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**Site Specific Environmental Management Plan**

Incorporating the CDM Construction Phase Plan.

For use where Morgan Sindall is the Principal Contractor

|  |  |
| --- | --- |
| **Morgan Sindall business unit / region:** | Energy/Water |
| **Project name:** | Welsh Water Capital Delivery Alliance – AMP7 |
| **Project no.:** | 1W7000 |
| **Customer:** | Dwr Cymru Welsh Water |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of Scheme:St Nicholas WWTW | | | | | |
| Scheme Code: 1W7000 F5 | | | Plan Number: 1220 | | |
| Scope of Works:  St. Nicholas WwTW serves the village of St. Nicholas and currently has an 18:30:9 (Biological Oxygen Demand (BOD): Suspended Solids (SS): Ammonia consent). The works has been identified in the NEP as requiring a new ammonia consent for AMP 7. The new consent proposed for the future growth is 15mg/l:23mg/l:3mg/l (BOD:SS:Ammonia). Coupled with forecast growth within the local catchment, St Nicholas WwTW requires an upgrade.  The upgraded works will consist of:   * Installation of temporary access road off Duffryn Lane * Felling of trees and scrub clearance to facilitate construction works * Modifications to the existing inlet works * Construction of 15.5m diameter trickling biofilter * Installation of two new humus settlement tanks * Construction of new aerated reed bed * Installation of 20m3 sludge holding tank * Installed of new MCC, kiosk along with power upgrade to the site. * Install of new package inlet works * Construction of liquor return, lift and recirculation pumping stations. * Installation of new process and surface water pipework, chambers, ducts and draw pits throughout site * Reinstatement of works including removal of temporary access track and new landscaping. * Installation of new boundary fencing.   Pre-construction environmental surveys have been carried out and must be read in conjunction with this environmental management plan. | | | | | |
|  | Name | Position | | Signature | Date |
| Prepared by | Sarah Eynon | Site Agent | |  | 27.10.23 |
| Reviewed by | Tara Yates | Environmental Manager | |  |  |
| Checked by | Kevin James | Project Manager | |  | 27.10.23 |
| Authorised by: | Geoff Tilling | Contract Manager | |  |  |

Note: This document has been prepared in accordance with the CDM 2015 regulations, contract requirements and the Morgan Sindall company management system. This is a **site-specific** plan which is to be used in conjunction with the Project Execution Plan.

|  |  |  |  |
| --- | --- | --- | --- |
| **Amendment no.** | **Issue date** | **Details of amendment** | **Approved for issue by:** |
| Rev 11 |  | New Environmental SSP – separated SHQ and Environmental Information i.e. formalised document based on what sites are already doing | D Stacey |
| Rev 12 |  | Changed referencing to AMP7, changed Environmental Advisor details | Mike Sellers |
| Rev 15 |  | Changed Environmental Advisor Details | Mike Sellers |
| Rev 16 |  | Updated Environmental Objectives (Section 2.2) and Emergency incident (Section 2.8). |  |
| Rev 17 |  | Updated Responsibilities Section to include Ecologist Clerk of Works | Mike Sellers |
| Rev 18 |  | Updated 2.8.1 with new tel no for Ideal Response & App B | Mike Sellers |
| Rev 19 |  | Updated 1.1 removed reference to South Wales, added reference to new Env Policy. Updated 2 and 2.1 with new references to IMS standards and guidance.2.7 removed reference to CCS. 2.8 amended TY to Env Manager and added Abi Clifford as Env Advisor. 2.10 and 2.12 included HVO in monitoring requirements. 3.8 removed reference to WRAP and added reference to SmartWaste Online. 3.9 added info on the requirement for BNG in England. | Tara Yates |

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**APPENDICES**

A Register of Environmental Effects

B Site Specific Organisation and Arrangements

C Welsh Water Capital Delivery Alliance/Morgan Sindall Management Organisation Structure Chart

D Site Specific Organisation Structure Chart

# Introduction

* 1. **Purpose of this plan**

It is the intention of Morgan Sindall that all schemes carried out as part of the overall AMP7 programme of improvements within Wales should be executed with the highest regard for safety, health, environmental and quality matters.

This Environmental Site-Specific Plan (SSP) when read with the Project Execution Plan (PEP) meets the requirements of the Construction Design and Management (CDM) Regulations 2015 with regard to the construction phase plan.

It identifies those aspects of site activities with potentially significant effects on the environment and the controls in place to mitigate those effects. Subcontract works supervised by Morgan Sindall’s project team are also subject to this EMP.

Morgan Sindall is certified to ISO 14001: 2015

This plan is a ‘live document’ to be supplemented and/or revised as the scheme develops, by the introduction of supporting documents such as subcontractor method statements, risk assessments or any documentation relevant to the environment of the project, which may include:

* Appropriate legislation
* Corporate governance
* Morgan Sindall policies
* Customer requirements (to include stakeholders)
* Company processes and procedures (amend as necessary)
* Methodologies and programmes
* Organisational structures
* Supply chain requirements.

It conforms to Morgan Sindall’s Environmental and Responsible Business policies which will be clearly displayed in site offices.

## Authorisation

|  |
| --- |
| This plan is authorised when the preparation, approval, authorisation and distribution section on page 1 is completed.  This SSP will be reviewed by the Project Manager at regular intervals, if appropriate, amended and re-issued so that it reflects the requirements of the scheme. Reviews will be recorded on the front page of the current plan.  Any changes made to personnel or circumstances shall be marked up in ink on the live site copy and initialled as such changes take place.  This SSP shall be retained as a ‘hard copy’ on site. An electronic version of the first revision of the SSP must be returned to Document Control to be made available on the Morgan Sindall AMP7 server to all staff with responsibilities for managing, monitoring and implementing its requirements. This will include the CDM Manager.  On completion of the scheme the final revision of the SSP must be returned to Document Control for filing on the server. |

# Environmental Management

Morgan Sindall has a series of standards and guidance that supplement this EMP. Please visit the IMS, available through Connect. Please see IMS for the following environmental standards:

* Environmental incident investigation, reporting and control standard (E STD 01)
* Energy and carbon management (E STD 02)
* Contaminated land (E STD 03)
* Invasive species and injurious weeds (E STD 04)
* Ecology and biodiversity (E STD 05)
* Environmental consents and permitting (E STD 06)
* Waste management (E STD 07)
* Materials management (E STD 08)
* Nuisance (E STD 09)
* Water management (E STD 10)
* Historic environment (E STD 11)

## Environmental aspects and effects

The project manager and site engineer/senior general foremen, in line with the Framework Environmental Advisor, is to ensure that the Register of Environmental Effects (E FRM 01), specific to the project is completed before works begin and updated as circumstances occur, such as a change in scope, or a change in Morgan Sindall customer or legislative requirements. The completed Register of Environmental Effects is appended as Appendix A to this document. Note any legislative requirements in the register. The input of designers at pre-handover meetings will also be considered in developing the register. Completion of the Register of Environmental Effects should be made with reference to the DCWW Capital Delivery Alliance’s Enabling Third Party checklist (CAF 317). All required consents and licences are captured within both the Register of Environmental Effects and the DCWW Capital Delivery Alliance’s Third Party Checklist (CAF317) and have to be recorded on the SHEQ Tracker.

Site specific environmental constraints and requirements for this scheme are set out within the DCWW AMP7 Environmental Checklist which is completed by the Morgan Sindall design partners (Arup & Sweco) environmental teams.

Legislative requirements should be assessed with reference to specific site conditions and requirements. The Framework Environmental Advisor is to advise on specific legal provisions. Additional checks can be made against the technical index, business environmental updates or in consultation with SHEQ Director.

## Objectives and targets

Morgan Sindall will develop contract specific objectives and targets that take into account:

* Morgan Sindall’s Responsible Business and SHE functional strategies
* Customer Key Performance Indicators (KPIs) and other requirements.

**Morgan Sindall Environmental Objectives and Targets (Dŵr Cymru Welsh Water’s Environmental Objectives and Targets in red)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Targets** | **Reporting Frequency** | **Data Requirements** | **Source** | **Target** |
| **Safe Environment** | Monthly | No. of incidents | Digest - SHEQ Tracker | 0 Major (Cat One) incidents  0 CAT 1-2 incidents  75 environmental Positive Interventions |
| **Considerate Constructors Scheme** | Monthly | Audit scores | CCS Monitors Site Report | 41.5 |
| **Carbon Emissions** | Monthly | Carbon emissions from fleet, plant and electricity | Environmental Data | Reduce our operational carbon by 25% by 2025  Reduce our carbon in the assets we build by 25% by 2025  Have 25% of our sites fuel free by 2025 |
| **Waste Generated** | Monthly | % Diversion from Landfill | Site Waste Management Plan | 95% |

The contract manager is to ensure that monitoring against the objectives and targets takes place and that the project manager in consultation with the contract environmental adviser reviews them periodically, generally not less than annually.

