Uber Boat

by thames clippers

HAMMERSMITH TEMPORARY RIVER CROSSING CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN (CEMP)

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1.0 Introduction

This Construction Environmental Management Plan details the arrangements that have been put into place for the management of environmental matters during the construction of the Hammersmith Temporary River Crossing Project and to identify the environmental aspects and impacts relating to the project and to lay down the required control measures to mitigate the effects of any environmental impacts.

The purpose of the plan is to ensure that all necessary measures are identified and implemented in order to protect the environment from any potential impacts arising from construction activities being undertaken by (UBTC) Thames Clippers & Red7Marine and to fulfil all compliance obligations, including contract specific requirements in line with ISO 14001:2015 requirements. Where project specific procedures, e.g. Client's requirements, planning conditions, ecology reports, etc., are required, these are to be used in conjunction with the CEMP and communicated to those responsible for implementation, management and monitoring.

All parties involved in these works must ensure they are fully aware of their duties under relevant legislation. They must make themselves and their employees familiar with the content of this plan and work within the management system defined therein.

The following appointments have been made in accordance with The Construction (Design & Management) Regulations 2015. This document should be read in conjunction with UBTC QHSE policies and procedure manuals.

Unmanaged, the increase in construction traffic, has potential to cause some disturbance and injury to the local environment and disturbance to the local residents. To this end, and to protect the interests of the local area both marine and landside, a construction environmental management plan is developed to prevent unnecessary disturbance or such injury throughout the construction works.

1.1 Location of Works

East side adjacent to Hammersmith Bridge

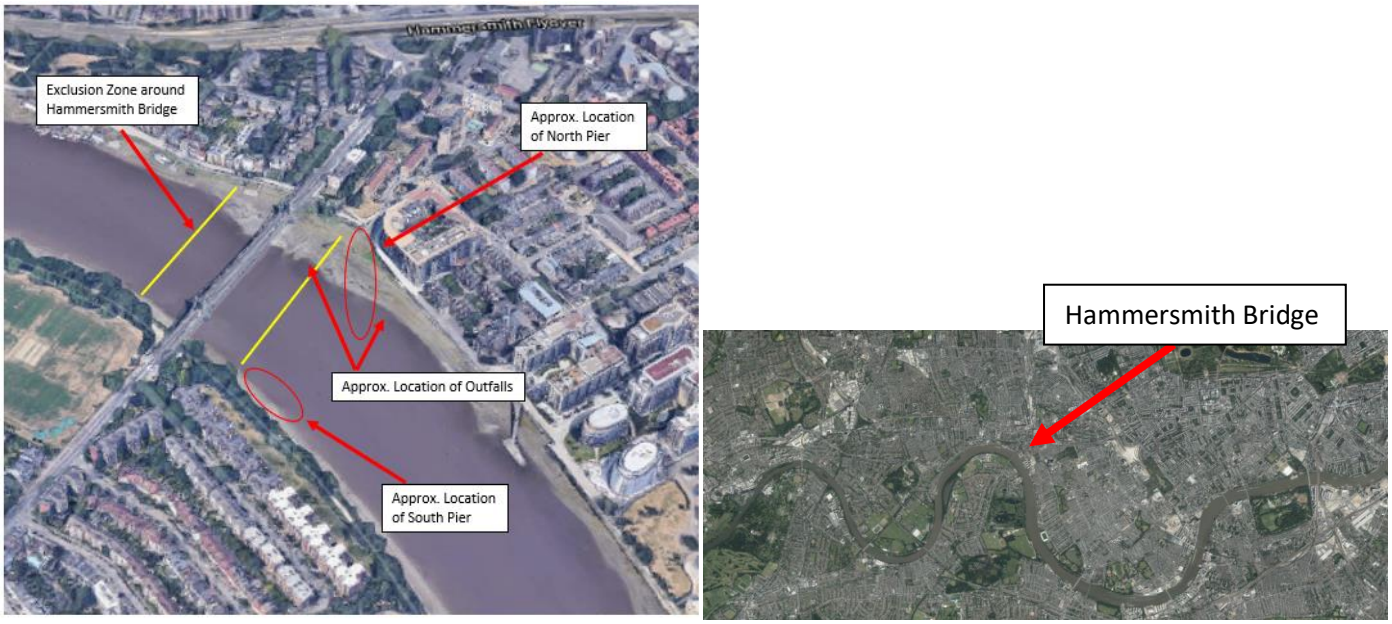

Figure 1.1 – Site Location

During Stages 2 (construction) and 4 (decommissioning) landside space shall be required outside of the operational phase site boundary. This is to provide sufficient room for access to install the infrastructure, material and plant storage and site operative access to the work fronts. Providing this space will ensure efficient delivery of the works.

1.1.1 Hammersmith Bank (North Side)

The majority of the works can be contained to marine operations for installation. However, the minor civil works elements landward of the draw dock flood defence wall (stop logs) will need to be installed from landside. This is because the marine vessels will be out of radius to assist with any lifting operations.

