

Management System

Plan

Environmental and Sustainability Management Plan (EMP)

CONSTRUCTION PHASE

Environmental Management and Sustainability

Project name:		7 new Build Houses Brown Edge , Lightwood	
Project no.:		DBS / C / 523	
Customer:		DB Developments Ltd	
Location:		197 High Lane Brown Edge Staffordshire ST6 8QA	
Revision no.:	1	Date:	16 August 2018

Environment Management and Sustainability Management Plan (EMP) - Overview

This document defines how specific environmental management elements of the contract are being delivered. Each box represents the sections of the whole PEP. Only in exceptional circumstances will a PEP consist of less than four documents.

* PN = Contract or project no.

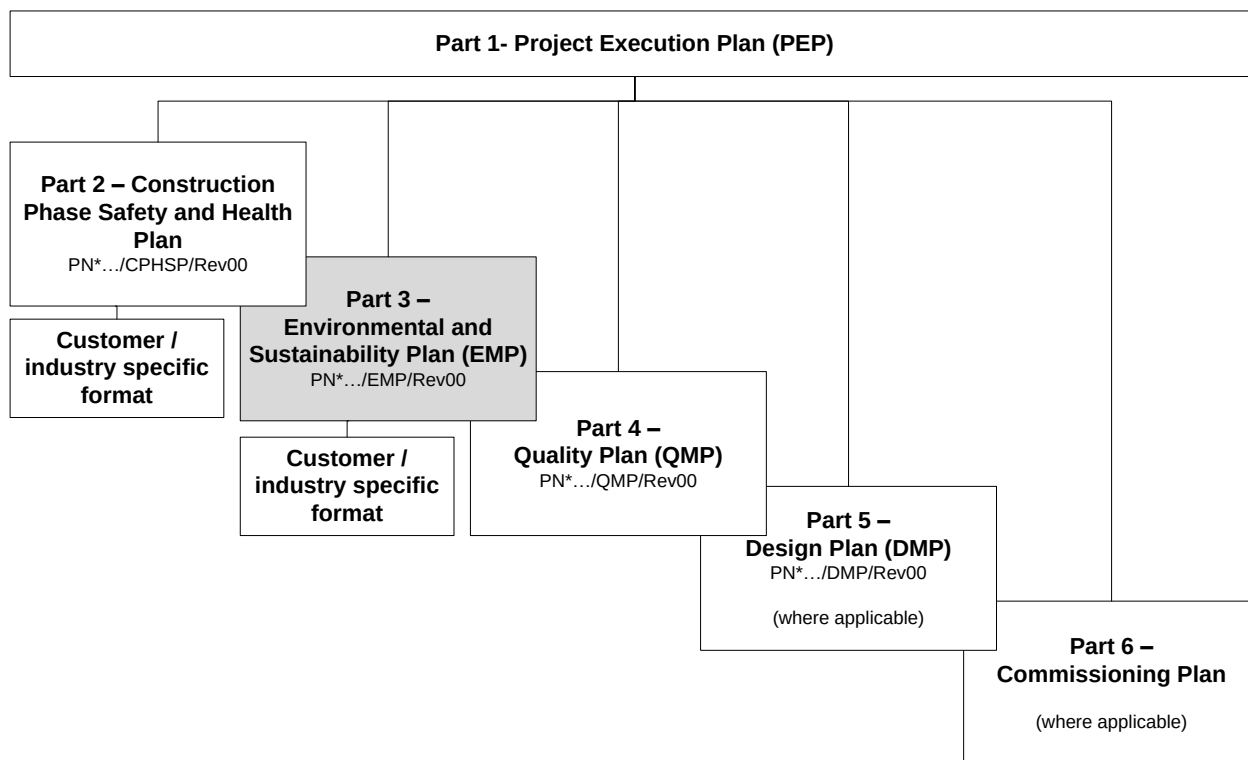
(Update revision nos. as required)

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	1 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP)



Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	2 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP)

