AYLESBURY FIRST DEVELOPMENT SITE

Construction Environmental Management Plan

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CEMP
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1 INTRODUCTION

1.1 RPS has been appointed by Notting Hill Genesis (NHG) to provide a Construction Environmental Management Plan (CEMP) in relation to the proposed amendments to the First Development Site (FDS) planning permission for the Aylesbury Regeneration area. The site is located within the London Borough of Southwark (LBS).

1.2 The following information regarding the development and construction is provided below.

Table 1.1: Development and Construction Information

Site Location and Use	The FDS site is located to the south west corner of the Aylesbury Regeneration area and will comprise the first of the phases of development of the existing Aylesbury Estate.
Developer Name	Notting Hill Genesis
Name and Contact Information of Individual Responsible for Preparing the CEMP	**Matthew Brown** Associate (Transport) RPS Consulting Services Limited **T:** 020 3691 0500 **E:** matthew.brown@rpsgroup.com
Name and Contact Information of Individual Responsible for Approving the CEMP	London Borough of Southwark
Scope and Size of Development	The proposed amendment to the approved FDS (ref. 17/AP/3885) is for the provision of an additional 60 residential units (842 to 902). The remainder of the development content remains as per the planning approval.

Purpose and Structure of the CEMP

1.3 The aim of the Construction Environmental Management Plan (CEMP) is to provide environmental mitigation, monitoring and management framework, setting out a series of actions and measures to be implemented in the run up to, and during the construction phases in order to avoid, remedy or mitigate the potential environmental impacts arising from the works during the construction phases.

1.4 The framework captures the commitments and measures identified within the Technical Reports which accompanied the planning application and incorporates the measures consistent with best practice and industry guidance, to manage potential effects on the environment. In doing so, this

document provides a 'continuous link' between available best practice, guidance and design scheme, through to the construction of the project and its implementation.

1.5 The CEMP adopts the following structure:

- **Section 2 (Site and Sensitive Receptors):** presents a description of the existing site and surrounding area and identifies potential issues and constraints with the construction works. An outline of the potential sensitive receptors to be affected by the demolition and construction works is also provided;
- **Section 3 (Construction Works Overview):** Outline of the roles and responsibilities during the construction works, and indicative stages and phasing of the works (i.e. timing and duration);
- **Section 4 (Description of the Construction Works):** Information on the activities involved in the establishment and management of the site, as well as overview of the enabling works. Details are presented relating traffic management and deliveries, materials storage and waste management;
- **Section 5 (Site Management and Administration):** Information on the administration of the CEMP file, including staff training, contractor procurement and site health and safety. Community liaison and communication is also addressed;
- **Section 6 (Environmental Mitigation Overview):** Identification of potentially sensitive receptors, key environmental issues, management of environmental risks and reducing impacts;
- **Section 7 (Monitoring, Auditing and Reporting):** Procedures for recording and reporting monitoring and audit results, action for non-compliance; and
- **Section 8 (Commitment to Environmental Best Practice):** Overview of commitment to adopting measures consistent with best practice and industry guidance into the working methods.

Site Context

1.6 The FDS was granted detailed Planning Permission (Ref No:14-AP-3843) by the London Borough of Southwark on 05 August 2015 as follows:

> **"Demolition of existing buildings and redevelopment to provide a mixed use development comprising a number of buildings ranging between 2 to 20 storeys in height (9.45m - 72.2m AOD), providing 830 residential dwellings (Class C3); flexible community use, early years facility (Class 01) or gym (Class D2); public and private open space; formation of new accesses and alterations to existing accesses; energy centre; gas pressure reduction station; associated car and cycle parking and associated works."**

1.7 On 14 February 2019, a minor amendment (Ref No: 17/AP/3885) to the above planning application was granted for the provision of an additional 12 units (from 830 units to 842 units).

1.8 The FDS is located to the south west corner of the Aylesbury Regeneration area and will comprise the first of the phases of development of the existing Aylesbury Estate. The extent of the FDS is detailed in **Figure 1** below and highlighted in pink.

Figure 1: FDS Location (Pink)

1.9 **Figure 2** details the FDS site boundary and **Figure 3** details the boundary for FDS contract C.

Figure 2: FDS Site Planning Boundary

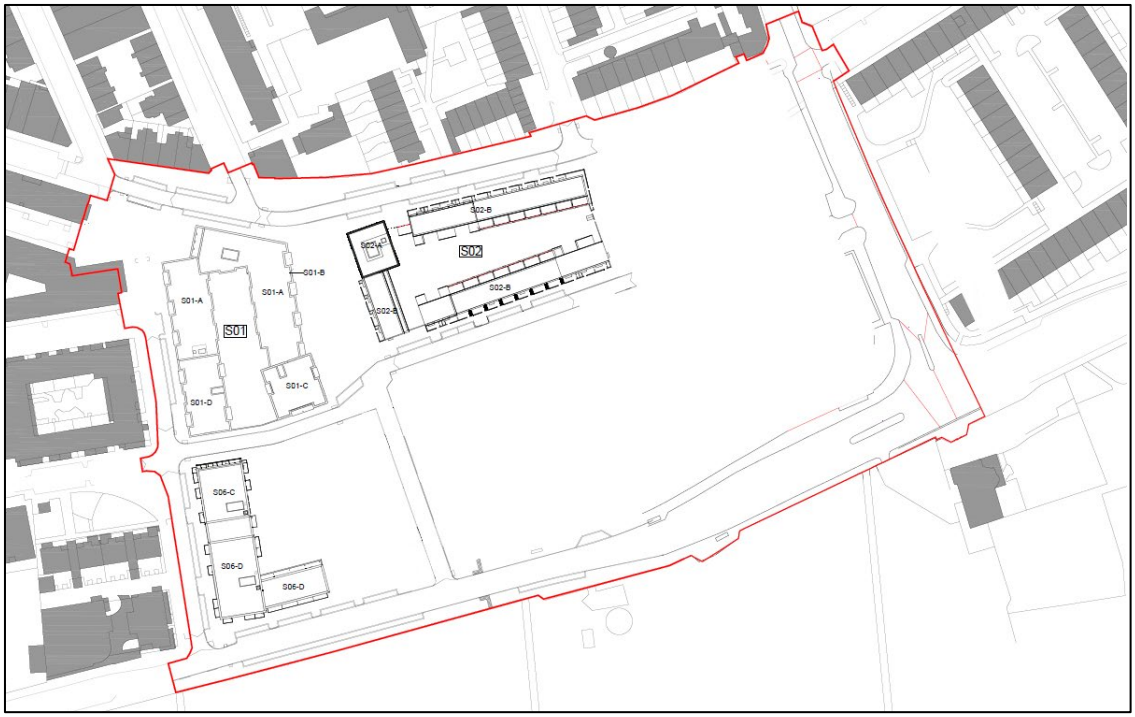
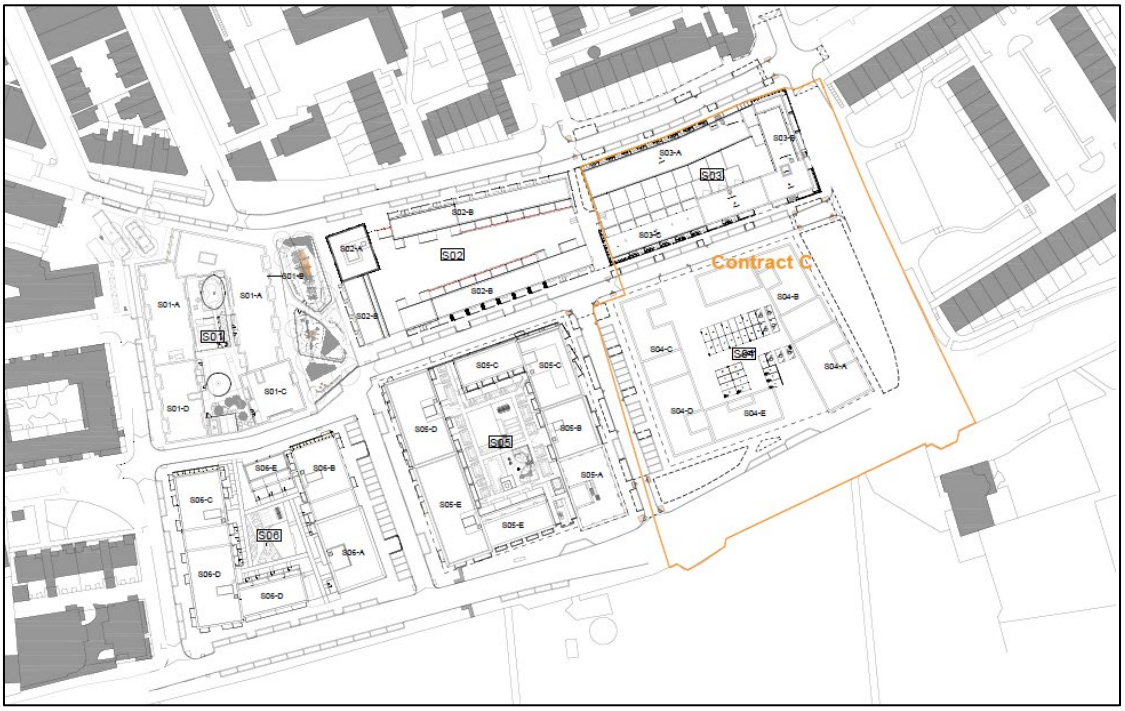


Figure 3: FDS Contract C Site Planning Boundary



Development Proposal

1.10 The proposed amendment to the approved FDS is for subplots 03 and 04 only, which will result in a net increase of 60 residential units (842 to 902). The remainder of the development content remains as per the planning approval. The proposed site layout plan is provided at **Appendix 1**.

