



Appendix 6.2

Project Environmental Plan (PEP)



BARRY BIOMASS PLANT

Project Environmental Plan

REV 1

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Revision	Date	Details	Originator	Approved by
1	09/05/16	Page 4	RIM	RIM
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1.0 Introduction

This Project Environmental Plan (PEP) has been developed to identify and manage the environmental risks associated with **Barry Biomass Plant** and is a fundamental requirement of the Galliford Try environmental management system.

The Galliford Try Plc Environment Policy Statement shall be clearly displayed, on the site notice-board.

This project involves the following key construction activities:

- *Site Clearance & Earthworks*
- *Piled Foundations & Reinforced Concrete Bases*
- *Construction of a Fuel Storage & Handling Building*
- *Installation of a Client supplied gasifier & boiler equipment partially housed in steel structures.*
- *Construction of a welfare & turbine building*
- *Installation of all interconnecting pipework & electrical installations associated with the above activities.*
- *Hardstandings & Landscaping.*

Prior to issue, all environmental documentation on this Project, including this PEP, has been reviewed and approved by "Richard Matthews", who is the Senior Site Manager as well as being reviewed by the HS&E Advisor "Chris Moruzzi".

2.0 Environmental Setting

The area of the proposed development covers approximately 10,000 m² and the national grid reference number for the site is ST126676. The scope of the construction site is subject to a number of environmental sensitivities (as shown in the Environmental Constraints Map ([HS&E-BPG-P04-101](#))) as summarised below.

2.1 Geology and Hydrogeology

This site investigation confirms the presence of dense made ground soils extending to depths ranging between 1.9m - 5mbgl overlying natural drift deposits comprising soft becoming soft to firm then stiff grey clay deposits occasionally overlain with medium dense brown / grey slightly silty clayey gravelly sands extending to 14.5m – 15.5mbgl overlying grey marl/mudstone recovered as dense slightly silty sands and gravel. Groundwater is recorded to be standing in standpipe installations at 3.34mbgl.

2.2 Hydrology

No local water courses present immediately adjacent site. Existing surface water drainage eventually discharges into the dock.

2.3 Ecology (flora / fauna)

No invasive non native plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were identified during this survey of the site. Works will therefore have no impact upon the spread of invasive species.

2.4 Cultural heritage (archaeology; SAMs; listed buildings)

There are no archaeological or cultural heritage impacts in the vicinity of the works.

2.5 Existing Site and Surrounding Land Use (Neighbours and Protected Areas)

The closest of statutory site was Barry Woodlands (SSSI) some 3 kms distant however the Wales coastal path is approx 500mtrs to the North of the site although separated by road and rail routes.

The site is located on brown field land within the ABP Barry docks with light industrial units as immediate neighbours. The nearest residential properties being Barry docks road at 300m north of the site and on the former docks at 350 to 400m to the west

2.6 Contamination (soil; geology; water)

24.0 CONCLUSIONS & RECOMMENDATIONS

The conclusions and recommendations hereunder are based on the salient sections of the report and should not be referred to in isolation of the relevant sections of the text. All recommendations are subject to Regulatory Authority review.

Table 24: Conclusions & Recommendations

<p>Soil Contamination</p>	<p>Exposure risks associated with asbestos arise via the inhalation pathway and as such remedial actions will be required to mitigate this risk. In any context where disturbance of the ground will take place, the presence of asbestos presents a risk of harm to human health since airborne releases may arise. Contractors must be aware of this risk and develop appropriate site practice, using the guidance contained in CIRIA C733: Asbestos in Soil and Made Ground: A Guide to Understanding and Managing Risks: 2014.</p> <p>Where hard cover is provided by buildings or pavements, then no remediation is required.</p> <p>In landscaped/cultivated areas, made ground should be removed to 600mm below finished landscaped & the levels restored by placement of clean imported subsoil / topsoil under a regime of validation testing.</p> <p>Where made ground is left in place at 600mm below finished landscaped level, then a Terram 1000 geotextile, or similar, should be placed at the interface of existing ground & imported subsoil</p>
<p>Controlled Waters Risk Assessment</p>	<p>The assessment of groundwater analyses confirms that all contaminants are below their respective AA-EQS guideline criteria and therefore no risk to controlled waters is indicated.</p>
<p>Concrete Specification</p>	<p>Concrete in the ground should be specified to conform to the compositional requirements of Design Chemical Class DC-1, as defined in BRE Special Digest 1: 2005.</p>
<p>Water Mains</p>	<p>The assessment of new water mains at this site was based on the criteria specified in Paper 10/WM/03/21 'Guidance for the selection of Water Supply Pipes to be used in Brownfield Sites' published by UK Water Industry Research (UKWIR) January 2011, & the supplementary guidance UUENG/RL/V2/July 2011, published by United Utilities Water (UUW).</p> <p>The findings indicate that the soil concentrations of pertinent contaminant species are below the threshold concentrations permitted under the UKWIR & UUW guidance and on this basis, new water mains may be specified as Polyethylene (PE) pipe construction. Good practice requires that PE mains be laid in a remediated alignment comprising of clean granular fill extending to 600mm + pipe diameter & to 300mm below pipe underside.</p> <p>Pipes should be laid in accordance with BS EN 12201-2 'Plastic piping systems for water supply, and for drainage and sewerage under pressure – Polyethylene (PE) as stated in UKWIR guidance.</p>



CCG-C-15-8605: Combined Phase I / II Report for Land off Woodham Road, Barry, Vale of Glamorgan, CF63 4JE. Rev 3

	<p>Notwithstanding the above preliminary assessment, the contractor may wish to liaise with the relevant water supply company (Welsh Water) to confirm these recommendations and any consequential requirements.</p>
Gas Risk Assessment	<p>A Gas Screening Value (GSV) of 0.0020l/hrs is calculated for CO₂ based on the highest obtained result.</p> <p>Using this GSV value, the risk to the proposed development was assessed in line with Situation A as defined in CIRIA C665, and on this basis the site complies with Characteristic Situation 1.</p> <p>Under Characteristic Situation 1, gas protection measures are not required. However, it must be borne in mind that 5nr further rounds of gas monitoring are required to complete the gas monitoring programme.</p>
Waste Classification	<p>Given the findings of the investigation on this site, the presence of asbestos in made ground soils, precludes reuse of soils as this will incur a risk of airborne fibre releases.</p> <p>The appended soil waste classification analytical (WAC) results classify the soils as 'Stable Non-Reactive Hazardous Waste'. However, final classification will be determined by the quantification of asbestos in the soils, and these results are pending. It should be noted that the final decision on waste classification is at the discretion of the accepting landfill, and it is recommended that consultation with landfill operators be undertaken during the development of the waste management plan.</p>
Foundations & Ground Floor Slabs	<p>See Section 22.0</p>
Excavations	<p>Excavations may be undertaken by light hydraulic excavators. Excavations in excess of 1.2mbgl will require side support.</p>
Groundwater Management	<p>Groundwater was encountered during the intrusive investigation and was recorded to be standing at 3.34mbgl during the ongoing gas / ground water monitoring programme and therefore a prudent contractor would allow for some minor pumping to maintain dry working conditions during foundation construction - service installations during periods of heavy precipitation.</p>
Further Work	<ul style="list-style-type: none"> • Complete gas monitoring programme & finalise gas risk assessment

3.0 Environmental Consents, Permits and Licences

The need for any environmental consents, permits and / or licences and exemptions relating to work associated with Barry Biomass Plant has been identified during the environmental risk assessment process with the following that are highlighted being required and the remaining a possibility at the stage of writing this document.