Contents

1.	Introduction	4
1.1.	Pre-amble	4
1.2.	Contract environmental plan.....	4
1.3.	Authorisation	4
2.	Environmental Management.....	4
2.1.	Environmental aspects and effects.....	4
2.2.	Objectives and targets	4
2.3.	Roles and responsibilities	5
2.4.	Training	5
2.5.	Communication	5
2.6.	Environmental incident and emergency controls.....	6
2.7.	Auditing	6
2.8.	Monitoring	6
2.9.	Records.....	6
2.10.	Carbon accounting.....	7
2.11.	Water management	7
3.	Operational and project specific controls.....	7
3.1.	Site set up	7
3.2.	Housekeeping - litter	7
3.3.	Traffic management plan	8
3.4.	Mud and dust control	8
3.5.	Noise control	8
3.6.	Plant emission control.....	8
3.7.	Water management plan	8
3.8.	Site drainage.....	8
3.9.	Pumping from excavations	9
3.10.	Storage of fuels, oils and COSHH materials	9
3.11.	Resource and energy management	9
3.12.	Contaminated land.....	9
3.13.	Waste management.....	9
3.14.	Wastes from road sweepers	10
3.15.	Ecology and biodiversity	10
3.16.	Subcontractors.....	11
3.17.	Incidents and emergencies.....	11
3.18.	Incident reporting and investigation.....	11
3.19.	BREEAM / CEEQUAL / CCS / other registrations	11
4.	Register of environmental effects	12

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	3 of 25

Environmental and Sustainability Management Plan (EMP)

1. Introduction

1.1. Pre-amble

The following information is contained within PEP Part 1

- Pre-construction information
- Project directory
- Contract organisation and staff responsibilities
- Communications
- Risk management
- Knowledge transfer – good practice / lessons learnt.

1.2. Contract environmental plan

This EMP describes how environmental aspects of the contract are to be managed. It is a live document that is to be reviewed at regular intervals by the project manager to reflect progress of the works and changes in environmental requirements. At least three monthly.

It conforms to DB Developments Ltd' SHE and sustainability policies which will be clearly displayed in site offices.

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

1.3. Authorisation

This EMP is authorised when the preparation, approval, authorisation and distribution section on the front cover of the PEP – Part 1 is completed.

2. Environmental Management

DB Developments Ltd has a series of standards and guidance that [supplement this EMP](#).

2.1. Environmental aspects and effects

The project manager in line with the contract environmental advisor is to ensure that the register of environmental effects ([SE FRM 1](#)), specific to the project is completed before works begin and updated as circumstances occur, such as a change in scope, or a change in DB Developments Ltd customer or legislative requirements. Note any legislative requirements in the register. The input of designers at pre-handover meetings will also be considered in developing the register.

It may be necessary to complete pre-start environmental surveys and record the details ([SE FRM10](#)).

Legislative requirements should be assessed with reference to specific site conditions and requirements. The project environmental advisor is to advise on specific legal provisions. Additional checks can be made against the technical index, business environmental updates or in consultation with Head of Sustainability and Environment. A record of the assessment shall be maintained ([SE FRM 6](#)).

2.2. Objectives and targets

DB Developments Ltd will develop contract specific objectives and targets that take into account:

- DB Developments Ltd' sustainability and SHE functional strategies
- Customer Key Performance Indicators (KPIs) and other requirements.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	4 of 25

Environmental and Sustainability Management Plan (EMP)

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

2.3. Roles and responsibilities

Good environmental practice will be achieved through the appointment of an environmental advisor for the contract. Specifically environmental roles and responsibilities are described in other parts of this plan as well as in job descriptions.

2.4. Training

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

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

Site supervisors and engineers will give tool box talks to operatives on key issues such as spill response and waste management, drawing upon the full site of Toolbox Talk's (TBT's) ([SE GUID11](#)) as relevant to the project condition.

2.5. Communication

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

- Including environmental / sustainability issues as an agenda item on project progress meetings
- Inductions, topic-specific training, tool box talks
- Posting information on notice boards
- Monthly cascade briefings
- DB Developments Ltd magazine
- DB Developments Ltd intranet.

Additionally within the contract, information will be communicated through:

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

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

In line with the DB Developments Ltd sustainability requirements, all contracts are to be registered with the Considerate Constructors Scheme (CCS), subject to permitted exception.

Complaints and compliments will also be recorded on and resolved particularly where from regulators, the public as customers.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	5 of 25

Environmental and Sustainability Management Plan (EMP)

2.6. Environmental incident and emergency controls

Control measures to prevent and control environmental incidents and emergencies on sites are referenced in the register of environmental effects, and detailed in site emergency plans.

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

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

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

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

2.7. Auditing

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

- Customer
- External – third party assessors to DB Developments Ltd, British Standards Institute (BSi)
- Internal.

