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| Project: | South Tees Regeneration Programme Prairie Phase 2 Site Preparation & Remediation Works |
| Project Number: | 2383 |
| Location: | South Tees Development Corporation, Redcar, TS10 5QW |
| Client: | South Tees Development Cooperation , Teesside Management Offices, Redcar, TS10 5QW |



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| Revision: | 2.0 |
| Date: | 8 th December 2020 |
| Completed by: | Mark Kriehn, SHEQ Director, Hall Construction Services Ltd (HCSL) Principal Contractor |

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REVISION HISTORY

Any revisions to this CEMP are to be recorded below.

| Issue/ Revision | Issue/Revision Date | Reason for Issue/Revision |
|--------------------|-------------------------------|--|
| 1 | 3 rd December 2020 | Initial Issue. |
| 2 | 8 th December 2020 | Update due to Principal Designer feedback. |
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INTRODUCTION

As Principal Contractor, Hall Construction Services Ltd (HCSL) will allocate sufficient resources to effectively plan, manage and monitor the various stages of the construction phase and coordinate matters relating to the Environment, with other contractors, in order to manage the potential environmental impacts of construction works and the successful delivery of the STDC Prairie Phase 2 Site Preparation & Remediation Works.

The primary requirements of the planning consent are the implementation of the core document; the Construction Environmental Management Plan (CEMP). The CEMP is required to encompass environmental controls when required with due consideration to relevant environmental legislation and will be in line with the Environment Agency’s (EA) ‘Pollution Prevention for Businesses’ which details how construction sites can avoid causing pollution from construction related activities such as oil storage and/or spills and contamination of water.

The CEMP provides the framework for any requirements of planning conditions and outlines the contractor’s approach to environmental management throughout the construction phases with the primary aim of reducing any adverse impacts from construction on local sensitive receptors.

This Construction Environmental Management Plan (CEMP) is a live document and is to be reviewed at regular intervals and, where necessary, amended to reflect changes in the scope of work or programme changes where the planned interface of trades may alter and to address any potential environmental impacts of construction works associated with individual design elements developed during the works, so that all times the CEMP may considered suitable and sufficient.

1.0 PROJECT OVERVIEW

1.1 Proposed Development

In general, this project is the remediation of the proposed development site. This will include the removal and/or treatment of contaminated soils and the removal of redundant structures within the proposed development site to prepare the area for future developments. Soils stored in other areas of the STDC site may be used within the proposed development site.

In accordance with the [Habitats Regulations Assessment, Arup, dated 23 June 2020](#) the proposed development will not include the daylighting of the Holme Beck, Cross Connector and/or Knitting Wife Beck culverts. The proposed development will not include the daylighting of the Cross Connector and Knitting Wife beck. Only when contamination has been satisfactorily removed/remediated the opening of the culverts will be phased, but is not part of these scope of works. HCSL scope of works are as follows:

- Asbestos Site walk-over survey;
- Background Reassurance Air Sampling.
- Topsoil & vegetation strip;
- Reduced level excavation;
- Breaking out above ground and below ground concrete redundant structures;
- Segregate excavated materials and stockpile in processing area;
- Haul, spread and compact excavated arisings;
- Crushing and processing of recovered concrete.
- Testing materials to ensure suitable for use on the site.

1.2 Site Description

The site is located in a part operational and part decommissioned area of the Lackanby steel works at Redcar. The Teesside Steelworks is a large expanse of steelworks that formed a continuous stretch along the south bank of the River Tees from the towns of Middlesbrough to Redcar in North Yorkshire.

1.3 Site Boundary and Entry points



2.0 ENVIRONMENTAL MANAGEMENT FRAMEWORK

2.1 Environmental Policy Statement

Hall Construction Services Limited is a family run business and undertakes civil engineering, construction and building services.

This policy covers all employees, officers, consultants, contractors, casual workers and agency workers.

This policy does not form part of any employee's contract of employment and we may amend it at any time.

The company is committed to the provision of an environmentally friendly service to its clients and to the wider public. The company accepts that its work has an affect on the environment, but will mitigate this impact by following procedures in line with industry best practice.

The company is committed to promoting a broader sustainability agenda. The company will address sustainability issues at all stages of project management.

The company is committed to full compliance with current environmental legislation, and the protection of the environment to include the prevention of pollution. In order to facilitate this, the Company will take into consideration environmental and sustainability compliance obligations when establishing, implementing, maintaining, reviewing and continually improving our environmental management system to enhance environmental performance.

The company and any sub-contractor they employ will seek to operate above legal minimum standards, and in accordance with the environmental requirements of its clients.

In particular, the company recognises that its work has environmental impacts in the following areas:

- Noise, air quality, creation and disposal of waste materials, water quality, visual impact, off-site transport, use and storage of fuels/oils, flora and fauna.

Procedures will be implemented on all of our civil engineering / construction sites to mitigate the effects of its operations. These procedures will be audited internally and externally to achieve continual improvement to its systems of work.

The Directors are to ensure that all staff understands the company's commitment to the provision of environmentally friendly operations on its sites.

Environmental objectives are to be set annually by the Directors. Such objectives will be realistic and measurable against company performance.

The company will provide training and information to ensure that its aims and objectives in relation to the environment will be met.

Hall Construction Services Limited has a documented system on its sites to ensure that at all stages of its planning and work, due consideration is given to environmental matters. The company has achieved certification to ISO 14001:2004 for its Environmental Management System, which will be audited to ensure ongoing conformance and improvement.

