

- 5.1.11 operate and maintain all plant, equipment and processes in accordance with the relevant manufacturer's or supplier's specification or procedures, unless otherwise directed by the Company;
- 5.1.12 take all necessary steps to identify, recall, re-inspect and replace any equipment or parts which have been inspected using inspection, measuring or test equipment whose calibration is found to be defective or unknown;
- 5.1.13 store and protect inspection, measuring and test equipment and materials to prevent misuse, damage and deterioration;
- 5.1.14 ensure that all equipment bears an identification of its calibration or maintenance status, in a manner that clearly indicates it is within the calibration or maintenance period; and
- 5.1.15 deliver all Services, technical and non-technical, in accordance with the Specification and relevant ISO standards.

6. Quality Plan

6.1 The Supplier shall:

- 6.1.1 provide a recognised Quality Management Plan (as required pursuant to Schedule 21 (Contract Management)) and Quality Assurance and Management System applicable to the compliant delivery of the Services, certified to the BS EN ISO 9001 2015 standard, or equivalent, by a United Kingdom Accreditation Service ("UKAS") (or equivalent accredited certification body);
- 6.1.2 have in place a Quality Management Policy to the standard of BS EN ISO 9001, or equivalent; ensure the Quality Management Plan and Quality Assurance and Management System applied to this Contract shall be annually and independently audited and verified by a UKAS accredited body. This applies equally to environmental management, health and safety, and any other which may be included in the Contract or which may be introduced at any time;
- 6.1.3 oversee all activities and tasks needed to maintain optimisation and delivery of the Services. This includes creating and implementing quality planning and assurance, as well as quality control and quality improvement. The Supplier shall ensure that the Quality Management Plan demonstrates the Supplier's process control system as required for the Contract. It shall include the practice and fundamental principles of Total Quality Management ("TQM") including: plan, do, check act;
- 6.1.4 ensure the Quality Management Plan shall be operated by the Supplier throughout the duration of the Contract and the Supplier shall maintain and periodically revise the Quality Management Plan as required (and in accordance with Schedule 21 (Contract Management)) and provide it in its amended form to the Company each time it is amended; and
- 6.1.5 have in place a robust audit regime to ensure optimisation of quality and standards of the delivery of the Services.

6.2 The format of the Quality Management Plan shall be determined by the Company and should be developed in accordance with BS ISO 10005:2005 (Guidance on Quality Plans).

7. Testing and Inspection

7.1 When required by the Company, the Supplier shall:

- 7.1.1 demonstrate to the Company's satisfaction that acceptance sampling techniques are utilised and such sampling shall meet the requirements of BS 6001- 1:1999/ISO2858: 1999; BS6001-2:1993/ISO2859:1985; BS6001-3: 2005 and BS6001-4:2005/ISO2859-5: 2005 "Sampling procedure for inspection by attributes";
- 7.1.2 identify which sampling plan the Supplier intends to apply to the Contract and forward it to the Company for approval;
- 7.1.3 reference the sampling once it has been approved in all relevant Quality Management Plans submitted to the Company;
- 7.1.4 be prepared to revert to 100% inspection in such cases where the failure rate exceeds the level of acceptance identified within the sampling plan;
- 7.1.5 prepare for the approval of the Company an inspection and test plan which shall include such hold points agreed with the Company; and
- 7.1.6 maintain sampling inspection records in accordance with the Company's requirements.

8. Certification of Conformity

8.1 The Supplier shall:

- 8.1.1 provide (for the Company) certificates of conformity for the Services and products that include:
 - a) the Supplier's name and location address;
 - b) the Supplier's full company name and manufacturing address, if different to the above;
 - c) the Company's supplier rating system number;
 - d) the unique certificate reference number and date of certificate;
 - e) details of valid third party approvals applicable to the Services provided and the establishment providing the Services to the Company;
 - f) the Company's contract reference and, if applicable, quality plan number;
 - g) a full description and quantity of supplies, including specification, drawing number and issue numbers and British, EC or relevant standards applicable;

- h) identification marks and serial numbers as appropriate;
- i) details of authorised non conformities, Company concession or production permit references and a full statement of authorised deviations, operations or processes not conducted; and
- j) for all materials (raw or finished):
 - i. cast and/or batch number(s);
 - ii. test report reference and, if called for, copies of test results and additionally for metallic materials;
 - iii. the condition of the material despatched;
 - iv. recommended heat treatment if the material is being delivered not in a final use condition;
 - v. chemical analysis and/or mechanical testing certificates;
 - vi. inspection stamp and/or authorising signature;
 - vii. details of packaging and transportation where appropriate;
 - viii. country of origin (EC requirement);

8.1.2 ensure that all certificates include one of the following statements of conformity signed by an authorised signatory, on behalf of the Supplier:

- (a) for supplies from a manufacturer, the format shall be “Certified that the whole of the supplies detailed hereon have been inspected and tested, and (unless otherwise stated) conform in all respects with the requirements of the Contract”;
- (b) for supplies from an agent, stockist or distributor (i.e. where the Supplier is not the manufacturer) the format shall be “Certified that the whole of the supplies detailed hereon have been inspected and tested and (unless otherwise stated) conform in all respects with the requirements of the Contract”; and
- (c) for services the format shall be “Certified that the services detailed hereon have been inspected and tested, and (unless otherwise stated) conform in all respects with the requirements of the Contract”;

8.1.3 provide a copy of the Supplier's authorised signatory list, showing as a minimum, name, job title, signature, designated authority level at the Commencement Date;

8.1.4 ensure that any certification from Sub-Contractors for parts or Services related to the Contract accompanies the Supplier's certificate of conformity;

8.1.5 agree with the Company a certificate of conformance for use where projects or part projects are handed over;

8.1.6 include in the certificate of conformance a “Statement of Design Performance” where design work is provided; and

8.1.7 provide statutory test certificates, where applicable.

9. Quarantine

The Supplier shall provide secure quarantine storage for the storage of materials and products that are the subject of investigation regarding their conformance or non-conformance.

10. Traceability

The Supplier shall ensure that all the materials to be incorporated into the Services or works delivered to the Sites are controlled at installation and are able to be traced to the manufacturer, unless indicated otherwise by the Company.