	Process	Consent / Permit / Licence	Key Regulations	Issuing Authority
Water	Discharge of effluent to sewers	Trade effluent discharge consent	Water Industry Act, 1991	ABP
	Dewatering or pumping water in an excavation (>20m ³)	Abstraction Licence / CAR Authorisation	Water Resources Act, 1991; Water Environment (Controlled Activities) (Scotland) Regulations, 2011	EA / NRW / SEPA
	Use of waters from dewatering activities (e.g. for dust control)	Abstraction Licence	Water Resources Act, 1991	EA / NRW
	Abstraction of water from the water supply network e.g. via a hydrant	Standpipe Licence	Water Industry Act, 1991	ABP
	Transfer / disposal of controlled waste	Waste transfer notes	Environmental Protection Act, 1980; The Waste (England & Wales) Regulations, 2011 & Duty of Care Regulations, 1991	EA / NRW / SEPA
Waste	Transfer / disposal of hazardous waste (England & Wales) Register site as a hazardous waste producer (England & Wales)	Consignment notes Site Registration	Hazardous Waste Regulations, 2005	EA / NRW
	Carrying waste other than Q1s	Waste Carriers Licence	The Waste (England & Wales) Regulations, 2011; The Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations, 1991	EA / NRW / SEPA
	Managing the disposal of third parties waste streams	Waste Brokers Licence	The Waste (England & Wales) Regulations, 2011; The Waste Management Licensing (Scotland) Regulations, 2011	EA / NRW / SEPA
	Keep, treat & dispose of waste	Environmental Permit / Waste Management Licence / Exemption	Environmental Permitting (England & Wales) Regulations, 2010; The Waste Management Licensing (Scotland) Regulations, 2011	EA / NRW / SEPA
	Reuse of waste materials on-site	Environmental Permit / Waste Management Licence / Exemption	Environmental Permitting (England & Wales) Regulations, 2010; The Waste Management Licensing (Scotland) Regulations, 2011	EA / NRW / SEPA
	Treatment of waste / contaminated soils	Mobile Plant Licence	Environmental Permitting (England & Wales) Regulations, 2010; The Waste Management Licensing (Scotland) Regulations, 2011	EA / NRW / SEPA
	Radioactive substance consent notes Management of noise & vibration	As site licence conditions Section 61 Consent	Radioactive Substances Act, 1993 Control of Pollution Act, 1974	SEPA – via client Local Authority

3.1 Other Requirements

The key 'other requirements' applicable to this project are:

Other Requirement(s)	Environmental Requirement(s)
Insert other requirements that need to be compiled with e.g. client requirements; planning requirements; contractual environmental requirements; industry standards; pollution prevention guidelines	Specify the specific environmental requirement that needs to be addressed.

4.0 Environmental Risk Assessment

The Operations Management Team, in conjunction with the HS&E Advisor, has completed an environmental risk assessment, which is shown in the Environmental Risk Register (refer to Appendix 1; [HS&E-FRM-E06-01](#)) that encompasses the design, pre-construction, construction and commissioning phases of the project.

Throughout the duration of this project, the environmental risk assessment will be reviewed and updated on a monthly basis during the '4-week planning meeting' that is held between the Operations Management Team and the HS&E Advisor. The purpose of this review is to ensure the risk assessment remains suitable, adequate and effective in identifying and managing environmental risks. Further details concerning the methodology employed to assess project environmental risks are detailed within the Galliford Try Environmental Risk Assessment Standard ([HS&E-STD-E06](#)).

5.0 Environmental Control Measures

In addition to the site specific environmental control measures detailed within the Environmental Risk Register (refer to Appendix 1; [HS&E-FRM-E06-02](#)), the mandatory control measures described below also apply to Barry Biomass Plant.

5.1 Waste Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

Risk	Mandatory Environmental Control Measure(s)
Waste Storage, Handling and Segregation	<ul style="list-style-type: none"> • Store wastes in areas away from surface / foul drains and watercourses • Segregate all construction wastes, at a minimum, into hazardous and non-hazardous waste streams • Segregate construction wastes into dry recyclables (<i>Scotland only</i>) • Cover waste containers if there is a risk that wastes may be blown out or the wastes contained therein are water sensitive e.g., plasterboard wastes • Store waste oils in 110% bunding – <i>Scotland only</i> • Use waste signage i.e., labels that specify waste contents • Secure waste containers (<i>Note: On insecure sites or in areas where theft and vandalism may occur, skips should be lockable</i>).
Off-site disposal of site waste streams	<ul style="list-style-type: none"> • Develop, implement and maintain a Site Waste Management Plan throughout the duration of the project • Use the GT Non Hazardous Waste Transfer Note (WTN) for the off-site disposal of all non-hazardous wastes (HS&E-FRM-W01-03) • Use consignment notes for the off-site disposal of all hazardous (or Special in Scotland) wastes • Retain all WTNs for at least three years • Register the site with the EA / NRW if more than 500kgs / year of hazardous waste is to be sent for off site disposal. Renew this registration on an annual basis – <i>England and Wales only</i> • Ensure SEPA are given at least 72 hours pre-notification of a shipment of special waste from site – <i>Scotland only</i> • Only use licensed waste carriers to transport wastes from site • Obtain <u>full copies</u> of the Environmental Permits / Waste Management Licences or Exemptions for the disposal locations of site waste streams.

	<ul style="list-style-type: none"> Periodically follow a waste vehicle to its destination (and complete HS&E-FRM-W01-04) where: <ul style="list-style-type: none"> The condition of the waste contractor's vehicle is poor, or The waste contractor's waste paperwork is considered to be weak, or A waste contractor uses a lower tier waste haulage company, or A higher risk waste is being transported e.g., asbestos or oily wastes. Contact the HS&E Advisor immediately in the event that site wastes are not taken to a licensed waste disposal / recycling facility.
Reporting waste performance	<ul style="list-style-type: none"> Report project waste performance on a quarterly basis, as a minimum, to Business Unit management to allow GT plc waste performance reports to be generated by the HS&E Department.

Reference should also be made to the Site Waste Management Plan that has been developed for this project.

5.2 Water Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

Risk	Mandatory Environmental Control Measure(s)
Abstraction, Impounding and Dewatering	<ul style="list-style-type: none"> Obtain an abstraction licence from the EA / NRW for the abstraction of more than 20m³ of water / day from any controlled water – <i>England and Wales only</i> Obtain an abstraction licence if waters from dewatering activities are to be used e.g., for dust suppression – <i>England and Wales only</i> Obtain a CAR authorisation from SEPA for the abstraction of more than 10m³ of water / day from any controlled water – <i>Scotland only</i> Obtain an Impounding Licence from the EA / NRW prior to any impounding works commencing – <i>England and Wales only</i> Obtain a CAR Authorisation from SEPA prior to any impounding works commencing – <i>Scotland only</i> Ensure that the GT Permit-to-Pump system is used for all effluent pumping activities (refer to HS&E-BPG-W05-101) Ensure that a pump head rose is used to reduce the risk of harm to aquatic life Ensure conformance to requirements of obtained licences / authorisations.
Discharges to Surface Water or Groundwater	<ul style="list-style-type: none"> Consult with the EA / NRW / SEPA as to the need for an Environmental Permit (England and Wales) or CAR Authorisation (Scotland) for the discharge of effluent to surface waters prior to the discharge proceeding Ensure that the GT Permit-to-Pump system is used for all effluent pumping activities (refer to HS&E-BPG-W05-101) Obtain permission to discharge silt laden waters to land from the landowner and consult with the EA / NRW / SEPA prior to discharge Ensure all effluent discharges from site cabins are directed into sewers (with permission from the local water company) or holding tanks Ensure conformance to requirements of obtained permits / authorisations.
Discharges to Sewer	<ul style="list-style-type: none"> Obtain a trade effluent discharge consent from the local water company / Scottish Water or written permission from the sewer owner prior to the discharge of any trade effluent into a foul sewer Ensure that the GT Permit-to-Pump system is used for all effluent pumping

