

Environmental Management Plan (EMP)

Hoylandswaine
YJ202044D
First Issue
Sep 24

Project Information

Principal Contractor	Barhale EnpureJV, Rose Wharfe, East Street, Leeds LS9 8EE
Project Name & Address	Hoylandswaine STW Cooper Lane South Yorkshire S36 7JE
Client	Yorkshire Water
Client's Project Reference	YJ202044D

Revision Status

Revision	Date	Author (Name, Role & Sign)	Checker (Name, Role & Sign)	Approver (Name, Role & Sign)
01	Sep 24	N Smith Contracts Manager	D Hopper SHEQ Manager	N Smith Contracts Manager

Contents

1	Introduction	4
1.1	Project overview	4
1.2	The Environmental Management Plan.....	4
2	Environmental Management	5
2.1	Environmental and Energy Policies.....	5
2.2	Barhale Environmental Cardinal Rules	5
2.3	Roles and Responsibilities.....	5
2.4	Consents and Permissions	6
2.5	Environmental Objectives & Targets	7
3	Competence, Training & Awareness	8
3.1	Subcontractors	8
4	Environmental Risks and Opportunities.....	8
4.1	Environmental Risks and Impacts.....	8
5	Environmental Monitoring and Measurements	9
5.1	Environmental Monitoring	10
5.2	Non-Compliance Procedures and Environmental Incidents	10
5.3	Environmental Positive Intervention	11
5.4	Pollution Prevention Control	11
5.4.1	Spillages.....	11
5.4.2	Materials Handling, Use and Storage	11
5.4.3	Storage of Hazardous Substances	13
5.4.4	Air Quality (Dust Control) (Delete if not applicable)	13
5.4.5	Waste Management	13
5.4.6	Site Waste Management Plan	14
5.4.7	Contaminated Land (Delete if not applicable)	14
5.4.8	Groundwater (Delete if not applicable).....	14
5.4.9	Noise and Vibration (Delete if not applicable)	14
5.4.10	Ecology and Habitats (Delete if not applicable).....	15

5.4.11	Archaeology and Heritage (Delete if not applicable)	15
5.4.12	Energy (Delete if not applicable)	15
6	Construction Site Layout Plan	15
7	Communications	17
8	Documented Information	17
9	Conclusions and Recommendations	17

1 Introduction

1.1 Project overview

This Environmental Management Plan (EMP) has been prepared for Hoylandswaine STW. The works will include

- *A new FE sampling chamber into which the TSR treated flows and TSR pumping station overflow discharges are directed and will include a weir to create sump for sampling equipment, facility for flushing sedimentation behind weir and sufficient footpath/ hardstanding for sampling stations and control panels*
- *Access footpaths*
- *New Access Road*
- *Chemical dosing plant and kiosk, bunds and hard standing*
- *TSR unit and flocculation tank*
- *Safety shower*
- *Delivery spill chamber*
- *Ducting and draw pits*
- *New pipe work, chambers and connections*
- *All associated base slabs for kiosks and kit above*
- *reinstatement works*
- *Supply, install and test new local control panel for the TSR package plant*
- *Supply, install and test new local dosing control panels for the ferric dosing system*
- *Supply, install and test new trace heating*
- *Supply, install and test new fire and intruder detection systems for all kiosks on site*
- *Supply, install and test new instrumentation*
- *Supply, install and test proposed PLCs including hardware, software and all associated system integration works*
- *Commissioning, Testing and Handover to client*

1.2 The Environmental Management Plan

The EMP outlines how the BEJV will avoid, minimise, or mitigate effects on the environment and surrounding area during their works and it demonstrates the BEJV's commitment to meeting its legal, corporate and client's environmental requirements. The EMP is also in accordance with BEJV's **Environmental Policy PL601**.

The information contained in this outline EMP provides details of the proposed construction phasing and a summary of the potential construction impacts.

