO₂ concentrations this small addition results in a substantial adverse impact at two receptors on Hunt Close and Mcfarlane Road. A further moderate adverse impact is predicted to arise at Hunt Close East. The modelling results indicate that the April 2017 Proposed Development would introduce a small number of new residential receptors into a location where air quality is predicted to exceed the annual mean NO₂ objective. Of the 172 on-site receptor locations modelled, concentrations are predicted to exceed the objective at 22, predominantly located at the lowest floor where residential units would be located.
For those residential units where concentrations are predicted to exceed the annual mean objective at the façade, these units would be provided with an appropriate mechanical ventilation systems fitted with nitrogen oxide and particulate filters to provide a clean source of air to protect residents from exposure to poor air quality.

The assessment indicates that the April 2017 Proposed Development would have a negligible impact on fine particulate (PM$_{10}$ and PM$_{2.5}$) concentrations at both on-site and off-site receptors.

The assessment indicates that the emissions of NO$_2$ from the energy centre stacks which have been relocated to discharge 5 m above the highest element of Block K, if assessed in isolation from the traffic impacts, would have a Slight Adverse effect on air quality.

The April 2017 Proposed Development currently meets both the transport and buildings emission benchmarks and can therefore be considered Air Quality Neutral.

On this basis, and taking into consideration professional judgement, it is considered that the completed April 2017 Proposed Development would result in a Moderate Adverse effect on local air quality and at identified receptors. The effect is considered to be significant and a material planning consideration. In respect of the Site’s suitability for residential use, the effect would be Slight Adverse.

The conclusions of the April 2017 Air Quality assessment remain unchanged from that previously concluded in the 2016 ES.

7.5 Noise and Vibration

Noise and vibration levels at the Site and within the surrounding area was determined by means of a series of environmental noise measurements undertaken at the Site. These surveys confirmed that the key sources of noise comprise road traffic, rail and plant from the existing Westfield Shopping Centre.

Noise levels from the demolition and construction of the April 2017 Proposed Development were predicted at noise-sensitive properties in the vicinity of the Site and on-site and the impact of the noise assessed.

With the proposed mitigation measures incorporated into the demolition and construction design process, noise levels are predicted to remain comfortably within the 75 dB (A) target criterion for all works and receptor locations resulting in no identified need for mitigation and a residual effect of temporary Negligible to Minor Adverse.

Given the distance between the Site and the nearest sensitive receptors there is a very low potential for perceptible levels of vibration at receptor locations, during piling operations, resulting in no identified need for mitigation and a residual effect of temporary Negligible.

Given the levels of existing traffic on the existing roads surrounding the Site, the level of additional traffic during the demolition and construction works would present no discernible effect and would be absorbed within the typical periodic variations in HGV traffic along adjacent routes, with No Effect at off-site receptors.

The impact of ambient noise on the April 2017 Proposed Development was determined by predicting likely daytime and night-time noise levels at the location of proposed residential facades on-site. These calculations have been based survey data and on worst case traffic flows that takes account of cumulative development.

The predicted noise levels are not unexpectedly high for an inner-urban site. Accordingly, details for possible façade treatments, which when implemented, will ensure internal noise levels within the British Standards’ criteria defined as “good” have been identified, such that the residual effect would be Negligible. The sound reduction performance requirements of the Office Scheme of the April 2017 Proposed Development would be comfortably addressed by standard thermal double
glazing (i.e. 4-12-4). With regard to the Office Scheme, given that the vibration criteria is twice the values specified in BS6472 for residential use, it is envisaged that vibration at the office floors would also be well below the value that would result in a ‘low probability of adverse comment’.

A mechanical ventilation system would be provided to residential units so that building regulation compliant air circulation rates will be offered, without the need to open windows. Furthermore the internal layout of the dwelling spaces would be designed to take into account noise transfer from retail uses. Both of these factors would ensure that where residential units are located in close proximity to retail uses, such as with Plot D’s close proximity to the Restaurant Scheme, the effects to residential amenity would be Negligible.

