

## Project Name: Cog Moor WwTW Upgrade – AAD Plant

**Site Address:** Cog Moor WwTW  
Cardiff Road,  
Dinas Powys,  
Vale of Glamorgan  
CF64 4TR

**Client:** Dŵr Cymru Welsh Water

**Contract Start Date:** March 2018



Revision Control Schedule					
Skanska Utilities Business Unit					
<b>THIS DOCUMENT IS COPYRIGHT OF SKANSKA UK PLC AND SHALL NOT BE REPRODUCED WITHOUT WRITTEN PERMISSION</b>					
Rev	Date	Description	Prepared By	Checked By	Approved By
P01	11/01/2015	First Draft for comment	Simon Hazel	Andrew Bowen	Simon Hazel

File Location:	Ty Awen P: Drive and on the Environmental Advisors' Desk			
Company	Name	Signature	Position	Date
Skanska UK PLC	Chris Thomas		Project Director	
Skanska UK PLC	Simon Hazel		Senior Environmental Advisor	
Skanska UK PLC	Lucy Barber		Project Waste Advisor	
Skanska UK PLC	Andrew Bowen		Project Manager	
Skanska UK PLC	Stephen Pugh		Site Manager	

In addition to the regular risk reviews, this Project Environmental Management Plan (and associated documents) must be reviewed at least every six months from the date it is formally issued and signed off, or at the start of any major works package, or any legislative or procedural or process change and the revision number updated. Subsequent reviews after the formal issue will only require the signature of the Snr Environmental Advisor, Project Director/ Manager and Site Manager.

It should also be read in conjunction with the following:

- Site Waste Management Plan;
- AMP 6 Welsh Water Skanska Environment, Sustainability and Carbon Plan 2018;
- Cog Moor WwTW Environmental Checklist;
- Cog Moor WwTW Ground Investigation – Factual Report: Report No. G40071/FR November 2017
- Cog Moor WwTW Construction Method Statement;

Document Number: EHS030-F02	11/01/2018
Revision No: 01	1

- Cog Moor WwTW – Proposed AAD Plant Addendum Preliminary Ecological Appraisal;
- Cog Moor WwTW – Proposed AAD Plant Dormouse Licence Method Statement;
- Cog Moor WwTW – Proposed AAD Plant BS5837: 2012 Tree Survey Report and Arboricultural Impact Assessment;
- Cog Moor WwTW Vegetation Clearance Works Information;
- Cog Moor WwTW – Proposed AAD Plant Landscape Management Plan;
- Cog Moor WwTW – Proposed AAD Plant Non – Technical Summary;
- Control of Sediment Run off Plan;
- Discharge of Groundwater Plan;
- Pollution Prevention Plan;
- Environmental Incident Response Plan;
- Environment and Sustainability Statement of Intent;
- Environment and Sustainability Strategy;
- Carbon Reduction Statement of Intent;
- Carbon Reduction Strategy;
- Project Escalation Reporting Matrix

### Summary table of document reviews

In accordance with Skanska IMS, documents are required to be reviewed every 6 months to ensure relevance, compliance and that all information is in line with Skanska UK and Skanska AB				
Document	Review Programme	Date of Issue	Date of Last Review	New Rev No.
Programme Environmental Management Plan	Six monthly	29/6/2015	02/01/2018	P10
Programme Site Waste Management Plan	Annually	29/6/2015	02/01/2018	P8
Env and Sustainability Statement of Intent	Annually	22/4/2015	23/11/2016	3
Carbon Reduction Statement of Intent	Annually	22/4/2015	23/11/2016	3
Environment and Sustainability Strategy		22/4/2015	23/11/2016	6
Carbon Reduction Strategy		22/4/2015	09/09/2016	6

The Dŵr Cymru Welsh Water (DCWW) AMP 6 Capital Delivery Project Team will keep a controlled copy of this Programme/ Project Environmental Management Plan on file on site, and on the Ty Awen P: Drive. This copy will be amended in accordance with document control procedures, by a person nominated by the Project Director, usually the Project Snr Environment Advisor. Only the controlled copy can be guaranteed to be the most up to date.

Named Holder Details of the PEMP  
 Name: Simon Hazel  
 Position: Senior Environmental Advisor  
 Location: Site  
 Date of issue: TBC

Non-controlled copies of the management plan will be issued to Skanska's on-site management team and suppliers.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	2

## Contents

1	Introduction.....	5
2	Site Specific Environmental Issues.....	6
2.1	Key Documents.....	6
2.2	Planning.....	7
2.3	Flood Risk Activity Permit (FRAP)/ Ordinary Watercourse Consent.....	7
2.4	Environmental Permits/ Exemptions: Water/ Waste/Abstractions.....	7
2.5	Marine Licence.....	7
2.6	Protected Species Licences.....	7
2.7	Designated Sites Assents/ Conservation Areas etc.....	7
2.8	Archaeology and Listed Buildings and/ or Conservation Areas.....	8
2.9	Protection of existing constraints: trees, hedgerows, watercourses, invasive species, PROW etc.....	8
2.10	Environmental Constraints Plan.....	13
3	Site Details.....	14
3.1	Site Location Plan.....	14
4	Contract Programme and Key Dates.....	15
5	Regulatory Agencies and Interested Parties.....	15
6	Project and Company environmental objectives and targets.....	16
6.1	Company objectives and targets.....	16
6.2	AMP 6 Alliance Capital Delivery Project Specific Environmental Targets.....	16
6.3	Legal and Programme/ Project and trade and sub-Contractor requirements.....	17
7	Compliance, monitoring, corrective action and auditing.....	17
7.1	Project environmental monitoring.....	17
7.2	Site Inspections.....	18
7.3	Project Team Inspections.....	18
7.4	Environmental Advisor Audits.....	18
7.5	Summary Table of Inspections.....	18
7.6	Corrective and Preventative Action and Environmental Audit.....	18
8	Environmental legislation and Skanska requirements.....	18
8.1	Environmental Legislation.....	19
8.2	Skanska AB.....	21
8.3	Skanska Environmental Procedures.....	21
<b>8.4</b>	<b>Sustainability and Carbon</b> .....	<b>22</b>
8.5	Environment Agency/ Natural Resources Wales.....	25
8.6	Pollution Prevention Guidelines (PPG).....	25
8.7	Other Guidance.....	26
9	Environmental Roles, Responsibilities and Useful Contacts.....	26
9.1	Water Sector Sustainability Manager.....	26
9.2	Project Environmental Advisors.....	26
9.3	Project Director, Programme Managers, Senior Project Managers and Project Managers.....	27

Document Number: EHS030-F02	11/01/2018
Revision No: 01	3

9.4	Site Agent.....	27
9.5	Commercial Manager.....	27
9.6	All Employees.....	28
10	Training, Awareness and Competency .....	29
11	Documentation and Record Keeping .....	30
11.1	Records .....	30
12	Emergency Preparedness and Response .....	30
13	Appendices.....	32
13.1	Environmental Management Controls.....	32
13.2	Environmental Risk and Opportunities.....	48
13.3	Environmental Risk and Opportunity Register .....	49
13.4	Environmental Pollution Incident Control Sheet.....	50
13.5	Carbon reduction plan.....	62
13.6	Water reduction plan .....	67
13.7	2018 Environmental management plan .....	68
13.8	Office Environmental Management Plan .....	69
13.8.1	Introduction.....	69
13.8.2	Tenancy Details.....	69
13.8.3	Project Environmental Objectives and Targets .....	70
13.8.4	Compliance, Monitoring, Corrective Action and Auditing.....	70
13.8.5	Project Environmental Monitoring and Office Inspections .....	70
13.8.6	Environmental Legislation .....	70
13.8.7	Environment Agency/ Natural Resources Wales - Pollution Prevention Guidelines ....	70
13.8.8	Environmental Roles, Responsibilities & Useful Contacts .....	70
13.8.9	Training Requirements .....	70
13.8.10	Document and Record Keeping .....	70
13.8.11	Emergency Response and Preparedness .....	70
13.8.12	Project Risk and Opportunity Register .....	70
13.8.13	Appendices.....	71

Document Number: EHS030-F02	11/01/2018
Revision No: 01	4

# 1 Introduction

Skanska recognises the importance of Environmental Management and the provision of information, instruction and training in achieving and maintaining a high standard of environmental awareness amongst its management staff and workforce throughout the duration of work on Skanska's sites. To this end Skanska has developed an ISO14001:2015 accredited Environmental Management system.



Figure 1: ISO 14001: 2015 Certificate

The objectives of the IMS are: -

- To minimise, as far as reasonably practicable, adverse effects on the environment
- To promote good standards of environmental awareness
- To develop environmental awareness and responsibilities amongst site personnel at all levels
- To maintain a safe and healthy working environment for the workforce
- To prevent nuisance to the community and avoid damage to the environment
- To implement a policy of potential reuse of all waste with disposal off site being a last resort
- To enable full compliance to be maintained with all relevant legislation

The Cog Moor WwTW Capital Delivery Project Team aims to work in a manner that reduces the negative environmental impact of works associated with the AMP 6 Capital Delivery Improvement Programme in accordance with Skanska's business policies, Alliance ESC strategies and Welsh Water's goals; to earn the trust of our customers every day. To deliver the Programme, the Project Team and all suppliers will comply with the requirements of the Environment Section of the Skanska Our Way of Working (Integrated Management System – the IMS), the contents of this Programme/ Project Environmental Management Plan (PEMP) and associated toolkits that are available to the team such as Carbon Modelling and Life Cycle Costing.

