

WEST HENDON
PHASE 4
RESERVED MATTERS
**ENVIRONMENTAL STATEMENT
OF CONFORMITY**

November 2016



**West Hendon Estate Phase 4
Reserved Matters Application**

EIA Statement of Conformity

November 2016

Our Ref: Q70299

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1 BACKGROUND INFORMATION

1.1 Introduction

1.1.1 This Environmental Impact Assessment (EIA) Statement of Conformity is prepared in support of the submission of reserved matters pursuant to Phase 4 of hybrid planning application H/01054/13 dated 20th November 2013 which relates to the redevelopment of the West Hendon Estate, Barnet (hereafter referred to as the 'Consented Scheme').

1.1.2 The application for reserved matters approval (RMA) is submitted on behalf of Barratt Metropolitan LLP and is undertaken pursuant to the following planning conditions:

“Condition 3

Applications for the approval of reserved matters (being layout, scale, appearance, access and landscaping) pursuant to the first phase of the outline planning permission shall be made to the Local Planning Authority before the expiration of five years from the date of this planning permission.”

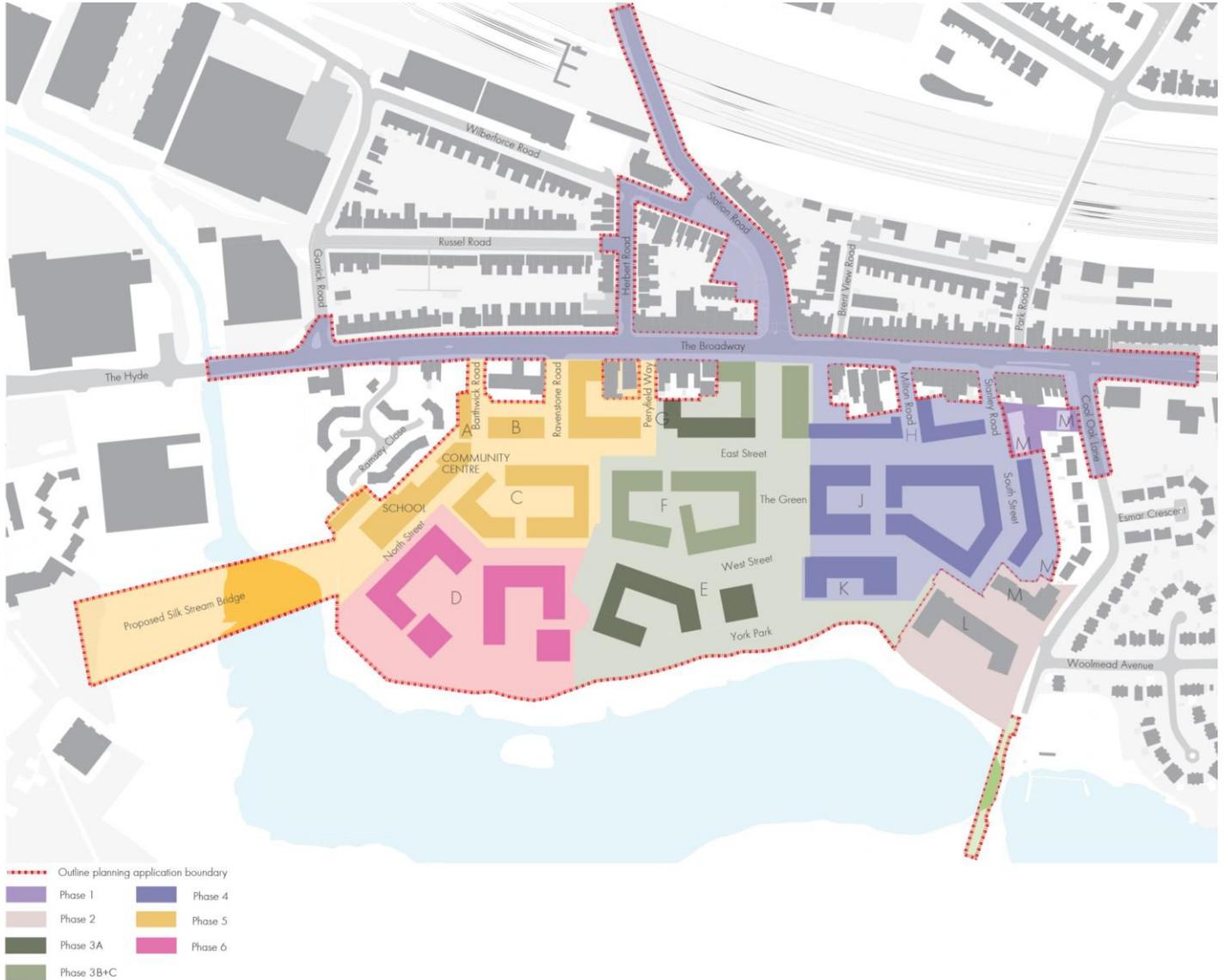
Condition 5

“Each reserved matters submission should include a statement of compliance against each of the Parameter Plans, the individual sections of the Design Guidelines and the Development Specification. The development shall be implemented in accordance with such details as approved. No variations to the parameter plans shall take place save where the applicant can demonstrate that it is unlikely to give rise to any new or significant environmental effects in comparison with the development as approved and as assessed in the Environmental Statement or the application is accompanied by environmental information the scope of which has previously been agreed with the Local Planning Authority to assess the likely significant effects of the development having regard to the proposed variation.”

1.1.3 The West Hendon Estate is located in northwest London and comprises approximately 13 hectares (ha) of land within the London Borough of Barnet (LBB). In March 2013, when the hybrid application was submitted for planning permission, the application site mainly consisted of a 1960s residential estate ranging in heights from 2 to 6 storeys with a 14 storey tower toward the centre of the site, a community centre and part of The Broadway's retail and residential buildings (hereafter referred to as the 'Masterplan Site').

1.1.4 The location of the Masterplan Site and the Phase 4 RMA application site (hereafter referred to as the ‘Site’) are shown in Figure 1.1.

Figure 1.1 Masterplan Site and Phase 4 RMA Site



1.1.5 This EIA Statement of Conformity has been prepared and is submitted in accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2011¹ (as amended²) (the ‘EIA Regulations’) to provide a comparative assessment of the environmental impacts of the proposed RMA scheme (the ‘Development’) with the Consented Scheme.

1.2 Planning and EIA History

- 1.2.1 The Masterplan Site already has the benefit of a hybrid planning permission which now enables the project to progress to detailed design and the approval of RMAs for each development phase. The Consented Scheme was subject to a comprehensive EIA process and was supported by an Environmental Statement (hereafter referred to as the 'March 2013 ES') and an ES Addendum (hereafter referred to as the 'June 2013 ES Addendum').
- 1.2.2 The Consented Scheme was split between the detailed permission and outline permission. The detailed permission comprised the construction of part of Phase 3 (Phase 3a and the tall building in Phase 3c – which has now been moved into Phase 3a). The remainder of the Masterplan Site comprises the outline planning permission. Further information on the Consented Scheme is provided in Chapter 3: Description of Development.
- 1.2.3 A RMA was submitted for Phase 3b and 3c and gained approval on the 17th December 2014 (planning ref. 14/07964/RMA).
- 1.2.4 The next RMA is for Phase 4 which is the subject of this EIA Statement of Conformity.

1.3 Need for Further Environmental Information

- 1.3.1 The EIA process is a systematic means of identifying, predicting, evaluating and mitigating the likely significant environmental effects arising from a development. The process enables developers to respond iteratively to the prevailing environmental conditions and constraints in relation to their proposals. The purpose of the EIA is to inform the decision making process.
- 1.3.2 Where an EIA is required for a proposed development, information on the likely significant effects of the development must be provided by the Applicant in an ES to accompany the planning application. As outlined previously the Consented Scheme has already been subject to EIA which was reported within the March 2013 ES and June 2013 ES Addendum. Regulation 3(4) of the EIA Regulations states:

“The relevant planning authority... shall not grant planning permission or subsequent consent pursuant to an application to which this regulation applies unless they have first taken the environmental information into consideration...”

1.3.3 When considering the Phase 4 RMA for the Consented Scheme it has been necessary to consider how the EIA Regulations apply to **“subsequent applications”** which are defined as meaning:

“an application for approval of a matter where the approval –

***(a) is required by or under a condition to which a planning permission is subject;
and***

***(b) must be obtained before all or part of the development permitted by the
planning permission may be begun.”***

1.3.4 The EIA Regulations contain a prohibition on a development consent, including subsequent applications, being granted unless there is an assessment of the likely significant effects of the development. As such, the EIA Regulations seek to ensure the determining authority providing development consent is able to make its decision in the full knowledge of any likely significant environmental effects.

1.3.5 Since the West Hendon Estate redevelopment is an EIA Development, it follows that any subsequent applications pursuant to that planning permission will be ones that relate to EIA Development and will thus have to be determined by reference to an ES. An application for a ‘screening opinion’ has therefore not been sought as it does not result in the local planning authority determining whether or not further information will be required.

1.3.6 In relation to the Consented Scheme, it is necessary to consider the EIA Regulations on the basis set out in Regulation 8 for “subsequent applications” since this applies where an ES has already been submitted. Regulation 8 states that where the environmental information (in this instance the March 2013 ES and June 2013 ES Addendum and any other associated environmental information) already before the authority is considered adequate, the authority should take this into account. However, where the environmental information is not considered adequate to assess the environmental effects of the development, a notice must be served under Regulation 22. Alternatively, the Applicant can submit further environmental information voluntarily as provided within this EIA Statement of Conformity Report. This Report considers whether the March 2013 ES and June 2013 ES Addendum and other environmental information is adequate for decision making (i.e. remains valid) and whether the likely significant effects of the Consented Scheme identified at the outline stage remain valid. The Report also provides further environmental information for certain technical topics where assessment work has been undertaken to confirm whether any likely significant environmental effects would arise,



which were not fully identified or identifiable at the outline stage, from the Development with the Phase 4 RMA scheme in place.

1.3.7 This Report has been prepared and coordinated by Quod to accompany the Phase 4 RMA, with technical assessments completed by Quod and additional parties including:

- Quod – Ground Conditions; Landscape and Visual Amenity; Archaeology and Cultural Heritage; Socio Economics; Health Impact Assessment and Material Resources.
- Quod, in consultation with Allies and Morrison – Landscape and Visual Amenity.
- CH2M – Transport; Air Quality; and Water Environment.
- PBA – Ecology.
- RBA – Noise and Vibration.
- RWDI – Wind.
- Point 2 – Daylight and Sunlight.

1.3.8 The scope of the EIA Statement of Conformity Report and general approach is provided in Chapter 4: Approach to the EIA Statement of Conformity.

1.4 Report Structure

1.4.1 This document contains an EIA Statement of Conformity for those topics where environmental baseline information presented in the March 2013 ES and June 2013 ES Addendum remains valid, there has been no new relevant legislation, policy or guidance, the methodology remains valid and the detailed design has been reviewed and found not to give rise to any new or different significant environmental impacts from those reported in the March 2013 ES and June 2013 ES Addendum.

1.4.2 Where relevant, further environmental information has been provided to support the Phase 4 RMA EIA statement of conformity. In most cases, this is updated baseline information being available or as a result of a review of the detailed design as defined by the Phase 4 RMA. Where significant environmental effects are new or where effects differ from those presented in the March 2013 ES and June 2013 ES Addendum they are clearly presented within the technical chapters (only those which are new or different are reported) and this is followed through from potential effects, to mitigation, to residual effects.

1.4.3 The chapter headings are set out in Table 1.1, corresponding to each chapter of the March 2013 ES. Alongside each chapter heading is an indication of the approach i.e. EIA Statement of Conformity and / or Further Information.

Table 1.1 Structure and Content of this Report

| Chapter Title | Content of the Statement of Conformity Report |
|---|--|
| 1. Introduction | Overview on purpose of document, context and content. |
| 2. Context and Background | Update in light of detailed design for Phase 4 RMA |
| 3. Description of Development | Description of the Consented Scheme and features of the Phase 4 RMA. |
| 4. Approach to the EIA Statement of Conformity Report | Sets out the approach to scoping and general methodology applied in this Report. |
| 5. Transport | Statement of Conformity |
| 6. Air Quality | Statement of Conformity with Further Information |
| 7. Noise and Vibration | Statement of Conformity |
| 8. Ground Conditions | Statement of Conformity |
| 9. Water Environment | Statement of Conformity |
| 10. Ecology | Statement of Conformity with Further Information |
| 11. Landscape and Visual Amenity | Statement of Conformity |
| 12. Socio-economics | Statement of Conformity |
| 13. Health Impact Assessment | Statement of Conformity |
| 14. Cultural Heritage | Statement of Conformity |
| 15. Material Resources | Statement of Conformity |
| 16. Daylight / Sunlight | Statement of Conformity |
| 17. Wind | Statement of Conformity |
| 18. Cumulative Effects | Statement of Conformity |
| 19. Conclusions | Summary |

2 CONTEXT AND BACKGROUND

Masterplan Site Location and Setting

- 2.1.1 The Masterplan Site is located on the south-western edge of the LBB in north west London and is identified by LBB for regeneration as a high density development. The neighbouring London boroughs include Brent and Camden.
- 2.1.2 It covers an area of approximately 13 hectares (ha) and, previous to construction commencing onsite, it comprised mainly of a 1960s residential estate ranging in heights from 2 to 6 storeys with a 14 storey tower toward the centre of the site, a community centre and part of The Broadway's retail and residential buildings. There are a number of minor residential roads within the Masterplan Site and a local loop of the A504 called Perryfield Way.
- 2.1.3 The Masterplan Site incorporates the redevelopment site and stretches of The Broadway (the A5), Station Road and Herbert Road to the east and Cool Oak Lane to the south. Two areas for potential new footbridges are also included, one adjacent to Cool Oak Lane Bridge and one to the north of the Site over Silk Stream.
- 2.1.4 The Masterplan Site is bordered by The Broadway to the east and Brent Reservoir to the west (also known as the Welsh Harp). The areas to the east and south, and a small area to the north, are predominantly residential. To the north are large commercial and industrial premises. Woodland is present to the north and west of the Masterplan Site, lining Brent Reservoir, with playing fields further west (beyond the reservoir). The M1 and a railway line run parallel to the A5, approximately 150 metres (m) to the east of the Masterplan Site (at its nearest point).
- 2.1.5 The Site is located adjacent to the Brent Reservoir on its south western boundary. This waterbody and its borders have statutory designations as a Site of Special Scientific Interest (SSSI) and Local Nature Reserve (LNR) and a non-statutory local designation as a Site of Metropolitan Importance for Nature Conservation (SMINC) and Metropolitan Open Land.
- 2.1.6 The Site is not located in an Archaeological Priority Area or a Conservation Area. There are 54 listed buildings within a 2 kilometre (km) radius of the Site, with the closest being the Grade II listed Church of St John, approximately 315m north east of the Site boundary. There are no Ancient Monuments or Registered Parks and Gardens in the vicinity of the Site.

- 2.1.7 The Site is underlain by a Secondary Aquifer but is not in a Groundwater Source Protection Zone. However, the southern flank of the Site is in a Minor Groundwater Vulnerability Zone. The fringes of the Site are located in a Flood Zone 3 (1 in 100 or greater chance of annual incidence), designated for fluvial and surface water flooding. There is also a risk of reservoir flooding on the fringes of the Site.
- 2.1.8 The whole of the borough is designated as an Air Quality Management Area (AQMA), designated in 2000 for exceedances in nitrogen dioxide (NO₂) and particulate matter (PM₁₀).

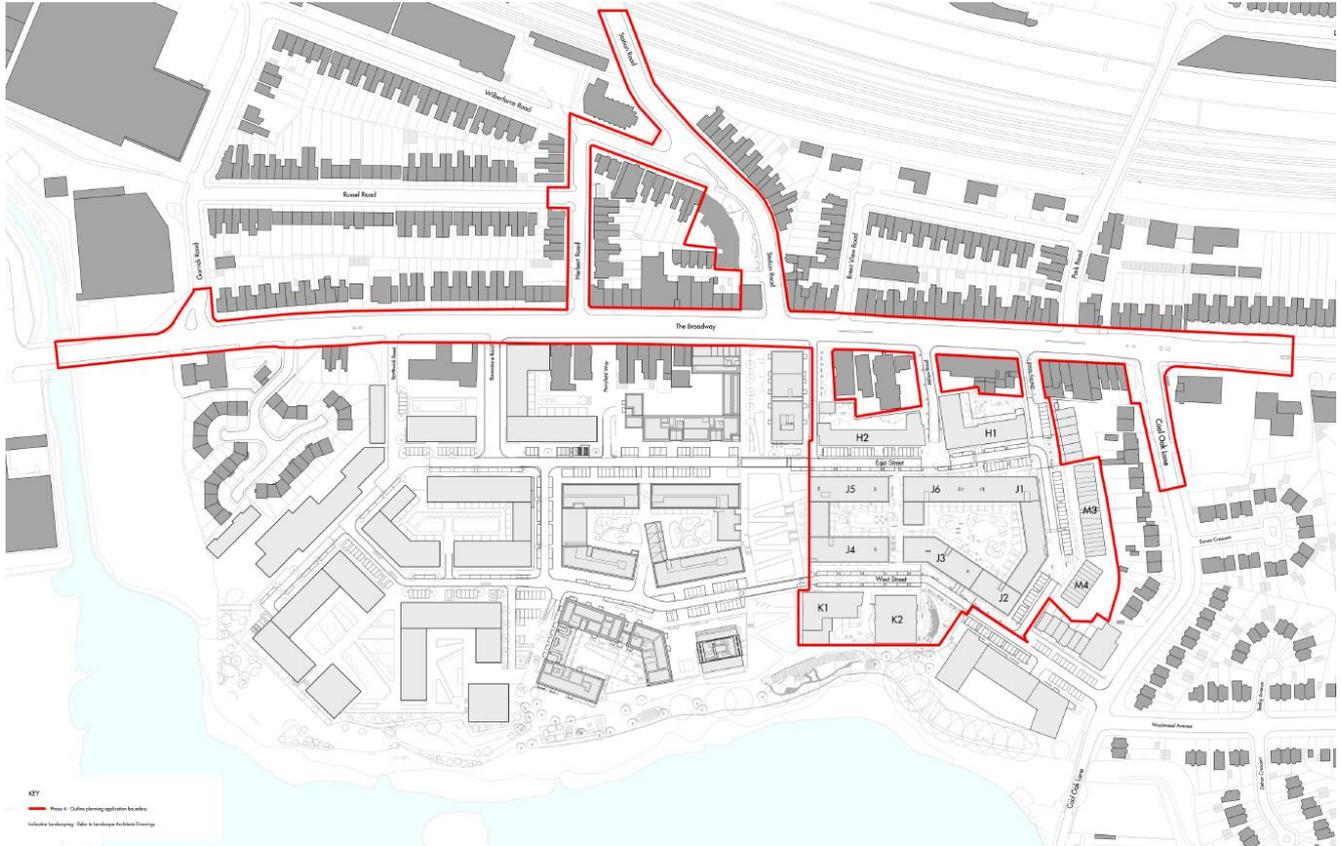
Recent Construction On-site

- 2.1.9 The two blocks developed for the detailed part of the hybrid planning application (phase 3A) were Building E and Building G1/G2. These are located in two areas of the Masterplan Site which did not require any demolition work prior to construction of the new buildings.
- 2.1.10 Building G1/G2 is located to the east of the Masterplan Site on the old location of the Perryfield Way car park. It repairs and encloses part of an existing urban block on the Broadway. The current location of the Perryfield Way gyratory becomes East Street and Building G1/ G2 is located at the intersection of East Street and a new public space leading to the Welsh Harp.
- 2.1.11 Block E is located to the west of the Masterplan Site adjacent to, but set back from the Welsh Harp. Blocks E1, E2, E3, E4, G1 and G2 are completed. Blocks G4, H3, H4, and F are due to commence on site in 2016. The location of these Blocks is shown in Figure 2.1.

The Phase 4 RMA Site

- 2.1.12 The Phase 4 RMA Site is located wholly within the Masterplan Site and is shown on Figure 2.1.

Figure 2.1 Phase 4 Site Application Boundary



3 DESCRIPTION OF DEVELOPMENT

Consented Scheme

3.1.1 The Consented Scheme description of development is detailed below:

“Hybrid planning application for the demolition and redevelopment of the West Hendon Estate to accommodate up to 2000 residential units, a new 2 form entry primary school, community building and commercial uses and associated open space and infrastructure comprising:

Outline submission for the demolition of existing buildings and the construction of up to 1642 new residential units (Class C3); up to 3,870m² (GEA) of D1 Class floorspace comprising nursery and primary school and community centre uses; and up to 1,635m² (GEA) Class A1/A2/A3/A4/A5/B1 floorspace, within buildings ranging from 2 to 29 stories, associated cycle and car parking provision including basement level parking, landscaping and public realm works, interim works, associated highway works, and two pedestrian bridges across the Welsh Harp.

Full planning submission (Phase 3 Blocks G1, G2, E1, E2, E3, E4) for the construction of 358 new residential units (Class C3), and 131m² (GEA) Class A1/A2/A3/A4/A5/B1 floorspace, within buildings ranging from 5 to 26 stories, cycle and car parking provision including basement level parking, associated landscaping and public realm works, associated highway works, energy centre, and interim works.

Submission of Environmental Statement.”

3.1.2 The Consented Scheme was split between the detailed permission and outline permission. The detailed permission comprised the construction of part of Phase 3 (Phase 3a and the tall building in Phase 3c – which has now been moved into Phase 3a) and included 358 residential units and 131 square metres (m²) of commercial floorspace which is now commenced development.

3.1.3 The remainder of the Masterplan Site comprises the outline planning permission, which provides the following:

- Up to 1,642 new residential units;
- Up to 3,870m² of Class D1 floorspace comprising nursery and primary school and community uses;
- Up to 1,635m² of Class A1, A2, A3, A4, A5 and B1 floorspace; and
- Buildings ranging from 2 to 29 storeys.

3.1.4 Table 3.1 sets out the maximum permissible floorspace and the maximum number of residential units within the Consented Scheme.

Table 3.1 Proposed Maximum Floorspace (m²) (Gross External Areas)

| Use Class | Proposed GEA (m ²) | |
|--|-----------------------------------|-------------------------|
| | A | B |
| | Maximum Development Specification | Illustrative Masterplan |
| Total Residential (Use Class C3) | 202,000 | 198,864 |
| Community (Use Class D1) | 3,870 | 3,870 |
| Retail & Related Uses (Use Class A1 – A5); Office (Use Class B1) | 1,766 | 1,766 |
| Basement & Undercroft Car Parking | 52,000 | 51,531 |
| | Residential Units | |
| Residential Units | 2000 | 2000 |

Notes:

1. All figures are gross external areas.
2. The floorspace figures exclude external or rooftop plant.
3. The floorspace figures include both the detailed planning permission and outline planning permission development areas.
4. The above figures exclude extant planning permission H/01827/11 dated 31st January 2012 for land at Deerfield & West Hendon Social Club, 1-3 Station Road or any subsequent planning application for this site.
5. The above figures do not include any public, private, communal or child play space amenity.
6. The floorspace figures exclude any interim works undertaken during the course of the phased build out of this development and relate only to the completed development.
7. The maximum development specification floorspace includes an allowance for wheelchair accommodation.
8. The Illustrative masterplan floorspace does not include an allowance for wheelchair accommodation.

3.2 RMA Conditions

3.2.1 This permission is conditional upon 103 conditions attached to the decision notice and the Section 106 legal obligation. Relevant conditions for this RMA are summarised within Table 3.2 below. In addition to the submission of reserved matters the planning permission requires information to be submitted at the same time pursuant to the following conditions.

3.2.2 As part of the Consented Scheme there are Environmental Development Standards (EDS) which the RMA are to be designed in-line with. Table 3.2 also outlines the environmental development standards which are in part met by Building Regulations and in stand-alone conditions.