	<p>activities (refer to HS&E-BPG-W05-101)</p> <ul style="list-style-type: none"> • Ensure conformance to requirements of any obtained consent.
<p>Works In, Near or Over Water</p>	<ul style="list-style-type: none"> • Obtain a Flood Defence Consent (FDC) from the EA / NRW for the construction of any structure in, over or under a main river watercourse, including the construction of dams, weirs, mills, channel diversions and culverts – <i>England and Wales only</i> (refer to HS&E-BPG-W05-102) • Obtain a FDC from the Lead Local Flood Authority (LLFA) for the construction of any structure in, over or under an ordinary watercourse, including the construction of dams, weirs, mills, channel diversions and culverts – <i>England and Wales only</i> (refer to HS&E-BPG-W05-102) • Obtain a CAR licence from SEPA for the construction of any structure in, over or under a main river or ordinary watercourse, including the construction of dams, weirs, mills, channel diversions and culverts – <i>Scotland only</i> • Obtain a FDC from the EA / NRW / LLFA for all works involving construction, excavation, erection, re-erection or modification works which: <ul style="list-style-type: none"> – Are within 10m of the bank of any main river / ordinary watercourse – Are within 18m of any tidal defence – May interfere with the bed or banks or flood channel of any main river / ordinary watercourse • Give the EA / NRW at least seven working days notice of any intention to temporarily or permanently divert the flow of a main river; carryout works over or within a main river channel; commence operations in a main river channel; or work on or near foul sewers • Give LLFAs at least seven working days notice of any intention to temporarily or permanently divert the flow of an ordinary watercourse; carryout works over or within an ordinary watercourse; or commence operations in an ordinary watercourse channel • Develop, communicate and implement a suitable, adequate and effective method statement, where any watercourse diversion is to be undertaken • Consult with the EA / NRW as to the need for an abstraction licence where overpumping operations are to be undertaken • Obtain formal approval from the EA / NRW / SEPA prior to the use of any herbicide in or near a watercourse (i.e., within 10m of a watercourse) • Plant and equipment entering or working alongside watercourses should be well maintained, clean and free from oil leaks • Prevent liquid / solid debris falling into a watercourse or onto an embankment during construction activities. • Ensure conformance to requirements of any obtained consent / approval.
<p>Works in Tidal Waters</p>	<ul style="list-style-type: none"> • Consult with the Marine Management Organisation (in England); the Welsh Assembly (in Wales); Marine Scotland (in Scotland); the EA / NRW / SEPA before any construction works commence in, near, under or over tidal waters to ensure that all appropriate consents are obtained.
<p>Site Drainage</p>	<ul style="list-style-type: none"> • Develop and display a site drainage plan that identifies surface and foul water drainage systems and nearby controlled waters • Implement and maintain control measures to ensure site drainage does not contaminate drains or watercourses e.g., cut-off ditches / silt fences • Provide tool box talks to relevant personnel and contractors that effluent must not be poured down surface / foul water drains without permission.
<p>Washing Activities</p>	<ul style="list-style-type: none"> • Conduct all washing and cleaning operations (including the washing of vehicles and / or plant) in a designated area, which should be isolated from the surface water drainage systems and within hardstanding areas. • Ensure no detergent contaminated wash down effluent is allowed to enter

	<p>controlled waters unless permitted by the EA / NRW / SEPA</p> <ul style="list-style-type: none"> • Direct detergent contaminated wash down effluent via the foul sewer (after having gained permission from the Water Company / Scottish Water) or ensure that it is contained for off-site disposal. • Establish an impermeable concrete / mortar washout area at least 10m away from drains; surface waters; or trees.
Monitoring	<ul style="list-style-type: none"> • Monitor the quality of watercourses potentially affected by site activities at least once per day and at agreed locations whilst construction operations are in progress, which may involve visual monitoring and / or physical (e.g., pH; suspended solids; total organic carbon) sampling.

5.3 Ecological Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Works in Protected Areas	<ul style="list-style-type: none"> • Consult with Natural England / Scottish Natural Heritage / Natural Resources Wales and / or the local Planning Authority before works commence within a conservation area e.g., Ramsar site; SAC; SPA; AONB; SSSI, NNR, ESA; NHA; or a local conservation designation • Develop and submit a method statement to EN / SNH / NRW • Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified ecologist and / or arboriculturist), where necessary • Communicate control measures defined within the Habitat Survey to all staff and relevant subcontractors • Provide information (e.g., site induction / tool box talks) to site personnel.
Protected Species	<ul style="list-style-type: none"> • Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified ecologist) where the presence of protected ecological resources are known / suspected • Ensure an extended Phase 2 Habitat Survey is conducted by a competent person to assess the potential presence of protected fauna and / or flora; if required as a result of a Phase 1 Habitat Survey • Ensure protected faunal species surveys (e.g., bat surveys) are conducted where their presence has been identified • Develop and implement a method statement (<i>that should be agreed with EN / SNH / NRW</i>) for the management of protected species that includes all relevant recommendations made within ecological surveys • Obtain and fully implement the conditions of a European Protected Species Licence i.e., Development Licence, if required • Phase all construction activities to ensure that proposed construction works avoid disturbance and / or damage to local ecological constraints • All site clearance works would be undertaken outside bird nesting season (March to August inclusive); however, if works cannot be avoided during the nesting season an ecologist should supervise clearance works • Create a physical separation between construction operations and ecologically sensitive areas e.g., fencing • Staff and subcontractors to report any protected flora / fauna discovered during construction to site management. Suspend all works within that area until authorised by an ecologist and site management • Provide information (e.g., site induction / tool box talks) to site personnel.

<p>Tree & Hedgerow Protection</p>	<ul style="list-style-type: none"> • Consult with the local planning authority to determine whether there are any TPOs in effect or whether trees are within a conservation area • Consult with the local planning authority to determine whether hedgerows are designated as an 'important' hedgerow • Ensure permission (i.e., section 211 Notice / Tree Felling Licence) is obtained from the local planning authority / Forestry Commission / NRW for works to protected trees e.g., tree surgery / felling and / or uprooting • Ensure a Tree Felling Licence is obtained from the Forestry Commission / NRW for the felling of more than 5m³ of non-protected trees • Ensure a Hedgerow Removal Notice is formally submitted to the local planning authority if the full or part removal of a hedgerow is required • Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified arboriculturist) where the presence of Tree Preservation Orders (TPOs) / important hedgerows are known / suspected • Create a physical separation between construction operations and ecologically sensitive areas e.g., fencing • Erect tree fencing to protect tree roots from construction activities e.g., vehicle and / or plant use; installation of underground services and / or hard or soft surfaces • Provide information (e.g., site induction / tool box talks) to site personnel.
<p>Invasive Species</p>	<ul style="list-style-type: none"> • Ensure a Phase 1 Habitat Survey has been conducted by a competent person where the presence of invasive species are known / suspected • Develop and implement a method statement for the management of invasive species as well as the disposal of invasive species wastes • Segregate invasive plant species locations from construction activities using durable fencing • Prevent the spread of invasive species through use of exclusion zones; boot wash facilities; wheel wash facilities etc. • Provide information (e.g., site induction / tool box talks) to site personnel.

5.4 Land Use Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

Risk	Mandatory Environmental Control Measure(s)
<p>Earthworks</p>	<ul style="list-style-type: none"> • Develop an earthworks method statement where more than 50m³ of spoil is to be excavated – refer to HS&E-STD-L03; section 5 • Avoid stripping soil following periods of heavy rainfall (i.e., 5mm or more in a 24-hour period), when practicable • Keep areas of exposed ground to a practicable minimum • Segregate top and subsoil stockpiles • Handle soils carefully to minimise potential soil structure damage • Keep temporary stockpile heights as low as possible given space restrictions e.g., 3m for topsoil and 4m for subsoil • Minimise run-off from stockpiles by light compaction and at an angle of no more than 45°, use of trenches and locating stockpiles away from drainage systems and watercourses • Protect stockpiles to minimise erosion losses and weed infestation if storage is to be longer than 6 months (e.g., seeding or light compaction)

	<ul style="list-style-type: none"> • Protect stockpiles (e.g., using berms) from flooding to avoid soil losses • Keep traffic off soil stockpiles, as much as possible, throughout the period of soil storage • Display clear and unambiguous signage to notify site personnel of the presence of different types of soil stockpiles • Avoid reinstating soils following periods of heavy rainfall (i.e., 5mm or more in a 24-hour period), when practicable • Reinstating subsoil to maintain natural drainage patterns and avoid settlement • Reinstating topsoil by rendering into a loose and workable condition as well as contouring to maintain the profile with the adjacent undisturbed area • Implement effective temporary and / or permanent soil erosion control measures, where necessary • Implement and maintain suitable, adequate and effective control measures to prevent run-off from stockpiles contaminating surface waters.
Contaminated Land	<ul style="list-style-type: none"> • Cordon off areas of contamination from those that are uncontaminated • Develop and implement a remediation and / or disposal strategy for the management of contaminated land • Use competent contractors to implement any defined remediation and / or disposal strategy • Ensure all appropriate environmental permissions have been obtained where remediation, reuse and / or disposal of contaminated soils is to be undertaken e.g., a Mobile Plant Licence or an Environmental Permit / Waste Management Licence or Exemption; Waste Acceptance Criteria Testing has been undertaken on treated and / or untreated soils • Store contaminated soils in areas effectively demarcated from construction works and access / egress routes • Place soils on impermeable surfaces to prevent contamination of the underlying ground • Cover stockpiles to prevent windblown dust or the ingress of rainwater, where practicable • Implement controls for containing surface water run-off from contaminated stockpiles to prevent the uncontrolled discharge of contaminated effluent • Display clear and unambiguous signage to notify site personnel of the presence of contaminated soils.

