

KNIGHTS BROWN ENVIRONMENTAL MANAGEMENT PLAN

W000125 Rock Street Flood Alleviation Scheme

Environmental Management Plan

	Name	Designation	Signature	Date
Drafted By	Phil Wooster	Senor Site Manager		Jul 2022
Approved By	Tim Waller	Contracts Manager		Jul 2022
Authorised By				

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Amendment List

Rev	Date	By	Site	Client	Description of Modification
1	16/8/22	TW	Rock St	NPT	Minor comments amended
2	19/08/22	TW	Rock St	NPT	Minor comments amended
3	9/12/22	TW	Rock St	NPT	Comments linked to GIR
4	23/01/23	TW	Rock St	NPT	MM comments included

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1 Scope of the Construction Environmental Management Plan

- 1.1 The scope of the Construction Environmental Management Plan (CEMP) covers the activities and operations under the control of Knights Brown or subcontractors during the works.
- 1.2 The CEMP forms one component of the Project Management Plan and should be read in conjunction with the Site Project Phase and Quality Plans. The requirements of this plan apply to the whole project team, including all contractors and sub-contractors involved in the works under the control of Knights Brown.
- 1.3 The CEMP is supported by the Knights Brown, Information Management System (IMS).

2 Scheme Environmental Policy

Policy

- 2.1 The Knights Brown Environmental Policy Statement will be applicable and applied through this Construction Environmental Management Plan. Knights Brown's Environmental Policy Statement is available on the IMS, company intranet Sika and site noticeboards.
- 2.2 This current policy statement is also provided in Appendix A.

Aims

- 2.3 The overall aim of the Construction Environmental Management Plan (CEMP) is to ensure adequate management resource is provided to minimise the detrimental environmental impact of the works to ensure the smooth delivery of this project, taking cognisance of the environmental sensitivities of the location.
- 2.4 A key issue is that appropriate training is given and adequate resources are available to ensure that environmental responsibilities are discharged. Employees are required to take reasonable care of the environment in addition to their health, safety and welfare and that of others who may be affected by their acts.
- 2.5 All personnel are required to understand and implement the requirements of the CEMP. The aims, policies and procedures described in this plan will regularly be reviewed and revised as necessary.

3 Project Description

General Description of the Works

The works comprise of the construction of a 900mm culvert from the top of Lancaster Close to carry storm water away to a new outfall into the river Neath south of Park Avenue.

Anticipated commencement date: 01/08/2022

Duration: 28 weeks

The overall works programme is included in Appendix H

4 Contractor Requirements in relation to Planning Conditions

Condition 6

No development, including site clearance, shall commence until a Construction Environmental Management Plan (CEMP) has been submitted to and approved in writing by the Local Planning Authority. The CEMP shall be made with reference to the requirements of British Standard BS5228-1:2009 - Code of practice for noise and vibration control on construction and open sites. The CEMP should include the following information: - Construction methods: details of the extent and phasing of development; details of construction materials or techniques to be used; details for the storage and management of plant and materials used in constructing the development - General Site Management: details of the construction programme including timetable; details of site clearance; details for erection and maintenance of security hoarding including decorative displays and facilities for public viewing; details of complaint investigation procedures; details of measures to recycle and disposing of waste resulting from the development; - Control of Nuisances; details of dust & odour control measures and measures to control light spill - Traffic Management: details of site deliveries; details for the loading and unloading and storage of plant and materials; details of wheel wash facilities; details for the parking of vehicles of site operatives and visitors; specific details of works to facilitate a temporary vehicle access off the B4242 and traffic management that will be required during the construction period of the scheme in or adjacent to the public highway; - Specified hours for deliveries; details of restrictions to be applied during construction and demolition works (including timing, duration and frequency of works) to prevent noise or nuisance amenity issues to surrounding properties - Responsible Persons: details of the persons and bodies responsible for activities associated with the CEMP and emergency contact details The CEMP shall be implemented as approved throughout the site preparation and construction phases of the development. Reason: In the interest of highway and pedestrian safety, the environment, and the amenity of residents, and to ensure accordance with Policies BE1, EN8 and TR2 of the adopted Neath Port Talbot Local Development Plan.

Condition 7

No development shall take place until a Construction Noise and Vibration Management Plan has been submitted to, and approved in writing by, the local planning authority. The approved Noise Management Plan shall identify all significant noise sources; detail the physical and operational management controls necessary to mitigate emissions from these noise sources; hours of working on site, and specified hours for deliveries; and any elements of operation that could lead to amenity issues from noise and disturbance to surrounding properties. The Construction Noise and Vibration Management Plan shall also detail any noise complaint investigation procedures. The approved Construction Noise and Vibration Management Plan shall be adhered to throughout the operation of the approved use. Reason: To protect the amenity of the locality, especially for people living and/or working nearby, in accordance with policy BE1 of the Neath Port Talbot Local Development Plan. Action

Condition 14

Demolition or construction works shall not take place outside the hours of 07:00 to 19:00 Mondays to Fridays, 08:00 to 13:00 on Saturdays and no works on Sundays or Public Holidays. Reason: In the interest of residential amenity and to ensure the development complies with Policy BE1 and EN8 of the Neath Port Talbot Local Development Plan.

5 Significant Environmental Impacts

FRAP required for construction of the Outfall headwall into River Neath. Pipe construction through SINC near this location.

Knotweed at outfall and inlet locations, to be managed in line with specialist provisions.

Existing watercourse management at the western end of Lancaster Close where the existing brook enters the existing and proposed culverted sections.

Management of Significant Environmental Impacts

Will be outlined within this CEMP

6 Structure and Responsibilities

Management Structure

- 6.1 The following appointments have been made in accordance with The Construction (Design and Management) Regulations 2015 and this Construction Environmental Management Plan:

Contracts Manager: Tim Waller

Site Manager: Phil Wooster

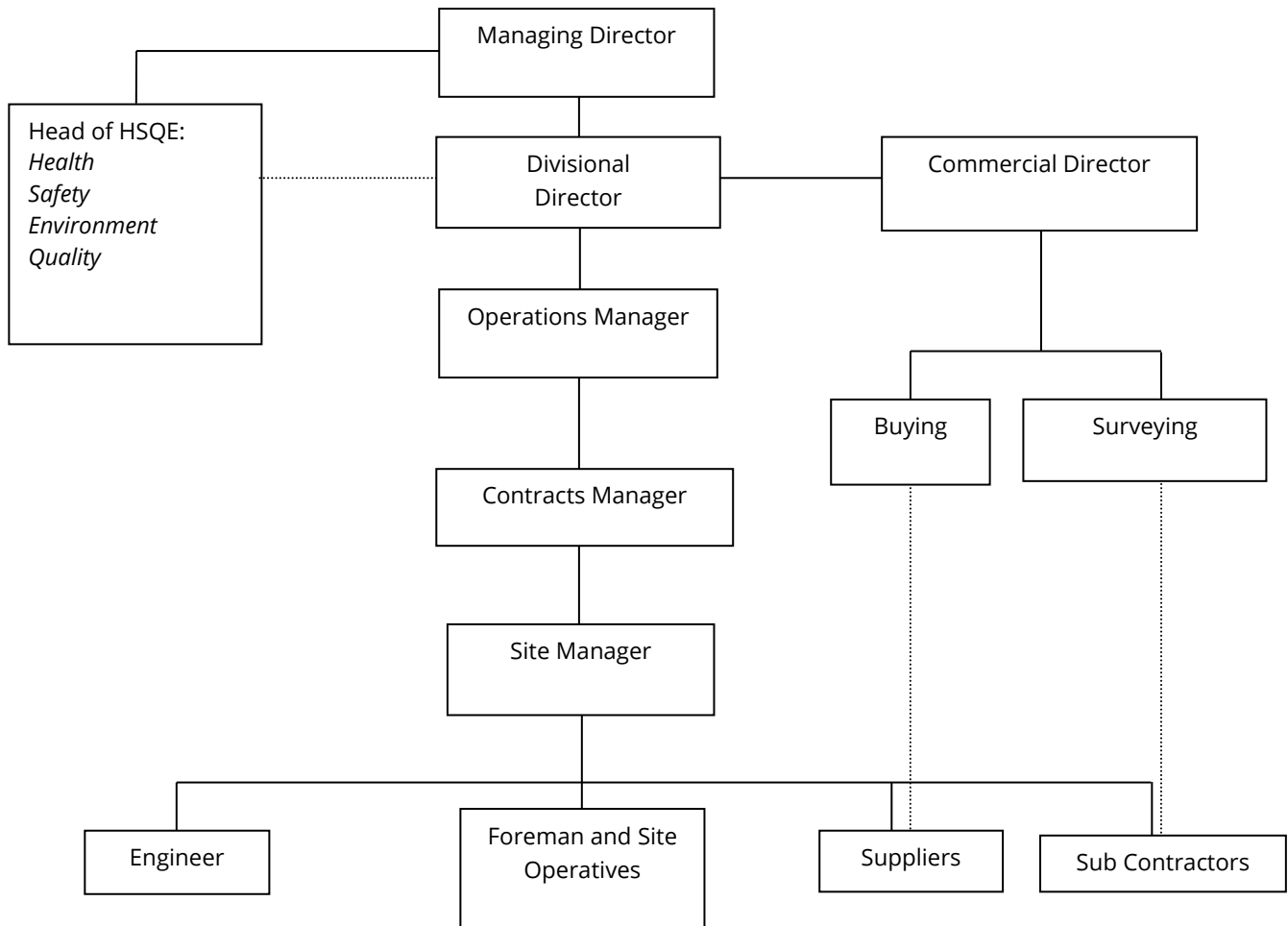
Principal Contractor: Knights Brown

6.2 As Principal Contractor, Knights Brown. will apply its own management framework to undertake the proposed works, reporting directly to the Site Manager.

6.3 Responsibility for all environmental issues relating to the proposed development falls to the Knights Brown Site Manager. Individual responsibilities will be allocated throughout the Knights Brown management team relating to inspection, sampling or reporting. Individual responsibilities are outlined below.

Typical Contract Organisation Chart

6.4 The following chart illustrates how the project team will be organised.



Individual Responsibilities

- 6.5 The duties of the Site Manager and other personnel are as detailed below.
- 6.5.1 The Site Manager reports directly to Knights Brown Contracts Manager and is responsible for:
- the establishment and implementation of the Construction Environmental Management Plan
 - identifying all environmental effects associated to the project
 - setting environmental objectives and targets
 - environmental works programming
 - legal and contractual compliance by ensuring the appropriate licenses, certificates and procedures are in place
 - ensuring Knights Brown staff and sub-contractors receive training on project specific environmental issues

Other Specialists

- 6.6 Relevant specialists will be employed if necessary, during the project to undertake watching briefs or undertake surveys and advise the construction staff. CVs of all specialist staff proposed would be submitted for approval.

All Staff

- 6.7 All staff working on the contract would have responsibility for complying with the provisions of the EMP and any subsequent environmental control measure. This responsibility shall be communicated during the general site induction.

7. Environmental Action Plan

- 7.1 An Environmental Action Plan has been developed to outline the key management actions, responsibilities and timescales necessary for the achievement of the objectives and targets.
- 7.2 The complete Environmental Action Plan can be found in Appendix D. The action plan is referenced as an appendix to this plan to aid revision and adjustment as the project progresses.

8 Training

- 8.1 A training regime will be implemented to ensure that all members of the construction team, including client personnel, staff and employees, sub-contractor's personnel and major suppliers, receive focused environmental training to ensure their competence in carrying out their duties on the project.
- 8.2 Any environmental training shall be extra to the training requirements of the Knights Brown Occupational Health and Safety Management System.

Environmental Induction

- 8.3 A general environmental induction shall be developed to introduce all site personnel to the environmental issues connected with the project, important environmental controls associated with the day to day operation of the project e.g. water pollution, boundary control, waste management, drip trays etc, and the general emergency procedures. A full register of induction attendance shall be maintained on site, in accordance with data protection regulations.

Toolbox talks and method statement briefings

- 8.4 Toolbox talks and method statement briefings will be given as the work proceeds and will cover the environmental controls related to specific activities undertaken during the works for example refuelling. A full register of toolbox talk or method statement briefing attendance shall be maintained on site.

Emergency Procedures and Incident Response

- 8.5 General procedures for addressing spillage and ecological or archaeological incidents will be included in the general site induction; specific toolbox talks however will be delivered to ensure operatives are aware of any extra emergency procedures. For example, work on some areas could require the use of booms or sedi-mats to control a possible incident. The procedures for deploying such measures will be affected by the local conditions and may require location specific training.

Specialist Training

- 8.6 Specialist training relating to certain environmental aspects will be developed and delivered to key members of the site team as required throughout the project. These talks are likely to cover topics including managing ecological incidents, spill control and assessment and site water flow.

Training Records

- 8.7 All training records will be maintained and filed by HR on Merlin (company online records system). The records shall include the content of the courses (induction and toolbox training), record of attendance and schedule of review.

9 Communication

Written Correspondence

- 9.1 All correspondence between members of the project team relating to environmental issues shall be written/emailed/confirmed on CVI.

Progress Meetings

- 9.2 To ensure all members of the protect team are kept informed of the construction work, there will be an environmental component in the monthly progress reports and meetings. Performance against the environmental objectives and targets can be reviewed at these meetings.

On site communication

- 9.3 A full contact list containing names, job titles and contact numbers shall be produced and maintained. On site communication, will be provided by mobile telephone.

External communication

- 9.4 External connections shall be established and maintained for the works.

10 External Reporting and Community Relations

Statutory Authorities and Interested Parties

- 10.1 The Site Manager will be responsible for the liaison on environmental matters with statutory and non-statutory authorities.

Complaints

- 10.2 On site, the manager in charge or designated community liaison is responsible for handling and resolving complaints.
- 10.3 Those received by offices should be directed either to the divisional marketing & communications manager or the head of marketing & communications.
- 10.4 A Complaints log shall be maintained and reviewed regularly to identify any changes to management procedures or operational controls to mitigate causes of complaints wherever possible. All complaints will be recorded in the Considerate Constructor Site file.

11 Operational Control and Incident Response

Pollution Prevention

- 11.1 A statement on general pollution prevention will be added to each method statement outlining the generic pollution prevention measures to be applied throughout the works. This method statement will adopt the appropriate best practice environmental management during construction, minimisation relating to the following issues:
- Fuel storage and refuelling procedures
 - Operation of plant and equipment
 - Dust generation and migration mitigating risks to controlled waters, visitors and surrounding off-site users
 - Monitoring and containment of arisings which could potentially contain contaminated material, particularly asbestos, to ensure no migration
 - Noise mitigation

Pollution Incident Response

- 11.2 Pollution Incident Response Plans shall be prepared wherever necessary, to cover the potential pollution risks generated from the construction activities. Each pollution incident response plan shall include:

- Step by step procedure for assessing and containing the spillage
- A list of equipment and its location
- Emergency contact numbers and reporting procedures, including the relevant EA, and NE contact numbers.

