

Chapter 17: Mitigation and Monitoring

INTRODUCTION

- 17.1** Mitigation refers to ‘measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment’. Throughout the masterplanning process, environmental mitigation measures have been incorporated into the Proposed Development to prevent, reduce and offset potentially adverse effects. These include modifications to the design of the Proposed Development (known as ‘primary’ mitigation measures), which are described within **ES Volume 1, Chapter 3: Alternatives and Design Evolution** and **ES Volume 1, Chapter 4: Proposed Development**. As these specific measures have already been inherently incorporated within the Proposed Development for which planning permission is sought, and do not require additional action to be taken, they are not included within this chapter.
- 17.2** Due to the ‘hybrid’ (part detailed, part outline) nature of the planning application for the Proposed Development, principles for the primary mitigation (design related) relating to the outline component of the planning application have been established within the Development Specification, Design Code and Parameter Plans which accompany the planning application. However, the delivery of the mitigation for the outline component, and specific design details for the established principles, are to be recognised through the submission of detailed designs at the Reserved Matters Application (RMA) stage in the planning process.
- 17.3** There are a number of ‘secondary mitigation measures’ recommended for the outline component of the planning application that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent. Examples include mitigation to be the subject of planning conditions or planning obligations or other commitments made but not included within the plans and proposals submitted with the planning applications. For example, Management Plans that have been prepared to support the planning application are categorised as secondary mitigation measures and are identified in **Table 17.1**. It is anticipated that the Principal Contractor will refine, complete and implement the required plans during the phased demolition and construction works. Once the Proposed Development is built out and operational, the implementation of the Management Plans outlined in **Table 17.1** is anticipated to be undertaken by the Building / Estate Management Services.

- 17.4** The content and measures that will be implemented throughout each development stage as required by each Management Plan are described within the **Table 17.2** and **Table 17.3**.
- 17.5** **Table 17.2** and **Table 17.3** present the environmental mitigation and monitoring measures required for the Proposed Development as identified as a result of the Environmental Impact Assessment (EIA) process and described within this ES. The measures presented include any additional, project bespoke mitigation and monitoring measures that have been identified as being required by the EIA (‘secondary’ mitigation measures).
- 17.6** The environmental mitigation and monitoring measures also include those which are standard measures / commitments that would be adopted as a matter of course to meet best practice guidance in relation to the demolition and construction works. They may also include actions that would occur with or without input from the EIA feeding into the design process, such as actions that will be undertaken to meet other existing legislative or planning requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects (‘tertiary’ mitigation measures).
- 17.7** The environmental mitigation and monitoring measures presented in **Table 17.2** and **Table 17.3** are measures that the London Borough of Tower Hamlets (LBTH) will need to secure for the project, either using Planning Conditions or through Planning Obligations as part of a Section 106 Agreement in accordance with the phased delivery of the Proposed Development.
- 17.8** It is noted that a number of other documents have been prepared to support the planning application which have been referenced in the preparation of the schedules set out in this Chapter, including, but not limited to: a Planning Statement; A Masterplan Design and Access Statement (Masterplan DAS); Design Code; Detailed Proposals Design and Access Statement (Detailed DAS); Transport Assessment; Circular Economy Statement; Waste Management Plan; Arboricultural Impact Assessment; Statement of Community Involvement; Sustainability Statement and Energy Statement.
- 17.9** Where relevant to the EIA, measures from these documents are presented in **Table 17.2** and **Table 17.3**.

Table 17.1 Management Plans

MANAGEMENT PLAN	ES / PLANNING DOCUMENT REFERENCE
DEMOLITION AND CONSTRUCTION	
Site Waste Management Plan (SWMP)	ES Volume 1, Chapter 5: Demolition and Construction ES Volume 1, Chapter 7: Traffic and Transport ES Volume 1, Chapter 8: Air Quality ES Volume 1, Chapter 9: Climate Change ES Volume 3, Appendix Demolition and Construction – Annex 1 ES Volume 3, Appendix EIA Methodology – Annex 1 ES Volume 3: Appendix Climate Change
Resource Management Plan (RMP)	
Construction Environmental Management Plan (CEMP) <ul style="list-style-type: none"> • Dust Management Plan (DMP) • Noise and Vibration Controls 	
Construction Logistics Plan (CLP)	
Health and Safety Plans (H&SP)	
Emergency Response Plan (ERP)	
Stakeholder Communication Plan	
OPERATION	
Waste Management Strategy	ES Volume 1: Chapter 4 The Proposed Development
Delivery and Servicing Plan	ES Volume 1, Chapter 7: Traffic and Transport
Detailed Travel Plan	ES Volume 1, Chapter 7: Traffic and Transport ES Volume 1, Chapter 8: Air Quality
Parking Management Plan	ES Volume 1, Chapter 7: Traffic and Transport