The EMP has been developed to provide the management framework needed for the planning and implementation of construction activities in accordance with environmental commitments identified in the planning and enabling phase of the project. It aims to reduce the risk of adverse impacts from construction activities on sensitive environmental receptors, including minimising disturbance of local residents.

The EMP forms part of a suite of documents, including the Site-Specific Environmental Risk Assessments and Risk Assessment Method Statements (RAMS), which will be used by the Project Manager and Lead Environmental Advisor to ensure that: the mitigation measures are implemented; for the continued monitoring of the construction phase; and to ensure the involvement of interested and affected parties. It has been informed by a number of reports and assessments, undertaken during the project planning stages, including: [Delete as applicable below]

- Environmental Screening Assessment
- Site Waste Management Plan (SWMP)
- Construction Phase Plan (CPP)
- Preliminary Ecological Assessment (PEA) – Jan 24 by Arup
- Clients PCI document

All these plans will be kept within the relevant site folder or on the site SharePoint and will be available for review by the project manager or environmental advisor.

2 Environmental Management

2.1 Environmental and Energy Policies

BEJV has an Environmental Policy Statement (PL601) and an Energy Policy Statement (PL607).

2.2 Barhale Environmental Cardinal Rules

BEJV's Environmental Cardinal Rules (Located within the BEJV IMS) are mandatory on all BEJV sites and go over and above the minimum legal requirements. They are categorised under 8 broad headings (Waste Management, Fuels and Chemicals, Water, Nature and Wildlife, Incident reporting, Energy and Carbon Efficiency, Nuisance and Pollution and Environmental Risk Management). Barhale mandate that all work on their sites must be carried out in accordance with the Cardinal Rules.

2.3 Roles and Responsibilities

The roles and responsibilities associated with the implementation of this document are detailed below.

Role	Responsibilities
Contract/Project Manager	<ul style="list-style-type: none"> • Responsible for ensuring the requirements of environmental management, as set out in the EMP are implemented • The principles contained in the Barhale and Client Environmental/Sustainability policies are met.

Site Management	<ul style="list-style-type: none"> Responsible for implementing environmental mitigation measures and best environmental practice throughout the site Responsible for delivering the site induction including site specific environmental information
Sub-contractor such as labour agencies/ plant and equipment supplier	<ul style="list-style-type: none"> Responsible for their own compliance with legislation and Barhale's requirements.
Lead Environmental Advisor	<ul style="list-style-type: none"> Responsible for the development and revision of the EMP Responsible for ensuring compliance with legislation Responsible for delivering environmental training
Project based environmental personnel	<ul style="list-style-type: none"> Responsible for delivering project specific environmental requirements Responsible for ensuring project compliance to EMP, Contract Phase Plan (CPP), Legal, Corporate and Client requirements Responsible for environmental incident investigations
HSEQ Advisor	<ul style="list-style-type: none"> Conducting site inspections Ensuring implementation of best practice/corrective actions are undertaken Ensuring the staff are fully aware of their duties to the environment Ensuring the aspect and impact register is kept up to date Ensuring the contract complies with Site Waste Management Plan

2.4 Consents and Permissions

The table below should be completed by the site manager to ensure all the permission and consents are arranged during the enabling/planning phase where possible. All consents, permits and legislation should be reviewed every 6 months and before completion.

Type of Consent	Regulator	Required (Y/N)	Activity or Location	Start and End Date
Ordinary Watercourse Consent	Internal Drainage Board/Local Council	N		
Flood Risk Activity Permit (FRAP) (works in, under or over or within 8m of a main river (16m if tidal))	Natural Resource Wales/ Environment Agency/ SEPA	N		
Environmental Permits: Water Discharge Consent Abstraction	Natural Resource Wales/ Environment Agency/ SEPA	N		
Groundwater Permits		N		
Waste Management Licence		N		
Waste Exemptions	Natural Resource Wales/ Environment Agency/ SEPA	N		