## Roles and responsibilities

Good environmental practice will be achieved through the appointment of a Framework Environmental Advisor. Specific environmental roles and responsibilities are described in other parts of this plan as well as in job descriptions, however each site team shall have a dedicated Environmental Co-ordinator whose responsibilities shall include (but are not limited to) the following:

* Updates the EMP including the Register of Environmental Effects (E FRM 01) and the Consents and Pre-Notification Checklist (E FRM 06);
* Updates the Site Waste Management Plan;
* Ensures weekly environmental inspections are undertaken and actions are closed out;
* Ensures monthly environmental Toolbox Talks are undertaken;
* Report monthly environmental data.
  1. **Risk assessments and method statement (RAMS)**

No activity will be permitted without an approved RAMS.

The project management team shall produce risk assessments where significant risks are identified.

* 1. **Site specific RAMS**

Site specific RAMS will be carried out by appointed and competent personnel on site. A register

of method statements and associated risk assessments will be kept on site and reviewed.

Method statements will identify tasks, responsible personnel, control measures and monitoring

arrangements in line with the Morgan Sindall method statement tracking and content sheet.

Method statements will be assessed, tracked and accepted by Morgan Sindall prior to commencement of work. The contents of the method statement will be communicated to all those undertaking and associated with the work activity.

Contractors shall hold a signed copy at the work face while the works are taking place ensuring all

operatives have read, understood and signed stating they will comply with the method

**Change control for systems of work**

A change control will have significant repercussions with respect to the prevention or control of accidents and may require changes in the measures taken to ensure that those risks remain as low as reasonably practicable.

Whether a change has significant repercussions will depend on the degree to which it:

* Introduces a new hazard
* Changes the risk from an existing hazard
* Affects control or mitigation measures (including off-site emergency plans).

Changes that have a positive impact on the risk profile are also important.

Morgan Sindall has in place systems for the communication of changes and any changes to approved systems of work shall be agreed in writing.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Prepared in conjunction with the Pre-construction Information and other relevant information.**  **Process to reflect construction programme details.** | | Water | Contaminated Land | Noise | Vibration | Dust | Fire/Explosion | Buried Services | Overhead Services | Mobile Plant | Traffic | Manual Handling | Substances | Electricity | | Lifting Operations | Hand Tools | Confined Space | Grout | Demolition | Temperature | Lighting | Weather | Lone Working | Asbestos | Sewers | Pedestrians (Public) | Waste | Working at Height | Litter | Visual | Ecology | SSSI | Archaeology | Heritage | Protected Species | | LPG |
| **PROCESS** | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
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| Site Set Up/Maintenance | | **3** | **2** | **3** | **3** | **3** | **1** | **1** | **1** | **1** | **1** | **1** | **3** | **1** | | **1** | **1** |  |  |  | **1** | **3** | **3** |  |  | **3** | **1** | **3** | **1** | **1** | **3** | **2** |  | **2** | **2** | **2** | |  |
| Traffic Management | |  |  | **1** | **2** | **3** |  |  | **1** | **1** | **1** | **1** | **3** |  | |  |  |  |  |  |  | **1** |  |  |  |  | **1** |  |  | **1** | **1** | **1** |  |  |  |  | |  |
| Caisson | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| Excavations | | **3** | **2** | **3** | **3** | **3** | **1** | **3** | **1** | **1** | **1** | **1** | **3** | **1** | | **1** | **1** | **1** |  |  | **1** | **1** | **1** |  |  | **3** | **1** | **1** | **1** | **3** | **3** | **2** |  | **2** | **2** | **2** | |  |
| Construction | | **3** | **2** | **3** | **3** | **3** | **1** | **3** | **1** | **1** | **1** | **1** | **3** | **1** | | **1** | **1** | **1** |  | **3** | **1** | **1** | **1** |  |  | **3** | **1** | **1** | **1** | **3** | **3** | **2** |  | **2** | **2** | **2** | |  |
| Temporary Works | | **3** | **2** | **3** | **3** | **3** | **1** | **3** | **1** | **1** | **1** | **1** | **3** | **1** | | **1** | **1** | **1** |  |  | **1** | **1** | **1** |  |  | **3** | **1** | **1** | **1** | **3** | **3** | **2** |  | **2** | **2** | **2** | |  |
| Live Connections | | **3** |  | **3** | **2** | **3** |  | **3** |  | **1** | **1** | **1** | **3** |  | | **1** | **1** | **1** |  |  | **1** | **1** | **1** |  |  | **3** |  | **1** | **1** | **3** | **3** | **2** |  |  |  |  | |  |
| Permanent Installations | |  |  | **3** | **3** | **3** | **3** | **3** | **3** | **3** | **3** |  |  |  | | **3** |  | **1** |  |  |  | **1** |  |  |  | **1** | **1** |  |  |  | **3** |  |  | **2** | **2** | **2** | |  |
| Reinstatement | | **2** | **2** | **1** | **1** | **1** | **3** | **3** | **3** | **1** | **1** | **1** | **3** |  | | **1** | **1** |  |  |  | **1** | **1** | **1** |  |  | **3** | **1** | **1** | **1** | **3** | **3** | **2** |  | **2** | **2** | **2** | |  |
| Site Clearance | | **2** | **2** | **3** | **3** | **3** |  |  | **1** | **1** | **1** | **1** | **3** |  | | **1** | **1** |  |  |  |  | **1** | **1** | **1** |  | **3** | **1** | **2** | **1** | **3** | **3** | **2** |  | **2** | **2** | **2** | |  |
|  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |
| **Authorised for Use:** Kevin James **(Project Manager)** | | | | | | | | | | | | | | **Date: 27/10/2023** | | | | | | | | | | | | | | | | | | | | | |
| H&S **1**  Environmental **2**  Both **3**  Note: The horizontal and vertical titles are provided as prompts. Authors may modify these titles to suit the specific requirements of the project. | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | |

## Training

Training is to be given in accordance with the company’s personal development and training processes, operated at corporate level by HR. Further training will be given as identified in the contract specific training plan. Requests for training personnel on the contract will be coordinated by the project management team. Typically,

* All project operatives and supervisory staff will receive a contract induction that covers environmental issues and their roles and responsibilities including environment
* More detailed training, such as that required for waste management plans, will be given to staff as identified in the contract training plan
* Training on specific environmental topics will be given by suitably qualified personnel. This may be the contract environmental adviser.

Site supervisors, safety coach and engineers will give Toolbox Talks (TBTs) to operatives on key issues such as spill response and waste management on a basis of a minimum of one per month and as near miss trends are identified, drawing upon the full site of Toolbox Talk’s (TBT’s) (E GUID 11) and Bulletins as relevant to the project condition.

It is a Morgan Sindall requirement that the spill response TBTs are undertaken on a six-monthly basis.

## Communication

Internal

Environmental information will be delivered to contract personnel in the following way:

* Including environmental issues as an agenda item on project progress meetings
* Inductions, topic-specific training, Toolbox Talks
* Posting information on notice boards
* Monthly cascade briefings
* Morgan Sindall magazine
* Morgan Sindall intranet.
* Alliance Design Alerts

Additionally within the contract, information will be communicated through:

* SHEQ meetings
* Supply chain meetings
* Other meetings e.g. design team meeting

External

Where contact is made with any regulatory authorities, the SHEQ department will be informed and records will be entered onto SHEQ Tracker.

Complaints and compliments will also be recorded on SHEQ Tracker and resolved particularly when from regulators, the public and customers.

## Environmental incident and emergency controls

Control measures to prevent and control environmental incidents and emergencies on sites are referenced in the Register of Environmental Effects (E FRM 01), and detailed in site emergency plans.

Generally, pollution prevention will be achieved by adequate training, by the provision of containment measures such as drip trays, absorbent mats or materials, drain covers for preventing impact on sewers or watercourses and by complying with safe working methods.

Adequate and appropriately placed spill kits will be provided for rapid incident response when and where prevention fails. Incidents and emergencies will be reported in accordance with Morgan Sindall’s and the customer’s procedures.

Regular drills (either practical or desk top) shall be conducted and recorded to maintain competency levels of site personnel and adequacy of response plans.

An environmental emergency spill drill and record of same will be completed, within the first six months of a project and repeated at least annually thereafter.