Practical steps

In order to put these principles, where practicable, into practice we will endeavour to:

- Walk, cycle and/or use public transport to attend meetings, site visits etc, apart from in exceptional circumstances where the alternatives are impractical and/or cost prohibitive;
- Include the full costs of more sustainable forms of transport in our financial proposals, rather than the least cost option which may involve travelling by car or air. Where the only practical alternative is to fly, we will include costs for full air fares rather than budget airlines in our financial proposals, and appropriate offsets;
- Avoid physically travelling to meetings etc where alternatives are available and practical, such as using teleconferencing, video conferencing or web cams, and efficient timing of meetings to avoid multiple trips. These options are also often more time efficient, while not sacrificing the benefits of regular contact with clients and partners;
- Reduce the need for our staff to travel by supporting alternative working arrangements, including home working etc, and promote the use of public transport by locating our offices in accessible locations;

Purchase of equipment and consumption of resources

- Minimise our use of paper and other office consumables and identifying opportunities to reduce waste;
- As far as possible arrange for the reuse or recycling of office waste, including paper, computer supplies and redundant equipment;
- Reduce the energy consumption of office equipment by purchasing energy efficient equipment and good housekeeping;
- Purchase electricity from a supplier committed to renewable energy. Seek to maximise the proportion from renewable energy sources, whilst also supporting investment in new renewable energy schemes;
- Ensure that timber furniture, and any other timber products, are recycled or from well-managed, sustainable sources and are Forest Stewardship Council (FSC) certified;
- Purchase fair-trade and/or organic beverages.

This policy will be periodically reviewed by the Company SHEQ Director.



Stephen Hall
Managing Director
Hall Construction Services Ltd

2.2 Roles and Responsibilities

2.2.1 Project Director

The Ensure the client's objectives are understood and procedures are in place to meet these objectives.

- Planning conditions or other contractual or legal requirements are understood and implemented.
- Ensure environmental risks (aspects and impacts) have been identified and are addressed.
- Ensure that sufficient resources are available to implement the project's sustainability and environmental management requirements.
- Lead the project to ensure achievement of environmental targets.
- Ensure a site waste management plan (if using) is in place prior to start of the works, that it contains an accurate forecast and that monitoring takes place against this forecast.

2.2.2 Project Manager

- Support the Project Director in environmental management matters.
- Ensure that the project environmental files/records are kept up to date.
- Ensure that the project environmental management plan is completed, kept up to date and communicated to all trade contractors / sub-contractors on a regular basis through, if necessary, an agenda item at meetings.
- Ensure that the project team receive appropriate information from trade contractors /sub-contractors on how they are going to implement environmental controls.
- Ensure that environmental issues are sufficiently covered in the post-tender and pre-start meeting by the project team.
- Ensure environmental Key Performance Indicators (KPIs) are measured and targets are being met.
- Ensure regular checks are being made to assess adequacy of environmental control measures.
- Ensure that all communications, complaints and incidents of an environmental nature are dealt with appropriately.
- Ensure all members of staff are being appropriately trained and made aware of environmental controls and issues relevant to the site.
- Ensure relevant environmental / sustainability issues are included in the site induction process.
- Ensure any corrective actions identified are followed up and closed out.

2.2.3 Site Manager

- Ensure that all control measures identified in the environmental management plan are included in method statements or trade contractors' / sub-contractors' environmental plans.
- Ensure all required data and documentation is collected and recorded.
- Support the management and close out of any environmental complaints or incidents.
- Ensure all relevant environmental issues are included in the site induction process.
- Ensure regular inspections are undertaken to check control measures are adequately implemented and corrective actions are taken where needed.
- Support the achievement of any project environmental targets and ensure best practices are captured/documented and communicated as appropriate.

2.2.4 Commercial Manager

- Ensure appropriate wording to address environmental requirements and controls are included in any tender/contract documentation.
- Ensure that environmental issues are sufficiently covered in post tender and pre-start meetings.
- Ensure tender responses are assessed making sure that environmental requirements have been properly addressed and accounted for in trade contractors' / sub-contractor's proposals.
- Ensure value/cost/spend data is provided to the environmental coordinator where required to enable calculation of project Key Performance Indicators
- Ensure opportunities and risks are included on the project risk register to ensure that environmental requirements have been sufficiently costed.
- Ensure Corrective Action Reports are followed up with the trade contractors / subcontractors and where necessary appropriate contractual actions taken.
- Support the achievement of any project environmental targets

2.2.5 Information Manager/Document Controller

- Support the team in achieving environmental objectives and targets.
- Support the team by ensuring documentary evidence is obtained to close out the requirements of applicable ratings or audits (e.g. BREEAM/CEEQUAL/Home Quality Mark/LEED or similar).

2.2.6 Environmental Co-ordinator

This role will be carried out by the Site Manager, to include:

- Ensure environmental control measures and management systems procedures are implemented.
- Ensure data is collated for calculation of any environmental objectives, targets and Key Performance Indicators.
- Support identification of project risks.
- Ensure all environmental incidents are investigated and reported.
- Ensure any monitoring (e.g., noise, dust) is undertaken as required.
- Ensure environmental matters are reviewed at appropriate meetings.
- Ensure legal compliance including obtaining and holding records of documentation such as:
 - Environmental Permit (abstract water)
 - Discharge Consent / environmental permit (to sewer and/or surface water)
 - Environmental Permit or exemption (waste management)
 - Hazardous Waste Producer registration.
- Support reporting of environmental data to the client, or other relevant stakeholders (may include the public as well as site personnel).
- Support and coordinate external audits and inspections (eg Considerate Constructors, Environment Agency, Environmental Health, ISO14001 certification body).