Table 3.2 Relevant Planning Conditions and Environmental Development Standards

| EDS ref. | Planning Condition | Description |
|------------------------------|--------------------|---|
| Energy | | |
| 1 | None | Use of sustainable, energy efficient building techniques to reduce CO ₂ emissions. |
| 2 | None | Adopt the 'energy hierarchy' approach to delivering a 'lean', 'clean' and 'green' energy solution as encouraged by the London Plan 2011 policy 5.2 and LBB Local Plan 2012 policy CS13. |
| 3 | None | Building Regulations 2010 Part L1a and L2a. |
| 4 | 14 | Mandatory Energy (Ene 1) criteria that meets requirements for Code level 4. |
| 5 | None | Comply with the London Plan 2011 policy 5.6 with the inclusion of a community heating network supplied from an Energy Centre containing gas-fired CHP serving the Masterplan Site. |
| Sustainability | | |
| 6 | 14 | Code for Sustainable Homes level 4 (Nov 2010). |
| 7 | 15 | BREEAM New Construction 2011 'Good' for all non-domestic buildings (except possibly Block G retail which may be too small to assess). |
| 8 | 13 | Lifetime Homes for all residential units. |
| 9 | None | Register on the Considerate Constructors Scheme (CCS). |
| 10 | 100 and 103 | Internal acoustic performance where airbourne sound values are 5dB higher and impact sound 5dB lower than Part E. |
| 11 | None | Water consumption to be <105 litres/head/day (based on the Code for Sustainable Homes Water Calculator). |
| 12 | 36 | Provide an Operational Site Waste Management Plan. |
| 13 | None | Achieve an aggregate score >60%, and in compliance with minimum acceptable standards, in the Housing Quality Indicators (April 2008). |
| N/A | 22 | Provide a Landscape Management Plan |
| Transport and Parking | | |
| 14 | 68 | Prior to the commencement of each phase of the outline scheme details of the car parking spaces for that phase shall be provided to the Highways Authority prior to submitting to LBB for written approval and shall not be used for any purpose other than parking of vehicles in connection with the approved Development. Parking to be provided for each phase at a minimum of 0.8 spaces per residential unit. |
| 15 | None | Residential cycle parking in line with 2013 Transport for London |

| EDS ref. | Planning Condition | Description |
|----------------------------|-----------------------|---|
| | | (TfL) standards. |
| 16 | 67 | Commercial car parking 65 parking spaces. |
| 17 | None | Motorcycle spacing at 20% of parking spaces. |
| N/A | 71 & 72 | Provide a Car Parking Management Strategy |
| N/A | 80 | Provide a Delivery and Servicing Plan |
| N/A | 92 | Provide details of Pedestrian Highway Improvement Works identified in the PERS audit. |
| N/A | 94 | Outline scheme details and layout showing turning spaces to be agreed |
| N/A | 97 | Prior to commencement of development within any phase of the outline scheme the works to be undertaken to existing public highways within that phase shall have been approved in writing by LPA and implemented prior to occupation of any residential units located within that phase. |
| N/A | 98 | Prior to commencement of the development of any phase the details of the interim re-timing of traffic signals are to be submitted and approved by the Highway Authority in consultation with TfL prior to submitting to and approved by the Local Planning Authority in writing. |
| Air Quality | | |
| 18 | 99 | Air pollutant concentrations will be compared with the air quality objectives prescribed within Air Quality (England) Regulations 2000 ³ and Air Quality (England) (Amendment) Regulations 2002 ⁴ . Where residents are introduced into an area where air pollutant concentrations exceed air quality objectives, mitigation measures will be employed in order to minimise human exposure. This could involve, for example, altering the internal building design and introducing mechanical ventilation that draws in air from locations where there is compliance with objectives. |
| Noise and Vibration | | |
| 20 | None | The suitability of the site for residential development will be assessed in accordance with the principles in the National Planning Policy Framework (2012) ⁵ . Where feasible and appropriate the guideline levels contained within the World Health Organisation (WHO) 'Guidelines for Community Noise' 1999 ⁶ will be followed for outdoor spaces. |
| 21 | 103 and Informative 9 | Internal noise levels within residential units will meet the 'good' standard in Table 5 of BS 8233: 1999 Sound Insulation and Noise Reduction For Buildings. |
| 22 | | The predictions of road traffic noise will be undertaken in |

| EDS ref. | Planning Condition | Description |
|---------------------------------|-------------------------------|---|
| | | accordance with the Calculation of Road Traffic Noise (1988) ⁷ and the additional guidance contained within Design Manual for Roads and Bridges (DMRB) HD213/11 "Noise and Vibration" ⁸ . |
| 23 | 34 | Potential noise impacts to new noise-sensitive buildings will be addressed through design of the external building fabric of each to achieve suitable internal noise standards. The prevailing standards will be applied, at detailed design, which are for schools - Building Bulletin 93 Acoustic Design of Schools, "A Design Guide", ⁹ and Acoustic Performance Standards for the Priority School Building Programme ¹⁰ . |
| 24 | 100 and 102 and Informative 9 | The potential noise impact of permanent plant on nearby noise sensitive properties will be addressed using the criteria in BS 4142:2014 Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas ¹¹ to achieve a zero noise rating. |
| 25 | 8 | The assessment of construction-related impacts should follow the guidance provided by BS 5228 Noise and Vibration Control on Construction and Open Sites ¹² . |
| Housing | | |
| 26 | 16 | Table 3.3 London Plan Minimum Unit Size |
| 27 | 17 (in part) | Section 2.19 of the DG Inclusive Design |
| N/A | 50 | Prior to commencement of the development an Estate Management Plan shall be submitted to and approved by LPA |
| N/A | 51 | Prior to submission of reserved matters for the first phase of the outline scheme details of the proposed design review panel will be submitted and approved by LPA |
| Ecology and Biodiversity | | |
| N/A | 23 | Produce and Invasive Plant Survey |
| N/A | 39 | Provide a Conformity Statement/Review of Ecological Management Plan (pre-development). No phase of the development shall commence until EMP has been submitted to and approved by LPA |
| N/A | 43 | Provide a Land Tree and Hedge Survey |
| N/A | 44 | Provide details of provision of Bird/Bat Boxes and other ecological enhancements for approval |
| Flood Risk and Drainage | | |
| N/A | 24 | Provide a Surface Water Drainage Strategy |
| N/A | 25 | Provide a Conformity Statement for the Flood Risk Assessment |

3.2.3 Where relevant, environmental technical assessment work which is being undertaken in-line with pre-commencement conditions has been referred to in the relevant technical chapter (Chapter 5-18) of this document.

3.3 Phase 4 RMA Description of Development

3.3.1 The Development comprises the following:

- Demolition comprising a total 11,906m², which consists of:
 - Demolition of 33-125 Tyrrel Way building (7,305m²);
 - Demolition of 11-72 Warner Close building (4,601m²); and
 - Demolition of the Car Park between Tyrell Way and Warner close buildings.
- Construction of the following new buildings:
 - residential buildings H1 & H2 – detailed design by Makower Architects;
 - residential building J1, J2, J3, J4, J5 & J6 – detailed design by Allies and Morrison;
 - residential building K1 and K2 – detailed design by Makower Architects; and
 - residential building M – detailed design by Mikhail Riches.

3.3.2 The Proposed Development consists of the following:

- A total of 611 residential units, of which 418 will be private residential units and 193 will be affordable housing units including 147 intermediate units and 46 social rented units.
- 61 residential units which are wheelchair accessible.
- 17,454m² GEA basement parking incorporating 474 basement car parking spaces. A further provision of 94 car parking spaces is proposed at surface level.
- 3,661m² of balcony area; 4,120m² courtyard area; 1,531m² private gardens and roof terraces; 165m² fitness studio; total 9,824m² amenity area (excluding strategic linear open space).
- Major Highways works.

Areas of Non-compliance with the Consented Scheme

3.3.3 It has been necessary to deviate marginally from the controls set out by the Consented Scheme as a result of the detailed design process. These alterations are outlined as follows:

- **Uplift in number of residential units:** The Development proposes to bring forward an additional 72 residential units within Phase 4 to the number provided for under the Consented Scheme. However, the total number of units across all phases of development (2,000 units) remains the same.
- **Window Reveals:** The brick depth within the Phase 4 elevations is to be one brick deep as a result of construction limitations. The Design Guidelines document, approved as part of the Consented Scheme had originally set a brick depth of 1.5. This non-conformity is considered acceptable and has already been agreed with LBB for Phase 3b & 3c.
- **Break in building line between Block H4&H3 and H2:** As a result of Phase 3b & 3c RMAs and the provision of servicing off the Broadway for the retail unit under Block H4, there is no through access onto East Road. This has meant that Blocks H4 & H3 and H2 need to be separated to allow for this route which was not originally envisaged with the parameter plans. This non-conformity is considered acceptable as it does not give rise to any significant environmental effects and has been discussed with LBB at pre-application stage.
- **Block J (2 storey block) is below the minimum allowance of 56.70m:** The Consented Scheme Building Heights Parameter Plan (ref. 716_00_07_004 P2) sets a minimum height allowance of +56.70m for the inner building of Block J. Block J will now be built to a height of +54.70m to ensure appropriate daylight and sunlight into the courtyard area. The adjusted building height and the resulting mass has been tested through daylight and sunlight analysis and found to be an acceptable solution. This non-conformity is considered acceptable, see Chapter 17: Daylight and Sunlight for further details in relation to the March 2013 ES and June 2013 ES Addendum.
- **Part infill of basement between Block J and Block K to create additional car parking, resulting in additional excavation:** The Consented Scheme Car Park Parameter Plan Ref. 716_00_07_008 P2, approved in 2013, does not allow for a bigger basement for parking provision. It is proposed that the basement area will increase marginally to create additional car parking. This will extend the basement to 61,030m², which will be 9,030m² above the 52,000m² Maximum Development Specification figure. The Car Park Parameter Plan (ref. 716_00_07_008 P3) shows the extent of the proposed additional basement. In accordance with Condition 5, this breach is considered acceptable as it is unlikely to give rise to any new or significant environmental effects in comparison with the Consented Scheme, see Chapter 8: Ground Conditions for further details in relation to the March 2013 ES and June 2013 ES Addendum.



- **Height and rear building line of Block M Houses:** The proposals for Block M fall below the minimum height level of the parameter plans due to the change in site levels, and the rear building line marginally extends beyond the building line of the parameter plan. The extension beyond the parameter plan is to ensure the delivery of the 15 townhouses is met, whilst meeting design codes and standards. Block M will have no negligible effect on neighbours to the east and south of the site. In accordance with Condition 5, this non-conformity considered acceptable and the adjusted building line has been tested through daylight and sunlight analysis which is submitted with this application. See Chapter 17: Daylight and Sunlight for further details in relation to the March 2013 ES and June 2013 ES Addendum.

4 APPROACH TO THE EIA STATEMENT OF CONFORMITY

4.1.1 This EIA Statement of Conformity assesses the proposed design proposals and alterations to be implemented by this RMA against the Consented Scheme and evaluates the implications of the Phase 4 RMA scheme on the validity of the conclusions of the March 2013 ES and June 2013 ES Addendum.

4.1.2 The approach has involved the following tasks:

- Review of the key environmental documents submitted with the planning application for the Consented Scheme. Namely the March 2013 ES and June 2013 ES Addendum which assessed the potential environmental effects of the Consented Scheme; and
- Consider the implications of the Development and the likelihood for the findings of the March 2013 ES and June 2013 ES Addendum to be altered either positively (i.e. through a reduction of adverse impacts) or negatively (i.e. through the amplification of adverse impacts), or neutrally (no change to positive or adverse impacts).

4.1.3 The assessment also takes into account if any new relevant legislation, policy or guidance has been adopted and whether the methodology remains valid. A separate Planning Statement has been prepared and submitted as part of this application, which provides a summary of the key planning legislation and policy that is currently adopted, e.g. the National Planning Policy Framework and the London Plan.

4.1.4 Only those topics that were assessed within the March 2013 ES have been reassessed within this EIA Statement of Conformity. The topics are as follows:

- Transport;
- Air Quality;
- Noise and Vibration;
- Ground Conditions;
- Water Environment;
- Ecology;
- Landscape and Visual Amenity;
- Socio-economics;

- Health Impact Assessment;
- Cultural Heritage;
- Material Resources;
- Daylight and Sunlight; and
- Wind.

4.1.5 These topics are assessed sequentially in the following chapters (Chapters 5 to 18) to provide a comparable assessment to the Consented Scheme.

4.1.6 The assessments carried out within this component of the application are mostly qualitative, although some quantitative analysis has been included where further assessment has been carried out, e.g. Chapter 5: Transport. This is discussed under the relevant sections of this report where relevant.

4.1.7 It is assumed that all mitigation measures which the March 2013 ES and June 2013 ES Addendum rely upon are carried over into this application and implemented accordingly. Where any changes to mitigation measures are deemed necessary this will be stated in the relevant technical chapter.

4.1.8 Cumulative effects were assessed within a discrete chapter of the March 2013 ES. This assessed two types of cumulative effects:

- **Intra-project effects:** The combined effects of individual effects resultant from the Development upon a set of defined sensitive receptors, for example, noise, dust and visual effects; and
- **Inter-project effects:** The combined effects arising from another development site(s), which individually might be insignificant, but when considered together, could create a significant cumulative effect.

4.1.9 A review has been undertaken of the March 2013 ES cumulative assessment and the potential for additional cumulative effects that may have come forward since this time. No new cumulative schemes were identified which were not previously covered in the March 2103 ES. There were no material changes to the previously identified cumulative effects outlined within the March 2013 ES (see Chapter 19: Cumulative Effects).

5 TRANSPORT

5.1 Introduction

5.1.1 This section, which has been prepared by CH2M, provides a statement of conformity with regard to the potential transportation & highway impacts arising from the Phase 4 RMA pursuant to the March 2013 ES to confirm that the overall findings with respect to transportation and highways remain valid. No further assessment of transport effects was included within the June 2013 ES Addendum.

5.2 Relevant Phase 4 RMA Details

5.2.1 The March 2013 ES and Transport Assessment (TA) that was prepared for the hybrid planning application was based on the overall development of 539 residential units within Phase 4. However as described previously, this number has been uplifted to 611 residential units of mixed tenure and public realm. The hybrid planning application received permission for a residential-led mixed-use scheme including up to 2000 residential units; it should be noted that this remains the same.

5.2.2 The design of highway improvements, as part of the previously consented major highway works, have been developed in more detail following consultation with LBB and Transport for London (TfL). Further studies have also been undertaken to inform the design development and technical approvals process including traffic modelling. Information on these studies can be found within the Phase 4 Reserved Matters Transport Statement which is included as a component of this RMA.

5.2.3 The major highway works will involve the replacement of existing connections via Perryfield Way with a new signalised junction at the West Hendon Broadway north of the existing Perryfield Way exit and a new left-in left-out junction south of the existing Perryfield Way entry junction.

5.2.4 The major highway works involve the widening of Station Road and the introduction of 2-way working from the A5 to the M1 over-bridge allowing the removal of through traffic from Garrick Road, Wilberforce Road and Herbert Road.

5.2.5 The new layout will provide a fully linked signalised layout with two lanes for all traffic north and south bound on the A5 which results in the removal of the short section of bus lanes currently providing some bus priority along this corridor. Advanced cycle facilities are to be provided at all stop lines. It is

envisaged that the signals would be remotely managed via UTC control and SCOOT controlled to maximise capacity and allow for variation of signal timings.

5.2.6 The proposed Phase 4 RMA highways layout alters slightly in terms of kerb radii and lane widths than the layout approved as part of the Consented Scheme. The Phase 4 RMA highways layout is described in full within the Phase 4 Reserved Matters Transport Statement and is included within this planning application.

5.2.7 The final layout for planning purposes is described and assessed within this section, however it should be noted that these minor alterations have not resulted in changes to the significance of effects previously reported in the March 2013 ES.

5.3 Consented Scheme Methodology and Baseline Conditions

Baseline

5.3.1 An extensive baseline description of traffic and transport conditions was included in March 2013 ES and TA which accompanied the hybrid planning application.

5.3.2 Since the preparation of the March 2013 ES and TA, some further baseline data has been obtained to inform the detailed design as well as being required as part of the RMA. This was undertaken principally for the RMA, as well as providing input to the validation of traffic models as part of the major highway works (see Traffic and Transport Modelling section below). This data is not reproduced in full within this report due to its size and complexity but it is summarised below. However, the data does not materially affect the findings of the March 2013 ES and TA and therefore the baseline is considered to remain valid.

Public Transport Accessibility Level (PTAL)

5.3.3 The Site has a moderate PTAL score of 3, which is an average figure in a London wide context, but above average for an outer London location and for Barnet. The Site's PTAL has been determined using TfL's Planning Information Database. The PTAL score for the Site has not changed since it was reported within the March 2013 ES and TA.

Road, Personal Injury, Collisions and Safety

5.3.4 The review of Personal Injury Accident (PIA) data is outlined within the March 2013 ES and provided in detailed within Chapter 4 of the March 2013 TA. This was done in order to understand if there were any accident cluster sites close to the Masterplan Site. PIA data was originally collected between 2007 and 2011. Through using the computer programme www.crashmap.co.uk CH2M have reinvestigated the same area as previously defined for the following time period of 2011-2015. Through comparing the datasets, it is considered that the statistics provided as part of the TA remains valid in terms of accident locations and clusters.

Traffic and Transport Modelling

5.3.5 As part of the hybrid planning application, it was agreed by TfL and LBB that VISSIM Modelling would be relied upon to understand the potential impact on the existing network, the proposed access points and the proposed mitigation of major highway works. A series of technical notes were produced by CH2M which were validated by TfL. These are included within the Phase 4 Reserved Matters Transport Statement which is included as a component of this RMA.

5.3.6 Following approval of the hybrid application and through discussions with LBB and TfL it was agreed that further highway modelling would be undertaken for the purposes of ‘detailed’ design checks and to inform the Technical Approvals process for the Highways Authorities’ functions (i.e. s.278 process).

5.3.7 Changes to the future year scenarios from the calibrated base year model consisted of updating the base year networks flows with that of 2016 counts, therefore making the traffic model more relevant than its six year counterpart.

5.3.8 It should be noted however, that the most recent data shows the following:

- **Station Road** – shows a major decrease in traffic numbers from that of the March 2013 ES and TA of around 200 vehicles (two-way) in both identified peak periods.
- **West Hendon Broadway** – showed a minor increase in traffic numbers from that of the March 2013 ES and TA of around 25 vehicles (two-way) in both identified peak periods.

5.3.9 From the observed flows it can be concluded that the general trend in the area has been a modest reduction in flows or has remain the same. Therefore, the findings of the March 2013 ES and TA does

not result in any significant effects or mitigation and therefore the Transport Modelling still remains valid.

Conditional Discharge – Transport Statement (2016)

5.3.10 The Phase 4 Reserved Matters Transport Statement has been prepared to support of the application and provides the necessary information to LBB in respect of discharging a number of conditions of the Consented Scheme that relates to the Development.

5.3.11 This document includes the following conditions;

- Condition 68 – Parking;
- Condition 69 – Electric Charge Points;
- Condition 71 & 72 - Car Parking Management Strategy;
- Condition 80 - Delivery and Servicing Plan (DSP);
- Condition 92 - Pedestrian Highway Improvement Works;
- Condition 94 – Outline Scheme Details & Layout;
- Condition 97 – Public Highway Works; and
- Condition 98 – Traffic Signals & Surveys.

5.3.12 In addition, this chapter of the EIA Statement of Conformity also provides details of the major highway works that are required to be built during this phase of the Development.

5.4 Legislation and Policy

5.4.1 There have been no significant changes to policy, legislation or guidance since the March 2013 ES and TA was prepared which have a material effect on the approach to or findings of the assessment.

5.5 Assessment of Environmental Effects During Demolition and Construction

- 5.5.1 The March 2013 ES and TA identified the potential traffic effects during the construction phase of the Development on the basis of worst case flows. The potential effects of construction traffic predominantly relate to the delivery of materials to the Site and the removal of soil. It is envisaged, like most developments, that traffic movements would be heavily associated for the ground works at the early stage of each phase of the scheme.
- 5.5.2 For the first stage of the scheme (i.e. the overall development) it was anticipated there could be 100 heavy goods vehicle (HGV) movements a day for taking soil away from the Site. This would last for up to 9 months; a similar pattern is expected for each phase. Once main construction is underway the deliveries would typically reduce to 2-5 per day with the exception of concrete pours when there could be up to 60 HGVs a day, but such volumes would typically be on one day per month.
- 5.5.3 The volume of construction traffic is small compared with background flows and would not be anticipated to have an impact on network operation.
- 5.5.4 The potential for significant effects would be limited to those local roads required for access to the Site which will change for each phase following discussion and agreement with the local highway authority. Once beyond the immediate Site such volumes of traffic would be insignificant compared with background traffic flows (for example the 100 HGVs noted above would be amongst the two-way daily flows in excess of 30,000 vehicles on the A5 corridor).
- 5.5.5 With regard to Phase 4, and the construction of the A5 highway works, it is anticipated that this could take up to 18 months to be completed. This would involve some disruption but would not greatly add to construction traffic movements.
- 5.5.6 Phase 4 traffic movements would be expected to be lower than the 100 HGV movements per day. The data reported and assessed with the March 2013 ES and TA therefore remains valid.
- 5.5.7 The construction routes therefore also remain valid as identified in the March 2013 ES and TA. The routing of construction-related trips to and from the Site would be controlled by the Construction Traffic Management Plan to appropriate routes only, to be agreed with the relevant authorities.

Bus Stand – Wilberforce Road

- 5.5.8 The relocation of the bus stand from Perryfield Way to Wilberforce Road was proposed as part of the proposed major highway works, however the exact location was only confirmed in May 2016 following further consideration of the scale and period of the construction works. There will also be some modifications to the Station Road junction and Herbert Road will become a 1-way westbound road to avoid rat running between the A5 and the A506.
- 5.5.9 The relocation of the bus stand will provide some form of disruption during the construction period along with some form of residual impact on the local highway network. However, these effects will only be temporary and occur in the short-term. It is assumed that TfL will construct this bus stand while the Phase 4 highway works are being undertaken, therefore it is not considered that there will be a significant change to the Consented Scheme.

5.6 Assessment of Environmental Effects During Operation

- 5.6.1 The March 2013 TA provides the following useful commentary in relation to the effects of the Development once completed:

“The full development scenario is for the total of 2000 new units. The development trips associated with the new residential development have been assigned to the three new access points, the main signalised junction with the A5, and the limited movement priority junction on the A5 and the Cool Oak Lane access. They have been distributed in line with existing observed traffic movements”.

- 5.6.2 The development of the scheme has included the final design of the transport and infrastructure proposals in-line with the completed forecast movement of 2,000 units and not on a Phase by Phase basis. It is on this basis that traffic modelling has been used to ensure that the Development accommodates the forecast traffic volumes.
- 5.6.3 As outlined above, a total of 611 residential units are to be brought forward instead of the granted planning permission of 539 units. Although, this is an increase of 69 residential units for Phase 4, the overall forecast of 2,000 units remains the same.
- 5.6.4 Therefore, based on the above information and taking into account the design of Phase 4, it is deemed that all significant environmental effects in relation to operational traffic as identified in the March 2013 ES and TA remain valid.

5.7 Cumulative Effects

5.7.1 A number of committed developments were required by LBB Highways to be included within all assessments ('cumulative schemes'). The cumulative schemes that were included as part of the March 2013 ES cumulative effects assessment were:

- Grahame Park - Phase 1 (part of the Colindale Area Action Plan);
- Zenith House;
- Oriental City (within London Borough of Brent);
- West Hendon Lakeside and Pilot phase; and
- Brent Cross Cricklewood.

5.7.2 In terms of Brent Cross Cricklewood, it was agreed with LBB and TfL that no traffic changes associated with this committed development would be included within the West Hendon assessment. This was because the site actually suggested a reduction in traffic along the section of the A5 within the study area.

5.7.3 The vehicle trips associated with each of the committed developments were extracted from each of their own Transport Assessments completed for their site. Therefore, CH2M believe that the developments listed above are still valid and no changes in terms of additional assessments are required.

5.8 Mitigation and Enhancement

5.8.1 There are no changes required for the mitigation measures recommended in the March 2013 ES.

5.9 Conclusions and Statement of Residual Significance

5.9.1 The overall traffic and transport demands of the Development will be accommodated on the highway, public transport, pedestrian and cycle networks through the provision of appropriate new junctions, and access arrangements, all of which will be delivered as part of Phase 4. The overall effect is considered to remain valid based on the findings on the revised VISSIM Modelling.



5.9.2 Therefore, no new or materially different potential effects arising from the Phase 4 RMA have been identified in respect of traffic and transport, and the conclusions set out in the March 2013 ES and TA remain valid.

6 AIR QUALITY

6.1 Introduction

6.1.1 This section, which has been prepared by CH2M, provides a statement of conformity with regard to the potential air quality effects arising from the Phase 4 RMA as part of the consented in place. This is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to air quality remain valid.

6.2 Relevant Phase 4 RMA Details

6.2.1 The only significant alterations to the Consented Scheme are the addition of a further 72 units to be constructed as part of Phase 4 works and an increase in the size of the basement to provide greater car parking spaces that caters for the increased number of residential units. The Phase 4 RMA design includes five winter gardens within Block H1 as mitigation measure for those units that are found in areas of poor air quality.

6.3 Methodology

6.3.1 The original methodology has been reviewed and found to be valid. It should be noted that the Emission Factor Toolkit (EFT) has been updated since 2013. The more recent version includes revised emission factors because diesel vehicles emit more NO_x than expected under urban driving conditions. Considering the size of the variation from the Consented Scheme (72 additional units), the change in emission factors is not expected to cause a significant change in the conclusions stated in the March 2013 ES and June 2013 ES Addendum.

6.4 Legislation and Policy

6.4.1 There have been no significant changes to legislation or policy that would change the findings of the March 2013 ES and June 2013 ES Addendum.

6.5 Baseline Conditions

- 6.5.1 The baseline data used to characterise the Site and local area in the base year (2011) are considered to be still valid.
- 6.5.2 The background concentrations of considered pollutants for the opening year (2015) were obtained from Defra tools released in August 2012. These assumed air quality improvements in future years based on the Defra background pollution maps and vehicle emission factors. This approach was adopted as air quality was expected to improve year on year across the Borough at a rate similar to that assumed by the Defra tools. That prediction has proven to be optimistic with recent LBB¹ data indicating that there has not been any significant reductions in NO₂ concentrations in the area. From the base year (2011) to the opening year (2015), a 10% reduction in NO₂ background concentrations was expected but measured NO₂ concentrations appear to be almost unchanged². This is thought to be largely because diesel vehicles emit more NO_x than expected under urban driving conditions.
- 6.5.3 In order to clarify current NO₂ concentrations CH2M performed a four month air quality monitoring survey for the Site in accordance with Condition 99. The monitoring survey is presented in Annex 1 to this document. Survey results indicate that the measured NO₂ concentrations obtained over a four month period are in line with concentrations predicted for the opening year (2015) future concentrations reported in the March 2013 ES.