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

2.8. Monitoring

The contract environmental adviser will be responsible for environmental inspections at site level to record on the company's Intranet database SHEQ Tracker. Inspections may be carried out by the contract health and safety advisor.

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

2.9. Records

Environmental records will include

- Inspections
- Site visit records (by others)
- Internal and external audit reports
- Waste management records and plans
- Sub-project waste management plans
- Minutes of progress meetings
- Correspondence including complaints and regulatory units

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	6 of 25

Environmental and Sustainability Management Plan (EMP)

- Incident and investigation reports
- Permits, licences and consents
- Environmental data e.g. recycled aggregates, sustainable timber, etc.

2.10. Carbon accounting

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

- Electricity (direct purchase) kWh
- Electricity (customer supply) kWh
- Diesel consumption (generators) litre
- Diesel consumption (all other uses) litre
- Gas consumption kWh
- Other power sources if needed e.g. renewable.

In line with general requirements of DB Developments Ltd measures such as delivery miles, commuting mileage, car-share mileage, etc. will also be recorded.

2.11. Water management

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

3. Operational and project specific controls

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

3.1. Site set up

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

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

3.2. Housekeeping - litter

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

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

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

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	7 of 25

Environmental and Sustainability Management Plan (EMP)

3.3. Traffic management plan

A traffic management plan shall be developed for the project detailing deliveries, including abnormal loads, regular commuting, public transport options, parking, restrictions detailed in any local planning agreement or Section 61 consent, out of hours working and with view to minimising local congestion and impact on local roads (CPHSP Appendix F).

3.4. Mud and dust control

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

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

3.5. Noise control

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

In some instances, ambient baseline noise surveys will be carried out for comparison with noise levels during the works. If increases in noise are considered excessive, control measures will be adopted. Where possible noisy operations must be programmed for times when the least perceived nuisance will occur.

Contact will be made with neighbours likely to be affected by construction works informing them about the works and what mitigation measures have been implemented to reduce nuisance and disruption as much as practically feasible. Negotiation with local authorities may be required to establish and manage Control of Pollution Act Notices (S60 / S61).

3.6. Plant emission control

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

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

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

3.7. Water management plan

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

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

3.8. Site drainage

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

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	8 of 25

Environmental and Sustainability Management Plan (EMP)

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

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

3.9. Pumping from excavations

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

- i. Ingress of surface waters
- ii. As far as is practical, disturbance to clean waters needing to be cleared from excavations and exposed surfaces.

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

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

Pumping operations and working in waters lead to the largest number of environmental incidents for the construction industry. Control measures must include detailed requirements being set out in risk assessments and method statements as well as use of the “permit to pump” system.

3.10. Storage of fuels, oils and COSHH materials

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

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

3.11. Resource and energy management

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

3.12. Contaminated land

Contaminated land identified prior to or during the contract will be managed in line with DB Developments Ltd standards and guidance.

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

3.13. Waste management

Waste services may be provided by a number of licensed carriers or brokers, transferring wastes to a variety of receiving sites. The selection of services will depend on location, nature of the wastes and the availability of receiving sites. In all cases, the priority is to avoid disposal to landfill wherever possible. The waste hierarchy ‘Prevention – reduce – reuse – recover – dispose’ must always be implemented (legal requirement).

The validity of waste licences and permits held by carriers and sites of disposal will be checked by reference to the Environment Agency’s / Scottish Environment Protection Agency public register.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	9 of 25

Environmental and Sustainability Management Plan (EMP)

Hazardous wastes will be either transported by road to the waste hub or disposed of in accordance with waste regulations and approved contractors.

Where sites produce hazardous waste, they will be registered with the Environment Agency. Without a hazardous waste premises number, waste carriers may refuse to remove the waste.

All skips and bins will be closed or sheeted where required to prevent the escape of wind-blown debris.

Duty of care records will be maintained and filed in archives on completion.

A site waste management plan, compliant with the Site Waste Management Plan Regulations 2008, will be maintained and recorded. All projects are expected to have a SWMP in place irrespective of scale or value. A DB Developments Ltd form ([SE FRM3](#)) is available to use where other systems such as BRE Smart Waste or WRAP, or customer specific versions are not being used. Details of waste, carriers and disposal sites will be recorded, including evidence of checks made on licences, permits and inspections.