1.11 The layout of the FDS site has been developed with the key aim to connect with the existing and wider area.

1.12 Various improvements to the existing road system will provide significant benefits for pedestrians and cycle movements within the site and for trips through it by these modes. The previous road system of cul-de-sacs and roads disconnected from the wider network creates barriers to the surrounding area. The redevelopment will provide significant improvements at street level and address the safety and security issues that were previously associated with the estate. These will encourage walking and cycling within the area and the wider network to re-connect to the surrounding neighbourhoods of Walworth, Elephant and Castle, and Old Kent Road and to improve connections with Burgess Park.

1.13 Pedestrian access improvements that are being implemented as part of the FDS development are delivered through comprehensive re-design of the areas to pedestrian friendly streets. Routes will be established that link green spaces along desire lines creating direct and pleasant walking routes between the new dwellings and key service areas, such as shops, schools, and other facilities. Along Albany Road, the junction improvements have been focussed on the removal of multistage pedestrian crossings, replacing them with single stage crossings across

shorter distances and the provision of protected cycle movements. The redesign of junctions has also allowed more landscaping.

1.14 Quiet cycle friendly streets are proposed as part of the design. On-street cycling provision includes a scheme to calm traffic on Albany Road with advisory on-street lanes. In addition, the Portland Street Quietway to accommodate cycle movements more effectively has been constructed and this includes the provision a single stage signalised cycle crossing to connect to Burgess park and cycle lanes on the southern side of Albany Road.

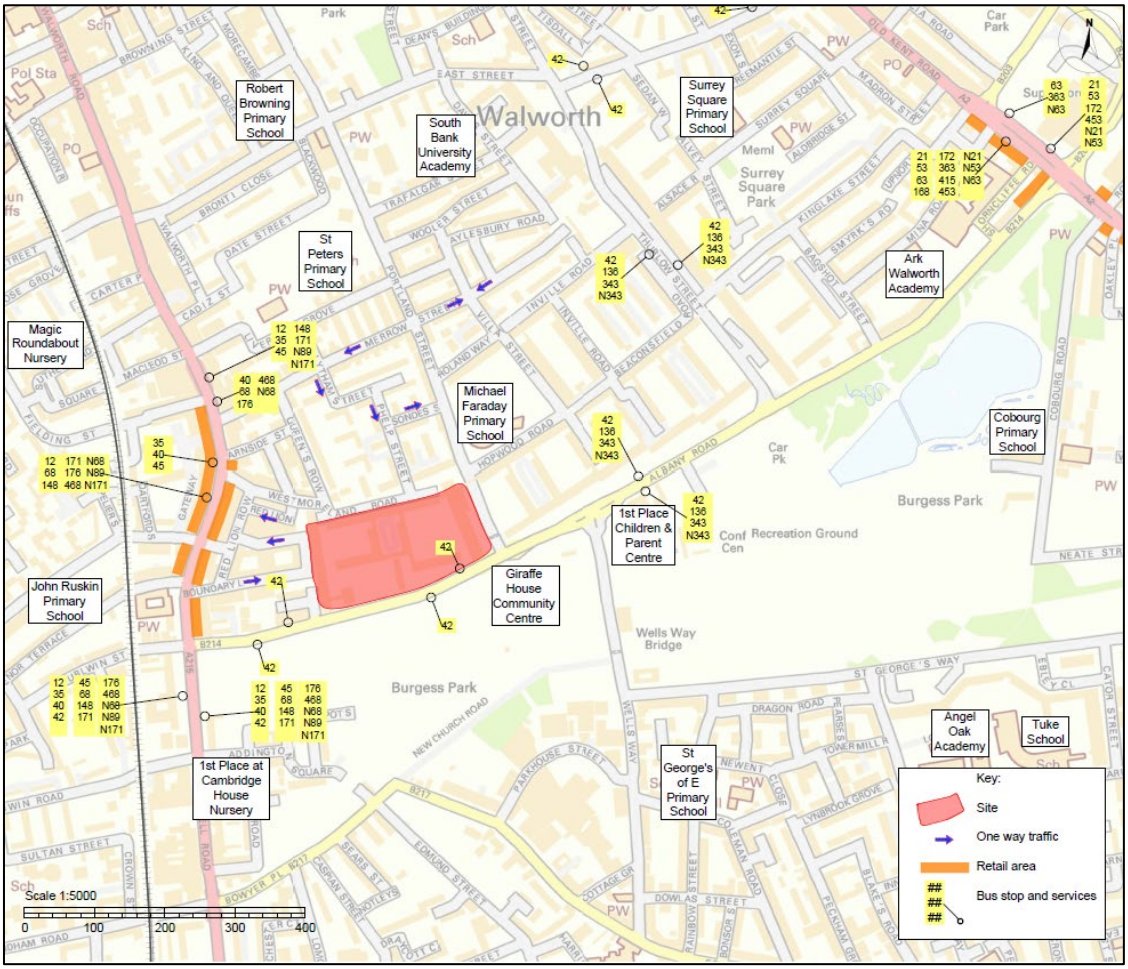
2 SITE AND SENSITIVE RECEPTORS

Existing Site and Surrounding Area

Local Context Plan

2.1 The local context plan is reproduced below, in **Figure 4** and is included in **Appendix 2**.

Figure 4: Local Context Plan



2.2 The plan provides the local context surrounding the site, the site location, cycle routes and key community considerations.

Local Access Including Highway, Public Transport, Cycling and Walking

Highways

2.3 Vehicle access to the development proposal will remain as per the consented FDS permission and will be gained in the following locations:

- Portland Street – new priority junction between Albany Road and Hopwood Road;
- Extension of Westmoreland Road to Portland Street to form a new priority junction;
- Priority junction to Bradenham Close; and
- Two new priority junctions onto Albany Road.

2.4 Vehicle access to the site for the purposes of demolition and construction will be via Albany Road. Albany Road is a two-lane single carriageway which forms the southern boundary of the site. Albany Road runs between a junction with Urlwin Street / Camberwell Road (A215) to the west and a junction with Old Kent Road (A2) / Humphrey Street to the east. The road is subject to 20mph speed limit in the vicinity of the site with street lighting present along the road. Old Kent Road is part of Transport for London Network (TLRN), which forms the key strategic roads in London. It should be noted that all road in LBS are subject to 20 mph zones and the A2 Old Kent Road to the east of the site is subject to a 30mph speed limit.

2.5 To the east of the site, Portland Street is a two-lane single carriage way running between the junction with Albany Road and East Street to the north of the site. Double yellow lines are present on both sides of the road in the vicinity of the site with street lighting available along the road. Portland Street provides access to some key local destinations including two primary schools and East Street market.

2.6 To the west of the site, Camberwell Road is predominantly a two-lane single carriageway with bus lanes routing south towards Camberwell and linking with Walworth Road to the north which provides access to Elephant & Castle Station. Numerous local facilities are accessible along Walworth Road including bus stops and shops. The road is subject to a 20mph speed limit with street lighting present along the road.

2.7 The local highway network that forms the sites southern boundary does not include the provision of any formal cycle infrastructure.

2.8 Bus stops Q (eastbound) and W (westbound) are located circa 90 metres and 60 metres southeast of the site respectively on Albany Road. The stops are serviced by bus route 42.

2.9 The principal contractor and subcontractors will meet the Construction Logistics and Cyclist Safety (CLOCS) standards for construction. In addition, all contractors and sub-contractors will be made aware of the local cycle routes and the presence of cyclists on the nearby local network.

2.10 CPCS qualified Banksman and Traffic Marshalls will be employed throughout the project. The Banksman will be responsible for the safe movement and guidance of plant and vehicles on the site and at the access. The Traffic Marshall will be responsible for the safe management of pedestrians, cyclist, and other vehicles while construction vehicles manoeuvre at the site access arrangements.

London Underground and Rail

London Underground

2.11 The site is located approximately 1.3 kilometres to the southeast of Kennington Underground station. The station provides access to the Northern line. In addition, Elephant & Castle Underground station is located circa 1.5 kilometres northwest of the site. The station is served by Bakerloo and Northern lines.

National Rail Service

2.12 Elephant & Castle Rail station is located approximately 1.3 kilometres to the northwest of the site. The rail station is managed and operated by Thameslink, with services operated by Thameslink.

2.13 No foreseen impacts to the nearby stations are anticipated as a result of the developments construction.

Bus Routes

2.14 Bus stops Q (eastbound) and W (westbound) are located circa 87 metres and 61 metres southeast of the site respectively on Albany Road. The stops are serviced by bus route 42.

2.15 Furthermore, bus stops L (northbound), M (northbound) and K (southbound) are located circa 280 metres, 310 metres and 320 metres respectively northwest of the site on Camberwell Road. The bus stops are serviced by routes 12, 35, 40, 45, 68, 148, 171, 176 and 468 and night bus routes N68, N89 and N171. These services offer a peak combined frequency of approximately 55 to 86 buses every hour, providing frequent and direct connections to Central London and beyond.

2.16 It is not envisaged that local bus routes will be disrupted during the construction programme and TfL will be consulted to ensure minimal disruption to the bus services.