5.5 Nuisance Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

Risk	Mandatory Environmental Control Measure(s)
Noise & Vibration Controls	<ul style="list-style-type: none"> • Limit operation times to agreed working hours • Comply with Section 61 Agreements (agreement with Local Authority to limit noise), if applicable • Notify and consult with all potentially affected parties that may be adversely affected from construction site noise either via verbal face to face communications or letter drops (HS&E-FRM-C03-06) • Provide the local authority with advance notice of any works scheduled to take place outside agreed working hours

	<ul style="list-style-type: none"> • Assess (e.g., via structural surveys) any and all structures that may be adversely impacted by vibration from vehicles or site activities • Select inherently quiet plant, where appropriate • Ensure all major compressors are 'sound reduced' models fitted with properly lined and sealed acoustic covers, where appropriate, that are kept closed whenever the machines are in use • Ensure all ancillary pneumatic percussive tools are fitted with mufflers or silencers of the type recommended by the manufacturers • Position ancillary plant (e.g., crushers, screeners, generators, compressors, pumps) to reduce noise disturbance, i.e. furthest from receptors or behind noise barriers • Ensure subcontractors properly maintain and operate all plant according to manufacturers recommendations so as to avoid causing excessive noise • Place vibrating equipment or plant on a base separate to that on which any sensitive structure is located to reduce vibration impacts • Programme deliveries to arrive during daytime hours only • Take care when unloading vehicles to minimise noise • Route delivery vehicles so as to minimise any noise disturbance to local residents as well as reducing potential vibration impacts upon structures • Do not leave plant engines unnecessarily idling • Erect site hoarding, screens or barriers, as necessary and practicable, to shield noisy activities • Regularly monitor both on and off site to ensure minimal noise and vibration impacts upon local neighbours and wildlife.
Dust & Odour Controls	<ul style="list-style-type: none"> • Ensure all construction traffic follows specifically designated routes: <ul style="list-style-type: none"> – Implement speed limits for all vehicular movements – Cover all vehicles carrying loose materials – Dampen down haul roads, as necessary, to reduce dust emissions • Conduct all cutting and grinding operations in a manner to reduce the risk of dust migration e.g., wet cutting techniques • Adopt dust suppression techniques (e.g., water suppression) to reduce dust emissions from all crushing and screening activities • Locate stockpiles away from any sensitive receptors, where feasible • Seed / seal soil stockpiles to reduce the risk of dust migration • Regularly monitor both on and off site to ensure minimal dust and odour impacts upon local neighbours and wildlife.
Visual Impact & Light Controls	<ul style="list-style-type: none"> • Erect site hoarding, screens or barriers, as necessary and practicable, to screen site activities • Choose and assemble site lighting to reduce light nuisance impacts to local neighbours and wildlife • Position lighting properly and direct light downwards to minimise impacts of light pollution on neighbours and wildlife • Switch off site lighting or minimise its use during periods of site inactivity • Keep site boundaries clean and tidy at all times • Maintain hoarding and / or fencing so as to be free of graffiti and non-project specific posters • Repair damaged or unsightly hoarding and / or fencing, as soon as possible.

5.6 Resource Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Energy Conservation	<ul style="list-style-type: none"> • When possible, procure electricity supplies through the GT plc energy broker • Use energy efficient cabins e.g., those leased from GT Plant • Ensure time controls and thermostats are set to take account of unoccupied periods so that heaters are off when there is no one around • Fix any draughts or damage to windows, window frames and / or doors • Ensure windows / doors are closed when the heating systems are on • Insulate hot water distribution pipes • Switch off all non-essential lighting in unoccupied areas • Switch off external lighting during the day • Ensure light sensors and timers are correctly set • Make sure generator(s) are correctly sized for their proposed use • Ensure generators or other diesel plant are not left unnecessarily idling • Make sure generator(s) are regularly maintained by the owner / supplier • Ensure construction plant are well maintained to maximise fuel efficiency • Ensure compressors correctly sized for their proposed use • Ensure there are no leaks or damage to compressor systems • Ensure compressors turned off to avoid being left unnecessarily idling • Make sure compressor(s) are regularly maintained by the owner / supplier • Ensure unused office equipment (e.g., printers, mobile phone chargers, fans, coffeemakers, radios) that drain energy when not in use are turned off and / or unplugged • Ensure power management features are enabled (i.e., sleep mode) on all office equipment (e.g., photocopiers, printers, and computers) • Ensure office equipment (e.g., computers, monitors, photocopiers) are turned off at the end of the work day • Ensure photocopiers / printers are set to default by printing on both sides • Ensure electrical appliances (e.g., fridges) have a European Union Energy Rating of A or B • Provide employees / subcontractors with awareness training regarding conserving energy and hence reducing costs • Encourage employees / subcontractors to suggest energy saving ideas.
Water Conservation	<ul style="list-style-type: none"> • Turn off hose pipes when not in use • Switch off taps when not in use • Ensure there are no water leaks • Within site accommodation, use water boilers rather than kettles to encourage water savings • Where possible, install water efficiency measures e.g. low water flush toilet cisterns • Where feasible, implement rainwater harvesting on site • Provide employees / subcontractors with awareness training regarding water conservation • Encourage employees / subcontractors to suggest ideas for saving water.

5.6.1 Sustainable Procurement

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Supplier assessment	<ul style="list-style-type: none"> • Ensure procurement teams / buyers undertake a supplier pre-qualification assessment that focuses on business management including environmental and social issues.
Timber procurement	<ul style="list-style-type: none"> • Ensure all timber / timber products purchased for either temporary or permanent works are certified as legally and sustainably sourced, as defined by the UK Government Central Point of Expertise on Timber. • Periodically conduct the following checks upon the delivery of timber / timber products to site: <ul style="list-style-type: none"> – Verify that FSC / PEFC Chain of Custody (CoC) certificate(s) provided are valid and genuine – Check the CoC certificate number matches the delivery note – Check that the relevant claim to each product supplied (e.g., Mix 70%, 100%, Recycled Credit) is specified on the delivery note.
Aggregates procurement	<ul style="list-style-type: none"> • Maximise the use of cement replacement products in concrete mixes • Maximise the use of Recycled Concrete Aggregate (RCA).
Reduce packaging waste	<ul style="list-style-type: none"> • Minimise packaging waste on products supplied • Work with suppliers to implement packaging take back schemes.
Local suppliers	<ul style="list-style-type: none"> • Where possible, use local suppliers to reduce transportation costs and maintain a low carbon footprint.

5.6.2 Hazardous Materials Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Hazardous materials storage	<ul style="list-style-type: none"> • Develop a Spill Response Plan (HS&E-FRM-E04-01) • Store hazardous materials more than 10m from a watercourse or surface water and / or foul water drainage gullies • Undertake COSHH assessment for hazardous materials (HS&E-FRM-H02-01) • Segregate COSHH raw material stores and COSHH waste stores • Develop a Hazardous Materials & COSHH Register documenting materials stored and handling requirements (HS&E-FRM-H02-02) • Store hazardous material containers on secondary containment systems that will contain 110% of the contents of the largest container or 25% of the total, whichever is greater • Protect hazardous material containers so as to minimise the ingress of rainwater and secure them against accidental damage • Maintain and inspect hazardous material bunds and spill kits • Monitor hazardous material storage areas for leaks and signs of spillage • Provide site spill kits with instructions in areas of high risk (refer to

	<p>HS&E-BPG-E04-101)</p> <ul style="list-style-type: none"> • Undertake spill response exercises / drills at a frequency as defined within the Spill Response Plan • Train staff in the use of spill kits and the correct disposal of used material.
Refuelling	<ul style="list-style-type: none"> • Undertake all plant refuelling on hardstanding or within defined areas that utilise drip trays / plant nappies • Provide secure valves and nozzles on fuel storage tanks / bowsers • Conduct refuelling activities at least 10m away from watercourses or surface / foul water drainage gullies • Locate spill kits in all appropriate locations, with instructions for use • Ensure training has been provided to those that conduct refuelling activities on correct refuelling procedures.

5.6.3 Raw Material Storage

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Storage of raw materials	<ul style="list-style-type: none"> • Store and handle all construction related materials so as to prevent: <ul style="list-style-type: none"> - Damage - Degradation of material quality characteristics - Contamination of the material and / or the external environment - Excessively long on-site storage periods - Loss through theft and vandalism • Conduct walk-through surveys (using the Workplace Weekly HS&E Inspection (HS&E-FRM-M02-02)) to review construction related material handling and storage practices to ensure that material integrity and quality are being maintained and that their handling and storage is not contributing to an adverse environmental impact.