3.14. Wastes from road sweepers

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

3.15. Ecology and biodiversity

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

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

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

The site itself contains:

- Trees

The potential effects upon the existing biodiversity on this project are:

- Removal of trees
- Removal of grassland
- Removal of scrub
- Removal of hedgerow

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

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

Responsibilities

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	10 of 25

Environmental and Sustainability Management Plan (EMP)

The DB Developments Project/Site Manager is responsible for the implementation of this Biodiversity Plan. The PM/SM shall communicate all management techniques to relevant subcontractors during site specific inductions.

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

3.16. Subcontractors

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

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

3.17. Incidents and emergencies

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

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

3.18. Incident reporting and investigation

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

3.19. BREEAM / CEEQUAL / CCS / other registrations

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

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	11 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

4. Register of environmental effects

Office / depot / site:	DB Developments , Brown Edge	Prepared by:	Steve Beaumont	Date	18 April 2021
Assisted by:					
		Reviewed by:	Nick Blaize	Date	18 April 2021
NOTES					

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

Likelihood of activity resulting in impact.	Severity of subsequent impact		
	Low (L)	Moderate (M)	High (H)
Negligible	L	L	M
Unlikely	L	M	M
Likely	L	M	H
Certain	M	H	H

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	12 of 25

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Definitions:

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

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

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

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

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

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

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	13 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
Works associated with office operations	Operation of air-conditioning and refrigerant units containing ozone depleting substances	Escape of gases and impact associated with ozone layer and climate change.	1	1	1		
Works affecting Water resources	Abstraction of surface or groundwater	Deterioration in water resource quantity and quality	2	2	2		
	Dewatering of surface or groundwater	Deterioration in water resource quantity and quality	1	1	1		
	Impoundment of watercourses	Deterioration in water resource quantity and quality	1	1	1		
	Discharge of effluent	Deterioration in water resource quality	1	1	1		
	Discharge of site drainage	Deterioration in water resource quality	2	2	2		
	Discharge of foul drainage	Deterioration in water resource quality	1	1	1		
	Physical (temp and perm) works to watercourses and Rivers	Deterioration in water resource quality	N/A	N/A	N/A		
	Physical (temp and perm) works to watercourses and Rivers	Change in flow regime	N/A	N/A	N/A		

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	14 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	Physical (temp and perm) works to watercourses and Rivers	Loss of Biodiversity	N/A	N/A	N/A		
	Physical (temp and perm) works to flood defence works	Deterioration in water resource quantity and quality	N/A	N/A	N/A		
	Physical (temp and perm) works to estuaries	Deterioration in water resource quantity and quality	N/A	N/A	N/A		
	Spillages of hazardous substances	Deterioration in water resource quantity and quality	N/A	N/A	N/A		
	Use and Storage of Construction Hazardous substances including Oils/ Diesels and Petroleum	Deterioration in water resource quality	1	1	1		
	Use and Storage of Process Commissioning Hazardous substances	Deterioration in water resource quality	2	2	2	Use bunded tanks away from water course	
	Concrete Washout	Deterioration in water resource quality	2	2	2	Use of concrete washout facility (lined skips)	
	Use of potable water	Deterioration in water resource quality	1	1	1		
	Works affecting Ecological	Loss of biodiversity	3	1	1	<i>Biodiversity and ecological</i>	
Document Reference		Process Parent	Revision Status	Document Owner	Date	Page	
SE PLN1		PM PRO	Rev 6	Stephen Beaumont	Oct 21	15 of 25	

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
Works affecting Ecological Habitat and Species <i>(Note: completing this risk assessment and including mitigation measures and controls within the project environmental plan (PEP) will address the Planet target on biodiversity.)</i>	Important Habitat					<i>controls as detailed in PEP</i>	
	Works removing Ecological Important Habitat	Loss of biodiversity	N/A	N/A	N/A		
	Works affecting ecological protected species	Loss of biodiversity	1	1	1	<i>Biodiversity and ecological controls as detailed in PEP</i>	
	Works removing ecological protected species	Loss of biodiversity	N/A	N/A	N/A		
	Works affecting invasive plants	Land contamination by non-native species	1	1	1	<i>Biodiversity and ecological controls as detailed in PEP</i>	
	Works removing invasive plants	Land contamination by non-native species	N/A	N/A	N/A		
Works affecting historic (e.g. listed) or archaeological important sites and structures	Direct impact	Loss of historic/archaeological value	N/A	N/A	N/A		
	Near area	Loss of historic/archaeological value Subsidence vibration	N/A	N/A	N/A		