Private balcony spaces in identified high noise areas of the April 2017 Proposed Development would be treated with winter gardens or open balconies to ensure World Health Organisation (WHO) compliant noise levels in these spaces, resulting in Negligible to Minor Adverse effects.

Communal amenity spaces are proposed at the plinth levels of Plots C and D, as well as at ground level at White City Green. The WHO compliant noise levels are expected to be achieved at Plot C and within the majority of the White City Green amenity area, resulting in No effect. WHO compliant noise levels would be marginally exceeded at Plot D, resulting in a Minor Adverse effect; however as neither of these spaces are designated as private amenity spaces, the overall impact is reduced to Negligible. A marginal exceedance is also predicted at the eastern end of the White City Green amenity area. Such an exceedance would be imperceptible, so no further mitigation measures are considered necessary to control noise in this area. In addition the event space at the roof level of the Office Scheme falls comfortably within the WHO criterion.

Changes in traffic flows on Wood Lane and the West Cross Route as a direct result of the April 2017 Proposed Development have been assessed. Predicted changes in noise level on the existing road network as a result of changes to traffic flows would have a locally Minor Adverse effect but overall a Negligible effect.

An assessment of likely vibration effects associated with the railway to the east of the Site was also undertaken. The outcome of the assessment identifies that there are No effects predicted to arise in respect of vibration at the eastern Site boundary. However vibration effects arising as a result of rail traffic on the London Underground Central Line at the western Site boundary, could result in perceptible effects upon overlying residential receptors in the absence of mitigation. Accordingly standard mitigation measures such as foundation bearings or resilient pile caps would be considered at the detailed design stage, to ensure that No effect.

Target noise criteria have been set for all static and building services plant. Providing that the rating noise levels from the building services plant do not exceed the stated noise criteria, whether through the application of noise control techniques or otherwise, the noise from such sources is predicted to have no significant adverse impact on existing and future sensitive receptors, resulting in a Negligible effect.

The conclusions of the April 2017 Noise and Vibration assessment remain unchanged from that previously concluded in the 2016 ES.

### 7.6 Ground Conditions

A Preliminary Risk Assessment undertaken of the Site concludes that there is a moderate to high potential for contamination at the Site, given the previous on-site activities which included railway activities, a ‘brick field’, Kensington Borough Council Depot, scrap metal yard, a generating station, research laboratories and two pits.

The Site has been identified as potentially contaminated by the LBHF under Part IIA of the Environmental Protection Act 1990 and has been prioritised under the Council’s Contaminated Land Inspection Strategy. The potential for contamination to exist at the Site as result of the surrounding
area is considered to be moderate to high. Therefore, the Site is considered to have a similar contaminative potential to the surrounding area, and as such, is not particularly 'identifiable' as a unique source of contamination (if present).

Geotechnical and environmental investigation works would be conducted across the entire Site to characterise ground conditions and inform the detailed structural design of the August 2016 Proposed Development. In accordance with standard practice these works would be secured by means of an appropriately worded planning condition. In addition, a minimum of three months gas and groundwater monitoring would be carried out to adequately assess the gas regime and groundwater status of the Site.

Following the environmental investigation, and if contamination is identified, a Site Remediation Strategy would be developed to either remediate identified sources or break potential pathways and agreed with LBHF and the EA. In-situ remediation would be considered where possible, and the excavation of contaminated soils would be avoided, where possible. In accordance with standard practice these works would be secured by means of an appropriately worded planning condition.

An Asbestos Management Survey (and Asbestos Refurbishment and Demolition Survey, if considered necessary) would be undertaken by the Applicant prior to demolition of on-site buildings. Any asbestos identified in existing buildings would be appropriately managed and disposed of in accordance with current relevant legislation.

The risk of construction workers coming into contact with contaminated soils or groundwater during the redevelopment works would be mitigated through the implementation of standard good practice measures to be set out within a CEMP and secured by means of an appropriately worded planning condition.