2.2.7 Sub-Contractors, Supervisors and their workforce

- Ensure environmental control measures are identified and addressed in method statements or in the trade contractor's / subcontractor's environmental management plan and that these are followed.
- Support development and implementation of the site waste management plan (where a legal requirement); Including:
 - Estimates of waste stream volumes expected to arise during contract works (contractual requirement);
 - Advise on waste reduction opportunities; and
 - Justification of deviation from predicted volumes.
- Apply the principles of the waste hierarchy to eliminate, or where this is not possible, minimise waste.
- Ensure all waste generated is adequately controlled and removed from site in accordance with legal requirements.

- Ensure regular (e.g. weekly or monthly) awareness and training is undertaken to refresh knowledge.
- Ensure all appropriate Permits/Consents/Licences have been obtained prior to commencement of works and work in compliance with any attached conditions.
- Ensure any incidents are promptly reported so that corrective action can be taken.

2.2.8 Arcadis Resident Engineer

As identified in the ARCADIS Site Investigation report and Remediation Strategy there are hot spots of contaminated material within the Phase 2 CDM area. Therefore, all earthworks will be closely monitored by the ARCADIS on-site engineer. Any contamination discovered will be dealt with under the instruction and supervision of the ARCADIS on-site engineer.

3.0 GENERAL ENVIRONMENTAL ARRANGEMENTS

3.1 Project Environmental Objectives

- Reduce the impact of construction on this project, by assessment of the environmental impact and risk
- To achieve a record of ZERO Environmental incidents.
- There will be ZERO tolerance to acts and omissions that result environmental damage or loss of property both on site and to others affected by the construction activities.
- A high standard of housekeeping is maintained on site at all times.
- Manage project waste in a sustainable manner in accordance with the waste hierarchy (Prevention, Reuse, Recycling, Energy Recovery and Disposal) to ensure a reduction in waste sent to landfill.
- To manage the contract with a view to minimising risk and completing the project within the allotted time scale and to the quality and satisfaction of the client.
- To prevent contamination entering Water Course and protect ecological receptors.

3.2 Site Environmental Rules

The site rules are displayed on the Site H&S Notice Board poster and are to be adhered to at all times. Anyone who does not adhere to the site rules will be reprimanded by the Site manager and may have disciplinary action taken against them or in the case of other contractors may be asked to leave the site, depending on the offence. The Environmental site rules are as follows:

- All operatives must follow any Site Waste Management Plan, if required.
- Report any spills of oils, diesel, petrol or other liquids to the Site Manager immediately.
- Do not re-fuel machinery or decant liquids from one container to another near drains.
- When re-fuelling mobile or static machinery always use a drip tray.

- Be aware of the location of spill kits and oil absorbing materials.
- Put waste materials straight into the correct skip or container do not throw waste onto the ground for someone else to remove.
- Ensure you know the location of the hazardous waste container and the general waste skip and what is to go into each.
- Do not cause any damage to trees or hedgerows unless you have specific permission from the Site Manager.
- Be aware of any no go areas on site these will be protected for a number of environmental reasons.
- Do not burn any waste on site.
- Do not bring domestic waste to site for disposal.
- Take care when working near watercourses not to cause pollution.
- Do not cause unnecessary noise or dust.
- If you find any contamination in the ground report to the Site Manager immediately.

In addition, there are STDC Site rules that will be issued during the STDC induction. All operatives must comply with the South Tees development rules, at all times

3.3 Communication

3.3.1 Internal Communication

The CEMP will be distributed to the project team, including subcontractors, to ensure that the environmental requirements are communicated effectively. Key activities and environmental sensitive operations will also be briefed to staff and subcontractors. HCSL environmental polices shall be displayed on site.

A schedule of meetings will be developed to include weekly Safety, Health and Environment meetings, where any issues or incidents will be raised for the attention of the client, along with proposed remedial action and additional control if required.

During the construction phase, internal communication will include reporting on the following:

- Inspections;
- audits and non-conformance;
- Environmental performance data including any incidents and near misses;
- HCSL and all relevant stakeholders will be informed of any visits by external bodies and the outcome or feedback from them.

Meetings provide the Site Manager and the team an opportunity to exchange information and receive immediate feedback.

3.3.2 External Communication

All complaints or information requests will be made aware to the Site Manager and will be logged promptly.

Noise and dust issues may be a key subject of complaint where construction works take place. Working hours, plant types, construction methods and noise mitigation measures may be issues.

Careful monitoring of complaints received, including recording details of the location of the affected party, time of the disturbance and nature. This is to assist with managing the works to reduce the likelihood of further complaints.

3.4 Training

Site staff will be competent to perform tasks that have potential to cause environmental impact.

Competence is defined in terms of appropriate education, training and experience. Where project specific training is required, training will be appropriate to the role and seniority of staff.

Environmental awareness and training shall be achieved by:

- Site inductions, including relevant environmental issues, such as waste management, working near watercourses, noise & dust management and ecological risks;
- Emergency preparedness and response briefings, including communication and reporting of incidents, use of spill kits and other equipment, learning lessons;
- Method statement and risk assessment briefings including reference to environmental risk;
- Toolbox talks to cover specific task related matters of environmental risk;
- Key project specific environmental issues and briefings.