This PEMP details the environmental risks associated with the upgrade of Cog Moor WwTW and proposed advanced anaerobic digestion (AAD) and will include the following:

- Setting of temporary construction compounds within the site;

Document Number: EHS030-F02	11/01/2018
Revision No: 01	5

- A number of new process and storage tanks and buildings;
- Demolition of and modifications to some existing items of plant and equipment;

The proposed development would provide for:

- Additional digestion capacity;
- Conditioning of the sludge generated on the site;
- Reception facilities for sludge imported to the site from satellite WwTWs;
- Blending of the indigenous sludge and imported sludge;
- A thermal hydrolysis plant (THP), which uses steam to increase the temperature and pressure in a reaction vessel to pre-treat the sludge;
- Boilers to generate the steam for thermal hydrolysis;
- A siloxane plant to remove contaminants from the biogas generated;
- A combined heat and power (CHP) plant to generate useable heat and electricity, which can be used on site, exported to the grid, or both;
- A UV plant to treat some of the final effluent water from the WwTW, to provide better quality process water, for the sludge downstream of thermal hydrolysis;
- Tanks to hold sludge and liquor, resulting from the thickening and dewatering processes;
- A cake storage silo;
- Odour control equipment;
- New internal site access roads and drainage;
- Site clearance and earthworks and new fencing;
- New MCC equipment and control kiosks; and
- Appropriate mitigation planting and ecological mitigation measures.

The controls detailed within this plan are to be carried out in conjunction with the applicable Environmental Control Procedures detailed within the IMS to ensure that environmental management is addressed and rigorously incorporated in all decision-making. This will promote a culture of environmental responsibility, self-regulation and encourage sustainability.

This Plan will extend through the entire life of the Contract/ Project providing a transparent and verifiable audit trail for sustainable strategies and solutions, will be continually updated.

All suppliers or consultants providing a product or service are required to provide evidence, to show how they will control any environmental risks that may arise from their works, e.g. within a method statement. To ensure that specific local environmental requirements are adhered to, Skanska intends to initiate discussions with interested third parties e.g. relevant Local Authorities, CADW, Natural Resources Wales where deemed necessary. The plan will govern our approach to environmental management for this Contract/ Project, however in addition environmental objectives and targets as outlined by the Client's – Dŵr Cymru Welsh Water - environmental strategy and requirements will be adhered to.

## 2 Site Specific Environmental Issues

The nature of our works and the environment in which we work means more often than not we will be working within close proximity to key environmental constraints that may, as a result of planning or environmental consents and licences, dictate the way we are to conduct our works. In light of this and the requirement to comply with any conditions placed on our projects, the information below highlights the key environmental licence conditions and requirements that apply to these specific works.

Further guidance on these matters and other environmental issues e.g. noise can be sought from Appendix 13.1: Environmental Management Controls and Appendix 13.3: Risk and Opportunity Register.

### 2.1 Key Documents

- *Dormice EPS Licence, and associated conditions;*
- *Planning Consent, and associated conditions;*

Document Number: EHS030-F02	11/01/2018
Revision No: 01	6

## 2.2 Planning

The following planning conditions must be adhered to and any pre-commencement conditions signed off before works can begin:

- TBC

## 2.3 Flood Risk Activity Permit (FRAP)/ Ordinary Watercourse Consent

A FRAP is not required, but an ordinary Watercourse Consent is required for infilling of existing ditches, renovation of existing ditches and works within existing ditches on the site. The following conditions must be completed before the works can commence and adhered to throughout:

- TBC

## 2.4 Environmental Permits/ Exemptions: Water/ Waste/Abstractions

The following conditions must be completed before the works can commence and adhered to throughout:

- TBC

## 2.5 Marine Licence

The following conditions must be completed before the works can commence and adhered to throughout:

- N/A

## 2.6 Protected Species Licences

No records of badger, otter, water vole or bat were identified within the site. As dormice have been found on site, a development licence from Natural Resources Wales is required before any vegetation clearance can take place. Vegetation clearance will be undertaken in a sensitive manner and at an appropriate time of year so as not to disturb or harm dormice. Landscaping has been designed to maintain and enhance habitat quality and connectivity to minimise impacts on dormice. Conditions associated with this licence include:

- TBC

## 2.7 Designated Sites Assents/ Conservation Areas etc

The following conditions must be completed before the works can commence and adhered to throughout:

- N/A, but...
  - The proposed Development site is located within Cog Moors SINC which is designated for its series of species-rich rush pastures and presence of Tubular Water-Dropwort;
  - Cog Moors SSSI is located approximately 235 m west of the proposed Development and is designated for its large continuous damp mesotrophic (neutral) semi-natural grassland and is associated with stands of tall sedges and for populations of uncommon plants;
  - The western end of the existing WwTW is within Cog Moors SSSI which wraps around the WwTW immediately adjacent to the southern boundary of the existing WwTW;
  - Previous extension works were undertaken at Cog Moors WwTW in 2007 (Ref 5). These works extended into an area of Cog Moors SSSI at the western end of the WwTW. As part of the Environmental Action Plan, this area of SSSI was translocated into the Cog Moors Site of Importance for Nature Conservation (SINC) with a management and monitoring plan put in place. The receptor site for the SSSI habitat is located to the south of the existing WwTW (outside of the planning application boundary for the proposed Development) and should therefore remain undisturbed as part of these works;
  - Llynnoedd Cosmeston/Cosmeston Lakes SSSI is located approximately 800 m east of the proposed Development and is designated for eutrophic lakes which support a range

Document Number: EHS030-F02	11/01/2018
Revision No: 01	7

of plants. The SSSI is connected to the proposed Development site via a network of drains;

- The site is not within a Conservation Area.

## 2.8 Archaeology and Listed Buildings and/ or Conservation Areas

The following condition must be adhered to throughout:

- There are no Listed Buildings or Conservation Areas identified that will be affected by the proposed Development. However, the Glamorgan-Gwent Archaeological Trust (GGAT) have identified evidence of archaeological activity in the area, primarily dating to the prehistoric and Roman periods and including the Roman settlement at Pop Hill. Peat deposits have also been identified that potentially contain important paleo environmental data. In this case, it is our opinion that as the area has been disturbed due to its current use, it is unlikely that archaeological remains would be encountered during the work. The record is not definitive, however, and archaeological material may be disturbed during the course of the work. In this event, works must stop immediately in that location and GGAT should be contacted.

## 2.9 Protection of existing constraints: trees, hedgerows, watercourses, invasive species, PROW etc

The following must be noted before the works can commence and adhered to throughout:

- Trees along the north-eastern boundary of the WwTW and the northern boundary of the area of proposed works are covered under a Tree Preservation Order (TPO) (see Figure 1 below).



Figure 2: TPO Tree Constraints Plan

Document Number: EHS030-F02	11/01/2018
Revision No: 01	8





Figure 3: Mitigation Plan

- A Tree Survey and Arboricultural Impact Assessment was undertaken in line with British Standard BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations’ henceforth referred to as BS 5837: 2012 for the proposed advanced anaerobic digestion (AAD) plant at Cog Moors Wastewater Treatment Works (WwTW);
- To facilitate the scheme, four Category B individual trees - trees of moderate quality (T16, T17, T18, T19) and two Category C groups of trees - trees of low quality (G12, G13) have been identified as requiring removal. One Category C woodland (W15) and one Category C group of trees (G14) will require partial removal;
- The proposed footprint of the works encroaches within the RPA of retained portions of H23, G14 and W15. It is considered that movement of construction traffic is likely to compact the trees’ root system if unmitigated. A low impact method of tree felling combined with the installation of ground compaction guards during construction will mitigate ground compaction and potential root death of the retained trees;
- Adequate protective fencing must be installed around all retained trees before any materials and machinery are brought on site;
- The purpose of this fencing is to provide protection to the RPA of retained trees/groups and to protect trees and hedgerows prior to their translocation. The type of fencing used shall be appropriate to the level of adjacent construction activity and shall be agreed with the Local Authority tree officer. Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply.



Figure 4: Tree Protection Signage

...All personnel must be made aware of these restrictions. It is anticipated that three specifications for fencing would be employed during construction.

- Low-use areas
  - The system illustrated in Figure C1 is adequate to define areas of protected vegetation and exclude traffic, and comprises Cleft Chestnut Pale Fence in accordance with *BS 1722 Part 4: Specification for cleft chestnut pale fences (British Standards Institution, 1991)* supported by 150mm wooden stakes. Assembled with galvanized 14 gauge (2 mm) wire, four strands per row, peeled and pointed one end. Approximate spacing of pales 75 mm.