Accordingly, the residual effects during the demolition and construction stage would be temporary **Negligible**.

In the event that contaminated soils are found at the Site, the April 2017 Proposed Development would represent an opportunity to remove or remediate such soils, resulting in **Minor Beneficial** effects.

Whilst the demolition, excavation and construction works could introduce new contaminant sources and pathways creating possible links to sensitive receptors, the implementation of controls measures within the CEMP, the use of appropriate piling methods, the introduction of a basement beneath the majority of the Site, plus a clean capped layer of soil within landscaped areas, would ensure that no source pathway receptor linkage is likely to be created. The installation of gas protection measures (if necessary) will ensure that future site users are not exposed to hazardous gas emissions.

Once completed the April 2017 Proposed Development would not introduce any potential contamination sources or create any source-pathway-receptor pollution linkages on-site. The Site’s drainage strategy would ensure that there is no adverse impact to the drainage system and would include the installation of oil-water interceptors.

Accordingly the residual effects from the completed development are considered to be **Negligible** to **Minor Beneficial** (in areas of landscaping where clean topsoil would be imported).

The conclusions of the ground conditions assessment, in so far as the likely significant ground conditions effects of the April 2017 Proposed Development, remain unchanged from that previously concluded in the 2016 ES
7.7 Water Resources, Hydrology and Flood Risk

The nearest surface water feature to the Site is a pond/lake in Hammersmith Park 200 m west of the Site. The nearest identified surface watercourse to the Site is the River Thames, located approximately 2.1 km to the south-west of the Site.

There are no records of licensed surface water abstractions or Discharge Consents for the Site or within 2 km of the Site. In addition there are no records of pollution incidents attributable to the Site and no records of incidents that have impacted the water environment within a 1 km radius of the Site. As the Site lies within Flood Zone 1 (annual probability of tidal and fluvial flooding <1 in 1000 i.e. <0.1%) it is considered to be at low risk of flooding.

A Preliminary Risk Assessment undertaken of the Site concludes that, based on previous Site uses, there is a moderate to high potential for groundwater contamination to be present at the Site. The extent of any contamination, if present, would be determined through site investigation works. In the event that contaminated soil and/or groundwater is found, the Site would be remediated in consultation with the LBHF and the Environment Agency. Accordingly the residual effect on groundwater quality would be Minor Beneficial.

During development works, management controls to minimise the risk of accidents, ensure safe handling and storage of potentially hazardous materials and prevent pollution would be implemented as part of the CEMP to ensure that the residual, temporary effects are reduced. The residual, temporary effects would be Negligible Adverse.

The April 2017 Proposed Development would manage surface water runoff using green and brown roofs, permeable paving linked to underground storage and offline underground storage. Additionally, to reduce the risk of surface water contamination by hydrocarbons once the development is complete, oil interceptors would be incorporated within the drainage systems of any access roads, car parking and delivery areas where applicable. Collectively these measures would result in Moderate Beneficial residual effects in respect of surface water runoff reduction and Minor Beneficial effects in respect of surface water runoff contamination. The benefit to surface water flood risks as a result of proposed drainage assets is considered to be significant and a material consideration.

The April 2017 Proposed Development would increase the number of occupants using the Site, and would therefore increase water demand requirements. It is proposed that these increases would be offset by the adoption of a variety of water-saving devices (water meters, low water use features), rainwater harvesting and grey water recycling measures. The residual effect would therefore be Minor Adverse.

Whilst surface water management and the use of a variety of water-saving would help reduce foul drainage loads, the increased density of water users on-site with the April 2017 Proposed Development would result in Negligible Adverse effects.

The conclusions of the Water Resources, Hydrology and Flood Risk assessment remain unchanged from that previously concluded in the 2016 ES and remain valid.

7.8 Ecology

There are no parts of the Site that are designated for their nature conservation value. The nearest SINC is located approximately 70 m to the north of the Site. The closest statutory designated site is a Local Nature Reserve located over 1.2 km from the Site.