Hazardous Waste Producer Registration	Natural Resource Wales (only)	N		
Planning Permission	Local Authority	Y	Chem dose kiosk	Sep 24
Hedgerow Removal	Local Authority	N		
Land Drainage Consent	Local Authority	N		
Footpath Diversions (temporary / permanent)	Local Authority	N		
Protected Species Licenses e.g. Bats/Badgers/Great Crested Newts	Natural Resource Wales/ Natural England/ Nature Scot	N		
Scheduled Ancient Monuments	Ministry for Culture, Media and Sport	N		
Consent/assent to work in SSSIs	Natural Resource Wales/ Natural England/ Nature Scot	N		
Habitats Regulations Assessment (HRA) prior to undertaking works that may have an adverse effect on the integrity of a Natura 2000 site.	Natural Resource Wales/ Natural England/Nature Scot	N		
Countryside Stewardship Grant	Natural Resource Wales/ Natural England/ Nature Scot	N		
Tree Preservation Orders	Local Authority	N		
Listed Building Consent	Local Authority	N		
Conservation Area Consent	Local Authority	N		
Construction (noise) Consent – Section 61	Local Authority	N		
Night Lighting/ Working - Section 61	Local Authority	N		
Trade Effluent Consent	Utility Undertaker	N		

2.5 Environmental Objectives & Targets

Barhale will measure and report the environmental performance within the agreed timescale for the end of the reporting period. The key indicators will be:

- Waste, including percentage reused or recycled;
- Gas Oil (Fuel consumption);
- Carbon Footprint;
- Environmental Near Miss; and
- Environmental Incidents

The corporate and project-specific environmental objectives and targets can be found in section 3.1 of the project specific Contract Phase Plan.

3 Competence, Training & Awareness

The raising of environmental awareness is viewed as a crucial element in the appreciation and implementation of the EMP. BEJV will identify the training needs of staff, in accordance with **CG620-03 HSEQ Training Needs Matrix**, to ensure personnel are aware of the environmental risks at the site and the work that they will be undertaking.

Training will be given in the form of briefings and toolbox talks to the site workforce. A modular training package will also be offered to the staff on site in line with the project's objectives and targets. A list of toolbox talks available, which should be delivered on-site is provided below. A record of the date specific toolbox talks are delivered and a list of attendees should be retained on-site, for review by the HSEQ Team. Information and materials relating to these talks is available from the IMS.

3.1 Subcontractors

This EMP will be part of the terms of reference for all sub-contractors involved in the project with BEJV. All sub-contractors will be required to adopt the EMP into their tasks and commit to the objectives, working practices and mitigation described, including meeting BEJV's environmental requirements. All senior and supervisory staff members will be required to familiarise themselves with the contents of EMP and ensure that other staff members are cognisant of the EMP's contents and how it relates to their works.

4 Environmental Risks and Opportunities

4.1 Environmental Risks and Impacts

BEJV and its subcontractors will be responsible for producing and maintaining a register of Environmental risks and opportunities on site in accordance with **CG621-02 Environmental Risk Register**. This register will include all the environmental risks identified in the Risk Assessments.

The risks will be categorised under the following broad headings:

- Air (Emissions to Air)
- Noise (Nuisance)
- Ecology
- Land Contamination
- Flood Risk and Drainage
- Archaeology/ Cultural Heritage; and
- Combined Effects

The site-specific risk register is in Section 3 of the CPP (Construction Phase Plan). This is a live document and will be updated regularly throughout the project's progression, to ensure all the environmental aspects relevant to the project's phases are captured and addressed.

4.2 Environmental Risk Assessment

BEJV will ensure that a site-specific environmental risk assessment is undertaken for the project. Risk assessments are undertaken by the Site Manager following **CPR621 Risk Assessment & Method Statements (RAMS)** and **CG621-02 Environmental Risk Register**.

The Environmental Risk Assessment will:

- Identify the environmental aspects and impacts relevant to the site;
- Assess the risk from these impacts;
- Identify the control measures to be taken and re-calculate the risk; and
- Report where an inappropriate level of residual risk is identified so that action can be taken through design changes, re-scheduling of work or alternative methods of working in order to reduce the risk to an acceptable level.