**2.8.1 Incidents and emergencies**

Actions in response to environmental incidents and emergencies will be communicated at inductions and task briefings. Spill response posters will be displayed on office and welfare facility notice boards.

Site plans showing the locations of spill kits and waste facilities, in addition to the locations of health and safety facilities will be available on site office and welfare cabin notice boards. Plans will include the names of personnel with specific environmental responsibilities, and actions to be taken. Cross reference will be made to contingency planning requirements.

Ideal Response act as our emergency response specialists, contact the Ideal Response team on the dedicated 24-hour emergency helpline 0808 239 9598 and provide the building number, type and location of the emergency (full description), together with contact details. Refer to Appendix B for Ideal Response poster.

* + 1. **Incident reporting and investigation**

Incidents are to be reported through the management hierarchy as soon as practically possible after they have been identified. Site management will assess the significance of the incident and determine the level of investigation. All incidents must be reported to the SHEQ department and entered onto SHEQ Tracker.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Figure 1 Environmental Spill Site / Compounds** | | | | | | | |
| **Appointed Person Title** |  | **Action** | | | |  | **Appointed(s) Person Name** |
|  |  |  | |  | |  |  |
| Person Discovering spill |  | Find the source of the spill and if possible stop it | | | |  | Anybody |
|  | Eliminate any source of ignition | | | |  |
|  | Mobilise Spill Response Team | | | |  |
|  | Contain the spill into a small area using bunds of earth, sand, or absorbent granules | | | |  |
|  |  |  | |  | |  |  |
|  |  | Evacuate to Assembly Point  (if flammable substance) | | | |  |  |
|  |  |  | |  | |  |  |
| Fire Warden |  | Carry out role call | | | |  | Scott Dean  Marcel Thomas |
|  | Notify Incident Co-ordinator & Environmental Co-ordinator | | | |  |
|  |  |  | |  | |  |  |
| Incident Co-ordinators |  | Check the substance has not any nearby drains, manholes, watercourses or sensitive area. | | | |  | Scott Dean  Marcel Thomas  Sarah Eynon |
|  | Bund any drains / manholes, to stop the substance entering the drainage system | | | |  |
|  | Report the incident as soon as possible to foremen / engineer / or agent providing the following information   1. Whether it is in danger of entering water course or drainage system | | | |  |
|  | 1. Material involved 2. Quantity of spill | 1. Location of spill 2. Reason for spill | | |  |
|  | Immediately Notify, if required, the PC Site Manager, SHE Adviser, Project Manager | | | |  |
|  | Clean up the spill using equipment available in the spill response kit | | | |  |
|  |  |  | |  | |  |  |
| Project Environmental Manager |  | **Notify NRW** (If required) | | | |  | Tara Yates |
|  |  |
|  |  |  | |  | |  |  |
| Framework Director |  | **Notify DCWW Capital Programme Manager**  Darren Hiscox | | | |  | David Stacey |
|  | Complete Restart Check | | | |  |
|  |  |  | |  | |  |  |
| Senior Contracts Manager/Project Manager |  | Stand Down Incident | | | |  | Geoff Tilling  (07712 008291)  Kevin James  (07714 222676) |
|  |  |
| Principal Contractor | | Morgan Sindall | | |  | | |
| Framework Director | | David Stacey | | | (M) 07583149980 | | |
| Project SHE Manager | | Michael Sellers | | | (M) 07812961740 | | |
| Project SHE Advisor (N Wales) | | Liam Bainbridge | | | (M) 07814771326 | | |
| Project Environmental Manager | | Tara Yates | | | (M) 07976816430 | | |
| Project Environmental Advisor | | Abi Clifford | | | (M) 07773939353 | | |
| Senior Contracts Manager | | Geoff Tilling | | | (M) 07712 008291 | | |
| Project Manager | | Kevin James | | | (M) 07714 222676 | | |

## Auditing

Audits will be carried out to check compliance with requirements and to ensure good site practices are in place. They may include

* Customer
* External – third party assessors to Morgan Sindall, British Standards Institute (BSi)
* Internal.

Internal audits may be conducted by the contract environmental adviser or by competent personnel from other Morgan Sindall business units / regions. In line with any audit programme and plans, system compliance audits will be conducted or as directed by the Head of Internal Audit, the SHEQ Director, and the Head of Function – Assurance NEW. The contract manager is responsible for ensuring that any non-conformances arising are closed out as soon as is practicable within the time frame specified. Close out will confirmed by the auditor.

## Monitoring

The site team’s appointed Environmental Co-ordinator will be responsible for ensuring environmental inspections are completed at site level to record on the company’s Intranet database SHEQ Tracker. Inspections may also be carried out by the project SHE advisors and Contract Managers.

Environmental performance at site level will be regularly monitored during weekly inspections carried out by delegated site personnel.

Environmental Performance Monitoring is a legal requirement of Morgan Sindall. The site team’s appointed Environmental Co-ordinator shall ensure that an appropriate method of recording monthly environmental performance is implemented and meters are fitted and available where required:

* Water (m3)
* Electricity (Kwh)
* Gas (Kwh)
* Diesel consumption – Morgan Sindall and Subcontractors (Litres)
* HVO consumption - Morgan Sindall and Subcontractors (Litres)
* Aggregates (Primary, Secondary, Re-use – Tonne)
* Waste (Landfill, Incineration, Recycling Reuse – Tonne)
* Carbon

Subcontractor data should also be recorded.

## Records

Environmental records will include

* Inspections
* Site visit records (by others)
* Internal and external audit reports
* Waste management records and plans
* Sub-contractor waste returns
* Minutes of progress meetings
* Correspondence including complaints and regulatory units
* Incident and investigation reports
* Permits, licences and consents
* Environmental data e.g. recycled aggregates, sustainable timber, etc.

## Carbon reporting

Requirements of the legal Carbon Reduction Commitment (CRC) necessitate the recording of energy consumption specifically gas and electricity consumption. Nonetheless, as a minimum the following fuel uses will be recorded (where appropriate to do so and where information is available and/or not recorded elsewhere):

* Electricity (direct purchase) kWh
* Electricity (customer supply) kWh
* Diesel consumption (Morgan Sindall and Subcontractors) litres
* HVO consumption (Morgan Sindall and Subcontractors) litres
* Gas consumption kWh
* Other power sources if needed e.g. renewable.

## Water management

The quantity of potable water supplied to the project shall be monitored and recorded (in SHEQ Tracker). Where practicable and appropriate, water conservation devices and practices shall be put in place.

# Operational and project specific controls

The following sections describe minimum controls. Site specific controls to be implemented by the site team will be detailed in the register of environmental effects and supporting method statements and risk assessments.

## 3.1 Site set up

Selection and establishment of site compounds shall be undertaken mindful of site sensitivity, security, neighbours, storage and handling of chemicals (spill prevention), materials storage needs, drainage, vehicle access including employee commuting needs and nuisance potential, planning constraints, etc.

Site compounds, storage and construction areas will be fenced or have barriers to delimit areas of operation and separate them from other occupied work sites. Where appropriate, sub-project site plans will show site establishment and the locations of environmental facilities such as fuel tanks, spill kits and waste bins.

*Access to the temporary welfare compound will be via a temporary access track constructed off Duffryn lane which will traverse across existing farmland for 1km to the west to the construction area adjacent to St Nicholas WWTW. The access road will be created from compacted fill on a geotextile membrane. Top soil will be stripped and stored in sealed bund adjacent to the access road as per design.*

*Root protection zones will be established with heras fencing to provide protection to retained tree/ groups and hedgerows prior to the start of construction activities and exclusion zones will be sign posted as such.*

*The main construction site compound itself will be constructed to the south east of St Nicholas WwTW where the main works are to be extended.* *The temporary compound will be created using materials that will be permeable and free draining just south of the proposed development site, providing adequate space for storage of construction materials. The compound will be freely draining, therefore, not increasing the surface water runoff to adjacent land. The compound will contain two 32ft offices and a meeting room, toilet block, two 32ft drying rooms, two 32ft canteens along with several stores. The site compound will also obtain equipment prepared for spills (spill kits, plant nappies, COSHH waste bins etc.)*

**

*Temporary Compound Area*

*The temporary access and compound area will be removed when works are complete, after circa 15 months. There are no proposed changes to ground level across the site or on the land the access road will be constructed on.*

## 3.2 Housekeeping - litter

Adequate waste bins will be placed in work areas, storage areas and temporary site compounds for the depositing of work-related waste and mixed welfare wastes.

