Transport for London

SCOPE

APPENDIX E

Environmental Management Requirements

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1. **TfL Environmental Management Requirements**

   a) For the full duration of the contract, the *Contractor* shall operate a suitably scaled Environmental Management System (EMS).

   b) Within one year from the Starting Date, the EMS shall be independently accredited to the latest version of the BS EN ISO 14001 standard, or equivalent.

   c) The *Contractor* shall define their EMS within an Environmental Management Plan (EMP) which shall cover the full scope of the Works - including any design work.

   d) The EMP shall clearly set out the identified environmental aspects and the mitigation measures that the *Contractor* will employ to mitigate adverse environmental impacts (threats) or enhance beneficial environmental impacts (opportunities).

   e) The *Contractor* shall submit their EMP to the *Client* for acceptance within 28 days of appointment.

   f) Works shall not start on site until the *Client* has accepted the EMP.

   g) The *Contractor* shall comply with the accepted EMP at all times. Additionally the *Contractor* shall ensure that all Sub-contractors comply with the EMP.

   h) As a minimum, the *Contractor* shall review, and as necessary update their EMP every six months. The updated document shall be resubmitted to the *Client* for acceptance, clearly highlighting where amendments have been made. If, as a result of the review, no amendments are proposed to the EMP, the *Contractor* shall submit a statement to the *Client* to confirm that the review of the EMP has been undertaken and to verify how it remains fit for purpose and capable of delivering continual improvement.

2. **Travel Plan**

   a) Within three months of appointment, the *Contractor* shall produce a Travel Plan. The plan shall be reviewed and updated every year. The plan shall clearly set out how the *Contractor* will reduce employees' travel by car and promote the use of more sustainable modes of transport. The Travel Plan shall contain annual targets to drive continual improvement. Progress against the targets shall be reported upon and the targets updated each year.

3. **Works Compounds and Depots**

   a) The *Contractor* is encouraged to implement economically viable working methods and materials which may result in an improvement in environmental performance in the carrying out of the works or an improvement in environmental performance of the completed works.

4. **Reducing Carbon emissions and Water Usage**

   a) The *Contractor* shall investigate, and where possible implement, innovative sustainable design and construction solutions that have the potential to lower whole life carbon and whole life cost.

   b) Additionally, the *Contractor* shall, wherever possible, purchase and install products that qualify for the government's Enhanced Capital Allowance scheme by choosing plant and equipment from the Energy Technology List and Water Technology List. The *Contractor* shall also register compliant products it procures that are not on the aforementioned lists.

c) Where practicable, the *Contractor* shall:

   i. ensure that when replacing system assets, the *Contractor* uses more energy efficient equipment. The *Contractor* shall notify the Service Manager where this is not technically feasible; and

   ii. measure and report on carbon emissions and develop plans to reduce carbon emissions and energy usage that supports TfL in delivering its programme to improve energy efficiency, helping decrease emissions and lower costs.

d) In order to achieve the above the *Contractor* shall implement material efficiency principles wherever practicable, for example:

   i. using less materials,

   ii. adopting low-waste processes,

   iii. using recycled materials or by-products from other industries in preference to virgin materials,

   iv. using durable materials to extend the asset's serviceable life.

e) When selecting materials, the *Contractor* shall also make reference to available guidance, such as the Building Research Establishment's (BRE) Green Guide to Specification and shall use these resources to aid the selection of better rated products, and materials which have lower environmental impact.

f) When procuring materials, the *Contractor* shall comply with the Mayor of London's Responsible Procurement Code and with any other *Client* specific procurement guidance. The *Contractor* shall also endeavour to purchase products or materials which are certified under BRE's Responsible Sourcing Standard, BES6001.

5. Identification, Mitigation and Recording of Environmental Impacts and Risks

a) The *Contractor* shall systematically identify the environmental threats and opportunities of all planned works.

b) To gain an understanding of the environmental issues associated with the Works, the *Contractor* shall review the information provided by the *Client*. This may be contained within a Pre-Construction information pack, an Environmental Evaluation (EE), or other project documentation.

c) The EE defines the requirements for achieving the appropriate level of environmental evaluation and mitigation for a project or scheme so that environmental impacts are understood, environmental risks managed and the risk of challenges reduced.

d) Where the *Contractor* is provided with an EE, the *Contractor* shall become familiar with the content to understand the environmental risks and opportunities and the mitigation and enhancement actions proposed within the EE. The *Contractor* shall put in place systems for ensuring the full implementation of the actions and mitigation measures recommended in the EE. These may include the implementation of relevant controls, undertaking environmental surveys, or obtaining necessary consents.

e) It should be noted that the checklist contains a number of questions and bullet points which are intended to be key prompts. These do not represent an exhaustive list of best available practice or required consents. As such, expert legal, technical and environmental advice should be sought when in doubt.