11. Maintenance and Servicing

The Supplier shall provide the Company with written details of how its arrangements for maintenance and servicing will ensure the reliability, maintainability, durability and serviceability of the assets.

12. Design

12.1 In respect of LUL only, no person shall change the design of any engineering or training system for the installation, operation and maintenance of infrastructure equipment without complying with LU Standard 1-538 (Assurance).

12.2 The Supplier shall:

12.2.1 operate a change control system so that the appropriate issue of drawings, technical specifications, training material and current deviations and concessions, including customer supplied standards, can be readily determined at all times;

12.2.2 ensure that all design changes and modifications are identified, documented, reviewed and approved by the Company prior to implementation;

12.2.3 record the results of all design assessments and hand over such records to the Company;

12.2.4 appoint or nominate a design authority for each design; and

12.2.5 ensure that designers hold BS-EN-ISO-9001 certification relevant to the Services or, if the design Supplier is not certificated to BS-EN-ISO 9001, a documented management system which includes design shall be required.

13. Computer Aided Design

The Supplier shall provide computer aided designs in a style, format and software as specified by the Company.

14. Asset Commissioning and Handover

14.1 No project shall be considered complete unless the Company agrees it has in its possession complete and final information deliverables specified within the project contract documents.

14.2 As a minimum, these shall include:

14.2.1 as-built drawings;

14.2.2 installation drawings;

14.2.3 O&M documents;

14.2.4 warranty documents;

14.2.5 commissioning certificates; and

14.2.6 handover certificates.

SCHEDULE 7 PART C: ENVIRONMENTAL REQUIREMENTS

Definitions

“**BREEAM**” means the Building Research Establishment Environmental Assessment Method.

“**BREEAM New Construction Infrastructure (Pilot)**” means the Building Research Establishment Environmental method and assessment pilot Scheme

“**CEEQUAL**” means the Engineering Environmental Quality Assessment and Award Scheme.

“**Congestion Charge**” means the fee charged on most motorised vehicles operating within a defined charge zone in London under a scheme managed by TfL.

“**Environmental Management System**” or “**EMS**” has the meaning given to it in paragraph 1.2 of this Schedule 7 Part C (Environmental Requirements).

“**Environmental Management Plan**” or “**EMP**” has the meaning given to it in paragraph 1.3 of this Schedule 7 Part C (Environmental Requirements).

“**Green Infrastructure**” or “**GI**” has the meaning given to it in Schedule 3 (Specification) and is set out within Appendix A (Services Matrix) of Schedule 3 (Specification).

“**LU HSE Policy**” means the policy set out in Appendix 1 to this Schedule 7 Part C (Environmental Requirements).

“**Pollution Response Plan**” or “**PRP**” has the meaning given to it in paragraph 8.5 of this Schedule 7 Part C (Environmental Requirements).

“**Site Noise and Vibration Evaluation and Control**” means the process set out in Appendix 4 to this Schedule 7 Part C (Environmental Requirements).

“**Surface HSE Policy**” means the policy set out in Appendix 1 to this Schedule 7 Part C (Environmental Requirements).

“**TfL Corporate Environment Framework**” means the policy set out in Appendix 2 to this Schedule 7 Part C (Environmental Requirements).

“**TfL Specialist Services HSE Policy**” means the policy set out in Appendix 1 to this Schedule 7 Part C (Environmental Requirements).

“**Waste Management Plan**” or “**WMP**” has the meaning given to it in paragraph 7.2.1 of this Schedule 7 Part C (Environmental Requirements) and as set out in Appendix 5 to this Schedule 7 Part C (Environmental Requirements).

1. Section 1

1.1. Introduction

- 1.1.1. The Mayor wants London to be recognised as a world leader in improving the environment, locally and globally. The Greater London Authority (“GLA”) has published a number of detailed strategic aims on air quality, water, waste, climate change adaptation, and climate change mitigation and energy. These build on the GLA’s “Leading to a Greener London” [document](#)¹, published in 2009, which sets out London’s aim to be one of the greenest cities in the world. There is an ambition to cut London’s carbon emissions by 60% by 2025.
- 1.1.2. More specifically, the Company has set the following targets within the TfL Corporate Environment Framework (set out in Appendix 2 to this Schedule 7 Part C (Environmental Requirements)), to help achieve the Mayoral goals:
- 1.1.2.1. the Company will contribute towards achieving the Mayor’s target of a 60 per cent reduction in CO₂ emissions by 2025 (against a 2013 baseline) by aiming for a 40 per cent cut in TfL CO₂ emissions;
 - 1.1.2.2. the Company will further reduce the amount of carbon emitted per passenger journey by cutting emissions of CO₂ per passenger kilometre by 40 per cent by 2025 (against a 2013 baseline);
 - 1.1.2.3. the Company will seek to support the Mayor’s air quality targets for London by delivering a 50 per cent reduction in NOx emissions from the bus fleet by 2020, against a 2013 baseline;
 - 1.1.2.4. the Company will reduce particulate matter (“PM”) emissions from the bus fleet by 25 per cent by 2020, against a 2013 baseline; and
 - 1.1.2.5. the Company will reuse, recover and recycle 99 per cent of non-hazardous waste by 2031. The Company will set interim targets to achieve this and will use 30 per cent of non-hazardous waste specifically for energy from recovery.
- 1.1.3. The Company expects the Supplier to play a leading role in helping the Company achieve its current and future environmental objectives and targets, to ensure the delivery of all current and future Mayoral policies and strategies relevant to the Company.

¹ <http://www.london.gov.uk/priorities/environment/vision-strategy/leading-to-a-greener-london>

1.2. Environmental Management System

- 1.2.1. The Supplier shall have in place an environmental management system ("**EMS**") that is bespoke to the Contract and which, as a minimum, meets the requirements set out below:
 - 1.2.1.1. the EMS shall be certified to the BS EN ISO14001 standard, or equivalent standard, by a United Kingdom Accreditation Service ("**UKAS**") (or equivalent) accredited certification body or the Supplier shall have an environmental management policy, and also an independently audited EMS to the standard of BS EN ISO14001, or equivalent;
 - 1.2.1.2. the Supplier shall carry out environmental aspect and impact assessments to identify all potential environmental aspects and impacts related to its activities, products and services it delivers and the Supplier shall provide details of any necessary environmental control measures to the Company. These are included in risk and benefit identification, control and mitigation measures outlined in designs and safe systems of work for any element of the works forming part of the Services;
 - 1.2.1.3. the Supplier shall review the environmental aspect and impact assessments as a minimum once a year, but must ensure they, and any associated control and mitigation measures, remain pertinent to the works forming part of the Services; and
 - 1.2.1.4. the EMS shall be consistent with and support the principles of the Rail and Underground HSE Policy, set out in Appendix 1 and the Company's Corporate Environment Framework set out in Appendix 2 to this Schedule 7 Part C (Environmental Requirements).