Potential Issues / Constraints During Construction

2.17 Potential key challenges for the construction phases include:

- The sequencing of the construction of new buildings will have to be closely co-ordinated, and monitoring procedures will have to be implemented to ensure that adjacent stakeholder properties are not affected by the construction process; and
- Live services are located on site and will be disconnected by the relevant authorities, these comprise of gas electricity and water. A full-service trace will be undertaken on site to ascertain the location of these services and that they have been disconnected.

Potential Effects and Sensitive Receptors

2.18 A summary of the potential environmental effects likely to arise during the construction works, and a summary of the likely sensitive receptors to be considered is presented in **Table 2.1** below. Proposed measures to mitigate the potential environmental effects are also included with reference to the framework of mitigation measures provided within **Appendix 3**.

2.19 The list outlined in **Table 2.1** relating to the works will be reviewed and updated where necessary throughout the construction phase.

Table 2.1: Sensitive Receptors

Topic	Potential Environmental Effect from Works	Likely Sensitive Receptors	Mitigation Reference (section within mitigation framework, Appendix 3)
Transport	• Construction traffic increasing congestion on local road network; • Increase in proportion of HGVs on local road network; and • Disruption and safety to road network users.	• Major roads in local area (traffic congestion); • Pedestrians; and • Cyclists.	• General Activities (A); • Traffic and Transport (J); • Air Quality (L); • Waste Management (E); and • Health and Safety (B).
Air Quality	• Dust arising from construction activities (e.g. excavations); • Dust from exposed ground surface, stockpiles; • Loaded HGV traffic as dust source (including transfer of mud / material by vehicles onto local road network); • Emissions from construction vehicles; and • Emissions from onsite plant.	• Air Quality Management Area; • Closest residential properties including the future occupiers of FDS which is anticipated in September 2022; • Local businesses; • Pedestrians; and • Cyclists	• General Activities (A); and • Air Quality (L).
Noise and Vibration	• Noise arising from construction works / activities / plant causing nuisance; • Increase in noise levels generated by increase in road traffic from demolition and construction vehicles;	• Closest residential properties including the future occupiers of FDS which is anticipated in September 2022; • Pedestrians; and • Local businesses	• General Activities (A); • Noise and Vibration (I); • Health and Safety (B); and • Community Liaison (C)

Topic	Potential Environmental Effect from Works	Likely Sensitive Receptors	Mitigation Reference (section within mitigation framework, Appendix 3)
	• Increased vibration from HGVs; and • Increased vibration levels from construction activity (i.e. piling)		
Water Resources and Flood Risk	• Damage to existing water supply utility; • Damage to existing drainage utility; • Increase in surface water run-off from site; • Increased pressure / flooding on local drainage network; • Increased water consumption; • Disturbance and potential for pollution to local surface water bodies	• Surface water bodies; • Existing utility infrastructure (water supply, storm / foul water drainage); • Groundwater / Aquifer	• General Activities (A); • Water Management (K); • Sustainability (H)
Ground Conditions / Contamination	• Uncontrolled release of asbestos during removal; • Potential exposure to hazardous material and contaminated land; • Creation of preferential pathways and mobilisation of contamination; • Pollution to land, air and water; • Human health exposure; • Contaminated dust arising from excavations and construction works; • Ground contamination from spillages;	• Site workers / contractors; • General public; • Surface waterways; • Groundwater / aquifer	• General Activities (A); • Ground Conditions (G); • Utilities (F); • Water Management (K); • Health and Safety (B)

Topic	Potential Environmental Effect from Works	Likely Sensitive Receptors	Mitigation Reference (section within mitigation framework, Appendix 3)
	• Risk of below ground structures being damaged and leaking; • Disturbance of existing unexploded ordnance / blast damage on site; • Ground gas – human contact with flammable material		

3 CONSTRUCTION WORKS OVERVIEW

Site Management – Roles and Responsibilities

3.1 An effective CEMP relies on each of the roles and responsibilities being clearly defined and unambiguous. The successful implementation of the CEMP and management of the environmental impacts is reliant on clear definition and understanding of requirements among Project Team staff. An outline of the key roles and responsibilities are listed below.

Table 3.1: Project Team Staff Role and Responsibilities

Developer (Notting Hill Genesis)	Responsible for appointment / allocation of the Principal Contractor, Project Manager and Environmental Manager, and holds overall responsibility for the activities on site and implementation of the CEMP.
Project Director / Manager	The Project Manager is responsible for directing the Principal Contractor on the project, and include: • Lead responsibility on contractual appointments and budget matters; • Check that the Principal Contractor has allocated sufficient resources to allow delivery of the CEMP and direct as required; • Assign specific requirements / duties to compliment members of the project team; • Co-ordinate communication with key stakeholders and other third parties as required; • Review findings of the monitoring programme, and direct Principal Contractor / Environmental Manager as required.
Principal Contractor	Responsible for the day-to-day management of the construction activities on site, ensuring the activities adhere to the actions set out in the CEMP, including: • Ensuring that the construction activities are carried out in compliance with the CEMP; • Checking the qualifications and competence of the contractors / subcontractors for appointment; • Ensure environmental awareness training for all workers, including an introduction for all site workers / contractors to support the implementation of the CEMP; • Observing the construction activities to ensure that they are undertaken in accordance with the contract; • Monitor the performance of contractors / sub-contractors and provide direction as necessary; • Monitoring (co-ordinate with Environmental Manager) the construction programme to ensure CEMP actions are integrated into it; • With the Environmental Manager, undertaking a monthly audit of the CEMP; • Undertaking corrective actions in the event of breaches of the CEMP.

Site Manager(s)	• Lead responsibility for the practical construction of the development, including day to day co-ordination of the contractors; and • Co-ordinate with the Project Manager and Principal Contractor for management of the construction activities.
Environmental Manager	Co-ordinate monitoring and reporting of the CEMP implementation, through liaison with the Principal Contractor and other parties as appropriate, to ensure that the works are implemented in accord with the commitments in the CEMP, including: • Checking that the CEMP is audited and reported back to the client on a monthly basis; • Reviewing complementary plans and procedures to ensure they are compliant with the CEMP; • Monitor the Principal Contractor to ensure that all relevant legal consents, licences etc. are in place in advance of the relevant works commencing, and that all requirements are adhered to; • Co-ordinating the technical and environmental specialists as part of the implementation of the monitoring regime to monitor and record the impacts arising from the construction activates; • Acting as the first point of contact for any environmental issues encountered by the Principal Contractor – investigate all environmental incidents, and ensure they are recorded and reported, with corrective / preventative actions are undertaken; • Contribute to communication on environmental matters between project team and relevant consultees / stakeholders; • Co-ordinate the CEMP review process; and • Ensure that the objectives of the CEMP are being achieved and are not contrary to any relevant legal requirements.
Health and Safety Officer	Responsible for managing health and safety of workers / contractors during construction, including: • Acting as the first point of contact for any health and safety issues encountered by the Principal Contractor – investigate all health and safety incidents, and ensure they are recorded and reported, with corrective / preventative actions are undertaken; and • Ensure health and safety awareness training for all workers, including an induction for all site workers / contractors.
Contractor / Sub-contractor	• Individual contracts will incorporate relevant requirements in respect of environmental control – a commitment to responsibilities within the CEMP will be a contractual obligation for trade contractors; • Work to agreed plans, methods and procedures to minimise environmental impacts; • Understand the importance of avoiding pollution on-site, including noise and dust, and how to respond in the event of an incident to avoid or limit environmental impact; • Report all incidents immediately to their line manager;

	• Monitor the work for potential environmental risks and alert their line manager if any are observed.

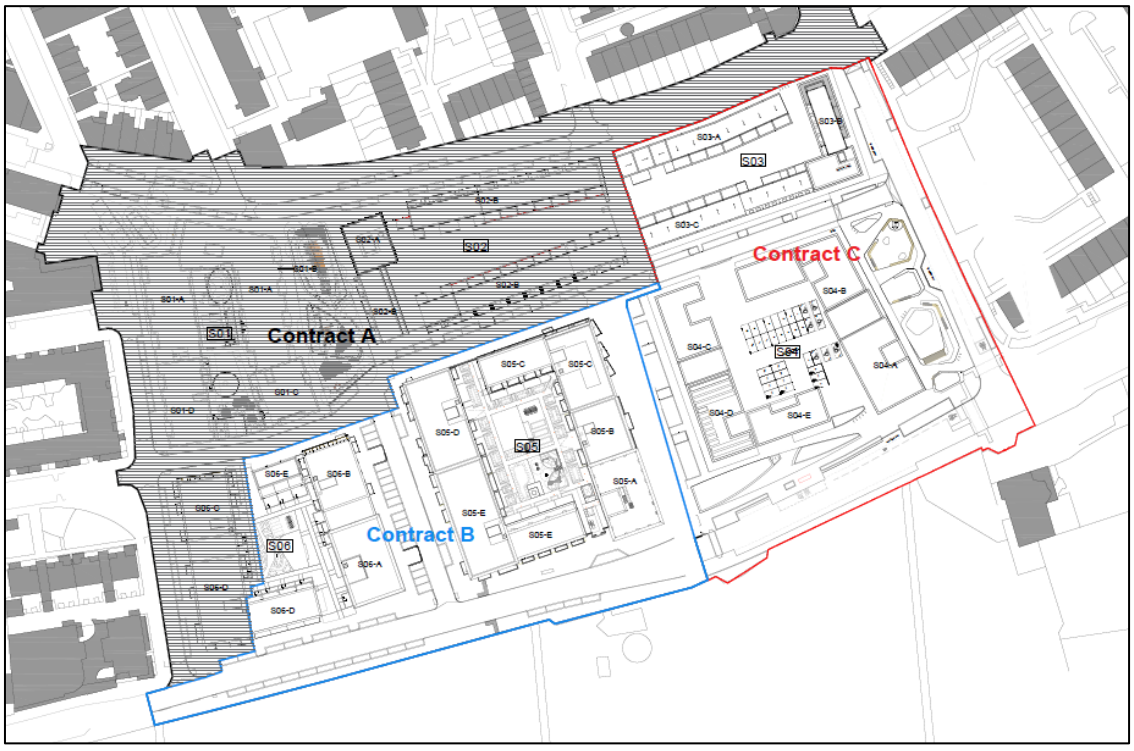
Stages of Development

3.2 The site has been split into three phases or 'contracts' for construction purposes, which are known as FDS A, FDS B, and FDS C as follows:

- FDS A comprises Subplot S01, S02 and part of S06.
- FDS B comprises Subplot S05 and part of S06.
- FDS C comprises Subplot S03 and S04

3.3 The contract phases are shown in **Figure 5** below.

Figure 5: Contract Phases



3.4 The construction period for each phase is as follows:

- FDS A: Started on site March 2019, anticipated completion September 2022;
- FDS B: Started on site November 2021, anticipated completion September 2025; and
- FDS C: Anticipated start on site March 2023, completion January 2026 (subject to planning).