11.3 General procedural templates shall be used for the formation of these plans, however, at certain locations throughout the site extra precautions will need to be taken and the standard pollution procedures will be varied accordingly. The standard and site incident response procedures are available in Appendix E.

11.4 The Knights Brown HSQE Advisor will inspect the implementation of pollution response plans. Failures in implementation will be reported in the Safety and Environmental Report Log.

11.5 All pollution incidents shall be logged and reported to the Site Manager who shall be responsible for reporting to Knights Brown Senior Management, and HSQE department.

11.6 The construction activities could generate interactions with existing ecological and land use resources.

11.7 Method statements will outline the main operational controls applied at each location or activity to control possible detrimental impacts in accordance with the Environmental Action Plan. Specific operational controls will be communicated to the workforce through method statement briefings or toolbox talks.

11.8 Knights Brown will maintain watching briefs during any 'high risk' construction works.

Land use and Disruption

11.9 A works boundary will be maintained at all times. Permission for any temporary land take outside the footprint of the permanent works will be obtained in writing from the client prior to works commencing.

12 Procurement and Control of Sub-contractors and Suppliers

- 12.1 All subcontractors will be required to undertake site work in accordance with this CEMP and its supporting documents. All site operatives will be required to attend an induction which will include a section on the environmental aspect of the project.

Procurement

- 12.2 The procurement of sub-contractors and suppliers is conducted in accordance with the sub-contractor procurement procedure and supplier database on E-Vision. The following information in this section summarises procedural requirements for the purposes of the reader. IMS procedures will take precedence over this section of the CEMP.
- 12.3 The vendor assessment questionnaire would be reviewed as part of the subcontract or order evaluation procedure and the Knights Brown buyer will determine whether the subcontractor or supplier's environmental commitment, awareness and performance is adequate for the requirements of this project.
- 12.4 A pre-let meeting shall be held between the subcontractor or supplier and the Knights Brown Site Manager prior to contract award. Site-specific environmental issues and the proposed control measures will be discussed and reviewed during this meeting. The minutes to pre-let meetings shall be filed in accordance with the Project Filing Index.

Performance Monitoring

- 12.5 The Site Manager will monitor the performance of subcontractors or suppliers. Any significant underperformance or re-occurring breaches of controls will be reported immediately to the Knights Brown board that will take appropriate action.

13 Document Control and Records

- 13.1 Documents relating to the CEMP, their issue, revision, storage and archiving would be in accordance with the Project Quality Plan.
- 13.2 The following environmental records shall be maintained on site:
- Contract documents
 - Consultation with statutory authorities
 - Relevant consents, licences or authorisations
 - Minutes of meetings
 - Survey or monitoring records
 - Incident reports and corrective actions
 - Induction records
 - Complaints log
 - Waste management documentation
 - Audit and inspection reports

14 Audit and Inspection

- 14.1 An auditing and inspection regime shall be defined and maintained to ensure the continued compliance of the construction works with policy, the contract conditions and relevant legal requirements.
- 14.2 The results of environmental inspections and audits shall be reported to the Site management team and Knights Brown board. The results can be made available to the Client's Project Manager.

Site Inspection

- 14.3 Weekly inspections of the works shall be undertaken by a nominated member of the site staff to ensure the continued compliance of site operations with the provisions of this plan and control measures outlined in relevant method statements.
- 14.4 Audits will be carried out on a regular basis to ensure sub-contractors and site operatives are operating in compliance with this plan and are aware of incident response procedures.

Internal Inspection

- 14.5 Periodic inspections by the HSQE Department shall be carried out. The scope of environmental inspections will cover the compliance of site-based operations with the requirements of this plan, the contract, the law, Knights Brown minimum standards and progress against any corrective actions. Any non-conformities and actions arising from monthly inspections will be detailed in the report and their close out monitored by the Site Manager.
- 14.6 Senior Knights Brown Management are included on the distribution of any reports generated and will assist and monitor close out.

Environmental Audit

- 14.7 A trained competent auditor would carry out an environmental audit of this plan within 6 months of acceptance. Environmental audits will focus on the compliance with the CEMP throughout project management, which will include performance against the environmental objectives and targets, legal and contractual compliance and continued effectiveness of the CEMP.
- 14.8 The audit report would be reviewed in accordance with the audit procedure contained in the Project Quality Plan. The review would determine if procedural changes are required and the objectives and targets in the Plan are being met.

Procedures in the event of failure to comply with requirements of CEMP

- 14.9 If an audit shows that the requirements of the CEMP are not being met, the HSQE department would agree details of corrective actions required with the site team and agree a timescale for it to be implemented.
- 14.10 The root cause for the non-compliance would be identified and the procedures modified to remove this underlying cause. There shall be a determined effort to cure the problem and not superficially treat the symptoms.
- 14.11 If the procedures are adequate but have not been implemented such that there is a potential risk of pollution etc. a Non-conformance Report (part of the Integrated Management Systems) shall be raised and only closed out with the agreement of the auditor. An NCR can be raised by an auditor, or Safety and Environmental Advisor. NCRs will be recorded in the site Safety and Environmental Report Book.

15 Reviews and Close Out Report

- 15.1 A review of the overall effectiveness of this Plan would be carried out at least every 3 months by the Site Manager and procedural revisions changed accordingly. Any change to this plan will be submitted to the Project Manager for authorisation.
- 15.2 Information for the review will be gathered from the results of the inspection regime, regular progress meetings and environmental audit results.

Closeout Report

- 15.3 A closeout report would be compiled by the Environmental Officer upon completion of the construction phase of the project.

Appendix A

Knights Brown Environmental Policy Statement



ENVIRONMENTAL POLICY STATEMENT

While believing that our construction projects will ultimately enhance the built environment, Knights Brown recognises that the activities associated with these projects have the potential to affect the natural environment.

We will, therefore:

- Ensure our processes continue to meet the certification requirements of ISO 14001:2015.
- Keep up-to-date and comply with all environmental legislation, codes of practice, technical advances and customers' requirements.
- Support our customers and designers to improve the whole-life environmental performance of the construction projects that we are involved with.
- Adopt appropriate best practice examples from our customers, suppliers, regulators and industry sector in our aim of continual improvement.
- Set ourselves objectives and targets including where practicable, quantitative targets, to demonstrate continual improvement in our environmental performance.
- Each year, achieve and continually improve the environmental objectives and targets we have set.
- Provide training for employees and information to subcontractors and suppliers so they can help us achieve our environmental objectives.

This policy statement is brought to the attention of all employees and other interested parties. It is reviewed not less than annually or more often as required.

KEVIN VALENTINE | MANAGING DIRECTOR
JUNE 2022

Appendix B

Environmental Components of Method Statements

Environmental Components for Method Statements

The following considers the main parameters of the natural environment that could potentially be impacted by the construction works together with a summary of the methods that will be used in mitigation of any impacts caused by the planned construction. However for specific identified environmental risks and methods of risk reduction / mitigation see Appendix C Environmental Action Plan and Appendix D Environmental Management Plan

These measures will be implemented and maintained throughout construction methodology as a matter of standard. If variations are required these shall be defined in the particular method statement and in consultation with the Site Manager and (where applicable) the Client's natural environment supervisor.

The NRW should be informed of when the project is to start and is completed so that inspections can be arranged as the work proceeds. The NRW will be provided with a copy of this CEMP, and with the main works programme, including any major changes as work progresses.