Table 17.2 Mitigation and Monitoring Schedule – Demolition and Construction

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
PRE-COMMENCEMENT	<p>REGISTRATIONS / CONSENTS</p> <p>All statutory, Local Planning Authority (LPA) consents and licences required to commence any on site activity will also be obtained ahead of the works commencing and give the appropriate notice period. These will include but not necessarily be limited to:</p> <ul style="list-style-type: none"> • The works contractor will register with the Considerate Constructors Scheme (CCS) • Notices for works on the highway in accordance with the Highways Act 1980 and Road Traffic Act 1998; • Hoarding, scaffold and crane licenses for works on the perimeter boundary; • Construction Phase Plan under CDM Regulations; • Health and Safety Executive (HSE) F10 Notification; • Demolition Method Statements (DMS) and Risk Assessments; • Construction Method Statement (CMS) and Risk Assessments; • Section 80 (Demolition Notice) Application; • Section 61 (Noise Control) Application; • Construction notices; • Connections to existing statutory services and main sewers; • License for discharge of water from the site into the public sewer; and • Party wall act notices and agreements. 	<p>ES Volume 1, Chapter 5: Demolition and Construction</p>
	<p>SITE INVESTIGATIONS (LAND CONTAMINATION, UXO and ASBESTOS)</p> <p>The Geo-environmental and Geotechnical Phase 1 Desk Study (Phase 1) report recommends a site / ground investigation to quantify the geoenvironmental risks associated with the construction of the Proposed Development and the contamination profile. Several procedures will be undertaken to ensure the protection of human health and the environment. These procedures will be undertaken in accordance with relevant legislation and good practice guidance and will be secured through appropriately worded planning conditions relevant to:</p> <ul style="list-style-type: none"> • An intrusive Site Investigation (i.e. involving laboratory testing) subsequent to planning determination/consent, followed by further stages of investigation and site remediation agreed through planning conditions. Following agreement on the written programme, an investigation shall be carried out in accordance with the approved programme and the results. necessary, a written scheme of remediation measures shall be submitted to and approved by the LBTH; • The ground investigations will be undertaken prior to the commencement of works on-site and will further inform the geotechnical design / foundation / piling works, which will confirm the appropriate piling methods and foundation design to mitigate geotechnical risk; • The intrusive investigation will include a risk assessment of the contamination at the site, which would be undertaken by comparing measured levels of soil contamination with generic assessment criteria established through industry guidance and best practice; • Should significant areas of contamination be identified during the further site survey / investigation work, a Remedial Strategy (including options appraisal) will be undertaken. Remediation strategies for soil include: <ul style="list-style-type: none"> - The remediation of soils on-site; - A strategy for ensuring separation between source and receptors via structural slabs; - Off-site treatment (where practicable); and/or - The disposal of soil off-site. • The appropriate Remedial Strategy will be agreed as appropriate in advance of any remediation work. The remediation framework will identify remediation requirements for protection of human health and controlled waters as well as identifying any areas that require remediation to be undertaken. • Should a Remedial Strategy be implemented, a verification process (verification plans and reporting to the local authority) will be undertaken to confirm that the strategy has remediated the soils to a level acceptable for the intended end use of the site (based on site specific criteria); • Off-site disposal of soils will include segregation of soil types (contaminated or otherwise) into stockpiles and removed via an approved waste contractor and in accordance with the regulatory requirements, including the Hazardous Waste Regulations and Landfill Regulations (i.e. any contaminated soil would be disposed of off-site at a location appropriate to the level of contamination present and the waste classification determined from chemical analysis); • An assessment for the potential for ground gas will be completed during further intrusive site investigation work; • Condition survey of boundary walls and fences; • Condition survey of roads and pavements; • Condition survey of adjoining buildings; 	<p>ES Volume 1, Chapter 5: Demolition and Construction ES Volume 3, Appendix EIA Methodology – Annex 1</p>