3.5 The full details of the construction programme and methodology for FDS subplots 03 and 04 (under contract C) will be developed once the principal contractor has been appointed. The full details will be set out in the detailed CEMP to be developed upon appointment of a contractor.

Risk Assessment – Best Practice Guidance

3.6 This CEMP will accord with the Mayor of London's Best Practice Guidance with respect to risk assessment ('The Control of Dust and Emissions from Construction and Demolition' (2014)).

3.7 In accordance with the guide, the appropriate recommendations / mitigation measures extracted from the guide have been included within the mitigation framework, presented within the 'Mitigation Schedules' (**Appendix 3**). The implementation of the mitigation measures will help to reduce the potential impacts of the construction activities to 'low risk'.

Other Construction Sites within the Surrounding Area

3.8 The developer and appointed contractor will consult with LBS and other contractors' developers in the area to minimise disruption. This will need to be undertaken prior to construction to ensure that the correct construction sites are identified. It is then proposed that collaboration with other neighbouring sites and LBS will take place prior to the start of construction set out in this plan.

4 DESCRIPTION OF CONSTRUCTION WORKS

Site Establishment and Management

Project Office Set-Up

4.1 The Welfare facilities will be located within the site and accessed via Albany Road. Access to the project offices will also be taken from Albany Road. The portacabin units will allow adequate space for all staff and visitors, along with meeting rooms, welfare facilities including changing / drying rooms with male and female toilet facilities and canteen.

4.2 The main security point will be located at the main site access point into the site boundary from Albany Road and will remain during the construction works. Access into the main site will be via Albany Road.

4.3 A pedestrian access route on-site will be segregated from the vehicle access into the working areas.

4.4 All access points into and out of the site must always be managed. The traffic marshals must ensure the main gate and haul road are to always remain clear. This is in the event of an emergency, when a potential emergency vehicle many need to access the site.

4.5 All communications on site will be via 2-way radios. All plant operators will be prohibited from the use of mobile phones whilst operating machinery.

Hours of Work

4.6 It is anticipated that the core working hours for the construction phases of the site will be as follows:

- 08:00 to 18:00 Monday to Friday;
- 08:00 to 13:00 Saturday; and
- No working undertaken on Sundays or Bank Holidays.

4.7 The hours of work will ensure that no work will be undertaken at unsociable hours when the impact of noise on neighbours would be greatest.

4.8 It is recognised that approval from the LBS would likely be required for any works that need to be undertaken outside these permitted hours, and that LBS may vary these hours where the works are near sensitive businesses or residential properties.

4.9 Should noisy work outside of these hours be required, this would be subject to a separate approval from the LBS.

Site Security and Lighting

4.10 Security for the project will be by means of CCTV directly connected to the security company via an ISDN line. It is intended that there will be an out of hours visiting patrols, initially during the demolition phase. The next phase will commence when more plant and material are on site for the construction of the structure / envelope to the buildings. At this stage, the cameras and

movement sensors can be erected and pre-set to record and notify the security company should there be any intrusion.

4.11 Only authorised persons will be allowed on site. A Site Risk Assessment will be produced which will detail how security will be managed on the site. Any person identifying unauthorised personnel on site should contact the Site Manager who will take appropriate action and ensure the unauthorised person leaves the site safely.

4.12 Flood lights will be installed to provide safe levels of light for site operations within the bounds of the site. Consideration will be made to ensure that the lights are positioned so that they do not create a nuisance to surrounding neighbours, and these will be switched off at the end of the working day. Safety lighting will be shrouded and pointed downwards at night to ensure reduced disturbance to neighbours. Appropriate lighting to the hoardings will be installed.

Traffic Management and Deliveries

4.13 Construction access to the site will be via Albany Road and the A2 Old Kent Road to the east of the site. The A2 Old Kent Road is part of the TLRN and a key strategic road in London. Albany Road is a connector road and considered appropriate to provide access to the A2 Old Kent Road.

4.14 The proposed construction route will avoid construction traffic movements on local roads such as Walworth Road and Thurlow Street.

4.15 The hours of delivery will be between 08:00 to 18:00 Monday to Friday. Although it is intended that the core delivery hours will be between 09:30 - 15:00 to avoid network conditions and school trips. The Saturday hours of delivery will be between 08:00 - 13:00 and therefore no work will be undertaken at unsociable hours when the impact of noise on neighbours would be greatest. Re-timing out of peak time will aid the operational efficiency of the construction site and the neighbouring area.

4.16 CPCS qualified Banksman and Traffic Marshalls will be employed throughout the project. The Banksman will be responsible for the safe movement and guidance of plant and vehicles on the site and at the access.

4.17 Albany Road both accommodates pedestrian and cyclist movements from the surrounding residential areas. The Traffic Marshalls will be responsible for the safe management of pedestrians, cyclists and other vehicle manoeuvre at the site accesses.

4.18 A community Liaison Officer will be appointed to mitigate and resolve any issues difficulties in the local community and key community considerations identified in Section 2. A key aspect of the successful management of this project will be establishing and maintaining a good relationship with all surrounding neighbours. This CEMP has prepared a strategy for preventing potential issues, however, any issues encountered during construction will be reported / recorded in a full log and resolved using a 24 hour-manned telephone line. The site manager and site foreman will address any complaints from residents and businesses.

4.19 The site will also register with the Considerate Constructor Scheme and agree to abide by the Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

4.20 A copy of the route's plans will be given to all suppliers when orders are placed to ensure drivers are fully briefed on the required route to take. The suppliers will be made aware that these routes are always required to be following unless agreed or alternate diversions are in place.

4.21 A Delivery Management System will be used to plan deliveries entering the site. The site management will be responsible for the system along with its contractors and a delivery schedule provided for the banksman to control.

Management of Operating Large Vehicles

4.22 All contractors and sub-contractors operating large vehicles over 3.5 tonnes must meet all the following conditions:

- All drivers must have undertaken cycle awareness training such as the Safe Urban Driver module or similar; and
- All vehicles associated with the construction of the development must:
  - Have site guards fitted, unless it can be demonstrated to the reasonable satisfaction of the employer that the lorry will not perform the function of which it was built, if site guards are fitted;
  - Have a close proximity warning system fitted comprising of a front mounted, rear facing CCTV camera, a close proximity sensor, an in-cab warning device (visual or audible) and an external warning device to make the road user in close proximity aware of the driver's planned manoeuvre;
  - Have a Class VI mirror; and
  - Bear prominent signage on the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside.

4.23 The jet washing facility will be located at the access junction as vehicles exit the site. It will be installed and controlled by the Principal Contractor until the work is completed. Temporary drainage will be required on site at the jet wash location to prevent dirty water and arisings washed on to the road / footpath. A sump will be used to minimise the risk of oils or other contaminants entering the drainage system.

4.24 Despite these measures, it is possible that some minor residual materials may end up on surrounding roads. To ensure this is swiftly cleaned, during the high-risk periods, a street sweeper will be deployed as and when required by the Site Management.

4.25 All operatives will be made aware of the requirements during site induction and task briefing.

Waste Management – General Requirements

4.26 The project will be registered with the Environment Agency in relation to waste. Registration details will be issued to all contactors. The Waste Removal Contractor will be made responsible for the removal of all waste from the site and will comply with the Duty of Care requirements. Records of all waste materials and their removal will be maintained in accordance with Statutory Legislation and records kept on site. These include ensuring waste is transported by registered carriers, disposal to appropriately licensed sites and maintenance of appropriate waste transfer documentation.

4.27 All contractors will be required to make allowance for all plant and labour, and to control and dispose of waste that they create to skips provided. Waste will be removed from site using skips. Waste will be segregated on site during construction into basic categories:

- General and Office waste;
- Concrete;
- Brick;
- Plasterboard;
- Metal; and
- Specialist (Oil, Paint, Aerosol etc.).

4.28 The Principal Contractor will audit waste carriers and disposal facilities and maintain documentary evidence that these requirements are being met, including a register of waste carriers, disposal sites (including transfer stations) and relevant licencing details for each waste stream. Waste contractors who remove waste will be registered with the Environment Agency.

5 SITE MANAGEMENT AND ADMINISTRATION

The CEMP File

5.1 The on-going management and completion of the CEMP actions need to be documented and kept on file for record management. Audits of the CEMP will be logged in the file, which will be kept at the site compound, available for viewing.