Figure 5: Tree Protection: Low Use Areas

- Medium-use areas
  - This system comprises anti-climb weldmesh panels connected by clamps and supported by rubber or concrete bases and bracing struts. The system is illustrated in Figure C2 and is based on *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012)* guidelines. This kind of system is robust enough to withstand occasional knocks by plant machinery.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	10

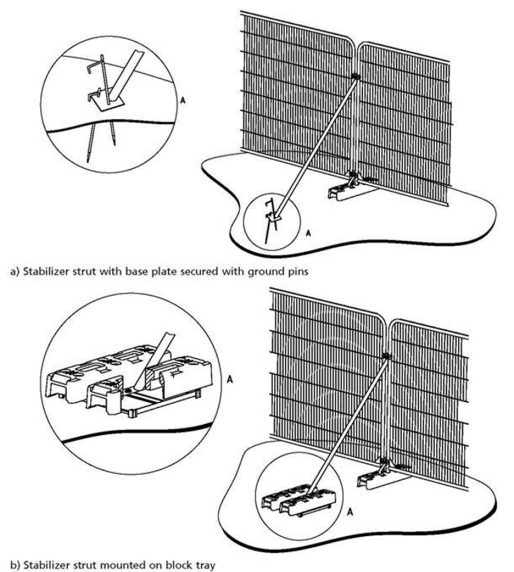


Figure 6: Tree Protection: Medium Use Areas

o High-use areas

- This system involves driving scaffold poles into the ground, onto which are affixed horizontal scaffold poles and diagonal bracing struts. Anti-climb weldmesh panels are secured to this scaffold framework using standard scaffold clips or wire. The system is illustrated in diagram Figure C3 and is based on *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012)* guidelines. This kind of system provides the highest level of security.

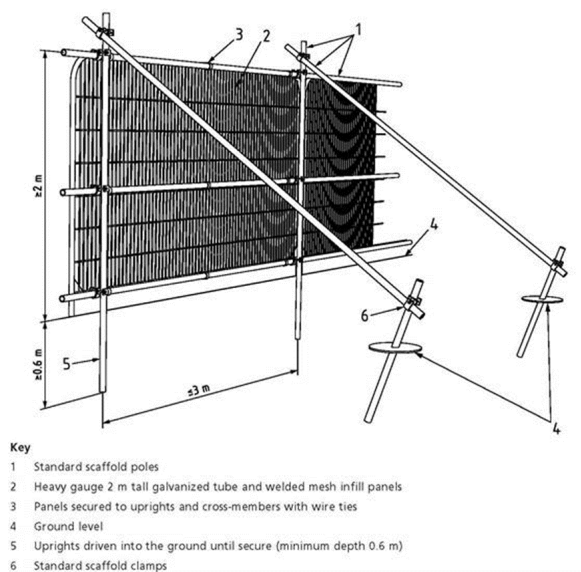


Figure 7: Tree Protection: High Use Areas

- The Construction Exclusion Zone (CEZ) is the area identified by an arboriculturist to be protected during development, including site clearance and construction work, through the use of barriers and/or ground protection fit-for-purpose to ensure the successful long-term retention of a tree. The area within the construction exclusion zone is to be regarded as sacrosanct and the fencing shall not be taken down or relocated at any time. All areas excluded by protective tree fencing shall be treated as CEZs, and the following restrictions shall apply:
  - No construction activity whatsoever must occur within these areas.
  - No alterations of ground levels or conditions.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	11

- No chemicals or cement washings.
- No temporary structures.\*
- No storage of soil, rubble or other materials.
- No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837 recommendations. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the likely loading applied.
- No fixtures (lighting, signs etc.) to be attached to trees.

*\*Cabins or site huts, provided they are of the Jack Leg type, can be sited to act as ground protection for the duration of the construction.*

Since the canopies of retained trees may be in close proximity to areas of crane operation, the following restrictions will apply:

- All cranes will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.
- Prior to the implementation of lifting operations, a representative from the equipment supply company shall visit the site and ensure all operations can be completed without causing damage to retained trees. A lifting plan will be prepared and submitted for approval prior to all lifting operations. The lifting plan will make provision for the potential for damage of retained trees.
- All lifting operations will be completed under the close direction of a qualified banksman, who will be briefed by the appointed contractor as to the need to avoid damage the stems and branches of retained trees.
- Should additional tree removal or pruning be required the Local Authority Tree Officer shall be contacted and the scope of works agreed in writing.
- All materials will be stored within designated areas and no materials shall be stored within any RPA.

○ Watercourses

The site has a number of ditches that cross it, and care must be taken to ensure that they are kept free from any construction related materials/ waste/ fuels and chemicals at all time.

○ Invasive Species

Himalayan balsam is known to grow areas of the site – these areas will require a biosecurity risk assessment and will need management prior to the commencement of any works in these areas.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	12

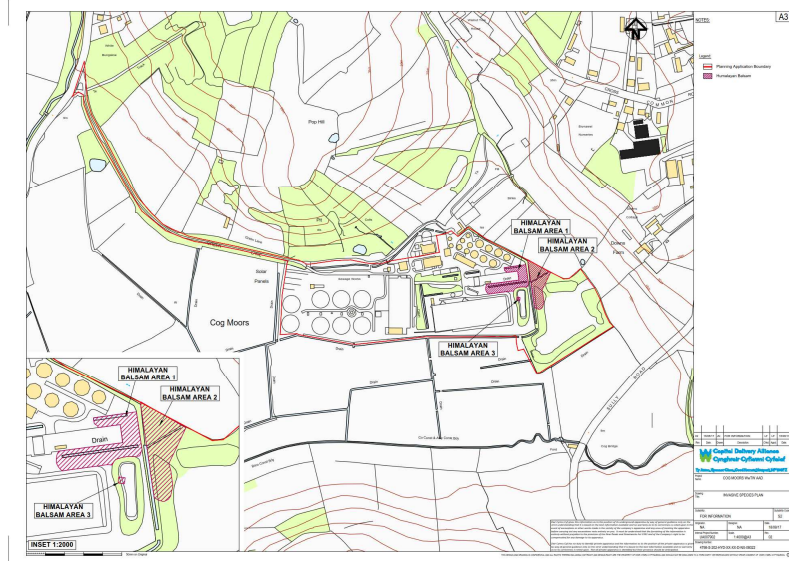


Figure 8: Himalayan Balsam Locations

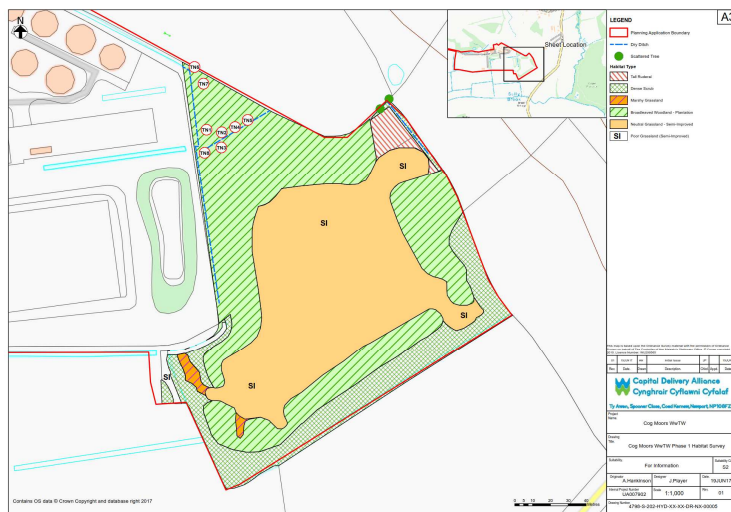
- o Public Rights of Way (PROW)

A Public Right of Way runs along the Green Lane to the works, which is identified by the purple line. The project team are in discussions with the Vale of Glamorgan regarding potential options to ensure the safety of users during the construction period.



Figure 9: PROW

## 2.10 Environmental Constraints Plan



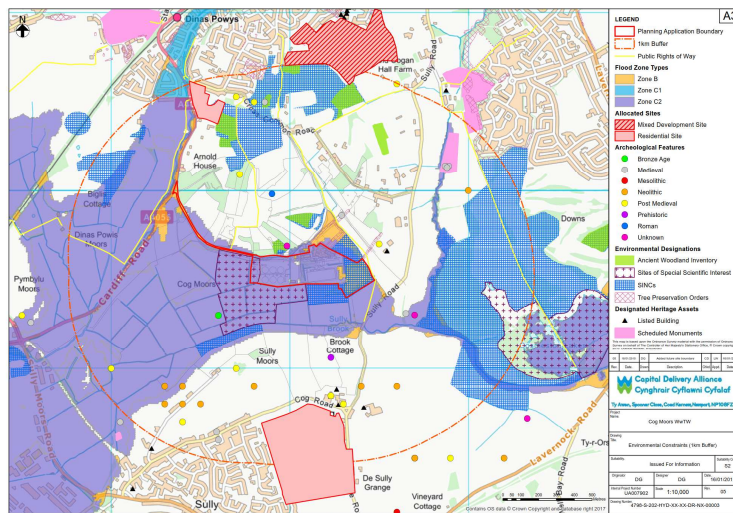
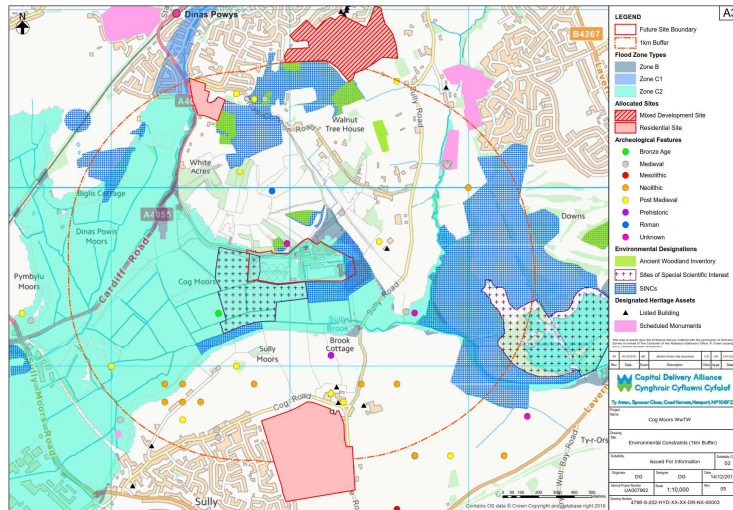