The results of the risk assessments, and any residual risks are only considered acceptable if:

- **The severity of outcome is reduced to the lowest practicable level;**
- **The number of risk exposures are minimised; and**
- **All practicable mitigating measures have been taken and the residual risk rating is reduced to a minimum.**

The findings of the risk assessment and in particular the necessary controls **will be briefed** to all operatives before the commencement of the relevant tasks.

4.3 Risk Assessment Method Statements (RAMS)

Method statements will be site specific and/or activity specific and will include the environmental constraints and any mitigation measures required to reduce the level of risk. This will be completed by the site agent or other appropriate experienced personnel, in consultation with regional **HSEQ Advisor/ Project specific Environmental Personnel** and where necessary, environmental specialists. Their production would include a review of the environmental risks and commitments, as identified in this EMP, and a risk assessment, so that appropriate control measures are developed and included within the construction process.

Method statements will be produced by the site agent and approved by the contract/project manager. These will be reviewed by the environmental/ HSEQ Advisor during their inspections in accordance with CPR 621 Risk Assessment & Method Statements.

Method statements will contain, as a minimum:

- Location of the activity;
- Activity to be undertaken and methods of construction;
- Plant and materials to be used;
- Labour and supervision requirements;
- Health, Safety, and Environmental considerations; and
- Any permit or consent requirements.

5 Environmental Monitoring and Measurements

Any mitigation measures required, as identified from surveys; or/and as a condition on any licenses or permissions obtained, are incorporated into the site-specific environmental risk assessment. These may include, for example: noise monitoring, water sampling to monitor water discharges, etc.

5.1 Environmental Monitoring

Environmental deliverables required by the EMP will be subject to regular independent inspections from the Environmental Advisors/HSEQ Advisors. These inspections would be used to confirm that:

- Works are being undertaken in compliance with project plans (EMP/CPP), relevant environmental procedures and the RAMS;
- Agreed protection or mitigation measures are in place, prior to or during the implementation of construction activities;
- Construction works have been completed in accordance with the design and commitments made during the enabling/design phase;
- Works comply with statutory, implemented planning consent, and all contract requirements; and
- Remedial actions and opportunities to improve have been taken, as necessary.

CF683-60 the HSEQ Detailed Inspection and **CF683-66 Detailed Environmental Inspection** are available on the Barhale portal. Any advisory notes will be captured using the **CF683-61 HSEQ Advice Note**.

5.2 Non-Compliance Procedures and Environmental Incidents

Given the nature of the works and the environmental sensitivity of the site, it is possible, although unlikely, that environmental incidents could occur. Such incidents could include:

- Hydrocarbon spillages;
- Silt runoff into surface or groundwater;
- Environmental nuisance;
- Poor waste management practice;
- Breach of environmental legislations

The site team will follow Barhale's Environmental Procedures for responding to environmental incidents and/or the client's Environmental Procedures if Barhale are not principal contractor. In the event of an environmental incident a detailed investigation will be conducted in line with **CF 151-51 Detailed Incident Investigation** consisting of the following:

- Date the environmental incident occurred;
- Description of the environmental incident;
- Impact of the environmental incidents;
- Description of the elements of the environment subject to impacts caused by the environmental incident (receptors);
- Immediate actions implemented in response and to contain the environmental incident;
- Further and future actions to be implemented in response to the environmental incident
- Responsibility for undertaking actions;
- Time frame for implementing actions.

The Site Manager/Contracts Manager is responsible for ensuring site staff have been fully briefed on how to respond to emergency environmental incidents.

Any incidents and accidents will be recorded on a **CF151-50 Injury and Incident report form** and will be reported to the project manager and the Environmental /HSEQ Advisor. Category 1 and Category 2 Environmental incidents would be subject to a full investigation resulting in a report detailing the remedial measures taken and the root cause analysis to prevent

recurrence. The Environmental/HSEQ Advisor would instigate any appropriate changes to procedures where necessary.