6. **Environmental Advisor / Environmental Staffing**

a) The *Contractor* shall employ a sufficient number of competent and appropriately qualified and experienced environmental and sustainability professionals to ensure the full implementation of all the environmental and sustainability requirements.

b) As a minimum, the *Contractor* shall ensure that an Environmental Adviser is appointed to lead on environmental and sustainability matters. If this person is not a full-time member of the team, the *Contractor* shall ensure that they have regular attendance on site (e.g. weekly) and that they are available to attend periodic environment meetings with the *Client* to review environmental performance issues. The Environmental Adviser shall have:

i) Appropriate experience of managing environmental and sustainability issues on highway projects;

ii) A good knowledge, and practical experience, of developing and implementing environmental management systems compliant with BS EN ISO14001;

iii) A good knowledge and practical experience of legal and policy requirements related to environmental and sustainability disciplines;

iv) Practical experience of delivering high levels of environmental and sustainability performance;

v) Experience of liaison with stakeholders and competent authorities including the Environment Agency, Natural England and Historic England, local authorities and residents; and

vi) Experience of obtaining and complying with environmental consents.

c) From commencement of the contract, the Environmental Adviser must be able to demonstrate the attainment of suitable environmental qualifications and experience. They shall be a full member of the Institute of Environmental Management and Assessment (IEMA) (or an equivalent recognised competent body).

d) As necessary, based on the scope and the level of environmental risk associated with the works, the *Contractor* shall engage suitably qualified and experienced environmental specialists to support the Environmental Advisor and advise on matters such as noise/vibration, air quality, ecology, contaminated land etc.

e) The *Contractor* shall obtain the *Client*'s written consent before the proposed personnel take up any environmental or sustainability related positions, and prior to implementing any changes to the personnel undertaking these roles. The *Client* shall have the right to reject personnel on the grounds that they are not suitably qualified.

7. **Environmental Managers Meetings**

a) The *Contractor*'s Environmental Adviser shall attend the Environmental Managers' Meeting on a quarterly basis to discuss with the *Client* and other Contractor's:

i) Environmental legislation, Mayor of London strategies and *Client* policies

ii) Performance & benchmarking

iii) Innovations & efficiencies

iv) Training

b) Meetings shall be hosted by the *Client* and *Contractor*(s) on a rotating basis at venues agreed by the attendees. The frequency of meetings shall be reviewed as and when required. The meetings shall be chaired by the *Client*.

8. **Environmental Objectives**

a) Whilst planning and undertaking the Works, the *Contractor* shall take account of any applicable policies and proposals in relevant Mayoral documents - including the Mayor's Transport Strategy, Environment Strategy, Responsible Procurement Strategy, and the Sustainable Design and Construction supplementary planning guidance to the London Plan.

b) The *Contractor* shall also be aware of, and make a demonstrable contribution towards the following Environmental Objectives

i) Reduce Greenhouse Gas emissions (CO2)

ii) Reduce pollutant emissions to the air (NOX and PM10)

iii) Reduce transport related noise and vibration

iv) Maintain and, where possible, enhance the quality of London's built environment

v) Maintain and, where possible, enhance the quality of London's natural environment

vi) Reduce resource consumption and waste, and implement responsible procurement

vii) Reduce water consumption.

c) In addition, the *Contractor* shall contribute towards the achievement of the focus areas in the TfL's Corporate Environmental Framework.

9. **Environmental Targets**

a) As a minimum, the *Contractor* shall adopt the environmental objectives in 8 above and put in place appropriate systems to achieve them.

b) The *Contractor* shall propose additional environmental objectives to either take account of the identified significant environmental aspects or compliance obligations, or to support the attainment of the objectives in TfL's Corporate Environmental Framework, or their own corporate goals.