Figure 10: Cog Moor WwTW Phase 1 Habitat and Constraints Plan

### 3 Site Details

<b>Project Name:</b>	Cog Moor WwTW Upgrade and AAD Plant	
<b>Location:</b>	Cardiff Road, Dinas Powys, Vale of Glamorgan	
<b>Project number:</b>	89600247	
<b>Project Director:</b>	Chris Thomas	
<b>Construction start date:</b>	March 2018	
<b>Construction finish date:</b>	April 2020	No of Weeks:106

<b>Contract description:</b>	AMP 6 Capital Delivery Improvement Programme
------------------------------	----------------------------------------------

#### 3.1 Site Location Plan

The site is located in the Vale of Glamorgan south of Dinas Powys at grid reference ST 16327 69571. The site is located immediately to the east of Cog Moors WwTW.

The land use within the immediate surrounding area is predominately agricultural with a residential estate to the north-east. The site can be accessed through the Cog Moors WwTW which is located just off Green Lane. The nearest main road is Sully Road located approximately 280 m to the east of the site, while other roads include Cog Road approximately 800 m to the south of the site and Cardiff Road (A4055) approximately 1.1 km to the west of the site.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	14

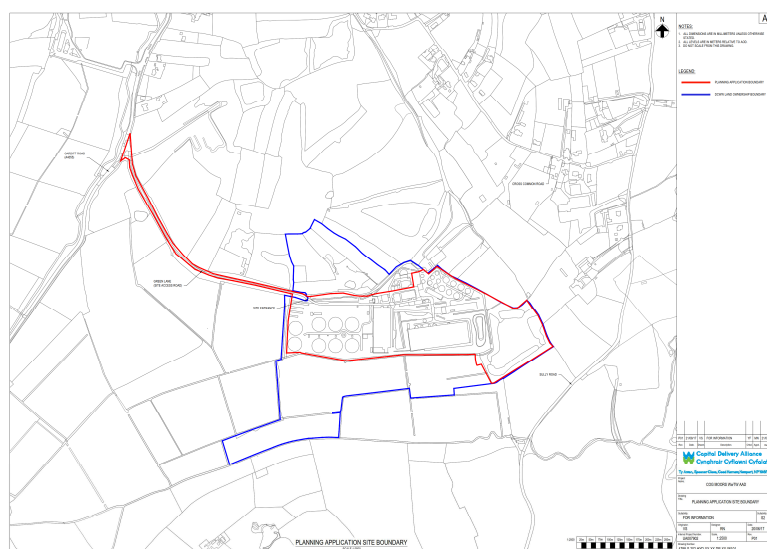


Figure 11: Cog Moor WwTW Location Plan

#### 4 Contract Programme and Key Dates

Activity	Start Date	Completion Date	Duration (weeks)
Project planning & Contract letting	7/12/16	8/03/18	63
Site Set-up	12/03/18	30/04/18	7
Ground Works	23/05/18	10/10/18	20
Civils & M&E	2/05/18	12/09/19	68
Commissioning	13/09/19	31/03/20	27
Site re-instatement, removal of site offices and handover	31/03/20	29/04/20	4

#### 5 Regulatory Agencies and Interested Parties

The following regulatory agencies and interested parties have interests in this Programme/Project:

Regulator	Responsibility	Contact details
Local Authority: Vale of Glamorgan	Planning, Building Control, Nuisance (Noise, Vibration, Dust, Odours), Protected Trees/Hedgerows, Local Nature Reserves etc.	Telephone: 01446 700111 Email address: <a href="mailto:c1v@valeofglamorgan.gov.uk">c1v@valeofglamorgan.gov.uk</a> Postal address: Civic Offices, Holton Road, Barry, CF63 4RU
Natural Resources Wales (NRW) for schemes in Wales, and the Environment Agency (EA) in England	Waste Management, Water Pollution, Discharges to surface water drains and watercourses	<b>Natural Resources Wales</b> Telephone: 0300 065 3000 (Mon-Fri, 8am - 6pm) Incident hotline: 0800 807060 (Freephone, 24 hour) Email address: <a href="mailto:enquiries@naturalresourceswales.gov.uk">enquiries@naturalresourceswales.gov.uk</a> Postal address: Natural Resources Wales, Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP
Local Water Company – Dŵr	Discharges to sewer	Water services and emergencies: 0800 052 0130 (24 hours a day, 7 days a week)

Document Number: EHS030-F02	11/01/2018
Revision No: 01	15

Cymru Water	Welsh		Sewerage services and emergencies: 0800 085 3968 (24 hours a day, 7 days a week) Postal address: Pentwyn Road, Nelson, Treharris, Mid Glamorgan CF46 6LY.
CADW in Wales and England	Historic in England	Heritage buildings, Archaeology etc.	CADW: Telephone: 01443 336000 Postal address: Cadw Office, Welsh Government, Plas Carew, Unit 5/7 Cefn Coed Parc Nantgarw, Cardiff, CF15 7QQ Email address: <a href="mailto:cadw@wales.gsi.gov.uk">cadw@wales.gsi.gov.uk</a>
NRW in Wales and England	Natural in Wales	Protected Sites and Species designated sites - excluding National Nature Reserves (NNR), farming and land management - including Environmental Stewardship enquiries, marine, planning and development, wildlife management and licensing	Natural Resources Wales: Telephone: 0300 065 3000 (Mon-Fri, 8am - 6pm) Email address: <a href="mailto:enquiries@naturalresourceswales.gov.uk">enquiries@naturalresourceswales.gov.uk</a> Postal address: Natural Resources Wales Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP

**Note:** Details of communications with regulatory bodies are kept in the Site Environmental File and Ty Awen P: Drive.

## 6 Project and Company environmental objectives and targets

### 6.1 Company objectives and targets

The Skanska Environmental Director sets annual companywide objectives and targets in its Environmental Strategy which have been agreed with the Company Directors, and is available on the IMS and displayed on site noticeboards. These targets must be met on all sites.

### 6.2 AMP 6 Alliance Capital Delivery Project Specific Environmental Targets

There are a number of Project and Programme specific objectives, targets and KPI's to be implemented on the work sites and offices – all of which will be monitored during the course of AMP 6, which include:

- 100% compliance with environmental legislation;
- Zero environmental incidents – e.g. Pollution prevention, waste management, ecology, adhering to any SSSI assent/ flood risk activity permit and/or ordinary watercourse consent and planning application conditions;
- Deliver carbon reduction across the alliance through sustainable procurement of materials, products and services, and the use of BIM, and savings in operational (30%) and embodied (50%) carbon;
- Focus on achieving 20% savings on capex and 10% savings on OPEX including energy;
- Focus on achieving 70% recycled aggregates;
- Focus on implementing sustainable procurement;
- Focus on the generation of renewable energy;
- Deliver schemes that will have wider ecosystem benefits;
- Target zero waste to landfill;

Document Number: EHS030-F02	11/01/2018
Revision No: 01	16



- Implement energy saving initiatives;
- Implement resource (water, energy etc.) Efficiency initiatives to reduce carbon and associated financial expenditures such as 20% less excavation and 50% less time on site;
- Encourage innovation, share best practice, implement standardisation and promote off-site production and off the shelf' design solutions to reduce construction time on site;
- Reduce reliance on resource intensive, costly grid energy through renewable energy installation initiatives; and
- Challenge the standard approach and deliver innovative design with built-in carbon reduction solutions.

### **6.3 Legal and Programme/ Project and trade and sub-Contractor requirements**

Procurement, using the Key Performance Indicators (KPIs) detailed in the IMS procedure 21.02 and 21.03 (Management of sub-contractors), will assess the environmental performance of key sub-contractors. These indicators will be assessed every six months during the course of the site works and fed into the company sub-contractors database. Should any area of the sub-contractors' performance be lacking, an improvement plan will be agreed with the sub-contractor and put into place. This will then be reviewed at the next assessment.