5.2 The CEMP File will include:

- Copy of the latest version of the CEMP;
- Details of the appointed roles and relevant contact details for external stakeholders (i.e., LBH, Environment Agency etc.);
- Monitoring and Audit information; and
- Complaints Register.

5.3 The CEMP will be held and maintained electronically, with the latest revisions identified with a document reference.

Staff Induction and Training

Induction Training

5.4 Appropriate induction training will be given to all persons working on the site. Part of the induction will include the site protocols, procedures and controls. All employees and subcontractors will be required to fully comply with the site requirements.

5.5 All staff are also required to undergo environmental awareness training, as part of the induction to the site, in order to make them aware of the key roles and responsibilities, procedures to be followed to ensure competency.

5.6 All site operatives and visitors will be given appropriate personal protective equipment (PPE) for the activities to be undertaken.

Staff Training

5.7 The raising of environmental awareness is an important consideration for the implementation of the CEMP. All staff will undergo environmental awareness training as part of the induction and future updates as necessary. A training plan that identifies the requirements for all personnel allocated with environmental responsibilities will be produced and be contained within all relevant documents for all construction activities. Awareness and appreciation for the contents and purpose of the CEMP will be a priority during the training and induction process.

5.8 Line managers and supervisors will ensure that all personnel engaged in activities that may have an impact on the environment are competent to carry out their duties or, where necessary, arrange for suitable training to be undertaken, before commencement of the associated construction activity.

5.9 To ensure compliance, trade contractors will have contractual obligations to adhere to requirements for environmental control, based on good working practice, such as careful programming, resource conservation, adhering to health and safety regulations and quality procedures.

5.10 All contractors involved with the construction phase, include trade contractors and site management, will be committed to adopt the agreed best practice and environmentally sound methods. The trade contractors will be required to demonstrate how they will meet the targets of the CEMP and how the potential impacts will be offset, reduced or minimised.

5.11 Health, Safety and Environmental requirements will be made clear in the procurement process and the Principal Contractor will be responsible for quality assurance, corrective action and disciplinary procedures for non-compliance. In addition, the Principal Contractor will hold informal 'Toolbox Talks' as necessary, to promote safe working and environmental responsibility.

Supply Chain Procurement

5.12 Where relevant, the requirements of the CEMP will be included within the supply chain orders/ The Developer will also seek to use local suppliers and subcontractors on the development.

Local Employment

5.13 In accordance with the requirements of LBS, the Developer will aim to employ local labour and apprentices to work on the development.

Health and Safety

5.14 The safety of the general public, site workers and visitors to the site will be the uppermost guiding factor to all operations carried out on site.

Staff and Contractors

5.15 The approach of safety first is passed down the supply chain, where all operatives on site must present a CSCS card and complete an on-site induction before beginning work on the site. Appropriate PPE must be always worn and entry to the site will not be permitted if operatives arrive to site without this. A full set of site rules will be displayed on site and explained during inductions.

5.16 Each member of the team will be expected to fully comply with the requirements of the CPHS, current regulations and site rules. Failure to comply would lead to removal from site and in the case of repeat or serious breaches, permanent exclusion from site.

5.17 The Site Manager will carry out a recorded weekly inspection; and this will be reinforced by a monthly audit by senior site management. The Developer's Health and Safety team will visit and audit the site at regular intervals.

General Public

5.18 Throughout the initial phases of the construction programme, the development site will remain closes to the general public. Control and safety of the general public at the access point will be managed by trained personnel, if required.

5.19 Measures to safeguard visitors to the site and segregate them from ongoing construction operations will be implemented. A defined pedestrian and plant access will be established and maintained. Safe and unobstructed routes to operational buildings will be provided. Clear visitor routes will be defined using appropriate signage. Where possible, construction traffic movements will be segregated from visitor traffic and pedestrian routes.

Community Liaison, Communication and Complaints

CEMP File

5.20 In line with good environmental practice, the CEMP file will be available at the site compound. The documents within the file will be available to view by regulatory bodies on request.

External Organisations

5.21 It is best practice to ensure a good working relationship with the relevant authorities and statutory and non-statutory bodies, including the local planning, environmental protection, waste and highway authorities, the Environment Agency, and Transport for London (TfL).

5.22 There will be regular and proactive liaison with the LBS and other third parties as appropriate on environmental issues and throughout the project implementation. The Project Team / Principal Contractor should determine whether there are any works which may benefit from early discussion.

Public Liaison

Communication During Works

5.23 In order to keep the general public informed about the development, appropriate signage and information boards will be displayed on site hoardings. This will include contact details for the site and general construction information. A clear point of contact will also be provided to deal with any queries and provide immediate responses to any issues raised; it is also proposed that periodic meetings will be held on site to explain the works anticipated for the forthcoming month and how these impact upon neighbours.

Key Roles for Communication

5.24 The Project Manager will liaise with neighbours and a contact number will be provided for dealing with any queries.

5.25 The Project Director will attend the regular community meetings with the residents, so that any concerns can be voiced, and agreement reached, on action to be taken to tackle those concerns where practical.

5.26 Outside of normal working hours, site security staff will act as the main point of contact via a dedicated phone number. Security will alert the Principal Contractor (or representative) if necessary.

Complaints

5.27 Contact numbers for construction management will be displayed on the site hoarding. Direct contact numbers will be provided to all stakeholders.

5.28 A Complaints Register will be set up and held both in the site office. All complaints will be recorded for action in the register. Complaints made to the site or Project Management regarding environmentally related issues are to be recorded into the Complaints Register within 24 hours. Complaints about noises or incidents where action levels are exceeded are to be reported and immediately investigated. The complainant will be notified what action is being taken to address the complaint and closed out by letter from construction management following the appropriate action.

6 ENVIRONMENTAL MITIGATION OVERVIEW

6.1 For each category below, a series of mitigation measures are provided within a mitigation framework (see **Appendix 3**), outlining the methods, activities and responsibilities on site during the construction phase, derived from the commitments referred within the supporting technical environmental reports supporting the application and industry standards and best practice. This is so that the potential impacts arising from the construction activities can be avoided or mitigated to an appropriate level of impact. The measures are translated into a framework of actions to be undertaken and will identify the key roles and responsibilities for implementing those actions.

6.2 The framework presented in **Appendix 3** relating to the works will be reviewed and updated where necessary throughout the construction phase. The Project Manager shall work with the LBS to review this CEMP if problems arise in relation to the construction of the development.

6.3 The schedule of mitigation measures has been divided into the following categories:

- **General Activities – Site Establishment:** outlines a series of site establishment measures, including hours of operation, boundary treatment and contact details relating to the management of the site;
- **Health and Safety:** requires a set of actions to be undertaken to prevent accidents or injury to operators working on site;
- **Community Liaison:** identified actions to maintain contact and establish good relations with the local community;
- **Lighting:** addresses measures to mitigate the impact of the provision of artificial lighting during construction;
- **Waste:** refers to the management of waste;
- **Utilities:** addresses a series of actions to prevent damage of the existing sub-surface utilities;
- **Ground Conditions:** identifies mitigation measures to prevent contaminants entering the ground, or contaminated ground being dispersed;
- **Sustainability:** outlines a series of best practice measures in order to reduce the impact of construction activities on the environment;
- **Noise and Vibration:** outlines the measures to be implemented during the construction phase to reduce the impact of noise on nearby sensitive receptors;
- **Traffic and Transport:** Outlines a series of mitigation measures for the management of deliveries to the site, as well as catering for the associated impacts that the development is likely to have on the surrounding local road network;
- **Water Management:** Identifies a series of mitigation measures and actions to prevent contaminants entering the existing environment and potentially pollute water bodies;
- **Air Quality:** outlines the measures to be implemented during the construction phase to reduce the impact of dust and vehicle emissions on nearby sensitive receptors; and
- **Tree Protection:** Outlines a series of best practice measures to prevent disturbance or permanent damage to trees.

7 MONITORING, AUDITING AND REPORTING

Monitoring

7.1 Monitoring of the works will ensure the overall environmental performance of the development is of a high standard.

7.2 A minimum of monthly health and safety monitoring visits and audits will be undertaken from the commencement of remediation / ground works until construction is completed. The frequency of the visits and audits will be changed based on the nature of the works. This monitoring will be undertaken by the Project Health and Safety Auditor and will be carried out on an unannounced basis. Monitoring of construction activities will ensure that they are in accordance with legislative and best practice environmental actions and requirements, and that agreed mitigation measures are also being implemented.

7.3 The Environmental Manager will hold the responsibility for maintaining a register of all environmental monitoring, which should be made available for inspection on request.

Air Quality Monitoring

7.4 Daily visual inspections to identify dust incidents will be undertaken during the construction works.

7.5 In addition to dust mitigation measures (**Appendix 3**), daily inspections should be carried out throughout the day in order to identify potential sources of dust within the site boundary with the potential to affect neighbouring sites. Further information regarding monitoring and management procedures are set out in **Appendix 3**.

7.6 In accordance with the guidance outlined in the Institute of Air Quality Management *"Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (2018)"*, a recommended site action level of 190 µg/m^3 for PM_{10} will be adhered to. Any dust levels above this set action level and the construction site will cease immediately. A summary of the dust levels guidance to be used to demonstrate the worst-case in dust levels is provided in **Table 7.1** below.