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<ul style="list-style-type: none"> Existing utilities tracing; CCTV drain surveys; Party Wall surveys; Unexploded ordnance; and Asbestos surveys of the buildings to be demolished (after full vacant possession). <p>A detailed unexploded ordnance (UXO) assessment was undertaken for the site in February 2021, which identified that the site has a high risk of UXO potential. This assessment recommended that a UXO Emergency Response Plan, UXO safety awareness briefing, and intrusive magnetometer survey are undertaken for 'blind' intrusive works (such as borehole drilling). Additionally, non-intrusive surveys and a UXO Watching brief should be undertaken for 'open' intrusive works (such as excavations and trenching).</p> <p>A pre-demolition audit will be undertaken to audit the likely materials that will result from the demolition.</p>	
	<p>ARCHAEOLOGICAL INVESTIGATIONS</p> <p>Prior to any works on-site, archaeological mitigation measures will need be secured, as are detailed below.</p> <p>Any work would need to be undertaken in accordance with an approved Written Scheme of Investigation (WSI), approved by the Greater London Archaeology Advisory Service (GLAAS) compliant with the relevant 'Standards and Guidance' issued by the Chartered Institute for Archaeologists. Such fieldwork should also be monitored by GLAAS.</p>	<p>ES Volume 1, Chapter 11: Archaeology</p>
DURING DEMOLITION AND CONSTRUCTION	<p>CONSTRUCTION MANAGEMENT PLAN (CEMP)</p> <p>Implementation and compliance with an approved CEMP, in accordance with the LBTH Code of Construction Practice¹, adhering to the following <i>minimum</i> requirements:</p> <ul style="list-style-type: none"> Noise and vibration control proposals and methodology (see below CEMP - NOISE AND VIBRATION CONTROL for more detail); Vibration limits will be set in accordance with BS5228-2 to minimise the risk of complaints or building damage. These limits will be controlled through implementation of the CEMP and vibration monitoring. The statement will also include vibration and noise monitoring and action levels; Noise, dust and vibration will be monitored throughout the demolition and construction works from various locations around the site; Measures to control and monitor air pollution, considering the Mayor of London and London Council's guidance document 'The Control of Dust and Emissions from Construction and Demolition' (see below CEMP – AIR QUALITY for more detail); Pedestrian access points for operatives will generally be located close to the main vehicular access gates with separate pedestrian gates and footpaths provided; Public access to neighbouring buildings will be safeguarded and will be entirely separate from construction areas; Site offices and associated welfare facilities for the workforce will be provided for each site; Perimeter scaffolding with Monarflex sheeting will be designed to ensure that safe access for both pedestrians and vehicles accessing the retained neighbouring buildings and surrounding streets; Measures to reduce waste and encourage reuse / recycling (see below CEMP – WASTE MANAGEMENT for more detail); Use of 2.4m high solid construction hoardings; Implementation of wheel cleaning facilities at all site access and egress locations; Use of Continuous Flight Auger piling techniques; Re-use and re-cycling of demolition materials; and A temporary drainage strategy . 	<p>ES Volume 1, Chapter 5: Demolition and Construction</p> <p>ES Volume 1, Chapter 7: Traffic and Transport</p> <p>ES Volume 1, Chapter 8: Air Quality</p> <p>ES Volume 1, Chapter 9: Climate Change</p> <p>ES Volume 1, Chapter 11: Archaeology</p> <p>ES Volume 3, Appendix EIA Methodology – Annex 1</p>
	<p>CEMP - WASTE MANAGEMENT</p> <p>The disposal of all waste or other materials removed from the Site will be in accordance with the requirements of the Environment Agency, Control of Pollution Act (COPA), 1974, Environment Act 1995, Special Waste Regulations 1996, Duty of Care Regulations 1991 and the Waste Management Regulations 2011.</p> <p>In general, and in accordance with the principles of the UK Government's 'Waste Strategy 2010', a principal aim during enabling works and construction will be to reduce the amount of waste generated and exported from the Development site.</p> <p>This approach complies with the waste hierarchy whereby the intention is first to minimise, then to treat at source or compact and, finally, to dispose of off-site as necessary. All relevant Contractors will be required to investigate opportunities to minimise and reduce waste generation, such as:</p> <ul style="list-style-type: none"> Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take-back scheme; Implementation of a 'just-in-time' material delivery system to avoid materials being stockpiled, which increases the risk of their damage and disposal as waste; Attention to material quantity requirements to avoid over-ordering and generation of waste materials; Re-use of materials wherever feasible (e.g. re-use of crushed concrete from demolition for the piling platform; re-use of excavated soil for landscaping); The Government has set broad targets for the use of reclaimed aggregate, and in keeping with best practice, Contractors will be required to maximise the proportion of materials recycled; 	<p>ES Volume 1, Chapter 4: The Proposed Development</p> <p>ES Volume 1, Chapter 5: Demolition and Construction</p>

¹ LBTH (undated), Code of Construction Practice

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<ul style="list-style-type: none"> • Segregation of waste at source; and • Re-use and recycling of materials off-site where re-use on-site is not practical (e.g. through use of an off-site waste segregation facility and re-sale for direct re-use or re-processing). 	
CEMP - NOISE AND VIBRATION CONTROL		
	<p>The adoption of Best Practicable Means (BPM), as defined in the Control of Pollution Act 1974, will be a fundamental mitigation measure. The manifestation of BPM will be a series of noise and vibration control measures, which will be incorporated within the final Construction Environmental Management Plan (CEMP).</p> <p>The contractor will ensure that the following measures are adhered to:</p> <ul style="list-style-type: none"> • Where possible, 'silenced' plant and equipment will be used; • Where vehicles are standing for a significant period of time, engines will be switched off; • Acoustic enclosures will be fitted where possible to suppress noisy equipment; • Plant will operate at low speeds, where possible, and incorporate automatic low speed idling; • Where possible, electrically driven equipment will be selected in preference to internal combustion powered, hydraulic power in preference to pneumatic and wheeled in lieu of tracked plant; • All plant will be properly maintained (greased, blown silencers replaced, saws kept sharpened. Teeth set and blades flat, worn bearings replaced etc); • Consideration will be given to temporary screening or enclosures for static noisy plant to reduce noise emissions and plant will be certified to meet any relevant EC Directives; • All contractors will be made familiar with the guidance in BS 5228 (Parts 1 & 2) which will form a pre-requisite of their appointment; and • Early and good public relations with the adjacent tenants and occupants of buildings will also reduce the likelihood of complaints. 	<p>ES Volume 1, Chapter 5: Demolition and Construction</p> <p>ES Volume 1, Chapter 10: Noise and Vibration</p>
CEMP – AIR QUALITY		
	<p>The Contractors will, as far as reasonably practical, seek to control and limit emissions to the atmosphere in terms of gaseous and particulate pollutants from tools and equipment used on site and dust from construction activities.</p> <p>It is recommended that the site activities should be assessed in accordance with the Mayor of London's SPG "The Control of Dust & emissions during Construction & Demolition" and adherer to the LBTH Code of Construction Practice. The contractors must submit a statement to the London Borough of Tower Hamlets for approval identifying proposed dust control measures before work starts. Special precautions must be taken when materials containing asbestos are encountered.</p> <p>Throughout the project, the Contractors will ensure the following:</p> <ul style="list-style-type: none"> • Develop and implement a stakeholder communications plan that includes community engagement before work commences on site; • Display the name and contact details of person(s) accountable for air quality and dust issues on the Site boundary; • Display the head or regional office contact information; • Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the LBTH; • Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken; • Make the complaints log available to the LBTH when asked; • Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the logbook; • Hold regular liaison meetings with other high-risk construction sites within 500m of the Site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised; • Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the LBTH when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and windowsills within 100m of site boundary, with cleaning to be provided if necessary; • Carry out regular site inspections to monitor compliance with the DMP, record inspection results, and make an inspection log available to the local authority when asked; • Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions; • Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the LBTH. • Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible; • Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site; • Fully enclose site or specific operations where there is a high potential for dust production and the site is actives for an extensive period; • Avoid site runoff of water or mud; • Keep site hoarding, barriers and scaffolding clean using wet methods; • Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site; • Cover, seed or fence stockpiles to prevent wind whipping; • Ensure all on-road vehicles comply with the requirements of the London Low Emission Zone and the London NRMM standards; 	<p>ES Volume 1, Chapter 5: Demolition and Construction</p> <p>ES Volume 1, Chapter 8: Air Quality</p>