On site, procedure 21.02 and 21.03 (Management of sub-contractors) will be used to control sub-contractors and in accordance with this, pre sub-contractors meetings will be held prior to placing the Sub-contractors order. Environmental issues and responsibilities will be discussed and agreed at this meeting and these subjects will be reviewed at safety and progress meetings held monthly during the course of the Project. All sub-contractors on this Contract will be UVDB accredited and will be subject to the Environmental PQQ Balanced Scorecard process.

Skanska UK Environmental legislation matrix as well as Utilities Environmental legislation matrix can be found as part of the Skanska Project Risk and Opportunities register and in the appendices of this document.

## **7 Compliance, monitoring, corrective action and auditing**

Continuous monitoring of environmental issues and controls are part of regular site quality checks. Monitoring will establish compliance of employees and contractors within the requirements of the IMS, this PEMP, Client requirements and all statutory obligations.

### **7.1 Project environmental monitoring**

The Project Director will ensure that frequent site inspections are carried out to monitor that all arrangements and control measures are in place. These inspections shall include daily visual inspections by Site Supervisors with any findings recorded in their site diaries and copied to the SHEQ team. Site Inspections will be carried out on a routine basis as part of the SHEQ inspection strategy and submitted to the Project Director and the SHEQ department:

The Environmental Advisor will issue Environmental Tool Box Talks on topics such as pollution prevention, waste, noise and vibration, which shall be displayed on the site noticeboards. The Environmental Advisor will ensure that any site specific procedures are prepared and regularly reviewed and updated as required for inclusion in updated versions of this document.

Skanska's waste is primarily managed by Reconomy UK, who are a waste management service provider. Where not, such as spoil off site, this is managed by the project. All waste contractors will be subject to a Waste Duty of Care audit.

All records generated through environmental procedures, including those of training and the results of audits and reviews, will be maintained and stored on Ty Awen P: Drive. Environmental records must be legible, identifiable and traceable to the activity.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	17

## 7.2 Site Inspections

Regular site inspections are carried out to physically check the site activities, identify environmental risks and the implementation of management controls. The site manager/ site agent will undertake weekly environmental inspections using form EHS 008-F02 Health Safety Environment Inspection and action any non-conformities and file accordingly.

## 7.3 Project Team Inspections

Each member of the Project Team is responsible for carrying out environmental and safety inspections as detailed on the Site Inspection rota.

The site manager/ site agent/ nominated person will undertake weekly environmental inspections using form EHS 008-F02 Health Safety Environment Inspection and action any non-conformities and file accordingly – either on site or on Ty Awen P: Drive.

## 7.4 Environmental Advisor Audits

Environmental Advisor audits are to be carried out against a frequency agreed with the Project Director - At present this is a minimum of monthly but bi-monthly is permitted on less sensitive projects, and each site will be visited at least once per month. If a site visit cannot be made, then a Lync Conference call or telephone conversation must take place to ensure that the project is compliant. Completed inspection checklists will be held in the Site Environmental File.

The Environmental Advisor will record the results of the inspection. The Environmental Advisor/ Advisor/ nominated person will undertake environmental inspections using form EHS 008-F02 Health Safety Environment Inspection and action any non-conformities and file accordingly on Ty Awen P: Drive.

The results of the inspection will be reported to the Site Manager and any person required to carry out corrective actions. Any corrective actions recorded during a site inspection must be closed out within a week by the Site Manager. Those items not closed out completely shall be carried forward to the next inspection until they are closed out. If the deficiency persists or is a serious breach, then the Project Director shall be notified directly by the Environmental Advisor

## 7.5 Summary Table of Inspections

Job Title	Frequency
Site Manager/ Agent	Weekly
Environment Advisor	Monthly
Skanska Management	Quarterly

## 7.6 Corrective and Preventative Action and Environmental Audit

The appointed person will carry out periodic Supply Chain environmental audits in line with the KPI process and any observations made are reported with an agreed timescale in which to take action.

All information is held on the audit log, and any observations or non-conformances will be actioned in advance of the subsequent audit taking place. Interim audits will be undertaken by the Project Environmental Advisor and others as deemed competent. Company IMS audits of Projects are carried out periodically by the Company Internal Auditors and any non-compliance will be revealed and addressed on a Corrective Action Request (CAR). Non-conformances are rectified and all measures taken to prevent reoccurrence.

Audit trends across the business are analysed periodically with any trends/failings being addressed by further training/briefings to staff.

## 8 Environmental legislation and Skanska requirements

Document Number: EHS030-F02	11/01/2018
Revision No: 01	18

## 8.1 Environmental Legislation

Skanska maintains a Legal Register accessed via the intranet, detailing all legal and other legislative requirements applicable to the environmental aspects of the Company's activities. The Register is regularly reviewed and can be accessed by clicking [Enviro-Suite Legal Registry Portal](#) and using the Skanska log-in details below:-

- Username: green@skanska.co.uk  
Password: strength&die

The register can be filtered by theme (e.g waste management, air pollution) and then also by country (e.g England, Wales, etc) in addition to there being a general search button.

The need for any legal consents, licences and exemptions relating to work on the Project sites has been identified in the Risk and Opportunity Register. Reference will also be made to any DCWW procedures determining necessary permissions and consents. To summarise, the licences and consents commonly required are:-

Document Number: EHS030-F02	11/01/2018
Revision No: 01	19

Legislation	Requirement
Clean Air Act 1993, EPA 1990, Noise & Statutory Nuisance act 1993	Prevent/minimise pollution of environment. Protect health and prevent statutory nuisances. Prohibits burning of waste on site.
EPA 1990 Part 3, Control of Pollution Act 1974, Noise & Statutory Nuisance Act 1993, Control of Noise Orders 2002, Control of Noise at Work Regs 2005	Prevent/minimise pollution of environment. Protect health and prevent statutory nuisances. Controls noise emissions from site.
Noise Emission in the Environment by Equipment for use Outdoors Regs 2001	Noise emissions displayed on a label fixed to plant and machinery
Water Resources Act 1991, Anti-Pollution Works Notices Regulations 1999, Environmental Permitting Regs 2010	Prevent/minimise pollution of controlled waters (both surface and groundwater);
Water Resources Act 1991, Control of Pollution (Oil Storage) Regulations 2001	Details storage of oil/fuel on site for containers of more than 200 litres
Flood and Water Management Act 2010, Land Drainage Act 1981	Reduced flood risk and impact of works on land drainage;
Environmental Protection Act 1990, Pollution Prevention & Control Act 1999, Environmental Protection (Duty of Care) Regs 2003, Waste Regulations 2012 & 2014, Controlled Waste Regs 2012	Ensure the safe management of controlled waste from generation to final disposal. Implement EC Decision 2000/532/EC waste catalogue descriptions, pre-treatment of waste prior to landfill, apply waste hierarchy
Environmental Protection Act 1990, Pollution Prevention & Control Act 1999, Environmental Protection (Duty of Care) Regs 2003 & 2014, Waste Regulations 2012 & 2014, Controlled Waste Regs 2012	Prevent unregulated transport of waste
Waste Regs 2011, 2012 & 2014, Controlled Waste Regs 1991 (Scotland), Waste (Scotland) Regulations 2012	Prevent unregulated transport of waste. For Scotland since January 2014 landfills will only accept separately collected waste from certain streams and from January 2021 landfills will no longer accept biodegradable food waste. From January 2015 in England and Wales separate collections of waste paper, metal, glass and plastic must be made
Environmental Protection Act 1990, Environmental Permitting Regs 2010, 2013, 2014, Waste Management Licensing Regulations (Scotland) 2011, CL:AIRE Code of Practice	Details activities that require a permit, licence or are exempt from waste permits / management licenses
Clean Neighbourhoods & Environment Act 2005	Regulators, including Local Authorities, have powers to issue fixed penalty notices relating to waste offences.
Site Waste Management Plans Regs 2008	SWMP to reduce waste produced and manage waste produced effectively

Town & Country Planning (Environmental Impact Assessment) Regulations 2011, Planning Act 2008	Projects for which the type & range of potential impacts that need to be considered for planning consent
Countryside & Rights of Way Act 2000, Wildlife and Countryside Act 1981, Badgers Act 1996, Hedgerow Regulations 1997, Wild Mammals (Protection) Act 1996, Conservation of Habitats & Species Regulations 2011	Prevent damage to protected species and their habitat. Prevent removal of trees, hedgerows and woodland without the necessary consents. Prevent damage to natural resources. Prevent the introduction of invasive species
EU Timber Regulations	Timber and timber products from legal and sustainable sources
Control of Substances Hazardous to Health (COSHH) Regulations 2004, CHIP Regs 2009	Controls all activities using substances hazardous to health, suppliers must provide safety data sheets
Environmental Damage Regulations 2010, Environmental Liability (Scotland) Regulations 2009	Requirements for polluters to prevent and repair damage
Regulatory Enforcement and Sanctions Act 2008, Environmental Civil Sanctions Order 2010	These civil sanctions (which include fixed and variable monetary penalties; stop, restoration and compliance notices; and enforcement undertakings) are intended to provide the NRW with greater flexibility in its approach to regulatory enforcement.
Infrastructure Act 2015	The NRW have new powers to control and eradicate invasive non-native plants such as Japanese Knotweed.