3.5 Site Security and Segregation

All areas identified by Risk Assessment are to be segregated with a physical barrier to avoid unauthorized entry. Where Heras fencing panels are used, they are to be “double clipped” with the nuts facing to the inside of the compound. Suitable signage will be erected warning people of hazards, as and when necessary. All gates are to be kept closed, when not in use. A daily inspection regime is to be in place throughout the project to ensure segregation is maintained. At the end of each working day all operatives (including contractors) are to ensure their workplace within the CDM area is secure.

Out of hours Security is provided by the existing STDC in-house security.

3.5.1 Parking

In accordance with the Traffic Management Plan (TMP) private vehicles and plant will be segregated in designated parking areas within the CDM area.

3.6 Site Environmental Monitoring

Compliance with the requirements of this CEMP and statutory legislation will be monitored through routine inspections and audits with the following implemented:

3.6.1 Site Manager's Weekly Inspection

The Site manager (or deputy) will conduct a weekly Site Safety, Health & Environmental Inspection. Any remedial action required as a result of the inspection is to be rectified as soon as possible and copy of the Inspection report (HCSL QF 193 - Site Managers SHE Weekly Inspection Report), highlighting findings and subsequent remedial actions is to be forwarded to the Company SHEQ Director at the end of every week.

3.6.2 Working supervisor/foreman

The working foreman/supervisor (including contractors) will be responsible for monitoring their own teams to ensure compliance with Health and Safety Regulations and the Site Rules.

3.6.3 SHEQ Director site Inspection/Audit

The Company SHEQ Director will visit the project site once a month (or more frequent, if circumstances dictate) and carry out a Site SHEQ Audit. During this audit he will monitor compliance with the requirements of the CEMP.

A copy of the report (QF 153 - SHEQ Director's Site Inspection/Audit Report) highlighting the agreed course of action and the timeframe recommended to rectify the issues identified, will be left with the Site manager.

3.6.4 Client Site Inspections

It is expected that the Client's Health and Safety representatives will also carry out their own inspections.

3.6.5 Air Quality Assurance & Personal Monitoring

Air Reassurance Sampling and Personal Sampling will be carried out by a specialist Air Sampling contractor (Lucion). Initially five continuous working days followed by two half days per week, throughout the project.

3.6.6 Testing materials for Contamination

Throughout the earthwork activities a specialist contractor (Arcadis) will be carrying out validation testing.

3.7 Site Documentation

All documents will be kept on site and be available for monitoring and auditing purposes. Site inspections may require access to this documentation for environmental auditing purposes.

Copies of all environmental documentation relevant to the works will be filed on site, and made available for internal inspection, including:

- Construction Environmental Management Plan (CEMP);
- Access negotiations (if necessary) and physical access plan;
- Complaints register;
- Site daily diary;
- Records of any remediation / rehabilitation activities, if necessary;
- Reports to the Project Manager;
- Register of all environmental incidents and actions taken;
- Any written communication with the Environmental Authorities or consultees;
- Waste transfer notes;
- Hazardous waste consignment notes;
- Records of all hazardous materials used on site;
- Monitoring data (e.g., dust, noise);
- Consents and licences obtained, if required.
- Records/reports of surveys and inspections;
- Environmental risk assessments;
- Method statements;
- Environmental Statement; and
- Environmental training records (inductions, etc)
- Test certificates/Reports for Air monitoring, Personal Asbestos Monitoring and Water Quality monitoring.

All documentation will be made available for review and scrutiny upon request by the Earthworks Director/SHEQ Director or a representative of relevant Authorities (Planning, Environment Agency, etc).

4.0 ENVIRONMENTAL RISK ASESMENT

4.1 Overview

The environmental aspects, impacts and risks relating to the work activities for the STDC Prairie Phase 2 Site Preparation & Remediation Works project have been identified and the Environmental protection measures required to mitigate the significant impacts and risks are detailed in this Risk Assessment.

The assessment examines the potential impacts of the of the following during construction:

- Air quality (Transport);
- Air Quality (Odour detection)
- Air Quality (Dust Management);
- Water quality and drainage;
- Noise and vibration;
- Ecology;
- Waste;
- Transport;
- Materials Storage and Pollution Prevention.

4.2 Air Quality (Transport)

Vehicular movements during construction will be major and it is recognised any disturbance to air quality caused by increased traffic during construction will be a key concern. Primarily vehicle movements will be minimised as much as possible by the re-use of materials on site. In terms of the construction phase of the project, mitigation measures will be implemented as part of a Traffic Management Plan.

The Traffic Management Plan (TMP) considers the effect of:

- Vehicular activity generated by the construction process;
- HGV and other operational vehicles accessing the site during the construction process; and
- Designated haul routes and restricted routes for construction traffic.

The HCSL site management team will be based on-site during the construction period to ensure all contractors and material suppliers are safely implementing the TMP.

All sub-contractors, operatives and suppliers will be made aware of the TMP. It also lays out the Traffic Management Principles and areas of storage and route for construction vehicles.

The primary access to the site for all construction traffic will be from via the South Tees Development Corporation Redcar security gate.