All incidents occurring within the site will be reported immediately to the Project Manager and the Environmental/ HSEQ Advisor in order for them to notify the appropriate parties as required, including the nominated clean-up contractor, Environment Agency/SEPA/NRW, other relevant local authorities and the client(s).

5.3 Environmental Positive Intervention

All positive interventions should be reported in line with BEJV's Positive Intervention requirements ***CPR 153 Reporting Positive Interventions, Good Practice or improvement suggestions.***

The Environmental/HSEQ Advisor will respond to any significant Environmental issues reported by the site. The Project manager in conjunction with the HSEQ Advisor may raise an alert e-mail and circulate it to all appropriate departments following an incident or Positive Intervention, once agreed with the HSEQ Director.

5.4 Pollution Prevention Control

5.4.1 Spillages

The risk of spills is included in the Environmental Risk Assessment. All staff will be made aware of the risk of spills and will be trained in the use of spill kits and the management of spills. The appropriate spill kits and other incident response equipment will be available across the site and in areas of particularly risk, i.e. over-pumping/material storage areas and fuel and chemical storage and refuelling areas.

A supply of spill containment and treatment equipment and materials will be available near storage areas of hazardous materials at all times in sufficient quantities to deal with small to medium scale spillages and all staff will be aware of where this equipment is stored and trained in its use.

Any on site pollution incidents will be contained and where possible cleaned up using the available spill kits. Any on-site incident requiring more intensive remediation than is possible using the available spill kits, will be contained before being referred to a specialist clean-up contractor. Spoiled and redundant materials will be removed from site in the appropriate waste stream. It should be recognised that these redundant or spoiled materials may include hazardous waste. Any contaminated ground will be removed immediately and stored outside the sensitive area for testing and appropriate disposal.

All incidents occurring within the site will be immediately reported to the Client's environmental representative and the project manager in order for them to notify the nominated clean-up contractor. The incident will be recorded and the HSEQ/Environmental Advisor will conduct an investigation into the cause and effect of the incident, recommending an appropriate change in procedures where necessary.

5.4.2 Materials Handling, Use and Storage

During materials handling and storage the following measures will be employed by the project:

- Only designated areas would be used for the handling or storage of construction materials.

The types of potentially polluting materials associated with the project will be stored as shown in the table below: **[Delete as applicable – Table contents to be Scheme/Site Specific]**

Type of Material	How and Where it will be stored
Other bagged materials	<ul style="list-style-type: none"> • To be stored inside a container where practicable otherwise off the ground on pallets and protected from the weather.
Chemicals, Bitumen, Paints, Solvents, Grease	<ul style="list-style-type: none"> • To be stored in the original packaging and should be stored appropriately in the COSHH stores i.e. in drip tray or bunded area to prevent chemicals mixing. • Consult the MSDS or COSHH sheets for details of particular storage requirements.
Oils	<ul style="list-style-type: none"> • To be stored in the COSHH stores in the site compound in a drip tray/plant nappy. • Keep container and contents away from ditches and drains at all times.
Batteries / Fluorescent tubes	<ul style="list-style-type: none"> • In a designated covered storage area. Waste will be stored in separate hazardous waste containers.
Empty drums / Containers	<ul style="list-style-type: none"> • In a designated area prior to disposal. • Away from sensitive boundaries and watercourses
Inert Waste	<ul style="list-style-type: none"> • To be kept separate from non-hazardous and hazardous waste, in a clearly designated area/skip, labelled with the List of Waste (LoW) code and located on a hard standing where possible.
Non-Hazardous Waste	<ul style="list-style-type: none"> • To be kept separately from inert and hazardous waste. • To be segregated into its component streams and kept in clearly labelled containers/ skips and labelled with the LoW code • Containers/ skips to be in good condition, enclosed if necessary (plastic/paper/cardboard/general) and located on hard standing. • Containers/ skips to be located away from sensitive boundaries and watercourses • Containers/ skips to be screened from external receptors if possible.
Hazardous Waste	<ul style="list-style-type: none"> • To be kept separately from inert and non-hazardous waste. • To be segregated into its component streams and kept in clearly labelled containers/ skips. All hazardous waste containers should be labelled with the LoW code including asterisk (*). • Containers/ skip to be in good condition enclosed i.e. 205L drums manufactured to a UK standard and located on hard standing. • Containers/ skips to be located away from sensitive boundaries and watercourses • Containers/ skips to be screened from external receptors if possible.