Regular inspections will be carried out to monitor housekeeping and initiate action to clear litter and debris.

Personnel are encouraged to avoid littering and to clear litter where it occurs within site boundaries.

## Nuisance

As a courtesy, and to establish a relationship, the Local Authority’s Environmental Health Officer should be notified of the intended start date of construction works on-site where possible. A record of this correspondence should be maintained. The Framework Environmental Advisor may be able to assist with this if required.

## 3.3.1 Noise control

Site works located in residential and other locations can create noise nuisance to neighbours and the general public, as well as posing an occupational risk. The presence of sensitive receptors will be identified and recorded on the Register of Environmental Effects and the necessary control measures implemented.

Welsh Water will make contact with neighbours likely to be affected by construction works informing them about the works and what mitigation measures have been implemented to reduce nuisance and disruption as much as practically feasible.

If, during construction, the Site Manager anticipates an excessive increase in noise levels likely to cause a nuisance, control measures will be adopted. Where possible noisy operations must be programmed for times when the least perceived nuisance will occur. Contact should be made with Welsh Water to determine whether additional neighbour consultation is required.

Negotiation with local authorities may be required to establish and manage Control of Pollution Act Notices (S60 / S61).

*The working area is in rural, agricultural area. Impact of noise from the construction works will be minimised by ensuring that plant is in good working order, generator is of the super silent nature and surrounded by noise barriers.*

*Activities will be carried out during standard working times to avoid noise disruption to local ecology and residents.*

*Morgan Sindall defines normal working hours as:*

*07:30-17:30 hours Monday to Friday during standard construction works.*

*0800 to 1300 hours on Saturday; (not required at the current time on this project)*

*No work, processes or other activities shall take place at all on Sundays, bank or public holidays without prior agreement and consultation with relevant stakeholders.*

## 3.3.2 Traffic Management Plan

A Traffic Management Plan (TMP) shall be developed for individual schemes where appropriate detailing deliveries, including abnormal loads, regular commuting, public transport options, parking, restrictions detailed in any local planning agreement or Section 61 consent, out of hours working and with view to minimising local congestion and impact on local roads.

*Access for construction traffic to St Nicholas WwTW will be via the temporary access track to the east off Duffryn lane as agreed with the local Highways authority. The access track will utilise an existing access gate so no hedgerow removal or gate widening will be required.*

*Local residents will be informed in advance of works that will affect them. At all times members of the public will be protected from construction traffic by the use of signage, physical barriers and banksmen.*

*Road sweepers along Duffryn lane and wheel washing at the start of the access track will be utilised if site conditions necessitate them.*

## 3.3.3 Mud and dust control

Wind-blown dust, generated from dry, exposed ground or soil and wastes stockpiles, will be prevented generally with the use of water sprays. Surfaces and stockpiles will be damped down to minimise dust as necessary.

In wetter conditions, deposits of mud on roads, pavements and areas of hard standing may need to be cleared. Installation of wheel washing devices may be required, preferably with water recycling equipment. Small occurrences will be cleared manually with a broom and shovel; elsewhere road sweepers will be called upon. The need to control mud and dust is covered in site inductions and in relevant task risk assessments, method statements and briefings.

*Along Duffryn lane, a road sweeper may be required to be hired for daily/weekly occurrence, which will be assessed during operations.*

## 3.3.4 Housekeeping and Visual Standards

Adequate waste bins will be placed in work areas, storage areas and temporary site compounds for the depositing of work related waste and mixed welfare wastes. Ensure adequate signage is used throughout the site. Regular inspections will be carried out to monitor housekeeping and initiate action to clear litter and debris. Personnel are encouraged to avoid littering and to clear litter where it occurs within site boundaries.

*All housekeeping will be kept to an exceptional standard with regular inspections being undertaken. Working areas will be surrounded by debris netting where required to prevent impact of construction activities to the local environment and the public in terms of both visual and health and safety issues.*

## 3.3.5 Plant Emission Control

Where feasible, electric plant will be used in preference to diesel- or petrol-powered units.

No plant will be allowed to idle for long periods when not in use. Plant operators are encouraged to switch off as soon as practically sensible.

Evidence of poor plant maintenance, such as black exhaust fumes, will be monitored by supervisory staff on a continuing basis. Plant with unacceptable performance is prohibited from work until rectified or replaced. Plant will be routinely inspected in line with prescribed requirements including emissions as well as leaks and drops.

## 3.3.6 Lighting

Where feasible, electric lighting will be used in preference to diesel- or petrol-powered units. Lighting shall be positioned to prevent nuisance to neighbours or sensitive receptors surrounding the site and where feasible shall be fitted with PIR movement sensors and/or timers, and shall only be used when required.

*The only lighting that will be required will be at the site compound to allow safe access during dark mornings. Task lighting may be required when work needs to be carried out in the evenings in the winter months - in any case all lighting will be directed into the working area to minimise disturbance to the local environment and lit for the minimum required time required to safely complete the works.*

## Water management plan

Where there is risk of impact on controlled waters, a water management plan shall be developed setting out project specific controls for the management of any controlled or other asters during construction phase.

The plan shall include detail of regular inspection, sampling and contingency in the event of equipment failure, fire or other emergency.

## 3.4.1 Site drainage

Drainage systems can act as rapid pathways for the spread of pollutants. Small quantities of pollutants such as oil can spread over large areas and cause significant harm.

Both storm and foul drainage systems should be identified and shown on plans. It is good practice to colour code drain covers; surface water – blue, foul water - red and combined – red.

Interceptors and cut-off valves, and other pollution control equipment must be maintained, inspected and clearly identified.

## 3.4.2 Pumping from excavations

Greater or lesser quantities of surface and ground waters that occasionally require to be cleared from excavations and exposed surfaces will be discharged to sewer, to land or to controlled waters either directly or indirectly via minor drainage systems. The need for approvals or consents will be determined on a case-by-case basis. Priorities will be to prevent

1. Ingress of surface waters
2. As far as is practical, disturbance to clean waters needing to cleared from excavations and exposed surfaces.

Generally, discharges to sewers will require the consent of the relevant statutory undertaker. If necessary, silty water will be passed through a settlement tank of appropriate capacity before discharge to the receiving medium.

Water known to be contaminated with hydrocarbons or other hazardous substances will be handled in accordance with specific risk assessments and method statements (RAMS).

Pumping operations and working in waters lead to the largest number of environmental incidents for the construction industry. Control measures must include detailed requirements being set out in risk assessments and method statements as well as use of the “Permit to Pump” (PTP) system shall be used for all dewatering activities. This also applies to over pumping of effluent to facilitate works.

PTP’s must be task specific and include details of inspection, equipment, location of dewatering and discharge, and risks such as watercourses and monitoring to be carried out.

Any dewatering of significant volume or for an extended period of time must be reviewed by the Framework Environmental Advisor to ensure that it remains complaint.

*If water is encountered it will be controlled by the use of sump pumps and discharged via a silt buster or silt sock into existing site drainage.*

## 3.4.3 Flood Risk

Flooding can become a rapid pathway for the transportation of pollution, oils and silts and materials, chemical storage and access should be planned to avoid such areas during time of wet weather.

Manage stockpiles carefully to avoid silt runoff. Cover or reseed semi-permanent stockpiles, install control measures such as silt fencing and protect watercourse/drainage where required.

*The TAN15 DAM indicates that the site is located within Flood Zone B (areas known to have flooded*

*in the past). Small areas of the site are predicted to be at risk of fluvial flooding, however, the areas*

*affected do not contain any proposed or existing infrastructure.*

*Small areas of the site are predicted to be at risk of surface water flooding, however, it is*

*understood that no existing or proposed works will be located within the extents of surface water*

*flooding once the proposed works are completed.*

*The temporary access road crosses a small area in a field which has been identified to be at*

*risk of surface water flooding, and the small road adjoining the temporary access road and Duffryn*

*Lane follows a surface water flow path that is predicted to be at risk of flooding.*

*The proposed development would result in a small increase in impermeable land cover which could*

*lead to an increase in surface water runoff. However, It is understood that a drainage strategy is*

*currently being developed in consultation with the SAB.*

*The proposed development is considered to be at low risk of flooding from all other sources (the*

*sea, groundwater, sewers and artificial sources).*

******

*NRW Flood Map for Planning (Surface Water and Small Watercourses)*

## Storage of fuels, oils and COSHH materials

Fuels, oils, paints, solvents and other Control of Substances Hazardous to Health (COSHH) materials will be kept in lockable containers, with controlled access to keys, and in line with legal requirements e.g. oil storage regulations, 110% bunding, plant nappies/Enviropads, etc.