Delivery vehicles whenever practical will avoid 'peak public traffic hours' to reduce traffic congestion and nuisance to the existing road and South Tees development Corporation (STDC) road network. To avoid construction traffic congestion and nuisance to the surrounding area all suppliers and contractors will be made aware of traffic routes.

The CDM site entrance will be maintained and kept clean and clear. All materials will be loaded within the site compound/boundary of the working zone to minimise congestion. For environmental and road safety any HGV leaving the item will be appropriately covered to avoid soiling of the

roads and highway. Engines of all vehicles, mobile and fixed plant on site are not left running necessarily.

Wherever practicable, utilisation of low emission vehicles and plant fitted with catalysts, diesel particulate filters or similar devices will take place with vehicles and plant using ultra low sulphur fuels where possible. Plant will be well maintained, with routine servicing of plant and vehicles to be completed in accordance with the manufacturer's recommendations and records maintained for the work undertaken.

All project vehicles, including off-road vehicles, will hold current MOT certificates, where applicable and where required due to the age of the vehicle and that they will comply with exhaust emission regulations for their class.

All plant should come to site with a current and up to date record of service and an annual inspection sheet. An onsite daily inspection will be carried out by the operatives of all plant and recorded. All plant maintenance is to take place in the site compound only. Refuelling of all plant is to take place in the compound and drip trays are to be employed during the fuelling process.

4.3 Air Quality (Odour Detection)

As identified in the ARCADIS Site Investigation report and Remediation Strategy there are hot spots of contaminated material within the Phase 2 CDM area. Therefore, all earthworks will be closely monitored by the ARCADIS on-site engineer.

If any chemical/oil odours are smelt during the excavation works the operator is to record and report to the Site manager, who will notify the ARCADIS on-site engineer.

The ARCADIS on-site engineer will determine the nature of the olfactory source and ensure that they are not left open for extended periods during excavation and that stockpiles containing the materials are covered/encapsulated to prevent ongoing issues i.e. remediation in a safe location.

Due to the potential of the gas build up in areas, confined space work is to prohibited.

4.4 Air Quality (Dust Management)

Dust management measures, in accordance with the BRE Publication 'Controlling Dust from Construction and Demolition Activity' (2003) will be applied to the construction areas within the Site. Staff will be trained in the control of dust and will ensure the site is visually monitored twice daily for levels of surface dust, the findings of which are to be recorded in the Site Diary. Should dust build up this will be damped down by water suppression.

Should a substantiated dust complaint be received, the site shall implement construction dust monitoring at the site boundary to provide continuous 'real-time' dust monitoring throughout the construction period, this monitoring shall record the following air quality data TSP, PM₁₀ and PM_{2.5} particles with a resolution of 0.1 µg/m³. All data recorded as part of the continuous monitoring will be maintained until such a time that the project is concluded

4.5 Air Quality (Asbestos)

As identified in the ARCADIS Site Investigation report, there is evidence of wide-spread Asbestos (Chrysotile and Amosite) within the CDM area. The Asbestos quantification; levels are primarily <0.001%. to 0.002%.

HCSL have consulted with a Specialist Air Sampling Contractor (Lucion) regarding this issue and have been advised to, as a precautionary measure to carry out Air Reassurance Sampling and

Personal Sampling. This commenced in November 2020 for 5 continuous working days. There were no risks to health identified in this survey. Nevertheless, periodic monitoring will be conducted two half days per week, throughout the project. The outcome of the monitoring and any recommendations from the specialist contractor, will dictate what control measures will be implemented.

4.6 Water Quality

Due to the distance of the proposed development works from the Teesmouth and Cleveland Coast SPA and Ramsar, it is considered that with implementation of a Phasing Plan and a CEMP, there will be no significant effect on the integrity of the Teesmouth and Cleveland Coast SPA and Ramsar.

However, the following systems shall be implemented to mitigate against risk to surface water, and subsequently drainage during site activities:

- Construction plant/ materials are stored on hard-standing surfaces where possible;
- Ditches and bunds to prevent Surface Water leaving site or entering receptors i.e. (Culverts).
- Protection of Water courses (Culverts).
 - Locate all Culverts on site, mark and protect.
 - Carry out condition surveys.
 - Ensure Excavation works do not impact on culverts.
 - No daylighting is to be carried out until all remediation measures complete.
- No surface water is to be pumped into drains or allowed to enter Northumbrian Water sewerage system unless it has been tested and authorised to do so.

Any groundwater recovered from excavations will be pumped and shall be treated in order to make suitable for discharge under an appropriate discharge consent or environmental permit.

There is a potential that hazardous waste will be stored on the site and therefore it must be stored in accordance with the Environment Agency Pollution Prevention Guidance (PPG2) so as not to cause any further water/land contamination.

Although now withdrawn, the EA Pollution Prevention Guidelines (PPGs) are based on relevant legislation and reflect current good practice.

The project construction phase will adhere to the following Environment Agency Pollution Prevention guidance listed below:

- **PPG2 Above ground oil storage tanks:** Provides information about storing oil in above-ground storage tanks, for new installations and existing tanks. The guidance is for small to medium size commercial oil storage. It gives advice on choosing, installing, using and maintaining oil tanks and how to deal with spills.
- **PPG3 Use and design of oil separators in surface water drainage systems:** provides information about choosing and using oil interceptors to comply with environmental law and prevent pollution. It gives information about choosing, installing and maintaining an oil separator. Oil separators can be fitted to surface water drains to protect the aquatic environment.