The Site comprises a range of light industrial and commercial buildings, hardstanding areas, isolated pockets of introduced landscaping and roads. A Phase 1 Habitat Survey of the Site confirmed that the majority of the habitats on the Site has low ecological importance limited to the site-level only.
The Site supports very little natural or semi-natural habitat and is unlikely to support significant populations of invertebrates, amphibians, reptiles or bats. However a small number of breeding birds are likely to be using the Site's vegetation and possibly buildings for nesting purposes.

The April 2017 Proposed Development would have **No Significant** effects on designated sites during the demolition and construction works and upon completion.

The April 2017 Proposed Development would result in the loss of all of the existing buildings and vegetation on the Site. The loss of vegetation would be likely to cause a temporary **Significant Adverse effect** at the site-level only. However, once fully established, the newly created habitats within the April 2017 Proposed Development are likely to result in permanent **Significant Beneficial effects** on species and habitats, at the site-level only.

The potential of impacting breeding birds during the demolition of buildings and vegetation clearance would be avoided by the appropriate timing of the works outside the bird breeding season. If this is not possible, a pre-demolition site inspection by an ecologist would be undertaken (with any active nests found during the inspections to be protected from demolition or construction activity). Accordingly there would be **No Significant** residual effects on nesting birds.

The low risk of impact from dust and noise on ecological receptors (including designated sites) would be addressed through appropriate measures incorporated into the CEMP. The low risk of impacts from construction light spill would also be avoided through the careful design of lighting which would maintain light levels on adjacent habitats at background levels.

The April 2017 Proposed Development would introduce new areas of habitat and biodiversity features such as bird and bat boxes. Accordingly the long-term effects on ecology and nature conservation would be **Significant Beneficial** at the site-level.

There is an absence of suitable foraging and commuting habitat for bats on the Site. The buildings to be demolished have negligible potential to support roosting bats, and the low value of the on-site habitats further limits the likelihood of bats occurring on the Site. However, bats are known to occur locally and may possibly use the adjacent railway line to the east as a commuting route. The low potential of impacts from light spill would be avoided through the careful design of lighting which would maintain light levels on adjacent habitats at background levels. The provision of improved foraging habitat and roosting opportunities on the Site, managed through the April 2017 Proposed Development’s Habitat Management Plan, is likely to result in permanent **Significant Beneficial effects** on bats and biodiversity at local level.

The conclusions of the Ecology assessment remain unchanged from that previously concluded in the 2016 ES and remain valid.

### 7.9 Daylight, Sunlight and Overshadowing

Existing sensitive receptors that may be affected by the April 2017 Proposed Development in respect of loss of daylight and sunlight, were identified at 63-67 Wood Lane and 87-101 Macfarlane Road to the west of the Site and the Hunt Close Properties to the east of the Site. No gardens or public open spaces were identified for assessment purposes.

Daylight and sunlight levels at existing residential receptors are generally good although some receptors along Wood Lane and Macfarlane Road experience low levels due to the existing Westfield London Shopping Centre.

The demolition process would temporarily give rise to higher levels of daylight and sunlight to some of the surrounding residential properties. The higher levels would in most instances diminish as phased construction proceeds up to the permanent building envelope. Accordingly the effect would be temporary **Negligible**.

Upon completion of the April 2017 Proposed Development, daylight and sunlight analysis results show **Negligible** effects to the neighbouring residential properties.
In regard to potential impacts on 63-67 Wood Lane and on 87-101 Macfarlane Road, the blocks in the April 2017 Proposed Development have been designed to sit within the massing of the existing shopping centre and/or set back from the residential properties. Accordingly, no mitigation measures are required and the residual effects would be **Negligible**.

For the Hunt Close properties, the daylight and sunlight analyses show that there would be no noticeable reductions when compared against the baseline condition. This is due to the distance of the residential properties on Hunt Close across West Cross Route from the April 2017 Proposed Development. No mitigation measures are required and the residual effect would be **Negligible**.