1.3. Environmental Management Plan

- 1.3.1. As part of the EMS, the Supplier shall develop, implement and maintain a contract specific environmental management plan ("**EMP**") (in accordance with the requirements of Schedule 21 (Contract Management)) for the delivery of the Services, to be submitted to and approved by the Company's Representative within three (3) months of the Commencement Date.
- 1.3.2. The EMP shall be updated annually and not later than on each anniversary of the Commencement Date.
- 1.3.3. The Supplier shall make the EMP available to the Company for regular review (but not less than annually) at the Quarterly Review meetings and Annual Strategic Review meetings held in accordance with Schedule 21 (Contract Management).
- 1.3.4. Within the EMP, the Supplier shall demonstrate its contribution towards delivering the Company's environmental objectives including, but not limited to, how the Supplier shall:

- 1.3.4.1. ensure environmental aspects are considered and incorporated in to its activities;
- 1.3.4.2. use partnership working on environmental matters (for example, regulators, environmental bodies, industry groups, client and supply chains);
- 1.3.4.3. identify all potential environmental aspects and impacts of the Contract, specific to its activities (from planning to delivery) demonstrating how the Supplier intends to minimise the potential risks and impacts;
- 1.3.4.4. ensure its environmental key performance indicators and targets contribute to the objectives and targets set out in the Company's Corporate Environment Framework (set out in Appendix 2 to this Schedule 7 Part C (Environmental Requirements)) in relation to:
 - **carbon, energy and climate resilience:** demonstrating that the Supplier is actively minimising use of energy derived from fossil fuels in performing its obligations under the Contract; setting and achieving a target/reduction in CO₂ emissions, in line with the Company's environmental objectives and targets;
 - **reduction of air pollutants:** setting and achieving targets for reduction in air pollutants (PM and nitrogen oxides) in line with the Company's environmental objectives and targets from sources under the control of the Supplier, and demonstrating how the Supplier is meeting the Company's vehicle emissions requirements;
 - **reduction of noise, nuisance and vibration:** setting and achieving a target/reduction in noise in line with the Company's environmental objectives and targets;
 - **materials, resources and waste management:** demonstrating a reduction in use of resources, such as water, minimising the generation of waste, avoiding the use and production of hazardous materials and the prevention of pollution, and achieving a % of waste diverted from landfill rate of 99% (or an equivalent reuse and recycling rate); and
 - maintaining and, where possible, enhancing the quality of the built and natural environment;
- 1.3.4.5. demonstrate that the Supplier is meeting the requirements of the Company's Sustainable Timber Policy; and
- 1.3.4.6. provide the Company with an environmental staffing plan, setting out the Supplier's environmental management organisation structure, identifying roles, accountabilities and responsibilities, and points of liaison with the Company. The environmental staffing plan must

demonstrate resources are appropriate to the scale and nature of the relevant Services.

1.4. Report on Progress

1.4.1. The Supplier shall provide the Company's Representative with an environmental performance report, including information on the performance of the EMS. The report shall be submitted annually and not later than on each anniversary of the Commencement Date, and shall contain, but shall not be limited to:

1.4.1.1. any updates to previous EMPs;

1.4.1.2. a summary of the environmental statistics for the previous year, including inter alia, environmental reviews;

1.4.1.3. a summary of findings and trends from audits, inspections and evaluations of compliance with legal and with other requirements;

1.4.1.4. a summary of any changing circumstances, including developments in legal and other requirements; and

1.4.1.5. proposed environmental improvement targets, together with commentary on the previous year's improvement targets, including status of corrective and preventative actions undertaken by the Supplier.

1.5. Environmental Planned General Inspections

1.5.1. As part of the EMP and within six (6) weeks of the Commencement Date, the Supplier must review and update the current Environmental Planned General Inspection ("EPGI") template (set out in Appendix 3 to this Schedule 7 Part C (Environmental Requirements)) with current legislation and other requirements, relevant to this Contract. The template must be kept up to date by the Supplier at all times.

1.5.2. Frequency of EPGIs must conform to the requirements of Schedule 12 (Performance Measurement) for Supplier audits but shall be suitable and sufficient to ensure all risks are mitigated.

1.6. General Requirements

Without prejudice to its other obligations contained in this Contract, the Supplier shall ensure that it carries out its obligations in response to any environmental incidents and their reporting in a manner approved by the Company.

2. Section 2

2.1. Sustainable Design and Operations

2.1.1. The Supplier shall address, as a minimum, the following principles to maximise the sustainable performance of its activities including, but not limited to:

2.1.1.1. using principles that consider the longer-term design life of the building and assets and that will offer solutions that will remain state of the art;

2.1.1.2. designing systems and installing and maintaining equipment that will reduce energy use and the operational cost of the buildings and assets. In particular the Supplier shall:

- ensure energy efficiency measures (including lighting, HVAC, building management systems) are utilised;
- ensure that the new systems are compatible with the energy system and load requirements at the existing Site;
- investigate the feasibility of incorporating renewable or decentralised energy;
- ensure designs provide natural ventilation, rather than mechanical, where possible; and
- ensure passive design measures remove heat from the asset, rather than using mechanical cooling;

2.1.1.3. designing systems and installing and maintaining equipment that minimises water use during installation and operation of the asset. Maintenance of water consuming equipment will include, but shall not be limited to, low volume taps/showers, dual flush toilets, waterless urinals, low volume urinal flush controls, rainwater and grey water recycling systems, green infrastructure irrigation systems and cooling towers.

2.2. CEEQUAL and BREEAM

2.2.1. Where the Company has already arranged for the activity to be part of CEEQUAL, BREAAAM New Construction Infrastructure (pilot), and/or BREEAM the Supplier shall compile and provide relevant evidence to support CEEQUAL, BREAAAM New Construction Infrastructure (pilot), and/or BREEAM submissions to the Company. The Supplier shall use the CEEQUAL or BREEAM processes to aid the consideration of environmental sustainability and to drive improvements in performance during the design development, installation and maintenance phases of the Services.