## 8.2 Skanska AB

Skanska has established a set of Green strategic indicators which will measure our environmental performance, however in summary (where practicable) the following will be measured in regards to this Project;

- Energy
- Carbon
- Materials including waste
- Water

Skanska AB has several Governance documents and is a member of or has signed up to various external commitments including:-

- Skanska Code of Conduct.
- UN Global Compact [www.unglobalcompact.org](http://www.unglobalcompact.org) - No specific requirements.
- World Business Council for Sustainable Development [www.wbcsd.org](http://www.wbcsd.org) - No specific requirements.
- Commitments to the Skanska Code of Conduct.
- Commitment to UN Global Compact [www.unglobalcompact.org](http://www.unglobalcompact.org) - No specific requirements.
- Skanska Environment Policy- which can be found on the site noticeboard and on OneSkanska

## 8.3 Skanska Environmental Procedures

Skanska has a suite of environmental procedures that can be found on OneSkanska, under OWOW:

Document Number: EHS030-F02	11/01/2018
Revision No: 01	21

A snapshot of the process can be seen below:

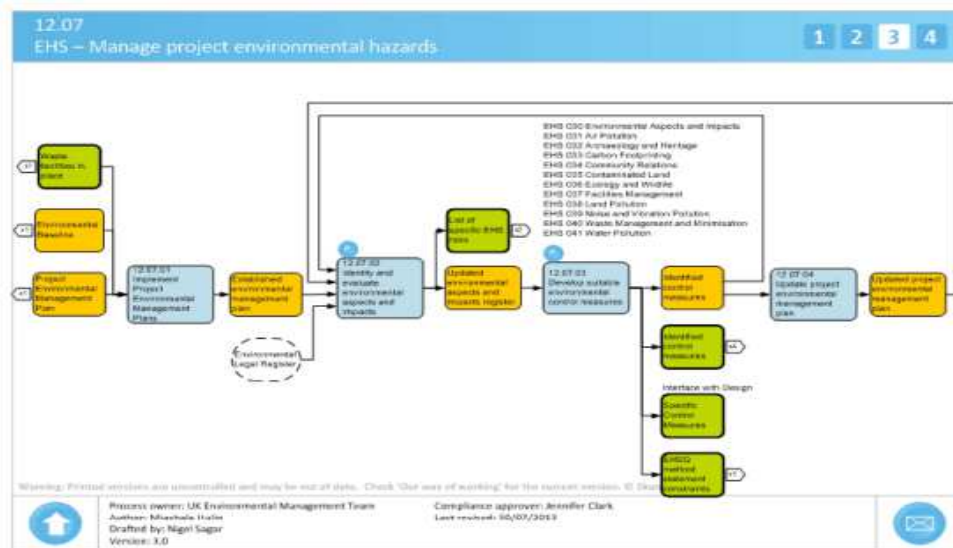


Figure 12: EMS Process Chart

These procedures cover such activities such as:

- EHS 020 Incident/ accident investigation
- EHS 030 Environmental Aspects and Impacts
- EHS 031 Air Pollution
- EHS 032 Archaeology and heritage
- EHS 033 Carbon Foot printing
- EHS 034 Community Relations
- EHS 035 Contaminated Land
- EHS 036 Ecology and Wildlife
- EHS 037 Facilities Management
- EHS 038 Land Pollution
- EHS 039 Noise and Nuisance Pollution
- EHS 040 Waste Management and Minimisation
- EHS 041 Water Pollution
- EHS 042 Colour Palette Scoring
- EHS 043 Corporate Carbon Reporting

In addition to these, there are Business Unit Specific Forms which are not available on OWOW, and include:

- Permit to Pump
- Temporary Fuel Storage Checklist
- Permit to Clear.

## 8.4 Sustainability and Carbon

The concept of Sustainability lies behind the way in which Skanska chooses to conduct itself. It is the fundamental principle which defines the condition for the development of our business.

Therefore we have committed ourselves to outperform in the management of our environment, social and health and safety responsibilities as well as in Project performance and profitability.

These principles are embedded within our 2020 Business plan, below, as do our values which demonstrate how we at Skanska will contribute towards our Profit with Purpose Business Plan.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	22

# Skanska Values



## Care for Life

## Act Ethically & Transparently

## Be Better – Together

## Commit to Customers

### Utilities 2020 targets

**Financial**  
Profit 3%

Our work winning approach has secured flagship projects within key sectors. As a preferred partner, our focus is to now be recognized as a solutions provider across the industry.

Our target is to achieve a profit margin of 3 per cent.

**Customer Satisfaction**  
85%

Listening, understanding and delivering for our customers, will create trust, strengthen our reputation and secure future growth.

Our aspiration is for 100 per cent of our customers to be highly satisfied, consistently exceeding industry standards.

This requires an incremental approach and as a result our target is 85 per cent by 2020.

**Safety**  
Safe, healthy, happier

We aim to achieve an industry-leading environment and improve the wellbeing of our people creating a healthy future place to work.

Our target is 100 per cent of our projects to achieve a lost time accident rate of zero.

**People Engagement**  
80%

We will use the feedback from the annual Skanska and you (SuY) survey and interviews to foster momentum to support improving our business.

Our target is a SuY engagement score in excess of 80 per cent and increase in People acceleration (PI) by 2020.

**Society Business in the Community**  
96%

Engage customers and partners to make a positive contribution to the communities we work with. We will target:

- 50 per cent of our people volunteering.
- 50 per cent of our partners matching our contribution.

Achieving a Business in the Community assessment score of 96 per cent.

**Planet Greenhouse projects**  
15%

Protecting society and the environment, we will collaborate across all our stakeholders to identify, deliver and share innovative solutions to provide efficient and sustainable ways of working.

Our target is for 15 per cent of our projects to be Deep Green by 2020.

### SKANSKA

#### Business Plan 2020 - summary

#### Utilities

Think responsibly. Think differently. Think efficiently.



Business Plan 2020 - summary

Business Plan 2020 - summary

Profit with Purpose

Our work winning strategy has secured our part in the (BID) joint venture for National Grid and three alliances in the water sector with Thames Water, Anglian Water and Welsh Water. We will excel in the delivery of these projects, harnessing the strengths of One Skanska. This will make us the preferred partner, growing our business sustainably to 2020.

### Great People. Think responsibly.

**Our people**

They are a great team to be part of our business. To meet the challenges we face we recruit, attract and retain the best talent and only invest in our people.

- ✓ Understand, share and live Skanska's values
- ✓ Drive our standards across all our business partners
- ✓ Take responsibility for your contribution and customer success
- ✓ Build a diverse and inclusive environment

**Health, safety and wellbeing**

We want safety to be at all. Furthermore we have created an environment where people can thrive and work safely.

- ✓ Everyone reports safety incidents
- ✓ Everyone is responsible and accountable for the right decisions
- ✓ Always follow the process

**Communication and engagement**

Effective communication is critical for working together towards the same goal and deliverables.

- ✓ The right information to the right people, at the right time
- ✓ Understand the unique objectives of our performance
- ✓ Play your part in the performance of the business, representing our people and values

### Market Making. Think differently.

**Customers**

We will deliver to our customers and understand their needs.

- ✓ Put our customers' interests at the heart of everything we do
- ✓ Business performance to focus and prioritize our efforts
- ✓ Consistent, better business opportunities and create trust

**Business partners**

We will work with customers, who choose to do so, to create a win-win situation. We will continue to build on our knowledge and skills to be able to contribute to create value in the following sectors:

- ✓ Gas - We will continue to build on our excellent relationship with National Grid to create trust and value in everything we do
- ✓ Water - We will continue to build on our excellent relationship with Thames Water, Anglian Water and Welsh Water to create value in everything we do
- ✓ Multi-utility projects - We will continue to build on our excellent relationship with National Grid to create trust and value in everything we do

**Our approach**

Delivering to our customers and partners sustainably and profitably is our primary focus. We will continue to build on our knowledge and skills to be able to contribute to create value in the following sectors:

- ✓ Build strong collaboration relationships with our customers, both internally and externally
- ✓ Be different than the competition

**Partner selection**

Engage our current and potential partners and ensure our partner selection meets our customer needs. We will continue to build on our knowledge and skills to be able to contribute to create value in the following sectors:

- ✓ Focus on the right opportunities
- ✓ Be different than the competition
- ✓ Create customer long term relationships

### Operational Excellence. Think efficiently.

**Collaboration**

Our operational excellence framework is a key part of our business. We will continue to build on our knowledge and skills to be able to contribute to create value in the following sectors:

- ✓ Focus on the right opportunities
- ✓ Be different than the competition
- ✓ Create customer long term relationships

**Operational efficiency**

Maximize our resources and do it right the first time.

- ✓ Do it right the first time, every time
- ✓ Continuously improve, learning with every project

**Measurement and quality**

Engage and work with the right people, in the right way.

- ✓ Our supply chain partners will be the right people
- ✓ Our supply chain partners will be the right people
- ✓ Work together to create value
- ✓ Work together to create value

**Performance measurement**

We will improve the quality of information to improve our performance.