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<ul style="list-style-type: none"> • Ensure all vehicles switch off engines when stationary - no idling vehicles; • Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable; • Impose and signpost a maximum-speed-limit of 10 mph on unsurfaced haul roads and work areas; • Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials; • Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems; • Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate; • Use enclosed chutes and conveyors and covered skips; • Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment; • Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods; • Reuse and recycle waste to reduce dust from waste materials; • Avoid bonfires and burning of waste materials; • Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust); • Ensure water suppression is used during demolition operations; • Avoid explosive blasting, using appropriate manual or mechanical alternatives; • Bag and remove any biological debris or damp down such material before demolition; • Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable; • Use Hessian, mulches or trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable; • Only remove the cover in small areas during work and not all at once; • Avoid scabbling (roughening of concrete surfaces) if possible; • Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place; • Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overfilling during delivery; • For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust; • Use water-assisted dust sweeper(s) on the access and local roads, if required; • Avoid dry sweeping of large areas; • Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport; • Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable; • Record all inspections of haul routes and any subsequent action in a site logbook; • Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned; • Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable); and • Apply dust suppressants to locations where a large volume of vehicles enter and exit the construction site. 	
	CIRCULAR ECONOMY – DEMOLITION AND CONSTRUCTION WASTE	
	<p>Reducing construction, demolition, excavation and municipal waste arising:</p> <ul style="list-style-type: none"> • Building elements will be standardised, prefabricated and designed with disassembly/ adaptability in mind as discussed in previous sections; • A Site Waste Management Plan (SWMP) will be produced to manage the resultant waste on-site; • To ensure the use of low-waste materials, contractor tender documents will encourage low waste materials. In addition, recycled content within the Proposed Development materials has been specified at 20%; and • Recycling facilities will be provided as a means of reducing municipal waste and minimising the waste to landfill. <p>Managing demolition waste:</p> <ul style="list-style-type: none"> • Measures will be implemented that contribute to the target of achieving ≥95% recycling rate of the uncontaminated demolition waste • As part of its role, the contractor will provide the following upon appointment: 	<p style="text-align: center;">ES Volume 1, Chapter 5: Demolition and Construction ES Volume 1, Chapter 9: Climate Change</p>

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<ul style="list-style-type: none"> - The likely destination of all waste streams beyond the materials recycling facility. - Provide written evidence that the destination landfill(s) have the capacity to receive waste. - During construction, the Applicant will record the source of all waste arising and monitor using SmartWaste or a similar waste management tool. <ul style="list-style-type: none"> • A Resource Management Plan will be produced during the construction process to set out ways to minimise the amount of waste generated on site, set targets and monitor the amount of waste generated. • A designated area will be provided for the segregation of demolition waste. <p>Managing excavation waste:</p> <ul style="list-style-type: none"> • Maximise re-use of excavated materials on-site. • Aim to divert 95% of uncontaminated excavation waste from landfill. <p>Managing construction waste:</p> <ul style="list-style-type: none"> • A designated area will be provided for the segregation of construction waste. This will contain skips of different material streams; and • The target construction waste diversion of ≥95% will be enforced within the contractor's package requirements. <p>Throughout the further stages of the Proposed Development the following monitoring procedures will be in place:</p> <ul style="list-style-type: none"> • Monitoring of construction waste, including reuse and recycling rates; • Regular site inspections to ensure construction plans and targets are being fulfilled; • Site managers or supervisors will ensure those under their control follow the SWMP, applying the best practice environmental options. Site managers or supervisors will complete a SWMP check list and data sheet at relevant stages of site operations; • To ensure smooth implementation of the plans listed above, the relevant team will report back regularly on any potential improvements or justification for deviation from the plans to the contracts manager. The contracts manager will then take on board the concerns or recommendations, putting them to the managing director where necessary. 	
GREENHOUSE GASES		
	<p>The following measures will be implemented (through the CEMP) during the construction phase to reduce GHG emissions from the construction works:</p> <ul style="list-style-type: none"> • All construction vehicles are required to switch off their engines when stationary, as well as equipment being switched off when not in use, to prevent exhaust emissions; • Regular maintenance and servicing of vehicles, equipment and plant; and • Through the implementation of a Travel Plan construction workers will be encouraged to use public transport through the site induction and information on site noticeboards. <p>Additionally, to reduce GHG emissions from construction materials:</p> <ul style="list-style-type: none"> • Material procurement will be undertaken with sustainable principles in mind including use of products with low embodied energy, high recycled content and the use of local materials wherever possible to reduce emissions associated with their transport; • The Proposed Development will incorporate recycled content within all rebar steel as well as GGBS (Ground Granulated Blast-furnace Slag) within the cement to reduce the embodied carbon of the scheme; and • The strategic Circular Economy approach for the new build elements of the scheme is to design for longevity, a high degree of standardisation and to ensure that material use is responsible and low impact. 	ES Volume 1, Chapter 9: Climate Change
TRAFFIC AND TRANSPORT (CLP)		
	<p>Based on the Framework CLP provided in the Transport Assessment, the detailed CLP will provide information setting out measures relating to the following:</p> <ul style="list-style-type: none"> • Lower vehicle emissions and noise levels; • Improving the safety of road users; • Reduced vehicle trips, particularly in peak periods, and • Efficient working practices and reduced deliveries. <p>The key measures identified to manage and control the impacts of construction traffic are expected to be:</p> <ul style="list-style-type: none"> • Commitment to meet the Construction Logistics and Community Safety (CLOCS) / Fleet Operator Recognition Scheme (FORS) accreditation; • Use of delivery scheduling system; • Designated construction traffic routes ensuring all HGVs use appropriate strategic roads, and • Staff Travel Plan. 	ES Volume 1, Chapter 7: Traffic and Transport
ECOLOGY AND ARBORICULTURE		