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	16 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	Adjacent to area	Encroachment	N/A	N/A	N/A		
Working on and disturbance of contaminated land	Physical disturbance	Potential spread of contaminated land and pollution	1	2	2	Ground investigation report to be reviewed before works start	1
	Disposal	Potential spread of contaminated land and pollution	1	2	2	WAC testing to be carried out	1
General construction activities that may lead to Nuisance	Mud on road	Nuisance to local population	3	1	2	Early construction of new roadway. Wheel cleaning facility to be provided	1
	Atmospheric emissions	Nuisance to local population	2	1	1		
	Construction dust	Nuisance to local population ³	3	2	2	Dust suppression to be used during summer months	1
	Batching dust and silo emissions	Nuisance to local population	N/A	N/A	N/A		

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	17 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	Process atmospheric emissions	Nuisance to local population	N/A	N/A	N/A		
	Noise emissions	Nuisance to local population	3	1	2	Working hours to be 8am to 6pm Monday to Friday. 8am to 1pm Saturday. No Sunday working.	1
	Light emissions	Nuisance to local population	1	1	1		
	Vibration	Nuisance to local population	2	1	1		
	Odour emissions	Nuisance to local population	1	1	1		
	Road congestion	Nuisance to local population	3	2	2	Early construction of new roadway to provide 'off street' parking for construction traffic	1
	Other public rights of way	Loss of amenity value Disruption	1	1	1		
Document Reference			Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1			PM PRO	Rev 6	Stephen Beaumont	Oct 21	18 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	Visual amenity	Loss of amenity value	1	1	1		
	Unsociable working hours	Nuisance to local population	3	1	2	Working hours to be 8am to 6pm Monday to Friday. 8am to 1pm Saturday. No Sunday working.	1
Works requiring the consumption of Energy and/or fossil fuels	Energy consumption/carbon management - Construction works	Direct: cost Indirect: atmospheric emissions Resource depletion	3	1	1	Use low energy lighting (LED) internally and externally	1
	Energy consumption/carbon management - Site accommodation	Direct: cost Indirect: atmospheric emissions Resource depletion	3	1	1	Use low energy lighting (LED) internally and externally	1
	Energy consumption/carbon management - Transport and logistics	Direct: cost Indirect: atmospheric emissions Resource depletion	3	1	1	Bulk deliveries where possible	1

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	19 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	Energy consumption/carbon management - Material selection (embodied energy)	Direct: cost Indirect: atmospheric emissions Resource depletion	1	1	1		
	Energy consumption / carbon management – generation of on-site power	Direct: cost Indirect: atmospheric emissions Resource depletion	1	1	1		
	Delivery and handling (transfer) of fuels (liquid or gas)	Direct pollution through spills, etc. Waste of resource and cost	3	2	2	All fuel deliveries to be carried out in bunded areas only	1
Works leading to the generation of Waste	Material storage and damage	Direct: cost Indirect: reduced sustainability	2	1	1		
	Creation of litter	Nuisance	3	1	2	Daily litter picking to be carried out throughout project life	1
	Waste disposal (duty of care) Construction waste Sewage M&E decommissioning waste,	Contamination Nuisance Pollution	3	1	1	Tanked welfare facilities to be used	1
Document Reference		Process Parent	Revision Status	Document Owner	Date	Page	
SE PLN1		PM PRO	Rev 6	Stephen Beaumont	Oct 21	20 of 25	

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
	etc.	Legal compliance					
	Surplus excavation/aggregate disposal	Increased cost Reduced sustainability	2	2	2	Quantity checks to be carried out before calling off to ensure right amount is delivered	1
	Packaging waste	Increased cost of disposal Depletion of resources	3	2	2	Where practical packaging to be removed prior to delivery. s/c to remove own packaging for recycling.	1
Works in sensitive location or where abnormal operating conditions arise e.g. Emergency response	Abnormal operating conditions e.g. pumping, filtration, water treatment, etc.	Pollution of environment Legal sanction	N/A	N/A	N/A		
	Unplanned event (Incidents e.g. spill, fire, etc.)	Pollution of environment Legal sanction	2	3	3	Ensure fire procedures are followed. Spill kits are on site and	1