3. Section 3

3.1. Climate Resilience

- 3.1.1. The Supplier shall ensure that any design, installation and maintenance work it performs as part of the Services takes into account the climate parameters over the whole design life in which the building and asset must perform, to support resilience to extreme weather.
- 3.1.2. The Supplier shall ensure that the building and asset remains fit-for-purpose for the Company's needs during its design life period, taking into account the range of extreme weather and climate parameters that may occur during that time. This shall include, but shall not be limited to:
 - 3.1.2.1. keeping the buildings and assets within specified temperature tolerances as defined in the Company's standards relevant to the building and asset type applicable to this Contract; and
 - 3.1.2.2. all refits including measures to assist with keeping buildings and assets resilient during their design life including, but not limited to, water efficiency, natural ventilation and shading, greening, and sustainable drainage.

4. Section 4

4.1. Reducing Carbon Emissions and water usage

4.1.1. The Supplier shall:

- 4.1.1.1. ensure that when replacing assets, the Supplier selects assets with more energy efficient equipment. The Supplier shall notify the Company's Representative where this is not technically feasible, for example, in relation to a heritage feature;
- 4.1.1.2. measure and report on carbon emissions and develop plans to reduce carbon emissions and energy usage that supports the Company in delivering its programme to improve energy efficiency, helping decrease emissions and lower costs;
- 4.1.1.3. make use of the Company's automated Monitoring and Targeting ("aM&T") software to analyse site performance, control out of hours consumption and also suggest, measure and verify efficiency enhancement projects;
- 4.1.1.4. maintain and run on site generation equipment (including PV, wind, solar thermal, combined heat and power and absorption chillers) to reduce and optimise building carbon emissions; and
- 4.1.1.5. maintain the Company's assets in accordance with all ozone depleting substances and fluorinated greenhouse gas legislation compliance, including statutory air conditioning inspections, to optimise efficiency of cooling equipment, for current, pending and future legislation.

5. Section 5: Air Quality and Dust

5.1. Control of Vehicle Emissions

- 5.1.1. The Supplier shall ensure that in the procurement or leasing of vehicles for use in the delivery of the Services:
 - 5.1.1.1. consideration is given to CO₂, air quality and noise impacts; and
 - 5.1.1.2. a technology neutral approach is adopted.
- 5.1.2. All vehicles used in the delivery of the Services shall meet or exceed the following CO₂ limits and European emission standards at the Commencement Date:
 - 5.1.2.1. cars - maximum certified CO₂ emissions of 105 g/km and a minimum of Euro V emission standards;
 - 5.1.2.2. vans equal to or less than 1205 kg kerb weight – maximum certified CO₂ emissions of 115 g/km CO₂ and a minimum of Euro V emission standards;
 - 5.1.2.3. vans between 1205 and 1660 kg kerb weight – maximum certified CO₂ emissions of 155 g/km CO₂ and a minimum of Euro V emission standards;
 - 5.1.2.4. vans greater than 1660 kg kerb weight – maximum certified CO₂ emissions of 215 g/km CO₂ and a minimum of Euro V emission standards; and
 - 5.1.2.5. heavy duty vehicles greater than 3500 kg kerb weight – Euro V emission standards.
- 5.1.3. If any vehicles used in the provision of the Services are due for replacement before the Expiry Date, the Supplier shall ensure that the replacement vehicle/engine meets or exceeds the European emission standards and CO₂ limits (if applicable) for the year in which it is introduced into the fleet. Standards and the years in which they apply are set out in paragraph 5.3.3 below. If compliant vehicles/engines are not available by the specified deadline, the Company may (at its sole discretion) consider acceptance of an alternative standard proposed by the Supplier until such time as those vehicles become available.

5.2. European Emission Standards for Road Vehicles

- 5.2.1. In line with Mayoral environmental strategy and the Company's commitments to reduce CO₂ emissions, the Supplier is encouraged to include zero or ultra low carbon vehicles such as electric or plug-in hybrid or bio methane vehicles in its fleet, wherever possible.
- 5.2.2. Any necessary recharging/refuelling infrastructure required for low carbon vehicles to be supplied by the Supplier on the Company's Sites will only be permitted subject to the Company's written acceptance and by separate agreement on maintenance, installation and running costs. Where the Supplier operates such vehicles, operating experience and data will be shared with the Company on request.
- 5.2.3. The Supplier shall select vehicles for the performance of the Services which meet the highest environmental criteria and will be eligible for a 100% discount from the Congestion Charge. The Supplier shall be solely responsible for payment of any

Congestion Charge and the Company does not accept any claims for reimbursement of Congestion Charges.

5.2.4. The Supplier shall ensure that all vehicles used in the performance of the Services are operated in such a way to ensure that environmental impacts are reduced as far as reasonably practicable. Operating data for all vehicles will be shared with the Company when requested.

5.2.5. The Supplier shall:

5.2.5.1. ensure vehicles used in connection with the Services are regularly serviced in line with the Manufacturers recommendations;

5.2.5.2. ensure all faults or problems on such vehicles are repaired/addressed as soon as practicable; and

5.2.5.3. monitor and record all vehicle fuel and mileage in connection with the performance of the Services.

5.2.6. The Supplier shall report the following information to the Company on a Quarterly basis in advance of each Quarterly Review as set out in Schedule 21 (Contract Management):

5.2.6.1. vehicle make and model;

5.2.6.2. vehicle servicing frequency;

5.2.6.3. vehicle fuel (fuel type and litres used);

5.2.6.4. vehicle mileage (excluding hire vehicles); and

5.2.6.5. percentage of the fleet on hire.

The Company reserves the right to include additional monitoring requirements if required.

5.2.7. The Supplier shall ensure that all driving staff undertake a fuel efficient and safe driver training course within three (3) months of commencing performance of the Services. The Supplier shall ensure that the training course consists of theoretical training and practical implementation skills and is a minimum duration of one (1) hour.

5.2.8. The Supplier shall provide the driver training records to the Company as instructed by the Company's Representative.