5.4.3 Storage of Hazardous Substances

BEJV will make provisions to ensure that all potential contaminants stored on the construction site are controlled in accordance with the Control of Substances Hazardous to Health (COSHH) regulations and are properly isolated and banded and that no oil or other contaminants are allowed to reach a watercourse or groundwater, including aquifers.

The storage locations will be highlighted on the site setup drawings and briefed upon induction to site.

All surface water or other contaminated water which accumulates in the bund will be removed by manually controlled positive lift pumps. This water will be removed from site and discharged in accordance with the relevant legal requirements.

Spill response kits containing equipment appropriate to the quantity and types of materials present on site will be available in the event of fuel spillage and personnel will be trained in their use.

Storage areas would be clearly signed and regularly monitored for spills. Any leaking containers will be repaired or removed from site.

Barhale and its sub-contractors on site will ensure continuous compliance with all the above conditions under the monitoring of the Site manager/HSEQ Advisor.

5.4.4 Air Quality (Dust Control)

Any dust emitting activities will be mitigated as proposed in site specific environmental risk assessment, mitigations measures will include:

- Site roads and work areas would be swept and sprayed with water in prolonged spells of dry weather;
- Adherence to speed limits for all vehicles;
- Wheel washing facilities would be provided and maintained in use at all times during the construction period;
- Materials, which arise from the preparation of the site will be stockpiled and where possible used for the redevelopment process, thus reducing the number of off-site vehicles movements required to bring such material onto the site.
- Accumulation of dust on and off-site would be monitored regularly, if needed corrective actions would be undertaken;
- Handling areas should be maintained in a clean condition.

5.4.5 Waste Management

The purpose of the waste management plan is to define waste management procedures and to ensure that waste is stored and disposed of, in accordance with the Environmental Protection (Duty of Care) Regulations; the Waste Duty of Care: Code of Practice; BEJV's corporate requirements and any client specific requirements.

BEJV will apply the waste hierarchy of Reduce, Reuse, Recycle, and Responsibly Dispose. Waste materials such as concrete, stone, muck (uncontaminated) and/or wood, will be used on site, where possible, or on another Barhale site.

The waste management plan provides overarching guidance for all activities carried out on site. All waste materials and residual materials from the operations will be handled in

accordance with **CPR327 Waste Management** and **CF637-50 Monthly Safety and Environmental Return**, as well as any other applicable legislation, guidance or Client specific requirements.

The table below lists potential waste streams, these can be expanded if needed and should be revised as the project progresses, to include waste contractors and disposal information to demonstrate compliance with the duty of care regulations.

Waste Stream	Treatment
Paper & Cardboard	Recycle
General Waste	Recycle/Landfill
Metal Waste	Recycle
Plastic Waste	Recycle
Spoil Uncontaminated	Landfill or use of waste recovery e.g. land profiling subject to Permit or CLAIRE Declaration,
Spoil Contaminated	Treatment and Landfill
Inert mixed construction and demolition wastes	Recycle
Used spill kits and oily rags	Treatment and Landfill
Mussel waste	Regional waste transfer station

5.4.6 Site Waste Management Plan

A waste management plan will be produced by BEJV in line with **CPR327 Waste management** and **CF637-50 Monthly Safety and Environmental Return**.

5.4.7 Contaminated Land

Any spoil to be removed from site will be subject to waste acceptance classification testing before removal. A licenced waste contractor will be employed to remove the waste to a designated tip

A watching brief will be employed during excavation works, to ensure any areas of contamination are identified before extraction. If contaminated soil is identified, advice will be sought from the Environmental Advisor. Testing will be undertaken to confirm the level of contamination and an appropriate disposal route identified.