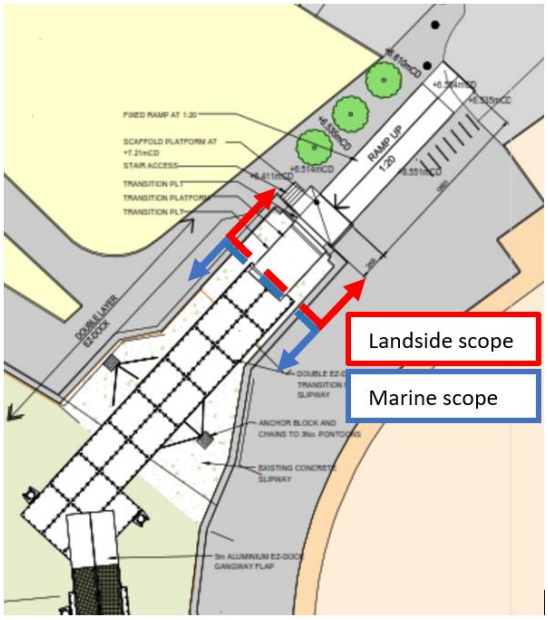

Figure 1.2 - scope split between landside and marine.

In order to facilitate the landside scope a small temporary compound for welfare, plant and equipment storage, as well as working space will be required.

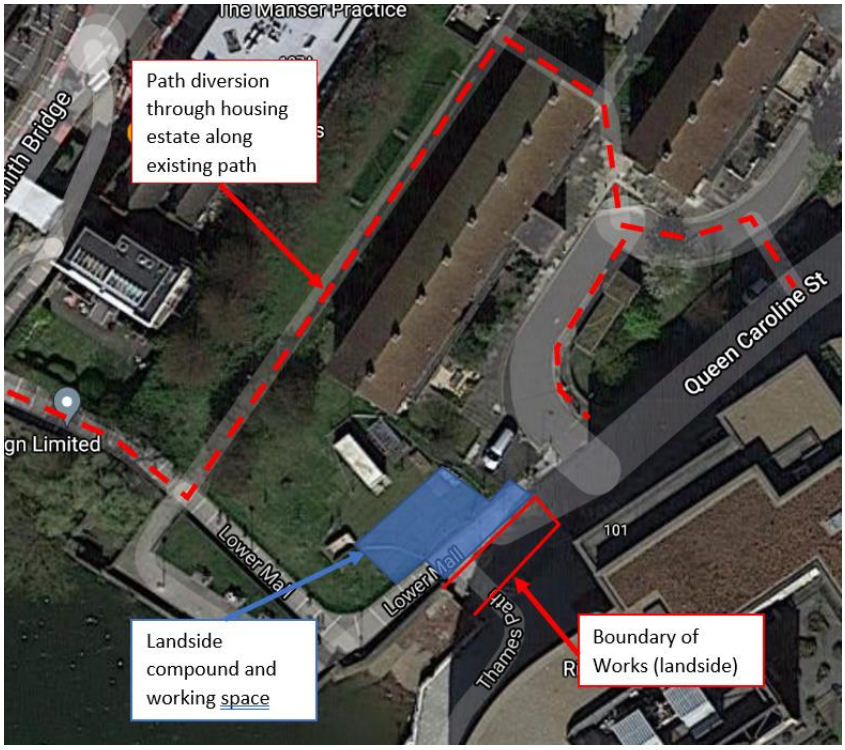

Figure 1.3 – GA of proposed site set up North bank landside

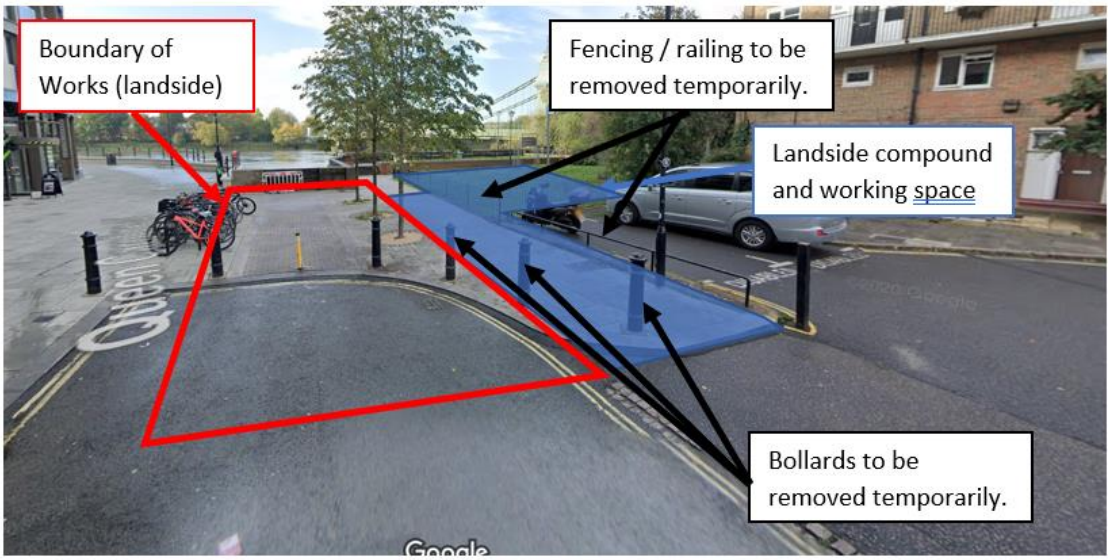

Figure 1.4 – Site set up landside

As shown in Figure 4 and 5, it is proposed the compound area is located on the adjacent green space next to the draw dock. In order to facilitate installation of the access ramp and other infrastructure, the existing bollards and railing will need to be removed. It is proposed that the footpath is diverted along the existing footpath behind the green space and through the housing estate.