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<p>The following measures will be incorporated into the Detailed CEMP:</p> <ul style="list-style-type: none"> • Works to Jura House to be undertaken outside of the summer months (1st May – 31st August) to avoid disturbance to bat roosts; • Removal of roof tiles at Jura House to be done by hand, under the supervision of a licensed ecologist; • Retention of Category A and B trees, where possible; • Works to be undertaken in accordance with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009)²; • Should site clearance be required within the nesting bird season (March to September), it will only be done so after an ecologist conducts a nesting bird check and confirms the likely absence of nesting birds; • Works around/close to any active bird nests to be paused until the nest is no longer in use (no disturbance to active nests); and • Two invasive species currently present on site (Virginia creeper and <i>Buddleja davidii</i>) should be removed from the site wherever they are encountered and disposed of responsibly. 	<p style="text-align: center;">ES Volume 1, Chapter 4: The Proposed Development ES Volume 1, Chapter 5: Demolition and Construction ES Volume 3, Appendix Demolition and Construction, Annex 1: Outline CEMP</p>
	FLOOD RISK	
	<p>A number of water resources and drainage mitigation measures shall be implemented throughout the demolition and construction works to protect water resources, particularly relating to groundwater and drainage networks. These mitigation measures can be categorised as 'Pre Commencement' measures, and measures implemented throughout the demolition and construction works themselves. The measures are as follows:</p> <ul style="list-style-type: none"> • Pre-commencement: <ul style="list-style-type: none"> - Discharge arrangements into the foul water sewer will be agreed with Thames Water; - All existing utilities will be identified and marked before works commence, with the use of signs to warn of their presence; - Settlement facilities and oil / petrol interceptors will be installed at relevant discharge points into the sewers (for surface water runoff and wastewater discharges); and - An Emergency Response Plan (ERP) will be prepared and which will set out the procedure to be adopted in the event of a leak or spill. • During demolition and construction works: <ul style="list-style-type: none"> - Any damage to existing infrastructure would be immediately repaired; - Any waste effluent will be tested and any water that may have come into contact with contaminated materials or be identified as being contaminated, will be disposed of appropriately and, to the satisfaction of the EA and/or TW; and where necessary, disposed of at the correctly licensed facility by a licensed specialist contractor/s; - Plant and machinery will be kept away from controlled waters and will have drip trays installed beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator; - Refueling and delivery areas will be located away from the local sewer network drains; - All liquids and solids of a potentially hazardous nature (e.g. diesel fuel, oils and solvents) will be stored in designated locations with specific measures to prevent leakage and release of their contents, include the siting of storage areas away from surface water drains, on an impermeable base with an impermeable bund that has no outflow and is of adequate capacity to contain 110% of the contents in accordance with the EA's requirements. Any tanks storing more than 200 litres of oil on-site, will have secondary bunding; - All storage will be protected from vandalism and kept locked up when not in use; - Wherever possible, plant and machinery will have drip trays beneath oil tanks/engines/gearboxes/hydraulics, which will be checked and emptied regularly via a licensed waste disposal operator; - On-site provisions will be made to contain a serious spill or leak through the use of booms, bunding and absorbent material in accordance with an Emergency Response Plan (ERP); - Implementation of bunding and sediment traps to act as pollution prevention measures; - Agreement of allowable water demand with TW during the construction activities; - Agreement of allowable foul and surface water drainage with TW during the construction activities; - Implementation of a Piling Risk Assessment; - Implementation of a Contamination Remediation Strategy; - All relevant contractors will be required to investigate opportunities to sustainably manage the use of water, such as turning off taps when not in use, both on site and within site offices and the use of recycled water / a rainwater harvesting system for equipment such as wheel washes; and - The water consumption throughout the enabling and construction works will be monitored, either through sub-metering or reading of utility bills, to allow comparison against best practice benchmarks and improvements to be made. <p>The contractor will prepare a detailed Surface Water Management Plan and site-specific Erosion and Sediment Control Plan, which will minimise discharge of potentially polluted site water to nearby drains and overland flow routes:</p> <ul style="list-style-type: none"> • No polluted water is to be discharged from the site; • Sediment and erosion controls are to be regularly inspected to ensure sufficient capacity; 	<p style="text-align: center;">ES Volume 1, Chapter 9: Climate Change ES Volume 1, Chapter 12: Water Resources, Drainage and Flood Risk ES Volume 3, Appendix EIA Methodology – Annex 1</p>