10. **Environmental Action Plan**

a) The *Contractor* shall produce an annual Environmental Action Plan. The actions contained within the Plan shall:

i) support the Environmental Objectives and Targets;

ii) be challenging but achievable;

iii) be presented to and agreed by the *Client* during mobilisation to commence delivery from 1 April in Year 1; and then in subsequent years to be presented to and agreed by the *Client* during March to commence delivery 1 April;

iv) be completed, evidenced and approved by the *Client* before the end of each financial year; and

v) include at least one action per financial year relating to collaborative working with others to deliver a pan-London environmental initiative or benefit.

b) Progress and approval of actions shall be monitored via quarterly progress meetings with the *Client*, in addition to the quarterly Environmental Managers' Forum. The *Contractor* may request additional meetings with the *Client* to discuss progress or to seek sign-off for completed actions.

c) The *Contractor* shall propose additional environmental objectives to either take account of the identified significant environmental aspects or compliance obligations, or to support the attainment of the objectives in TfL's Corporate Environmental Framework.

11. ***Contractor*'s Environmental Performance Reporting**

a) The *Contractor* shall report the following information to the *Client* as part of their 4-weekly report.

i) The environmental data as table E-1.

ii) Progress against the agreed environmental targets – including justification and / or proposals for achieving the target if it is not being met.

iii) Details of any environmental incidents or near misses that occurred and, how the issue was resolved (i.e. what corrective action was implemented)

iv) Details of any interaction with environmental regulators

v) Details of any complaints about noise, dust or vibration – including how these were resolved

vi) Details of any issues identified during environmental assurance activities and the status of closing out such issues

12. **Competency and Training**

a) The *Contractor* shall supply staff and Sub-contractors with all appropriate environmental information and training necessary to undertake their role.

b) To achieve this, the *Contractor* shall determine the environmental competency and training requirements for all staff working on the Contract. Documentation shall be maintained to detail the required competences, the schedule of planned training, and the receipt of the required environmental training.

c) The *Contractor* shall ensure that all staff receive environmental awareness training on the specific project risks and the contents of the EMP.

13. **Internal Communication**

a) The *Contractor* shall take a pro-active approach to informing their team about environmental issues so that there is a high level of awareness and the opportunities to implement good practice are maximised. As a minimum the *Contractor* shall:

i) Nominate a person responsible for promoting internal environmental communication

ii) Include environmental issues in the site induction

iii) Brief staff (including Sub-contractors) about the key environmental risks and the controls detailed within the EMP

iv) Display environmental / sustainability information (including the TfL HSE policy) on noticeboards

v) Include environment as an item on the progress review meetings

14. **External Communication – Advanced Notifications**

a) The *Contractor* shall take a pro-active approach to notifying residents, businesses and regulators (e.g. the Local Authority) about forthcoming works. The notifications, which shall be made using a format agreed with TfL, shall, as far as possible, be issued two weeks prior to the works taking place. As a minimum, the notifications shall include:

i) Details of the works to be undertaken

ii) The dates / hours of working

iii) Brief details of the potential impacts and how these are to be mitigated

iv) Contact details that can be used to seek further information or make a complaint

v) TfL operates a 24 hours hotline which customers can use to make complaints. The number is 0343 222 2424. Alternatively, customers can email contactus@tfl.gov.uk.

15. **Environmental Correspondence**

a) The *Contractor* shall provide the *Client* with a copy of all environmentally related correspondence with third parties (e.g. the Local Authority or Environment Agency) on the date of receipt.

16. **Emergency Preparedness and Response**

a) As a minimum, the *Contractor* shall detail within their EMP an Emergency Preparedness Plan.

17. **Response and Investigation of Environmental Incidents**

a) The *Contractor* shall notify the *Client* of all environmental incidents and 'near misses' as soon as practicable after they occur. In particular, the *Contractor* shall ensure that any incident which could result in significant damage to the environment, a breach of legislation, or reputational damage is reported to the *Client* immediately.

b) All environmental incidents and/or near misses shall also be reported to via the TfL Incident Line or the Info Exchange Online portal before the end of the shift in which the incident occurred.