5.6.4 Aggregates

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Import of recycled aggregates	<p>England and Wales:</p> <ul style="list-style-type: none"> • Include the wording provided in HS&E-BPG-R02-108; section 1 in all purchase orders for recycled aggregates • Ensure that recycled aggregates have been produced in conformance with the WRAP Quality Protocol: Production of Aggregates from Inert Wastes if more than 5,000 tonnes (over a 3 year period) are to be imported. Retain documentation, as detailed within HS&E-BPG-R02-103 to verify conformance to the WRAP Quality Protocol • Obtain a U1 Environmental Permit Exemption for the import of less than 5,000 tonnes (over a 3 year period) of recycled aggregates that does not conform to the WRAP Quality Protocol

	<ul style="list-style-type: none"> • Develop and / or obtain a Materials Management Plan (compliant with the CL:AIRE Code of Practice) or an Environmental Permit for the import of more than 5,000 tonnes (over a 3 year period) of recycled aggregates that does not conform to the WRAP Quality Protocol • Reject all loads of delivered recycled aggregates that does not appear to meet the defined material specification e.g., 6F2; 6F5; Type 1; Type 2 • Reject all loads of delivered recycled aggregates that contains more than 1% by mass of Class X materials i.e., wood, plastic and / or metal • Reject all loads of delivered recycled aggregates that contains any asbestos materials or smells of hydrocarbons e.g., oils / diesels. <p>Scotland:</p> <ul style="list-style-type: none"> • Include the wording provided in HS&E-BPG-R02-109; section 1 in all purchase orders for recycled aggregates • Ensure that recycled aggregates have been produced in conformance with the WRAP Quality Protocol: Production of Aggregates from Inert Wastes; or procure the recycled aggregates from a pre-approved WRAP compliant source listed on www.zwsaggsuppliers.org.uk/. Retain documentation, as detailed within HS&E-BPG-R02-104, to verify conformance to the WRAP Quality Protocol • Obtain a Paragraph 7, 9 or 19 waste management licence exemption for the import of recycled aggregates that that do not conform to the WRAP Quality Protocol • Reject all loads of delivered recycled aggregates that does not appear to meet the defined material specification e.g., 6F2; 6F5; Type 1; Type 2 • Reject all loads of delivered recycled aggregates that contains more than 1% by mass of Class X materials i.e., wood, plastic and / or metal • Reject all loads of delivered recycled aggregates that contains any asbestos materials or smells of hydrocarbons e.g., oils / diesels.
Crushing inert aggregates	<p>England and Wales:</p> <ul style="list-style-type: none"> • Ensure that subcontractors' crushing plant has been issued with a PPC Permit issued by a Local Authority. Retain a copy of the issued PPC Permit within site documentation • Ensure that recycled aggregates are produced in conformance with the WRAP Quality Protocol: Production of Aggregates from Inert Wastes if more than 5,000 tonnes (over a 3 year period) are to be produced. Retain documentation, as detailed within HS&E-BPG-R02-105 to verify conformance to the WRAP Quality Protocol • Obtain an Environmental Permit if more than 5,000 tonnes (over a 3 year period) of aggregates / soils are to be screened on-site • Obtain a T5 Environmental Permit Exemption if less than 5,000 tonnes (over a 3 year period) of aggregates / soils are to be screened on-site • Obtain a U1 Environmental Permit Exemption for the use of less than 5,000 tonnes (over a 3 year period) of crushed recycled aggregates that does not conform to the WRAP Quality Protocol • Develop and / or obtain a Materials Management Plan (compliant with the CL:AIRE Code of Practice) or an Environmental Permit for the use of more than 5,000 tonnes (over a 3 year period) of recycled aggregates that does not conform to the WRAP Quality Protocol. <p>Scotland:</p> <ul style="list-style-type: none"> • Ensure that subcontractors' crushing plant has been issued with a PPC Permit issued by SEPA. Retain a copy of the issued PPC Permit within site documentation • Ensure that recycled aggregates are produced in conformance with the

	<p>WRAP Quality Protocol: Production of Aggregates from Inert Waste in Scotland. Retain documentation, as detailed within HS&E-BPG-R02-106, to verify conformance to the WRAP Quality Protocol</p> <ul style="list-style-type: none"> Obtain a Paragraph 7, 9 or 19 waste management licence exemption for the use of recycled aggregates that does not conform to the WRAP Quality Protocol.
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5.6.5 Soils

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Import of soils	<p>England and Wales:</p> <ul style="list-style-type: none"> Obtain documentation from the supplier, irrespective of the topsoil is premium, general purpose or economy grade, to verify that the topsoil satisfies the requirements of BS 3882 Obtain a U1 Environmental Permit Exemption for the use of less than 1,000 tonnes (over a 3 year period) of waste soils Develop and / or obtain a Materials Management Plan (compliant with the CL:AIRE Code of Practice) or an Environmental Permit for the import and use of more than 1,000 tonnes (over a 3 year period) of waste soils. <p>Scotland:</p> <ul style="list-style-type: none"> Obtain documentation from the supplier, irrespective of the topsoil is premium, general purpose or economy grade, to verify that the topsoil satisfies the requirements of BS 3882 Issue a Declaration to SEPA for the importation and use of clean uncontaminated waste soils from greenfield sites for use at depths of less than 150mm for topsoil and 450mm for subsoil (<i>Note: Should these depths be exceeded a Paragraph 7, 9 or 19 waste management licence exemption may be required</i>) Obtain a Paragraph 7, 9 or 19 waste management licence exemption for the use of waste soils.
Export of soils	<p>England and Wales:</p> <ul style="list-style-type: none"> Ensure that a Materials Management Plan (compliant with the CL:AIRE Code of Practice) is developed or an Environmental Permit is obtained for the export and use of more than 1,000 tonnes (over a 3 year period) of waste soils Ensure all waste Duty of Care legislation is complied with in relation to the transport and disposal of waste soils (refer to Section 5.1). <p>Scotland:</p> <ul style="list-style-type: none"> Ensure that recipient sites receiving exported soils have the relevant waste management licence / exemption. If exported soils are classed as <i>greenfield soils</i> the receiving site must issue a Declaration to SEPA for the import of clean uncontaminated waste soils from greenfield sites Ensure all waste Duty of Care legislation is complied with in relation to the transport and disposal of waste soils (refer to Section 5.1).

5.7 Cultural Heritage Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Earthworks	<ul style="list-style-type: none"> Consult with the local planning authority and / or English Heritage / Historic Scotland / Cadw (Welsh Historic Monuments), where relevant, before works commence in areas of known or suspected cultural heritage assets e.g., archaeology; listed buildings Develop and submit a method statement to EH / HS / Cadw for works that may impact known or suspected cultural heritage assets Install effective segregation around known or suspected cultural heritage assets from construction activities Erect signage to notify project personnel of the presence of known or suspected cultural heritage assets Ensure an archaeological Watching Brief is present to monitor construction activities (e.g., top-soil stripping; excavations) in areas of known or suspected cultural heritage assets Use toothless buckets, when a Watching Brief is present, to remove topsoil in areas of known or suspected cultural heritage assets Suspend all construction related works, in the immediate vicinity, if a suspected cultural heritage asset is identified Report the identification of any cultural heritage asset to the local planning authority Report and record any damage cultural heritage assets Provide information (e.g., site induction / tool box talks) to site personnel.
Works on or near cultural heritage assets	<ul style="list-style-type: none"> Consult with the local planning authority prior to any demolition works within a conservation area Obtain Listed Buildings Consent from the local planning authority for any works to a Listed Building Ensure construction designs are sensitive to the presence of known cultural heritage assets Conduct structural surveys before construction activities commence to ensure any vibration impacts do not damage known cultural assets Report and record any damage cultural heritage assets Provide information (e.g., site induction / tool box talks) to site personnel.

5.8 Traffic Management

The environmental control measures defined below apply to all personnel including Galliford Try staff, sub-contractors, suppliers and third parties; and all activities and operations associated with the project. These mandatory environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Action Plan ([HS&E-FRM-E06-02](#)).