5.3. Equipment and Non-Road Mobile Machinery

5.3.1. The Supplier shall ensure that the adverse impacts of emissions from equipment used in the performance of the Services are minimised. Measures to be considered for limiting emissions and avoiding nuisance will include any one or more of the following as appropriate (and as far as reasonably practicable):

5.3.1.1. ensuring that the engines of all vehicles and equipment used in connection with the Services are not left running unnecessarily;

- 5.3.1.2. using low emission vehicles and equipment fitted with catalyts, diesel particulate filters or similar devices;
 - 5.3.1.3. using ultra low sulphur fuels in plant and vehicles;
 - 5.3.1.4. requiring equipment and vehicles to be well maintained, with routine servicing to be completed in accordance with the manufacturers' recommendations and records maintained for the work undertaken;
 - 5.3.1.5. requiring all vehicles, including off-road vehicles, to hold current MOT certificates, where required by Applicable Laws (or tested to an equivalent standard) and requiring them to comply with exhaust emission regulations for their class;
 - 5.3.1.6. using routes and operating equipment away from potential receptors such as houses, schools and hospitals;
 - 5.3.1.7. avoiding the use of diesel or petrol powered generators and instead using mains electricity or battery powered equipment;
 - 5.3.1.8. maximising energy efficiency (this may include using alternative modes of transport, maximising vehicle utilisation by ensuring full loading and efficient routing); and
 - 5.3.1.9. providing all operating data which complies with the schedules, deadlines and timelines as required to the Company as part of the Supplier's Quarterly reporting obligations (as set out in Schedule 21 (Contract Management)).
- 5.3.2. All of the Supplier's non-road mobile machinery ("NRMM") must meet or exceed the emission standards relevant at the Commencement Date, which are as follows:
- 5.3.2.1. NRMM of net power between 19 and 36 kW –Stage IIIA of EU Directive 97/68/EC (as amended) emission standards;
 - 5.3.2.2. NRMM of net power between 37 and 55 kW –Stage IIIA of EU Directive 97/68/EC (as amended) emission standards;
 - 5.3.2.3. NRMM of net power between 56 and 560 kW –Stage IIIB of EU Directive 97/68/EC (as amended) emission standards; and
 - 5.3.2.4. from 1 September 2020: NRMM of net power between 37kW and 560kW used on any site within Greater London – Stage IIIB of EU Directive 97/68/EC (as amended) emission standards.
- 5.3.3. In addition, where the requirements of "The control of dust and emissions during construction and demolition - Supplementary Planning Guidance (SPG) Greater London Authority (2014)" are applicable, all of the Supplier's NRMM must comply with the following additional requirements for the NRMM Low Emission Zone detailed in the SPG:
- 5.3.3.1. NRMM used on any site within the Central Activity Zone or Canary Wharf will be required to meet Stage IIIB of EU Directive 97/68/EC (as amended) emission standards as a minimum; and

5.3.3.2. from 1 September 2020: NRMM used on any site within the Central Activity Zone or Canary Wharf must meet Stage IV of EU Directive 97/68/EC (as amended) emission standards as a minimum.

5.3.4. All NRMM must meet the applicable standards unless it can be demonstrated that the machinery is not available or that a comprehensive retrofit to meet PM10 and NOx emission standards is not feasible. In this situation, every effort must be made by the Supplier to use the least polluting equipment available, including retrofitting technologies to reduce particulate emissions.

5.3.5. The Supplier must comply with the GLA's NRMM exemption policy (which can be found at nrmm.london) for any NRMM which cannot meet the emissions requirements, The Supplier shall seek exemption from the Company's Representative for any NRMM of net power between 19 and 36 kW that cannot comply with the emissions standards.

5.3.6. The Supplier shall also:

5.3.6.1. maintain an inventory of all on-site NRMM using the GLA's nrmm.london database; and

5.3.6.2. regularly service all machinery and keep records on Site.

5.4. **Dust**

5.4.1. The Supplier shall use the best practicable means to reduce dust and other emissions at all times during performance of the Services and shall not to create a dust nuisance.

5.4.2. If the Company's Representative decides that the Supplier is not dealing adequately with the control of dust or other emissions, the Company's Representative may instruct the Supplier to carry out such additional measures as the Company's Representative considers necessary. Such measures are not subject to the Contract variation procedure set out in Schedule 6 Part A (Contract Variation Procedure) of the Contract.

6. Section 6: Noise and Vibration

6.1. General

6.1.1. The Supplier shall:

- 6.1.1.1. use the best practicable means to control and limit noise and/or vibration levels so that affected properties, and other sensitive receptors, are protected from excessive or prolonged noise and vibration associated with all activities;
 - 6.1.1.2. develop and maintain a Noise and Vibration Management Plan, as part of the EMP, for activities with the potential to generate noise and/or vibration. The Noise and Vibration Management Plan shall set out how noise and vibration requirements shall be managed and the Supplier shall undertake the Services in strict adherence to this plan;
 - 6.1.1.3. apply the best practicable means to reduce noise and vibration at all times having regard to the provisions of the latest edition of BS5228 (Code of Practice for Noise and Vibration Control) or other relevant Good Industry Practice;
 - 6.1.1.4. stipulate and ensure adherence to behavioural conditions for workers in relation to minimising impacts to neighbours, such as conduct when arriving and leaving the Company's Sites during any night works; and
 - 6.1.1.5. employ a trained and competent person to undertake noise and/or vibration monitoring if required and comply with any additional measures required including relocation or modification of equipment to reduce noise and vibration. The monitoring scope shall be agreed with in advance with the Company's Representative and monitoring results shall be provided to the Company on request.
- 6.1.2. In its performance of the Services, the Supplier shall comply with the requirements of the Company's Pathway Site Noise and Vibration Evaluation and Control (set out in Appendix 4 to this Schedule 7 Part C (Environmental Requirements)).