Hoarding shall be erected around the works area and pedestrian barriers with the necessary diversion route signage erected. All diversion paths shall be kept safe and clear at all times. Trackway shall be placed on the grass area to protect the surface. To manage the effects of any noise being produced from the compound on the adjacent housing development, acoustic barriers shall be erected on the fencing. A staggered break system shall also be in place so that no more than 5 operatives are using the welfare at any one time.

1.1.2 Barnes Bank (South Side)

On the south side the civils scope of works includes excavation and installation of a new concrete bank seat, re-grading the existing access ramp to the tow path and installation of a new raised platform. Due to the restricted space along the tow path and access ramp, both will need to be closed during NWH (Normal Working Hours). The proposed diversion route takes the pedestrians through the Metropolitan Open Land area which is owned by 'The Village Estate Management Company Limited'. The necessary approvals shall be in place for the diversion prior to construction.

The Metropolitan Open Land is fenced and gated which locks at sun set then re-opens at sun rise. Therefore, at end of shift security fencing shall be erected around the work site, the tow path made safe and then opened at a restricted width along the length of the works area. This will ensure that once the gate of the Metropolitan land area is shut, pedestrians will still have access.

During NWHs traffic management system shall be in place at the junction of the Hammersmith ramp and Riverview Gardens. The ramp area, pavement and road at the top of the ramp shall be barriered off and traffic marshals on station. Plant and material deliveries shall access the work area via the Hammersmith ramp, as such the traffic marshals shall manage pedestrians and vehicles interface.

Figure 1.5 – GA of proposed site set up South bank landside

1.2 Project Description

Due to the Hammersmith Bridge closing to the public, an alternative route is to be constructed, made available and utilised whilst the Hammersmith bridge is undergoing essential maintenance works. Uber Boats Thames Clippers (UBTC) are the Principal Contractor supported by Red7Marine (R7M) who will be responsible for the on-site installation of the marine infrastructure for the ferry terminal. The works will comprise of two mooring pontoons, linked back to the shore by access brows on the south, and pontoon walkways on the north.

The project construction phase will consist of the following key activities:

- Pre-works Bathymetric and UXO magnetometer survey via boat.
- Probing of pile locations via multi-cat, plough seabed where required.
- Mobilise landside welfare facilities and slipway access.
- Mobilise piling barge to north pier.
- Commence piling operations on north pier route using excavator (utilised as a piling gate) located on beach and barge.
- Install north pier head pontoon with berthing piles.
- Install EZ floats from north-shore slipway to north pontoon.
- Re-locate piling barge to the south, install south pier head pontoon with berthing piles.
- Complete construction of Southshore bankseat.
- Install the remaining south and north access brows (gangways) to the pontoons.
- De-mobilise marine equipment.
- Arrange berthing pontoon services back to landside.
- Commission ferry service.

1.3 Objectives

a) To put into practical effect the commitment to protecting the Environment as made in the UBTC & R7M Health & Safety, Environmental, and Sustainability Policies.
b) Ensure a systematic approach to management of the environment.
c) Establish effective controls to minimise environmental impact and control all forms of pollution while seeking ways to conserve natural resources.
d) Ensure the company meets the requirements of all relevant environmental legislation.

e) Generate a culture where everyone, irrespective of their position, realises that they have a part to play in ensuring that impact on the environment is minimised.
f) To ensure a safe working environment for all those who work on the project.

1.4 Legislation & Compliance

This plan has been designed to meet the requirements of the Construction (Design & Management) Regulations 2015, The Health & Safety at Work Act 1974, the management of Health & Safety at Work Regulations 1999, the Control of Substances Hazardous to Health Regulations 2002, and relevant environmental legislation.

UBTC will display the Environmental Policy and ISO 14001:2015 certificate on site notice boards / prominent location onsite and make all site operatives aware of these documents within the site induction. The policy will be made available to all interested parties.

In addition to national legislation, this plan has been developed to meet the conditions specified in accordance with Marine Management Organisation (MMO) and Environmental Agency (EA) Marine License.

1.5 Document Control

This Construction Environmental Management Plan will be reviewed and updated as required, together with all other associated documents to maintain its effectiveness. Or if there is a significant change to the site conditions such as a change in scope of works, site area, methodology, a change in legislation, interested parties, or after an environmental incident.

1.6 References

- BS EN ISO 14001 Environment Management Systems Specification.
- UBTC Environmental Management Manual, Health and Safety Procedures Manual & Quality Manual.
- UBTC Health and Safety Policy, Safety Rules and Quality Guidelines.
- MMO Marine License
- Pollution Prevention Guidelines – Work and maintenance in or near water: PPG5

2.0 Responsibilities

The overall responsibility for the performance of UBTC regarding environmental issues rests with the Company Managing Director. He will be supported by the following personnel.

2.1 Head of QHSE

Head of QHSE shall provide support to the project activities, responsibilities to the project include, but are not limited to:

- Auditing and reviewing the various environmental control measures and systems in place for the contract.
- Advising all employees of the requirements of environmental legislation and procedures.
- Ensuring compliance with the ISO 14001:2015 requirements. (The project may be audited more frequently depending on the project's environmental risks, incidents or at project management request).
- Ensuring all projects continually improve the suitability, adequacy and effectiveness of the environmental management system to enhance environmental performance by reviewing feedback reports (audit/inspection/site visit etc), recommendations, findings, internal reports/meetings, site environmental meeting, monthly project reviews, lessons learnt reviews etc.