6.6 Designed-in Mitigation and Enhancement Measures

- 6.6.1 There are no changes required for the designed-in mitigation measures recommended in the March 2013 ES and June 2013 ES Addendum.

6.7 Assessment of Environmental Effects During Demolition and

¹ London Borough of Barnet, 2015, (Review and Assessment of Air Quality, 2015).

² Data obtained from the LBB background station of Chalgrove.

Construction

- 6.7.1 An increase in dust generation is expected during the construction phase as a result of increased earthworks but the magnitude of this change is not expected to create a materially significant change in potential effect to that outlined in the March 2013 ES and June 2013 ES Addendum.
- 6.7.2 It is likely that there will also be an increased number of vehicles to remove the extra excavated material and a consequent increase in dust generation. Compared to construction activities considered in the March 2013 ES, there is a very small increase and there should be no significant changes to the potential effects outlined in the March 2013 ES and June 2013 ES Addendum.
- 6.7.3 The assessment of demolition/construction effects therefore remains unchanged from that described in the March 2013 ES and June 2013 ES Addendum.

6.8 Assessment of Environmental Effects During Operation

- 6.8.1 The assessment of operational effects remains unchanged from that described in the March 2013 ES and June 2013 ES Addendum. Some of the toolkits used to estimate emissions have been updated since submission of the March 2013 ES and June 2013 ES Addendum. Vehicles emission factors in particular have been revised; the more recent version of the EFT includes revised emission factors because diesel vehicles emit more NO_x than originally expected under urban driving conditions.
- 6.8.2 It is not possible to qualitatively estimate the magnitude of change in concentrations associated with the revised emissions due to the complexity estimating the modelled concentration at receptors. The emissions factors are speed dependant and they differ for passenger cars and goods vehicles. In order to quantify the effect of the new emissions factors, it would be necessary to recalculate emissions from the affected network using the latest version of the EFT and re-run the ADMS dispersion model to estimate NO₂ concentrations at identified receptors. However, the monitoring campaign results show that measured NO₂ concentrations at the Site are in-line with the opening year predictions outlined within the March 2013 ES. In general, the survey confirmed the modelling outcomes which predicted exceedances of the 40µg/m³ limit along the A5, with peak NO₂ concentrations (above 50µg/m³) at roadside receptors along the A5 and concentrations between 30 and 40µg/m³ within the Site. The highest measured concentration over the monitoring period is 43.0µg/m³ (recorded at the junction between the A5 and Milton road) showing a good accordence with predicted value along the A5. Within the Site, moving further from the A5, measured values are always below the 38µg/m³ guideline

value (i.e. value above which air quality mitigation measures are required). The model appears to have overestimated NO₂ concentrations at some of the receptors within the Site but in the differences are within the model uncertainty range and the need to rerun the model is not envisaged.

- 6.8.3 Given that the amendments to the Consented Scheme (72 additional units) are relatively minor, the change in emission factors is not expected to cause a significant change to the results provided in the March 2013 ES, thus the conclusions remain valid.

6.9 Cumulative Effects

- 6.9.1 There are not anticipated to be any changes to the assessment of cumulative effects.

6.10 Mitigation and Enhancement

- 6.10.1 There are no changes required for the mitigation measures recommended in the March 2013 ES and June 2013 ES Addendum.

6.11 Conclusions and Statement of Residual Significance

- 6.11.1 The assessment remains valid. Although, the projected background emission levels assumed for the opening year (2015) and used to predict impacts in the March 2013 ES are likely to have changed. A 10% reduction in NO₂ background concentrations was expected, while according to latest available information from LBB NO₂ concentrations appear to be almost unchanged. However, the survey results from the air quality monitoring confirmed that NO₂ levels reported in the March 2013 ES are valid. This is likely to be due to the conservative approach that was followed during the validation of modelling results. The raw modelling outputs were post-processed and validated against NO₂ measurements obtained from a dedicated survey performed by CH2M in 2011. A conservative factor was applied to adjust modelled concentrations in all scenarios (including the opening year). This approach is likely to have compensated the 10% underestimate in the assumed future NO₂ background concentrations.
- 6.11.2 A review of the March 2013 ES for air quality has identified that relevant legislation and policies have not changed substantially to the extent of requiring amendments to the impact assessment or mitigation strategy. Some of the assumptions on which the background concentrations in the opening year were based are likely to have changed but the survey results from the air quality monitoring



survey confirmed the validity of modelling results presented in the March 2013 ES. A technical note describing the monitoring campaign and survey results is presented as Annex 1 of this document.

- 6.11.3 In general, assumed changes to the Development are not considered to have resulted in any significant changes to the conclusions of the March 2013 ES and June 2013 ES Addendum. As such, the conclusions set out in the documents remain valid.

7 NOISE AND VIBRATION

7.1 Introduction

7.1.1 This Chapter, which has been prepared by RBA Acoustics Ltd (hereafter referred to as 'RBA'), provides a statement of conformity with regard to the potential noise and vibration impacts arising from the Phase 4 RMA as part of the Consented Scheme in place (hereafter referred to as the 'Development'). This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to noise and vibration remain valid.

7.2 Relevant Phase 4 RMA Details

7.2.1 The new information within the RMA of particular relevance to this Statement of Conformity is with regard to the deeper basement excavation beneath Block J, the protection of birds within the nearby Brent Reservoir SSSI, the increase in residential unit numbers and the current proposals for major alterations to the M1 Brent Cross Cricklewood junction.

7.2.2 With regard to the Phase 4 RMA, RBA have yet to carry out further noise surveys but propose to undertake detailed noise survey works to provide input into the detailed design for Phase 4 in order to discharge Conditions 100, 102 and 103.

7.3 Methodology

7.3.1 RBA confirm the validity of the general methodology as set out in the March 2013 ES and June 2013 ES Addendum.

7.3.2 A number of the standards and guidance documents as described in the March 2013 ES and June 2013 ES Addendum have been superseded, as follows (only where relevant to Phase 4):

- BS8233:1999¹³ has been replaced with BS8233:2014¹⁴;
- BS4142:1997¹⁵ has been replaced with BS4142:2014; and
- IoA/IEEMA Noise Impact Assessment Guidelines¹⁶ have been updated as of 2014.

7.3.3 Ultimately, however, these updates have no material bearing on the assessment(s) going forward.

7.3.4 It should be pointed out that existing vibration and aircraft noise sources were originally scoped out of the March 2013 ES, and RBA agree with this approach. No further vibration surveys have therefore been carried out and no noise survey positions have been selected with regard to aircraft noise sources.

7.4 Legislation and Policy

7.4.1 Since the publication of the March 2013 ES, the following documents have been introduced or revised:

- National Planning Practice Guidance (NPPG)¹⁷; and
- The London Plan 2015¹⁸.

However, the above contain no technical changes likely to affect our design works, or result in any significant differences between our works and those works as already undertaken within the March 2013 ES.

7.5 Baseline Conditions

7.5.1 The baseline noise measurements as undertaken and presented within the March 2013 ES remain valid (no additional surveying was reported as part of the June 2013 ES Addendum). Since the baseline information presented within the March 2013 ES was prepared, RBA have undertaken a number of additional detailed noise surveys of our own to enable detailed design of the building façades and the design of plant noise emissions, for previous Phases. These have been submitted as part of previous RMAs for discharge of Conditions 100, 102 and 103 for Phases 3b and 3c. The previously submitted reports for these are as follows:

- Phase 3b, Block F, West Hendon Regeneration Acoustic Assessment Report, ref: 6996/AAR, dated 23 October 2015¹⁹;
- Phase 3c, Block H3/H4, West Hendon Regeneration Acoustic Assessment Report, ref: 7262/AAR-H3/H4, dated 31 March 2016²⁰; and
- Phase 3c, Block G4, West Hendon Regeneration Acoustic Assessment Report, ref: 7262/AAR-G4, dated 31 March 2016²¹.

7.5.2 The data collected from these surveys is comparable to that originally presented within the March 2013 ES.

7.5.3 With regard to the traffic flows of the surrounding area that form the dominant façade incident noise levels, discussions with the traffic consultants concluded that the traffic studies within the March 2013 ES remain valid, with traffic modelling undertaken since submission showing that flows either remain the same or have marginally decreased. Therefore, there is not expected to be any change in noise levels of any significance.

7.6 Designed-in Mitigation and Enhancement Measures

7.6.1 The measures as described within the March 2013 ES are considered valid and appropriate. Although the detailed specification of such measures was also appropriate for the information available at the time, the additional detailed noise surveys and access to the latest information have so far allowed us to more accurately and pragmatically evolve the design and specification of any acoustic mitigation measures for Phases 3a and 3b. It is anticipated that the design will be similarly evolved from the ES specifications on Phase 4 when information is available.

7.7 Assessment of environmental effects during demolition and construction

7.7.1 The assessment within the March 2013 ES remains valid based on the information available at the time. The most significant potential change in potential effects since the March 2013 ES would be in relation to the additional basement excavation. However, basement excavation works were assessed within the March 2013 ES using the Consented Scheme basement proposals and this considered there to be the potential for a moderate adverse impact at particular receptors. Therefore, it is considered that the only potential material change would be that these effects would likely last for a slightly longer period of time than previously assumed, and this particular phase of works is only relatively short in relating to the whole programme.

7.7.2 The nearby Brent Reservoir SSSI is not referenced within the March 2013 ES with regard to construction phase noise impacts on birds; however, an ongoing assessment is being undertaken and the contractor has been, and will continue to, provide noise monitoring to protect this area (see Chapter 10: Ecology for further details).

7.8 Assessment of environmental effects during operation

7.8.1 The assessment from the March 2013 ES remains valid with regard to the measures proposed. Although the detailed specification of those measures as described within the March 2013 ES are considered appropriate for the information available at the time, the additional detailed noise surveys and access to the latest information have allowed a more accurate evolution of the design and specification of the mitigation for the operational environmental effects for Phases 3a and 3b. It is proposed to similarly provide further input into the Development's detailed design to ensure noise effects are appropriately mitigated once the results of the noise monitoring are available. This work will be controlled by and also allow for the discharging of Conditions 100, 102 and 103.

7.9 Cumulative Impacts

7.9.1 There are significant changes proposed to the M1 junction Brent Cross Cricklewood, which are not picked up in the ES, or the current traffic model. However, given the distance of the affected roads from the Development, it is not expected that there would be any increase in noise levels at the Site greater than "negligible" in the short-term or long-term, with reference to DMRB, and consider no change to the scheme designs to be necessary as a result.

7.10 Mitigation and Enhancement

7.10.1 There are no changes required for the mitigation measures recommended in the March 2013 ES and June 2013 ES Addendum.

7.11 Conclusions and statement of residual significance

7.11.1 A review of the March 2013 ES for noise and vibration has identified that there are no material changes to the baseline information, relevant legislation and policies that would necessitate amendments to the impact assessment or mitigation strategy. Assumed changes as a result of the Development are similarly not considered to result in any new or materially different changes to the conclusions set out the March 2013 ES. As such, these remain valid.

8 GROUND CONDITIONS

8.1 Introduction

8.1.1 This section, which has been prepared by Quod, provides a statement of conformity with regard to the potential ground condition effects arising from the Phase 4 RMA as part of the consented in place. This is provided pursuant to the March 2013 ES to confirm that the overall findings with respect to ground conditions remain valid. No further assessment of ground condition effects was included within the June 2013 ES Addendum.

8.2 Relevant Phase 4 RMA Details

8.2.1 One of the primary amendments to the Development from the Consented Scheme is the increase in size of the below-ground footprint of the Development to connect the basements of Blocks J and K. This would require additional excavation of approximately 9,030m³ from the Site in comparison to the Consented Scheme.

8.3 Methodology

8.3.1 There are no proposed changes to the methodology as set out within the March 2013 ES. The original methodology has been reviewed and found to be valid.

8.4 Legislation and Policy

8.4.1 There have been no significant changes to legislation or policy that would change the findings of the March 2013 ES.

8.5 Baseline Conditions

8.5.1 There are no known changes to baseline conditions that would result in significant changes to the conclusions / recommendations of the March 2013 ES.

8.6 Designed-in Mitigation and Enhancement Measures

8.6.1 There are no changes required for the designed-in mitigation measures recommended in the March 2013 ES.

8.7 Assessment of Environmental Effects During Demolition and Construction

8.7.1 The extension of the basement will involve increased excavation works. However, it is not envisaged that these would lead to any new or materially different effects that may not occur through the consented excavation works as long as the mitigation measures outlined within the March 2013 ES are implemented.

8.8 Assessment of Environmental Effects During Operation

8.8.1 The increase in unit number is not considered to create any new or materially different effects to those detailed in the March 2013 ES. Therefore, the assessment of operational effects remains unchanged from that described in the March 2013 ES.

8.9 Cumulative Effects

8.9.1 There are not anticipated to be any changes to the assessment of cumulative effects from that described in the March 2013 ES.

8.10 Mitigation and Enhancement

8.10.1 There are no changes required for the mitigation measures recommended in the March 2013 ES.

8.11 Conclusions and Statement of Residual Significance

8.11.1 A review of the March 2013 ES for ground conditions has identified that the baseline information, relevant legislation and policies have not changed substantially to the extent of requiring amendments to the impact assessment or mitigation strategy. Assumed changes as a result of the Development are



similarly not considered to result in any new or materially different changes to the conclusions set out the March 2013 ES. As such, these remain valid.

9 WATER ENVIRONMENT

9.1 Introduction

9.1.1 This section, which has been prepared by CH2M, provides a statement of conformity with regard to the potential water environment impacts arising from the Phase 4 RMA as part of the consented in place. This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to the water environment remain valid.

9.1.2 Issues relating to groundwater quality are covered in Chapter 8: Ground Conditions, however key issues relating to groundwater resources are included in this section.

9.2 Relevant Phase 4 RMA Details

9.2.1 The only significant modifications of relevance are an increase in the size of basement for resident car parking. However, this would not result in any increased impermeable area (and runoff).

9.3 Methodology

9.3.1 There are no proposed changes to the methodology as set out within the March 2013 ES. The original methodology has been reviewed and found to be valid.

9.4 Legislation and Policy

9.4.1 The NPPF guidance for climate change allowance was updated in February 2016 and this may change the flood risk allowances. However, transitional arrangements exist for flood risk assessments for developments that are well advanced, with the default Environment Agency position being that existing flood risk assessments are still applicable, except in areas of high risk. The EA have indicated that the original allowances would still be valid for a FRA prepared for an existing application, such as West Hendon.

9.4.2 There have been no other significant changes to legislation or policy that would change the findings of the March 2013 ES.

9.5 Baseline Conditions

9.5.1 Key areas of baseline conditions have been reviewed, i.e.:

- Whether there have been any changes to ground condition information that may have changed the assessment of potential impacts on groundwater water resources.
- Whether there have been any updates to flood risk models for the local area.

9.5.2 The conclusion of this review is that there have not been any significant changes to the baseline information that was used as the basis of the 2013 ES impact assessment, specifically:

- There has been no changes to available ground condition information that was used in the 2013 ES.
- As suggested by the Environment Agency, changes to flood risk have been determined by noting any changes to the aerial extent of the latest published flood risk zones for the Silk Stream and northern Part of Brent Reservoir. No changes in these areas have been identified.

9.6 Designed-in Mitigation and Enhancement Measures

9.6.1 There are no changes required for the designed-in mitigation measures that were recommended in the March 2013 ES.

9.7 Assessment of Environmental Effects During Demolition and Construction

9.7.1 The assessment of demolition/construction effects remains unchanged from that described in the March 2013 ES.

9.8 Assessment of Environmental Effects During Operation

9.8.1 The assessment of other operational effects remains unchanged from that described in the March 2013 ES.



9.9 Cumulative Effects

9.9.1 There are not anticipated to be any changes to the assessment of cumulative effects.

9.10 Mitigation and Enhancement

9.10.1 There are no changes required for the mitigation measures recommended in the March 2013 ES.

9.11 Conclusions and Statement of Residual Significance

9.11.1 A review of the March 2013 ES for water environment has concluded that the baseline information, relevant legislation and policies have not changed substantially to the extent of requiring amendments to the impact assessment or mitigation strategy. The proposed alterations as a result of the Development are similarly not considered to result in any new or materially different changes to the conclusions set out the March 2013 ES. As such, these remain valid.



10 ECOLOGY

10.1 Introduction

10.1.1 This Chapter, which has been prepared by Peter Brett Associates, provides a statement of conformity with regard to the potential ecological impacts arising from the Phase 4 RMA. This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to ecology remain valid.

10.2 Relevant Phase 4 RMA Details

10.2.1 The Development will deliver Blocks H, J, K and M, following demolition of existing residential blocks on Warner Close and at the southern end of Tyrell Way. The Phase 4 RMA has been prepared having regard to the proximity of the Brent Reservoir SSSI and the ecological requirements of urban wildlife in the local area.

10.2.2 A Landscape Masterplan forms part of the application and confirms the specification of planting that will benefit wildlife, and includes extensive green roofs on appropriate buildings. An Ecological Management Plan confirms other features (including bird and bat bricks) and management measures that will protect and enhance ecological features within and in close proximity to the Development.

10.3 Methodology

10.3.1 The survey methodology that determined baseline conditions in 2013, and the assessment methodology that guided the assessment of ecological impacts, continue to be relevant for the reasons set out below:

- **Survey Methodology:** the ecological impact assessment set out in the March 2013 ES and June 2013 ES Addendum was informed by ecological surveys undertaken in 2012/13 to determine baseline conditions on the Masterplan Site and adjacent Brent Reservoir SSSI. A Phase 1 Habitat Survey confirmed the identity and extent of the habitats present, and the specification of detailed bat and bird surveys required to inform the 2013 impact assessment. Further studies in relation to bat and birds have since been undertaken (see Baseline Conditions section) and are ongoing. The data obtained, together with the findings of a recent update to the Phase 1 Habitat survey,

provide a robust and current baseline for impact assessment. As such the survey methodology that helps to inform this Statement of Conformity is valid.

- **Assessment Methodology:** the impact assessment set out in the Ecology chapter of the March 2013 ES and June 2013 ES Addendum was undertaken in accordance with Guidelines for Ecological Impact Assessment in the UK, issued by the Institute of Ecology and Environmental Management in 2006²². These guidelines were accepted as best practice at the time, but have since been subject to updates. However, these updates are minor in nature, and do not undermine the validity of the 2013 assessment.

10.4 Legislation and Policy

- 10.4.1 There have been no changes to wildlife or protected species legislation since the ecology chapter of the March 2013 ES and June 2013 ES Addendum were prepared that are material to (i) the assessment of impacts of the scheme; or (ii) the proposed approach to habitat and species management.

10.5 Baseline Conditions

Habitats

- 10.5.1 An extended Phase 1 Habitat Survey was undertaken in spring 2012. This mapped and assessed the habitats and features associated with the Masterplan Site. It confirmed the Masterplan Site to be dominated by buildings and hardstanding, with areas of amenity grassland, ornamental shrub beds and ruderal vegetation, all of which have negligible intrinsic ecological value. The linear tree line adjacent to the Brent Reservoir lay immediately beyond the western boundary of the Site and formed an important barrier, providing a buffer between the Site and the waterbody.
- 10.5.2 The Phase 1 Habitat Survey was repeated on 26th August 2016. The purpose was to determine whether there have been any changes to the habitats and features within the Phase 4 area and/or adjacent reservoir that would be likely to result in a change in their ecological value or potential to support protected species. The report recording the findings of this survey is appended to this Statement and includes an updated Phase 1 Habitat Plan (see Annex B). The report confirms the Phase 4 area remains largely unchanged, continuing to be dominated by buildings and hard standing, with minimal vegetation, none of which has intrinsic ecological value. As such, the Site remains unimportant in supporting populations of protected or notable species in the local area. The tree belt at the SSSI

boundary remains intact, and since the 2012 survey has benefitted from an exercise which has cleared litter from the woodland floor.

- 10.5.3 The baseline information in relation to habitats within the Site remains valid and capable of informing this EIA Statement of Conformity.

Brent Reservoir SSSI and Ornithological Studies

Baseline ornithological survey (2012):

- 10.5.4 The key ecological feature associated with the Site is the Brent Reservoir SSSI, the northern arm of which lies immediately to the west of the Site. The SSSI is notified primarily for the importance of the population of breeding great crested grebe and the assemblage of wintering birds. Baseline ornithological surveys undertaken in 2012/2013 established the numbers and distribution of waterfowl associated with the waterbody during the breeding and wintering seasons, the findings of which informed the March 2013 ES and June 2013 ES Addendum.

Monitoring the effects of construction noise (2014)

- 10.5.5 Additional ornithological studies were undertaken in 2014. These were driven by Condition 40 and supported an assessment of the significance of construction and demolition noise effects on the bird species for which the Brent Reservoir SSSI is notified. The outcome of the 2014 studies was reported in April 2015 (PBA 2015) and confirmed that construction and demolition activities had no significant effect on breeding great crested grebe or the wintering bird assemblage for which the reservoir is notified. This was reported to Natural England who accepted the study findings such that planning Condition 40 was duly discharged.

Monitoring the effects of construction noise (2015/16)

- 10.5.6 Barratts London opted to continue the monitoring study in order to collect ornithological data during a period of major demolition; this having not featured in the 2014 project programme. Further ornithological and acoustic data was collected during the breeding seasons of 2015 and 2016, and the intervening wintering season. This further period of monitoring has confirmed the findings of the 2014 study (i.e. that construction and demolition activities had no significant effect on breeding great crested grebe or the wintering bird assemblage for which the reservoir is notified). The report setting out the findings of the 2015/16 will be submitted in accordance with Condition 40.

Monitoring the effects of recreational use of the Brent Reservoir SSSI (2015 – ongoing)

- 10.5.7 Further ornithological monitoring commenced in winter 2015, coincident with occupation of the first blocks in Phase 3a of the Development. This was driven by Condition 42 and supports an assessment of the effects of recreational use of the reservoir on its ornithological interest. The results of the first tranche of monitoring will be reported in September 2016, confirming initial findings that although the reservoir is subject to recreational disturbance, this appears to result primarily from use by dog walkers and others arriving by car/van from locations beyond the Estate.
- 10.5.8 The baseline information in relation to the ornithological interest of the Brent Reservoir SSSI remains relevant and capable of informing this EIA Statement of Conformity. In addition, further more detailed ornithological studies have taken place since 2014. These supplement the baseline data, enhance understanding of the use of the SSSI by key bird species, and increase confidence in the impact assessment.

Bats

Baseline bat surveys (2012)

- 10.5.9 An assessment of buildings and trees within the Site for their potential to support roosting bats was completed in 2012. Bat activity surveys were also undertaken within the Site and along the banks of the reservoir. While bat activity was evident over the waterbody and along the tree lined banks, minimal activity was recorded within the Site. The assessment concluded there were then no trees within the Phase 4 boundary with the potential to support roosting bats, but that the poor state of repair was such that some buildings had features typically used as occasional roost sites by crevice dwelling species of bat.

Reassessment of Phase 4 area (2016)

- 10.5.10 The buildings within the Phase 4 area (identified as B1 – B4, B5 and B7 – B11 in the original baseline survey, BSG Ecology, 2013) were reassessed for their current roost potential during the Site survey on 26th August 2016. Despite continuing to have some features typically used by crevice dwelling bats, all buildings were assessed as having negligible roost potential in view of the minimal bat activity recorded during the 2012 surveys and less favourable conditions that now prevail as a result of current Site activities. No trees were identified as having roost potential within the Phase 4 area in 2012, and the 2016 update survey confirmed that continuing to be the case.

10.5.11 The baseline information in relation to the likely use of the Site by bats was updated during a repeat of the Phase 1 Habitat Survey in August 2016, providing current and valid information capable of informing this EIA Statement of Conformity.

10.6 Designed-in Mitigation and Enhancement Measures

10.6.1 The designed-in mitigation and enhancement measures set out in the March 2013 ES were informed by the outcome of the 2012/13 ecological surveys. As subsequent studies have confirmed there have been no material changes to baseline conditions, and no additional scheme effects have subsequently been identified, the designed-in measures identified in the March 2013 ES remain appropriate. For clarity, where relevant to Phase 4, these are summarised as follows:

- Construction and Demolition (March 2013 ES, section 1.5.1.8):
 - Management of invasive plant species;
 - Avoidance of tree felling;
 - Protection of the water environment by implementing the measures identified in Chapter 9 Water Environment of the 2013 ES;
 - Avoidance of clearance of vegetation during the nesting season (March – August) or undertake pre clearance nesting bird check to safeguard active nests and young;
 - Management of the demolition and construction footprint through use of hoarding and/or other appropriate fencing; and
 - Establishment of Root Protection Zones in accordance with BS5837 to ensure the protection of retained trees.
- Operation (March 2013 ES, section 10.6.2):
 - Incorporation of vegetated roofs:
 - Inclusion of bird and bat bricks/boxes in buildings:
 - Fence and woodland/vegetation management to minimise disturbance to the SSSI:
 - Lighting strategy to avoid light spill of greater than 0.5 lux over the SSSI and woodland boundary:
 - Landscape planting specified to benefit urban species of birds and bats: and
 - Building facades and windows specified to minimise the risk of wildfowl collision.