c) In the event of any environmental incident or near miss, the *Contractor* shall record the following information and ensure it is reported to the *Client* within an initial written report which shall be submitted within forty eight (48) hours of the incident occurring:

i) Time and date;

ii) Location of incident;

iii) Description of incident – including an outline of events, personnel and parties involved and any mitigation measures applied;

iv) Whether the incident is considered an environmental incident, a major environmental incident, an environmental emergency or an environmental near miss;

v) An initial assessment of the root causes of the incident and any corrective actions proposed to prevent recurrence

d) The *Contractor* shall also report all environmental incidents and near misses to TfL Info Exchange system as soon as possible but within 24 hours of the event occurring.

e) In order to fully identify root causes and prevent recurrence, all environmental incidents and near misses shall be investigated by the *Contractor*. The *Contractor* shall produce a report of the investigation and shall submit this to the *Client* for Acceptance within 14 Business Days of the incident.

f) In addition to containing the bullet point information above, the report shall, as a minimum, include the following:

   i) Photographs / a sketch showing what happened and where;

   ii) Details of any notification/third party involvement;

   iii) Immediate causes;

   iv) Root causes – e.g. inadequate procedures, conflicting targets, poor communication, lack of training, inadequate maintenance, extreme weather conditions or lack of security;

   v) Remedial actions implemented and/or proposed and timescales; and

   vi) Measures to prevent recurrence and timescales.

   vii) Approvals by the *Contractor*'s senior individual responsible for ensuring the actions are completed satisfactorily.

g) The *Contractor* shall monitor the implementation of any actions / recommendations resulting from the investigation of the environmental incident and shall ensure that they are completed by the scheduled completion dates.

18. **Performance evaluation - Environmental Inspections and Audits**

a) The *Contractor* shall implement a programme of environmental inspections and audits to evaluate performance and ensure compliance with all legal and contract requirements (Compliance Obligations). The *Contractor* shall keep the *Client* apprised of the timing of these environmental inspections and audits so that a member of the TfL HSE Team may, on occasions, attend or participate in joint exercises.

b) The *Contractor* shall record the results of the environmental inspections and maintain records to demonstrate that the identified issues are effectively being closed out within suitable timescales.

c) The *Contractor* shall establish a programme for undertaking internal environmental audits. This programme shall initially be submitted to the *Client* for Acceptance within 28 days of appointment, and then updated at last annually.

d) The *Contractor* shall audit all parts of the EMS at least once every twelve months, and the *Contractor*'s environmental audit programme shall set out how this will be achieved.

e) The environmental audits shall be used to verify that the *Contractor* is complying with the EMP and the full range of environmental requirements.

f) The *Contractor* shall provide an environmental audit summary report to the *Client* within 2 weeks of each audit to highlight the findings and any corrective action that is proposed.

g) Internal audits shall be undertaken in accordance with the requirements of BS EN ISO 14001 by appropriately trained and qualified personnel – e.g. an IEMA Registered Environmental Auditor.

h) Where an external party or regulatory body undertakes an environmental audit or inspection of the Works, the *Contractor* shall provide the *Client* with a summary report within 2 weeks of the audit or inspection being carried out.

i) The *Client* reserves the right to audit any part of the *Contractor*'s EMS and environmental management activities. The *Contractor* shall assist with these audits and, as necessary, make personnel and records available.

19. **Management Review**

a) The *Contractor* shall carry out environmental management reviews to assess the on-going suitability, adequacy and effectiveness of the EMS.

b) Unless otherwise agreed with the *Client*, the environmental management reviews shall be undertaken at suitable intervals during the implementation of the project – e.g. annually. A final environmental management review shall also be undertaken when the Works are complete.

c) The *Contractor* shall ensure that representatives from the *Contractor*'s senior management team attend and participate in the reviews, and that members of the TfL team are given the opportunity to attend also.

d) As a minimum, the environmental management reviews shall cover:

i) The adequacy of the existing EMS

ii) Audit and inspection findings

iii) Progress towards achieving the environmental targets

iv) Actions taken / needed to address any environmental incidents or complaints

v) Environmental training

vi) Changes in legislation

vii) Lessons learnt and best practice initiatives

e) The *Contractor* shall summarise the outcomes of the environmental management reviews and share the results with the *Client*.