² DEFRA (2009), *Construction Code of Practice for the Sustainable Use of Soils on Construction Sites*

TIMING	ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
	<ul style="list-style-type: none"> • Wheel washes are to be implemented on site; • Drainage of surface runoff and de-watering effluents to settling tanks to remove suspended solids prior to discharge to sewer or removal by a suitably licenced waste operator; • Storage of chemicals and hazardous materials within bunded areas, with adequate capacity (of 110%); • Bunded areas are to be regularly inspected to ensure that sufficient capacity is available; and • Prevention of spills and leaks. 	

Table 17.3 Mitigation and Monitoring Schedule – Completed Development

ENVIRONMENTAL MITIGATION	ES / PLANNING DOCUMENT REFERENCE
SOCIO ECONOMICS	
Discussions will be undertaken with the LBTH in relation to the requirement for any financial contributions via Community Infrastructure Levy (CIL) payments or section 106 (s106) agreements to address the demand on health and education facilities. This will need to reflect the over-provision of the health facilities and early years provided within Phase 3B of the 2012 OPP and more detailed calculations will be required at the reserved matters applications stage.	ES Volume 1: Chapter 5 Socio-Economics
DETAILED TRAVEL PLAN	
<p>The Framework Travel Plan provided as part of the Transport Assessment sets out the requirements for the Detailed Travel Plans (both Residential and Workplace) which will aim to reduce the use of cars. The measures set out in the Residential Travel Plan will include the following:</p> <ul style="list-style-type: none"> • The Proposed Development will provide traffic-calmed and pedestrianised streets with high-quality landscaping that will encourage walking/cycling; • The Proposed Development will provide a restricted amount of car parking, up to 80 spaces for returning residents and up to 50 disabled parking spaces; • Cycle parking will be provided in line with London Plan (March 2021) standards to encourage cycle ownership and use. A total of 2,836 residential long-stay cycle spaces are proposed for residents, with 41 residential spaces for the short stay cycle parking in the form of Sheffield stands; • Phase A will provide a minimum of 502 long-stay and seven short-stay cycle parking spaces; • Residential long-stay parking is provided within dedicated sheltered and secure cycle stores located at ground and first-floor levels. Visitor (short stay) cycle parking is to be located in the public realm in the form of Sheffield stands; • Four Car Club spaces; • Residents of new dwellings will be provided with a Travel Pack upon the first occupation. The key role of the Travel Pack is to raise awareness of sustainable travel opportunities and initiatives available to occupants, including: <ul style="list-style-type: none"> – Promotion of local, sustainable travel networks; – Links to relevant public transport travel information websites (such as the TfL journey planner) will be provided; – Promotion of local amenities: The Travel Pack will include the locations of many of the nearby key amenities and encourage trips by foot; – Promotion of the cycle parking: Making residents aware of the cycle parking which is available to them; – Promotion of membership to the London Cycling Campaign (LCC); – Promotion of health benefits associated with alternative modes of transport; – Details of carbon footprinting; and – Promotion of key services and facilities. • Notice boards providing travel information to residents within the site will be placed in lobbies; • Maps of the immediate local area will be displayed on the notice boards, identifying cycle parking locations, car club bays, and public transport service access points. The notice boards will also be used to inform residents of any new travel initiatives or events organised by the Sustainable Travel Manager (STM) and Travel Plan Coordinators (TPCs); • The Travel Plan will be monitored on a 10-year cycle. The first and second monitoring surveys will be undertaken at Years 1 and 3 (on the first and third anniversary of the initial baseline travel survey) and for up to 10 years every other year. The final monitoring survey will be carried out on the tenth anniversary of the initial baseline survey; <p>The Workplace Travel Plan will include the following measures:</p> <ul style="list-style-type: none"> • The Proposed Development is proposed to be car-free with the exception of one blue badge space for commercial uses; • To protect local parking amenities, occupiers would be prohibited from obtaining on-street parking permits; • Safe and secure cycle parking will be within the Proposed Development for staff and visitors to the Site in line with London Plan (March 2021) standards to encourage cycle ownership and use. A total of 62 longstay cycle spaces are proposed for staff, with 136 spaces for the short stay cycle parking in the form of Sheffield stands; • Commercial long-stay parking is proposed to be provided within commercial units, with specific locations to be firmed up to meet prospective tenants' layout requirements; 	ES Volume 1: Chapter 7: Traffic and Transport Transport Assessment