- **PPG7 Refuelling facilities:** It includes guidance on planning, designing, operating and maintaining refuelling facilities, plus information on storing other related, non-fuel products and dealing with environmental incidents.
- **PPG13: Vehicle Washing & Cleaning:** provides information on how to comply with the law and prevent pollution when washing and cleaning vehicles. It includes advice on dealing with effluent, waste management and storing and using chemicals.
- **PPG26 Drums and Intermediate Bulk Containers:** gives information to store and handle drums and intermediate bulk containers (IBCs). It provides advice on choosing drums and IBCs, designing storage areas, delivery and handling, maintenance, dealing with spills and waste management.

All HCSL workforce and sub-contractors will be familiar with and apply the relevant best practice listed in the above guidance documents. Copies will be made available in the site office.

4.7 Noise and Vibration

Noise and vibration statutory nuisance are controlled under the Environmental Protection Act 1990.

The potential noise from the site is:

- vehicle movements;
- construction activities;
- heavy plant;
- demolition;
- operation of temporary generators;

Noise suppression should be in accordance with the recommendations set out in BS 5228:1997, Code of practice for noise control on construction and demolition sites:

- compressors should be fitted with properly lined and sealed acoustic covers, which should be kept, closed whenever in use;
- pneumatic percussive tools should be fitted with mufflers or silencers of the type recommended by the manufacturers;
- machines in intermittent use should be shut down in the intervening periods between work or throttled down to a minimum; and
- care should be taken when loading or unloading vehicles or moving materials etc. to reduce impact noise.

HCSL will follow best practicable means to reduce the noise effect on the local environment including the following:

- Materials will be handled with care e.g., material such as steelwork will be placed rather than dropped;
- Drop heights of materials from lorries and other plant will be kept to a minimum;

- Fixed and semi-fixed ancillary plant such as generators, compressors and pumps liable to create noise and/or vibration whilst in operation will, as far as reasonably practicable, be located away from sensitive receptors;
- The use of barriers to absorb and/or deflect noise away from noise sensitive areas will be employed where required and reasonably practicable;
- All plant used on site, paying particular attention to the integrity of silencers and acoustic enclosures will be maintained in good and efficient working order and operated such that noise emissions are minimised as far as reasonably practicable;
- As far as reasonably practicable, any plant, equipment or items fitted with noise control equipment found to be defective should not be operated until repaired;
- Where reasonably practicable, fixed items of construction plant should be electrically powered in preference to diesel or petrol driven;
- Vehicles and mechanical plant, where reasonably practicable, will be fitted with effective exhaust silencers and will be maintained in good working order and operated in a manner such that noise emissions are controlled and limited as far as reasonably practicable;
- Machines in intermittent use should be shut down or throttled down to a minimum during periods between works.

Risk Assessments and Method Statements (RAMS) from contractors will be scrutinised and authorised before work commences to ensure the requirements above are understood, factored into working methods and adhered to.

4.8 Ecology

If wildlife is encountered during the Construction Phase that has or has not been scoped out of the [STDC Prairie Site Remediation Ecological Impact Assessment dated 24th June 2020](#) operatives are to be advised to stop work immediately and contact the HCSL Site manager who in turn will appoint a Suitably Qualified Ecologist (SQE) ecological specialist for advice and the production of a suitable method statement to ensure this particular wildlife is not impacted by construction activities.

Breeding Birds

All birds, their nests and eggs are protected by Wildlife and Countryside Act (1981) under which it is an offence to intentionally kill, injure, disturb or take any wild bird. This legislation and its requirements should be highlighted in staff inductions, tool box talks.

The following mitigation will be incorporated in order to prevent significant effects to breeding shelduck as a result of construction of the proposed development:

- Any removal of vegetation (e.g., grassland) in order to facilitate the construction of the proposed development should be completed outside of the breeding bird season (March to August, inclusive).
- If vegetation removal must occur within this season, a nesting bird check must be completed by a SQE immediately prior to vegetation clearance works. If nesting birds are identified, the SQE will set up an appropriate buffer zone and all works in this area must
- cease until the chicks have fledged the nest.

Wintering Birds

To prevent sediment, dust, surface water run-off, or any other substance relating to construction from impacting wintering birds within the Slams and the River Tees through the Lackenby Channel the mitigation measures in [Section 4.5 – Water Quality](#), [4.10 – Material Storage and Pollution prevention](#), [4.11 – Contaminated Land](#) and [5.1 – Control measures and Likelihood of Environmental Incidents](#).

4.8.1 Control of Invasive Plant species

It is an offence under the WCA 1981 (as amended) to cause the spread of invasive plant species listed on Schedule 9, into the wild. A small number (<10) of cotoneaster shrubs are present within the proposed development site. Species included small-leaved cotoneaster (*Cotoneaster microphylla*), which is listed on Schedule 9 of the WCA 1981 (as amended). This makes it an offence to cause the spread of this species in the wild.

There have been various walk-through surveys of the HCSL CDM area (Asbestos and Services) during the enabling works, however no invasive species (in particular, cotoneaster shrubs) have yet been discovered but due to the findings of the [STDC Prairie Site Remediation Ecological Impact Assessment dated 24th June 2020](#) and its disturbed nature, there is the potential for invasive species to be present or to colonise the area.