20. **Sustainable Design and Assessment**

a) The *Contractor* shall in any design activity required under the contract demonstrate the development and delivery of sustainable solutions whilst maintaining the project requirements. This should be in accordance with the Infrastructure Carbon Reviews four key principles of:

i) Build nothing - challenge the root cause of the need; explore alternative approaches to achieve the desired outcome.

ii) Build less - maximise the use of existing assets; optimise asset operation and management to reduce the extent of new construction required.

iii) Build clever - design in the use of low carbon materials; streamline delivery processes; minimise resource consumption.

iv) Build efficiently - embrace new construction technologies; eliminate waste.

b) TfL's Carbon Energy Efficiency Plan (CEEP) maybe used to demonstrate achievement of the above. Alternatively, the *Contractor* may propose an alternative method. However, whatever approach is used, it shall:

i) identify and estimate all significant sources of carbon throughout the life cycle of the solution, separating 'CapCarb' (carbon emissions associated with the delivery of a

solution) and 'OpCarb' (carbon emissions associated with the operation and maintenance of a solution);

ii) demonstrate how whole life carbon and cost have been reduced throughout the development and delivery of the solution.

iii) estimate the annual energy costs associated with the design solutions; and

iv) calculate the annual reduction in energy use and associated cost savings from the proposed sustainable design and construction solutions.

c) In accordance with the requirements in the Mayor's Transport Strategy and the London Environmental Strategy, TfL is endeavouring to ensure that all projects deliver a net gain in biodiversity. To help achieve this, the Contractor shall investigate, and where feasible incorporate green infrastructure and / or ecological enhancements into all design proposals.

21. **Climate Resilience**

a) The *Contractor* shall ensure that any design, installation and/or maintenance plans take into account the climate parameters over the whole design life in which assets (including Natural Assets they support, such as trees, vegetation and Green Infrastructure) must perform, to support resilience to extreme weather.

b) The *Contractor* shall take into account the range of extreme weather and climate parameters that may occur during the asset's design life. This includes, but is not limited to:

i) Keeping assets within specified temperature tolerances as defined in the *Client's* standards relevant to the building and asset type applicable to this contract.

ii) Incorporating measures to assist with keeping assets resilient during their design life, including but not limited to water efficiency, natural ventilation and shading, greening, and sustainable drainage.

22. **BREEAM and CEEQUAL**

a) If a project or scheme is registered under the BREEAM and/or CEEQUAL award scheme(s), the *Contractor* shall provide all necessary expertise and evidence during the design and construction phases to achieve the targeted award level.

b) The *Client* may decide to use 'CEEQUAL for Term Contracts' to undertake formal verified assessments of scheme and maintenance works. To facilitate this, the *Contractor* shall provide all necessary expertise and evidence.

c) It is the *Contractor*'s responsibility to ensure third party assurance of any BREEAM or CEEQUAL Assessments.

23. **Biodiversity Net Gain Toolkit**

a) To monitor the gains in biodiversity, the *Contractor* shall use and provide all necessary inputs into TfL's Net Gain Toolkit. Targets for the percentage of net gain in biodiversity to be achieved will be discussed and agreed between the *Contractor* and the *Client* at the design stage. The *Contractor* shall record the opportunities considered, the benefits that could be accrued, the constraints to implementation, the decisions taken, and justification for rejecting any potential opportunities.

24. **Ecology Surveys**

a) Where works have the potential to affect ecological receptors, the *Contractor* may be required to engage a suitably competent ecologist. Information provided as part of TfL's Environmental Evaluation will inform this process. Where required, the *Contractor* in liaison with a suitably qualified ecologist shall undertake the following:

i) Complete a background data search, sourced from the Greenspace Information for Greater London CIC (GiGL) (the local environmental records centre for London) using the TfL SLA, in accordance with the GiGL data licensing contract

ii) Unless otherwise agreed with the *Client*, the *Contractor* shall undertake the Extended Phase 1 Habitat Survey at an optimum time according to the most recent guidance to facilitate the identification of habitats and species that may be affected by the design proposals (i.e. mid April to the end of September, at the time of writing).

iii) Provide a Preliminary Ecological Appraisal Report which details the findings of the data search, survey and any ecological recommendation and mitigation measures.

iv) Provide the survey findings as a GIS data layer in accordance with TfL's requirements.

v) Complete the TfL Biodiversity Toolkit to calculate biodiversity units prior to, and post, project delivery, proposing mitigation measures to deliver a net gain in biodiversity.

b) The *Contractor* shall be responsible for ensuring the recommendations and mitigation measures set out in the Preliminary Ecological Appraisal Report are implemented. The *Contractor* shall confirm any necessary details to allow TfL and other bodies to update the Green Estate and ecological database.