The worst case daylight and sunlight analyses for the Outline Scheme’s residential elements at Plots, C, D and K demonstrate that the lowest proposed habitable rooms would obtain reasonable levels of compliance. Although some moderate and major adverse effects are reported, no mitigation measures are suggested at this stage as it is expected that at the detailed design stage the room configurations, layouts and elevational treatment would be reviewed to ensure good daylight levels are achieved in residential elements. On balance and based on professional judgement, the residual effect of the daylight and sunlight assessment for the proposed habitable rooms would be **Minor Adverse**.

The permanent overshadowing assessments to the proposed amenity spaces within the April 2017 Proposed Development show compliance with relevant guideline criteria at Plot D, White City Green and the Office Scheme events space. The courtyard amenity space at Plot C and Ariel Square/Silver Street and Relay Square would not meet the guideline criteria, with Relay Square adversely affected by the introduction of the Office Scheme. The assessment is based on the maximum height and massing parameters of the April 2017 Proposed Development Outline Scheme. In reality at the Reserved Matter Stage, the detailed articulation of the Outline Scheme’s blocks (at Plots C, K and D) as required under the Design Code would improve the extent of the amenity spaces sunlight availability. In addition, the landscape strategy at these amenity spaces would be designed with the conditions of the sunlight availability in mind, and where higher requirements for sunlight availability are necessary, the northern portion of each amenity space would have good levels of sunlight penetration. The events space of the Office Scheme receives good levels of sunlight.

Within the WCOA Planning Framework there is an aspiration to deliver a new public open space to the north of the Site and viaduct. Any new public open space to the north of the Site would have no permanent overshadowing effects, passing the relevant guideline criteria. No mitigation measures are required and the residual overshadowing effects of the April 2017 Proposed Development would be **Negligible to Minor Adverse**.

The conclusions of the April 2017 Daylight, Sunlight and Overshadowing assessment remain unchanged from that previously concluded in the 2016 ES.

### 7.10 Wind

Wind tunnel testing of both the existing Site and April 2017 Proposed Development was undertaken to quantify the wind microclimate at the Site prior to and post redevelopment for both the summer season and windiest season.

The meteorological data indicate that the prevailing wind direction throughout the year is from the south-west quadrant. There is a secondary prevailing wind from the north-east during the spring.

The assessment used the well-established Lawson Comfort Criteria to benchmark the wind microclimate for a range of pedestrian activities from sitting (where the calmest winds are required) to transient activities such as crossing the road.

Existing wind conditions on-site are suitable for sitting and standing across the majority of the Site; however there are areas where the wind environment is suitable for leisure walking during the windiest season.
The construction of the April 2017 Proposed Development is unlikely to generate winds that are significantly windier at pedestrian thoroughfares around the Site, than those expected around the completed development.

During the windiest season, the predicted wind conditions within and around the completed April 2017 Proposed Development at ground level would be suitable for sitting, standing/entrance use and leisure walking. Thoroughfares within and around the Outline Scheme, Restaurant Scheme and Office Scheme would be suitable for their desired use, representing a Negligible to Moderate Beneficial effects.

The majority of potential entrance locations across the April 2017 Proposed Development would be suitable for standing/entrance use or sitting during the windiest season, representing a Negligible and Minor Beneficial effect at these locations respectively.

In respect of the Outline Scheme, a number of leisure walking conditions have been reported at potential entrance locations which represent Minor Adverse effects. If during the detailed design stage of the Outline Scheme entrances are to be located in an area that have recorded leisure walking conditions, they will have to be screened or recessed to ensure suitable conditions.

In respect of the Restaurant Scheme, the majority of entrance locations (receptors 78 and 164) recorded standing conditions or calmer during the windiest season, acceptable for entrance use. The entrance location represented by receptor 163 recorded leisure walking conditions during the windiest season, one category too 'windy' for entrance use. For location 163 standard mitigation measures such as localised screens, planting or 'wind-breaks' (of a height at least 1.3 m) between locations 78, 163 and 164 would reduce wind speeds and create acceptable entrance use conditions. The residual effect would be Negligible.