1. Water

1.1. Fuel and Lubricants, and other chemicals

- Fuel and Lubricant use and storage – All fuel and lubricants on site will be stored in double-bunded containers, either at the Construction Compound, or through use of a mobile bunded bowser for refuelling on site. Wherever recommended and accepted by the plant manufactures, biodegradable lubricants will be used. Spill kits will be available and re-stocked as necessary at each storage point and with the refuelling bowser. Any fuel or lubricant waste arising from normal operations and/or any spills will similarly be stored in a special waste container and held on site until being disposed of through a licensed waste handler.
- Refuelling will be from a bunded bowser with both plant and bowser in the same area to minimise penetration or spread of any spill. Only trained operatives will be permitted to carry out refuelling. Spill kits will be available with the bowser. The bowser will be equipped with a non-locking trigger nozzle to prevent dangers of overflow. Any spills occurring will immediately be reported to the Senior Site Manager and further action taken as directed in the Site Pollution Incident Response Plan (Appendix E).
- Plant servicing will take place in the compound, with the appropriate use of drip trays and spill kits as necessary. Waste product and materials will be stored on site in a special waste container at the Construction Compound, or removed from site by sub-contractors carrying out the servicing for responsible disposal. Plant servicing personnel will have to enter the site and be inducted in the normal way at their initial visit to the site.

- Any overpumping of water ingress to excavations will be undertaken with the appropriate use of de-siltation methods, such as de-siltation lagoons, hay bales and sedimats; ensuring that there is no migration and contamination of any controlled waters.

2. Concrete

- Concrete will be batched offsite and transported to site in standard concrete wagons. Washout will occur on site, using a large skip or tank at or near each pour location. Skip contents will be transported offsite for responsible disposal.
- Concrete pours will take place under close supervision. Any spill out from the shuttered area will be cleared up immediately, the waste product being placed within the construction area, or into the mobile skip at site. The delivery chute will be swept clean into the pour before departure, and any tools used in the pour washed over the site skip.
- Any waste concrete will be cleared up as above, or placed in the skip once it has gone off and can be collected without further spread.

3. Air

3.1. Noise

- Operating plant noise will be kept within the standards and time periods dictated for the different parts of the site. Any non-complying plant will be stopped and stood down until it can be rectified or removed from site.
- All pneumatic tools will be fitted with silencers or mufflers.
- All plant and equipment will be checked daily and maintained correctly to limit noise.
- Local hoarding or screens will be used to limit noise where possible.

3.2. Dust

- Haul route surfaces may generate dust under plant movement and in dry weather. If this proves to be the case, water from an appropriate source will be sprayed onto the surfaces to limit dust generation.
- Vehicles transporting materials to and from site will be sheeted.
- Speed on site will be limited to 10mph.
- Road sweepers will be used at access points

3.3. Exhaust gases

- Plant and vehicles on site will be maintained to the standards dictated for the site. Any non-compliant plant will be stopped and stood down until it can be rectified or removed from site.

4. Wildlife and Vegetation

- Initial ecological habitation has been undertaken by the Client, who will also undertake a watching brief during the works. If there are any additional concerns during the construction phase, Knights Brown will contact Megan Price of NPT to confirm a way forward. Certain areas have been identified where contractor access is prohibited / restricted to protect wildlife and local fauna / trees. These areas will be securely fenced prior to major construction works taking place.
- INNS, namely Japanese Knotweed has been identified in areas on site. These areas will be avoided where at all possible, to mitigate disturbance. If works near to the INNS are required, a competent professional will be consulted.

5. Landscape

5.1. Waste

- Construction waste will be cleared by means within the site compound. Skips will either be closed, or netted to prevent waste being blown out on this exposed site. Skips will be emptied and maintained as necessary by a licensed waste handling contractor.
- Surplus spoil will be 'mucked-away' via a licensed waste handling contractor to a licensed disposal point.
- Personal waste will be kept to a minimum through creating awareness of landscape values, the local residents' quality of life, and the prevention of pest and disease build up. Skips will be used, and small containers made available in the offices, and in the mobile welfare facilities up on site. The Site Manager will ensure that these containers are emptied regularly as needed.
- Sewage will be disposed via the tanker collection

6. Biodiversity

- The objective of the Plan is to protect, conserve and enhance the natural habitats/species of the site and the aim of mitigation is to ensure there is no overall decline in the biodiversity and ecological value of the site.

7. Cultural Heritage

It is not anticipated that there are any archaeological sensitive areas within the site boundaries. However, the following outlines the procedures which should be followed in the event of such a find or discovery.

- Immediately stop works in the area of the find;
- Protect the find and the area surrounding by fencing/blocking off and immediately contact the project manager;

- Contact the Local Authority archaeological department and obtain advice on how to proceed;
- All significant finds must be reported.

8. Asbestos and Contaminated Material

- Vigilance is to be maintained throughout the works for potential asbestos containing material at surface or other unexpected contamination during site clearance and earthworks in areas not previously investigated. If contamination is uncovered, these areas will be securely isolated to prevent exposure to construction workers and members of the public.

Additional mitigations required specifically related to aspects highlighted in the Atkins GIR report dated Feb 2021.

Due to the size of the site foot print and the various ground types encountered/discovered in the GIR, WAC testing will be undertaken for each area to ensure that any muck away is removed in accordance with correct guidelines. KB's site waste management plan will ensure that this process is correctly documented, with all tickets remaining in the site folder on site or scanned to KB project sharepoint folder.

Earlier in this report we have discussed the process for reducing dust and the majority of the main earthworks for this site are being undertaken in the wetter times of year, which will help mitigate the majority of dust borne particles being an issue. Where this does become apparent best practices will be adopted to ensure the safety of workers and members of the public is maintained. This could be via the likes of air mist sprayers, water tanks for dust suppression, dumper pulled bowsters for dust suppression. Where any residual risk is remaining for this aspect then workers will be required to wear dust masks as defined by industry best practice. In isolated cases where these aspects are not deemed practical works may be stopped until damper periods of weather.

Any water generated water will be controlled in an engineered manner, with testing if required and appropriate treatment measures prior to discharge into any water courses. KB's partner environmental consultants will be consulted for any extreme cases to determine best practices where possible. Works will be planned to not be carried out in extreme rainfall events to minimise water run off.

All KB management staff have undergone Asbestos Awareness training and where any is encountered on site, specialists will be consulted for the best course of action for treatment or disposal. The Client – NPTCBC will also be consulted in any proposed outcomes. KB's employees will not bag up any Asbestos suspected materials, if encountered, the area will be dampened down lightly and then covered with DPC until the area has been inspected by specialists in the Asbestos field.

With regards to the sites management of Japanese Knotweed by KB, please refer to Appendix F where by a toolbox talk is referenced. If any outcrops of knotweed are identified, the areas will be segregated and specialists consulted in order to professionally treat or remove from site any knotweed contaminants.

There is no piling deemed required for this site.

Appendix C

Assessment of Environmental Impacts

Identification and Assessment of Environmental Impacts

Assessment Process

In assessing each activity the following has been considered:

- potential impacts on flora, fauna, existing habitats and vegetation
- potential impacts groundwater quality, availability and flow
- potential impacts on the landscape quality and character, including views
- potential impacts on local cultural heritage, including archaeological features
- potential changes in air quality, including CO₂, NO_x SO_x emissions
- potential nuisances for local people such as noise, dust and dirt on roads
- potential impacts on traffic and transport and impacts of site vehicle traffic
- waste management, including disposal, minimisation and off site works
- site security and storage of materials, especially hazardous materials

Assessment of Significance of Impacts

To evaluate the significance of the impacts, a consideration is made of the importance to the environment and business, together with the probability of the consequences occurring. The importance of an impact and the probability of its occurrence are evaluated below in terms of a combined Importance/probability matrix (see overleaf). This matrix assigns a value to the combined effect of Importance and Probability. These rankings would be taken into account in determining the control measures required.