Fuelling operations will be planned to minimise the risk of spillage and environmental risk. This may be the subject of a specific plan for high-risk operations and sensitive areas.

*A locked COSHH box will be placed in the compound where all COSHH materials will be kept when not in use. There will be spill kits placed on all plant (excavators, dumpers, fuel tanks etc). There will also be COSHH waste bins on site to put used COSHH waste in.*

## Resource and energy management

In line with Morgan Sindall strategy, the contract will plan and carry out operations with due regard to energy (CO2e emissions), as well as resource efficiency, e.g. efficiency using WRAP or Cl:aire protocols, storage of materials, delivery management, etc.

*A 60kva generator set to timers will be used on site to reduce CO2 emissions during working hours of the stie compound during the initial construction period. Once established on site, power will be taken from the existing MCC within the current welfare building within St Nicholas WwTW.*

## Contaminated land

Contaminated land identified prior to or during the contract will be managed in line with Morgan Sindall standards and guidance.

A contaminated land checklist is available for use on the forms section of the IMS (SE FRM 4).

*Should materials be different in nature to those encountered in the ground investigation or unforeseen*

*contamination be encountered during the scheme construction the following will be implemented:*

* *Works are halted*
* *The encountered contamination is assessed by a suitably qualified and experienced person;*
* *Suitable risk assessments are undertaken to confirm the level of PPE required for site operatives;*
* *Materials exhibiting evidence of contamination are separated from other arisings and placed on plastic sheeting (for further sampling and analysis);*
* *In the case of asbestos, a specialist asbestos contractor should be consulted in order to confirm the appropriate management and associated mitigation measures of any asbestos impacted materials or ACM should these be encountered.*

## Waste management

**Site Waste Management Plan**

A Site Waste Management (SWMP) shall be developed, implemented and maintained for the project and held on SmartWaste Online. All projects are required to have a SWMP in place irrespective of scale or value.

*The project will be added to Smartwaste online. All waste will be recorded and uploaded onto there*.

**Waste Characterisation**

Anticipated waste streams and their List of Wastes (LOW) / European Waste Catalogue (EWC) codes shall be estimated prior to construction. Any waste streams likely to be sent directly to Landfill should be WAC Tested prior to excavation.

**Waste Contractors**

Waste Carrier Licenses and the Environmental Permits/Exemptions of planned disposal sites shall be obtained prior to any waste movements. All licenses and permits will be checked on the public register of the appropriate regulator.

Duty of Care details must be correctly recorded within the SWMP and copies of all licenses/permits shall be kept on-site in the project waste file for the duration of the project.

**Waste Storage and Segregation**

The Waste Hierarchy ‘Prevention – Reduce – Reuse – Recover – Dispose’ must always be implemented (legal requirement).

Suitable skips, bins and storage areas shall be provided and closed or sheeted where required to prevent the escape of wind-blown debris. Waste storage must be suitably signed and display the correct EWC code.

*All materials are to be segregated by type and Hazardous materials to be segregated from all other material stockpiles. Any excavated made ground materials should be, if required, temporarily stored in an appropriate manner (e.g. plastic sheeting base and covered) in order to avoid creation of dust, leaching and surface run off.*

**Waste Disposal**

Waste collections can only be carried out following the correct Duty of Care checks.

Any Waste Carriers whose details are not held on file must be turned away from site.

**Waste Movement Duty of Care**

All waste movements must be covered by or accompanied by the correct Duty of Care documentation.

Waste movements without the correct document in place or not containing the correct information must be refused.

**Non-hazardous Waste Transfer Note**

All Non-Hazardous Waste leaving the site will be accompanied with a Waste Transfer Note (WTN) or “Ticket”.

Many waste carrier companies provide their own WTN. These will be checked to ensure that the following information is detailed:

* a written description of the waste
* any processes the waste has been through
* how the waste is contained or packaged
* the quantity of the waste
* the place, date and time of transfer
* the name and address of both the producer and carrier of the waste
* details of the permit, licence or exemption of the waste carrier
* the appropriate EWC code for your waste
* The 2007 SIC code for the activity producing the waste - 42.21 (Construction of utility projects for fluids)
* A declaration that the waste hierarchy has been implemented.

Once complete, the WTN will be signed by a suitable person and a copy retained on site.

**Seasonal Waste Transfer Note**

There may be circumstances where waste produced on a site will be of a similar nature throughout the year and it may not be appropriate to issue WTN for every load, if it is being transported by the same contractor and is going to the same location. A ‘Seasonal Waste Transfer Note’ may be used instead, for a period up to 12 months. The seasonal note must contain the same information as a WTN above and;

* the commencing and termination date

Once complete, the Seasonal Waste Transfer Note will be signed by a suitable person and a copy retained on site.

**Hazardous Waste**

In Wales, sites must be registered as a hazardous waste producer with NRW before the disposal of hazardous waste can commence.

A Consignment Note is required for the disposal of hazardous waste which contains details of the hazardous nature of the waste.

Consignment Notes follow the Hazardous Waste to the Transfer/Disposal location and must be completed by other parties that handle the waste. To ensure the waste has been correctly consigned, we must either obtain a Consignment Notes with Part E completed from the waste carrier, or if there are numerous transfers a quarterly statement summarising the wastes consigned between parties.

Consignment Notes collected at site, completed part E’s or quarterly statements shall be kept in the site waste file. Hazardous/ special waste Consignment Notes must be kept for a minimum of 3 years.

**Waste Records**

Key Waste Records include:

* Site Waste Management Plan - Held online on SmartWaste
* Evidence of Waste Characterisation/WAC Testing
* Waste Contractor Authorisation Checks; Licenses, Permits etc.
* Duty of Care Records; WTN, Seasonal WTN, Consignment Notes
* Waste Returns, Hazardous Waste Part E or Quarterly Returns

The SWMP shall be updated with Waste Contractor authorisations/disposal sites regularly.

All waste movements must be recorded in the SWMP. The SWMP shall be stored on SmartWaste Online.

The SWMP shall be sent to the Framework Environmental Advisor monthly for inclusion in corporate and customer reporting.

At the end of the project the Site Manager shall ensure the SWMP and all Waste records are obtained, updated and archived correctly.

*A waste assessment was undertaken using HazWaste online on eight samples of Made Ground and*

*four samples of Glacial soils. All samples tested and assessed were classed as non-hazardous and*

*would be classified as 17 05 04 (soils and stones other than those mentioned in 17.05.03). WAC*

*testing was carried out on three samples of Made Ground and three samples of Glacial Deposits. The*

*results indicate that the samples would be suitable for disposal at an off-site inert landfill facility.*

**Wastes from road sweepers**

The volumes of sweeper wastes are small and deemed to be inert. Wastes will either be taken to the operator’s normal discharge location, for which there is a valid waste management licence or an exemption or discharged at a location designated by site management.

**Burning of wastes**

The burning of waste is strictly prohibited and not allowed under any circumstances.

## Ecology and biodiversity

Protection and enhancement of biodiversity and ecology is a legal requirement. Plans should be developed, if not already in place at tender stage, to conduct pre-construction surveys, and during construction phase to continue monitoring for protected and/or invasive species.

Specific ecological and biodiversity risk assessments will be completed as part of normal completion of the Register of Environmental Effects, and where mitigation measures are required; they shall be detailed either below or in site-specific plans.

It is expected that projects of over £1m in value will complete the risk assessment (Register of effects) with specific focus on biodiversity and ecology, record its completion on Tracker and establish mitigation and control plans where required. (Smaller projects should focus on biodiversity and ecology where there is a direct project need.)

Biodiversity net gain (BNG) is a way to contribute to the recovery of nature while developing land. It is making sure the habitat for wildlife is in a better state than it was before development. From November 2023 (unless exempt), all projects granted planning permission in England must achieve BNG of at least 10%.