5.4.8 Groundwater

Works for this scheme are sufficiently shallow so as not to expect ground water

5.4.9 Noise and Vibration

Noise and vibration will be controlled and limited as far as reasonably practicable so that sensitive receptors are protected from excessive noise and vibration arising from BEJV's work.

In accordance with **CPR639 - Noise**, potentially noisy activities will be identified and recorded. Where noise is likely to need control, the environmental noise levels will be assessed using a Noise assessment worksheet, part of **CF63950 - HS and E Noise exposure calculator**. Following this assessment, appropriate control will be put in place to mitigate any potential impact on receptors of noise arising from construction activities.

The principles of best practicable means will be employed to minimise noise levels during construction. Recommendations for the control of noise and vibrations on construction sites are set out in **CG63902 BS5228 - Code of practice for noise and vibration control on construction and open sites**. The following measures will be used where appropriate:

- Hydraulic plant will be used in preference to pneumatic plant where possible;
- Plant and equipment will be maintained in good working order and fitted with silencers and acoustic panels where appropriate;
- All plant and equipment will be switched off when not in use; and
- Any consents/exemptions required, such as Section 61s, will be arranged prior to the commencement of work.

5.4.10 Ecology and Habitats

All ecological constraints have been identified in PEA from BL Ecology (Ref 091_21_RE01) and their recommendations can be found in section 5. An updated ecology survey will be carried out in advance of works starting to verify the recommendations still stand and if any new proposals are required

5.4.11 Archaeology and Heritage ~~(Delete if not applicable)~~

~~Barhale will ensure that Site personnel are aware of any potential archaeological issues. Should any archaeological artefacts be exposed during excavation, work on the area where the artefacts were found, will cease immediately and the project manager will be notified as soon as possible.~~

5.4.12 Energy ~~(Delete if not applicable)~~

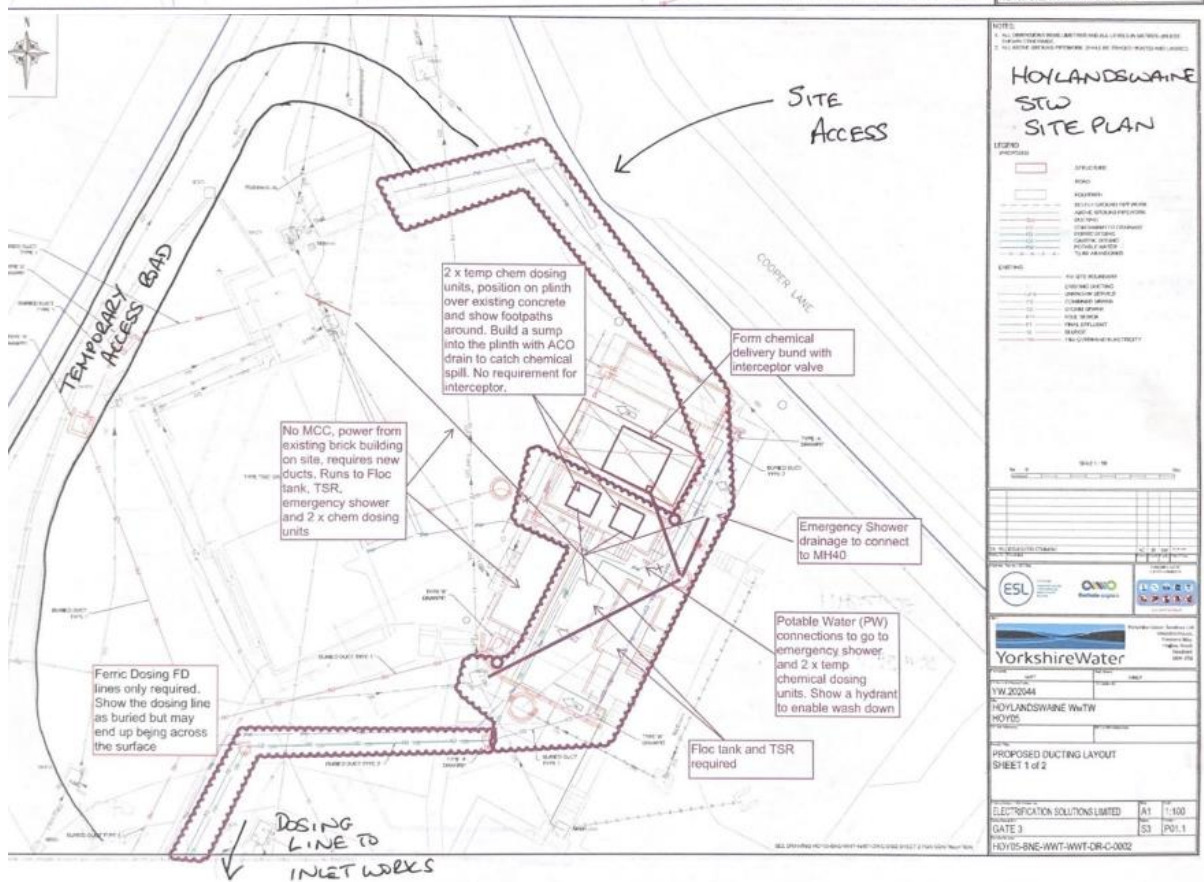
In line with Barhale's ISO 50001 commitment, Site will implement CPR647 – Energy Management, this entails applying energy efficiency measures and sourcing energy efficient plant and tools. The following measures will be considered on Barhale's sites:

- Construction plant and equipment is to be maintained to maximise fuel efficiency;
- Utilise energy from renewable sources, where practicable;
- Minimise workforce travel;
- Incorporate and source local materials to minimise associated transportation; and
- Use environmentally friendly welfare cabins on site.

6 Construction Site Layout Plan

Barhale will develop a detailed Construction Site Layout Plan which will identify:

- Site accesses during construction (including all entry and exit points);
- All material and equipment storage areas (including storage areas for hazardous substance such as fuel and cement);
- Construction offices and other structures (if required);
- Solid waste collection facilities;
- Provision of temporary facilities for construction personnel; and
- The construction areas, clearly demarcated.



The Construction Site Layout Plan will be approved by the Project Manager before construction commences. During construction, proposed revisions to the site layout will be approved by the site manager, before they are implemented and a revised Construction Site Layout Plan issued to the team, including the Environmental Advisor.

7 Communications

Regular communication will be maintained between representatives at all levels of the contract to ensure that everyone is fully aware of the project's environmental issues. Communication methods will include induction, toolbox talks, and briefings. Letters/memos and review meeting.

Internal communication would be via the following processes:

- Weekly HSEQ Flash Report
- Environmental Alerts; or/and
- Site Inductions

8 Documented Information

All documents pertaining to environmental requirements will be kept on site, either electronically or as physical copies, in accordance with **CG321 Master Filing System** and be available for monitoring and auditing purposes. Site inspections may require access to this documentation for environmental auditing purposes. These documents may include:

- Waste Transfer Notes;
- Hazardous waste consignment notes;
- Records of all hazardous materials used on site (COSHH) Register;
- Monitoring data/ Permit to pump;
- Consents and Licenses obtained;
- Site specific environmental risk assessment;
- RAMS;
- Records/reports of surveys and inspections; and
- Environmental training records (site induction, flash reports, toolbox talks, etc.).

9 Conclusions and Recommendations

This EMP will ensure that the best environmental practice is achieved throughout the project and all sensitive environmental and residential receptors are protected as far as possible.

The EMP must be used as an on-site reference document during all phases of the project, and auditing must take place in order to determine compliance with the EMP.

Provided the project follows the requirements of this EMP and the CPP, it is anticipated that most of the negative environmental impacts of construction can be mitigated and controlled. The Project manager and HSEQ/Environmental Advisor will need to monitor the site throughout construction to ensure that the required environmental controls are in place and working effectively.