Works during this project will be undertaken following best practice guidelines, such as:

- Where plant material is cleaned by using such tools as a tyre wash to ensure there is no introduction of or spread of invasive species.
- Tool-box talks given to all relevant workforce to ensure the spread of all invasive species is controlled.
- When landscaping is undertaken, only native species should be planted.

If invasive species are found (e.g., small-leaved cotoneaster) control or removal of these species will be undertaken by a specialised contractor.

Depending on the species, it will usually require an approved herbicidal treatment programme to begin at the earliest opportunity and continue until plans can be made to either:

- Remove the materials from the site altogether or relocate the material on site; either landscaped or in a deep burial or shallower encapsulated burial.

Note: All occurrences of invasive species will be controlled on-site or removed and disposed of off-site as a controlled waste.

The specialist contractor will advise on the treatment required; quantity and duration.

Prior to works the specialised contractor will be asked to produce a Method statement. The method statement will be comprehensive and cover the following points:

- (a) Herbicide spray as per drawings and specification.
- (b) Wash down area to prevent spread of materials.
- (c) Management plans.

(d) Designated working areas.

4.9 Waste

The Management of Wastes generated by the construction activities on site shall be detailed in the Waste Management Plan (WMP) will be completed and maintained on site by the Site Manager. It should be made available to all personnel on site as appropriate. Other industry guidance such as the CIRIA Waste Minimisation in Construction will be utilised as required. This is available online at www.ciria.org.

The Waste Hierarchy which should be implemented on site is as follows:

- **Prevention/Reduction:** ensuring the products are not over ordered and where possible utilising efficient construction methods and off-site fabrication;
- **Re-use:** products and material can sometimes be used again, for the same or a different purpose.
- **Recycling and composting:** resources can often be recovered from waste;
- **Energy recovery:** value can also be recovered by generating energy from waste; and
- **Disposal:** only if none of the above options offer an appropriate solution should waste be disposed of.

4.9.1 Waste management Plan

The SWMP should identify the personnel and their roles and responsibilities. This includes maintaining records of waste transfers. The appointed site manager should also ensure compliance within any permits and record keeping. HCSL must ensure all controlled waste is managed in accordance with the following Duty of Care requirements:

- Ensure all waste is correctly assessed and categorised;
- Prevent the illegal deposit or handling of controlled waste by any other person;
- Prevent waste material from escaping our control;
- Only transfer controlled waste to an “authorised person” (Waste Collection Authority, the holder of an Environmental Permit, Registered Water Carrier or Waste Disposal Authority);
- Ensure that non-hazardous waste is transferred under a Waste transfer Note which must be retained for two years;
- Hazardous waste is moved under a waste consignment note that provides a clear description of the waste material. The consignment note must be retained for three years.
- The waste is the responsibility of the company until it has been fully recovered or finally disposed of.

4.9.2 Waste Segregation

Wherever possible, different types of waste should be segregated as they are produced to allow for correct disposal/recycling. Each type must be stored separately and securely to prevent pollution and cross-contamination and each waste container should be clearly labelled.

4.10 Transport

Controls and limits that are relevant to the construction traffic associated with the HCSL construction works are dealt with through the TMP and specific planning Requirements.

4.11 Material storage and Pollution Prevention

Chemicals and hazardous materials such as fuels, oils and lubricants are to be stored on site during the construction phase of the project.

Although now withdrawn, the EA Pollution Prevention Guidelines (PPGs) are based on relevant legislation and reflect current good practice.

The following list shows measures that will be put in place to prevent pollution and would conform to the best practice policy proposed by the Environment Agency (EA) via the Pollution Prevention Guidelines (PPGs):

- the handling, use and storage of hazardous materials to be undertaken in line with the EA's Pollution Prevention Guidelines (e.g., PPG2 Above Ground Oil Storage Tanks);
- adequately bunded and secure areas with impervious walls and floor for the temporary storage of fuel, oil and chemicals on site during construction;
- drip trays to collect leaks from diesel pumps or from standing plant;
- oil interceptor(s) fitted to all temporary discharge points and for discharge from any temporary oil storage/ refuelling areas;
- development of pollution control procedures in line with the EA's Pollution Prevention Guidelines, and appropriate training for all construction staff;
- Provision of spill containment equipment such as absorbent material on site.

Any stockpiled material awaiting disposal or as backfill material will be sealed, dampened down or covered (if required) during dry weather to prevent wind-blown dust arising.

4.12 Contaminated Land

Any contamination that might be generated during construction (e.g. dust or disturbance of contaminated spoil) will be temporary. The construction environment will be controlled through the implementation of a CEMP.

As identified in the ARCADIS Site Investigation report and Remediation Strategy there are hot spots of contaminated material within the Phase 2 CDM area. Therefore, all earthworks will be closely monitored by the ARCADIS on-site engineer. Any contamination discovered will be dealt with under the instruction and supervision of the ARCADIS on-site engineer.

5.0 ENVIRONMENTAL INCIDENT RESPONSES

5.1 Control Measures and Likelihood of Environmental Incidents

In order to minimise the potential for environmental incidents from construction activities at Prairie (Phase 2) a series of preventive (i.e., risk reduction) measures will be adopted.

All site personnel (including sub-contractors) must be familiar with the potential environmental impacts and risks posed by the construction work. Although many of these are set out in this document, site management and sub-contractors should ensure that they have a clear understanding of those risks that are relevant to their contract before they commence work. Site management and sub-contractors will therefore need to carry out their own risk assessment and devise method statements and incident response plans to ensure that suitable and sufficient controls are in place to avoid pollution and harm to human health or environmental receptors at all times either on or off-site.