2.2 Project Manager

The Project Manager is responsible to the Managing Director for the management of all aspects of the contract including technical and commercial. Additionally, the Project Manager is responsible to the Principal Contractor Project Manager (if applicable) for the implementation of the works and is the first point of contact for any communications relating to the contract.

The Project Manager is responsible for ensuring the project is adequately resourced in terms of competent personnel and suitable equipment to perform the work.

Other key responsibilities of the Project Manager include:

- Assisting the Project Engineer with the preparation of Project Environmental Plans.
- Overall implementation of Project Environmental Plans on their projects.
- Notifying the management of further issues as they arise.

2.3 Project Engineer

The Project Engineer reports to the Project Manager. The main responsibilities of the Project Engineer include, but are not limited to:

- Ensuring the day-to-day implementation of the Construction Environmental Management Plan.
- Notifying the Project Manager of changes to the environmental risks of the project.
- Providing training on the company environmental policy and procedures to site staff and sub-contractors via toolbox talks.
- Ensuring the environmental good practice of sub-contractors and suppliers.

2.4 Training Awareness & Competence

All site personnel shall be suitably trained and qualified to perform tasks that have the potential to cause a significant environmental impact.
Environmental awareness and training shall be achieved by:

- Site induction, providing an overview of the significant environmental aspects, relevant issues and the control measures implemented which they must adhere to.
- Environmental policies, posters and site notices.
- Method Statement and Risk Assessment briefings.
- Toolbox talks, including instruction on incident response procedures.
- A significant proportion of the environmental aspects of the business are a direct result of subcontractor and supplier activities. They will all be adequately assessed prior to works commencing.

All managers and supervisors will be briefed on the environmental plan. Training needs will be continuously monitored to ensure staff are competent and fully aware of environmental issues they may affect. Training shall be in the form of briefing sessions and toolbox talks.

3.0 Environmental Planning & Control

3.1 Requirements and Consents

At various planning stages during the project, it may be necessary to apply for permissions or consents from statutory bodies to complete packages of work. This may be from the Local Authority, Natural England / Defra, English Heritage, the Environment Agency, Marine Management Organisation or other statutory bodies. All consents identified for the project will be documented in this section.

Further consultation and site investigations will continue throughout the Project's development. These may lead to additional consents being identified but not limited to:

- Noise and Vibration - Section 61 with the specific London borough.
- Port of London Authority for works in the river.
- Bespoke Flood Risk Activity Permit for flood defence renewal works and other activities in the vicinity of the defences.
- MMO Licence for works in the river.

All consents will be applied for in a timely manner to provide adequate information to the statutory authority to approve the required permit. Copies of consents will be held on record. In the case of ecological licences, the period required to implement the mitigation measures prior to commencement of operations and implications upon them by seasonal restrictions, will be considered when planning application for consents are undertaken.

3.1 Environmental Aspects

The environmental aspects will be adequately assessed and evaluated in detail. Any assessments will review the aspects, impacts and controls for all activities which are planned to take place throughout the contract and shall be updated where required to reflect any changing site conditions as appropriate.

A summary of aspects is listed but not limited to as below:

- Material import, storage and use such as for example oils, chemicals, cement-based products and aggregates.
- Plant operations.
- Pollution of the watercourse through plant operations, use of concrete, and chemical or fuel spillage etc.
- Travel and deliveries to site consisting of operatives and staff, marine/diving plant and haulage, pipework and other materials such as temporary works and miscellaneous items.
- Refuelling and servicing of plant requiring management of fuels, waste oils and filters, and other service consumables.
- Concrete and grout washout requiring control of runoff, washout and disposal of waste.
- Traffic management for control of site operational and delivery vehicles and users of the public highway.
- Noise and light pollution generated by construction activities.
- Consumption of non-renewable resources such as aggregates and fossil fuels.
- Waste disposal to landfill such as construction waste or office waste.
- Barge Positioning onsite.

3.2 Risk Assessment

Any activities which are to be undertaken on site shall be subject to a risk assessment. Risk assessments will be produced by the Project Engineer with input from the Project Manager & agreed by the relevant parties involved with the project, following a procedure that will:

- Identify the significant environmental impacts that can be anticipated.
- Assess the risks from these impacts.
- Identify the control measures to be taken and re-calculate the risk.
- Report where an inappropriate level of risk is identified so that action can be taken through re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level.

The outcome of the risk assessment and any residual risks will be considered acceptable providing:

- The severity of outcome is reduced to the lowest practical level.
- The number of risk exposures are minimised.
- All reasonably practical mitigating measures have been taken and the residual risk rating is reduced to an acceptable minimum.

The findings of the risk assessment and in particular the necessary control measures are explained to all operatives before the commencement of the relevant tasks through a daily briefing or Toolbox Talk (TBT).

3.3 Method Statement

Method Statements for all activities forming the project works shall be completed by suitably adequately qualified engineers or other appropriately experienced personnel, in consultation with the Project Manager, the QHSE Manager and other specialist staff where required. The production will incorporate a review of the collection of any environmental impact information and risk assessments, so that the appropriate control measures are developed and included throughout the construction phase of the project.

Where necessary, method statements may be forwarded by the Client to the relevant enforcement agencies (Environment Agency, MMO, Natural England etc.). Method Statements will contain the following information as a minimum:

- Location of the works and access/egress arrangements.
- Work to be undertaken and method of installation.
- Plant and materials to be used.