10.7 Assessment of environmental effects during demolition and construction

10.7.1 Potential effects during the demolition and construction phase have been previously identified (March 2013 ES, section 10.5.1). Those relevant to Phase 4 were identified as:

- Vegetation clearance;
- Demolition of buildings;
- Noise;
- Air Quality;
- Water Quality; and
- Lighting.

10.7.2 These potential effects can still be expected to occur. However, the assessment of significance and the mitigation/management measures set out in section 10.5 (and summarised in table 10.8) of the March 2013 ES continue to be an effective and/or proportionate response to each of these potential effects.

10.8 Assessment of environmental effects during operation

10.8.1 Potential effects during the operation phase have been previously identified (March 2013 ES, section 10.6.1). Those relevant to Phase 4 were identified as:

- New buildings: wildfowl collision;
- Recreational Disturbance;
- Noise;
- Water Quality; and
- Lighting.

10.8.2 These potential effects can still be expected to occur. However, the assessment of significance and mitigation/ management measures set out in section 10.6 (and summarised in table 10.8) of the March 2013 ES continue to be an effective and/or proportionate response to each of these potential effects.

10.9 Cumulative Impacts

10.9.1 There are not anticipated to be any changes to the assessment of cumulative effects.

10.10 Mitigation and Enhancement

10.10.1 The management, mitigation and enhancement measures identified above are described in full in section 10.7 of the March 2013 ES. The measures and the descriptions provided continue to be relevant to Phase 4 of the Development, and support an approach to regeneration that will result in no significant ecological impact during either the construction or operations phases of Development.

10.11 Conclusions and statement of residual significance

10.11.1 The assessment of impacts during the construction and operation of Phase 4 is set out in the ecology chapter of the March 2013 ES. The assessment of residual impacts is summarised in section 10.8 and Table 10.8.

10.11.2 The Site continues to include no habitats of intrinsic ecological value. However, the buildings provide conditions suitable for bird species that are characteristic of urban areas, and for common species of crevice dwelling bat. The precautionary management measures summarised above will ensure nesting birds and any roosting bats are safeguarded during demolition and construction. During operation the inclusion of carefully specified and located bat and bird bricks/boxes, vegetated roofs, sympathetic landscape planting and sensitive use of lighting in external areas will jointly provide enhanced conditions for urban wildlife. As such, there will be no significant residual impact on ecological features during Phase 4 of the Development; the 2013 assessment of residual impact remains valid.

10.11.3 The key ecological feature with the potential to be effected by the regeneration scheme is the Brent Reservoir SSSI, and in particular the ornithological interest for which it is notified. Bespoke ornithological studies have been undertaken since 2014 and are ongoing. These supplement the baseline surveys that informed the 2013 impact assessment, and provide clear evidence that construction and demolition noise has had no significant effect on the use of the reservoir by the bird species for which it is notified. This additional information, in combination with the measures already specified to ensure the woodland interface at the boundary between the Development and the reservoir is secure, is such that there will be no significant residual impact on the Brent Reservoir SSSI during Phase 4; the 2013 assessment of residual impact remains valid.

11 LANDSCAPE AND VISUAL AMENITY

11.1 Introduction

11.1.1 This section, which has been prepared by Quod in consultation with Allies & Morrison, provides a statement of conformity with regard to the potential landscape and visual effects arising from the Phase 4 RMA. This is provided pursuant to the March 2013 ES to confirm that the overall findings with respect to landscape and visual amenity remain valid. No further assessment of landscape and visual effects was included within the June 2013 ES Addendum.

11.1.2 The March 2013 ES identified that the Site is not located in any landscape designated areas, although it is close proximity to the Welsh Harp Metropolitan Open Land (MOL). Fryent Country Park MOL is approximately 2km to the west of the Site boundary.

11.1.3 Though some adverse impacts are expected during demolition and construction works associated with the Development, these will be temporary, and are made less significant because of the existing poor condition of the Site.

11.1.4 There will be predominantly beneficial effects on landscape, townscape and visual amenity as a result of the Development once it is complete and occupied. This is due to the replacement of poor quality architecture with elements of higher quality. The adverse impact on views from the Brent Reservoir SSSI and nearby MOL is restricted to certain viewpoints, and is unlikely to be significant in relation to the wider townscape of the area. The potential effects of the taller elements will employ good uses of material and lighting to provide enhance visual amenity.

11.2 Relevant Phase 4 RMA Details

11.2.1 The scale and massing of the blocks above the ground remains unchanged to the parameters outlined under the Consented Scheme and is within the parameters of maximum height and massing, with the exception of Block M where there are minor exceedances.

11.2.2 The Consented Scheme outlined the areas within Phase 4 for 'Streets & Public Realm' and 'Podium Courtyard' landscaping along with basic design and management principles. While the Streets & Public Realm remains relatively unchanged, the detailed design brings forward more tree planting and

alterations to the public pathways within the Podium Courtyards. However, these alterations are not material changes to the design of the Consented Scheme.

11.3 Methodology

11.3.1 There are no proposed changes to the methodology as set out within the March 2013 ES. The original methodology has been reviewed and found to be valid.

11.4 Legislation and Policy

11.4.1 There have been no significant changes to legislation or policy that would change the findings of the March 2013 ES.

11.5 Baseline Conditions

11.5.1 The main changes to the baseline is due to proceeding phases of the Consented Scheme being built out. Blocks E1, E2, E3, E4, G1 and G2 are completed. Blocks G4, H3, H4, and F are due to commence on site in 2016. Nonetheless, there are no known changes to baseline conditions that would result in significant changes to the conclusions/recommendations of the March 2013 ES.

11.6 Designed-in Mitigation and Enhancement Measures

11.6.1 Although the measures as described within the March 2013 ES are considered valid and appropriate for the information available at the time, the Development has been through a process of design evolution allowing a more accurate and pragmatic design for the relevant buildings and associated landscaping from the Consented Scheme due to its detailed nature. As mentioned above, the detailed design has brought forward an increase in the number of trees in the Podium Courtyard between the blocks. Public pathways are also less linear and more graded to the landscaping. The existing footpath between the Green and the Lakeside is to be regraded with a minor increase in gradient.

11.6.2 However, these design measures do not necessitate alteration to the designed-in mitigation measures recommended in the 2013 ES and ES Addendum.

11.7 Assessment of Environmental Effects During Demolition and Construction

11.7.1 As there will be no changes to demolition and construction procedure resulting from the Phase 4 proposals, the assessment of demolition/construction effects remains unchanged from that described in the March 2013 ES.

11.8 Assessment of Environmental Effects During Operation

11.8.1 The Development remains within the maximum parameter plans for massing as defined for the Consented Scheme, with the exception of Block M where there are minor exceedances. As there will be no material change to the overall proposed scale and massing of the blocks from the Consented Scheme, the assessment of operational effects remains unchanged from that described in the March 2013 ES.

11.9 Cumulative Effects

11.9.1 There are not anticipated to be any changes to the assessment of cumulative effects.

11.10 Mitigation and Enhancement

11.10.1 The March 2013 ES outlined the basic mitigation measures to be followed during the demolition and construction works including good site practice and appropriate use of site lighting. There are no changes required for the recommended mitigation measures.

11.10.2 Adherence to the West Hendon Design Guidelines and maintenance of landscape planting are key mitigation and enhancement measures in order to mitigate potentially adverse effects of the completed Development. These Design Guidelines have been followed in the development of detailed design for this RMA and, as such, the proposals brought forward are consistent and remain valid with the March 2013 ES.



11.11 Conclusions and Statement of Residual Significance

11.11.1 A review of the March 2013 ES for landscape and visual amenity has identified that the baseline information, relevant legislation and policies have not changed substantially to the extent of requiring amendments to the impact assessment or mitigation strategy. Assumed changes as a result of the Development are similarly not considered to have resulted in any new or materially different changes to the conclusions set out the March 2013 ES. As such, these remain valid.

12 SOCIO-ECONOMICS

12.1 Introduction

12.1.1 This Chapter, which has been prepared by Quod, provides a statement of conformity with regard to the potential socio-economic impacts arising from the Phase 4 RMA as part of the consented in place (hereafter referred to as the 'Development'). This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to socio-economics.

12.2 Relevant Phase 4 RMA Details

12.2.1 The RMA would increase the number of residential units to be delivered in Phase 4 from 539 to 611. That equates to 72 additional gross residential units. Taking into account the existing 243 units on-site to be demolished, Phase 4 would deliver 368 net additional units as opposed to 296 net additional units proposed under the Consented Scheme.

12.3 Methodology

12.3.1 This Chapter applies broadly the same methodologies as used in the March 2013 ES as these methodologies remain valid. The only exceptions are:

- Primary school is assessed at 3.2km rather than 2 miles applied in 2013.
- Secondary school provision was assessed at 3 miles in 2013. This has now been assessed at 5km (3.1 miles).

12.4 Legislation and Policy

12.4.1 The legislation and policy context as set out in March 2013 ES remains valid.

12.5 Baseline Conditions

12.5.1 The baseline conditions as set out in the March 2013 ES remain valid for the purposes of this assessment with the exception of:

- Education provision;
- Health infrastructure;
- Public open space (within 800m); and
- Community centres.

12.5.2 The current baseline conditions relating to these elements is set out below.

Education provision

Primary school provision

12.5.3 There are 47 primary schools within 3.2km of the Development located in the London Boroughs of Barnet, Brent and Harrow. These schools have a collective surplus capacity of 369 places, which equates to 2% of total capacity within this distance. 2% surplus is below the recommended 5% surplus recommended to ensure flexibility and effective management of schools and to cope with unexpected increases in demand.

12.5.4 The two closest school to the Development, which are both within 1km of the Development, are The Hyde School and Parkfield Primary School. The Hyde School has no surplus capacity. Parkfield Primary school, which has recently been covered into an academy, has 54 surplus places.

12.5.5 The March 2013 ES indicated that there were 105 surplus places in 41 primary schools located within 2 miles (3.2km) of the Development. Therefore, this updated assessment identifies 6 additional primary schools within 3.2km of the Development and a significant increase in available school places.

12.5.6 Table 12-1 and Figure 12-1, list and map the local primary schools within 3.2km of the Development.

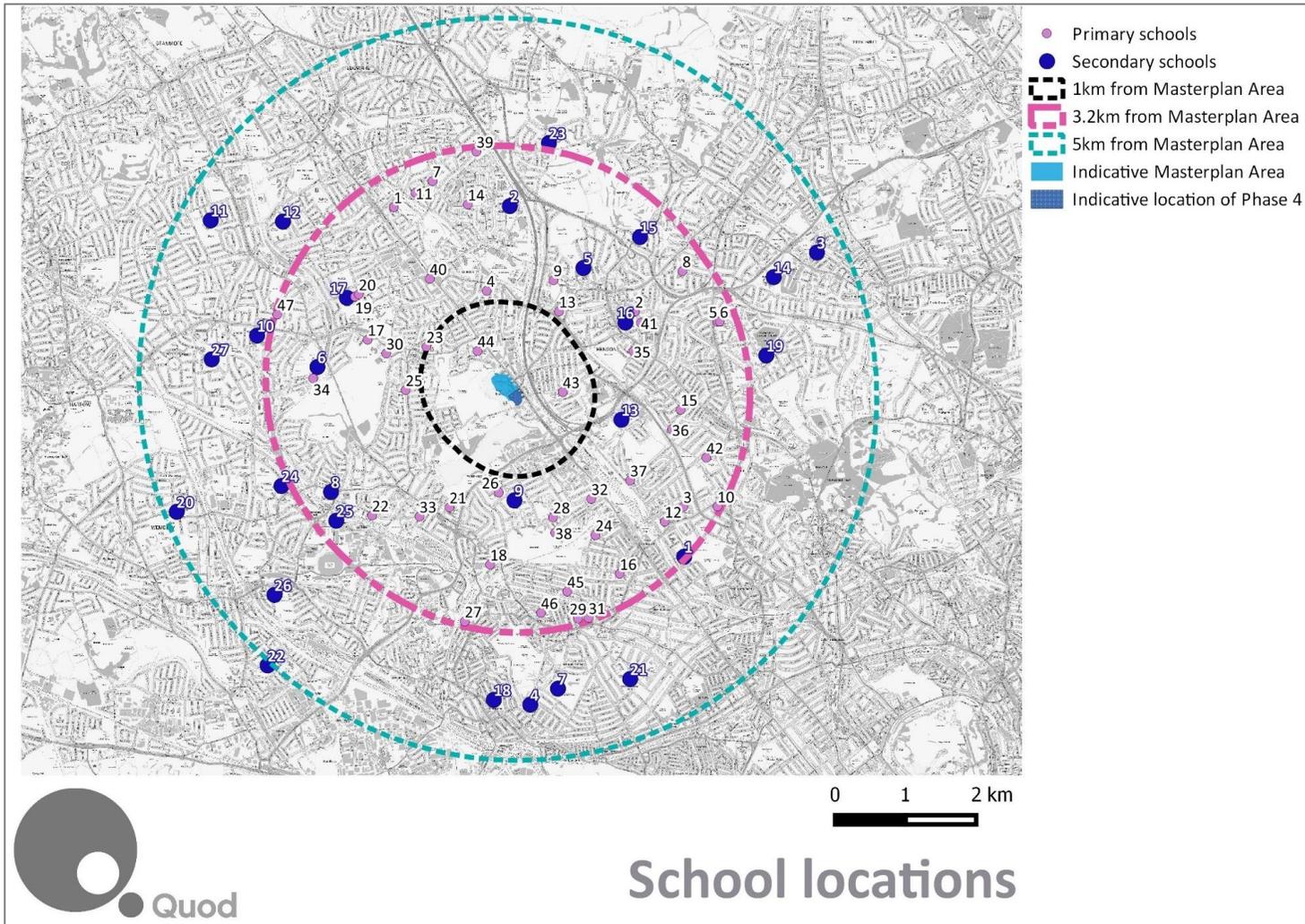
Table 12-1: Primary schools within 3.2km of the Development

| Map key | School Name | Borough | Annual Intake (Published Admission Number) | Surplus |
|---------|-----------------------------|---------|--|---------|
| 1 | Barnfield Primary School | Barnet | 60 | 0 |
| 2 | Bell Lane Primary School | Barnet | 60 | 13 |
| 3 | Childs Hill School | Barnet | 45 | 0 |
| 4 | Colindale Primary School | Barnet | 90 | 1 |
| 5 | Garden Suburb Junior School | Barnet | 90 | 1 |
| 6 | Garden Suburb Infant School | Barnet | 90 | 1 |

| Map key | School Name | Borough | Annual Intake (Published Admission Number) | Surplus |
|---------|--|---------|--|---------|
| 7 | Goldbeaters Primary School | Barnet | 60 | 0 |
| 8 | Chalgrove Primary School | Barnet | 60 | 7 |
| 9 | Sunnyfields Primary School | Barnet | 30 | 2 |
| 10 | All Saints' CofE Primary School NW2 | Barnet | 30 | 2 |
| 11 | The Annunciation Catholic Infant School | Barnet | 60 | 14 |
| 12 | St Agnes RC School | Barnet | 45 | 6 |
| 13 | St Joseph's Catholic Primary School | Barnet | 90 | 0 |
| 14 | Blessed Dominic Catholic Primary School | Barnet | 60 | 10 |
| 15 | Menorah Primary School | Barnet | 50 | 0 |
| 16 | Anson Primary School | Brent | 52 | 3 |
| 17 | Kingsbury Green Primary School | Brent | 90 | 3 |
| 18 | Northview Junior and Infant School | Brent | 30 | 0 |
| 19 | Roe Green Junior School | Brent | 120 | 4 |
| 20 | Roe Green Infant School | Brent | 120 | 103 |
| 21 | Wykeham Primary School | Brent | 60 | 0 |
| 22 | Chalkhill Primary School | Brent | 60 | 0 |
| 23 | Oliver Goldsmith Primary School | Brent | 60 | 3 |
| 24 | Mora Primary School | Brent | 60 | 10 |
| 25 | Fryent Primary School | Brent | 120 | 11 |
| 26 | Braintcroft Primary School | Brent | 90 | 6 |
| 27 | St Mary's CofE Primary School | Brent | 45 | 27 |
| 28 | Our Lady of Grace Catholic Junior School | Brent | 60 | 3 |
| 29 | St Mary Magdalen's Catholic Junior School | Brent | 90 | 0 |
| 30 | St Robert Southwell RC Primary School | Brent | 60 | 9 |
| 31 | Convent of Jesus and Mary RC Infant School | Brent | 90 | 3 |
| 32 | Our Lady of Grace RC Infant and Nursery School | Brent | 60 | 1 |
| 33 | St Margaret Clitherow RC Primary School | Brent | 30 | 0 |

| Map key | School Name | Borough | Annual Intake (Published Admission Number) | Surplus |
|---------|--|---------|--|---------------------|
| 34 | Sinai Jewish Primary School | Brent | 90 | 14 |
| 35 | Hasmonean Primary School | Barnet | 30 | 2 |
| 36 | Wessex Gardens Primary School | Barnet | 60 | 7 |
| 37 | Claremont Primary School | Barnet | 60 | 23 |
| 38 | Avigdor Hirsch Torah Temimah Primary School | Brent | 25 | 0 |
| 39 | The Orion Primary School | Barnet | 120 | 0 |
| 40 | Beis Yaakov Primary School | Barnet | 58 | 0 |
| 41 | Independent Jewish Day School | Barnet | 28 | 0 |
| 42 | Rimon Jewish Primary School | Barnet | 28 | 7 |
| 43 | Parkfield Primary School | Barnet | 60 | 54 |
| 44 | The Hyde School | Barnet | 60 | 0 |
| 45 | Gladstone Park Primary School | Brent | 90 | 6 |
| 46 | St Andrew and St Francis CofE Primary School | Brent | 60 | 13 |
| 47 | St Bernadette's Catholic Primary School | Harrow | 60 | 0 |
| | Total | | | 369 (2%) |

Figure 12-1 School Locations



Secondary School Provision

- 12.5.7 There are 26 Secondary Schools within 5km of the Development. These schools have a combined surplus of 2,587 places (10% of local capacity). The four closest schools to the Development are: St Mary's and St John's CofE School; The Crest Academies; Whitefield School and Hendon School. Hendon School and St Mary's and St John's CofE school are currently at full capacity. Whitefield School has 73 surplus places, including places in Year 7. The Crest Academies (aka the Crest Academy) has 693 surplus places across all year groups. This school is currently considered to be "Inadequate" by Ofsted and is under Special Measures.
- 12.5.8 The March 2013 ES identified 24 secondary schools within the slightly smaller area of 3 miles (4.8km). In 2013, these schools had 3,225 surplus places. The schools within 5km now have 2,587 surplus places.
- 12.5.9 These schools are listed in Table 12-2 and Figure 12-1.

Table 12-2: Secondary Schools within 5km of the Development

| Map Key | School Name | Borough | Annual Intake (Published Admission Number) | Surplus |
|---------|-------------------------------------|---------|--|---------|
| | St Mary's CofE High School | Barnet | School Closed | 0 |
| 1 | Hampstead School | Camden | 210 | 37 |
| 2 | St James' Catholic High School | Barnet | 180 | 6 |
| 3 | Bishop Douglass School Finchley | Barnet | 180 | 428 |
| 4 | Newman Catholic College | Brent | 120 | 9 |
| 5 | St Mary's and St John's CofE School | Barnet | 120 | 0 |
| 6 | JFS | Brent | 300 | 12 |
| 7 | Capital City Academy | Brent | 196 | 7 |
| 8 | Ark Academy | Brent | 180 | 10 |
| 9 | The Crest Academies | Brent | 330 | 693 |
| 10 | Claremont High School | Brent | 270 | 84 |
| 11 | Park High School | Harrow | 260 | 0 |
| 12 | Canons High School | Harrow | 180 | 9 |
| 13 | Whitefield School | Barnet | 150 | 73 |
| 14 | Christ's College Finchley | Barnet | 210 | 420 |
| 15 | Hasmonean High School | Barnet | 170 | 18 |
| 16 | Hendon School | Barnet | 200 | 0 |

| Map Key | School Name | Borough | Annual Intake (Published Admission Number) | Surplus |
|--------------|--|---------|--|------------------------|
| 17 | Kingsbury High School | Brent | 336 | 67 |
| 18 | Convent of Jesus and Mary Language College | Brent | 180 | 44 |
| 19 | The Henrietta Barnett School | Barnet | 93 | 0 |
| 20 | Wembley High Technology College | Brent | 210 | 0 |
| 21 | Queens Park Community School | Brent | 216 | 49 |
| 22 | Alperton Community School | Brent | 250 | 154 |
| 23 | Copthall School | Barnet | 210 | 151 |
| 24 | Preston Manor School | Brent | 252 | 0 |
| 25 | Michaela Community School | Brent | 120 | 3 |
| 26 | Ark Elvin Academy | Brent | 240 | 313 |
| 27 | St Gregory's Catholic Science College | Brent | 176 | 0 |
| Total | | | | 2,587 (10%) |

Health infrastructure

General Practitioners

- 12.5.10 There are 18 health centres within 2km of the Development. These health centres have 55 General Practitioners (GPs) between them. Two of the health centres (Dr Hasan & Partner) and Dr Patel have not published their list size. The remaining health centres have an average list size of 2,020 patients per GP. This is in excess of the Healthy Urban Development Unit model benchmark of 1,800 patients per GP. However, all of these health centres are still accepting new patients.
- 12.5.11 The March 2013 ES identified 13 health centres within 2km with an average list of size 1,430 (an indicative estimate of 15,000 surplus based on a benchmark average list size of 1,800 patients per GP).
- 12.5.12 Table 12-3 sets out the local health centres. Figure 12-2 sets out the location of local health facilities within 2km of the Development.

Table 12-3: Local Health Centres

| Practice Name | Facility type | Postcode | Patient List Size | Number of GPs |
|---|---------------|----------|--------------------|---------------|
| Jai Medical Centre | GP | NW4 3SU | 8,366 | 3 |
| Dr Hasan & Partner | GP | NW4 3SU | Data not available | 2 |
| Dr Patel | GP | NW4 3HB | Data not available | 1 |
| Dr Azim & Partners | GP | NW4 3EB | 8,369 | 4 |
| Hendon Way Surgery | GP | NW4 3EB | 8,018 | 3 |
| Crest Medical Centre | GP | NW2 7NA | 4,308 | 3 |
| Wakemans Hill Surgery | GP | NW9 0TA | 4,315 | 3 |
| Church Lane Surgery Dr Chandran & Partners | GP | NW9 8LU | 8,296 | 3 |
| Oxgate Garden Surgery | GP | NW2 6EA | 6,287 | 4 |
| The Phoenix Practice | GP | NW4 4AE | 7,231 | 4 |
| Colindale Medical Centre | GP | NW9 6DJ | 6,931 | 3 |
| Neasden Medical Centre | GP | NW2 7SA | 8,183 | 2 |
| Dr Dattoo | GP | NW4 4UR | 2,133 | 1 |
| St George's Medical Centre - Dr Neoman | GP | NW2 6JH | 2,225 | 1 |
| Gladstone Medical Centre Dr Dekaresilver & Partner | GP | NW2 6JH | 9,048 | 4 |
| St George's Medical Centre | GP | NW4 4QR | 9,799 | 6 |
| Willow Tree Family Doctors Dr Selwyn & Partners | GP | NW9 9AD | 11,911 | 9 |
| Kingsbury Health and Wellbeing | GP | NW9 0EF | 5,796 | 2 |
| Average List Size (not including Dr Hasan & Partner or Dr Patel) | 2,022 | | | |

Dentists

12.5.13 There are 14 dental surgeries within 2km of the Development. All except two are currently accepting fee paying adults. All except 1 are currently accepting charge exempt adults and children. These facilities are mapped on Figure 12-2.