*Project specific issues*

The following Biodiversity and ecological sensitive areas have been identified at St Nicholas WwTW;

1. *Water bodies*

*Watercourses identified on OS maps include the River Waycock approximately 120m south of the site. Tributaries of the River Waycock located adjacent to the western boundary of the existing WwTW and a field drain 50m south of the eastern end of the access track which leads into a highways ditch alongside Dyffryn Lane.*

1. *Protected Flora*

*A total of 53 records were returned for Bluebell (Hyacinthoides non-scripta) listed on Schedule 8 of the WCA, with the closest record being 373m from the proposed development*

1. *Protected Mammals*

*A total of 74 records of bat were recorded within 2km of the site. Species included brown long-eared bat*

*(Plecotus auritus), noctule bat (Nyctalus noctula), common pipistrelle (Pipistrellus pipistrellus), soprano*

*pipistrelle (Pipistrellus pygmaeus), whiskered bat (Myotis mystacinus) and serotine bat (Eptesicus serotinus). Myotis and Pipistrelle bats of unconfirmed species were also recorded. The closest records were for common pipistrelle, Myotis and noctule bats within 1km of the site, but none on site. The closest roost recorded was for an unknown bat species located 1009m from the site.*

*Surveys of the WwTW site identified a Common pipistrelle roost in a building within the WwTW but no tree roosts.*

*A total of eleven records were returned for badger. The closest record was 1170m south of the site.*

*Five records were returned for otter (Lutra lutra), with the closest record being 1392m south-east of the site.*

1. *Other Mammals*

*A total of six other mammal species were recorded within 2km of the site: hedgehog (Erinaceus europaeus),hare (Lepus europaeus), harvest mouse (Micromys minutus), stoat (Mustela erminea), weasel (Mustelanivalis) and polecat (Mustela putorius). The closest record of these species was hare recorded 487m from the site.*

1. *Birds*

*A total of 76 species of birds were recorded within 2km of the site. Species recorded included the*

*following WCA Schedule 1 species: fieldfare (Turdus pilaris), redwing (Turdus iliacus), kingfisher*

*(Alcedo atthis), peregrine (Falco peregrinus), black redstart (Phoenicurus ochruros), hobby (Falco*

*subbuteo), brambling (Fringilla montifringilla), crossbill (Loxia curvirostra), goshawk (Accipiter*

*gentilis), barn owl (Tyto alba) and red kite (Milvus milvus). The closest record of Schedule 1*

*species was for red kite and redwing 487m from the site.*

*A total of 28 bird species listed on Section 7 of the Environment (Wales) Act 2016 were recorded.*

*The closest species recorded include the Eurasian skylark (Alauda arvensis), linnet (Linaria*

*cannabina) and dunnock (Prunella modularis) located 487m from the site.*

1. *Reptiles and Amphibians*

*Two species of reptile and six species of amphibian were recorded within 2km of the site. The*

*closest reptile record was for grass snake (Natrix helvetica) located 1009m from the site. The*

*closest amphibian record was for palmate newt (Lissotriton helveticus) 731m from the site, and the*

*closest great crested newt (Triturus cristatus) record is 995m from the site.*

1. *Invertebrates*

*A total of 29 invertebrate species were recorded within 2km of the site. One butterfly species was*

*recorded that is listed under Section 7 of the Environment (Wales) Act 2016, the dingy skipper*

*(Erynnis tages) located 700m from the site. A total of 11 moths listed under Section 7 of the*

*Environment (Wales) Act 2016 were recorded, the closest record was for dark-barred twin-spot carpet*

*(Xanthorhoe ferrugata) 554m from the site.*

*Fish*

1. *No fish species were recorded within 2km of the site.*
2. *Bryophytes, Lichens and Fungi.*

*One species of lichen was recorded within 2km of the site that is listed under Section 7 of the*

*Environment (Wales) Act 2016, namely Punctelia jeckeri.*

1. *Invasive Non-native Species*

*No invasive non-native plant species were recorded within 2km of the site.*

***Project potential impact***

*The potential effects upon the existing biodiversity on this project are;*

* *Installation of new temporary access track off Duffryn Lane which runs through Grade 3a BMV land.*
* *The removal of a section of hedgerow, scrub and trees has the potential to affect nesting birds during the breeding bird season.*
* *Disturbing works to foraging and commuting bats include construction noise and artificial lighting.*
* *Artificial lighting may disturb badgers and construction traffic and open excavations may cause harm/death of individuals.*
* *Artificial lighting may disturb hedgehogs and construction traffic and open excavations may cause harm/death of individuals*
* *Removal of a section of hedgerow H8 and associated bank has the potential to harm/cause death of reptiles and common amphibians during their terrestrial phase.*
* *There are no works required to the field drain but there is potential, in the absence of mitigation for a pollution incident to impact the watercourse and therefore fish due to the proximity to the flush to the access track.*
* *An area of replanted ancient woodland (Tinkinswood) is within the 30m survey area and is considered to be of County value. Regular construction traffic movements within the root protection zone of these trees may lead to compaction of soil around the tree roots and an increase in air pollution from traffic exhausts leading to a decline in the trees.*
* *Regular construction traffic movements within the root protection zone of scattered trees may lead to compaction of soil around the tree roots and a decline in tree health, of particular note to the most southerly tree in Hedgerow H8) as it is within close proximity to the access track.*

***Project Specific mitigation***

To minimise the effects of this construction project or to mitigate for unavoidable effects upon the local biodiversity the project team will consider all opportunities to improve biodiversity. These may include:

* Improving the immediate habitat through landscaping and planting of native trees and shrubs
* Consider build design to incorporate habitat or features to accommodate local species – bat access bricks, bird nest boxes, ponds, etc.
* Consider inclusion of additional features not in design – bird tables, insect hotel, etc.
* Consider off-site local enhancements in conjunction with local wildlife groups, etc.

*Mitigation measures will encompass recommendations from the following reports which will be read in conjunction with this Environmental Management Plan.*

* *Preliminary Ecological Appraisal (PEA) – B10180-0AG964-ZZ-ZZ-RP-NA-ED0132*
* *Bat Tree Climbing Report - B10180-0AG964-ZZ-ZZ-ME-NB-ED0286*
* *Flood Consequence Assessment - B10180-0AG964-ZZ-ZZ-RP-CA-FD0240*
* *Dormouse Survey Report - B10180-0AG964-ZZ-ZZ-RP-NB-ED0245*
* *Bat Survey Report - B10180-0AG964-ZZ-ZZ-RP-NB-ED0246*
* *Arboricultural Report - B10180-0AG964-ZZ-ZZ-RP-NB-ED0285*
* *Ground Investigation Report - B10180-0AG964-ZZ-ZZ-RP-GA-GC0197*

*Recommendations will include but are not limited to:*

1. *River Waycock SNIC - Appropriate pollution control measures*
2. *Ancient Woodland – Tree survey has been commissioned to inform root protection measures and the report includes appropriate measures to protect this area.*
3. *Scattered Trees/hedgerows - Trees/hedgerows should be retained and protected where possible including their rooting areas. A tree survey has been commissioned to inform the root protection areas. Where habitat losses are required, these should be minimised and should not affect the integrity of the feature. Compensation would likely be required (i.e. replacement planting and/or management of retained trees/hedgerows). Losses or damage and appropriate management should be agreed with an ecologist. A hedgerow removal notice may be required for H1 should any clearance be identified. Translocation/replacement planting may be required to ensure no loss to biodiversity.*
4. *Bats - Complete ongoing emergence surveys of trees within Hedgerow H8. If the presence of a roost if confirmed in the tree adjacent to the access gate through the H8 review access point; if the access point cannot be changed and works are anticipated to impact this tree and /or limbs of the tree need to be* *removed to enable access through this gate then a mitigation license may be required. Seasonal constraints to works may apply. Avoid night time working and temporary lighting of the access track.*
5. *Birds/Reptiles/ Amphibians - Sensitive timing of hedgerow removal and ECoW supervision.*
6. *Badger and Hedgehog – Avoid night time working and ensure open excavations are covered at night or have a access for mammals to escape.*
7. *Site wide - Bog mats to be deployed in wet areas (i.e crossing point within Hedgrow H7) and avoidance of areas of semi -improved grassland. Grassland habitiats should be reinstated or made good once the proposed access track is no longer required with the species rich seed mixes where appropriate*
8. *Ancient woodland, trees and hedgerows are to be retained and protected including their rooting zones with the proposed access track passing through existing gateways where possible;*
9. *If works are undertaken over winter, the use of bog mats or similar should be considered especially in the wetter areas (e.g. the grassland around Hedgerow H7);*
10. *A sensitive methodology/programme of works should be adopted in relation to breeding birds, reptiles and amphibians if vegetation removal is identified at a later date;*
11. *No night-time working to prevent harm to badgers and hedgehogs and disturbance of foraging/commuting bats;*
12. *Pollution prevention measures to be in place with no refuelling undertaken along the access track and spill kits to be available at the main site compound; and*
13. *Any damaged grassland to be re-seeded/re-instated once works are completed with species rich seed mixes where appropriate to ensure net benefit to biodiversity.*
14. *During installation of the access track, top soil will be stripped from the area and bunded and sealed adjacent to the access road as per the access road design drawings. At the end of the development the road will be removed and the topsoil replaced.*

***Responsibilities***

The St NicholasProject/Site Manager is responsible for the implementation of this Environmental Management Plan. The PM/SM shall communicate all management techniques to relevant subcontractors during site specific inductions.