<i>Risk</i>	<i>Mandatory Environmental Control Measure(s)</i>
Use of public, temporary & permanent haul roads	<ul style="list-style-type: none"> Develop and implement a Traffic Management Plan in accordance with the requirements of HS&E-STD-T02 Identify local receptors that may be adversely impacted by traffic related nuisance complaints (e.g., noise, congestion and visual)

	<ul style="list-style-type: none"> • Establish and maintain contact with local residents and other potentially affected parties prior to the commencement of, and during, construction works in order to avoid any potential traffic nuisance related complaints • Ensure all construction related traffic uses agreed access points, as defined within the Traffic Management Plan • Ensure contractor Heavy Goods Vehicles are in good working order and hold a valid MOT certificate • Ensure all vehicles carrying loose material are covered • Obtain permission from the owner of street furniture (e.g., local authority or Local Highway Authority) prior to attaching directional signage • Install hardstanding to reduce mud transfer onto public roads • Use wheel wash facilities / road sweepers, where appropriate, to keep public roads clear of dust and mud • Ensure all material suppliers adhere to agreed working hours in relation to material deliveries • Ensure all vehicles adhere to the site speed limits.
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6.0 Project Environmental Objectives and Targets

The Operations Management Team, with the assistance of the HS&E Advisor, has considered the identified project environmental risks (Appendix 1) and defined the following environmentally related objectives and targets.

6.1 Project Environmental Objectives and Targets

The Operations Management Team and the HS&E Advisor will review progress in achieving these objectives on a monthly basis during the '4-week planning meeting'.

	<i>Objective</i>	<i>Means of Measurement</i>	<i>Target</i>	<i>Responsibility</i>	<i>Completion Date</i>
1	<i>Protect all pollution paths to watercourse.</i>	<i>Pollution Incidents</i>	<i>Zero</i>	<i>Jason Baker</i>	
2	<i>Minimise Waste to Landfill.</i>	<i>Waste Management Plan</i>	<i>90%</i>	<i>SSM TBC</i>	
3	<i>Increase Site Personnel Environmental Awareness through Tool-box talks.</i>	<i>Briefing Records</i>	<i>4 per month</i>	<i>Jason Baker</i>	
4	<i>Control of Dust Emissions from site.</i>	<i>Complaints & Incident Reports</i>	<i>Zero</i>	<i>Jason Baker</i>	
5	<i>Control of Site Traffic (parking & deliveries) to ensure port roads are not blocked or obstructed.</i>	<i>Complaints & Incident Reports</i>	<i>Zero</i>	<i>Jason Baker</i>	
6	<i>Minimise waste generated from materials due to poor storage or poor estimating.</i>	<i>Material Reconciliation.</i>	<i>4%</i>	<i>Gavin Hutchinson</i>	
7					
8					

6.2 Project Incentive Scheme

The Barry Biomass Plant will consider the adoption of a project incentive scheme. The scheme is based upon two forms of incentive both based around the NEMO (Near Miss Observation) card. The incentive scheme is as follows:

- Every month Galliford Try site management will select the best NEMO card submitted by either a subcontractor or Galliford Try personnel; thereafter, the winner will receive an award.
- For each NEMO card written and submitted to Galliford Try site management, Galliford Try shall reserve an amount of money to be specified by Richard Matthews per card. At the end of the project the total amount will be presented to *(name of local charity or good will organisation TBC)*.

7.0 Roles and Responsibilities

Key project roles and responsibilities are provided in Appendix 2.

8.0 Subcontractor Management

The project will engage various subcontractors to carry out project construction related activities. These subcontractors are responsible for performing all work in conformance with:

- Relevant environmental legislation and other environmental requirements e.g., Pollution Prevention Guidelines
- The requirements of this Project Environmental Plan and Galliford Try Environmental Standards
- Contractual environmental requirements.

Subcontractors are required to develop suitable, adequate and effective method statements that explicitly define the measures to be taken to manage **significant environmental risks** associated with their scope of works. No works shall be permitted to commence until such method statements have been developed and approved by site management and where necessary the HS&E Advisor. Additionally, subcontractors are required to provide sufficient and competent resources to monitor conformance with their own defined method statements.

Galliford Try shall also conduct monthly Site Safety and Environmental Reviews (SSERs) that will assess subcontractor conformance to approved method statements, relevant environmental legislation and the requirements of the Galliford Try Environmental Standards.

9.0 Communication and Liaison

The communication of project related environmental information to key stakeholders is a vital element in maximising project environmental performance. Hence, the Operations Management Team, with the assistance of the HS&E Advisor, will proactively communicate pertinent environmental information, as detailed below.

9.1 Communication with Client representatives

Monthly Progress Report will be submitted to the Client, which will include any environmental incidents or "Near Misses".

The Waste management Plan will be initially issued to the Client for information, any significant changes will also be communicated to the Client. Upon completion of the Project the final Waste Management Plan will be issued to the Client.

9.2 Communication with suppliers and subcontractors

During the tender stage suppliers and subcontractors will be made aware of the specific environmental requirements for working on site and for identifying and dealing with specific environmental issues associated with their work packages. Additionally, pertinent environmental information will be

communicated to suppliers and subcontractors prior to initiating their work packages e.g., during pre-start meetings and the site induction process.

This Project Environmental Plan and other relevant environmental management documentation (e.g., Spill Response Plan; Environmental Risk Register and Environmental Risk Action Plan) will be made available on site notice boards.

9.3 Communication with the Public

The Operations Management Team will liaise with the local community throughout the duration of the project on an as needed basis. However, all potentially affected parties that may be subject to disruption and / or disturbance as a result of project activities will be consulted and / or notified either via verbal face to face communications or letter drops ([HS&E-FRM-C03-06](#)). Additionally, site specific activities will be planned to minimise disturbance and disruption to local communities, schools, colleges and local businesses. Furthermore, specific local community events (e.g., presentations; open days; site tours) will be held, as required, to foster a strong and open relationship with the members of the local community.

9.4 Communication with external parties

Environmental communications will be conducted, as required, with the following:

- Environment Agency (EA)
- Environmental Health Officer (EHO) from (Barry Town Council)
- Welsh Water
- Associated British Ports

The purpose of maintaining a proactive and open dialogue with external parties (including regulators) is to ensure compliance with statutory and project environmental requirements is maintained.

10.0 Managing Complaints

The Operations Management Team will ensure that all environmentally related complaints are recorded via the completion of an Environmental Incident Report ([HS&E-FRM-A01-02](#)).

Thereafter, each substantiated complaint will be managed in accordance with the Galliford Try Accident and Incident Reporting Standard ([HS&E-STD-A01](#)) that requires each complainant to be contacted within two working days of the complaint being received and the complaint thoroughly investigated and closed out in a timescale agreed with the complainant. The HS&E Advisor will also ensure that environmentally related complaints are effectively closed out during the monthly SSERs.

11.0 Environmental Incidents and Emergency Response

All environmental incidents should be initially reported to the Senior Site Manager (who shall report to Clients, when required) who shall ensure Business Unit Directors, the HS&E Department and enforcement authorities are contacted, as defined below:

Significant Environmental Incidents	Definition:
	Any release to land, water or air resulting in a breach of an environmental regulation.
	A spill of a hazardous material that cannot be controlled or has entered, or could enter, a drain or watercourse.
	Damage to protected flora, fauna or protected habitats and conservation areas
	Receipt of any enforcement action from a regulatory body.
Reporting:	
Shall be notified, by the Senior Site Manager, to the Business Unit Directors and the Regional	

Environmental Advisor as soon as details are confirmed, but no later than 1 hour after incident occurrence. Following contact with Business Unit Directors and the Regional Environmental Advisor, the Environment Agency or local authority shall be contacted, when necessary, by telephone as soon as practicable, but no later than one (1) hour after incident confirmed (refer to contact details below).

Minor Environmental Incidents	Definition:
	Any emission of dust, odour, noise, vibration and / or light to the external environment such that it results in a complaint from project and / or non-project personnel.
	A spill of a hazardous material that can be controlled or has <u>not</u> entered, and cannot enter, a drain or watercourse.
	Any action that has the potential to cause a negative visual impact e.g., mud on the public highway; poor soil management that could result in poor agricultural or amenity reinstatement standards.
Reporting:	
Shall be reported by the Senior Site Manager to Business Unit Directors and HS&E Advisor within 48 hours via completion of an Environmental Incident Report Form (HS&E-FRM-AD1-02).	

Callout personnel for 24-hour coverage shall be arranged by the Operations Management Team to take control of and investigate out of hour's incidents. The names and contact numbers of these personnel, and the Environment Agency's Local Area Office, shall be displayed on site and related to site personnel during the induction process.

The Senior Site Manager will, when necessary, report incidents to the Environment Agency (EA) via:	
1. EA Local Area Office	TBC
2. EA 24-hour Emergency Hotline	0800 80 70 60

In the event that project personnel identify a suspected cultural heritage asset (e.g., archaeological artefact) all construction related works in the immediate vicinity shall be stopped. Thereafter, the find should be reported to the Senior Site Manager and the HS&E Advisor who shall take all necessary and appropriate action(s), as defined in Galliford Try Standard ([HS&E-STD-C04](#); Cultural Heritage Management).