- Labour and supervision requirements.
- Health, Safety and Environmental Considerations.
- Permitting arrangements

3.4 Internal Communication

There are a variety of methods used to control internal communications on environmental issues. These can include e-mails, notice boards, briefs, letters, memos, verbal briefs, toolbox talks and meetings.

Briefings will be undertaken to ensure that all site personnel are aware of the Environmental issues affecting their work. This includes:

- All staff working on the project shall receive an induction which covers all relevant environmental issues and mitigation
- The relevant policies shall be displayed in all site cabins and site offices.
- Waste Management – Key personnel will be briefed on how to store & dispose of site waste, including segregation of waste types at point of storage.
- All staff working on the sites will receive a briefing regarding noise and vibration controls / protected species etc as relevant to the project.
- Alerts and environmental information shall be briefed out and displayed on notice boards.
- Method Statement will also detail environmental issues and mitigation.
- The Client will be notified of any hazards that have been identified.

Any complaint/accident/incident/near misses/observation calls with actual/potential to harm or damage to the environment shall be reported to the Head of QHSE and Client team

3.5 External Communication

External consultation with statutory bodies and interested parties (such as resident's associations, local authorities and Wildlife Groups) will be agreed as necessary prior to starting works and for the duration of the scheme.

The project will carry out letter drops in advance of any works being carried out (if required). This will detail the nature and purpose of particularly disruptive operations, including details of proposed start and completion dates and a summary of the work schedule.

UBTC will notify the Client regarding communications or complaints received from external bodies or the public. All complaints and the actions will be recorded, and this will be reviewed by the Project Manager. UBTC will endeavour to assist the client in resolving any complaints in relation to the project.

3.6 Records and Documentation

All documents related to the Construction Environmental Management Plan will be maintained in UBTC project filing system and updated as appropriate. Documents associated with the environmental management of the project may include:

- Risk Register.
- Audit Register & NCR reports/actions.
- Environmental inspection forms.
- Complaints Register.
- Consent's register.
- Soil/water test results.
- Waste Management and Duty of care documents.
- Pollution Incident Records.
- Minutes of Meetings.
- Training Records.
- Map of the project sites with environmental issues marked clearly.
- Asbestos records.
- Invasive species records.
- Ecology records.

In addition, all survey reports and monitoring data will be kept along with the records.

Environmental issues will be included in checklists for site inspections/audits conducted by the Head of QHSE. Daily site surveillance and weekly Inspections shall be undertaken by the Project Manager or nominated personnel. Monitoring of key risks will be undertaken (e.g. noise, dust, vibration) where sensitive receptors are identified. This will be agreed with the client and statutory authorities as required.

Procedures for non-compliance/conformance, corrective and preventive actions are documented in UBTC and Red7Marine's quality control system. NCR forms will be used during internal and external audits.

4.0 Management of Vessel Movements

4.1 Construction Works

The general Passage plans will be compiled and submitted to the local Harbour Authority for approval with reasonable notice prior to any work barges being towed to site. Confirmation will be obtained from the Harbour Authority regarding passage routes, to avoid known marine mammal areas and habitats, and to minimise any noise or nuisance to the local residence.

The barges containing mobile plant, will be mobilised and towed to site by sea by Multicat / Tug Vessel. Vessel may be fitted with the appropriate sonar equipment to minimise the risk of corkscrew injuries to marine mammals.

Depending on the circumstances of the project a DGPS Navigation system may be required to be installed to provide the positions pre-plotted on the screen. If applicable, additional consoles may be established on the Multicat / Tug Vessel to assist the Vessel Skipper and Barge Master to accurately position the asset in the correct location.

When an excavator is to be utilised, this plant will be fitted with DGPS and level indicator to ensure the correct invert level and slope profile are achieved during excavation works. This will minimise the amount of silt/debris disturbed during excavation.

4.2 Corkscrew Injuries – Marine Wildlife

If applicable and specific to the scope of works, all small craft / safety boats powered by outboard motors, may be fitted with propeller guards to minimise the risk of contact with marine mammals. The support / safety boat will be fitted with propeller guard to ensure the risk to marine mammals is minimised.

4.3 Records and Reporting

Throughout the construction works, records shall be maintained and available for inspection.

If applicable and if it's a site-specific requirement, all marine mammal sightings and interactions will be logged, with the required minimum details as indicated in the record format.

4.4 Monitoring / Supervision

In addition, UBTC will ensure the sub-contractors onsite are to maintain appropriate records to comply with the requirements of the relevant marine construction licence. Any project specific monitoring requirements shall be incorporated into relevant procedures and method statements. All results of monitoring are regularly reviewed and communicated during project review meetings.

The Project Manager is responsible for regular site surveillance to evaluate performance against the project specific objectives, legal requirements, environmental commitments, and the requirements of the CEMP.

5.0 Environmental Considerations

5.1 Existing Environment

The site for the proposed works is located in close proximity east of Hammersmith Bridge which crosses the River Thames in west London. It's in the southern part of Hammersmith in the London Borough of Hammersmith and Fulham, on the north side of the river, and Barnes in the London Borough of Richmond upon Thames, on the south side of the river. The site is surrounded by residential urban areas.

The site is a prominent feature in the local landscape, since this project is directly linked to Hammersmith Bridge, this is highly visible from multiple locations in close proximity and at medium to long distances.

Prior notice of the works will be given to the local community, including any groups who use the River Thames as a recreational resource, for example, rowing clubs.

5.2 Operational Control Measures

The following control measures are to be implemented and maintained throughout the course of the project in order to reduce the environmental impact of construction activities as far as is reasonably practicable.