If protected species are encountered during the project, the sighting should be recorded and forwarded on to the local Biodiversity Records Centre.

The designated Ecological Clerk of Works (ECoW) for this scheme is APEM. The ecologist contact details can be found below:

APEM Ltd

Riverview

A17 Embankment Business Park

Heaton Mersey

Stockport

SK4 3GN

Tel: 0161 442 8938

Fax: 0161 432 6083

APEM has been integral with the scheme development and will be throughout the life of the scheme

## Subcontractors

Subcontractors and suppliers are required to comply with the EMP in its entirety. Site inductions, toolbox talks, training and task briefings will be given to all site personnel with relevant information from the EMP.

This EMP will be provided to subcontractors, along with the contract specific environmental details, where their works package can have a potential detrimental impact on the environment. Subcontractors will be required to develop their own environmental plans specific to work packages where appropriate and to comply with the content and direction of this and other applicable supporting documentation.

## BREEAM / CEEQUAL / CCS / other registrations

Where customer requirements specify the project may need to register with BRE Environmental Assessment Method (BREEAM), Civil Engineering Environmental Quality Assessment (CEEQUAL), DREAM, etc. such registrations should be completed in a timely manner and responsibility allocated to a project individual to manage the relevant processes, registrations, filing, document collection, etc. and to facilitate audits and site inspections where required.

All projects are required under the terms of the company Associate Membership to register with the CCS, other than for very short duration projects (typically less than six weeks), subject to permitted exception.

Appendix A

Register of Environmental Effects

# Register of environmental effects

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Office / depot / site:** | **St Nicholas WwTW** | **Prepared by:** | **Sarah Eynon** | **Date** | **24.10.2023** |
| **Assisted by:** | Sarah Eynon | | | | |
|  | | **Reviewed by:** |  | **Date** |  |
| **NOTES** | | | | | |

**In the table below, under Environmental Impacts, assess levels of impact significance for each Development Activity and Aspect, as L, M or H, in accordance with following risk matrix. Mitigation measures are required where significance of impact is assessed as M or H.**

**Assessment of Significance**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Likelihood of Activity resulting in impact.** | **Severity of Subsequent Impact** | | | | |
| **Low (1)** | **Moderate (2)** | **Moderate (3)** | **High (4)** | **High (5)** |
| Negligible (1) | Low (1) | Low (2) | Low (3) | Low (4) | Low (5) |
| Unlikely (2) | Low (2) | Low (4) | Moderate (6) | Moderate (8) | Moderate (10) |
| Unlikely (3) | Low (3) | Moderate (6) | Moderate (9) | Moderate (12) | Moderate (15) |
| Likely (4) | Low (4) | Moderate (8) | Moderate (12) | High (16) | High (20) |
| Likely (5) | Low (5) | Moderate (10) | Moderate (15) | High (20) | High (25) |
| Certain (6) | Moderate (6) | Moderate (12) | High (18) | High (24) | High (30) |

**Definitions**:

**Activity**: generic definition relating to works being completed and medium that may be impacted

**Aspect**: element of an activity that can interact with the environment

**Impact**: any change to the environment, whether adverse or beneficial, wholly or partially resulting from an aspect

**Likelihood:** the chance or probability of an event occurring. Negligible – rare, occurs less than 0.1% of the time/case through to Certain – almost inevitable, 99.9% chance of occurrence

**Severity:** the impact that an event might have on the environment. Low – minor in inconsequential impact with no or short-term duration through to High - major impact or destruction to the environment with potential long-term consequence.

**Significance:** the product of likelihood and severity according to the above table.

**Guidance**

**Likelihood of an Environmental Impact Occurring**

|  |  |  |
| --- | --- | --- |
| **Likelihood** | Description | **L Score** |
| Certain | Occurs repeatedly / event ‘only to be expected’ | 6 |
| Likely | ‘No surprise’ / will occur several times | 5 |
| Likely | Could occur sometimes | 4 |
| Unlikely | Unlikely, though conceivable | 3 |
| Unlikely | So unlikely that probability is close to zero | 2 |
| Negligible | Not going to occur | 1 |

**Environmental Consequences of an Impact Occurring**

|  |  |  |
| --- | --- | --- |
| **Consequence** | **Description of environmental impact** | **C Score** |
| High | Major damage on & off site, national reputation damage, prosecution inevitable | 5 |
| High | Considerable environmental damage, prosecution and national reputation damage likely | 4 |
| Moderate | Moderate impact, contamination or damage recoverable, local reputation damage, prosecution possible | 3 |
| Moderate | Slight impact, small scale event contained on site, possible local media interest, prosecution unlikely | 2 |
| Low | No measurable environmental consequence, no reputation damage, zero likelihood of prosecution | 1 |

**Risk Rating Categories**

|  |  |
| --- | --- |
| **Risk Rating** | Action to be taken |
| High (16-30) | Work can only continue if control measures reduce the risk rating to an acceptable level |
| Moderate (6-15) | Introduce control measures to reduce risk as low as reasonably practicable |
| Low (1-5) | Risk broadly acceptable, but situation needs to be monitored for changes and action to reduce risk |