Table 7.1: Alert Levels of PM_{10} and $PM_{2.5}$ Monitoring

Alert Level	Time Period	PM_{10} Maximum Permissible 15-minute average (µg/m3)	$PM_{2.5}$ Maximum Permissible 15-minute average (µg/m3)
Red (at this level all works to cease immediately, investigate cause of exceedance and use alternative methods where appropriate)	15-minute average	> 190 µg/m3	> 48 µg/m3
Amber (continual monitoring and investigation of alternative methods where appropriate)	Two consecutive 15-minute averages	< 80 µg/m3	> 38 µg/m3
Green (early warning/no action required)	15-minute average	> 80 µg/m3	> 38 µg/m3

7.7 A regular report of dust monitoring levels and any exceedances above the prescribed levels outlined in **Table 7.1** will be provided to the LBS.

7.8 The location of dust monitoring at the site will be illustrated in a plan appended to the detailed version on the CEMP, once a principal contractor has been appointed.

Vibration Monitoring

7.9 Continuous noise and vibration monitoring will be undertaken during the works, in addition to the construction phases that will likely produce high levels of noise such as piling and ground works. Mitigation measures applied to minimise the impact from vibration during construction phases will include:

- Minimise opening and closing of site access gates through good coordination of deliveries and vehicle movements;
- Maximise the screening effect of buildings and temporary stockpiles through programming / phasing of works;
- Site hoarding to be built and maintained to maximise the reduction in noise levels to sensitive buildings and land uses;
- Limit material and plant loading and unloading to normal working hours;
- Fit all required plant and equipment with appropriate mufflers or silencers of the type recommended by the manufacturer;
- Vibratory compaction equipment shall be used in a mode which minimises the incident vibration at nearby residential and other sensitive properties;
- Limit high noise/vibration activities to normal hours wherever practicable; and
- Carry out noise and vibration monitoring at the start of any new phase of works, to check source sound and vibration emission data from plant on-site and following any complaints.

7.10 The operation most likely to give rise to vibration during the construction phase is likely to be the piling works. It may be prudent to install vibration-monitoring equipment during this particular phase of work so that any complaints can be dealt with effectively, by demonstrating that works fall within accepted industry criteria.

7.11 A regular report of noise and vibration monitoring levels and any exceedances of the site action levels will be provided to the LBS.

Vibration Monitoring Regime

7.12 Following consultation with the LBS, this CEMP will provide details of the noise and vibration monitoring regime.

7.13 The proposed location of noise and vibration monitoring will be at the same location as the dust monitoring stations. Noise and vibration monitoring will be undertaken continuously and be unattended, with the results input into a regular report that will detail noise and monitoring levels and any exceedances.

7.14 The primary methodology for the noise and vibration impacts associated with the construction of the scheme will be assessed based on the guidance in BS 5228-1 and BS 5228-2.

7.15 BS 5228-1 sets out the techniques to predict the likely noise impacts from construction and open site works, based on detailed information on the type and number of plant being used, their location and the length of time they are in operation. The standard provides methods for determining the significance of construction noise levels considering the change in the existing noise level brought about by the construction work, based on the ABC method which is presented in **Table 7.2** below.

Table 7.2: Threshold of Potential Significant Noise Impacts at Dwellings

Assessment Category and Threshold Value Period	Threshold Value, in Decibels (dB) (L_{Aeq1T})		
	Category A[A]	Category B[B]	Category C[C]
Night time (23:00-07:00)	45	50	55
Evenings (19:00-23:00) and weekends	55	60	65
Daytime (07:00-19:00) and Saturdays (07:00-13:00)	65	70	75

Note 1: A potential significant impact is indicated if the L_{Aeq1T} noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.

Note 2: If the ambient noise level exceeds the Category C threshold values given if the table i.e. the ambient noise level is higher than the above values), then a potential significant impact is indicated if the total LAeq,T noise level for the period increases by more than 3 dB due to site noise.

Note 3: Applied to residential receptors only

A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values

B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as Category A values.

C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than Category A values.

Source: BS 5228-1, Table E.1

7.16 BS 5228-2 provides recommendations for basic methods of vibration control relating to construction and open sites. The document presents guidance on the significance of vibration impacts in terms of human response, as outlined in **Table 7.3**. For assessment of construction vibration levels are given in terms of the Peak Particle Velocity (PPV).

Table 7.3: Guidance on Impacts of Vibration Levels Perceptible to Humans

Vibration Level (PPV)	Impact
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration
0.3 mm/s	Vibration might be just perceptible in residential environments
1.0mm/s	It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if warning and explanation has been given to residents
10 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level

Source: BS 5228-2, Table B.2

7.17 The document also presents guidance on the significance of vibration impacts in terms of structural response, and this is outlined in **Table 7.4** below.

Table 7.4: Guidance on the Significant of Vibration Impacts In Terms of Structural Response

Building Type	Peak Component Particle Velocity in Frequency Range of Predominant Pulse	
	4 Hz to 15 Hz	15 Hz and above
Reinforced or framed structures Industry and heavy commercial buildings	50 mm/s at 4 Hz and above	50 mm/s at 4 Hz and above
Unreinforced or light framed structures Residential or light commercial buildings	15 mm/s at 4 Hz increasing at 20 mm/z at 15 Hz	20 mm/s at 15 Hz increasing to 50 mm/s at 40 Hz and above

Note 1: Values referred to are at the base of the building

Note 2: At frequencies below 4 Hz, a maximum displacement of 0.6 mm (zero to peak) is not exceeded

Note: BS 5228-2, Table B.2

7.18 BS 6472-1 provides guidance on predicting the human response to vibration in buildings within the frequency range of 0.5 Hz to 80 Hz. The document states that the human response to vibration within buildings is best evaluated using the Vibration Dose Value (VDV). The VDV can be used to estimate the probability of adverse comment which might be expected from human beings experiencing vibration in buildings.

7.19 VDV is measured over a 16-hour daytime period (07:00-23:00 or 8 hour night time period (23:00-07:00). **Table 7.5** below provides vibration dose value ranges which might result in various probabilities of adverse comment within residential buildings.

Table 7.5: VDV Ranges Which Might Result in Various Probabilities of Adverse Comment within Residential Buildings

Place & Time	Low Probability of Adverse Comment ($ms^{-1.75}$)	Adverse Comment Possible ($ms^{-1.75}$)	Adverse Comment Possible ($ms^{-1.75}$)
Residential Buildings (16hour day)	0.2 to 0.4	0.4 to 0.8	0.8 to 1.6
Residential Buildings (8hour day)	0.1 to 0.2	0.2 to 0.4	0.4 to 0.8

Source: BS 6472-1, Table 1

7.20 Any exceedances of noise and vibration levels above a set criterion will be escalated to the site manager and then to the lead contact for the CEMP, and action will be taken immediately to reduce the noise and vibration levels.

7.21 To reduce any exceedances of noise and vibration levels caused by construction works, the site manager will review the works at hand and cease construction for a required time if needed and will advise that concurrent works are not done at the same time and spread out over the day.

Audit

7.22 The CEMP will be audited on a monthly basis by the Environmental Manager. Periodic auditing of the CEMP will ensure the identified environmental risks are being safeguarded against and the commitments and requirements are being delivered.

7.23 This audit will involve the Environmental Manager and the Principal Contractor reviewing the site observation and monitoring records.

7.24 The aim of the audit will be to:

- Assess the effectiveness of the mitigation measures;
- Identify any shortcomings in the actions;
- Check compliance with legislation and consent requirements; and
- Specify any further action needed to safeguard the environment.

7.25 A CEMP progress report can provide updates and a record of the compliance with the environmental commitments outline within the CEMP, including relevant legal consents and licences.

7.26 In addition, the developments Health and Safety team will visit and audit the site at regular intervals.

Non-Compliance and Corrective Action

Measures within the Mitigation Schedule

7.27 In the event of non-compliance of CEMP actions, the Environmental Manager and / or Principal Contractor can request corrective action to make amends and to ensure construction activities are in accordance with legislative and best practice environmental actions and requirements and agreed mitigation measures. This will be issued to the relevant contractor via a CEMP Corrective Note, starting with what action is needed.

7.28 Any breaches of legislation requirements will be immediately acted upon, including ceasing activity (if deemed necessary).

Results of the Monitoring

7.29 Should any non-compliance be identified this will be recorded in site inspection records and copied at Director level for action.

8 ENVIRONMENTAL REPORTS, INDUSTRY GUIDANCE AND BEST PRACTICE

8.1 This document has been prepared to support the planning application for the development.

8.2 Works on site will be expected to incorporate the appropriate pollution prevention mitigation measures consistent with best practice and industry guidance. Key references to be adopted include:

- Mayor of London – 'The Control of Dust and Emissions from Construction and Demolition – Best Practice Guidance (July 2014)';
- Control of Pollution Act 1974 (CoPA) – Provision to Control Noise:
  - Section 61 of the CoPA allows a legally binding agreement with the local authority to limit noise levels at the boundary of the construction site, providing the best practicable means of preventing, reducing minimising noise;
- The project will be registered under the 'Considerate Constructors Scheme' and will target to exceed the Considerate Constructors minimum requirements and comply with the Code of Considerate Practice, as outlined below:
  - **Considerate**: All work is to be carried out with positive consideration to the needs of traders and businesses, site personnel and visitors, and the general public. Special attention is to be given to the needs of those with sight, hearing and mobility difficulties;
  - **Environment**: Be aware of the environmental impact of your site and minimise as far as possible the effects of noise light and air pollution. Efforts should be made to select and use local resources wherever possible. Attention should be paid to waste management, reusing and recycling materials where possible;
  - **Cleanliness**: The working site is to be kept clean and in good order at all times, Site facilities, offices, toilets and drying rooms should always be maintained to a good standard. Surplus materials and rubbish should not be allowed to accumulate on the site or spill over into the surroundings. Dirt and dust from construction operations should be kept to a minimum;
  - **Good Neighbour**: General information regarding the scheme should be provided for all neighbours affected by the work. Full and regular communication with neighbours, including adjacent residents, trader and businesses, regarding programming and site activities should be maintained from pre-start to completion;
  - **Respectful**: Respectable and safe standards of dress should be maintained at all times. Lewd or derogatory behaviour and language should not be tolerated under threat of severe disciplinary action. Pride in the management and appearance of the site and the surrounding environment is to be shown at all times. Operatives should be instructed in dealing with the general public;
  - **Safe**: Construction operations and site vehicle movements are to be carried out with care and consideration for the safety of site personnel, visitors and the general public. No building activity should be a security risk to others;

- **Responsible**: Ensure that everyone associated with the site understands, implements and complies with this code; and
- **Accountable**: The Considerate Contractors Scheme poster is to be displayed where clearly visible to the general public. A site's contact details should be obvious to anyone affected by its activities.