<ul style="list-style-type: none"> • Visitor (short stay) cycle parking is to be located on the ground floor in the form of Sheffield stands; • The workplace occupiers will provide administration of the Cycle to Work Scheme; • The commercial occupiers would be encouraged to provide and promote the availability of employee interest-free loans to purchase public transport season tickets; • Employees of new workplaces will be provided with a Travel Pack upon the first occupation. The key role of the Travel Pack is to raise awareness of sustainable travel opportunities and initiatives available to occupants, including: <ul style="list-style-type: none"> – Promotion of local, sustainable travel networks; – Links to relevant public transport travel information websites; – Promotion of local amenities; – Promotion of the cycle parking; – Promotion of membership to the London Cycling Campaign (LCC); – Promotion of health benefits associated with alternative modes of transport; – Details of carbon foot-printing; and – Promotion of key services and facilities. • Notice boards providing travel information to employees within the Site will be placed in prominent locations; • Maps of the immediate local area will be displayed on the notice boards, identifying cycle parking locations, car club bays, and public transport service access points. The notice boards will also inform employees of any new travel initiatives or events organised by the STM; and • The TP will be monitored on a 10-year cycle. The first and second monitoring surveys will be undertaken at Years 1 and 3 (on the first and third anniversary of the initial baseline travel survey) and for up to 10 years every other year. The final monitoring survey will be carried out on the tenth anniversary of the initial baseline survey 	
OUTLINE DELIVERY AND SERVICING PLAN	
<p>The following management measures have been outlined in the Outline Delivery and Servicing Plan (DSP) that forms part of the Transport Assessment:</p> <ul style="list-style-type: none"> • In general, deliveries and servicing will take place from the street, and the strategy has been planned such that active management would not be needed; • The estate management company would have overall responsibility for the day-to-day management of deliveries, servicing, and refuse, including ensuring that vehicles would not park illegally or anti-socially around the site. The estate management staff would deal with complaints in relation to deliveries and servicing issues; and • Occupiers, employees and residents would be made aware of the delivery and servicing arrangements before purchase and occupation. <p>Refuse collections should occur outside of peak network periods, although it is recognised that this would require liaison with LBTH and cannot specifically be controlled by the Site</p> <p>The following measures relating to waste management have been highlighted in the DSP:</p> <ul style="list-style-type: none"> • Residential waste would be managed in accordance with the relevant LBTH guidance and waste facilities designed to BS5906:2005 standards. Once operational, estimated volumes of residential waste generated at the Proposed Development have been quantified using waste generation metrics extracted from the LBTH Guidance document. Residents would segregate their waste into residual waste, Dry Mixed Recycling (DMR) and food waste and deposit it to appropriately labelled containers at ground floor level; • Residential waste would be handled using various methods, including wheeled bins and portable waste compactors, collected by LBTH weekly; and • Commercial waste would be stored in shared commercial waste stores in 1,100-litre Euro bins, and 240-litre wheeled bins for collection multiple times per week. 	ES Volume 1, Chapter 7: Traffic and Transport Transport Assessment
WIND MICROCLIMATE	
<p>Detailed Proposals:</p> <ul style="list-style-type: none"> • Entrance (probe location 116): Recessing the entrance by 1.5m from the façade line or including shrubs on both sides of the entrance extending 2m from the façade line and 1.5m in height. • Bus Stop (probe location 105) The existing bus stop would be equipped with a bus stop shelter that would be expected to provide the adequate protection and therefore no additional mitigation would be required. • Seating at ground level (probe location 115): 3m tall trees with shrubs 1m in height underneath located on two sides of seating areas to provide localised shelter. Alternatively, the use of solid screens or 50% porous 1.5m in height 2m wide placed two sides of the seating areas. • Balcony level (probe location 455): the stack of balconies represented by this receptor would require 1.5m tall solid balustrade or alternatively the use of 50% porous balustrade of similar height. <p>Outline Proposals:</p> <p>Further detailed design and wind tunnel testing at the associated reserved matters applications stages.</p>	ES Volume 1, Chapter 13: Wind Microclimate
NOISE AND VIBRATION	
<p>Suitable glazing and ventilation options will be adopted in conjunction with typical façade in order to achieve the BS 8233 and WHO criteria.</p> <p>Mechanical ventilation is proposed across the Proposed Development. Any installed mechanical ventilation system will allow for sufficient airflow whilst maintaining the integrity of the façade with regard to noise insulation. The glazing and ventilation elements will be selected with consideration to the required façade reduction.</p>	ES Volume 1, Chapter 10: Noise and Vibration