Most external amenity areas for the Outline Scheme, Restaurant Scheme and Office Scheme would be suitable for sitting use during the summer season, representing a Negligible effect. However, conditions at roof levels of Block C and Block K of the Outline Scheme are up to two categories windier than desired representing Moderate Adverse effects. As Block C and Block K are in outline stage, the use of these roof level areas have not been finalised and the Applicant has committed to mitigating these conditions during the detailed design stage. Following appropriate mitigation, including localised screening and landscaping, the residual effect of these conditions would be Negligible. Similarly localised Minor Adverse conditions recorded at the plinth level courtyard of Block C, Silver Street and Relay Square would be mitigated during the detailed design to ensure the locations are acceptable for their intended use and deliver Negligible effects.

For the Restaurant Scheme, ground level amenity areas are expected to be located along the north-western façade of the Restaurant Scheme. With the exception of receptor 163, these areas are expected to observe sitting conditions throughout which is acceptable for the area’s intended use. Receptor 163 observes standing conditions which are one category windier than desired (i.e. a Minor Adverse effect) for sitting use. It is anticipated, based on professional judgment and experience, that mitigation in the form of localised screens, planting or 'wind-breaks' around the outdoor seating area (of a height at least 1.3 m) between receptors 78, 163 and 164, would provide shelter to seated occupants and deliver a Negligible effect. These mitigation measures could either be fixed in place, or could be moveable structures to be deployed by the tenant on windy days as required.

Roof and terrace level amenity spaces at the Office Scheme had sitting use conditions during the summer season, resulting in a Negligible effect.

For the Outline Scheme, further wind tunnel testing would be undertaken to quantify wind conditions prevailing around the Site after mitigation measures are integrated into the detailed design. This will ensure the mitigation measures are sufficient in terms of scope and magnitude, but also allow wind conditions across the complete site to be quantified with the mitigation measures installed.
The wind tunnel testing results for the summer season are shown in Figure 7.4.

The conclusions of the April 2017 Wind assessment remain unchanged from that previously concluded in the 2016 ES.

Figure 7.4: Wind Tunnel Test Results Showing Predicted Conditions within the April 2017 Proposed Development in the Summer Season
7.11 Telecommunications

From the technical analysis carried out, it is considered unlikely that the April 2017 Proposed Development would cause any interference to digital terrestrial television services (Freeview), based on the current good reception conditions and the lack of sensitive receptors in areas where signal shadowing could occur. During the Digital Television Switchover, DTT transmission powers increased and transmission modes changed to ensure better coverage in urban areas.

Possible interference may arise from the newly introduced height and massing of the April 2017 Proposed Development on the operation of the Airwave / TETRA radio network. Without suitable mitigation, the reliability of the Airwave / TETRA network is likely to be degraded.

An Airwave Interference Study was undertaken in 2016 to discharge planning condition 51 of the 2015 Consented Development and to determine the potential effects of the redevelopment of the Site on the reception of the Airwave / TETRA network. As a result, signal surveys have been undertaken and suitable mitigation solutions have been identified to ensure that the operation of the Airwave / TETRA network remains. These would be also be valid for the April 2017 Proposed Development.

From the detailed analysis carried out, it is considered that the April 2017 Proposed Development would have the following effects:

- **No effect** on the reception of any broadcast radio service during either the demolition and construction stage or operational stage;
- **No effect** on the reception of digital terrestrial television services such as Freeview during either the demolition and construction stage or operational stage;
- **No effect** on the reception of digital satellite TV services such as Freesat and Sky during either the demolition and construction stage or operational stage;
- **No effect** upon the reception of cabled television services due to the delivery nature of these services; and
- **No effect** upon activities at BBC Worldwide Stage 6 and BBC Studios and Post Production Stages 1 to 3.
- **No effect** upon the reception of broadcast services for residential properties at BBC Television Centre.