Appendices

Appendix 1 – Proposed Site Layout Plan

- Private entrance
- Communal entrance
- Ancillary entrance

N

0 2 10 20 m

Scale 1:200

Rev	Description	Date

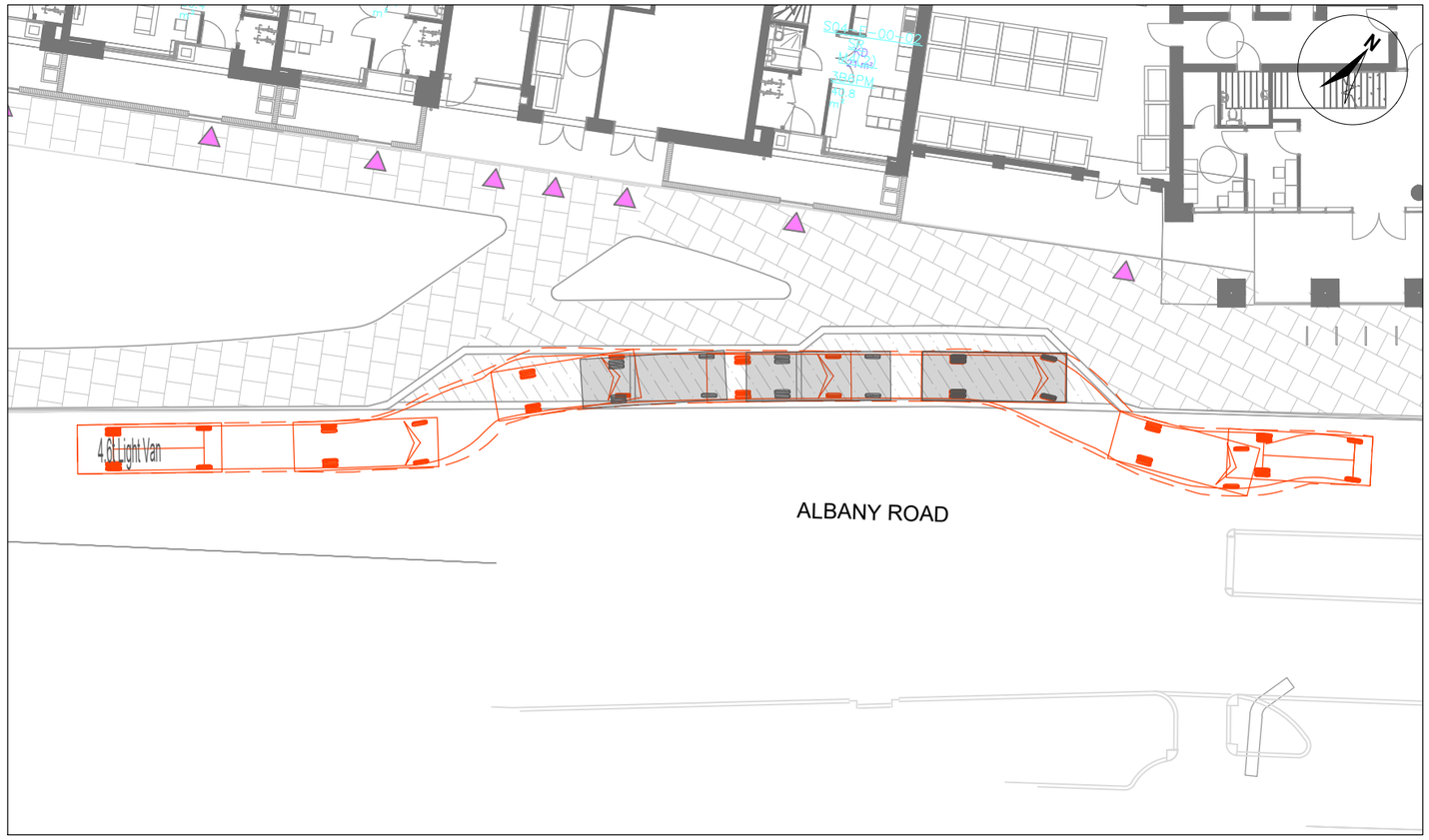
1. Entrance lobby
2. Lift lobby
3. Marketing Suite / Commercial
4. Concierge office
5. Concierge kitchenette
6. Store
7. WC
8. Residential Bin Store
9. Residential Cycle Store
10. Substation
11. Emergency standby generator
12. Sprinkler tank / boost cold water
13. Electrical switchroom
14. Secondary electrical switchroom
15. Comms room
16. Podium car park
17. Postboxes
18. Bulky waste store
19. Wet riser pump room
20. Commercial sprinkler tank

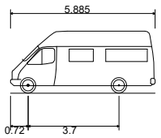
Scale @ A1 1 : 200	Date 03/03/21	Job Number 1436	Project Aylesbury Estate 1st Dev Plot 4 Albany Road London SE17 2DA UK
Drawn By TF	Checked By MJ	Status DRAFT	
Drawing No. AYLE-HBA-BC-00-DR-A-080101	Rev	Purpose of Issue DRAFT	Drawing General Arrangement - Level 00

159 St John Street
London EC1V 4QJ
mail@hawkinsbrown.com
hawkinsbrown.com

Hawkins\
Brown

Appendix 2 – Local Context Plan





4.6t Light Van	
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Overall Width	2.000m
Overall Body Height	2.526m
Min Body Ground Clearance	0.299m
Track Width	1.765m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	6.000m

NOTES

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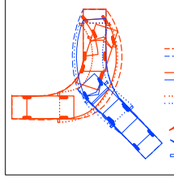
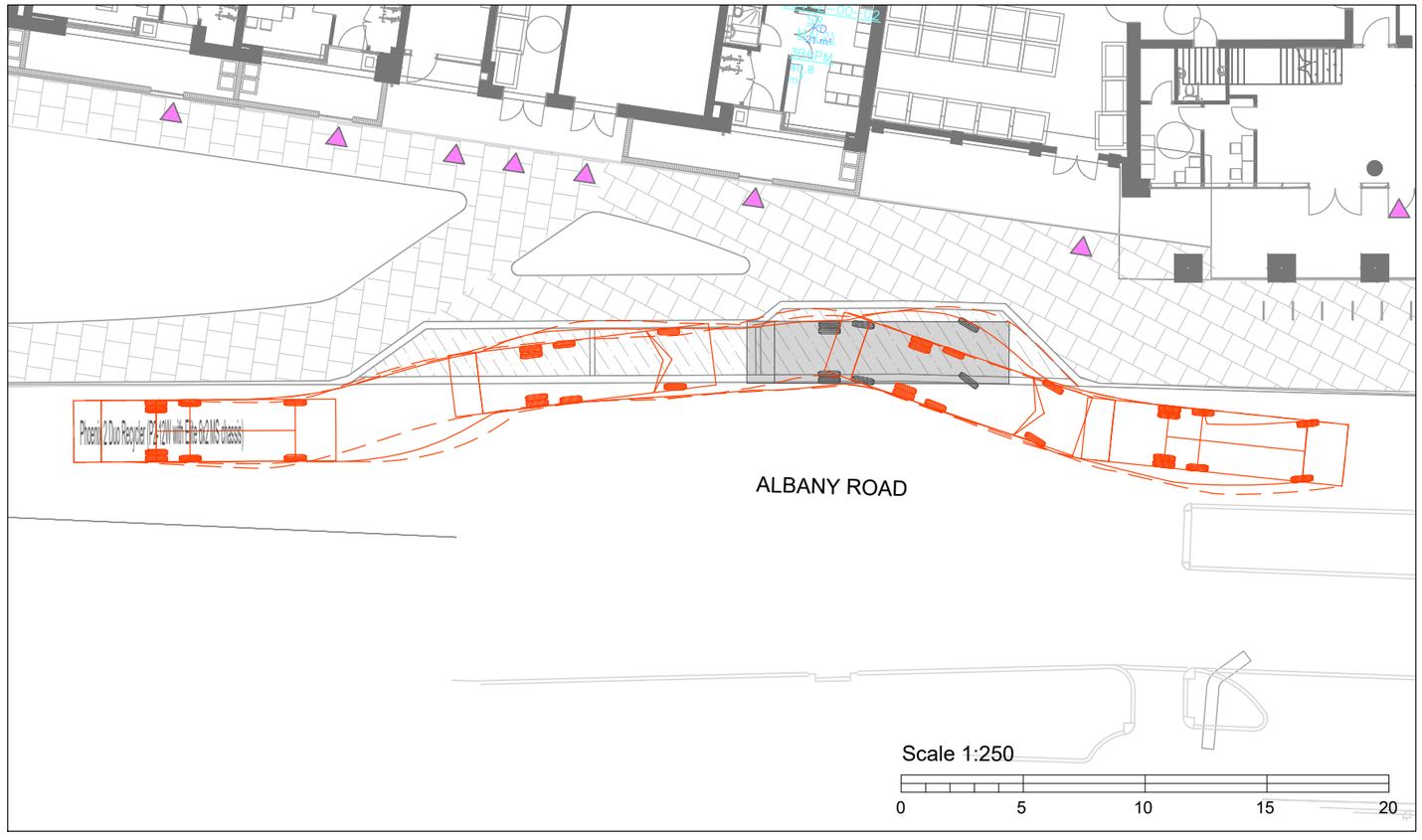
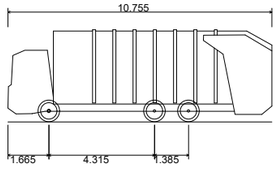