25. **Low Carbon Circular Economy**

a) In line with the Mayor's Environmental Strategy, the *Contractor* shall promote re-use and recycling, minimise waste and play a supporting role in helping the *Client* achieve its environmental targets.

b) The *Contractor* shall minimise waste, promote recycling, and play a leading role in helping the *Client* achieve its environmental targets. The *Contractor* shall develop, implement and maintain a waste & resource management plan, as part of the EMP, to cover the waste arisings it is responsible for.

c) The *Contractor*'s Resource and Waste Management Plan shall document how the *Contractor* will:

i) Implement the waste hierarchy

ii) 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 *Contractor* shall be registered as a Waste Carrier with the Environment Agency and shall provide evidence of registration within the waste management plan and on renewal of the registration

iii) Set waste reuse, recovery and recycling targets that meet or exceed the *Client's* targets

iv) Monitor and report waste arising.

v) Ensure key staff are trained in waste minimisation and management techniques

vi) Increase recycled content of materials used in construction and any other materials purchased

vii) Document all decisions taken during any design work to reduce waste, and ensure this information is passed to *Client*.

d) The *Contractor* 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 *Client* on request.

e) The *Contractor* is responsible for the management and removal of all waste arising as soon as practicably possible in accordance with accepted good practice.

f) The *Contractor* shall comply with all current legislation relating to the handling, storage, transfer and disposal of waste materials.

g) The *Contractor* shall make available to the *Client*, within 3 Working Days of request, any waste records (such as Consignment notes and transfer notes).

26. **Water Resources**

a) The *Contractor* shall ensure that the layout of the Site and facilities and management of maintenance or construction operations complies with guidance contained within the relevant Construction Industry Research and Information Association (CIRIA) documents and accepted good practice.

b) The *Contractor* shall undertake the Works in a manner which protects the water environment – including any change to water quality, flow volume or levels.

c) To achieve this, the *Contractor* shall, as a minimum:

i) Identify any water sensitive receptors (such as ponds, watercourses, drains or groundwater) which may potentially be affected by the Works, and assess the risk to them;

ii) Identify any mitigation measures which shall be employed to minimise the risk to these water sensitive receptors – including any necessary pollution prevention measures;

iii) Obtain and comply with any necessary abstraction, discharge and other water environment consents;

iv) Undertake any water quality monitoring programmes agreed with the *Client*.

d) The *Contractor* shall not make temporary or permanent connections to any mains, drains, pipes, watercourses or utility services without the necessary consent.

e) Where works are within 16m of a watercourse or 8m of a main river, the *Contractor* shall liaise with the Environment Agency to obtain any necessary licences or exemptions to carry out works.

27. **Effluent discharge consents**

a) When providing maintenance of drains and/or interceptors, the *Contractor* shall ensure that it maintains effluent discharge within the legal effluent discharge consent limits.

28. **Water Conservation**

a) The *Contractor* will implement working methods and measures that reduce water consumption and improve water efficiency. The *Contractor* shall set out how this will be achieved and monitored/reported within their EMP or EAP.

29. **Resource and Waste Management Plan**

a) As part of the project develop process, the *Client* may have commenced the development of a Resource and Waste Management Plan (RWMP) to record the decisions made to design out waste and improve material efficiency.

b) Where a RWMP has been developed, this shall be passed to the *Contractor* for information and use – including the implementation of any applicable actions.

c) Where the *Contractor* is responsible for undertaking design work and a RWMP has not been developed during earlier stages of the Project, the *Contractor* shall develop and use the RWMP to record the decisions taken to reduce materials use, select sustainable materials, and implement the waste hierarchy.

d) The *Contractor* shall maintain the RWMP throughout the design phase and shall periodically provide the *Client* with information or data extracted from the RWMP to demonstrate that they are on course to meet the preceding requirements (and any associated targets).

e) At the end of the design phase, the *Contractor* shall submit the completed RWMP to the *Client* to confirm how the above requirements have been met.