Furthermore, in the event that project personnel identify suspected rare or invasive plant species and / or rare fauna (e.g., Great Crested Newts, Water Voles, Bats, Barn Owls, Badgers and breeding Birds) all construction related works in the immediate vicinity shall be stopped. Thereafter, the find should be reported to the Senior Site Manager and the HS&E Advisor who shall take all necessary and appropriate action(s), as defined in Galliford Try Standard ([HS&E-STD-E03](#); Ecological Management).

The Galliford Try Standard entitled Emergency Preparedness & Response ([HS&E-STD-E04](#)) describes the actions required to plan for the effective management of potential environmental emergency incidents so as to minimise any potential detrimental environmental impacts.

As a result of implementing this Standard, a Spill Response Plan (SRP) ([HS&E-FRM-E04-01](#)) has been developed and made available to all site personnel. Additionally, the Operations Management Team will ensure that this SRP is tested at least once and that site personnel are adequately trained in its requirements.

The Operations Management Team will ensure that environmental emergency equipment (e.g. spill kits) appropriate to the significance of the spill risk and the sensitivity of the surrounding environment are appropriately located and maintained on site.

In the event of a major hazardous material spill incident (i.e., incidents which cannot be dealt with using equipment available on site or spills / pollution which have, or are likely to, enter(ed) a watercourse / drain) site personnel should call the following 24-hour national spill response hotline:

Adler and Allan Ltd. <i>(Response Time: Within 4 hours)</i> <i>Membership Number: CM191</i>	0800-592-827
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12.0 Environmental Training

Courses are run by Galliford Try covering various environmental issues, as defined in the Galliford Try HS&E Training Matrix. For site personnel, the site induction will be used to promote overall environmental awareness as well as employee and subcontractor environment management responsibilities. The site induction will be further enhanced through the delivery of a series of toolbox talks that shall be delivered to relevant site personnel on an on-going basis.

The environmental toolbox talks that shall be delivered on this project are as follows:

Environmental Tool Box Talk(s)	
HS&E-TBT-E03-305	Bats
HS&E-TBT-E03-307	Great Crested Newts
HS&E-TBT-E03-309	Slow Worms
HS&E-TBT-E03-311	Birds
HS&E-TBT-E03-315	Nightjars
HS&E-TBT-E03-316	Marsh Harriers
HS&E-TBT-E03-317	Hazel Dormice
HS&E-TBT-E03-318	New Zealand Flatworm
HS&E-TBT-E04-301	Spill Control
HS&E-TBT-E04-302	Petrol, Diesel and Oils
HS&E-TBT-L03-301	Re-Useable Soil Resources on-site
HS&E-TBT-L03-302	Soil Planning and Management
HS&E-TBT-L03-304	Stripping Sub-soil
HS&E-TBT-L03-305	Stockpiling Soil
HS&E-TBT-L03-306	Spreading Soil
HS&E-TBT-L03-307	Sourcing Topsoil
HS&E-TBT-L03-309	Soil Aftercare
HS&E-TBT-L03-310	Use of Surplus Soil
HS&E-TBT-L03-311	Working with Previously Developed Land
HS&E-TBT-N02-301	Dust and Air Quality
HS&E-TBT-N02-302	Noise and Vibration
HS&E-TBT-N02-303	Be a Good Neighbour
HS&E-TBT-R02-301	Materials Management and Housekeeping
HS&E-TBT-R02-302	Energy Conservation – Construction Site Good Practice
HS&E-TBT-R02-303	Timber Procurement
HS&E-TBT-W01-301	Waste Management

HS&E-TBT-W01-302	Storage of Waste
HS&E-TBT-W01-303	Waste Segregation
HS&E-TBT-W05-301	Water Pollution Prevention
HS&E-TBT-W05-302	Water Pollution - Silt
HS&E-TBT-W05-303	Water Pollution - Cement and Concrete
HS&E-TBT-W05-304	Pumping and Overpumping
HS&E-TBT-W05-305	Washing Down Plant and Machinery
HS&E-TBT-W05-306	Bentonite

The delivery of these environmental tool box talks shall be planned during the '4-week planning meeting' (using [HS&E-FRM-C01-03](#)) that is held between the Operations Management Team and the HS&E Advisor.

13.0 Environmental Audits and Inspections

Continuous monitoring of environmental performance will take place via regular Site Safety and Environmental Reviews (SSERs), which establishes employees' and subcontractors' compliance to the requirements of the EMS, this PEP, method statements and the Client and statutory obligations.

SSERs will be conducted by the HS&E Advisor with any findings being copied to the Senior Site Manager who shall ensure that appropriate corrective and remedial action(s) are taken in a timely manner. Environmental information from SSERs are collated by the HS&E Department and analysed for any arising trends. From this analysis, preventative action is taken to prevent recurrence e.g., re-briefings, toolbox talks.

The Operations Management Team in conjunction with the HS&E Advisor compiles a monthly HS&E performance report ([HS&E-FRM-M02-01](#)) and submits it to E-Contrak HSE Reporting Data-Base.

Appendix 2: Roles and Responsibilities

GALLIFORD TRY TEAM		
NAME / POSITION	KEY ENVIRONMENTAL RESPONSIBILITIES	MOBILE NO.
Graham Messenger Design / Technical Manager	<ul style="list-style-type: none"> • Ensure that designs are carried out in compliance with the relevant legislation, the GT Environmental Policy and Standards, guidelines, approved codes of practice and other requirements such as those specified by our clients. • Ensure that regular design reviews and assessments are jointly undertaken with the design and operational staff, as appropriate. • Ensure competency assessments are carried out where design consultants are employed. • Be aware of the environmental statutory requirements affecting site activities and seek further advice, if necessary. • Ensure that all site environmental permissions are obtained and conformance the conditions defined within these permissions. • Define project specific environmental objectives / targets – refer to Section 6. • Ensure that environmental risk assessments are effectively monitored, reviewed and communicated. • Organise and plan workplaces so work is conducted in accordance with GT Environmental Standards. • Identify the environmental requirements within method statements and ensure that they are produced and reviewed on time. • Identify method statements' required distribution (e.g. foremen, supervisors, operatives) and ensure that they are followed and controlled, as appropriate. • Ensure adequate supplies of environmental control equipment (e.g. spill response equipment) are available and are appropriately used. • Accompany all Regulatory enforcement officers during any site visits. • Ensure all new employees, contractors and visitors, including delivery drivers, are instructed on project specific environmental requirements. • Ensure site specific environmental training needs are identified and training programmes are undertaken for all levels of site staff and contractors. • Ensure all Supervisors and contractors are aware of their environmental responsibilities. • Report any significant environmental incidents, disciplinary action or enforcing bodies' visits to the HS&E Advisor. 	07966 562132
Richard Matthews Project Manager		07966 562224

<p>Jason Baker & Site Supervisors</p>	<ul style="list-style-type: none"> • Be aware of the environmental statutory requirements affecting operations and seek further advice, if necessary. • Ensure all new employees, contractors and visitors, including delivery drivers, are instructed on project specific environmental requirements. • Ensure that all relevant persons are briefed on the contents of environmental risk assessments / method statements and monitor operatives (including contractors) for compliance. • Ensure that an adequate supply of environmental control equipment (e.g., spill response equipment) is kept on the site and implement disciplinary procedures against any employee who abuses or does not make full use of this equipment, when required. • In conjunction with the Senior Site Manager plan environmental standards into work activities. • In conjunction with the Senior Site Manager discuss environmental matters with all supervisors, including contractors, on a regular basis. • Ensure all GT inspections are carried out as prescribed in the Company HS&E management system. • Make full use of the services of the HS&E Advisors and co-operate with them to achieve GT's Environmental Standards. • Follow GT Environmental Standards and report any problems in achieving these standards to the Senior Site Manager and HS&E Advisor. • Ensure that the requirements of all environmental risk assessments are brought to the attention of all operatives involved, including contractors. • Actively encourage employees to report environmental problems as soon as they are discovered or if they are anticipated in the future. 	<p>07966562192</p>
<p>Rob Arnson Regional HS&E Manager</p>	<ul style="list-style-type: none"> • Liaise with Business Unit Managers on operational environmental issues. • Assist project management to ensure that projects meet GT's Environmental Standards. • Ensure the collation of environmental performance information, as provided by workplace management. • Where working practices are observed that pose a significant environmental risk, ensure that, where possible, the activity is stopped; inform site and Business Unit management immediately; provide appropriate support, advice and assistance in identifying and implementing the necessary remedial actions. • Ensure that the relevant manager is advised if operations are not achieving GT's Environmental Standards, and further advise the Operations Director, Business Unit Managing Director and Group HS&E Director, as appropriate. • Assist Business Units in the environmental performance management of contractors. • Ensure that significant environmental incidents are reported promptly to the Business Unit Directors, Group HS&E Director and regulators, as appropriate. 	<p>07918 745226</p>