TABLE A: IMPORTANCE

VALUE	IMPORTANCE	
5	Very High	Immediate and/or long-term catastrophic harm/severe breach of legislation or policy/catastrophic business loss.
4	High	Immediate and / or long term severe harm/breach of legislation or policy/severe business loss.
3	Moderate	Short Term harm/ temporary or occasional breach of legislation or policy/ moderate business loss.
2	Slight	Limited short-term harm/ minor breach of legislation or policy/minor business loss.
1	Negligible	No or trivial harm/ no or trivial breach of legislation/ no or trivial business loss

TABLE B: PROBABILITY

VALUE	PROBABILITY
5	Almost Certain
4	Likely
3	Occasional Chance
2	Unlikely
1	Improbable

TABLE C: IMPORTANCE - PROBABILITY MATRIX (to give Priority Rating)

IMPORTANCE	Very High	5	10	15	20	25
	High	4	8	12	16	20
	Moderate	3	6	9	12	15
	Slight	2	4	6	8	10
	Negligible	1	2	3	4	5
		Improbable	Unlikely	Occasional Chance	Likely	Almost Certain
PROBABILITY						

Note – When assessing the priority rating; the higher the number, the higher the priority the potential impact on the environment is to be given.

TABLE 1: ENVIRONMENTAL IMPACTS

Impact Ref. No.	Potential Impact	Construction Phase	Sensitive Receptor	Importance Score	Probability Score	Priority Rating	Objective Ref.
1	Water quality: Sedimentation of watercourse from surface runoff	All phases (surface run-off) - Material movements - Concrete pours - Operation of compound areas - Open-cut drainage	All watercourses	3	3	9	1
2	Air quality: Dust	All phases - Excavation - Movement of materials	Construction staff, Landowners, wildlife	2	5	10	2
3	Air quality: Exhaust emissions	All phases - Site plant and equipment - Associated road traffic, delivery vehicles and staff vehicles	Construction staff, wildlife and local residents	2	5	10	2
4	Ecology: Permanent habitat loss	Construction of hard standings / roads and structures	Habitats and wildlife (including invertebrates, birds, mammals)	4	4	16	3

5	Ecology: Damage to existing habitats, flora or fauna	Construction of Inlet, Outlet structures. • Excavation works	Habitats and wildlife	5	3	15	3
6	Ecology: Damage to protected fauna within works boundaries	All phases • Removal of Topsoil and Trees	Trees	4	3	12	3
7	Archaeology: Discovery of unrecorded archaeological interest	Phases of project involving excavation	Buried archaeological features	5	2	10	4
8	Land use: Physical presence of works	All phases	Landowners	3	5	15	6
9	Construction Noise and vibration	All Phases - Increases during: • Vehicle movements • Excavation • Earthworks	Landowners, wildlife	3	5	15	6

Impact Ref. No.	Potential Impact	Construction Phase	Sensitive Receptor	Importance Score	Probability Score	Priority Rating	Objective Ref.
10	Waste: General waste Cleared material and debris Removal of excess material off site	All Phases for general and construction waste Open cut drainage, in previously un-investigated area, potential for contamination	Disposal site receptors – at construction compound and satellite skips Point of loading of contaminated material	3	5	15	11
11	Visual impact: Temporary impact of construction works	All Phases	Loss of visual amenity, company reputation	4	4	16	5
12	Visual Impact: Change in character and quality of landscape	All Phases	Residential properties	2	5	10	5
13	Resource Use: Aggregates	All Phases	Use of natural resources	2	5	10	9
14	Resource Use: Water	All Phases	Water sources away from site	1	5	5	9

Impact Ref. No.	Potential Impact	Construction Phase	Sensitive Receptor	Importance Score	Probability Score	Priority Rating	Objective Ref.
15	Resource Use: Energy	All Phases • Operation of plant and equipment • Operation of offices • Provision of welfare	Use of non-renewable natural resources	1	5	5	9
16	Traffic Movements	All Phases • Material deliveries, waste collection • Staff transport	Local residents	4	4	16	7

Appendix D

Environmental Management Plan

TABLE 2 ENVIRONMENTAL MANAGEMENT PLAN

Objective		Target		Impact Ref. No.	Actions	Responsibility (tbc)	Timescale (tbc)
1	To prevent pollution of watercourses	1(a)	No significant deterioration in water quality during construction	1	Develop Pollution Prevention Method Statement outlining general preventative measures that are to be used throughout the works	Site Manager	Before ground work initiated
					Ensure all Method Statements relating to work in, over or close to the sea outline pollution prevention measures. Reference Pollution Prevention Method Statement	Site Manager	Continuous
					Incorporate NE & EA recommendations into the Method Statements for works	Site Manager	As required
					Maintain regular inspection of work sites to ensure control measures are implemented and remain effective	General / Section Foreman	Continuous
					Prepare and implement Method Statements for the construction of the works	Site Manager	Before ground work initiated
		1(b)	No enforcement action by statutory agencies during construction works	1	Agree format for statutory agency visits during relevant periods/works	Site Manager	Continuous
					Establish requirements for any further statutory agency consents during project	Site Manager	Before ground work initiated
					Ensure requirements of any consents/conditions are maintained throughout relevant works	Site Manager / General Foreman	Continuous

Objective		Target		Impact Ref. No.	Actions	Responsibility (tbc)	Timescale (tbc)
		1(c)	No water pollution incidents during construction works	1	Develop and implement adequate Pollution Incident Response Plans throughout the works	Site Manager	Continuous
					Develop and maintain consultation with the statutory agencies over construction methods for sensitive phases of the project	Site Manager	Continuous
					Arrange specialist incident response cover via emergency contractor to be used in case of major spillage.	Site Manager	Before ground work initiated
		1(d)	No corrective actions each audit relating to the implementation of Pollution Incident Response Plans	1	Inspect pollution incident response equipment regularly	Site Manager / General Foreman	Continuous
					Ensure regular tool box talks are given on pollution incident response equipment use	General Foreman	Continuous
2	To reduce or eliminate the release of airborne pollutants	2(a)	No dust pollution incidents during construction (<i>a dust pollution incident shall be defined as warranted complaint arising as a result of construction activities</i>)	2,3	Develop general Pollution Prevention Method Statement outlining dust control measures to be used throughout the works.	Site Manager	Before ground work initiated
					Ensure relevant method statements include dust mitigation measures. Reference Pollution Prevention Method Statement	Site Manager	Continuous
					Arrange road sweeper to be used as necessary to control mud/dust on public access roads used by site traffic	Site Manager	Continuous
					Maintain visual inspection over works for dust emissions and implement control measures as required	General Foreman	Continuous

Objective		Target		Impact Ref. No.	Actions	Responsibility (tbc)	Timescale (tbc)
3	To minimise the impact on existing ecological features	2(b)	All vehicles and plant to be well maintained	2,3	Maintain plant maintenance schedule for all plant and equipment directly operated by Knights Brown.	General Foreman	Continuous
					Complete inspection checks on all plant and equipment directly operated by Knights Brown.	General / Section Foreman	Continuous
					Ensure sub-contractors can produce maintenance schedule and checks if required	Site Manager	Pre-let meeting
					Remove poor or faulty plant and equipment from site	General Foreman	As required
		2(c)	No complaints related to exhaust emissions from site based plant or equipment	2,3	Maintain regular visual inspections of exhaust emissions from plant and equipment.	Site Manager / General Foreman	Weekly inspection
	To minimise the impact on existing ecological features	3(a)	No unauthorised removal or damage to protected grasses or flowers during construction works	4,5,6	Develop and maintain continued consultation with statutory bodies and local authorities to ensure interested parties are kept informed of proposed working methods and control measures.	Site Manager	Continuous
		3(b)	No unauthorised injury, damage or destruction of protected wildlife or vegetation during construction works – no enforcement action under Wildlife and Countryside Act or Habitats Regulations	4,5,6	Method statement for the protection of protected vegetation during excavation / removal of material	Site Manager	As required
					Prepare and implement a response plan to address potential discovery of protected fauna during works	Site Manager	As required
					Ensure works boundaries are clearly defined and maintained at all times	Site Manager / General Foreman	Continuous
					Ensure strict compliance to Method Statement of working adjacent to ecological sites.	Site Manager / general Foreman	Weekly inspections