f) For the construction phase, the *Contractor* shall develop and implement a Site Waste Management Plan (SWMP) that, as far as practicable, ensures:

   i) full delivery of the actions and decisions detailed in the RWMP

   ii) fulfilment of all compliance obligations relating to resources, materials and waste

   iii) compliance with the waste duty of care

   iv) achievement of project targets and expectations relating to resources, materials and waste

g) The *Contractor* shall develop the SWMP prior to commencing the works on-site.

h) The *Contractor* shall not commence Works until the *Client* has issued written acceptance of the SWMP.

i) The *Contractor* shall regularly review and as necessary, update the SWMP to take account of changing circumstances. Such reviews shall take place at least every six months during construction (unless otherwise agreed with the *Client*). The updated SWMP shall be submitted to the *Client* for acceptance.

j) The *Contractor* shall make site waste management records available to the *Client* on request.

k) The *Contractor* is encouraged to use the Electronic Duty of Care (EDOC) system.

l) The *Contractor* shall implement measures to minimise the use of single use plastics.

m) The *Contractor* shall make arrangements to reuse or recycle non-contaminated PPE and hard hats after they have been used on the project.

30. **Designing out Waste**

a) If the EE indicates a need for a 'Designing out Waste' workshop, the *Contractor* shall arrange for this to be undertaken. The workshop shall be led by a suitably experienced practitioner and shall be attended by members of the *Contractor*'s design and construction teams, and the *Client's* Environmental Team. The workshop shall be undertaken in line with the guidance given in WRAP's Designing out Waste: A design team guide for civil engineering. The output from the workshop shall be recorded in the RWMP.

Timber

b) Where it is necessary to use timber, the *Contractor* shall ensure that only timber from recycled, reclaimed or sustainable sources (i.e. timber sourced in accordance with the UK Government's Timber Procurement Policy or accredited to the Forest Stewardship Council (FSC) or and equivalent scheme) is incorporated into the temporary and permanent works.

c) Should the *Contractor* propose to use timber that is not from the aforementioned sources, then written justification must be submitted to the *Client* to outline the reasons why this is necessary, and the *Client*'s written consent must be obtained prior to using such timber.

d) The *Contractor* shall maintain records of all timber deliveries in order to verify compliance with the above requirements.

31. **Air Quality**

a) The *Contractor* shall ensure that air quality impacts (including dust) from demolition, construction-related activities and construction traffic are controlled by using best practicable means during the planning and management of the Works.

b) The *Contractor* shall ensure they implement mitigation and monitoring measures appropriate to the site's level of risk in accordance with the guidance set out in the Mayor of London's Supplementary Planning Guidance (SPG) on The Control of Dust and Emissions During Construction and Demolition.

c) Where a site is determined to be 'high' risk, the *Contractor* shall develop an Air Quality and Dust Management Plan (AQDMP) prior to commencing any construction or demolition works. The content of the AQDMP shall be agreed with the *Client* prior to the *Contractor* commencing Works on site.

32. **Contaminated Land**

a) The *Contractor* will comply with Industry Good Practice in relation to contaminated land.

b) Prior to commencing the Works, the *Contractor* shall identify any areas of potential contaminated land that may be affected by the Works. Unless the *Contractor* can demonstrate that there is sufficient information available to understand the risks posed by the identified contaminated land, the *Contractor* shall undertake a programme of site investigations to enable the risks to human health and the environment to be quantified, and any necessary mitigation measures or remediation proposals to be developed. Such proposals, which shall comply with statutory guidance and industry best practice, shall be submitted to the *Client* for acceptance. Landfill shall only be used if other remediation options (e.g. on-site treatment, off site treatment) are not reasonably practicable.

c) The *Contractor* shall plan and undertake the Works in a manner which minimises the disturbance of any contaminated land and avoids the creation of pollution pathways. This shall include the use of excavation and piling techniques which minimise the potential for vertical contamination pathways to be created.

d) The *Contractor* shall undertake all necessary and appropriate health, safety and environmental monitoring to ensure the adherence to, and the continuing suitability of the mitigation measures or remediation proposals developed for working on, or adjacent to, contaminated land. As necessary, the *Contractor* shall also undertake monitoring to verify the

effectiveness of the measures implemented – e.g. to demonstrate that the remediation proposals have been effective.

e) The *Contractor* shall notify the *Client* and relevant statutory bodies if any contaminated land or water has been discovered.