- ✓ Customer success and financial success
- ✓ Innovation and the right decisions at the right time
- ✓ Activity review and change
- ✓ Measure performance to become more efficient

**Systems and data**

Capture and analyze information from our systems.

- ✓ The right system and data to improve our performance
- ✓ Improve our performance
- ✓ Work together to create value
- ✓ Work together to create value

**Innovation and measurement**

Can we do it better? Why not do it the way we do it now?

- ✓ Focus on the right opportunities
- ✓ Be different than the competition
- ✓ Create customer long term relationships

**Sustainability and measurement**

Embed the principles of sustainability into our business.

- ✓ Focus on the right opportunities
- ✓ Be different than the competition
- ✓ Create customer long term relationships

**Review, risk and responsibility**

We have a responsibility to ensure our business delivers the right results, in a sustainable way.

- ✓ Focus on the right opportunities
- ✓ Be different than the competition
- ✓ Create customer long term relationships

Figure 13: Skanska Values

In the Skanska UK 2020 Business Plan we have set strategic aspirations for a 'greener' Skanska by targeting; 15% of projects to be classified as 'Deep Green' and 75% 'Green', as measured by our Color Palette™.

To support this target and build a culture of green throughout our operations the Skanska Color Palette™ (CP) will be followed as a primary communication tool for Green Construction & Development (Green Business).

The priority opportunities defining Green Business in Skanska are:

- Energy
- Carbon
- Materials
- Water

**Skanska Color Palette™ – Civil / Infrastructure**

	Vanilla Compliance	Green Beyond Compliance			Deep Green Future Proof
Energy	<b>local codes, standards and regulations in place</b>	<input type="checkbox"/> Baseline established using applicable industry standards. 10% reduction of baseline consumption	<input type="checkbox"/> 25 % reduction of baseline consumption	<input type="checkbox"/> 50 % reduction of baseline consumption. Renewables used	<input type="checkbox"/> Net Zero Primary Energy
Carbon		<input type="checkbox"/> Preliminary project carbon footprint established and used to perform value engineering	<input type="checkbox"/> 25 % reduction of the footprint by savings in materials and the construction process	<input type="checkbox"/> 50 % reduction of the footprint by savings in materials and the construction process	<input type="checkbox"/> Near Zero Carbon Construction
Materials		<input type="checkbox"/> Product declaration for all prioritized materials <input type="checkbox"/> Use design and planning reviews to maximize the use of sustainable materials with less than 10% waste to landfill	<input type="checkbox"/> 25% reused, recycled or renewable materials in prioritized materials <input type="checkbox"/> Use design and planning reviews to maximize the use of sustainable materials with less than 5% waste to landfill	<input type="checkbox"/> 50% reused, recycled or renewable materials in prioritized materials <input type="checkbox"/> Use design and planning reviews to maximize the use of sustainable materials with less than 2.5% waste to landfill	<input type="checkbox"/> Zero Unsustainable Materials <input type="checkbox"/> Zero Hazardous Materials <input type="checkbox"/> Zero Waste
Water		<input type="checkbox"/> Preliminary baseline for use of potable water at site established. Sustainable drainage system in place	<input type="checkbox"/> Measures to reduce consumption of potable water by 25%	<input type="checkbox"/> Measures to reduce consumption of potable water by 50%	<input type="checkbox"/> Zero Potable Water for Construction

See "Color Palette™ Detailed Definitions" on the Green Toolbox for more details

Revision 2 - Confidential Trademark of Skanska AB (publ)  
Revision date: April 2013

Figure 14: Skanska Color Palette

It will be the intention of the Skanska AMP6 team to aim for Deep Green on all of its schemes.

The journey to deep green is as follows:

- Vanilla = Compliance. The construction process and/or product performance is in compliance with applicable laws, codes and standards;
- Green = Beyond Compliance. The construction process and/or product performance is beyond compliance, but not yet at a point where it can be considered to have a near-zero environmental impact;
- Deep Green = Future Proof. The construction process and our product performance has a near-zero impact on the environment and thereby future proofs our Projects.

Within Skanska, there is the expectation for your scheme to have a Green Solution and to monitor its Carbon footprint by use of a Monitoring Tool.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	24





Figure 15: Green Solutions and Carbon Monitoring

## 8.5 Environment Agency/ Natural Resources Wales

## 8.6 Pollution Prevention Guidelines (PPG)

These can be found on the Skanska intranet and on the external link below:-

<http://www.netregs.gov.uk/netregs/links/63875.aspx>

The PPGs provide advice and guidance on statutory responsibility and good environmental practice and are frequently referred to in the Environmental Procedures.

Reference	Title
PPG1	General Guide to the Prevention of Pollution
PPG2	Above Ground Oil Storage Tanks
PPG5	Works In, Near or Liable to Affect Watercourses
PPG6	Working at Construction and Demolition Sites
PPG7	Refuelling facilities
PPG8	Safe Storage and Disposal of used Oils
PPG10	Highway Depots
PPG13	Vehicle washing and cleaning
PPG18	Managing fire water and major spillages
PPG20	Dewatering of Underground Ducts and Chambers
PPG21	Pollution Incident response Planning
PPG22	Dealing with Spillages on Highways
PPG26	Pollution Prevention Storage and Handling of Drums & Intermediate Bulk Containers
PPG27	Underground storage tanks

Document Number: EHS030-F02	11/01/2018
Revision No: 01	25

## 8.7 Other Guidance

All site staff (this includes sub-contractors) will be expected to check for protected species (badgers, nesting birds etc.) before construction starts, and adhere to any specialist working methods that are applied to these, along when working within or adjacent to any designated sites, watercourses and trees.

## 9 Environmental Roles, Responsibilities and Useful Contacts

Clear definition and communication of environmental roles and responsibilities are required to facilitate effective environmental management.

It is essential that all disciplines and functions work as an integrated team during design and construction to enable compliance with this PEMP, contractual requirements and relevant legislation.

Specific roles and responsibilities within Skanska are defined as follows:-

### 9.1 Water Sector Sustainability Manager

The Water Sector Sustainability Manager (TBC) is responsible for:-

- Regularly reviewing the Register of Significant Environmental Impacts, reviewing reportable environmental incidents and implementing actions to prevent recurrence
- Ensuring that a register of incidents resulting in the Company accepting formal cautions or having been prosecuted under environmental legislation is maintained
- Ensuring that a register of legal and other requirements applicable to the environmental aspects of our activities or services is maintained
- Maintaining procedures for obtaining legal consents, licences and exemptions such as discharge consents, abstraction licences and waste management licences
- Maintaining procedures for waste management, waste minimisation and sustainability
- Maintaining procedures for pollution prevention
- Maintaining procedures for emergency preparedness and response
- Reviewing and monitoring the Company's performance against agreed targets
- Collating reportable environmental incident data, establishing causes and implementing actions to prevent recurrence
- Maintaining a register of Environmental Specialists approved by the Company
- Arranging Environmental Management audits

### 9.2 Project Environmental Advisors

The Project Environment Advisors (Simon Hazel and Lucy Barber) are responsible for:-

- Reviewing the Environmental Checklist, engaging with Arcadis and Arup Environmental Teams to ensure all constraints, licences, assents etc. are in place for project start dates
- Preparing, maintaining, revising and keeping up to date the Programme and/or Project Environmental Management Plan, Project Environmental Incident Response Plan and a Programme and/ or Project Risk and Opportunity Register any other specific or specialist Environmental procedures that are required
- Meeting Company environmental objectives and targets and setting Project specific targets in conjunction with the Project Director
- Collecting and collating the project's environmental performance records, in conjunction with the Project Director, and sending them to the Operating Unit Sustainability Manager
- Collating reportable environmental incident and NCR data, establishing cause and implementing actions to prevent recurrence
- Where required, appointing an Environmental Scientist, Environmental Technician(s) and Environmental Specialists, including those required to be licensed (e.g. removal of wildlife or destruction of wildlife habitat)
- Implementing Company Procedures for waste management, waste minimisation, sustainability and emergency preparedness and response
- Agreeing and issuing a Programme specific Site Waste Management Plan waste segregation policy with the Project Director
- Ensuring that internal environmental audits are undertaken and reported

Document Number: EHS030-F02	11/01/2018
Revision No: 01	26

- Ensuring that all site specific licences and legal consents are obtained and that the conditions of such consents are adhered to

### **9.3 Project Director, Programme Managers, Senior Project Managers and Project Managers**

The Project Director (Chris Thomas) and Programme Manager (Andrew Bowen) are responsible for:-

- Ensuring the implementation of Environmental management on the Contract
- Ensuring that the Policy is drawn to the notice of all employees under his control
- Establishing effective lines of communication with all employees under his control
- Ensuring that site specific training needs are identified and training programmes are effectively undertaken
- Establishing and implementing comprehensive environmental induction's and training, awareness and education programmes for all levels of site staff and operatives
- Promoting the continuous improvement of environmental performance
- Monitoring and reviewing the implementation of environmental objectives and targets on the Contract

### **9.4 Site Agent**

The Site Agent (Stephen Pugh) is responsible for the day to day implementation on site of the following specific aspects of Environmental management:-