6.2. Prior Consent

- 6.2.1. If activity with the potential to generate noise and vibration is to be carried out outside of normal working hours, and/or the noise and vibration generated is likely to cause significant disruption or harm, the Supplier shall:
- 6.2.1.1. liaise with the Company to determine whether a Section 61 consent (under the Control of Pollution Act 1974), or other form of noise agreement, will need to be in place prior to commencing the relevant works;
 - 6.2.1.2. provide the Company with the following information to enable a decision to be made on whether a Section 61 Consent, or other form of noise agreement, is required:

- the nature of the activity being undertaken;
- the time of day the activity will be undertaken;
- the duration of the activity;
- the proximity of neighbours; and
- the sensitivity of neighbours (for example, residents, schools, hospitals and places of worship) that would likely be considered more sensitive to noise than industrial areas); and

6.2.1.3. be responsible for obtaining the consent prior to commencing the relevant works, and for complying with all aspects of the consent.

6.3. Notifications

6.3.1. The Supplier shall take a proactive approach to notifying neighbours and other relevant stakeholders in advance of the commencement of any construction or maintenance works being performed by the Supplier as part of the Services that will affect them in any way, including noise and vibration impacts, impacts from staff noise, access and welfare or staff parking and travel.

6.3.2. The Supplier shall submit to the Company's Community Relations representative (via communityrelations@tfl.gov.uk) the draft notification letters for approval no less than 14 days prior to the works commencing.

6.3.3. Notification letters shall include details of the:

6.3.3.1. location of works;

6.3.3.2. reason for the works;

6.3.3.3. information about potential impacts: noise and vibration, parking, staff access and welfare locations;

6.3.3.4. duration of the works;

6.3.3.5. working hours; and

6.3.3.6. TfL customer services details.

6.3.4. Letters shall be produced on TfL letterhead and the Company shall provide a template when required.

6.3.5. Once the details of the notification letters have been accepted by the Company's Community Relations representative, the letters shall be distributed to all properties potentially affected by the proposed works no less than 10 days prior to works commencing. In most instances, distribution will be arranged by the Company. For smaller areas of impact, the Supplier will be directed to undertake the distribution directly. In ascertaining the distribution area, the Supplier shall carefully consider potential noise and vibration, areas affected by staff parking, access or welfare requirements, delivery and loading of equipment.

6.3.6. A briefing note about work activities that could potentially affect the community shall be provided by the Supplier to the Company's Community Relations representative in advance of the commencement of the works. This briefing note will be used to brief key stakeholders to address any complaints or enquiries. The briefing note shall contain a copy of the notification letter, the recommended distribution area of the letter, a location map of the works, best practicable means used to mitigate potential adverse impacts and the name and contact details (for internal use only) of the Supplier's Representative, who is required to provide further information where requested in accordance with the Supplier's complaints handling process.

6.4. Noise Complaints Handling

6.4.1. The Supplier shall develop a complaints handling process agreed with the Company's Representative. As a minimum, the complaints handling process shall include the following:

6.4.1.1. TfL's customer services details on all public facing communication;

6.4.1.2. information on how complaints and enquiries will be responded to when passed on by TfL customer services;

6.4.1.3. details of the emergency response system that will be employed for dealing with emergency issues; and

6.4.1.4. reporting all complaints/enquiries and their responses within 24 hours of receipt to the Company using TfL customer services and to the Company's Community Relations representative.

7. Section 7: Waste and Resources Management

7.1. Waste Electronic and Electrical Equipment

With regard to the latest version of the Waste Electrical and Electronic Equipment Regulations 2006 ("WEEE 2006"), the Supplier shall indemnify and keep indemnified the Company as a result of any losses which it incurs as a result of any failure on the part of the Company or the relevant producer to comply with the requirements of WEEE 2006.

7.2. Waste Other

- 7.2.1. The Company requires the Supplier to promote recycling, minimise its waste and play a leading role in helping the Company achieve its environmental targets. The Supplier shall develop, implement and maintain a Waste Management Plan ("WMP"), as part of the EMP, to cover the waste arisings it is responsible for, support the Company's objective to use materials more efficiently and reduce waste to landfill in order to achieve the following target:

"the Company will reuse, recover and recycle 99 per cent of non-hazardous waste, with interim targets by 2031 and 30 per cent for specifically for energy from recovery".

- 7.2.2. The Supplier's WMP shall document how the Supplier will:

7.2.2.1. implement the waste hierarchy;

7.2.2.2. comply with current legislation in relation to the storage, handling, treatment, transfer and disposal of all waste materials produced in the performance of the Services. As a carrier of waste, the Supplier shall be registered as a Waste Carrier with the Environment Agency and shall provide evidence of registration within the WMP and on renewal of the registration;

7.2.2.3. set waste reuse, recovery and recycling targets that meet or exceed the Company's targets;

7.2.2.4. monitor and report waste arising in line with the Supplier's reporting requirements under Schedule 21 (Contract Management) each Period in advance of the Period Progress Meeting;

7.2.2.5. ensure all Supplier Personnel are trained in waste minimisation and management techniques;

7.2.2.6. increase recycled content of materials used in construction and any other materials purchased; and

7.2.2.7. document all decisions taken during any design work to reduce waste, and ensure this information is passed to Company.

- 7.2.3. The Supplier shall implement and update the Waste Management Plan, maintain records throughout the duration of this Contract and make available these records for review by the Company on request.

- 7.2.4. The Supplier is responsible for the management and removal of all waste arisings as

soon as practicably possible in accordance with Good Industry Practice.

- 7.2.5. The Supplier shall make available to the Company, within 3 Working Days of request, any waste records (such as Consignment notes and transfer notes).
- 7.2.6. Where involved in project work, the Supplier shall comply with the requirements of the TfL Pathway Waste Management Plan (set out in Appendix 5 to this Schedule 7 Part C (Environmental Requirements)).
- 7.2.7. All works being carried out at Company office buildings must use this template TfL Facilities: Small Projects Waste Proforma to record and submit waste data.

7.3. Recycled Content of Materials

The Supplier shall ensure a minimum of 20% of the total material value of products and materials selected for the works being performed as part of the Services derives from reused and recycled content. The Supplier shall submit proposals to the Company's Representative in relation to the areas of opportunity to exceed this target figure. The Supplier shall provide a detailed explanation and justification in the WMP to the Company's Representative for any failure to achieve the 20% target figure. Performance shall be reported, as part of the EMP, in the annual environmental performance report referred to in paragraph 1.4 (Report on Progress) of this Schedule 7 Part C (Environmental Requirements).