33. **Unexpected Contamination**

a) The *Contractor* shall monitor excavation activities to check for unexpected or unusual materials with a contaminative potential. The unusual material may consist of, but not be limited to, buried drums, tanks or containers, soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination.

b) In the event of discovery of unexpected contaminated land the *Contractor* shall inform the *Client* as soon as practicable. The *Contractor* shall implement all reasonably practicable measures to ensure the unexpected contaminated land does not give rise to risks to human health and the environment. The *Contractor* shall develop and implement measures to deal with the unexpected contaminated land after obtaining the *Client*'s acceptance of the proposals.

34. **Asbestos**

a) If ground containing asbestos is encountered during the Works, the *Contractor* shall stop the activity in question. Works on the activity shall not restart until the *Contractor* has developed appropriate proposals to minimise the risk to the workforce and other potential receptors. The proposals developed by the *Contractor* shall comply with all relevant statutory guidance and controls and the *Contractor* shall undertake the works in compliance with the proposals at all times.

b) The removal of asbestos will be undertaken by a suitability licensed asbestos removal *Contractor* and managed in accordance with the relevant statutory controls.

35. **Unexploded Ordnance**

a) Where excavation works are required, unless the *Contractor* can demonstrate that there is sufficient existing assessment information available, the *Contractor* will undertake a risk assessment to determine the risk of unexploded ordnance being found on site. As necessary, the *Contractor* will develop and implement suitable mitigation to reduce the risks to an acceptable level.

36. **Required Contents of Emergency Preparedness and Response Plan**

a) Definitions of what constitutes an environmental incident, a major environmental incident, an environmental emergency, harm or damage to the environment, and an environmental near miss;

b) Details of the potential types of environmental incident relevant to the works and the envisaged control measures;

c) The procedures to be implemented to comply with the emergency preparedness and response requirements set out within the latest ISO14001;

d) Responsibilities of the Contactor's staff for dealing with an environmental incident or near miss;

e) Details of the Equipment to be used to bring environmental incidents or emergencies under control, including details of the location of spill kits and the minimum acceptable stock requirements;

f) An up-to-date site drainage plan which details critical connections manholes, direction of flow, pipe diameters, interventions points and final discharge points to foul and surface water resources;

g) The systems (and contact details) for notifying the appropriate statutory authorities, emergency services, *Client* and the *Contractor*'s personnel in the event of an environmental incident or near miss;

h) The information to be recorded in the event of an environmental incident (to include date, time, location, description of incident, action taken, personnel involved and notifications, photographs); and,

i) A simple flowchart to show the process and responsibilities.

Environmental Data template (Table E-1)

Table E-1 sets out the minimum environmental data the *Contractor* provides each period. This information is required to track performance and facilitate the *Client's* corporate environmental reporting.

Table E-1

Environmental Aspect	Data Required	Units
Basis for normalising performance	Spend per period	£100k
Energy consumption, by type	Electricity consumption (normal grid mix)	kWh
	Natural gas consumption	kWh
	Petrol consumption	litres
	Diesel consumption	litres
	Heavy fuel oil consumption	tonnes
	Other (please specify)	Please specify
Noise complaints	Noise complaints	number received
	Noise complaints / 100,000 hrs worked	number/100,000
Waste produced and proportion recycled	Amount of construction and demolition (C&D) waste produced	tonnes
	Amount of non-hazardous C&D waste **recycled** (does not include recovered / incinerated)	tonnes & %
	Amount of non-hazardous C&D materials **diverted from landfill** (i.e. reused, recycled and/or recovered)	tonnes & %
	Amount of non-hazardous C&D waste **diverted from landfill** (i.e. reused/ recycled/ recovered) per £100K project spend	Tonnes / £100K
	Amount of excavation waste produced	tonnes
	Amount of non-hazardous excavated materials put to **beneficial reuse** (i.e. recycled / reused / diverted from landfill)	tonnes & %
	Amount of waste classified as hazardous	tonnes
	Amount of hazardous waste recycled	tonnes & %
Water consumption	Mains water consumed	m^3
	Non-mains water consumed	m^3
	Total water consumed	m^3
Environmental Incidents	Number of environmental incidents per period	number
	Number of environmental enforcement/regulatory notices	number