All works and method statements must be in accordance with the design elements in the Environment Agency's Pollution Prevention Guidance notes and other good construction practice, including that published by CIRIA. These measures include:

- as far as possible, minimising the storage of potentially polluting materials and substances, and locating storage areas:
 - as far away as possible from high-risk locations;
 - as far away as possible from where there is a risk of damage by collision (e.g. from site traffic);
 - not within 50m of a spring, well or borehole;
 - not within 10m of a watercourse, ditch or drainage channel and Holme Beck, Cross Connector and/or Knitting Wife Beck culverts;
 - not where polluting materials or substances could enter an open drain or soak into unmade ground where it could pollute groundwater;
 - not where a spill could run over hard ground to enter a watercourse or soak into unmade ground where it could pollute groundwater;
 - not on roofs (materials can enter guttering, itself a pathway to the surface or groundwater environment);
- the creation of temporary drainage networks (e.g. temporary connection into combined sewer infrastructure) during interim periods during the construction of the permanent drainage system;
- use of silt traps used to capture suspended solids;
- use of appropriately designed, built and maintained oil storage and refuelling facilities;
- use of oil/water separators; and
- control of drainage rate to ensure runoff does not exceed the agreed discharge rates.

- Special areas with enhanced water control system I.e. storage tank/full retention separator/impermeable surfacing to store contaminated materials for processing.

5.2 Environmental Incident Preparedness

All environmental incidents should be reported directly to HCSL Site Management as soon as reasonably practicable, who will in turn notify the HCSL SHEQ Director.

An environmental incident can be:

- A fuel or chemical spillage onto ground, into drains or a watercourse;
- Damage to the habitat of protected species or nesting birds;
- Damage to protected species, either plants or animals;
- Excessive/high offsite emissions of dust and noise, leading to a substantiated environmental complaint; and
- Incidents involving waste, such as fly-tipping or the illegal transfer of waste.

As a minimum, the Site Manager and Sub-contractors will be required to complete a risk assessment in order to assess requirements for spillage equipment and pollution prevention storage. Any equipment should be clearly labelled, readily available in the area it is likely to be required – the locations and how the equipment is to be used should be detailed in an environmental Tool Box Talk to the workforce, including sub-contractors.

If a workplace hazard is spotted a 'near miss' must be raised to prevent any incidents or activity that could be potentially harmful to the environment or the community.

If an incident or event is likely to give rise to public concern and adverse media attention or involves any significant spills, leaks of toxic substances, or pollution incident that with the potential for off-site impacts or releases then HCSL Senior Management/SHEQ Director shall be informed, and the necessary regulatory authorities contacted as required.

Spill Kits and Drip trays shall be available on site to control any spillages/drips from entering the environment.

5.3 Environmental Incident Reporting and Investigation

All Environmental incidents and near misses are to be reported to the Site manager, who in turn, will notify the HCSL SHEQ Director (or Company director(s) in his absence), **without delay**.

The site manager or sub-contractor is to complete a Company Incident report (QF158) or in the case of a Near Miss the Company Near Miss report (QF157) and forward it to the SHEQ Director within 24 hrs of the incident taking place.

In the event that a substance has entered a drain, soaked into the ground, or been released to the atmosphere; or an unexpected discovery made of protected species or habitats, work in that location will cease as soon as it is safe to do so.

The incident is to be reported immediately to the SHEQ Director who will consult with the relevant stakeholders on the appropriate course of action, including advice on further remediation and the need and responsibility for notifying the following regulatory bodies:

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- The Environment Agency: in the event of a pollution incident impacting upon water, land or air. Natural England: in the event of the identification and disturbance to a suspected protected species of animal, plant or habitat;
- The Local Authority (Redcar and Cleveland Borough Council) in the event of a significant uncontrolled release of pollution to air, ground and/or water and which have impacted upon third party receptors.
- Emergency services: will also be notified as appropriate to the nature and scale of the environmental incident.

Where an environmental incident or occurrence gives rise to a substantiated offsite impact, then HCSL shall carry out a detailed review of this CEMP and make consideration for the further controls and monitoring as deemed necessary.

5.3.1 Environmental Incident Response Training

All site personnel must be provided with appropriate induction and ongoing training on the environmental impact of the work they are carrying out, including the necessary procedures for preventing and responding to, a potential environmental incident as detailed in this CEMP.

Where appropriate to the contract, staff should be trained in environmental incident planning and response, including:

- briefings on the procedures and incident plans that are in place at the site;
- participation in emergency drills;
- participation in post-incident investigations;
- training in the use of pollution incident response equipment; and Toolbox talks

Evidence of such training should be available for inspection in the form of completed drill test plans, training records of staff and completed post-incident investigation reports.

5.3.2 Environmental Incident Response Auditing and Reporting

Compliance with the requirements of this CEMP and statutory legislation will be monitored through routine inspections and audits with the following implemented:

- **Periodic checks:** The environmental incident prevention arrangements will be inspected periodically to identify and address deterioration or inadequacies in the arrangements;
- **Monthly reporting:** The occurrence of real incidents will be reported monthly to the HCSL SHEQ Director, together with the lessons learned for incident prevention and control;
- **Periodic audit:** On a periodic basis, HCSL will undertake an internal audit to monitor compliance with the requirements of the CEMP.