8. Section 8: Pollution Prevention

- 8.1. The Supplier shall comply with all Applicable Laws and Good Industry Practice to prevent pollution and environmental nuisance.
- 8.2. The Supplier shall ensure that the EMP and aspect and impact assessments for specific tasks and activities adequately identify all potential pollution sources, pathways and sensitive receptors.
- 8.3. The Supplier shall ensure that the EMP will detail how pollution risks will be managed including specific controls to be put in place, which must be strictly complied with.
- 8.4. The Supplier shall ensure that all controls identified will be included in safe systems of work and briefed to all Supplier Personnel.
- 8.5. The Supplier shall ensure that a Pollution Response Plan (“PRP”) and all necessary pollution response equipment required to reduce risks to as low as reasonably practicable are in place within one (1) month of the Commencement Date. The PRP shall set out actions to be taken in the event of an environmental incident. The Supplier shall ensure all Supplier Personnel are familiar with the plan and trained in actions to take if an incident occurs.

8.6. Deliveries and Storage

- 8.6.1. Where the Supplier manages bulk fluid deliveries (over 25 litre drums) it shall:
 - 8.6.1.1. ensure that a spill kit of appropriate size and content, commensurate with the risk, is located in an open access location immediately adjacent to the risk; and
 - 8.6.1.2. seek written assurance from the supplier that the third party delivery operatives are trained, competent and familiar with making deliveries to the Sites and if not, they shall be accompanied by the Supplier’s Representative until such time they become so.
- 8.6.2. Where bulk storage tanks (above 55 gallon/250 litres) are provided and maintained by the Supplier, the Supplier shall ensure they are fitted with serviceable engineering controls, appropriate to site risk, to prevent environmental harm, such as fitting and maintaining alarms and other notification systems.
- 8.6.3. The Supplier shall manage the testing, licensing and other regulatory regimes related to the tanks on the Sites as required by the Company from time to time.

8.7. Site set-up

- 8.7.1. The Supplier shall ensure that, where reasonably practicable and appropriate, its activity will be designed to prevent pollution arising including, but not limited to:
 - 8.7.1.1. Sites secured and screened using existing features where appropriate;

- 8.7.1.2. storage sites, any plant and machinery equipment and temporary staff facilities located to limit environmental impacts, as far as reasonably practicable, having due regard to neighboring accommodation, as far as allowed by the constraints of each Site;
- 8.7.1.3. security cameras (if required) sited and directed so that they do not intrude into occupied residential properties;
- 8.7.1.4. site plant and facilities powered from mains electrical sources wherever practicable;
- 8.7.1.5. the Supplier shall display a contact name, telephone number and address, and the helpline number at appropriate locations on the boundaries of the Sites;
- 8.7.1.6. the extent and height of hoarding or fencing at a particular location will be selected to maintain effective security and achieve appropriate noise attenuation and visual screening;
- 8.7.1.7. all vehicle access and egress points with gates positioned such that no gate will be permitted to open out onto the highway. As far as reasonably practicable, gates will be located to allow vehicles to drive clear of any public highway. Where provided for noise control, gates will be of a similar material and construction to the boundary in which they are situated and will be closed except when being used for access; and
- 8.7.1.8. disturbance of environmental features such as vegetation and watercourses will be minimised.

8.8. Monitoring and reporting

- 8.8.1. The Supplier shall employ a trained and competent person(s) to undertake environmental monitoring. The Supplier shall comply with any additional measures required by the Company's Representative including relocation or modification of equipment to reduce noise, vibration, nuisance, light, dust, pollution and other disturbances.
- 8.8.2. The Supplier shall report all complaints/enquiries and their responses within 24 hours of receipt to the Company using TfL customer services, the Company's Representative and the Company's Community Relations representative.

8.9. Effluent discharge consents

- 8.9.1. When providing maintenance of drains and interceptors, the Supplier shall ensure that it maintains effluent discharge within the legal effluent discharge consent limits.
- 8.9.2. When required by the Company, the Supplier shall also support the maintenance of effluent discharge consent within legal limits, by providing ad-hoc maintenance of drains and interceptors.

8.10. Contaminated land

8.10.1. The Supplier shall comply with all relevant statutory requirements and Good Industry Practice in relation to contaminated land.

8.10.2. The Supplier shall notify the Company if any contaminated land or water has been discovered.

9. Section 9: Natural Environment

9.1. Green Infrastructure

9.1.1. Within the EMP, the Supplier shall demonstrate that it meets the most current version of the following industry standards, when delivering maintenance services (as part of the Services) on the Green Infrastructure (“GI”):

9.1.1.1. Construction Industry Research And Information Association (CIRIA) Sustainable Urban Drainage System (SUDS) Manual C753;

9.1.1.2. CIRIA Building Greener: Guidance on the use of green roofs, green walls and complimentary features on buildings C644;

9.1.1.3. CIRIA Retrofitting to manage surface water C713;

9.1.1.4. CIRIA Biodiversity Benefits of Green Infrastructure C711; and

9.1.1.5. Gro Green Roof Code 2014.

9.1.2. The Supplier shall check all storage areas on roofs to ensure they meet the structure’s loading capacity prior to commencement of the Works.

9.1.3. For any roof works that have an interface with members of public, Supplier Personnel or assets, a debris net must be installed to separate the area and prevent any debris coming into contact with members of public, Supplier Personnel or assets.

9.2. Pest Control

Within one (1) month of the Commencement Date, the Supplier shall demonstrate how the principles of Integrated Pest Management, as defined by the British Pest Control Association or the Royal Society of Public Health, will be implemented.

9.3. Biodiversity Management

9.3.1. The Company has a legal duty to have due regard to biodiversity, as well as duties from the Mayor of London to improve biodiversity. Therefore, when providing services to the Company, the Supplier shall:

9.3.1.1. take into account relevant Company and London Borough biodiversity plans;

9.3.1.2. preference the use of native plant species appropriate to the location and maintenance requirements of the site as a minimum; and

9.3.1.3. when selecting control methods, ensure they prevent harmful effects to any other species other than those intended for treatment.

10. Section 10: Reducing the environmental impact of materials

10.1. VOCs and chemicals with adverse environmental impacts

The Supplier shall develop a plan within the first year of the Commencement Date to identify all products used in the performance of the Services and then risk assess and propose the phased replacement of high VOC products or similar e.g. paints, aerosols, degreasers, adhesives, sealants etc. herbicides, drain cleaners pesticides, biocides and other similar products with a “lower” environmental impact. The intention of the plan is to remove over time all high impact or high risk products over the first three years of the period of the Contract.