During the construction stage, temporary effects upon the operation of the Airwave / TETRA network prior to the adoption of identified mitigation measures. Once suitable mitigation is in place, there would be **no residual effects**.

The conclusions of the Telecommunication assessment remain unchanged from that previously concluded in the 2016 ES and remain valid for the April 2017 Proposed Development.

7.12 Waste

A desk study was undertaken to establish existing waste generation and disposal facilities within the borough and at regional level.

It is estimated that 35,104 m$^3$ (7,020.8 tonnes) of waste is likely to be generated during the construction of the April 2017 Proposed Development. Therefore the total volume of CDE waste to be removed off-site over the nine year construction period would equate to 40,084 tonnes. The Applicant’s commitment to the implementation of a SWMP and other measures, would facilitate the reuse and recycling of waste and reduce the unnecessary landfiling of waste. It is therefore considered that the April 2017 Proposed Development would accord with the principles of the waste hierarchy.

All waste would be managed in accordance with the relevant waste legislation. The use of MMC would also be employed to reduce waste creation as well as the sourcing of construction materials.
that are derived from recycled and/or reused content. There would be ongoing monitoring and measuring of waste production and recycling rates on-site throughout the construction period.

Since a considerable amount of CDE waste would be generated at Site level, it is considered that there would be a short-term temporary Minor Adverse effect during the demolition and construction works.

At a local level, the waste to be removed off-site would represent 7.7% of the estimated 521,000 tonnes of CDE waste predicted to be produced in the LBHF in 2017. However it is important to note that CDE waste arisings from the April 2017 Proposed Development would be produced over a period of nine years, not in one year, as assumed in the preceding calculation. As such, the annual percentage contribution of the April 2017 Proposed Development to the LBHF’s CDE waste arisings would be considerably lower. With appropriate mitigation measures in place to ensure a high proportion of this waste is recycled off-site, the residual effects would be temporary Negligible to Minor Adverse.

At a regional level, the CDE waste to be removed off-site would represent only 0.19% of the 21.238 million tonnes of CDE waste generated in London in 2017. Accordingly at a regional level, it is considered that there would be temporary Negligible effect.

The April 2017 Proposed Development would give rise to both household and commercial and industrial waste. The April 2017 Proposed Development is likely to produce a noticeable increase in quantities of waste compared to the existing site uses (approximately seven times the current estimated level of site waste generation). It is therefore considered that at a Site level the April 2017 Proposed Development's effect on waste generation would be Minor Adverse.

However at a local/regional level the increase in waste generated at the Site is considered to be Negligible to Minor Adverse as the increase would represent a small proportion of the estimated household waste arisings (96,000 tonnes) and commercial and industrial waste (186,000 tonnes) arisings within the LBHF in 2017 (2.2% and 9.05% respectively) and thus an even smaller percentage of the regional generation rates for Greater London.

Of the waste generated at the Site a much higher percentage is likely to be recycled/composted compared to the existing Site condition as a result of improved design, waste facility provision, communication and awareness, thus significantly contributing to the attainment of local and regional recycling/re-use targets.

Accordingly, the residual effects of the April 2017 Proposed Development once completed, are considered to be Negligible at all spatial levels.

The Office Scheme would produce a total of 47.3 m³ operational waste arisings (22.5 m³ from office floorspace and 24.8 m³ from the events space) which provides no material change to the waste arisings from the Outline and Restaurant Schemes.

The conclusions of the April 2017 Waste assessment remain unchanged from that previously concluded in the 2016 ES, although there would be a change in the construction and operational waste volumes as a result of the amended floorspace areas, these would have No effect on the conclusions of the assessment as previously presented in 2016.

7.13 Cumulative Effects

There is potential for some Intra-Project cumulative impact interactions to occur during the demolition and construction works. The majority of the interactions would arise from activities such as dust and noise from construction plant and vehicles; the visual impact of the works; and passing HGVs. However, these impact interactions would generally be restricted to short term peak periods and not all receptors would experience impact interactions during this time.