12.5.14 The March 2013 ES identified 12 dental surgeries of which 9 were accepting new fee paying adults.

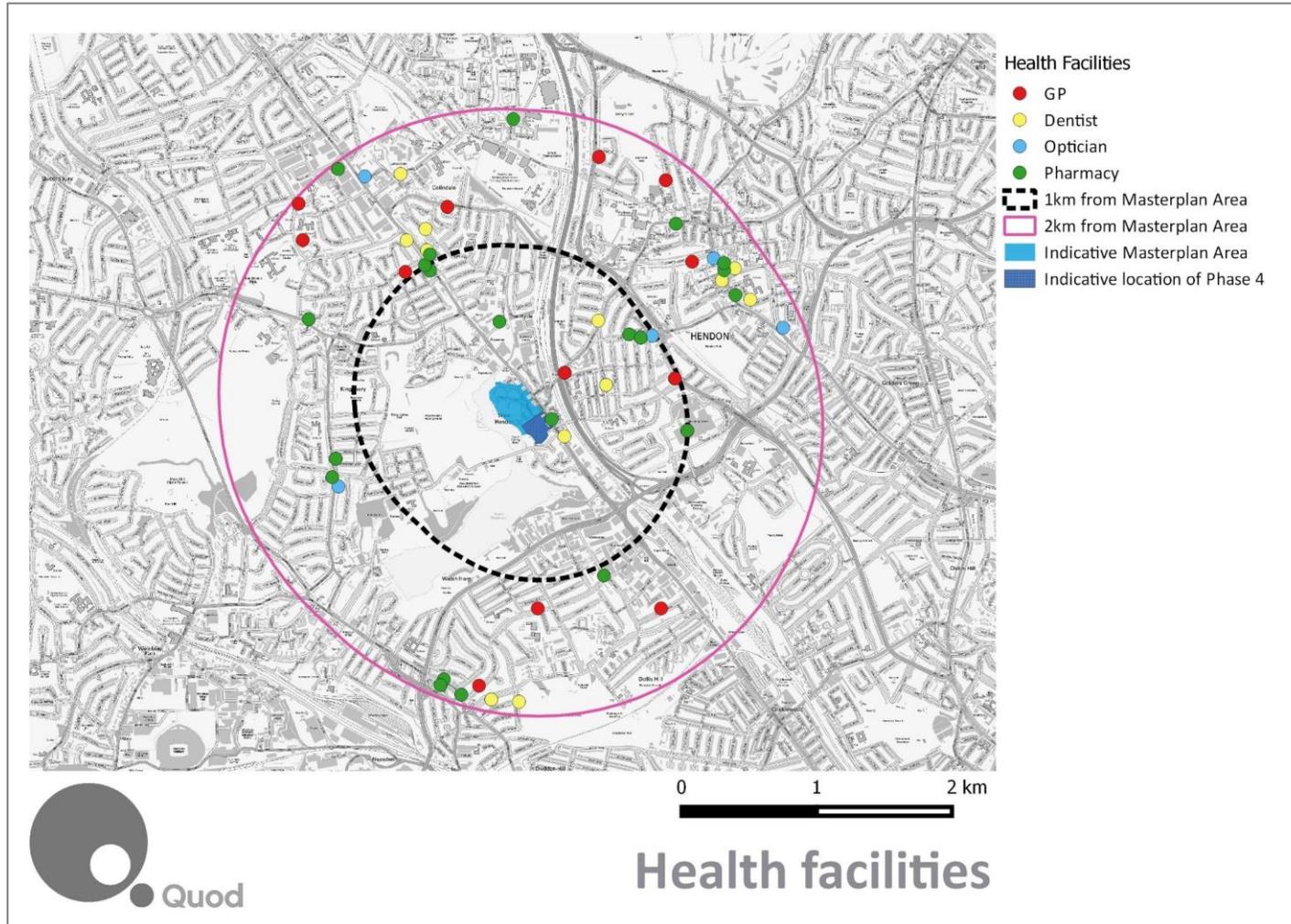


Opticians and Pharmacies

12.5.15 There are 9 opticians and 21 pharmacies within 2km of the Development. These facilities are mapped on Figure 12-2.

12.5.16 The March 2013 ES did not consider local pharmacies or opticians.

Figure 12-2 Health Facilities

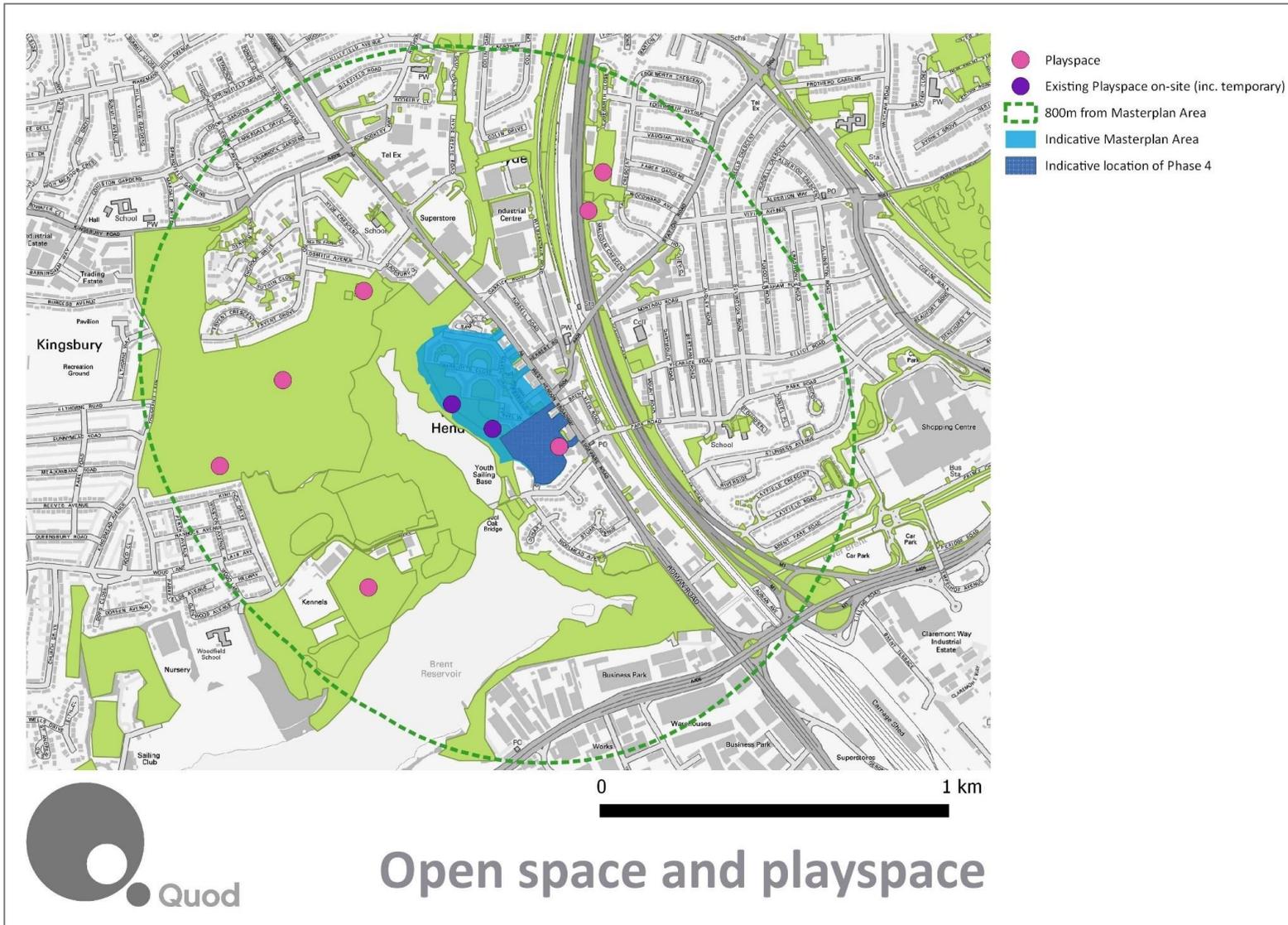


Public open space (within 800m)

12.5.17 There is extensive public open space within 800m of the Development. Within the Development, Phase 3 has already delivered a series of local open spaces and two play areas (one temporary) are currently on-site to meet the needs of new and existing residents. York Park is a linear park (classified as a Local Park) which runs along the Reservoir to the west of the Site. West Hendon Playing Fields, Silver Jubilee Park and Woodfield Park are all within walking distance of the Site and provide space for formal (tennis, play equipment, bowls, grass pitch football and astro-turf football) and informal play and recreation for children and adults.

12.5.18 In line with the findings of the March 2013 ES, the Site is well supplied with open space and playspace. Open space and playspace is mapped on Figure 12-3.

Figure 12-3 Open space and playspace



Community centres

12.5.19 In addition to the findings set out the March 2013 ES, there is now a temporary Community Centre which includes tenant liaison services, located in Phase 3 of the Development (which has already been delivered). This Community Centre will provide liaison services and hireable space until the permanent community centre is delivered in Phase 5.

12.6 Designed-in Mitigation and Enhancement Measures

12.6.1 Phase 4 of the Development would deliver open space and playspace on-site to meet the needs of new residents. Phase 4 would include five areas of Doorstep Play suitable for under 5s, totalling 493m². It would provide one area of playspace for older children of 332m². An additional Neighbourhood Play Area of 236m² would be delivered outside the redline boundary.

12.6.2 Phase 5 of the development will deliver a primary school. Whilst it will not be delivered as part of this Phase, it will help to mitigate its effects as the primary school is intended to serve the whole development and is therefore considered in this assessment.

12.6.3 There are no other designed in mitigation and enhancement measures in Phase 4 relevant to socio-economics.

12.7 Assessment of environmental effects during demolition and construction

Demolition and construction employment

12.7.1 Demolition and construction of Phase 4 of the Development would create construction employment. The March 2013 ES did not disaggregate construction employment by Phase. The total construction employment for the Development as a whole was estimated to be 1,005 gross construction Full Time Equivalent (FTE) jobs. A proportion of these jobs would be generated by Phase 4. The March 2013 ES ascribed a moderate beneficial effect to construction employment. This remains valid.

Effects of construction and demolition on Housing, Business and Community Space

12.7.2 The effect of demolition of housing was assessed to be moderate adverse. This remains valid.

12.7.3 The effect of the demolition and construction on West Hendon Local Centre remain minor adverse.

12.8 Assessment of environmental effects during operation

Delivery of Housing

12.8.1 Phase 4 of the Development would deliver 611 residential units. This would be an uplift of 72 units compared to the March 2013 ES. The effects of the Development with respect to housing delivery were assessed to be major beneficial. This remains valid.

Education

12.8.2 The March 2013 ES identified a Major Adverse effect with respect to Education Provision before mitigation based on a “core estimate” of 21 primary school aged children and 21 secondary school aged children (2013 ES Chapter 12 Tables 12-23 and 12-24).

12.8.3 Based on the latest detailed housing mix, Phase 4 of the Development would accommodate an estimated 39 primary school aged children and 21 secondary school aged children.

12.8.4 Given the amount of surplus capacity identified in the Baseline section of this report: 369 surplus places in primary schools, including 172 at Reception; and 2,587 surplus places in secondary schools, these children could be accommodated in existing schools. Moreover, at least 46 of the proposed residential units would be allocated to existing local households who may already have places at local schools.

12.8.5 However, given the general pressure on school places in LBB and LB Brent from population growth and other housing development, this effect would be minor adverse and temporary (local), which is of a lower magnitude than previously assessed.

Health facilities

12.8.6 The Development would accommodate an estimated 1,580 residents based on the methodology used in the March 2013 ES. This methodology is based on an average household size of 2.59 in LBB. In reality,

given the size and type of units proposed for Phase 4 of the Development, this is likely to be an overestimate of the population and therefore represents a worst case scenario (the average household size for flats in LBB is 2.01).

- 12.8.7 Based on a benchmark of 1,800 people per GP, this would generate demand for the equivalent of 1 Full Time GP. As with school places, at least 46 of the proposed residential units would be allocated to existing local households who may already be registered with a local GP.
- 12.8.8 The current list size of local GPs indicates that local GPs may already oversubscribed, although they are still accepting new patients. The Development would benefit from good access to other local health facilities such as dentists, pharmacies and opticians. In this context, the likely effect of Phase 4 of the Development would be minor adverse (local) with respect to access to health facilities prior to mitigation.
- 12.8.9 The wider Development includes 5,000m² of flexible D1 floorspace. This floorspace could be used to deliver health services if, at the time of delivery of the Development, the council in consultation with the NHS identify the need for additional facilities.
- 12.8.10 In addition, £5 million has been secured via the S106 agreement to mitigate health impacts associated with the Development. The residual effect would therefore be negligible to minor beneficial and in line with findings of the March 2013 ES.

Open space and playspace

- 12.8.11 The Development would accommodate 107 children. Table 12-4 sets out the age groups of these children and the playspace requirement for each age group, based on the GLA's Play and Informal Recreation Supplementary Planning Guidance²³ (as quoted in LBB Planning Obligations Supplementary Planning Document²⁴).

Table 12-4 Playspace Demand

| Age group | Number of children | Playspace Required (m ²) |
|--------------|--------------------|--------------------------------------|
| Under 5 | 50 | 500 |
| 5-11 | 34 | 340 |
| 12+ | 24 | 240 |
| Total | 108 | 1,080 |

12.8.12 As set out in the Baseline section of this Chapter, the Development would benefit from two areas of playspace that have already been delivered on-site in addition to extensive public open space and sports facilities within 800m.

12.8.13 Phase 4 of the Development would result in the loss of the Multi Use Games Area on Tyrrel Way but would result in the delivery of 493m² of doorstep local play, 332 m² of playspace for older children on-site and the potential for an additional 236 m² of playspace off-site, to the east of the Masterplan Site. In addition to the existing play and open space in the area, this would adequately provide for the needs of the new community. This would result in a minor beneficial (local) effect, in line with the findings of the March 2013 ES.

12.9 Cumulative Impacts

12.9.1 The 2013 ES did not identify any significant cumulative socio-economic effects that would arise due to other committed developments coming forward alongside the Development. There are no additional committed developments that have been identified in the intervening years that need to be considered and therefore the findings of the March 2013 ES remain valid.

12.10 Mitigation and Enhancement

Education

12.10.1 In Phase 5 of the Development a two form-entry primary school would be delivered on-site which would meet the needs of children both on and off-site in the wider community. Therefore, the long term of permanent effect of the development would be moderate and beneficial (local) in terms of education provision which is in line with the residual effect identified in the March 2013 ES.

12.11 Conclusions and Statement of Residual Significance

12.11.1 The conclusions and residual effects of the March 2013 ES broadly remain valid with respect to socio-economics. The only additional adverse effect which has been identified is with respect to access to healthcare. The March 2013 ES identified a neutral effect. Due to changes in the average patient list size within 2km of the Development, the likely significant effect of the additional residential population is now assessed to be minor adverse before mitigation. However, given the proposed provision of flexible D1 floorspace in the wider masterplan and £5 million which has been secured via the S106



agreement to mitigate health impacts associated with the Development, the residual effect would be negligible to minor beneficial. No additional residual adverse effects have been identified.

13 HEALTH IMPACT ASSESSMENT

13.1 Introduction

13.1.1 This Chapter, which has been prepared by Quod, provides a statement of conformity with regard to the potential health impacts arising from the Phase 4 RMA as part of the consented in place (hereafter referred to as the 'Development'). This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm the overall findings with respect to health remain valid.

13.2 Relevant Phase 4 RMA Details

13.2.1 The RMA would increase the number of residential units to be delivered in Phase 4 from 539 to 611. That equates to 72 additional gross residential units. Taking into account the existing 243 units on-site to be demolished, Phase 4 would deliver 368 net additional units as opposed to 296 net additional units proposed under the Consented Scheme.

13.3 Methodology

13.3.1 This Chapter applies the same methodologies as used in March 2013 ES and June 2013 ES Addendum as these methodologies remain valid.

13.4 Legislation and Policy

13.4.1 The legislation and policy context as set out in the March 2013 ES and June 2013 ES Addendum remains valid.

13.5 Baseline Conditions

13.5.1 The Baseline Conditions as set out in the March 2013 ES remain valid for the purposes of this assessment as there have been no substantial changes in the health baseline in the intervening three years. The exception to this is access to education and primary healthcare facilities, which have been addressed in the Socio-Economic Chapter of this Statement of Conformity.

13.6 Assessment of Environmental Effects during Demolition and Construction

13.6.1 The March 2013 ES highlighted the following potential significant health effects of demolition and construction (those effects which relate directly to other phases have not been presented):

- A **Probable Negative** effect on existing residents (secure, non-secure and vulnerable tenants) as a result of the decanting process.
- **Probable and Speculative Negative** effects on existing residents, including children and vulnerable residents, as a result of stress, traffic increases, safety hazards, dust, noise and vibration.
- **Probable and Speculative Positive** effects on existing residents as a result of reduction in contaminated land and removal of asbestos.

13.6.2 This assessment remains valid.

13.7 Assessment of Environmental Effects during Operation

13.7.1 The March 2013 ES highlighted the following potential significant health effects from operation of Phase 4 of the Development (those effects which relate directly to other phases have not been presented):

- A **Probable Positive** effect on existing and future residents from the delivery of a new high quality neighbourhood and associated reduction in anti-social behaviour.
- **Probable Positive or Negative** effects arising from existing resident's improved/decreased access to communal areas, viewpoints and environmental (micro-climate) conditions.
- **Probable Negative** effects on existing residents arising from potential increase in rents.
- **Probable Positive** effects on new and existing residents from improved access to playspace, reduced traffic on-site and improved accessibility and walking/cycling routes.
- **Probable Positive** effects on new and existing residents from improved quality of housing and environment (energy efficiency, thermal efficiency, design) including a reduction in fuel poverty, a reduction in falls associated with poor quality built environment, improved fire safety and improved road safety.

- **Speculative Negative** effects on new and existing residents on emissions from the energy centre and traffic on The Broadway and other sources of poor air quality and noise.
- **Probable Positive effects** with respect to Sustainable Urban Drainage and decontaminated land.
- **Probable Positive effects** with respect to waste management in accordance with the Waste Strategy.

13.7.2 This assessment remains valid.

13.7.3 In addition, a probable neutral effect with respect to access to healthcare facilities was identified. As set out in the Socio-Economic Chapter of this Statement of Conformity, due to changes in the average patient list size within 2km of the Development, the likely significant effect of the additional residential population is now assessed to be minor adverse (local).

13.8 Cumulative Impacts

13.8.1 The 2013 ES did not identify any significant cumulative health effects that would arise due to other committed developments coming forward alongside the Proposed Development. There are no additional committed developments that have been identified in the intervening years that need to be considered and therefore the findings of the March 2013 ES remain valid.

13.9 Mitigation and Enhancement

Construction and Demolition

13.9.1 The March 2013 ES states that the construction and demolition of the Development will be undertaken in line with the Construction Management Plan in order to minimise the magnitude and duration of any potential negative effects on human health generated during demolition and construction.

13.9.2 Effects of construction and demolition with respect to light pollution, wind, air quality and waste will be mitigated according to those specifications set out in the relevant Chapters of the March 2013 ES and this Statement of Conformity.

13.9.3 The decanting process (moving existing tenants to their new homes) will be undertaken in line with the principles set out in West Hendon Regeneration: WH4.6 Residential Decant Strategy.

13.9.4 This proposed mitigation and enhancement remains valid.

Operation

13.9.5 As set out in the March 2013 ES:

- New buildings will be delivered in line with the latest relevant space, design and energy efficiency standards;
- The Development will provide local doorstep playable space with good natural surveillance;
- Access routes and road layout will be designed to promote safety, good wayfinding and encourage walking and cycling;
- Communal areas, lifts and play spaces will be well managed to reduce incidents of vandalism and other forms of anti-social behaviour as well maintained spaces have positive health outcomes;
- Accessibility for disabled people has been considered as part of the design of the Masterplan, including playspace; and,
- Effects of operation with respect to noise, air quality and waste will be mitigated according to those specifications set out the relevant Chapters of the March 2013 ES, June 2013 ES Addendum and this Statement of Conformity.

13.9.6 This proposed mitigation and enhancement remains valid.

13.10 Conclusions and statement of residual significance

13.10.1 The conclusions and residual effects of the March 2013 ES and June 2013 ES Addendum remain valid with respect to health. The only additional adverse effect which has been identified is with respect to access to healthcare. The March 2013 ES and June 2013 ES Addendum identified a neutral effect. Due to changes in baseline conditions, the likely significant effect of the additional residential population is now assessed to be minor adverse. This is dealt with in the Socio-Economic Chapter of this Statement of Conformity.

13.10.2 No further adverse effects have been identified.

14 CULTURAL HERITAGE

14.1 Introduction

- 14.1.1 This section, which has been prepared by Quod, provides a statement of conformity with regard to the potential archaeology and cultural heritage effects arising from the Phase 4 RMA as part of the consented in place. This is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to archaeology and cultural heritage remain valid.
- 14.1.2 The March 2013 ES identified that there were no designated built heritage assets that would be affected either directly or indirectly by this Phase, given the location of the receptors in relation to the Site. The Conservation Areas in the vicinity of the Site have very little or no inter-visibility, and as such there will be a negligible impact from this Phase on the settings of these designations. The buildings on The Broadway and Station Road have some local historic significance, and these are to be removed.
- 14.1.3 There is no known archaeology within this Phase. The potential for unknown archaeological features in this area is low, given the extent of modern disturbance, though the presence of very deeply buried archaeological features cannot be entirely discounted

14.2 Relevant Phase 4 RMA Details

- 14.2.1 One of the primary amendments to the Phase 4 scheme is the increase in size of the below-ground footprint of the Development to connect the basements of Blocks J and K. This would require additional excavation of approximately 5,090 m³ from the Site.

14.3 Methodology

- 14.3.1 There are no proposed changes to the methodology as set out within the March 2013 ES and June 2013 ES Addendum. The original methodology has been reviewed and found to be valid.

14.4 Legislation and Policy

- 14.4.1 There have been no significant changes to legislation or policy that would change the findings of the March 2013 ES.

14.5 Baseline Conditions

14.5.1 There are no known changes to baseline conditions that would result in significant changes to the conclusions/recommendations of the March 2013 ES and June 2013 ES Addendum.

14.6 Designed-in Mitigation and Enhancement Measures

14.6.1 There are no changes required for the designed-in mitigation measures recommended in the March 2013 ES and June 2013 ES Addendum.

14.7 Assessment of Environmental Effects During Demolition and Construction

14.7.1 Potentially significant effects on buried heritage (archaeological) assets can only occur during these phases of work.

14.7.2 There are no known archaeological assets on the Site and the March 2013 ES discerned that the potential for unknown archaeological features was low. As such, it is not envisaged that the extension of the basement will have create any new or materially significant effects to those outlined in the March 2013 ES.

14.7.3 The scale of demolition and construction works is not expected to significantly change as a result of the Phase 4 design proposals and it is not predicted that there will be any new or materially significant effects on built heritage assets. As such, the conclusions set out in the March 2013 ES remain valid.

14.8 Assessment of Environmental Effects During Operation

14.8.1 The scale and massing of the proposed Blocks remains unchanged from the Consented Scheme. As such, there potential effects on built heritage assets remain unchanged to that described in the March 2013 ES.

14.9 Cumulative Effects

14.9.1 There are not anticipated to be any changes to the assessment of cumulative effects.

14.10 Mitigation and Enhancement

- 14.10.1 The March 2013 ES advised that the removal of the locally important buildings on the Broadway and Station Road could be partially mitigated through a programme of historic building recording prior to their demolition, in accordance with Historic England (formerly English Heritage) Guidelines and in agreement with the Greater London Archaeology Advisory Service (GLAAS) and LBB's Building Conservation Team. It also advised that a watching brief on any ground investigation in this area would inform the need for, and scope of, archaeological mitigation with further consultation with LBB/GLAAS required to confirm mitigation.
- 14.10.2 There is no requirements to amend these proposed mitigation measures as a result of the Phase 4 design proposals and, as such, the statements made in the March 2013 ES remain valid.

14.11 Conclusions and Statement of Residual Significance

- 14.11.1 The changes in the design proposals in relation to the 2013 Consented Scheme are not considered to be material in the context of the assessment presented in the March 2013 ES and June 2013 ES Addendum. As such, the assessment presented in the March 2013 ES and June 2013 ES Addendum is considered to remain valid.

15 MATERIAL RESOURCES

15.1 Introduction

15.1.1 This Chapter, which has been prepared by Quod, provides a statement of conformity with regard to the potential impacts arising from the Phase 4 RMA as part of the consented in place (hereafter referred to as the 'Development') in respect of material resources. This statement of conformity is provided pursuant to the March 2013 ES to confirm that the overall findings with respect to material resources remain valid. No further assessment of effects on material resources was included within the June 2013 ES Addendum.

15.2 Relevant Phase 4 RMA Details

15.2.1 The scale and massing of the blocks above the ground is due to remain unchanged to the parameters outlined under the Consented Scheme, with the exception of Block M where there are minor exceedances. However, these is proposed to be an increase in excavation of the basement below Blocks J and K that will create up to 9,030m³ surplus excavated material (extending the basement to 61,030m³ from the Consented Scheme's 52,000m³ Maximum Development Specification figure). There is opportunity for this material to be re-used within the construction of Development as aggregate although the current strategy for material use for this phase is currently unknown. This will be confirmed in advance of the commencement of demolition and construction works on-site.

15.2.2 There will be an uplift of 72 residential units within Phase 4 in comparison to the Consented Scheme. However, it should be noted that the overall development size of 2,000 residential units across the wider Masterplan Site, as outlined within the Consented Scheme, remains the same.

15.3 Methodology

15.3.1 There are no proposed changes to the methodology as set out within the March 2013 ES. The original methodology has been reviewed and found to be valid.

15.4 Legislation and Policy

- 15.4.1 The Site Waste Management Plans Regulations 2008 have been redacted and a Site Waste Management Plan (SWMP) is no longer a mandatory requirement for a construction project. However, they are still regularly employed on sites as a matter of best construction practice.
- 15.4.2 The Residential Design Guidance Supplementary Planning Document (2012) was formally adopted on April 2013. This does not have any material bearing on the assessment.

15.5 Baseline Conditions

- 15.5.1 There are no known changes to baseline conditions that would result in significant changes to the conclusions/recommendations of the March 2013 ES. Blocks E1, E2, E3, E4, G1 and G2 are completed and Blocks G4, H3, H4, and F are due to commence on site in 2016. However, it is understood that these have been constructed / will be constructed inside the consented parameters and that the baseline conditions in the ES remain valid.