5.2.1 Site Establishment

Facilities will be introduced to minimise risk to the environment and promote efficient use of resources. This will include:

- Temporary offices, welfare facilities and secure storage of equipment.
- Materials storage areas will be set up and managed.
- All plant working adjacent to rivers to use biodegradable oils so far as is possible in line with the Environment Agency's targets for their own projects.
- The temporary site compound will be reinstated to its former condition following completion of the project.
- Use drip trays where possible, unless deemed inappropriate for health and safety reasons.
- Demarcate work areas with fencing for security, and to prevent windblown litter or waste from polluting the wider environment.
- Waste storage areas will be established utilising containers of an appropriate design to ensure that no waste can escape.

5.2.2 Site Housekeeping

Good housekeeping will be promoted across the work site, particularly when working at remote locations such as the jack up barge. This will include the following requirements:

- Maintenance of staff welfare facilities.
- Daily removal of food waste and other rubbish.
- Considerate behaviour of all site staff.
- Packing away equipment after use, keeping work areas clear to prevent tripping hazards.

5.2.3 Water Resources

In order to reduce the potential impacts of contamination entering the aquatic environment during construction, the following measures will be applied:

- Ensure the Environmental Agency or a relevant local authority has granted the relevant permits prior to starting works i.e. Flood Risk Activity Permit.
- Site personnel will be made aware of the potential impact on water courses associated with certain aspects of the works to minimise the incidence of accidental impacts; all staff will also be trained in the appropriate use of spill kits.
- All refuelling operations will be supervised by a competent person at all times, vigilance must be maintained at all times throughout the procedure with personnel manning the operation throughout its entire process.
- Ensure personnel receive suitable training regarding emergency spill procedures and have been made aware the location of emergency spill kits and consumables.
- Any necessary fuel and oil will be stored in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001. Refuelling will be undertaken in a designated area, designed to contain contaminated run off. Emergency spill kits proportionate to the quantity of fuel used are to be readily available.
- Fuels and oils shall be stored within suitably bunded containers with locks, capable of storing 110% of the maximum contents by volume.

- Portable toilets and sewage holding tanks will be placed at the work site to accommodate sewage generated by the work force. A licensed contractor will be responsible for their appropriate emptying, disposal and maintenance.
- Handling and storage of any potentially contaminating material will only occur in designated areas to prevent discharge to the watercourse.
- Regularly inspect tanks and pipework for signs of damage and complete repairs immediately or replace the defective equipment.
- Store all chemicals in accordance with the relevant COSHH assessments and Material Safety Data Sheets (MSDS).
- Chemicals should be clearly labelled and stored in a suitable container and segregated from incompatible substances.

5.2.4 Noise and Vibration

The purpose of this section is to describe the measures that will be taken to minimise the risk of noise, vibration or other nuisance related pollution arising from the planned works onsite.

The aim is to prevent negative impact of noise and/or vibration by reducing or controlling those aspects of construction that may result in high levels of noise or vibration. UBTC will also control other aspects of work so as to minimise the nuisance factor that the works and assets might impart upon sensitive receptors.

A record of all key items of machinery that may be employed on the project will have recorded sound readings taken at a close distance if reasonably practicable to do and in accordance with the relevant manufacturers / supplier instruction. The sound levels will be the maximum sound at start- up of the machinery. Often during general use, the engines are idling and therefore the sound outputs will likely be less intense. The project team have a duty to take all possible measures to minimise nuisance from noise and vibration that has potential to impact on the local environment. In order to achieve this aim, the following requirements will be adhered to:

- Noisy plant or equipment should be sited as far away as is practical from noise sensitive receptors.
- Periods of noisy work will be undertaken concurrently & where possible to reduce the length of time the disturbance is occurring.
- Boat movements will general be reduced to a minimum as reasonably practicable, however this will be exceeded on exceptional occasions (e.g. inspections, maintenance or emergencies)
- All machines in intermittent use shall be shut down in the intervening periods between works or throttled down to a minimum. Machines will not be permitted to stand idling.
- All items of plant shall be maintained in good working condition. Plant will be regularly maintained, serviced and greased up according to manufacturer's recommendations to ensure squeaking, rattling and other unnecessary noise is kept to a minimum.
- All vehicles and mechanical plant used for the project may be fitted with effective exhaust silencers if applicable. Ensure the vehicles only use pre-defined routes to limit movements near to the site boundary and sensitive vibration receptors.
- Where practical, generators and compressors should be "sound reduced" fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use.
- Hydraulic plant will be used in preference to pneumatic plant where possible.
- Adherence to reasonable construction site working hours which will avoid early mornings, night-time and Sunday working (unless required for an emergency situation).
- The appropriate use of construction techniques known to reduce the incidence of noise and vibration.
- The use of modern, low noise emission plant and machinery.
- Noise and vibration monitoring to assess the effectiveness of the management controls and to indicate if any when additional measures may be required.
- Regular stakeholder meetings and letter drops.
- Use of mains powered tools to remove the need for generators.
- Restricted working hours
- Use of noise screens and blankets where practicably applicable.
- All engine powered plant will be fitted with modern silenced exhaust systems.