The implementation of a CEMP would reduce the magnitude of any adverse impact interaction so that overall, it is considered that any Intra-Project effects that occur would generally be temporary
and short-term in nature, albeit there may be some peaks of Moderate Adverse effects when works are occurring immediately adjacent to receptors for extended periods.

Upon completion, Intra-Project cumulative impact interactions are unlikely to arise, although it is noted that existing local air quality is close to the objective and therefore the marginal additional emissions from the April 2017 Proposed Development would result in significant effects.

In terms of Inter-Project cumulative impacts, consideration was given to 19 schemes within the study area. The assessment concluded that the following effects would occur during demolition and construction:

- **Negligible Beneficial to Minor Beneficial** effects in terms of job creation and local economic development from demolition and construction worker spending
- **No** cumulative effects upon archaeology;
- **Negligible to Minor Adverse** cumulative construction transport and access effects on pedestrians, the local road network and traffic flows, subject to the implementation of best practise construction traffic management measures for each site;
- **Temporary Slight Adverse** cumulative effects on air quality during demolition and construction works due to the distance between the schemes and the stringent dust and emission control measures that would be adopted and implemented at each site (and secured by planning condition);
- **Minor to Moderate Adverse** cumulative noise and vibration effects during the demolition construction works;
- **No** significant effects in relation to ground contamination;
- **No** significant effects on water resources and flood risk;
- **No** significant adverse impacts in relation to ecology due to the adoption of appropriate best practice management during demolition and construction, and significant beneficial impacts at the local level due to the creation of new habitats;
- **Negligible** cumulative wind microclimate effects;
- **Negligible to Minor Adverse** effects from demolition and construction waste arisings;
- **Negligible** cumulative effects on telecommunications interference and
- **Moderate and Adverse** effects on Townscape Character; views and the townscape setting of built heritage assets.

The assessment concluded that the following effects would occur once development works are complete and the scheme is operational:

- **Minor Beneficial to Major Beneficial** effects in terms of job creation, local economic development and the delivery of housing, at a local, city and regional levels;
- **Neutral** effects on community, health and educational demand and infrastructure subject to the implementation and provision of amenity space, educational and healthcare contributions;
- **No** cumulative effects upon archaeology;
- **Negligible** effects on pedestrian, cycle and public transport facilities during the completed development stage;
- **Minor Adverse** effects on junction capacity and driver delay, and **Neutral** effects on servicing arrangements, parking and accidents;
- **Moderate Adverse** cumulative NO2 effects on air quality at off-site receptors, and **Moderate Adverse** effect at on-site receptors as a result of the cumulative operational traffic flow emissions;
- **Negligible to Minor Adverse** effects during operation due to changes in road traffic noise generation;
- **Negligible Beneficial** to **Minor Beneficial** effects in relation to ground contamination
- **Negligible** to **Minor Beneficial** effects from an improvement to runoff rates and reduction in the risk of flooding;
- **Significant beneficial** effects at the local level due to the creation of new habitats;
- **Negligible** cumulative daylight, sunlight and overshadowing effects at 63-67 Wood Lane, 87-101 Macfarlane Road, Hunt Close, Plots H and G of the BBC Television Centre, and Plot E of the 2012 Consented Scheme. **Minor Adverse** effects on internal daylight and sunlight levels within the April 2017 Proposed Development;
- **Negligible** effects on overshadowing of proposed amenity spaces;
- Generally **Negligible** but with localised **Minor Adverse** and **Minor Beneficial** cumulative wind microclimate effects with the conditions in the context of the future surrounds typically considered suitable for or calmer than the target conditions required for the April 2017 Proposed Development;
- **Negligible** to **Moderate Adverse** effects from operational waste arisings;
- **Negligible** cumulative effects on telecommunications interference; and
- **Neutral** to **Moderate Beneficial** effects of Townscape Character; **Neutral** to **Moderate to Major Beneficial** in terms of views; and **Moderate** to **Major Beneficial** in terms of townscape setting of built heritage assets.