Objective		Target		Impact Ref. No.	Actions	Responsibility (tbc)	Timescale (tbc)
					Develop and deliver tool box talk to section engineers and foremen outlining what to do in case of ecological discovery	TBA	Within 3 months of startup
		3(c)	No unauthorised temporary land take outside of works boundary	8	Ensure works boundaries are clearly defined	Site Manager / General Foreman	Continuous
					Obtain written authorisation for any temporary land take outside the footprint of the completed works from Landowner in advance.	Site Manager	Seven days before required land take
					Maintain regular inspections for works areas	Site Manager / General Foreman	Weekly inspections
4	To minimise impact on archaeological features	4(a)	No damage or destruction of known archaeological resources (none)	7	Compare construction programme against locations of existing archaeological resources and highlight potential interactions	Site Manager / Environmental Officer	Before ground work initiated
					Develop and implement strict control measures to ensure protection of existing archaeological features during periods of potential interaction.	Site Manager / Environment Officer	Continuous
		4(b)	No damage to unrecorded archaeological finds which may be discovered during works	7	Obtain archaeological specialist to maintain watching brief over ground works if unrecorded archaeology uncovered	Site Manager / General foreman / Field Archaeologist	Continuous
					Accurately record any features of archaeological interest	Field Archaeologist	As required

Objective		Target		Impact Ref. No.	Actions	Responsibility (tbc)	Timescale (tbc)
5	To minimise the visual impact of construction works	5(a)	Complete the works as per the programme	11,12	All phases of project, including material delivery and storage are planned	Site Manager	Continuous
		5(b)	No complaints from Landowner, statutory bodies or other interested parties relating to construction	11,12	Ensure works completed as per Method Statements. Ensure compound/materials storage is tidy	Site Manager	Continuous
6	To minimise disturbance to Landowner, local residents, and wildlife	6(a)	Zero prosecutions or enforcement actions related to noise disturbance	8,11,12	Prepare a Noise Management plan as part of the Pollution Prevention Plan outlining proposed control measures	Site Manager	Before ground work initiated
		6(b)	Respond to any noise complaints within 48hrs of receipt	6,9	Ensure complaints and consultation log is maintained	Site Manager	Continuous
		6(c)	No corrective action each audit relating to the maintenance of works boundaries	6	Inspect works boundaries regularly to ensure they adequately protect livestock	Site Manager / General Foremen	Continuous
					Maintain consultation with Landowner	Site Manager	Continuous
7	To minimise impact of works related traffic upon local residents and roads	7(a)	No complaints, each week, relating to works traffic using incorrect routes to site	6,9,16	Develop traffic management plan, include site access routes	Site Manager	Before ground work initiated
					Ensure highways controlled traffic routes are communicated to all sub-contractors and suppliers, include site access points	Site Manager	Pre-let meeting / Enquire information

Objective		Target		Impact Ref No.	Actions	Responsibility (tbc)	Timescale (tbc)
		7(b)	No complaints, each week, relating to traffic speeds on authorised highways controlled routes	6,9,16	Obtain approval for traffic controls in sensitive locations with relevant local authority and police	Site Manager	As required
					Review traffic control measures monthly and respond to complaints	Site Manager	Continuous
8	To minimise the consumption of aggregates, energy and water	9(a)	No corrective actions each audit relating to water consumption	13,14,15	Ensure that only approved water sources are used for all needs, and conservative water use practices in place	Site Manager	Continuous
		9(b)	No corrective actions each audit relating to energy consumption	13,14,15	Display energy awareness posters wherever required	Site Manager	Continuous
9	To minimise the impact of waste disposal	11(a)	Promote the re-use and recycling of materials	10	Develop and implement Waste Management Plan	Site Manager	Before ground work initiated
					Investigate viable re-use or recycling options for waste materials leaving site	Site Manager / Environment Officer	Continuous
		11(b)	No prosecutions by statutory bodies related to waste disposal	10	Ensure correct 'duty of care' documentation is collected from waste contractors and tips	Site Manager	As required

Please refer to page 24 for wording related to the specific content of the Atkins GIR.