Appendix 1: Health Safety and Environment Policies

Health, Safety and Environment Policy

My commitment

Our customers, users, employees and suppliers have an expectation that when using or delivering our services they will remain harm free.

Our vision is a harm free environment for all.

I, with the Directors of London Underground, and London Rail are committed to meeting our vision and these expectations.

I want to ensure that:

- every journey is a safe journey for our customers
- our employees, agency staff and contractors go home healthy and safe every day
- we maintain our assets and deliver projects safely
- we fulfil our commitments to prevent pollution and nuisance; protect biodiversity; improve air quality; and reduce waste and carbon emissions.

How we go about this

We have put in place health, safety and environment rules and procedures, including emergency procedures that are regularly updated. These are for you to use.

If you do not know where to find them ask your line manager or your Health, Safety and Environment (HSE) manager.

We assess risks and introduce HSE measures to ensure risks remain as low as reasonably practicable. We tell you the risks and the measures we have taken to control risks. We will comply with legislation. There is regular review of safety, health and environment statistics to identify trends and root causes, so necessary action can be taken.

Each year we develop HSE improvement plans to enhance what we do. These plans are regularly reviewed by the Directors in your part of the business.

When working for London Underground and London Rail you will receive the necessary training and equipment to ensure that you can undertake your job safely and ensure the safety of customers whilst not harming the environment.

As an employee, your health and wellbeing is also important and we provide occupational health services to help you stay healthy and in work and provide suitable welfare facilities at your work place.

We want to build a just culture and employees or their representatives are consulted on health and safety matters as they arise, in a meaningful way through scheduled health and safety meeting or more regularly where needed.

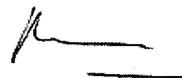
What we can all do

We all need to look out for each other and speak up if anything is unsafe or damaging to health or the environment.

We all have a duty to follow our HSE rules and procedures. Do not take shortcuts. If you think rules or procedures are unhelpful let your manager know. Where necessary rules and procedures can be changed.

We can learn from the past, so always report accidents, incidents and near misses.

In this way we can work together so that our vision for a safe and healthy environment is achieved.



Mike Brown MVO

Managing Director

London Underground and London Rail

May 2015

Surface Transport Health, Safety and Environment Policy

My commitment

Our vision is a harm-free transport network that achieves the highest safety and environmental standards for everyone. Together with the Commissioner, the TfL Leadership Team, and our Directors, I am committed to meeting our vision and these expectations by promoting health, safety and environmental considerations as part of our core business undertakings.

We want to ensure that:

- our staff, suppliers and contractors are not exposed to unnecessary risk
- our customers and users have a safe journey every time
- we deliver, operate and maintain safe services and assets without harming the environment.

How we go about this

Each year Surface Transport business areas develop health, safety and environmental objectives that help to deliver our vision, and we provide adequate resources to deliver these, adopting best practice where appropriate.

We will continue to assess and introduce measures to ensure risks remain as low as reasonably practicable. We will communicate to you all the information that affects our staff, suppliers and contractors. There is regular review of safety, health and environmental performance to identify areas for continuous improvement.

TfL has put in place a health, safety and environment management system that is regularly updated, appropriately reviewed and made available on the Intranet for you or your manager to access and use.

As an employee of Surface Transport, you will be provided with relevant training, equipment and workplaces that allow all activities to be undertaken in a way that ensures the safety of customers and users whilst maintaining the highest environmental standards

our health and wellbeing is important. TfL provides occupational health services and suitable welfare facilities at your work place.

We will continue to consult on health and safety matters as appropriate, and provide the opportunity for health, safety and environmental matters to be raised and discussed with management teams.

What we can all do

Follow set guidelines, procedures and instructions; don't take shortcuts; report all accidents, incidents and near-misses and raise any health, safety and environmental concerns with your line manager. As employees of TfL, we all have a duty to follow our health, safety and environmental management system to ensure that we minimise risk to ourselves and others whilst protecting the environment.



Managing Director, Surface Transport

July 2013



Health, Safety and Environment Policy

My commitment

Our customers, users, employees and suppliers have an expectation that when using or delivering our services they will remain harm free. Our vision is a harm free environment for all. The TfL Leadership Team, Directors and I are all committed to meeting our vision and these expectations.

We want to ensure that:

- every journey is a safe journey for our users and customers
- our employees, agency staff and contractors go home healthy and safe every day
- we maintain our assets and deliver new assets, improvements and upgrade programmes safely and without harming the environment

How we go about this

We have put in place health, safety and environment rules and procedures, including emergency procedures that are regularly updated. These are for you to use and are available on the Intranet. If you do not know where to find them ask your line manager or your Health, Safety and Environment (HSE) manager.

We assess risks and introduce HSE measures to ensure risks remain as low as reasonably practicable for our users, customers and employees. We tell you the risks and the measures taken to control risks. There is regular review of safety, health and environment statistics to identify trends and root causes, so necessary action can be taken.

Each year we develop HSE improvement plans to enhance what we do. These plans are

regularly reviewed by the Directors in every part of the business.

You will receive the necessary training and suitable equipment to ensure that you can undertake your job safely and ensure the safety of customers and users.

Your health and wellbeing is also important and we provide occupational health services to help you stay healthy and in work and provide suitable welfare facilities at your work place.

We want to build a just culture and employees or their representatives are consulted on health and safety matters as they arise, in a meaningful way through scheduled health and safety meetings, or more often where needed.

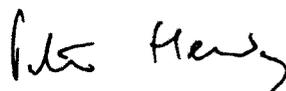
What we can all do

We all need to look out for each other and speak up if we see anything that is unsafe.

We all have a duty to follow our HSE rules and procedures. Do not take shortcuts. If you think rules or procedures are unhelpful let your manager know. Where necessary rules and procedures can be changed.

We can learn from the past, so always report accidents, incidents and near misses.

In these ways we can work together so that our vision for a safe and healthy environment is achieved.



Sir Peter Hendy CBE

London's Transport Commissioner
February 2014

Appendix 2



TfL Corporate Environment Framework

MAYOR OF LONDON



**TRANSPORT
FOR LONDON**
EVERY JOURNEY MATTERS