- Machines will be correctly selected and sized to ensure they are capable of carrying out the required work without over revving or straining the power unit.
- Where possible rubber tracked machines will be used to reduce track clatter.
- Employ a noise and/or vibration monitoring plan.
- Mobile plant items will be fitted with white noise type reversing alarms and not the conventional bleeper type.
- Suitability of plant and vehicles for all construction activities will be assessed by a competent person, a vibration assessment will be carried out and included within the relevant Safe System of Work (SSoW) package, detailing activity specific vibration mitigation requirements.
- All personnel will be reminded of good practice through inductions at the start of works and subsequent task briefings and 'toolbox talks' during the course of the works.

All works will be conducted during the hours permitted by the local authority and licenses and not to ever exceed those hours. If works are out of normal working hours, the project will liaise regularly with the Local Authority and ensure that works are subject to section 61 agreements where appropriate. Where changes are made to the scheduling of works, machinery or methods employed, local authority will be informed and consideration will be made for the need for a variation or dispensation to the section 61. This should be submitted to the local authority at least 28 days before the project commences. Once obtained, a copy with be provided to the Client.

Refer to the project specific Hammersmith Low Water Piling Review for more details.

5.2.5 Air Quality

UBTC foresee the primary source of air pollution that shall arise during the works is through exhaust fumes caused by using petrol / diesel powered plant and equipment. The risk of dust pollution is believed to be low if all plant and vehicles reduced the driving speed throughout the entire duration of the project.

The nature of work, weather conditions, topography and prevailing wind direction will be taken into account when determining the level of dust control required. All necessary and practicable measures to control airborne pollution through good housekeeping and site operational practices shall be carried out including:

- Compliance by construction vehicles with emissions legislation, servicing and MOT requirements.
- All vehicles regularly used on site shall comply with the relevant emissions standards and shall be serviced in accordance with the manufacturer's recommendations.
- No construction plant or vehicle shall leave its engine running when not directly in use, except where the Project Manager considers that there are operational or other reasons to justify an exception.
- Adherence to reasonable construction site working hours which will avoid early mornings, night-time and Sunday working (unless required for an emergency situation).
- When reasonably practicable, dampen down dusty surfaces and processes where dust may be generated.
- Appropriate covering of potentially dust generating stockpiled materials on the work site.
- Avoiding the occurrence of dust generating activities during dry and windy weather conditions.
- Dust monitoring to assess the effectiveness of dust management controls and to indicate if any when additional measures may be required.
- Use of modern, low emission plant and machinery and turning plant and machinery off when not in use.

5.2.6 Visual Impact

UBTC will always take into account how the company is viewed from an outside third person perceptive and take reasonable steps to reduce any negatives affects it may have, UBTC will set out measures and good practices with the aim of reducing visual effects as below but not limited to:

- The barges may be located adjacent to residential and existing structures as and when it is required in order to complete the project in due time and possibly within the vicinity of local animal habitats or locations where they are feeding.
- Barges will be positioned on location for as shorter period as reasonably practicably possible.
- People 'working' on the barge will be kept to an appropriate minimum in order to safely complete the planned works of the project, however there may be a requirement to maintain/repair or deliver plant and equipment

which will mean for a limited time there may be more personnel on the barge. In addition, it is a requirement that the Principal Contractor and the relevant Client perform occasional safety and / or environmental audits of activities on the barge, which will consequently increase the number of personnel on the barge for a limited duration during a working period. These will be kept to a minimum unless there is a reason to inspect more frequently.

- Tree protection and site clearance measures.
- Orderly segregation of particular construction activities i.e. the clear delineation of construction site offices and staff facilities, materials storage area, plant and machinery storage areas.
- Maintenance of adequate construction site hording (if required).

5.2.7 Ecology

UBTC will ensure considerations are taken into account regarding all protected species, habitats and wildlife conservation during construction works to minimise adverse impacts. Measures will be taken such as:

- All construction and decommissioning phases are to be thoroughly planned to avoid key ecological events such as fish spawning, fish aggregation and fish migration.
- Other than the selection of low-noise / vibration piling techniques, potential further mitigation measures to be taken by avoiding in-river works during the smelt spawning times (March to April) for a short time (approx. one week) and limiting piling operations during night-time hours to prevent adverse ecological effects to eel migration.

In accordance with the National Planning Policy Framework (2019), London Biodiversity Action Plan, London Plan, TfL Mayor's Transport Strategy and Local Plan Policies, a Biodiversity Net Gain report is will be prepared at a later stage in order to inform and to further enhance the ecological value of the site as compensation for the local communities affected.

5.2.8 Archaeology and Cultural Heritage

Archaeological issues are to be considered during the design stage and agreed with the client. If the design of the project is changed for any reason and consequently could have additional archaeological implications, the Client will be informed as soon as is practicable and an archaeologist company consulted.

Consultation with the relevant government bodies i.e. Local Planning Authorities (LPA) / Greater London Archaeology Advisory Service (GLAAS) etc should be undertaken to ensure any impact on previously unrecorded buried archaeological features or deposits is either defined in more detail by evaluation or mitigated by archaeological monitoring during construction and the use of protective measures during works which will be specified in the Method Statements to ensure there is no accidental damage.

During the design, disturbance of any artefacts and/or structures from the works will be reduced and controlled. These may be achieved through:

- Making allowances in the work programme for the recording of archaeological finds.
- Making available suitable equipment to assist the archaeologist.
- Designing activities away from high-risk areas.
- Avoidance of particularly sensitive areas where practicable.
- Considerate positioning of new structures.
- Local/similar materials used in the construction of new structures.
- Use of sympathetic techniques and materials in the renovation or securing of structures.