| Activity | Aspect | Impact | Impact Significance | | | Control and Mitigation | Residual Impact Significance |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Likelihood | Severity | Resulting Significance |
| **1** - Negligible **2-3** - Unlikely **4-5** - Likely **6** - Certain | **1-2** - Low **2-3** - Moderate  **4-5** - High | **1-5** - Low **6-15** - Moderate  **16-30** - High |
| Works associated with office operations | Operation of air-conditioning and refrigerant units containing ozone depleting substances | Escape of gases and impact associated with ozone layer and climate change. | 2 | 1 | **2** | Fridges to be inspected and maintained regularly. Items to be disposed of at suitable facility. | Low |
| Works affecting **Water** resources | Abstraction of surface or groundwater | Deterioration in water resource quantity and quality |  |  |  |  | Not applicable. |
| Dewatering of surface or groundwater | Deterioration in water resource quantity and quality | 6 | 2 | **12** | There will be localised dewatering around excavation works if ground water is encountered - not likely to affect ground water levels significantly. Ground water to be put through silt buster/ filter sock before being discharged into water mains. Abstraction license not required | Low |
| Impoundment of watercourses | Deterioration in water resource quantity and quality |  |  |  |  | Not applicable. |
| Discharge of effluent | Deterioration in water resource quality |  |  |  |  | Not applicable. |
| Discharge of site drainage | Deterioration in water resource quality |  |  |  |  | Not applicable. |
| Discharge of foul drainage | Deterioration in water resource quality |  |  |  |  | Not applicable. |
| Physical (temp and perm) works to watercourses and Rivers | Deterioration in water resource quality | 4 | 3 | 12 | River Waycock is located 100m south of the development site along with an unnamed watercourse to the west of the site.  Best practice methods to be utilised to avoid the risk of spills from construction materials and fuels/lubricants from construction machinery.  Spill kits to be located on all plant where there is a potential release of substances, workforce to be trained in spill kit usage, any releases must be reported to the immediate line manager / supervisor.  Construction materials, tools and associated fuels and lubricants will be stored at least 10m away from watercourse to control pollution risk. | Low |
| Physical (temp and perm) works to watercourses and Rivers | Change in flow regime | 4 | 3 | 12 | Construction materials, tools and associated fuels and lubricants will be stored at least 10m away from watercourse to control pollution risk. | Low |
| Physical (temp and perm) works to watercourses and Rivers | Loss of Biodiversity |  |  |  |  | Not applicable |
| Physical (temp and perm) works to flood defence works | Deterioration in water resource quantity and quality |  |  |  |  | Not applicable |
| Physical (temp and perm) works to estuaries | Deterioration in water resource quantity and quality |  |  |  |  | Not applicable |
| Spillages of hazardous substances | Deterioration in water resource quantity and quality | 3 | 2 | 6 | Substances to be stored in suitable containers and locations and at least 10m away from watercourses. Spill response kits to be available on site and operative awareness training. | Low |
| Use and Storage of Construction Hazardous substances including Oils/ Diesels and Petroleum | Deterioration in water resource quality | 3 | 2 | 6 | Substances to be stored in suitable containers and locations and at least 10m away from watercourses. Spill response kits to be available on site and operative awareness training. | Low |
| Use and Storage of Process Commissioning Hazardous substances | Deterioration in water resource quality |  |  |  |  | Not applicable. |
| Concrete Washout | Deterioration in water resource quality | 4 | 2 | 8 | Specific lined concrete wash out area to be established to prevent leachate of chemicals in to ground and away from watercourses. | Low |
| Use of potable water | Deterioration in water resource quality | 3 | 1 | 1 | Use of DCWW approved standpipe only for filling of site water bowser. | Low |
|  | | | | | | | |
| Works affecting **Ecological** **Habitat** and **Species**  ***(Note: completing this risk assessment and including mitigation measures and controls within the project environmental plan (PEP) will address the Planet target on biodiversity.*** | Works affecting Ecological Important Habitat | Loss of biodiversity | 2 | 1 | 2 | Materials and machinery should not be stored along woodland edges or next to water bodies (running water) or on scrub habitat.  A pre-works check for badger setts within 30 m of the proposed works should be undertaken 4 weeks prior to works commencing.  No night time working to prevent harm to badgers and hedgehogs and disturbance of foraging/ commuting bats.  A sensitive methodology/programme of works should be adopted in relation to breeding birds, reptiles and amphibians. | Low |
| Works removing Ecological Important Habitat | Loss of biodiversity | 2 | 1 | 2 | The removal of vegetation (scrub) will be undertaken outside of the nesting bird season (March to August inclusive) where possible.  If nesting birds are present, a buffer will be implemented around the nest, and works will not proceed in this area until the chicks have fledged, or the nest is no longer active.  A sensitive methodology/programme of works should be adopted in relation to breeding birds, reptiles and amphibians. | Low |
| Works affecting ecological protected species | Loss of biodiversity | 2 | 1 | 2 | Best practice measures such as covering open pipework and excavations at the end of each day or installing mammal ramps should be adhered to, to avoid any mammals (and other wildlife) becoming trapped.  If avoidance of vegetation removal is not possible and vegetation removal is required, it should be done with the presence of an Ecological Clerk of Works (ECoW).  Where hedgerow removal isunavoidable consideration would need to be given to the translocation of hedgerows to ensure no loss to biodiversity and/or replacement planting | Low |
| Works removing ecological protected species | Loss of biodiversity |  |  |  |  | Not applicable |
| Works affecting invasive plants | Land contamination by non-native species |  |  |  |  | Not applicable1 |
| Works removing invasive plants | Land contamination by non-native species |  |  |  |  | Not applicable |
|  | | | | | | | |
| Works affecting **historic** (e.g. listed) or **archaeological** important sites and structures | Direct impact | Loss of historic/archaeological value |  |  |  |  | Not applicable |
| Near area | Loss of historic/archaeological value Subsidence vibration | 1 | 1 | 1 | Tinkinswood ancient woodland in vicinity to access track but track will not pass through it. Construction traffic movements will be outside of the root protection zone of these trees. | Not applicable |
| Adjacent to area | Encroachment |  |  |  |  | Not applicable |
|  | | | | | | | |
| Working on and disturbance of **contaminated land** | Physical disturbance | Potential spread of contaminated land and pollution | 3 | 2 | 6 | Contaminated material to be segregated and stored on impermeable membrane to prevent leachate entering the ground.  Should contamination be found in the excavation, clay stanks will be placed to prevent the contamination tracking further and guidance sought on remedial works where necessary. | Low |
| Disposal | Potential spread of contaminated land and pollution | 2 | 2 | 4 | Materials to be stored in separate stockpiles on membrane to prevent leaching into the ground.  Materials to be disposed/treated by licensed facility. | Low |
|  | | | | | | | |
| General construction activities that may lead to **Nuisance** | Mud on road | Nuisance to local population | 3 | 2 | 6 | Vehicle wheels and tracks to be cleaned before leaving site and clean roads where necessary. | Low |
| Atmospheric emissions | Nuisance to local population | 2 | 2 | 4 | Plant to be low emission. Turn off plant when not in use. PPM system in place. | Low |
| Construction dust | Nuisance to local population | 2 | 2 | 4 | Keep roads clean, dust suppression on cutting operations and during dry weather. | Low |
| Batching dust and silo emissions | Nuisance to local population |  |  |  |  | Not applicable |
| Process atmospheric emissions | Nuisance to local population |  |  |  |  | Not applicable |
| Noise emissions | Nuisance to local population | 4 | 2 | 8 | Plant to be low emission, turn off plant when not in use. PPM system in place. Site working hours from 8am to 5pm Monday to Friday. | Moderate |
| Light emissions | Nuisance to local population | 2 | 1 | 1 | Lighting to face away from site extremities. Turn off lights when not required. | Low |
| Vibration | Nuisance to local population | 4 | 2 | 8 | Methods to be selected to minimise vibration. Monitoring of works.  Construction traffic along Duffryn lane in close proximity to several residential dwellings - pre-condition surveys of properties undertaken by DCWW. | Moderate |
| Odour emissions | Nuisance to local population |  |  |  |  | Not applicable |
| Road congestion | Nuisance to local population | 4 | 2 | 8 | Road notices in place, minimise deliveries and schedule where possible to avoid rush hours. | Low |
| Other public rights of way | Loss of amenity value  Disruption | 2 | 1 | 1 | Road notices in place, diversions to be placed where required. | Low |
| Visual amenity | Loss of amenity value | 4 | 1 | 4 | Working times to be agreed. Construction work areas to be surrounded by debris netting to minimise visual impact on area. Works areas to be kept as small as possible. | Low |
| Unsociable working hours | Nuisance to local population | 6 | 1 | 6 | Risk that working hours will be extended to early evening during commissioning operations. . Residents to be notified in advance of the works and constant dialogue with DCWW comms team. Noise barriers to be utilised around plant to reduce impact where possible. | Low |
|  | | | | | | | |
| Works requiring the consumption of **Energy** and/or fossil fuels | Energy consumption/carbon management - Construction works | Direct: cost Indirect: atmospheric emissions  Resource depletion | 3 | 2 | 6 | Use of energy efficient plant and sustainable resources. | Low |
| Energy consumption/carbon management - Site accommodation | Direct: cost Indirect: atmospheric emissions  Resource depletion | 3 | 2 | 6 | Eco-friendly welfare facilities, turn off lights etc. when not in use | Low |
| Energy consumption/carbon management - Transport and logistics | Direct: cost Indirect: atmospheric emissions  Resource depletion | 3 | 2 | 6 | Reduce transport distances and rationalise number of deliveries | Low |
| Energy consumption/carbon management - Material selection (embodied energy) | Direct: cost Indirect: atmospheric emissions  Resource depletion | 3 | 2 | 6 | Reduce transport distances and rationalise number of deliveries. Sustainable resources. | Low |
| Energy consumption / carbon management – generation of on-site power | Direct: cost Indirect: atmospheric emissions  Resource depletion | 3 | 2 | 6 | Hybrid generator to be used. | Low |
| Delivery and handling (transfer) of fuels (liquid or gas) | Direct pollution through spills, etc.  Waste of resource and cost | 2 | 2 | 4 | Good refuelling system and practices in place. Spill kits available on site. | Low |
|  | | | | | | | |
| Works leading to the generation of **Waste** | Material storage and damage | Direct: cost Indirect: reduced sustainability | 3 | 2 | 6 | Good material storage facilities and operative awareness. | Low |
| Creation of litter | Nuisance | 2 | 2 | 4 | Provision of bins. Good housekeeping, pick up litter. | Low |
| Waste disposal (duty of care) Construction waste Sewage M&E decommissioning waste, etc. | Contamination Nuisance Pollution  Legal compliance | 3 | 2 | 6 | Control of waste disposal using duty of care system. Ensure all waste is disposed of correctly. | Low |
| Surplus excavation/aggregate disposal | Increased cost Reduced sustainability | 3 | 2 | 6 | Control site works and minimise excavations/ material use. Monitor material creation and use. | Low |
| Packaging waste | Increased cost of disposal  Depletion of resources | 3 | 2 | 6 | Work with supply chain to minimise packaging. Recycle materials where possible. | Low |
|  | | | | | | | |
| Works in sensitive location or where abnormal operating conditions arise e.g. **Emergency response** | Abnormal operating conditions e.g. pumping, filtration, water treatment, etc. | Pollution of environment  Legal sanction |  |  |  |  | Not applicable. |
| Unplanned event (Incidents e.g. spill, fire, etc.) | Pollution of environment  Legal sanction | 2 | 4 | 8 | Emergency spill kits, booms, fire extinguishers etc. available on site. Trained personnel. Use of Fire Service. | Low |

Appendix B

Emergency Ideal Response Poster