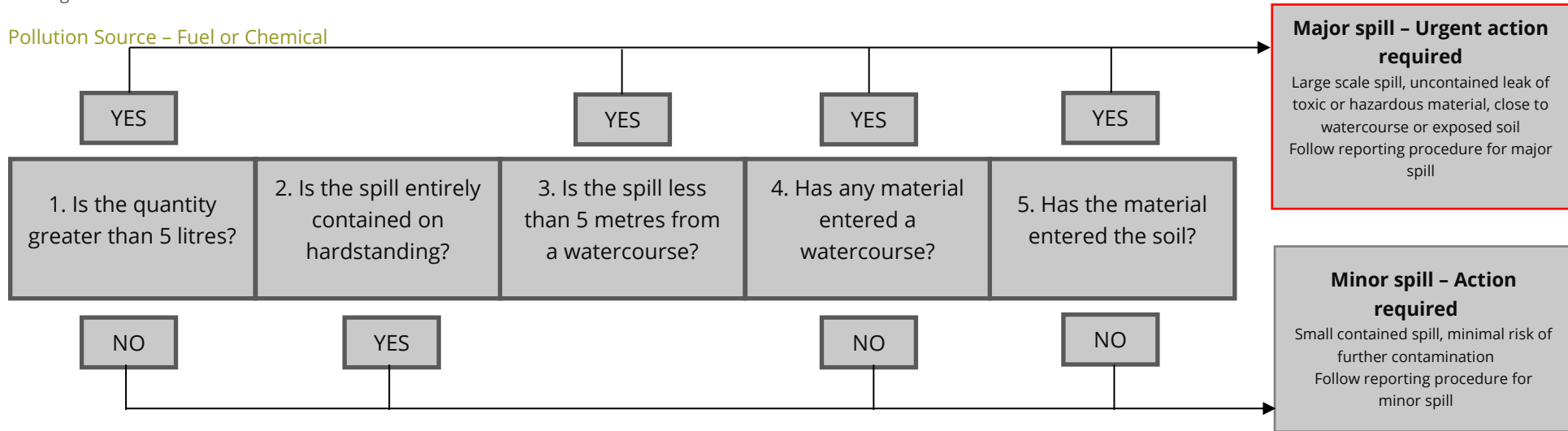
Appendix E

Standard and Site Pollution Incident Response Plan

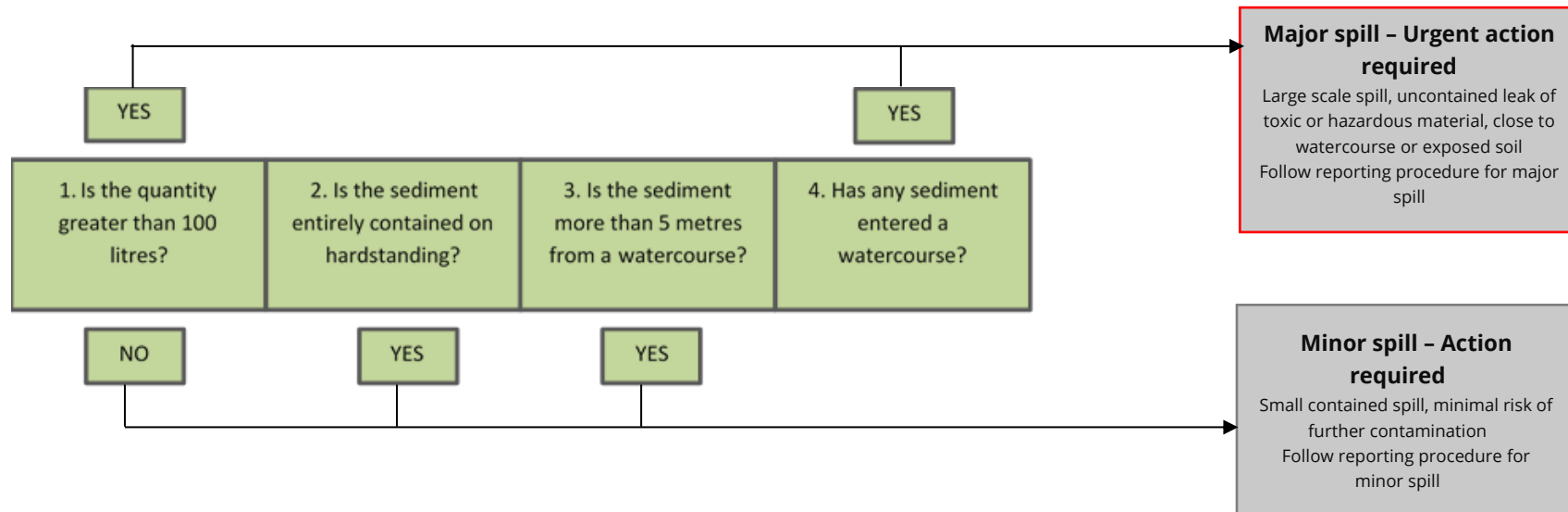
Pollution Incident Assessment

If you observe polluting materials being spilled or leaking, follow the decision tree below to determine the correct course of action on the Pollution Incident Management Chart.

Pollution Source – Fuel or Chemical

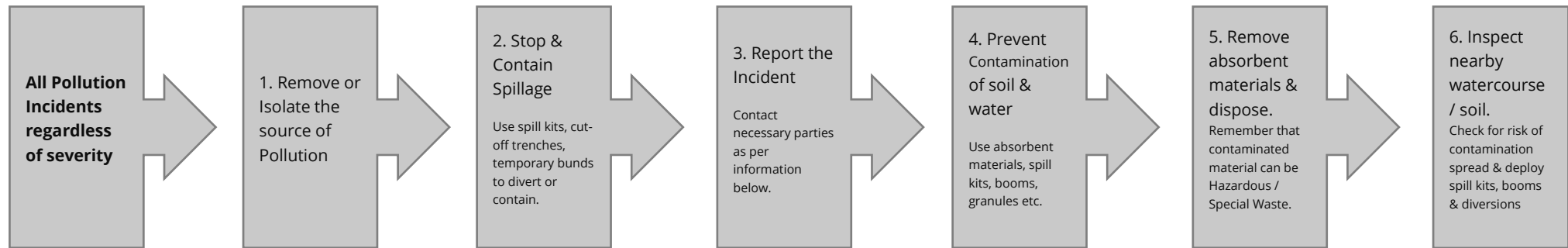


Pollution Source – Sedimented water or concrete

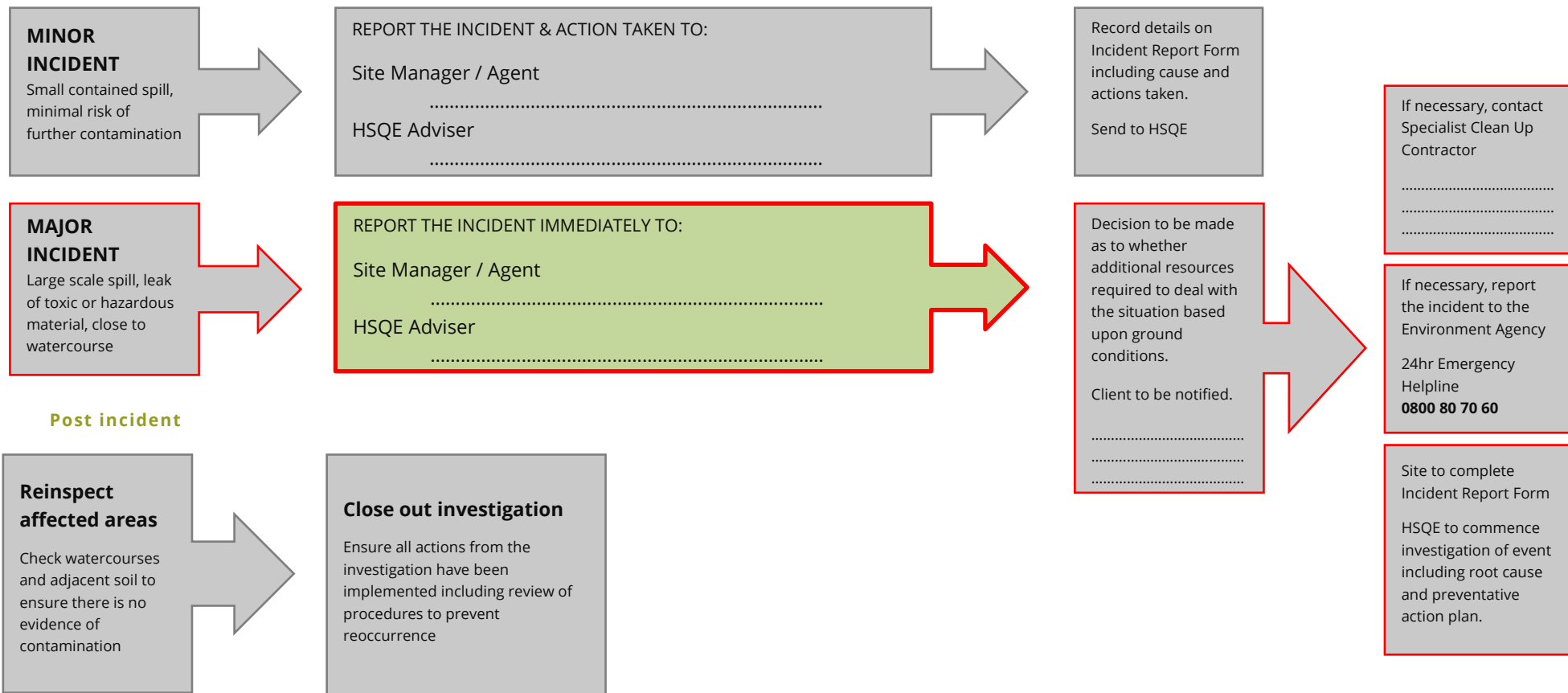


Pollution Incident Management

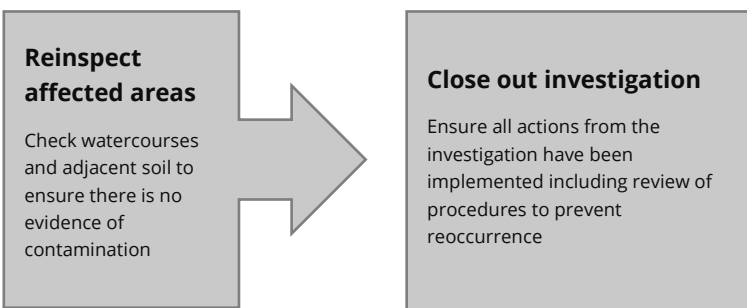
Action to take in the event of a pollution incident