If there are risks associated with the construction works, these works will not commence until an authorised person has agreed the Method Statements. All relevant parties will work closely with Client and local authority.

5.3 Waste Management

A Waste Management Procedure and Garbage Management Plan is to be used in conjunction with the Environmental Management Plan prior to the start of the works to assist the Project Management Team to ensure waste streams are identified, acted upon appropriately and documented accordingly.

A record will be undertaken to identify all potential waste streams and will assist in the following tasks:

- Classification of waste materials and under the relevant Waste Codes
- Understanding exemptions from the Waste Management Licensing Regulations.
- Tracing the origins of materials used for compound construction materials.
- Eliminating waste at source through design, specification and size etc.

Waste disposal will be managed by the Principal Contractor:

- Identifying recycling routes & disposal options, and
- Appointing appropriate waste carriers.

In line with the waste management, the following control measures will also be introduced to minimise the impacts of waste as far as reasonably practicable.

5.3.1 Waste Storage

- Store waste in clearly labelled skips or storage areas away from sensitive areas such as watercourses.
- If skips are provided by the Client, establish what materials can and cannot be put in them before commencement.

5.3.2 Recycling

- Where possible segregate waste types to maximise recycling and minimise cost. Liaise with the Principal Contractor regarding recycling requirements on site.
- Capitalise on opportunities to reuse in situ materials or incorporate recycled materials into the works.

5.3.3 Statutory Compliance

All waste movements must comply with the relevant duty of care regulations and the Principal Contractor's site procedures will be followed to ensure compliance. Waste will be disposed of by a competent third party.

5.3.4 COSHH

Please refer to the COSHH assessment along with the MSDS for more information regarding COSHH information.

6.0 Audit and Inspection

Environmental audits of this project will be carried out concurrently with Health, Safety and Quality audits, in accordance with Company QSHE procedures, on a regular basis with a written report being submitted to the relevant levels of management for review and action.

Auditing is carried out to help site staff fulfil their environmental responsibilities and to prevent any non-compliance with good environmental practice. The auditors will be employed by UBTC, and shall have the relevant skills, qualification and training, or may be from an outside independent consultancy if this course of action is decided.

All site audits will be carried out in accordance with UBTC policies, standards and procedures, and will be recorded on the appropriate forms.

7.0 Environmental Emergencies and Incident Reporting

The UBTC Accident and Incident Investigation Procedure outlines procedures for dealing with potential environmental incidents.

All environmental incidents (for example spillages, customer complaints or subcontractor problems) should be managed in accordance with the Accident and Incident Investigation Procedure. Any incident should be recorded on an Accident / Incident Report Form and a copy issued to the QHSE Manager who will consult with the Managing Director. This is a 'no-blame' mechanism for improving the Company's Environmental Management System.

It is imperative that all staff are made aware of the environmental implications of incidents and that such incidents are dealt with in the correct manner.

Appendix A – Emergency Spillage Procedure

In the event of a spillage, the following procedure shall be followed (The location of spill kits is to be communicated to all persons during the start of shift briefing):

Item	Task
	Spillages of fuel or oil into watercourses or the sea or on land may constitute an offence under Environmental legislation, which attracts large fines. Our Company must make suitable contingency arrangements in the event of a spillage.
1.	**All site personnel** – decide whether the spill is within their control or outside of their immediate control.
2.	If spill is within control, contain the flow and prevent it from reaching a watercourse or entering a drain. Cover spill with absorbent material or sand. Proceed with clean up (ensuring the correct PPE is worn), and then notify foreman/agent.
3.	Dispose of clean up materials as hazardous waste.
4.	**If outside of immediate control, then;** raise alarm – advise foreman/agent, and call the environment agency on 0800 80 70 60.
5.	Assist in clean-up process as directed by emergency services.
6.	In the event of major spills, foreman/agent will contact specialist pollution control experts.
7.	Foreman/agent - notify contracts manager and ensure an incident report form is completed.
	Whenever possible use biodegradable hydraulic oil / oil.

Minor Oil Spill Action

The person finding an oil spill or leak is to raise the alarm by shouting “SPILL”. The Barge Master and Project Manager are to be informed at the earliest opportunity.
If possible stop the leak, and contain the spill using spill kits, this may require:

- Sealing the scuppers
- Wear the appropriate PPE
- Mopping up using absorbent pads and granules
- Safe disposing of contaminated pads & granules

Major Oil Spill Action

If the leak has not been successfully contained and has spread to the wider environment, the barge master is to be informed immediately to organise the response. All work is to stop and to prevent further release. The actions above may still need to be carried out depending on the circumstances to minimise the extent of the spill.

The authorities are to be informed by the Barge Master of the situation. The Barge Master will take charge and evaluate the seriousness of the spill and decide which actions are required; These may include (not necessarily in order):

- Contacting the authorities for advice or support
- Deploy the floating boom using the RIB or support vessel to contain the spill
- Deploying dispersant
- Using floating oil absorbent pillows to absorb the oil
- Implementing any elements of the vessels SOPEP to aid the situation.

Once the spill has been dealt with, the spill kits will be replenished and contaminated materials will be stored in sealed containers and disposed of.

Oil spill equipment sufficient to cope with a major oil spill is kept on board the JUBs and is replenished as usage occurs, please see below list:

- Floating boom(s) — capable of encircling
- Large litre bags of oil absorbent granules
- Boxes of oil absorbent rags
- Oil dispersant

The spill equipment is replenished when required by the Barge master with weekly stock checks recorded.