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	21 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Activity	Aspect	Impact	Impact Significance			Control and Mitigation	Residual Impact Significance
			Likelihood	Severity	Resulting Significance		
			1 - Negligible 2 - Unlikely 3 - Likely 4 - Certain	1 - Low 2 - Moderate 3 - High	1 - Low 2 - Medium 3 - High		
						maintained	

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	22 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

DB Developments Ltd - Total Commitments			
Area	Objective	Target and/or measure	Site Action & Status
People	Total Commitment to a Safe Workplace Providing a safe working environment – to avoid notices, regulatory action and impact on the environment through pollution or accident, etc.	Target: No lost time accidents – see management of H&S Target: No environmental incidents Measure: Environmental Incident Frequency Rate (EFR) of zero. Measure: report of environmental incidents on Tracker	Monthly SHEQ returns providing site specific data.
	Total Commitment to developing talented employees Recruiting, empowering and training individuals are central to our business activity. Provision of induction, training, etc. with focus (for this plan) on environmental and sustainability matters	Target: provision of appropriate environmental training, for example spill training, emergency response and inductions, TBT's, etc. Measure: number of training days per employee	Monthly SHEQ returns providing site specific data.
	Inclusion & diversity To reach out to as wide a talent pool as possible	Target: where practicable and appropriate, to liaise with recruitment team on engaging with under-represented groups. Measure: reporting on proportion of women and ethnic minority groups in the workforce	Monthly SHEQ returns providing site specific data.
	Community Investment – adopt and implement the Considerate Constructor Scheme Process to the betterment of the industry image and reduced impact on our neighbours	Target: all projects to register and to strive to a stretch target of 40 (2013 scoring scheme) as a score. Measure: average CCS score	Monthly SHEQ returns providing site specific data.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	23 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Planet	Total Commitment to reducing energy consumption – addressing and minimising our contribution to global warming and climate change	Target: reduce fuel and energy consumption, with an annual reduction of 5%, and contribution to overall business reduction by 26% on 2010 baseline by 2020 Measures: fuel , electricity and gas consumption	Monthly SHEQ returns providing site specific data.
	Total Commitment to Reducing waste – addressing cost and resource efficiency associated with waste management	To apply the waste hierarchy and to focus on minimising waste generation or otherwise seeking to reuse or recycle ahead of landfill – 100% Recovery Target: at least 95% of all waste to be diverted to recycling or reuse i.e. not landfill Measure: waste diversion as recorded on Tracker	Monthly SHEQ returns providing site specific data.
	Resource Efficiency – protection of scarce natural resources.	Manage and minimise our use of water as a natural resource. To benchmark consumption and strive towards a 20% reduction target. Target: ensure that all metered water supply is monitored and recorded in tracker	Monthly SHEQ returns providing site specific data.
	Biodiversity – to manage and mitigate our potential impact on the wider environment	Ensure we manage and where possible, enhance the ecological value and biodiversity of the areas where we work. Target: all projects of £1m+ value to have an ecological or biodiversity risk assessment and mitigation measures implemented as appropriate. Measure: confirmation via tracker that risk assessment completed and/or evidenced locally via this form and mitigation plans in place	Monthly SHEQ returns providing site specific data.

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	24 of 25

Management System

Plan

Environmental and Sustainability Management Plan (EMP) – PEP Part 3

Profit	Total Commitment to improving sustainable procurement	Improving sustainable procurement through our supply chain. Increase number of suppliers compliant with our minimum standards. Measures: monitor supplier performance and compliance with ethical supply chain standards e.g. BES 6001, FSC, etc.	Monthly SHEQ returns providing site specific data.so.
	Total Commitment to supporting local employment	The aim is to provide sustainable employment opportunities Target: engagement of local employment in line with DB Developments Ltd target of 20% of workforce to live within 5 miles of DB Developments Measure: % of local workforce calculated against total cumulative workforce on site	Monthly measure
	Community Investment	Foster good working relationships with our neighbours and local communities as well as project team building. Target: 25% of materials and plant to be procured within 10 miles of DB Developments Measurement: Value of locally procured materials and plant compared to total value of materials and plant bought.	Monthly measure

Document Reference	Process Parent	Revision Status	Document Owner	Date	Page
SE PLN1	PM PRO	Rev 6	Stephen Beaumont	Oct 21	25 of 25