- Body path
- Chassis path
- Wing mirror path
- Red=forward movement
- Blue=reverse movement

PRELIMINARY
NOT FOR
CONSTRUCTION





Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)	
Overall Length	10.755m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m

Rev	Description	By	CB	Date

MAKING COMPLEX EASY

20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 **E:** transport@rpsgroup.com

Client Walworth Homes

Project Aylesbury First Development Site

Title Service Layby
Delivery and Refuse Collection
Vehicle Swept Path Analysis

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	-
Project Number	**Scale @ A3**	**Date Created**
JNY10942	1:250	23/02/22

RPS Drawing/Figure Number
JNY10942-07

Rev
-

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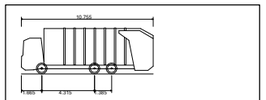

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)

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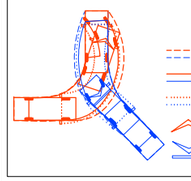
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m



Swept Path Key:

- Body path
- Chassis path
- Wing mirror path
- Red=forward movement
- Blue=reverse movement

Rev	Description	By	CB	Date

MAKING COMPLEX EASY

20 Farringdon Street, London EC4A 4AB
T: +44(0)20 3691 0500 **E:** transport@rpsgroup.com

Client Walworth Homes

Project Aylesbury First Development Site

Title Internal Layout - Access from Albany Road - Refuse Collection Vehicle Swept Path Analysis

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	-
Project Number	**Scale @ A3**	**Date Created**
JNY10942	1:500	23/02/22

RPS Drawing/Figure Number
JNY10942-08

Rev
-

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Drawing Ref: P:\JNY10942 - Aylesbury First Development Site\Highways\Drawings\JNY10942-07 & 08 Site SPA.dwg

PRELIMINARY
NOT FOR
CONSTRUCTION

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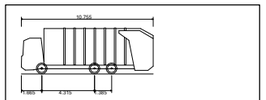

Phoenix 2 Duo Recycler (P2-12W with Elite 6x2 MS chassis)

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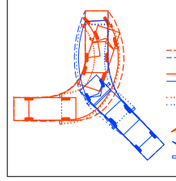
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.450m



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- Body path
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- Red=forward movement
- Blue=reverse movement

Rev	Description	By	CB	Date

MAKING COMPLEX EASY

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Client Walworth Homes

Project Aylesbury First Development Site

Title Internal Layout - Access from Thurlow Street - Refuse Collection Vehicle Swept Path Analysis

Status	Drawn By	PM/Checked by
PRELIMINARY	AJ	-
Project Number	**Scale @ A3**	**Date Created**
JNY10942	1:500	23/02/22

RPS Drawing/Figure Number
JNY10942-09

Rev
-

rpsgroup.com

Drawing Ref: P:\JNY10942 - Aylesbury First Development Site\Highways\Drawings\JNY10942-07 & 08 Site SPA.dwg

Appendix 3 – Framework of Mitigation Measures

Calculation Reference: AUDIT-515506-210323-0356

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED
MULTI-MODAL Servicing Vehicles

Selected regions and areas:

01	GREATER LONDON		
	BE	BEXLEY	1 days
	BM	BROMLEY	1 days
	BT	BRENT	2 days
	HG	HARINGEY	1 days
	HM	HAMMERSMITH AND FULHAM	1 days
	HO	HOUNSLOW	2 days
	IS	ISLINGTON	1 days
	RD	RICHMOND	1 days
	SK	SOUTHWARK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
Actual Range: 150 to 472 (units:)
Range Selected by User: 100 to 493 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 14/11/19

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	1 days
Tuesday	3 days
Wednesday	4 days
Thursday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Town Centre	2
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Development Zone	5
Residential Zone	3
Built-Up Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories

Secondary Filtering selection:

Use Class:

C3	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

15,001 to 20,000	1 days
25,001 to 50,000	7 days
50,001 to 100,000	1 days
100,001 or More	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

250,001 to 500,000	1 days
500,001 or More	10 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	9 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	8 days
No	3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

1a (Low) Very poor	1 days
2 Poor	2 days
3 Moderate	2 days
5 Very Good	3 days
6a Excellent	2 days
6b (High) Excellent	1 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 BE-03-C-02 BLOCKS OF FLATS BEXLEY
CLYDESDALE WAY
BELVEDERE

Edge of Town
Industrial Zone
Total No of Dwellings: 402
Survey date: WEDNESDAY *19/09/18* *Survey Type: MANUAL*

2 BM-03-C-01 BLOCKS OF FLATS BROMLEY
RINGER'S ROAD
BROMLEY

Town Centre
Built-Up Zone
Total No of Dwellings: 160
Survey date: MONDAY *12/11/18* *Survey Type: MANUAL*

3 BT-03-C-01 BLOCKS OF FLATS BRENT
LAKESIDE DRIVE
PARK ROYAL

Suburban Area (PPS6 Out of Centre)
Development Zone
Total No of Dwellings: 170
Survey date: WEDNESDAY *28/09/16* *Survey Type: MANUAL*

4 BT-03-C-02 BLOCKS OF FLATS BRENT
ENGINEERS WAY
WEMBLEY

Suburban Area (PPS6 Out of Centre)
Development Zone
Total No of Dwellings: 472
Survey date: WEDNESDAY *30/11/16* *Survey Type: MANUAL*

5 HG-03-C-01 BLOCKS OF FLATS HARINGEY
BREAM CLOSE
TOTTENHAM HALE

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 255
Survey date: TUESDAY *18/06/19* *Survey Type: MANUAL*

6 HM-03-C-02 BLOCKS OF FLATS HAMMERSMITH AND FULHAM
GLENTHORNE ROAD
HAMMERSMITH

Town Centre
Built-Up Zone
Total No of Dwellings: 194
Survey date: TUESDAY *30/04/19* *Survey Type: MANUAL*

7 HO-03-C-03 BLOCKS OF FLATS HOUNSLOW
COMMERCE ROAD
BRENTFORD

Edge of Town Centre
Development Zone
Total No of Dwellings: 150
Survey date: FRIDAY *18/11/16* *Survey Type: MANUAL*

8 HO-03-C-04 BLOCKS OF FLATS HOUNSLOW
LONDON ROAD
ISLEWORTH

Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total No of Dwellings: 203
Survey date: TUESDAY *03/07/18* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	IS-03-C-07 CITY ROAD ISLINGTON	BLOCK OF FLATS		ISLINGTON
	Edge of Town Centre Development Zone Total No of Dwellings:		185	
	Survey date: THURSDAY		*06/06/19*	*Survey Type: MANUAL*
10	RD-03-C-04 BESSANT DRIVE KEW	BLOCKS OF FLATS		RICHMOND
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		170	
	Survey date: WEDNESDAY		*15/05/19*	*Survey Type: MANUAL*
11	SK-03-C-03 MARITIME STREET SURREY QUAYS	BLOCKS OF FLATS		SOUTHWARK
	Neighbourhood Centre (PPS6 Local Centre) Development Zone Total No of Dwellings:		233	
	Survey date: THURSDAY		*14/11/19*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
HV-03-C-02	no servicing data

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL Servicing Vehicles
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	236	0.003	11	236	0.002	11	236	0.005
08:00 - 09:00	11	236	0.005	11	236	0.003	11	236	0.008
09:00 - 10:00	11	236	0.010	11	236	0.007	11	236	0.017
10:00 - 11:00	11	236	0.012	11	236	0.011	11	236	0.023
11:00 - 12:00	11	236	0.007	11	236	0.008	11	236	0.015
12:00 - 13:00	11	236	0.007	11	236	0.009	11	236	0.016
13:00 - 14:00	11	236	0.009	11	236	0.010	11	236	0.019
14:00 - 15:00	11	236	0.005	11	236	0.005	11	236	0.010
15:00 - 16:00	11	236	0.009	11	236	0.009	11	236	0.018
16:00 - 17:00	11	236	0.009	11	236	0.009	11	236	0.018
17:00 - 18:00	11	236	0.006	11	236	0.008	11	236	0.014
18:00 - 19:00	11	236	0.007	11	236	0.007	11	236	0.014
19:00 - 20:00	10	234	0.006	10	234	0.007	10	234	0.013
20:00 - 21:00	10	234	0.002	10	234	0.003	10	234	0.005
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.097			0.098			0.195

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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