15.6 Designed-in Mitigation and Enhancement Measures

- 15.6.1 The March 2013 ES outlined that the development phasing programme may present opportunities for more effective on-site waste management, allowing on-site storage and segregation and re-use of fill material in subsequent development stages. A site-wide Construction Waste Management Plan has been submitted to LBB in accordance with Condition 35 and an Operational Site Waste Management Plan is currently being prepared in accordance with Condition 36. All waste is to be dealt with in accordance with these plans. There is no predicted change in this procedure and, as such, the proposals brought forward are consistent and remain valid with the March 2013 ES.

15.7 Assessment of Environmental Effects during Demolition and Construction

- 15.7.1 The March 2013 ES determined that there is likely to be sufficient capacity within the North London area, until 2027, to manage the construction, demolition and excavation waste generated during the construction of the wider site. Although there will be an increase in basement excavation, the volume of additional material predicted to be removed is considered to be negligible in relation to the total

volume to be removed through the Consented Scheme, being an addition of less than 1% of the predicted volumes for Phase 4 works. A volume of this material – still to be finalised for the Phase – will also be reincorporated into the Development as aggregates or landscaping material. As such, there will be capacity within the region to manage this additional waste and the predictions set out within the March 2013 ES remain valid.

15.8 Assessment of Environmental Effects during Operation

15.8.1 While there will be a small increase in number of residential units being brought forward through Phase 4 in relation to the Consented Scheme, the uplift is minimal and the total number of units to be delivered throughout all phases remains the same. The March 2013 ES predicted that there is likely to be sufficient capacity within the North London area, until 2027, to manage the residential and commercial waste generated by the Consented Scheme. As such, the predictions set out within the March 2013 ES remain valid.

15.9 Cumulative Impacts

15.9.1 There are not anticipated to be any changes to the assessment of cumulative effects. While previously Consented Schemes have progressed since the submission of the March 2013 ES, it is expected that the construction sites will follow standard site practice in terms of waste hierarchy and the re-use of materials. It is also expected that the potential waste strategy for the occupation of any new residential development will have been discussed with LBB in advance of validation. As such, no new cumulative effects are predicted and the conclusions of the March 2013 ES remain valid.

15.10 Conclusions and statement of Residual Significance

15.10.1 A review of the March 2013 ES and June 2013 ES Addendum in respect of material resources has identified that the baseline information and assessment of effects have not changed substantially to the extent of requiring amendments to the impact assessment or mitigation strategy. Assumed changes as a result of the Development are similarly not considered to have resulted in any new or materially different changes to the conclusions set out the March 2013 ES and June 2013 ES Addendum. As such, these remain valid.

16 DAYLIGHT AND SUNLIGHT

16.1 Introduction

16.1.1 This Chapter, which has been prepared by Point 2 Surveyors, provides a statement of conformity with regard to the potential daylight, sunlight and overshadowing impacts arising from the Phase 4 RMA. This statement of conformity is provided pursuant to the March 2013 ES to confirm that the overall findings with respect to Chapter 16 Daylight/Sunlight of the March 2013 ES remain valid. No further assessment of daylight, sunlight and overshadowing effects was included within the June 2013 ES Addendum and, as such, it is not considered further.

16.2 Relevant Phase 4 RMA Details

16.2.1 The further information already submitted for conditional discharge and in relation to the detailed design of the previous phases may be relevant in the context of the daylight/sunlight assessment but only where the information relates to the scale/massing of the buildings. However, given the March 2013 ES considered the effects of the maximum parameter plans, and any further information relating to the massing has not materially exceeded these parameters, the change in any effects will only be less than any adverse effects already considered acceptable. Further detailed assessments relating to the further information already submitted is therefore not required.

16.3 Methodology

16.3.1 The technical assessment methodology undertaken as part of the March 2013 ES is considered to remain valid.

16.4 Legislation and Policy

16.4.1 There have been various changes to the planning legislation as well as the regional/local planning policy since 2013. However, these changes do not have a material bearing on the daylight/sunlight assessment.

16.5 Baseline Conditions

- 16.5.1 For the purposes of decision making, it is considered that the baseline information from the March 2013 ES remains valid.

16.6 Designed-in Mitigation and Enhancement Measures

- 16.6.1 There are no changes required for the designed-in mitigation measures recommended in the March 2013 ES.

16.7 Assessment of Environmental Effects during Demolition and Construction

- 16.7.1 The assessment of environmental effects during demolition and construction presented in the March 2013 ES are considered valid.

- 16.7.2 The Phase 4 RMA detailed design is unlikely to give rise to effects which were not previously identified. The detailed design may give rise to different effects to those identified at the outline stage due to the fact that that the effects identified at the outline stage were based on the maximum parameter plans. However, given the detailed design is within the maximum parameter plans, or sufficiently within the maximum parameter plans, no further adverse effects beyond those identified at the outline stage are envisaged. Further detailed assessments are therefore not considered necessary.

16.8 Assessment of Environmental Effects during Operation

- 16.8.1 The assessment of environmental effects during operation presented in the March 2013 ES are considered valid.

- 16.8.2 The Phase 4 RMA detailed design is unlikely to give rise to effects which were not previously identified. The detailed design may give rise to different effects to those identified at the outline stage due to the fact that that the effects identified at the outline stage were based on the maximum parameter plans. However, given the detailed design is within the maximum parameter plans, or sufficiently within the maximum parameter plans, no further adverse effects beyond those identified at the outline stage are envisaged. Further detailed assessments are therefore not considered necessary.

16.9 Cumulative Impacts

16.9.1 The Phase 4 RMA detailed design is unlikely to give rise to further adverse effects which were not previously identified. There are therefore no changes required to cumulative assessment presented in March 2013 ES.

16.10 Mitigation and Enhancement

16.10.1 The Phase 4 RMA detailed design is unlikely to give rise to further adverse effects which were not previously identified. Further mitigation or enhancement measures are therefore not required.

16.11 Conclusions and Statement of Residual Significance

16.11.1 The Phase 4 RMA detailed design is unlikely to give rise to effects which were not previously identified. The detailed design may give rise to different effects to those identified at the outline stage due to the fact that the effects identified at the outline stage were based on the maximum parameter plans. However, given the detailed design is within the maximum parameter plans, or sufficiently within the maximum parameter plans, no further adverse effects beyond those identified at the outline stage are envisaged.

16.11.2 Overall, conclusions will therefore not change from those presented in the March 2013 ES.

17 WIND MICROCLIMATE

17.1 Introduction

17.1.1 This Chapter, which has been prepared by RWDI, provides a statement of conformity with regard to the potential wind microclimate impacts arising from the Phase 4 RMA as part of the consented in place (hereafter referred to as the 'Development'). This statement of conformity is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to wind microclimate remain valid.

17.2 Relevant Phase 4 RMA Details

17.2.1 Where changes to the Consented Scheme, due to the progression of the detailed design, result in a change of mass or surface roughness (through the inclusion of balconies) above ground level, the wind environment could be affected.

17.2.2 It is noted that indicative landscaping has been included within the Phase 4 Site plans, which would be expected to provide shelter to the areas where this is located.

17.3 Methodology

17.3.1 Phase 4 of the Consented Scheme was originally assessed in the outline phase through a desktop study supported by a Computational Fluid Dynamics (CFD) simulation for wind microclimate effects in support of the ES, which was not undertaken by RWDI. As previously mentioned, where changes to the Consented Scheme, due to the progression of the detailed design, result in a change of mass or surface roughness (through the inclusion of balconies) above ground level, the wind environment could be affected. The proposed landscaping would also be expected to provide shelter to the areas where this is located.

17.3.2 This statement of conformity qualitatively reviews the detailed design in relation to the original wind microclimate assessment, based on RWDI's professional experience of wind in the urban environment. This assessment is informed by wind tunnel tests for Phase 3 undertaken by RWDI (as reported in March 2016) which provide an understanding of the background wind conditions for the area.

17.4 Legislation and Policy

- 17.4.1 Since the 2013 ES the NPPG was launched, which provides a web-based resource in support of the National Planning Policy Framework (NPPF). The NPPG identifies the potential for a building's size and shape (particularly in the case of tall and large buildings) to affect the wind microclimate. Under the section addressing 'Design: How should buildings and the spaces between them be considered?', the NPPG states in Paragraph 025 ('Consider form') that: ***"Some forms pose specific design challenges, for example how taller buildings meet the ground and how they affect local wind [...] patterns should be carefully considered."*** The NPPG goes on to state in Paragraph 026 ('Consider scale') that: ***"Account should be taken of local climatic condition, including [...] wind"***.
- 17.4.2 Development of the London Plan – Spatial Development Strategy for Greater London subsequent to the March 2013 ES and June 2013 ES Addendum places great importance on the creation and maintenance of high quality environment for London. The following policies apply specifically in relation to wind microclimate:
- 17.4.3 Policy 7.6: Architecture - ***"Architecture should make a positive contribution to a coherent public realm, streetscape and wider cityscape. It should incorporate the highest quality materials and design appropriate to its context."*** ***"Buildings and structures should: d. Not cause unacceptable harm to the amenity of surrounding land and buildings, particularly residential buildings, in relation to privacy, overshadowing, wind and microclimate. This is particularly important for tall buildings."***
- 17.4.4 Policy 7.7: Location and Design of Tall and Large Buildings – ***"Tall and large buildings should be part of a plan-led approach to changing or developing an area by the identification of appropriate, sensitive and inappropriate locations. Tall and large buildings should not have an unacceptably harmful impact on their surroundings."*** ***"Applications for tall or large buildings should include an urban design analysis that demonstrates the proposal is part of a strategy that will meet the criteria below. This particularly important if the Site is not identified as a location for tall or large buildings in the borough's LDF."*** ***"Tall buildings: a. Should not affect their surroundings adversely in terms of microclimate, wind turbulence, overshadowing, noise, reflected glare, aviation and telecommunication interference."***
- 17.4.5 The Greater London Authority Sustainable Design and Construction Supplementary Planning Guidance²⁵ (SPG, 2014), states in section 2.3.7 that: ***"Large buildings have the ability to alter their local environment and affect the microclimate. For example, not only can particularly tall buildings***

case a long shadow effecting buildings several streets away, they can influence how wind travels across a Site, potentially making it unpleasant at ground level or limiting the potential to naturally ventilate buildings. One way to assess the impact of large buildings on the comfort of the street environment is the Lawson Comfort Criteria. This tool sets out a scale for assessing the suitability of wind conditions in the urban environment based upon threshold values of wind speeds and frequency of occurrence. It sets out a range of pedestrian activities from sitting through to crossing the road and for each activity defines a wind speed and frequency of occurrence. Where a proposed development is significantly taller than its surrounding environment, developers should carry out an assessment of its potential impact on the conditions at ground level, and ensure the resulting design of the development provides suitable conditions for the intended use.”

- 17.4.6 It is noted that the March 2013 ES assessment follows the guidelines set out in these updated planning policies, which would have no material bearing on the assessment.

17.5 Baseline Conditions

- 17.5.1 Based on RWDI’s professional experience of wind in the urban environment and in light of the wind tunnel tests undertaken for Phase 3 (as reported in March 2016) the baseline wind conditions identified in the March 2013 ES are expected to remain valid.

17.6 Designed-in Mitigation and Enhancement Measures

- 17.6.1 Where changes to the Consented Scheme as a result of the detailed design result in a reduction of mass or an increase in surface roughness (through the inclusion of protruding balconies, on Blocks H1, H2 and J1 - J6) the wind environment would not be expected to become ‘windier’.
- 17.6.2 It is noted that indicative landscaping has been included within the Phase 4 Site plans, which would be expected to provide shelter to the areas where this is located. However, it is recommended that this is refined through wind tunnel testing at a further detailed design stage to provide the most beneficial shelter to the ‘windy’ areas on the Site.

17.7 Assessment of Environmental Effects during Demolition and Construction

- 17.7.1 Based upon professional judgement, the demolition of the existing low to medium rise structures of the Site is not anticipated to give rise to any significant change to the existing (relatively calm) wind microclimate both on and off-Site. The likely effect is therefore judged to be insignificant and wind conditions both on and off-Site would remain acceptable for their intended pedestrian uses.
- 17.7.2 As construction of the Development proceeds, the wind conditions of the Site and its surrounds would gradually adjust to those described for the completed Development.

17.8 Assessment of Environmental Effects during Operation

- 17.8.1 The ES assessment of the wind microclimate for the Consented Scheme concluded that areas of high wind speeds were expected around the buildings to the southwest of the Site. In RWDI's experience these 'windy' conditions are to be expected as the Brent Reservoir provides a large open area for winds from the southwest sector to approach the Consented Scheme relative unimpeded.
- 17.8.2 It is noted in the ES assessment that these 'windy' areas are predominantly expected in the pedestrian routes between blocks D, E, K, L, F and J. The pedestrian routes between these blocks were identified as main thoroughfare areas with seating provided through park benches. The ES assessment states that 'According to the Lawson pedestrian comfort Section 17.2.2, park benches are not considered as long term sitting and therefore classified in the same category as leisure walking. The predicted maximum wind speeds are consistent with the proposed usage in these areas (leisure walking and short-term seating). However, local planting is proposed in these areas to optimise pedestrian comfort conditions.'
- 17.8.3 It is RWDI's practice to recommend that all seating areas inclusive of park benches should aim to achieve a wind environment classified as acceptable for sitting use during the summer season. Wind conditions classified as acceptable for standing or 'windier' were reported at these seating areas in the March 2013 ES, during the summer season, which represents an adverse effect of minor significance. It is noted that although indicative landscaping has been included within the Phase 4 Site plans it is recommended that this is refined through wind tunnel testing to provide the most beneficial shelter to the 'windy' areas on the Site.

17.8.4 It is also noted that in the wind tunnel tests carried out for Phase 3, strong winds in excess of the Beaufort Force 7 criteria (for more than one hour per annum) were recorded in thoroughfare areas to the south west of the Site. Strong winds in excess of the Beaufort Force 7 criteria could impede walking or cause someone to lose their balance, and would therefore be a potential risk to safety. Therefore, although it is agreed that landscaping should be located to provide shelter in these areas, it is also recommended that the Phase 4 landscaping is developed and refined through further testing to develop an appropriate mitigation scheme, to ensure that the mitigation is effective.

17.9 Cumulative Impacts

17.9.1 No significant cumulative effects are expected to result from the proposed redevelopment as wind conditions on the Site and its surrounds would gradually adjust to those described in the March 2013 ES for the completed Development. It is noted that mitigation measures developed to shelter 'windy' areas with the completed Development (and existing surrounding buildings) would remain valid in the cumulative scenario.

17.10 Mitigation and Enhancement

17.10.1 As previously noted the indicative landscaping included within the Phase 4 Site plans would be expected to provide shelter to the areas where this is located, however, it is recommended that this is refined through wind tunnel testing to ensure that the resulting wind microclimate is suitable for the intended pedestrian uses.

17.11 Conclusions and statement of residual significance

17.11.1 In review of the detailed design drawings (received by RWDI August 08, 2016) it is RWDI's understanding that the Development has evolved to include a reduction in mass or increased surface roughness (e.g. through the inclusion of balconies) in Phase 4. Therefore, wind conditions are expected to be no 'windier' when compared to the Consented Scheme (as reported in the March 2013 ES).

17.11.2 It is noted that indicative landscaping has been included within the Phase 4 Site plans, which would be expected to provide shelter to the areas where this is located. However, it is recommended that this is refined through wind tunnel testing to provide the most beneficial shelter to the 'windy' areas on the Site.



17.11.3 In conclusion wind conditions in the presence of the detail design of the Site are generally expected to be consistent or no 'windier' when compared to that reported in the March 2013 ES and June 2013 ES Addendum.

18 CUMULATIVE EFFECTS

18.1 Introduction

18.1.1 This section, which has been prepared by Quod, provides a statement of conformity with regard to the cumulative effects arising from the Phase 4 RMA as part of the consented in place. This is provided pursuant to the March 2013 ES and June 2013 ES Addendum to confirm that the overall findings with respect to cumulative effects remain valid.

18.1.2 The March 2013 ES assessed three types of cumulative effect as follows:

- **Cumulative effects (from other committed developments)** - effects which also arise on other (independent) projects, and which in combination with the West Hendon development produce significant effects;
- **In-combination effects (resulting from the West Hendon Development)** – two or more scheme-related effects which when combined, produce a significant effect (such as dust and noise); and,
- **Interaction effects** - two or more scheme-related effects which inter-react to produce a significant effect (such as noise hoarding used for mitigation purposes causing visual impacts).

18.1.3 This section provides a review in respect of the three assessments above.

Relevant Phase 4 RMA Details

18.1.4 There are no aspects of the Phase 4 RMA proposals that required consideration. The alterations to basement excavation volume and residential unit numbers do not have a material effect on cumulative effects.

Methodology

18.1.5 There are no proposed changes to the methodology as set out within the March 2013 ES. The original methodology has been reviewed and found to be valid.

Legislation and Policy

- 1.1.1 There have been no significant changes to legislation or policy that would change the findings of the March 2013 ES.

Baseline Conditions

- 1.1.2 The March 2013 ES considered a number of schemes for cumulative assessment. After discounting a number due to distance from Site, the remained that were included for assessment were as follows:
- Brent Cross, Cricklewood (planning reference C/17559/08);
 - Deerfield and West Hendon Social Club, 1-3 Station Road, London, NW4 4QA (planning ref. H/01827/11); and
 - Land at junction of Edgware Road, Capitol Way, London, NW9 (planning reference 08/2823).
- 1.1.3 A review has been carried out of these schemes and they are still considered to be valid, with no changes in terms of additional assessments required. Brent Cross Phase 1A (South) received consent in March 2016 while construction has commenced on the Deerfield and West Hendon Social Club.
- 1.1.4 In addition, a search has been carried out for any additional major planning applications within a 1km radius of the Site that have been granted consent since the submission and validation of the March 2013 ES and June 2013 ES Addendum. None were identified and, as such, it is considered that the list that was provided in the March 2013 ES remains valid and no further assessments are required.

Assessment of Environmental Effects During Demolition and Construction

- 1.1.5 As there are have been no material changes to the cumulative schemes that were assessed in the March 2013 ES and no additional schemes have been identified for assessment, the assessment of construction effects remains unchanged from that described in the March 2013 ES and June 2013 ES Addendum. The assessment of the in-combination effects remains unchanged and, as such, the conclusions remain valid.

Assessment of Environmental Effects During Operation

- 1.1.6 As there are have been no material changes to the cumulative schemes that were assessed in the March 2013 ES and no additional schemes have been identified for assessment, the assessment of operational effects remains unchanged from that described in the March 2013 ES and June 2013 ES Addendum.
- 1.1.7 The assessment of the in-combination effects remains unchanged and, as such, the conclusions remain valid.

Conclusions and Statement of Residual Significance

- 1.1.8 Due to no new or materially different effects occurring for the previously assessed technical topics, it is not envisaged that predictions set out in the March 2013 ES for the 'In-combination' and 'Interaction' effects will have changed.
- 18.1.6 As the status of the previously assessed cumulative schemes remains as previously identified and no new major schemes were identified for inclusion within the cumulative assessment, the conclusions set out in the March 2013 ES for 'Cumulative Effects' remained valid.



19 CONCLUSIONS

- 19.1.1 This report considers whether the proposed details and amendments, which are the subject of this RMA, are likely to give rise to any new or materially different significant effects to those already identified, both individually and cumulatively with any other previously agreed amendments to a given development parameter.
- 19.1.2 This report assesses the proposed amendments against each of the topics included in the March 2013 ES and June 2013 ES Addendum. This report concludes that these proposed amendments do not materially alter the basis of the topic specific assessments and that therefore they are not likely to give rise to any new or materially different effects to those in the March 2013 ES and June 2013 ES Addendum.

REFERENCES

- ¹ Her Majesty's Stationery Office (HMSO), (2011). Town and Country Planning (Environmental Impact Assessment) Regulations 2011.
- ² HMSO, (2015). The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015.
- ³ HMSO, Air Quality (England) Regulations 2000, [SI 2000 No. 928.]
- ⁴ HMSO, Air Quality (England) (Amendment) Regulations 2002, [SI 2002 No. 3043.]
- ⁵ HMSO, National Planning Policy Framework, March 2012
- ⁶ World Health Organisation 'Guidelines for Community Noise' 1999
- ⁷ Department of Transport and the Welsh Office, 1998, Calculation of Road Traffic Noise.
- ⁸ Design Manual for Roads and Bridges: Volume 11, 2011, November 2011
- ⁹ The Stationary Office, Department for Education and Skills, Building Bulletin 92 Acoustic Design of Schools
- ¹⁰ Education Funding Agency, 2012, Acoustic Performance Standards for the Priority School Building Programme, September 2012
- ¹¹ British Standards Institute (2014). BS4142: Method for Rating Industrial Noise Affection Mixed Use and Residential Areas
- ¹² British Standards Institute, (2009). BS5229 Noise and Vibration Control on Construction and Open Sites
- ¹³ British Standards Institute, (1999). BS8233: Sound insulation and noise reduction for buildings - Code of Practice.
- ¹⁴ British Standards Institute, (2014) BS8233: Guidance on sound insulation and noise reduction for buildings.
- ¹⁵ British Standards Institute, (1997). BS4124: Method for rating industrial noise affecting mixed residential and industrial areas.
- ¹⁶ Institute of Environmental Management, (2014). Guidelines for Environmental Noise Impact Assessment.
- ¹⁷ DCLG, (2014); Planning Practice Guidance. HMSO, London.
- ¹⁸ Greater London Authority (GLA), (2015); The London Plan, Spatial Development Strategy for Greater London.
- ¹⁹ RBA, (2015). Phase 3b, Block F, West Hendon Regeneration Acoustic Assessment Report, ref: 6996/AAR, dated 23 October 2015.
- ²⁰ RBA, (2016). Phase 3c, Block H3/H4, West Hendon Regeneration Acoustic Assessment Report, ref: 7262/AAR-H3/H4, dated 31 March 2016.
- ²¹ RBA, (2016). Phase 3c, Block G4, West Hendon Regeneration Acoustic Assessment Report, ref: 7262/AAR-G4, dated 31 March 2016.
- ²² IEEM (2006) Guidelines for Ecological Impact Assessment in the United Kingdom. Institute for Ecology and Environmental Management.
- ²³ GLA, 2012, Shaping Neighbourhoods: Play and Informal Recreation Supplementary Planning Guidance

²⁴ LB Barnet, 2013, Planning Obligations SPD p.34

²⁵ GLA (2013); The London Plan, Sustainable Design and Construction Supplementary Planning Guidance.



Annex A – Air Quality Monitoring Survey (CH2M, October 2016)



Annex A – Air Quality Monitoring Survey



Introduction

- 1.1.1 To support Phase 3 and Phase 4 of the West Hendon development, a four months air quality monitoring campaign was planned and performed by CH2M to provide updated information regarding current nitrogen dioxide (NO₂) concentrations in the Project area.
- 1.1.2 The scope of the monitoring campaign was extended to cover the need for further environmental information to be included in the EIA Statement of Conformity for Phase 4 RMA. In particular, the air quality survey results have been used to assess whether the March 2013 ES and June 2013 ES Addendum outcome (i.e. the likely significant effects of the Consented Scheme on local air quality) remain valid.
- 1.1.3 Survey results have been compared against the limit for NO₂ annual average concentrations: 40µg/m³.
- 1.1.4 The assessment methodology detailed in the 2013 ES also considered the NO₂ annual average guideline value of 38µg/m³ to identify areas of 'poor air quality'. According to London Councils Air Quality and Planning Guidance (2007), where annual mean NO₂ concentration are 38 µg/m³ or above, air quality mitigation measures will be required to minimise exposure
- 1.1.5 The 2013 ES air quality assessment predicted potential exceedances of the NO₂ limit alongside the A5 and NO₂ levels above the 38µg/m³ in correspondence of some new units of buildings G and H.

Survey Description

- 2.1.1 The air quality monitoring survey started in May 2016 with the installation of the first set of diffusion tubes provided by Gradko Ltd. CH2M staff installed diffusion tubes at nine (9) locations to cover Phase 3 and Phase 4 of the consented development. Table 2-1 reports coordinates of the monitored locations and a short description of the locations itself. Tubes were collected and replaced approximately every month. Collected tubes are shipped to Gradko Ltd for analysis.



Table 2-1 Structure and Content of this Report

| ID | Locations | Site Type | Coordinates (OSGB) | | Description |
|---|----------------------|-----------|--------------------|---------|---|
| | | | X (m) | Y (m) | |
| DT1 | 189 Broadway | Roadside | 522,027 | 188,012 | Backyard side of the property (opposite to the A5) |
| DT2 | Block G Roof | Near-Road | 521,967 | 188,054 | North Corner of Block G (on the roof of the building) |
| DT3 | Block G Ground-level | Roadside | 521,985 | 187,998 | South corner of Block G (at the ground level) |
| DT4 | Block J | Roadside | 522,065 | 187,850 | At the junction between Warner Close and Tyrrell Way |
| DT5 | Block H | Roadside | 522,077 | 187,908 | On Tyrrel Way |
| DT6 | Block M | Roadside | 522,051 | 187,786 | Behind Warner Close |
| DT7 | A5/ Milton Road | Roadside | 522,093 | 187,951 | At the junction between the A5 and Milton Road |
| DT8 | A5/ Stanley Road | Roadside | 522,132 | 187,890 | At the junction between the A5 and Stanley Road |
| DT9 | Block J | Roadside | 521,989 | 187,945 | On Tyrrel Way |
| <p>Note: DT1, DT2 and DT3 have been installed to cover Phase 3; Diffusion tubes DT4 to DT9 have been installed as part of Phase 4.</p> | | | | | |

2.1.2 Diffusion tubes DT1 to DT3 have been installed to cover Phase 3; Diffusion tubes DT4 to DT9 have been installed as part of Phase 4.