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<p>To ensure the RW³ values take account of possible low frequency noise, the sound reduction index of each element will include a correction for the Ctr (adjustment factor) urban traffic noise spectrum. The ventilation will achieve this value when open/operational, to allow ventilation to the dwelling.</p> <p>For non-habitable rooms, such as kitchens, bathrooms, stairways, halls, landings etc, lower acoustic performance glazing configurations may be considered permissible.</p> <p>Winter gardens are incorporated at dwellings directly overlooking the A12. The remainder comprises protruding balconies and external amenity areas at ground level which are screened by the layout of the Proposed Development. Balconies would benefit from measures such as imperforate balustrades and absorptive linings.</p> <p>The sound from commercial plant and activities will be specified such that sound levels remain below the limits specified in ES Volume 1, Chapter 10: Noise and Vibration.</p>	
DAYLIGHT, SUNLIGHT, OVERSHADOWING AND SOLAR GLARE	
<p>Further detailed design and testing of daylight, sunlight and overshadowing to nearby sensitive receptors at the associated reserved matters applications stages.</p> <p>Technical solar glare assessment at the reserved matters application stage.</p>	<p>ES Volume 1, Chapter 14: Daylight, Sunlight, Overshadowing, Light Pollution and Solar Glare</p>
WATER RESOURCES, FLOOD RISK AND DRAINAGE	
<p>Flood Risk Assessment</p> <ul style="list-style-type: none"> • A short summary of these design measures are listed below, with further details provided within the FRA: • Finished floor levels of the residential units set a minimum of 0.15 m above adjacent ground levels, where possible; • Finished floor levels of the residential units raised above the peak flood levels in the 2100 climate change breach scenario, or sleeping accommodation to be provided at first floor level; • Finished floor levels of the proposed retail units set a minimum of 0.15 m above adjacent ground levels; • The latest best practice flood resistant and resilient construction techniques to be incorporated into the design of the building where appropriate; and • Flood Evacuation Plan to be developed in consultation with London Borough of Tower Hamlets (LBTH). <p>Drainage Strategy</p> <ul style="list-style-type: none"> • The proposed surface water drainage strategy has been developed to utilise Sustainable Drainage Systems (SuDS) to attenuate surface water at source and reduce the risk of downstream flooding of the Thames Water sewer network in the local area. The Proposed Development utilises blue, green and podium deck/roof attenuation roof structures along with below ground cellular attenuation tanks designed for the 1:100 year plus 40% climate change storm event. Refer to Figure 12.2 below. • The Proposed Development QBAR greenfield runoff rate has been calculated to be 18.8l/s. QBAR is the mean annual flood flow from a rural catchment (m3/s). It is proposed that the entire Site will discharge at this rate as agreed with the LBTH who are the LLFA. Each building and associated hardstanding being proposed to discharge at a proportion of this flow rate, this has been split between 12 separate connections across the Site receiving the total 18.8l/s. Each building's associated storm water drainage is conveyed by a traditional gravity run system to the nearest Thames Water Asset, with all connections discharging into the Thames Water combined water Sewer network. • In line with the IWMP , the Proposed Development aims to utilise SuDS measures and restricts discharge rates to greenfield rate. 	<p>ES Volume 1, Chapter 4: The Proposed Development</p> <p>ES Volume 1, Chapter 9: Climate Change</p> <p>ES Volume 1, Chapter 12: Water Resources, Drainage and Flood Risk</p> <p>Flood Risk Assessment and Drainage Strategy submitted in support of the planning application</p>
OPERATIONAL WASTE MANAGEMENT	
<p>Within the Proposed Development, all waste facilities will be designed to BS5906:2005⁴ standards. In summary, the waste facilities will include the following:</p> <ul style="list-style-type: none"> • A suitable water point in close proximity to allow washing down; • All surfaces will be sealed with a suitable wash proof finish (vinyl, tiles etc.); • All surfaces will be easy to clean; • Suitable floor drain; and • Suitable lighting and ventilation. <p>In accordance with the Guidance, within the Proposed Development, the route between any waste storage facilities and the Refuse Collection Vehicle (RCV) will:</p> <ul style="list-style-type: none"> • be free from steps or kerbs; • have a solid foundation; • have a smooth solid surface; and • be level and have a gradient of no more than 1:12, with a minimum width of 2 metres. <p>Storage and collection of waste will be in accordance with the Operational Waste Management Plan submitted with the planning application.</p>	<p>Operational Waste Management Strategy</p>
CIRCULAR ECONOMY – OPERATIONAL WASTE	
<p>Waste arisings during the operational phase of the Proposed Development will be minimised and managed, in accordance with circular economy principles, through the following measures:</p> <ul style="list-style-type: none"> • To ensure all building users understand the recycling process and to avoid contamination, the space will be clearly labelled to assist with segregation, storage and collection of the recyclable waste streams; • Commercial elements would seek a zero landfill waste contract through a commercial waste contractor; • Residential waste will be disposed of by LBTH in their contracted facilities; and 	<p>ES Volume 1, Chapter 4: The Proposed Development</p>

³ Weighted sound reduction

⁴ British Standard BS5906:2005 Waste Management in Plots – Code of Practice

<ul style="list-style-type: none"> Implementation of the Operational Waste Management Plan (see above) 	
<p>CARBON / GREENHOUSE GAS EMISSIONS</p>	
<p>Measures once the Proposed Development is complete and operational:</p> <ul style="list-style-type: none"> Use of highly efficient/LED lighting in the buildings; The plant species within the proposed landscaping will be selected so that they are resilient to variations in climate and features such as the climber walls will provide natural wind breaks; Irrigation equipment will be provided on all the roof gardens so that planting does not dry out during the summer months; Low water use fittings and appliances such as dual flush WCs, aerating washbasin taps and flow regulated showers to limit water consumption to a maximum of 105 litres per person per day for the residential units; The building fabric u-values will be enhanced and air permeability kept as low as possible to reduce energy consumption from the building fabric; and In Phase A, Buildings H1-3 and F in Phase A will connect to the existing energy centre delivered as part of the earlier phases of the previous planning application in 2021. Buildings I and J will be provided with their own air source heat pumps (ASHP's) and water-source heat pumps (WSHP's) and will be independent from the wider energy strategy. Phases b, C and D will be serviced by a new energy centre served by ASHPs. <p>Key transport mitigation measures that will reduce GHG emissions include:</p> <ul style="list-style-type: none"> Develop a network of permeable walking and cycling routes that connect with surrounding existing and planned neighborhoods; Change the nature of Abbott Road with traffic calming and an improved walking and cycling experience; Provide good access to public transport network; Design streets that safely provide access and space for servicing the proposed buildings; Provide cycle parking in line with the current standards in the London Plan, and in accordance with TfL's London Cycling Design Standards; Low residential parking ratio (0.20 spaces per dwelling); Provision of electrical vehicle charging points across the site in accordance with London Plan requirements; and Implementation of the Travel Plan. 	<p>ES Volume 1, Chapter 4: Proposed Development ES Volume 1, Chapter 9: Climate Change</p>