Reporting of an incident – in accordance with the site emergency plan



Post incident



Environmental Emergency Plan

Person responsible for taking charge at the scene:	
1.	In case of spillage of Oils and Chemicals, report immediately to your Manager/Supervisor, who should report the incident to: Knights Brown Health and Safety Advisors Olav Lawrence – 07733 367862 Claire Bithrey – 07827 278877 Carl Wheeler – 07581 014240
2.	Try to Identify the Source of Pollution and Stop the Flow Immediately; Switch off any source of Ignition
3.	Avoid the spill Spreading: • Check the site drainage – Where will the Spillage go? • Stop the flow if possible; • Dam the flow with earth / sand / polythene; • Divert from Drains / Watercourses where possible.
4.	Get a Spill Kit: • Use absorbent materials if appropriate; • Place a Boom across watercourse as a precaution.
5.	Use sand or absorbent pads to mop the spillage up. • Do not Wash Spillage into the Drainage system – it only makes things worse; • Never use Detergents.
6.	If the spill has already entered the Drains, block off the entrance to the drains to prevent any more from entering
7.	Any Contaminated material (Special Waste) must be disposed of appropriately, including materials used for mopping up.

Controlling a Spillage – What You Should Do

WHAT TO CONTROL

If you spill or discover any of the following materials spilt, then they must be controlled immediately.

- Diesel or fuel oil
 - Hydraulic oil
 - Shutter oil
 - Chemicals
 - Curing agents
 - Cleaning agents
- Any other chemical materials.

ASSESS IT

Has anyone been injured?
Is spillage safe to approach?
Have you got the correct PPE?
Where is the spillage coming from?



Always Remember - Safety First



CONTAIN IT

Stop spillage at source, if possible.

- Stop spillage entering drains or open water - use absorbent materials to protect drainage.
- Use absorbent material to contain spillage - put absorbent material down at edges of spill first

REPORT IT

All spills or leaks must be reported to site management.

Things to report:

- Source and reason of spillage
- The material involved
- Any escape to drains or into open water
- Action taken so far

CLEAN IT UP

- **Do not** wash spillage down drains!
- **Do not** put oil-contaminated waste into general waste skips!

If it is not clear to you where oily waste should be put – ask!!

Appendix F

Mitigation of Environmental Intervention

Protecting the Environment – Water Courses, Landscape, Plants and Wildlife

1. Which construction activities are involved?

All construction modifies the Environment, but especially:

- Removing topsoil
- Clearing new road / track line
- Diverting water
- Carrying out any action that cause siltation into watercourse, or modify natural flow
- Carrying out any actions away from the site area demarcation
- Cutting trees
- Any potential polluting situations – refuelling, maintenance, leaving lubes/fuels/oils or other construction materials on site, exposed or unattended.

**2. What is Important?**

- The landscape and groundcover vegetation
- Burns, streams, and periodic watercourses
- Trees – significant vegetation features
- Fixed wildlife features such as burrows, setts, hole in the ground of any reasonable size, nests, drays, eggs and chicks – on the ground, in trees or in bushes
- Mammals – Protected species such as Otters, Badgers, Red Squirrels, Bats
- Snakes
- Amphibious creatures – such as frogs, toads, newts
- Fish
- Birds
- Other wildlife evidence – dead animal remains, bats in enclosed spaces
- Livestock

3. Before works starts on site (e.g. starting a new culvert, new track or other site clearance)

- Relevant permissions to be in place – EA permits, MMO Licences, planning permissions
- Refer to pre-construction ecological survey and ensure any requirements or controls are observed

4. During work on site

- Prevent materials from entering or disturbing the flow of water especially sediment, dust, spoil from road, fuels and oils or other construction materials.
- Make adequate use of alternative drainage, sedimats, drip trays, plant nappies, Teram filters and silt bags etc.
- Ensure spill kits are suitably placed and well stocked.
- Ensure any spills are reported as per the Site Emergency Plan and in accordance with the Pollution Incident Assessment and Management Plan.
- On discovery of trapped / static animals, snakes, amphibian, fish, bird, nest with or without eggs / chicks, livestock, significant burrow or standing tree stop work if to continue would cause disturbance to the fauna or flora.
- Report findings to on site supervisor and await decision as to how to proceed
- Where possible encourage mobile animals to move off site of their own accord
- Do not attempt to move or disturb snakes – adder bites can be fatal, although some GP practices / hospitals hold antivenom
- Ensure that any open excavations have ramped access to allow animals to escape should they enter / fall in
- Be aware of stored materials that have stood for some time – animals may have set up home within
- Observe exclusion zones set up to prevent disturbance of protected species / trees
- Familiarise yourself with potential invasive plant species that may be present on site and the action to take upon discovery.

**5. Completion of site**

- Ensure all materials and waste are removed
- Finishing works to include reinstatement, landscaping and repair as appropriate

IF YOU ARE UNCERTAIN OF THE SIGNIFICANCE OF ANY INCIDENT / DISCOVERY INFORM(HSQE ADVISER)
ON IMMEDIATELY TO PREVENT UNNECESSARY DELAYS TO CONSTRUCTION.

ENVIRONMENTAL TOOLBOX TALK

Japanese Knotweed

WHAT?

Japanese Knotweed was originally introduced to the UK as an ornamental plant but has spread extensively in the wild. With its rapid growth of more than 20mm a day, it forms dense clumps over 3m high which crowd out and prevent the growth of native plants.

The rhizome root system, from which new plants grow, can extend several metres away from the original plant and be up to 2m deep. The plant spreads so rapidly not only through progression of its root system but because any fragments of its stem or root will grow to form a new plant (a piece as small as 0.8 grams can regenerate). This makes it a very difficult plant to eradicate.

Japanese Knotweed will grow in any type of soil no matter how poor and is often found along railways, riverbanks, roads and particularly on derelict sites.



Identification

- ◆ Japanese Knotweed forms dense clumps and grows up to 3 metres tall
- ◆ The stem is hollow with distinct nodes like bamboo and breaks easily. In spring it is fleshy and red tinged and in summer it is green with purple speckles.
- ◆ Leaves in Spring are pinky red and uncurl as the stem grows. In summer they become large oval or heart shaped mid-green.
- ◆ Flowers are cream coloured and appear in drooping clusters towards the end of August.
- ◆ The plant dies before November often leaving behind the upright brown, hollow, woody stalks.

WHY?

- ◆ **Avoid environmental harm:** Japanese Knotweed shades out native plants by producing a dense canopy of leaves early in the growing season. Although Japanese Knotweed is not toxic to humans or animals, it offers a poor habitat for insects, birds and mammals.
- ◆ **Avoid prosecution:** It is illegal "to plant or otherwise encourage" the growth of Japanese Knotweed. This could include cutting the plant or roots and disturbing or moving surrounding soil which may contain root material unless as part of an eradication process.
- ◆ **Prevent damage to structures:** The plant is strong enough to penetrate foundations, walls, roads and drainage pipework.

DO

- ✓ IMMEDIATELY stop all work within 7 metres of the suspect plant and contact your line manager for instructions if you think you have identified Japanese Knotweed on your site.

DON'T

- ✗ DON'T excavate or move any soil from within 7 metres of a Japanese Knotweed plant without instruction
- ✗ DON'T track plant or vehicles over the area
- ✗ DON'T stockpile potentially contaminated material within 10 metres of a watercourse or drain.