2.1.3 Location DT7 and DT8 are found along the A5 (approximately 10m from the road), which is heavily trafficked arterial. All other locations are found within the Site at the location of proposed new buildings.



Survey Results

- 3.1.1 Table 3-1 shows measured NO₂ concentrations at each monitoring location for the four consecutive monitoring periods from 10 May to 10 October 2016.
- 3.1.2 In order to compare the measured NO₂ concentrations from diffusion tubes against the annual average limit for NO₂ (i.e. 40µg/m³), it would be necessary to annualize raw data. Considering that the survey covered only a limited period and had low data capture rates (due to missing tubes), it was not possible to annualize data. Following a conservative approach, the highest mean value, which is recorded during September at eight locations out of nine, has been assumed to be representative of the annual average.
- 3.1.3 The approach is justified by the fact that summer months tend to have lower concentrations because emissions from traffic and home heating are generally lower. Figure 1-2 shows the survey results, with the highest concentrations in September.



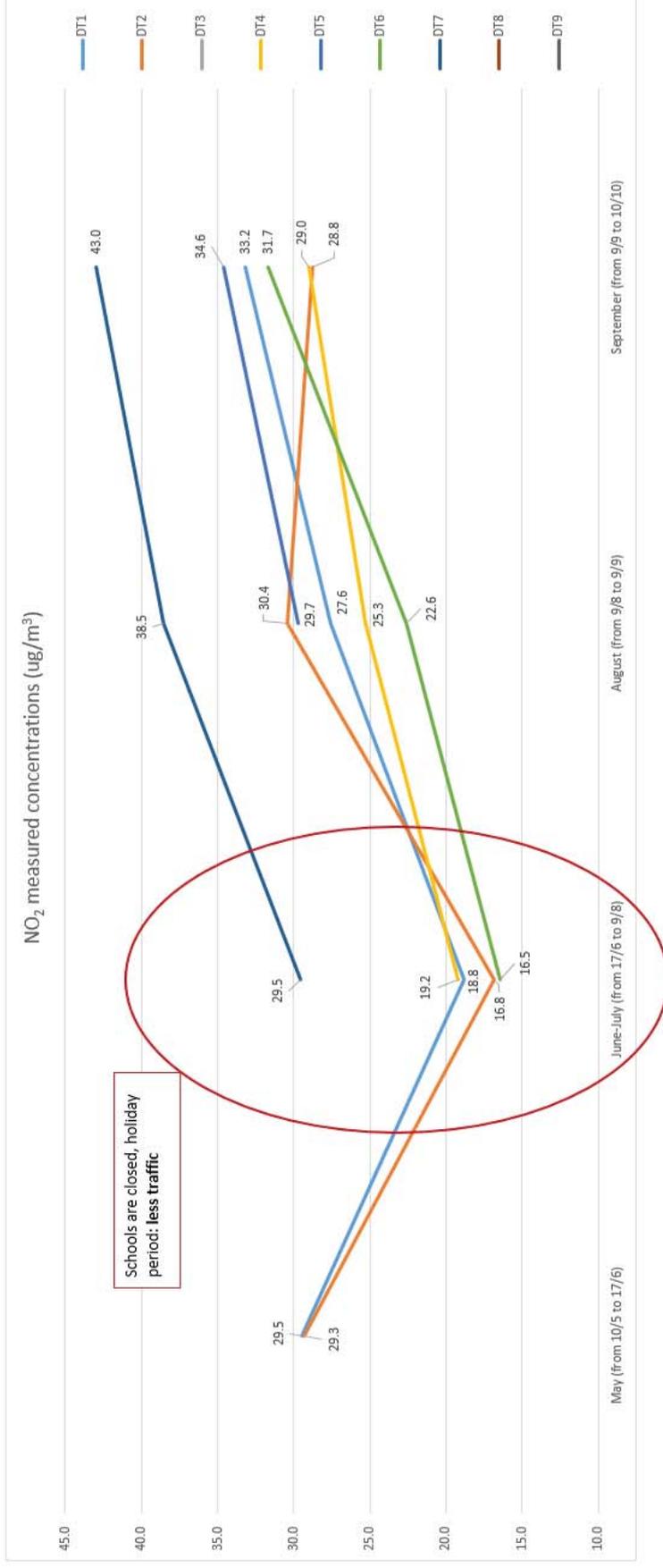
Table 3-1 Survey Results: NO₂ measured concentrations over the monitoring period

| ID | Locations | NO ₂ measured concentrations over the monitoring period (µg/m ³) | | | |
|-----|----------------------|---|---------------------------------|-----------------------------|----------------------------------|
| | | May-June (from 10/5 to 17/6) | June-July (from 17/6 to 9/8) | August (from 9/8 to 9/9) | September (from 9/9 to 10/10) |
| DT1 | 189 Broadway | 29.5 | 18.8 | 27.6 | 33.2 |
| DT2 | Block G Roof | 29.3 | 16.8 | 30.4 | 28.8 |
| DT3 | Block G Ground-level | 30.0 | Missing tube | 30.1 | 32.0 |
| DT4 | Block J | Phase 4 monitoring was only commenced in June. | 19.2 | 25.3 | 29.0 |
| DT5 | Block H | | Missing tube | 29.7 | 34.6 |
| DT6 | Block M | | 16.5 | 22.6 | 31.7 |
| DT7 | A5/ Milton Road | | 29.5 | 38.5 | 43.0 |
| DT8 | A5/ Stanley Road | | 25.8 | Missing tube | Missing tube |
| DT9 | Block J | Missing tube | Missing tube | 21.3 | Missing tube |

Note: Annual mean limit for NO₂ = 40 µg/m³ Readings in bold indicate exceedances.



Figure 3-1 Table 3-2 Survey Results: plotted NO₂ measured concentrations (µg/m³)





3.1.4 Table 3-2 below summarizes the selected NO₂ value considered to be representative of the annual average at each monitored locations. These values have been used to verify the validity of the air quality assessment conclusions in the 2013 ES. The monitoring locations DT8 and DT9 are not presented due to lack of data.

3.1.5 Results reported in Table 3-2 show that the limit is exceeded at only one location. The NO₂ concentration recorded at the junction between the A5 and Milton Road (DT7) is 43.0 µg/m³.

Table 3-3 Survey Results: NO₂ highest monthly measured concentrations

| ID | Locations | Site Type | NO ₂ concentration (µg/m ³) |
|-----|----------------------|-----------|--|
| DT1 | 189 Broadway | Roadside | 33.2 |
| DT2 | Block G Roof | Near-Road | 28.8 |
| DT3 | Block G Ground-level | Roadside | 32.0 |
| DT4 | Block J | Roadside | 29.0 |
| DT5 | Block H | Roadside | 34.6 |
| DT6 | Block M | Roadside | 31.7 |
| DT7 | A5/ Milton Road | Roadside | 43.0 |
| DT8 | A5/ Stanley Road | Roadside | n/a |
| DT9 | Block J | Roadside | n/a |

Note: Annual mean limit for NO₂ = 40 µg/m³ Readings in bold indicate exceedances.

3.1.6 Figure 3-2 below shows NO₂ monitoring concentrations over the masterplan site. The different colours attributed to each locations reflect different concentrations ranges. The only exceedance was close to the A5 (less than 10m), which is the major source of local traffic emissions. Within the Site, moving further from the A5, measured values were below the 38 µg/m³ guideline value (i.e. value above which air quality mitigation measures are required).

Figure 3-2 Masterplan Site (the red line represents the Phase 4 RMA Site) and monitored locations



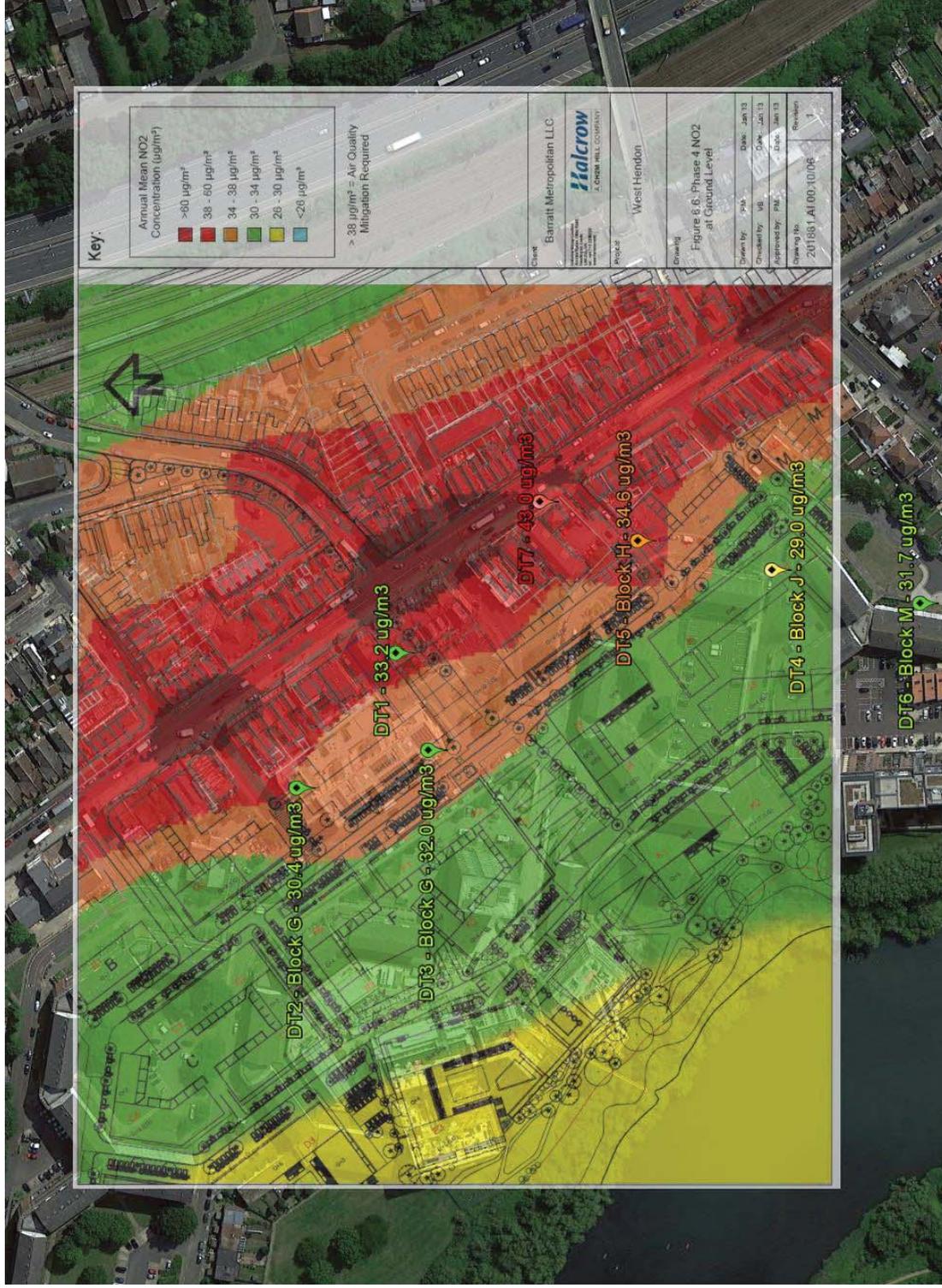


Comparison with the 2013 ES modelling study

- 4.1.1 Figure 4-1 compares NO₂ ground level concentrations in the opening year (2015) as predicted by the ES modelling study and monitored data obtained from the air quality survey completed in October 2016.
- 4.1.2 In general, data obtained from the survey confirm the 2013 ES outcome. The 2013 air quality modelling study predicted exceedances of the 40 µg/m³ limit near the A5, with peak NO₂ concentrations (above 50 µg/m³) at roadside receptors along the A5 and concentrations generally between 30 and 40 µg/m³ within the Site.
- 4.1.3 The highest measured concentration over the monitoring period was 43.0 µg/m³, recorded at the junction between the A5 and Milton road, showing a good accordance with predicted value along the A5.
- 4.1.4 Within the Site, moving further from the A5, measured values are always below the 38 µg/m³ guideline value (i.e. value above which air quality mitigation measures are required). The model appears to have overestimated NO₂ concentrations at some of the receptors within the Site but the differences are within the model uncertainty range and could be associated to the difficulty to represent the effect of buildings on the dispersion patterns.
- 4.1.5 The monitoring survey suggests that the ES modelling has correctly predicted potential exceedances of the NO₂ limit alongside the A5. At other locations it appears that actual concentrations in 2016 are lower than predicted. However, the model outcome is found to be still valid and mitigation measures proposed in the 2013 ES are confirmed.



Figure 4-1 Comparison between the contours map of predicted NO₂ ground level concentrations in the opening year (2015) and monitored data obtained from the air quality survey completed in October 2016.





Annex A – Air Quality Monitoring Survey



Introduction

- 1.1.1 To support Phase 3 and Phase 4 of the West Hendon development, a four months air quality monitoring campaign was planned and performed by CH2M to provide updated information regarding current nitrogen dioxide (NO₂) concentrations in the Project area.
- 1.1.2 The scope of the monitoring campaign was extended to cover the need for further environmental information to be included in the EIA Statement of Conformity for Phase 4 RMA. In particular, the air quality survey results have been used to assess whether the March 2013 ES and June 2013 ES Addendum outcome (i.e. the likely significant effects of the Consented Scheme on local air quality) remain valid.
- 1.1.3 Survey results have been compared against the limit for NO₂ annual average concentrations: 40µg/m³.
- 1.1.4 The assessment methodology detailed in the 2013 ES also considered the NO₂ annual average guideline value of 38µg/m³ to identify areas of 'poor air quality'. According to London Councils Air Quality and Planning Guidance (2007), where annual mean NO₂ concentration are 38 µg/m³ or above, air quality mitigation measures will be required to minimise exposure
- 1.1.5 The 2013 ES air quality assessment predicted potential exceedances of the NO₂ limit alongside the A5 and NO₂ levels above the 38µg/m³ in correspondence of some new units of buildings G and H.

Survey Description

- 2.1.1 The air quality monitoring survey started in May 2016 with the installation of the first set of diffusion tubes provided by Gradko ltd. CH2M staff installed diffusion tubes at nine (9) locations to cover Phase 3 and Phase 4 of the consented development. Table 2-1 reports coordinates of the monitored locations and a short description of the locations itself. Tubes were collected and replaced approximately every month. Collected tubes are shipped to Gradko ltd for analysis.

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| DT9 | Block J | Roadside | 521,989 | 187,945 | On Tyrrel Way |
| <p>Note: DT1, DT2 and DT3 have been installed to cover Phase 3; Diffusion tubes DT4 to DT9 have been installed as part of Phase 4.</p> | | | | | |

2.1.2 Diffusion tubes DT1 to DT3 have been installed to cover Phase 3; Diffusion tubes DT4 to DT9 have been installed as part of Phase 4.

2.1.3 Location DT7 and DT8 are found along the A5 (approximately 10m from the road), which is heavily trafficked arterial. All other locations are found within the Site at the location of proposed new buildings.



Survey Results

- 3.1.1 Table 3-1 shows measured NO₂ concentrations at each monitoring location for the four consecutive monitoring periods from 10 May to 10 October 2016.
- 3.1.2 In order to compare the measured NO₂ concentrations from diffusion tubes against the annual average limit for NO₂ (i.e. 40µg/m³), it would be necessary to annualize raw data. Considering that the survey covered only a limited period and had low data capture rates (due to missing tubes), it was not possible to annualize data. Following a conservative approach, the highest mean value, which is recorded during September at eight locations out of nine, has been assumed to be representative of the annual average.
- 3.1.3 The approach is justified by the fact that summer months tend to have lower concentrations because emissions from traffic and home heating are generally lower. Figure 1-2 shows the survey results, with the highest concentrations in September.



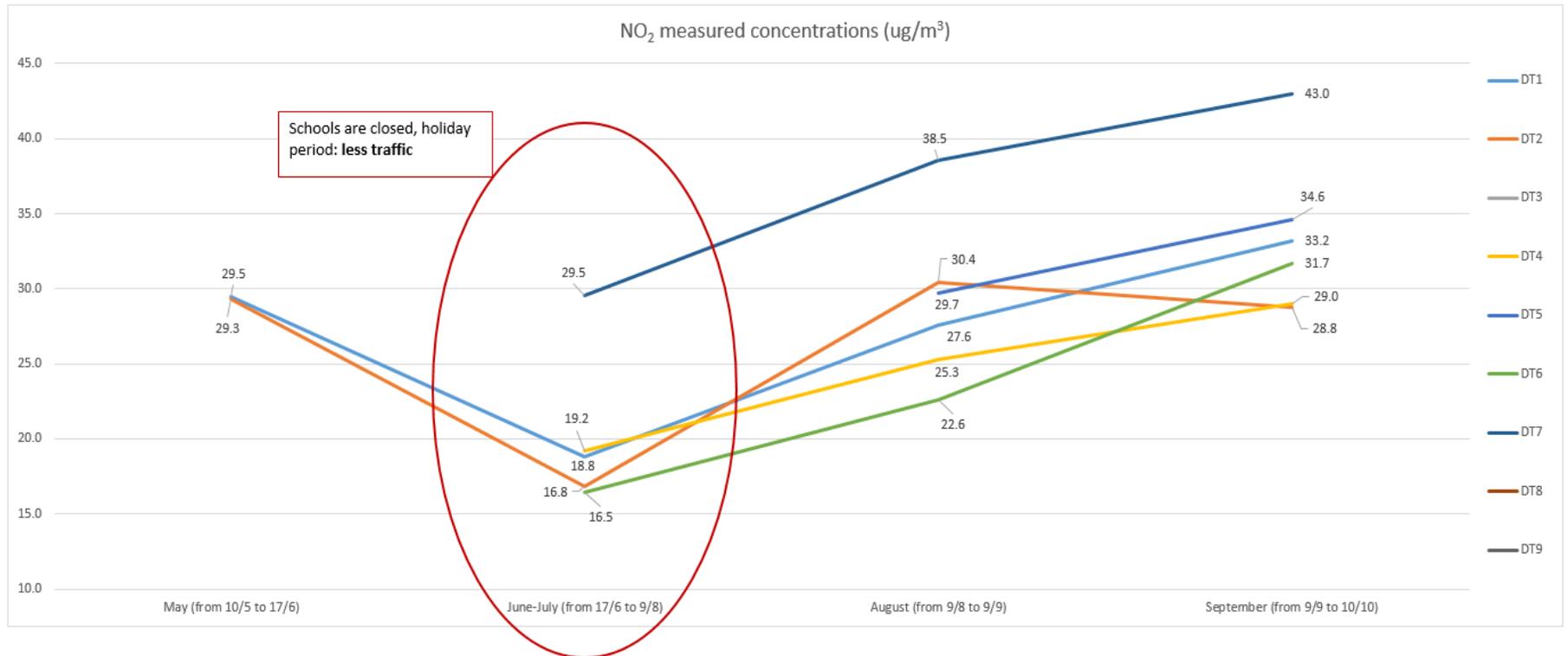
Table 3-1 Survey Results: NO₂ measured concentrations over the monitoring period

| ID | Locations | NO ₂ measured concentrations over the monitoring period (µg/m ³) | | | |
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| DT6 | Block M | | 16.5 | 22.6 | 31.7 |
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Note: Annual mean limit for NO₂ = 40 µg/m³ Readings in bold indicate exceedances.



Figure 3-1 Table 3-2 Survey Results: plotted NO₂ measured concentrations (µg/m³)





3.1.4 Table 3-2 below summarizes the selected NO₂ value considered to be representative of the annual average at each monitored locations. These values have been used to verify the validity of the air quality assessment conclusions in the 2013 ES. The monitoring locations DT8 and DT9 are not presented due to lack of data.

3.1.5 Results reported in Table 3-2 show that the limit is exceeded at only one location. The NO₂ concentration recorded at the junction between the A5 and Milton Road (DT7) is 43.0 µg/m³.

Table 3-3 Survey Results: NO₂ highest monthly measured concentrations

| ID | Locations | Site Type | NO ₂ concentration (µg/m ³) |
|-----|----------------------|-----------|--|
| DT1 | 189 Broadway | Roadside | 33.2 |
| DT2 | Block G Roof | Near-Road | 28.8 |
| DT3 | Block G Ground-level | Roadside | 32.0 |
| DT4 | Block J | Roadside | 29.0 |
| DT5 | Block H | Roadside | 34.6 |
| DT6 | Block M | Roadside | 31.7 |
| DT7 | A5/ Milton Road | Roadside | 43.0 |
| DT8 | A5/ Stanley Road | Roadside | n/a |
| DT9 | Block J | Roadside | n/a |

Note: Annual mean limit for NO₂ = 40 µg/m³ Readings in bold indicate exceedances.

3.1.6 Figure 3-2 below shows NO₂ monitoring concentrations over the masterplan site. The different colours attributed to each locations reflect different concentrations ranges. The only exceedance was close to the A5 (less than 10m), which is the major source of local traffic emissions. Within the Site, moving further from the A5, measured values were below the 38 µg/m³ guideline value (i.e. value above which air quality mitigation measures are required).

Figure 3-2 Masterplan Site (the red line represents the Phase 4 RMA Site) and monitored locations



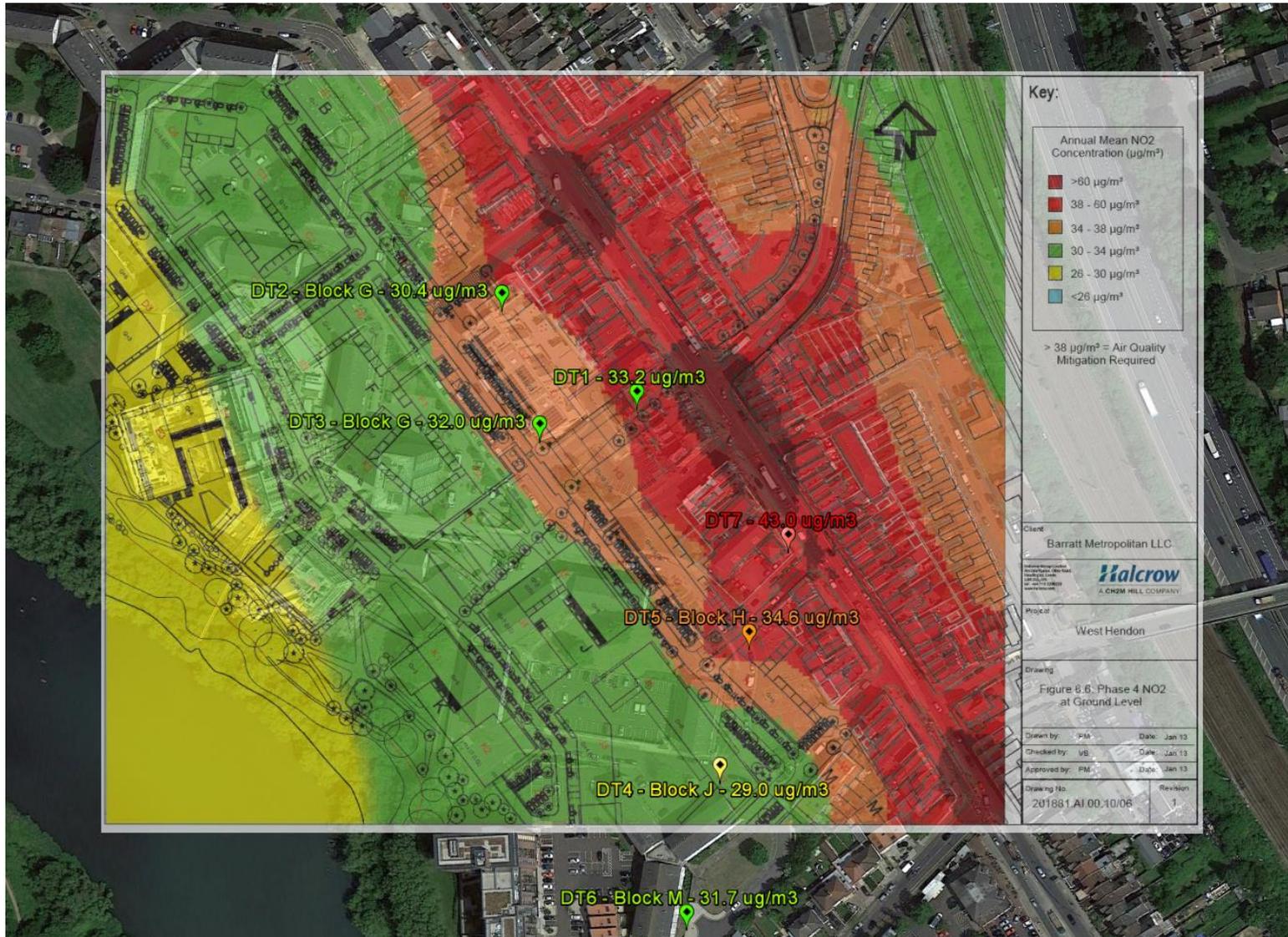


Comparison with the 2013 ES modelling study

- 4.1.1 Figure 4-1 compares NO₂ ground level concentrations in the opening year (2015) as predicted by the ES modelling study and monitored data obtained from the air quality survey completed in October 2016.
- 4.1.2 In general, data obtained from the survey confirm the 2013 ES outcome. The 2013 air quality modelling study predicted exceedances of the 40 µg/m³ limit near the A5, with peak NO₂ concentrations (above 50 µg/m³) at roadside receptors along the A5 and concentrations generally between 30 and 40 µg/m³ within the Site.
- 4.1.3 The highest measured concentration over the monitoring period was 43.0 µg/m³, recorded at the junction between the A5 and Milton road, showing a good accordance with predicted value along the A5.
- 4.1.4 Within the Site, moving further from the A5, measured values are always below the 38 µg/m³ guideline value (i.e. value above which air quality mitigation measures are required). The model appears to have overestimated NO₂ concentrations at some of the receptors within the Site but the differences are within the model uncertainty range and could be associated to the difficulty to represent the effect of buildings on the dispersion patterns.
- 4.1.5 The monitoring survey suggests that the ES modelling has correctly predicted potential exceedances of the NO₂ limit alongside the A5. At other locations it appears that actual concentrations in 2016 are lower than predicted. However, the model outcome is found to be still valid and mitigation measures proposed in the 2013 ES are confirmed.