<p>Tim Wilkes Regional Environmental Advisor</p>	<ul style="list-style-type: none"> • Investigate all environmental incidents as required by GT's Environmental Standards and make known and discuss any significant findings / recommendations within the Business, as appropriate. • In conjunction with the operational staff, identify areas / operations that require specific environmental improvement and assist in the organising or undertaking of such improvements, as appropriate. • Provide feedback to the Group Environmental Manager on the effectiveness of the Group's HS&E management systems and any improvements necessary. • Assist HS&E Director and Group Environmental Manager in maintaining high corporate environmental management standards across the Group. • Where working practices are observed that pose a significant environmental risk, ensure that, where possible, the activity is stopped; inform site and Business Unit management immediately; provide appropriate support, advice and assistance in identifying and implementing the necessary remedial actions. • Provide specialist environmental input to operational staff through advice, guidance and support e.g., on environmental legislation and industry best environmental practice. • Provide detailed support / guidance in the planning stages of a new project e.g., review the adequacy of environmental risk assessments. • Liaise with Business Unit Managers on operational environmental issues. • Provide information in the form of instructions, Best Practice Guidance, Codes of Practice, Environmental Information Sheets etc., as appropriate, and ensure operational staff are provided with Group communications on effective environmental working practices and alerts. • Assist operational staff in the review of environmentally high-risk contractors' method statements, provide appropriate assistance in assessing other environmentally related method statements and monitor the implementation of the same in the workplace, as appropriate. • Ensure that the relevant manager is advised if operations are not achieving GT's environmental standards, and further advise the Operations Director, Business Unit Managing Director and Group HS&E Director, as appropriate. • Assist project management through advice, information, training and encouragement as appropriate to ensure that projects continually meet Calliford Try's environmental standards. • Promote involvement in environmental management of all operational staff by discussion, briefings, training sessions and effective communication. • Assist in the investigation of all environmental incidents as required by GT's Environmental Standards and make known and discuss any significant findings / recommendations. • Ensure that significant environmental incidents are reported promptly to the Business Unit Directors, Group HS&E Director and regulators, as appropriate. 	<p>07977 122102</p>
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<p>Chris Moruzzi HS&E Advisor</p>	<ul style="list-style-type: none"> • Ensure communication with the regulators regarding all relevant environmental inspections and incidents. • In conjunction with the operational staff, identify areas / operations that require specific environmental improvement and assist in the organising or undertaking of such improvements, as appropriate • Where working practices are observed that pose a significant environmental risk, ensure that, where possible, the activity is stopped; inform site and Business Unit management immediately; provide appropriate support advice and assistance in identifying and implementing the necessary remedial actions. • Liaise with Business Unit Managers on operational environmental issues. • Provide detailed support / guidance in the planning stages of a new project e.g., preparing the project environmental plans. • Provide information in the form of instructions, Best Practice Guidance, Codes of Practice, Environmental Information Sheets etc., as appropriate, and ensure operational staff are provided with Group communications on effective environmental working practices and alerts. • Collate environmental information, as provided by workplace management, for monthly reports. • Assist operational staff in the review of environmentally high risk contractors' method statements, provide appropriate assistance in assessing other environmentally related method statements, and monitor the implementation of the same in the workplace, as appropriate. • Ensure that the relevant manager is advised if operations are not achieving GT's environmental standards, and further advise the Operations Director, Business Unit Managing Director and Group HS&E Director, as appropriate. • Assist project management through advice, information, training and encouragement as appropriate to ensure that projects continually meet GT's environmental standards. • Promote involvement in environmental management of all operational staff by discussion, briefings, training sessions and effective communication. • Ensure induction instructions are reviewed regularly for relevance to current operations, and ensure that they are being effectively communicated. • Ensure that all staff, including office based personnel, receives appropriate environmental training and instruction. • Monitor the Business Units to ensure that all staff, including office based personnel, receive appropriate environmental training and instructions. • Assist Business Units in the environmental performance management of contractors. • Ensure that significant environmental incidents are reported promptly to the Business Unit Directors, Group HS&E Director and regulators, as appropriate. 	<p>07739328342</p>
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	<ul style="list-style-type: none"> Assist in the investigation of all environmental incidents as required by Galliford Try's Environmental Standards and make known and discuss any significant findings / recommendations. Ensure communication with regulators regarding all relevant environmental inspections and incidents. Carry out environmental inspections at all workplaces on a regular basis, as appropriate, to ensure compliance with the GT Environmental Policy and Standards. In conjunction with the operational staff, identify areas / operations that require specific environmental improvement and assist in the organising or undertaking of such improvements, as appropriate. Provide feedback to the Group Environmental Manager on the effectiveness of the HS&E management system and any improvements necessary. 	
SSM TBC Waste Champion	<ul style="list-style-type: none"> Drive waste performance improvement including on-site materials and waste management practices Verify the validity of disposal site permits, licenses and / or exemptions. Ensure that the Galliford Try waste transfer note (HS&E-FRM-W01-03) is completed in full for all non-hazardous waste streams removed from site for reuse, recycling and / or disposal. Ensure that hazardous waste consignment notes are fully completed for hazardous waste streams removed from site. 	TBC
Jason Baker & Richard Mayor Spill Responder(s)	<ul style="list-style-type: none"> Ensure spill response equipment is available and well maintained Respond to any spill incident that occurs on-site as long as it is safe to do so Complete an Environmental Incident Report (HS&E-FRM-A01-02) following any spill incident. 	07966562192

SPECIALIST SUBCONTRACTORS

COMPANY NAME	KEY ENVIRONMENTAL RESPONSIBILITIES	MOBILE NO.
Adler and Allan Ltd.	<ul style="list-style-type: none"> • To provide specialist spill response services to the project in the event of a significant spill incident. • To remove waste spill clean-up materials and to provide the site team with all waste duty of care paperwork associated with the disposal of waste spill clean-up materials. • Conduct Phase 1 Habitat Survey(s) where the presence of protected ecological resources are known / suspected • Conduct extended Phase 2 Habitat Survey(s) to assess the potential presence of protected fauna and / or flora; if required as a result of a Phase 1 Habitat Survey • Conduct protected faunal species surveys where their presence has been identified • Develop / review method statement(s) for the management of protected species that includes all relevant recommendations made within ecological surveys • Liaise with ecological regulatory bodies to ensure the suitability of method statements • Obtain and fully implement the conditions of a European Protected Species Licence i.e., Development Licence, if required • Implement with the assistance of the site team all physical and management controls, defined with method statements and licences, to protect known flora / fauna • Monitor site works to assure conformance with method statements and / or licences. • Regularly discuss progress and issues with the Senior Site Manager. • Develop and submit a method statement; to regulatory bodies for works that may impact known or suspected cultural heritage assets. • Obtain in conjunction with the Senior Site Manager all relevant regulatory permissions. • Implement with the assistance of the site team all physical and management controls, defined with method statements and licences, to protect known or suspected cultural heritage assets from construction activities. • Conduct an archaeological Watching Brief to monitor construction activities in areas of known or suspected cultural heritage assets. • Report the identification of any cultural heritage asset to the relevant regulatory body. • Recommend site works be suspended if cultural heritage assets are identified. • Regularly discuss progress and issues with the Senior Site Manager. 	0800-592-827
Not Applicable to this project		N/A
Not Applicable to this project		N/A

Not Applicable to this project	<ul style="list-style-type: none"> • Conduct tree felling / surgery works as per the scope of contract • Ensure permission (i.e., section 211 Notice / Tree Felling Licence) is in place for works to protected trees; otherwise, do not proceed with works. • Ensure a Tree Felling Licence is in place for the felling of more than 5m² of non-protected trees; otherwise, do not proceed with works. • Regularly discuss progress and issues with the Senior Site Manager. • Refer to the Site Waste Management Plan (SWMP). • • 	N/A
Waste Contractors		See SWMP