Figure 4-1 Comparison between the contours map of predicted NO₂ ground level concentrations in the opening year (2015) and monitored data obtained from the air quality survey completed in October 2016.





Annex B – Extended Phase 1 Habitat Survey (Update) (Peter Brett Associates, September 2016)



West Hendon Regeneration (Phase 4)

Extended Phase 1 Habitat Survey (Update)

On behalf of **Barratt (West London)**

Project Ref: 28826 /2016 | Rev:01 | Date: September 2016

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1 Introduction

1.1 Purpose of this Report

- 1.1.1 Planning permission for the regeneration of the West Hendon Estate was granted in 2013; planning reference H/01054/13. This provided a detailed planning consent for Phase 3 of the development, and outline consent for subsequent phases.
- 1.1.2 The hybrid planning application was informed by an extended Phase 1 Habitat Survey and carefully specified bat and bird surveys, the outcome of which provided a baseline for the ecological impact assessment that was set out in the Environmental Statement which accompanied the planning application.
- 1.1.3 A Reserved Matters application for Phase 4 of the development is now being prepared. This will be supported by a Statement of Conformity which will confirm whether the 2013 ecological impact assessment in relation to the Phase 4 area is still valid and can be relied upon in determining the Reserved Matters application.
- 1.1.4 Establishing whether there have been any changes to baseline conditions is an important factor in determining the continuing validity of the 2013 impact assessment. The extended Phase 1 Habitat survey undertaken in 2012 has therefore been repeated in order to establish whether there has been any material change to the nature and condition of habitats in the Phase 4 development area, and/or their potential to support protected species.

1.2 Aims of Study

- 1.2.1 Peter Brett Associates was commissioned to undertake an update extended Phase 1 habitat survey and external building assessment within the Phase 4 area to determine whether baseline conditions within the Phase 4 development area and immediate surrounds have changed materially since the extended phase 1 habitat survey, and bat and birds surveys which were undertaken in 2012 and 2013.
- 1.2.2 The aims of this report are to:
 - i. Describe the current habitats present within the Phase 4 development area;
 - ii. Assess the current potential for the Phase 4 development area to support protected or notable species;
 - iii. Assess whether there has been a material change in ecological conditions in the Phase 4 development area since the phase 1 habitat survey undertaken in 2012.

2 Methodology

2.1 Field Survey

- 2.1.1 The field survey was undertaken by Stephen Foot MCIEEM and Ed Austin MCIEEM on 26th August 2016. The weather conditions during the survey were dry with clear skies (1/8 cloud cover) and calm conditions (Beaufort Scale F1). Air temperatures ranged between 19°C and 24°C.
- 2.1.2 The habitats within the Phase 4 development area were identified and described following standard JNCC Phase 1 habitat survey methodology as detailed in the Phase 1 Habitat Survey Handbook (JNCC, 2010). This uses a system of codes to describe different habitat types based on the dominant vegetation present. The survey was extended to give particular consideration to the potential of the habitats present to support protected species or species of conservation importance.

2.2 External Building Assessment

- 2.2.1 The exterior of all buildings were re-examined from the ground using a high powered torch and close-focusing binoculars (where necessary). A note was made of:
- features which could provide bats with access into roosting spaces or provide roosting spaces (such as gaps under roofing tiles, gaps in ridge tiles, gaps in soffit boxes, gaps under lead flashing, and cracks and crevices in the stonework); and
 - evidence of the presence of bats such as bat droppings on windows, windowsills, walls and the ground, or scratch marks or staining from bat's fur around possible roost access/ egress points.
- 2.2.2 The buildings were assigned a category defining their potential to support roosting bats in accordance with Table 1 below.

Table 1: Categories of Bat Potential of Buildings (adapted from Collins, 2016)

| Level of Bat Roosting Potential | Rationale |
|---------------------------------|--|
| Negligible | A structure with no or very limited roosting opportunities for bats and no evidence of use by bats and where the feature is isolated from foraging habitat. |
| Low | A structure with one or more potential roost sites that could be used by bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions (temperature, humidity etc) and/or suitable surrounding habitat to be used on a regular basis by a larger number of bats (i.e. unlikely to be suitable for maternity or hibernation). |
| Medium | A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only i.e. maternity or hibernation roosts). |
| High | A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. |

| Level of Bat Roosting Potential | Rationale |
|---------------------------------|---|
| Confirmed | Presence of bats or evidence of recent use by bats. |

2.3 Limitations

- 2.3.1 The survey was undertaken at an appropriate time of year for habitat surveys when the majority of plant species are evident and readily identifiable.
- 2.3.2 All buildings could also be viewed from ground level to allow a detailed assessment to be made. As such there are not considered to be any constraints to any element of this assessment.

3 Results and Interpretation

3.1 Habitat Descriptions

3.1.1 The following Phase 1 habitat types were recorded on site during the survey:

- Scattered broadleaved trees
- Tall ruderal vegetation habitat mosaics
- Ephemeral/short perennial vegetation
- Introduced shrub
- Amenity grassland
- Buildings
- Bareground and Hardstanding

3.1.2 The location and extent of habitats recorded during the site visit are shown in Figure 1. A brief description of these is provided below. Site photographs are provided in Appendix B; target notes (TNs) referred to in the text below and on Figure 1 are also provided in Appendix A.

Scattered Broadleaved Trees

3.1.3 A small number of semi-mature and mature broadleaved trees are present within areas of amenity grassland in the north and south of the Phase 4 development area. Species present include London plane *Plantanus x hispanica (acerifolia)*, pedunculate oak *Quercus robur*, Swedish whitebeam *Sorbus intermedia*, Norway maple *Acer platanoides* sycamore *Acer pseudoplatanus*, wild cherry *Prunus avium*, elder *Sambucus nigra* and lime *Tilia* sp.

Tall Ruderal Vegetation Habitat Mosaics

3.1.4 Three habitat mosaics consisting predominantly of tall ruderal species are present within the Phase 4 development area.

3.1.5 The first of these lies in the southern corner of the Phase 4 area (extending offsite) and includes a mixture of ruderal species and introduced shrub planting. Species present include abundant creeping thistle *Cirsium arvense* with frequent common nettle *Urtica dioica* and cocksfoot *Dactylis glomerata*. Other species recorded include occasional hemlock *Conium maculatum*, dogwood *Cornus sanguinea* and wild oat *Avena fatua*. Non-native species include butterfly bush *Buddleja davidii* with a single giant knotweed *Fallopia sachalinensis* plant growing onto the site from the other side of a boundary fence (offsite).

3.1.6 The second mosaic lies close to the northern boundary of the site and comprises a small area of tall ruderal and amenity grassland species. Perennial rye-grass *Lolium perenne* dominates the sward with frequent wall barley *Hordeum murinum* and occasional red fescue *Festuca rubra* and creeping bent *Agrostis stolonifera*. Forbs and herbs include frequent creeping buttercup *Ranunculus repens*, with occasional dandelion *Taraxacum* agg. and fleabane *Conyza* sp. Ruderal species comprise redshank *Persicaria maculosa* and greater burdock *Arctium lappa*.

3.1.7 The third mosaic was located in the north of the Phase 4 development area and comprises a mosaic of ruderal and ephemeral species including abundant knotgrass *Polygonum* sp. with

frequent perennial rye-grass, and fleabane and occasional dandelion, common mallow *Malva sylvestris* and smooth hawkbeard *Crepis capillaris*. Ruderal species included common nettle, smooth sow thistle *Sonchus oleraceus* and creeping thistle.

Ephemeral/Short Perennial Vegetation

- 3.1.8 A small strip of ephemeral vegetation lies along the fence line surrounding the basketball court in the east of the Phase 4 development area. Species present include occasional common mallow, smooth sow thistle, fleabane, and bristle oxtongue *Helminthotheca echioides*. Individual mugwort *Artemisia vulgaris* and common orache *Atriplex patula* plants are also present.

Introduced Shrub

- 3.1.9 Introduced shrub beds are present in the south-east (see Photograph 1 in Appendix B) and west of the Phase 4 area with non-native species also scattered on the periphery of the basketball court in the east and within areas of amenity grassland adjacent to residential blocks. Introduced species within shrub beds include Viburnum *Viburnum tinus*, hebe *Hebe* sp., dogwood, box *Buxus* sp. and willow *Salix* sp.
- 3.1.10 In the south of the Phase 4 development area an introduced shrub bed has been left unmanaged and as a result has become dominated by butterfly bush with Virginia creeper *Parthenocissus* sp. growing up the wall of an adjacent building. Virginia creeper is also present along the eastern edge of the basketball court in the east of the Phase 4 development area.

Amenity Grassland

- 3.1.11 Closely mown amenity grassland lies adjacent to the buildings with larger areas present in the south and centre of the Phase 4 area (see Photograph 2 in Appendix B). Species composition within these grassland areas is consistent with abundant perennial rye-grass, frequent wall barley and occasional red fescue and creeping bent. Forbs present include frequent smooth hawkbeard with occasional dandelion, white clover *Trifolium repens*, yarrow *Achillea millefolium*, knotgrass and ribwort plantain *Plantago lanceolata*. Other species recorded rarely within these parcels include field bindweed *Convolvulus arvensis*, mugwort, red dead nettle *Lamium purpureum*, dovesfoot cranesbill *Geranium molle* and shepherd's purse *Capsella bursa-pastoris*.

Buildings

- 3.1.12 A number of residential blocks are present within the Phase 4 development area (see Photograph 4 in Appendix B). These blocks of flats were constructed in the 1960s and have a brick cavity wall construction (covered for the most part in plastic cladding and pitched roofs covered in aggregate tiles).

Bare Ground and Hardstanding

- 3.1.13 The majority of the Phase 4 area comprises bare ground and hardstanding used for pedestrian and vehicular access and car-parking (see Photograph 3 in Appendix B).

Habitat Summary

- 3.1.14 The Phase 4 area continues to be dominated by highly modified, manmade habitats (buildings and hardstanding) with no intrinsic ecological value.

3.1.15 The semi-natural habitats present (amenity grassland, introduced shrub beds and tall ruderal/ephemeral colonising plants) are all common and widespread and readily established and as such are all considered to have negligible intrinsic ecological value.

3.2 Protected Species and Species of Conservation Importance

3.2.1 This section describes the potential for or evidence of protected species and species of conservation importance identified during the survey.

Nesting Birds

3.2.2 A total of ten species of bird were incidentally recorded in the Phase 4 development area during the update extended Phase 1 habitat survey (see Table 2 for a list of these species).

Table 2: Birds recorded in the Phase 4 development area during extended Phase 1 Habitat Survey

| Common Name | Scientific Name |
|----------------------|------------------------------|
| Blue tit | <i>Cyanistes caeruleus</i> |
| Carrion crow | <i>Corvus corone</i> |
| Collard dove | <i>Streptopelia decaocto</i> |
| Dunnock | <i>Prunella modularis</i> |
| Feral pigeon | <i>Columba livia</i> |
| Goldfinch | <i>Carduelis carduelis</i> |
| Magpie | <i>Pica pica</i> |
| Ring-necked parakeet | <i>Psittacula krameri</i> |
| Robin | <i>Erithacus rubecula</i> |
| Wood pigeon | <i>Columba palumbus</i> |

3.2.3 The dunnock *Prunella modularis* is classified as a Species of Principal Importance (SPI) and likely to nest on or nearby the site as suitable habitat is present (dense introduced shrub beds). All wild birds, their nests and eggs receive protection under the Wildlife and Countryside Act 1981 (as amended) in respect of intentional killing and injury or damage and destruction (see Appendix C). Dunnock receives no specific legal protection over and above the general protection given to all birds by the Wildlife and Countryside Act, 1981 (as amended) (see below).

Bats

3.2.4 The buildings on Warner Close and Tyrell Way were found to be generally in the same condition as when previous survey work was conducted during 2012. Table 3 highlights minor differences between survey findings (see Photographs 4 and 5 in Appendix B). The reassessment of the roost potential of the buildings included in Table 3 was undertaken having regard to the findings of the bat activity surveys undertaken in 2012. These identified five bat species to be using the application site and adjacent reservoir. Of these, four were recorded within the application site. These were the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus*, the Nathusius pipistrelle *Pipistrellus nathusii* and the Leisler's bat *Nyctalus leisleri*.

3.2.5 Activity levels within the application site were very low with a total of only 51 calls recorded over three surveys visits (82% of these were attributed to the common pipistrelle, a common

and widespread species). The distribution of this activity shows that the majority of calls were focussed on habitats adjacent to the reservoir with only a handful of calls recorded within the areas of built development over all three survey visits. No calls were recorded close to the known emergence/return to roost times of any of the bat species recorded. This suggests no species of bat were using the buildings in the application site for roosting.

- 3.2.6 The low suitability of the buildings in the Phase 4 areas for roosting, taken together with the very low levels of bat activity, street lighting and new disturbance effects arising from the adjacent building works, jointly support the reassessment of the buildings in the Phase 4 development area which have been re-assessed as having negligible potential to support a bat roost.

Table 3: External Building Inspection Results

| Building Reference Number | External Features and/or Potential Access Points- 2012 | External Features and/or Potential Access Points- 2016 | Overall Potential to Support a Bat Roost - 2012 | Overall Potential to Support a Bat Roost - 2016 |
|---------------------------|---|---|---|--|
| B1-B4 | Missing ridge tiles and missing ridge vent tile Possible access into soffit boxes via a gap between wooden batons that affix to the soffit box. Possible access to scaffolding holes. | These buildings are in a very similar condition to that recorded in 2012. However, given the lack of connectivity to these buildings (no tree lines or hedgerows), the previous activity survey results and the high levels of artificial lighting surrounding the buildings the presence of roosting bats is extremely unlikely. | Low | Buildings are reclassified to a negligible roosting potential given the urban setting, levels of disturbance from nearby building works and taking into account previous activity survey work. |
| B5-B11 | Possible access into soffit boxes Birds noted nesting in SW and W corners (B5) Possible access in to cavity wall via scaffolding holes. Possible access into roof void via ventilation tiles on ridge (B9 and B11) | Potential access points identified in 2012 still remain though no new roosting opportunities were identified. Building B6 has been demolished since the initial surveys were undertaken. | Low | Buildings are reclassified to a negligible roosting potential given the urban setting, levels of disturbance from nearby building works and taking into account previous activity survey work. |

4 Conclusion

- 4.1.1 This updated extended Phase 1 habitat survey found the Phase 4 development area to continue to support the same habitats and features as were present during the 2012 baseline surveys. The area continues to be a highly modified environment, dominated by building and hardstanding. Semi natural areas include limited areas of amenity grassland, ornamental shrub planting and areas of ruderal species. These habitats or features have negligible intrinsic ecological value.
- 4.1.2 Given that the area remains largely unchanged, it can be expected to continue to support the same common and widespread urban bird species
- 4.1.3 The potential of the buildings in the Phase 4 area to support low numbers of roosting bats has been reassessed having regard to the very low levels of bat activity recorded in 2012 and the close proximity to the Phase 3 works. The buildings in Phase 4 are now considered to have negligible potential to support roosting bats.
- 4.1.4 Ecological baseline conditions in the Phase 4 development area have not changed materially since 2013. As such baseline conditions as described in the 2013 ES can be relied upon to inform a Statement of Conformity for Phase 4 of the development.

References

BSG Ecology (2013) *West Hendon Bat Report*

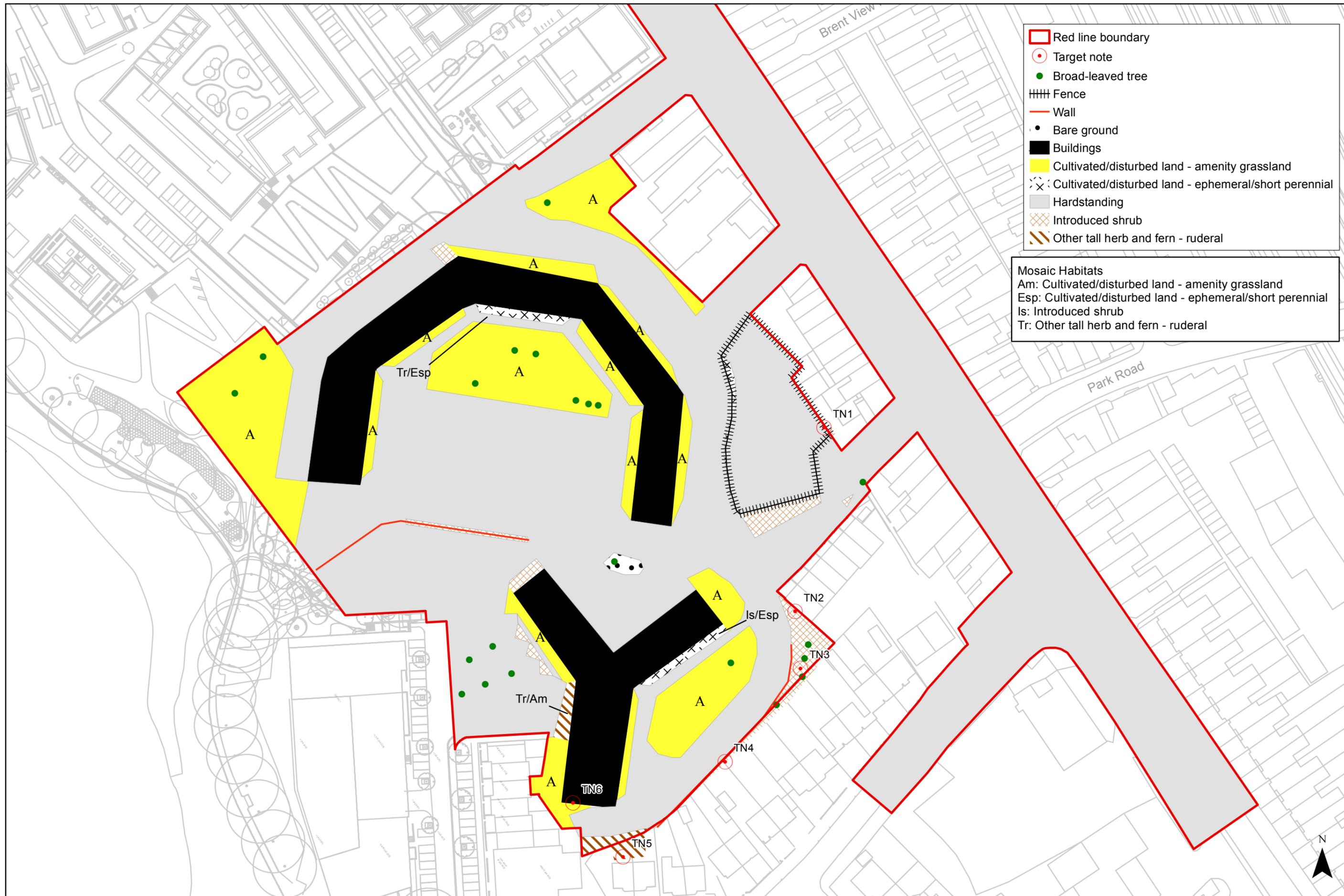
Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*. The Bat Conservation Trust, London.

JNCC (2010), *Handbook for Phase 1 habitat survey - a technique for environmental audit*. JNCC, Peterborough

Natural England (undated) Explanatory note on S41 England Biodiversity List (www.naturalengland.org.uk)
Natural England (undated) Explanatory note on S41 England Biodiversity List (www.naturalengland.org.uk)

Figures

Figure 1: Extended Phase 1 Habitat Survey Results



- Red line boundary
- Target note
- Broad-leaved tree
- Fence
- Wall
- Bare ground
- Buildings
- Cultivated/disturbed land - amenity grassland
- Cultivated/disturbed land - ephemeral/short perennial
- Hardstanding
- Introduced shrub
- Other tall herb and fern - ruderal

Mosaic Habitats
 Am: Cultivated/disturbed land - amenity grassland
 Esp: Cultivated/disturbed land - ephemeral/short perennial
 Is: Introduced shrub
 Tr: Other tall herb and fern - ruderal

West Hendon (Phase 4)

0 50 100 m

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Client

1:1,000 @ A3
 07/09/16
 Drawn: HG
 Checked: SM

Phase 1 Habitat Plan.

Figure 1 Rev A

Appendix A Target Notes

A.1 Target Note 1

A.1.1 Virginia creeper *Parthenocissus* sp. growing on the eastern edge of the basketball court in the east of the Phase 4 development area.

A.2 Target Note 2

A.2.1 Virginia creeper growing on the wall of a building adjacent to the Phase 4 development area in the south-east.

A.3 Target Note 3

A.3.1 A dense stand of butterfly bush *Buddleja davidii* and hedge bindweed *Calystegia sepium* in the south-east of the Phase 4 development area.

A.4 Target Note 4

A.4.1 Butterfly bush growing along the southern Phase 4 development area boundary.

A.5 Target Note 5

A.5.1 A giant knotweed *Fallopia sachalinensis* plant growing through a fence in the south of the Phase 4 development area.

A.6 Target Note 6

A.6.1 Virginia creeper growing on the south-western elevation of building B1.

Appendix B Photographs



Photograph 1: Introduced shrub bed in the south-east of the Phase 4 development area.



Photograph 2: Amenity grassland in the centre of the Phase 4 development area.



Photograph 3: The Phase 4 development area is dominated by buildings and hardstanding.



Photograph 4: Buildings remain in a similar condition to surveys undertaken in 2012.



Photograph 5: Scaffolding holes are isolated from suitable commuting and foraging habitats, leading the roosting potentials of buildings to be downgraded.

Appendix C Summaries of Relevant Legislation

C.1.1 This section briefly summarises the relevant legislation pertaining to habitats and species mentioned within this report. Please note that the following text does not constitute legal advice.

C.2 European Legislation – Bats

C.2.1 The original (1994) “*Habitat Regulations*” transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law. The Conservation of Habitats and Species Regulations 2010 (as amended) consolidates the various amendments that have been made to the Regulations.

C.2.2 “*European protected species*” (EPS) are those which are present on Schedule 2 of the Conservation of Habitats and Species Regulations 2010 (as amended); this includes all UK bats. These species are subject to the provisions of Regulation 41 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). Taken together, these pieces of legislation make it an offence to:

- Intentionally or deliberately capture, injure or kill any wild animal included amongst these species
- Possess or control any live or dead specimens or any part of, or anything derived from a these species
- deliberately disturb wild animals of any such species
- deliberately take or destroy the eggs of such an animal, or
- intentionally, deliberately or recklessly damage or destroy a breeding site or resting place of such an animal, or obstruct access to such a place

C.2.3 For the purposes of paragraph (c), disturbance of animals includes in particular any disturbance which is likely—

- to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
- or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- to affect significantly the local distribution or abundance of the species to which they belong.

C.2.4 Although the law provides strict protection to these species, it also allows this protection to be set aside (derogation) through the issuing of licences. The licences in England are currently determined by Natural England (NE) for development works. In accordance with the requirements of the Regulations (2010), a licence can only be issued where the following requirements are satisfied:

- The proposal is necessary ‘*to preserve public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment*’
- ‘*There is no satisfactory alternative*’

- The proposals *'will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'*.

C.3 National Legislation

C.3.1 The Natural Environment and Rural Communities Act, 2006

C.3.2 The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list of Species and Habitats of Principal Importance (SPIs and HPIs) has been drawn up in consultation with Natural England, as required by the Act. This list (sometimes referred to as the England Biodiversity list or S41 List) is almost entirely based on the species and habitats identified as requiring action under the UK Biodiversity Action Plan, with some additions.

C.3.3 The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 40 of the NERC Act, to have regard to priority species and habitats in exercising their functions including development control and planning.

C.3.4 Breeding birds

C.3.5 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.