- At the site survey meeting assessing the significant environmental impacts and proposed mitigation measures with the Environmental Advisor
- Carrying out induction, training, awareness/competence assessment of on-site operatives and the Supply Chain
- Monitoring, measuring and recording of Project Environmental objectives and targets
- Maintaining lines of communication with the site and Project Senior Environment Advisor
- Reporting non-conformances and implementing corrective and preventative action
- Implementing emergency preparedness and response procedures
- Assessing the environmental performance of sub-contractors and confirming with the Project Environment Advisor
- Establishing with the Project Senior Environment Advisor and the Procurement Manager, site procedures for the disposal of waste and recycling
- Promoting waste minimisation and sustainability
- Implementing the Site Waste Management Plan and site waste segregation policy
- Collecting and collating data on materials and waste, to assist in setting and monitoring targets for waste reduction and minimising the amount of virgin materials on the project
- Collect waste and material data and provide to the Environmental Advisor for input by the close of play of the 1st week of every month
- Ensure Waste Transfer Notes and Consignment Notes are correctly completed and held on site
- Lead the incident response in the event of an incident on site
- Ensure there are sufficient volumes of spill kit materials on site, are well maintained, re-filled and sign posted
- Report all environmental incidents and near misses and communicate suitable methods to avoid and control them

### **9.5 Commercial Manager**

Commercial Manager (Phil Cross) is responsible for the commercial aspects of the work on the Contract including:-

- arranging sub-contract agreements for each sub-contracted element of the works
- maintaining legal records for all waste removed from site including Waste Transfer Notes
- provide information to the Project Director, Project Environment Advisor to enable KPIs to be completed for subcontractors

Document Number: EHS030-F02	11/01/2018
Revision No: 01	27

## 9.6 All Employees

All employees are responsible for implementation of the relevant parts of the Environmental Policy, and will:-

- Familiarise themselves with the Environmental Policy
- Undergo environmental induction and awareness training
- Demonstrate commitment to the implementation of the Environmental Policy
- Co-operate with the Company in fulfilling its legal obligations
- Co-operate with the Company to prevent pollution
- Co-operate with the Company to achieve continual improvement
- Implement the relevant arrangements described in the Environmental Policy
- Conform to requirements of Project Environmental and Site Waste Management Plans
- Be aware of project specific objectives and targets
- Monitor their workplace for potential threats to the environment and alert their supervisor or manager of any that are observed

For Skanska, the above Environmental roles are taken on this Contract/ Project by:-

### Project Roles

### Useful Contacts

<p><b>Senior Environmental Advisor</b>            Name: Simon Hazel            Tel: 07823 353671            Role Description:  <i>Leads the development of strategy and implementation of environmental and sustainability issues for the Contract/ Project.</i></p>	<p><b>Environment Director</b>            Name: Adam Crossley            Tel: 07971 933772</p>
<p><b>Environmental Advisor</b>            Name: Lucy Barber            Tel: 07870 154404            Role Description:  <i>Assists with the on-site implementation of the project environmental requirements and supports the Environmental Advisor to achieve best practice.</i></p>	<p><b>Natural Resources Wales</b>  <b>0300 065 3000 (General Enquiries)</b>  <b>0800 807060 (Emergencies Only)</b></p> <p><b>Environment Agency</b>  <b>03708 506 506 (General Enquiries)</b>  <b>0800 80 70 60 (Emergencies Only)</b></p>
<p><b>Environmental Incident Coordinator</b>            Name: Simon Hazel            Tel: 07823 353671            Role Description:  <i>Responsible for ensuring appropriate spill kits are available on the site and is the focal point of contact should an incident occur.</i></p>	<p><b>Company Waste Advisor</b>            Name: Gemma Buss            Tel: 07881 203214            Role Description:  <i>Responsible for ensuring appropriate waste advice is provided to ensure the scheme maintains its stretch target of zero waste to landfill</i></p>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	28

**Waste Advisor**  
 Name: Lucy Barber  
 Tel: 07870 154404  
 Role Description:  
*Ensures that all waste is segregated appropriately and is disposed of in line with legislation and best practice.*

**Environmental Legislation**  
 Name: Nigel Sagar  
 Tel: 07773 373 362  
 Role Description:  
*Responsible for ensuring any changes in legislation is cascaded down to the site teams*

**COSHH Coordinator**  
 Name: Stuart Robertson  
 Tel: 07866 777400  
 Role Description:  
*Takes a lead regarding the COSHH Register and Material Safety Data Sheets.*

**Biodiversity Coordinator**  
 Name: Simon Hazel  
 Tel: 0823 353671  
 Role Description:  
*Provides support to the Project with specific Biodiversity enhancement / protection activities.*

## 10 Training, Awareness and Competency

Training is an essential part of the Integrated Management System (IMS). It is vital that all personnel are aware of their responsibilities under law, the Contract and this IMS. A full list of all environmental training available directly through employee self-service (ESS) is listed in the Environmental Training Prospectus on OneSkanska environment page.

The following training will be undertaken as a minimum in accordance with the Skanska Minimum Standards Training Matrix:

- Attendance mandatory environmental training as identified within the job role
- Site Environmental Awareness Training Scheme (SEATS) course for those individuals

Identified within the training matrix;

- A site induction at each new Project including site specific environmental requirements;
- At least two environmental Toolbox Talk shall be carried out in any 4 week period;
- More detailed training such as for staff or subcontractors with specific environmental responsibilities (if competence cannot otherwise be shown).

A training programme has been organised to introduce the IMS and relevant environmental issues to key personnel in the Business – available in-house courses include Site Environmental Awareness Training, Waste Duty of Care, Site Induction environmental content and environmental auditing. It is the intention that all new Skanska employees shall attend a ½ day environmental training within 6 months of starting with Skanska. The Environmental Advisor shall promote environmental training courses.

Environmental issues for the attention of subcontractors shall be communicated in a variety of methods, including:

- Environmental, Health & Safety Meetings;
- Environmental, Health and Safety Briefings and Toolbox Talks;
- Site Notice Boards;
- Progress Meetings

For site operatives, the site induction will be used to promote environmental awareness and this will be further enhanced through a series of toolbox talks to include but not limited to:-

- Waste disposal
- Ecology and wildlife
- Invasive species
- Working near watercourses and pollution prevention
- Working near trees and hedgerows

Document Number: EHS030-F02	11/01/2018
Revision No: 01	29

- Noise and Vibration
- Air Quality
- Carbon and Energy
- Dealing with water in ducts/chambers

Attendance at training briefs/induction will be recorded in writing and the records held centrally by the Site Manager. At the start of the Project the Project Director/ Programme Manager will review training requirements of site staff and operatives and any training identified will be arranged.

All Sites will be issued with environmental documentation relevant to the scope of works being carried out which can include:

- Environmental Method statements for the site
- Site Environmental Notices
- Environmental Tool Box Talks
- Pollution Incident Action Sheets & emergency procedures
- A copy of the COSHH assessments relevant to their scope of works
- A diary for recording works and tests carried out on site
- Controlled Waters pollution prevention guidelines

An Environmental noticeboard will also be established in the Site Offices to display documents such as environmental policies, objectives, method statements, etc.

## 11 Documentation and Record Keeping

This PEMP and the documentation arising from the procedures in the environment section of the IMS must be clearly and logically referenced and kept in the Site Environmental File(s).

Continuous monitoring of environmental issues and controls are part of regular site quality checks. Monitoring will establish compliance of employees and contractors within the requirements of the IMS, this Programme/ Project Environmental Management Plan, Client requirements and all statutory obligations.

The Snr Environmental Advisor and Project Director/ Programme Managers will ensure that any site specific procedures are prepared and regularly reviewed and updated as required for inclusion in updated versions of this document. The Environmental Advisor will ensure that copies of all Waste Transfer Notes and Waste Exemptions notices are forwarded to the client, when required.

### 11.1 Records

All records generated through environmental procedures, including those of training and the results of audits and reviews, will be maintained. Environmental records must be legible, identifiable and traceable to the activity

## 12 Emergency Preparedness and Response

Skanska Procedure EHS 005 describes the requirements for ensuring that environmental incidents are dealt with quickly, efficiently, effectively, legally and in such a way that the risk of pollution is minimised. An Environmental Incident Response Plan and Escalation Plan has been drawn up specifically for this Contract to expand upon Incident Control including the following points:-

- The Snr Environmental Advisor will ensure that Pollution Incident Action Sheets (EHS 030) are put in place on site to give details of procedures for dealing with environmental incidents that are relevant to the scope of works e.g. pollution of watercourses, ground near watercourses, noise or dust pollution. Refer Appendix 4
- The Site Manager will ensure that environmental emergency equipment e.g. oil and chemical spill kits are appropriately located and maintained on site and in certain site vehicles as required.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	30

- Callout personnel for 24 hour coverage shall be arranged by the Site Manager to take control of and investigate out of hour's incidents. The names and contact numbers of these personnel shall be displayed on site and relayed to site personnel during the induction process and are detailed in the Pollution Incident Control Plan.
- **ALL** environmental incidents **MUST** be immediately reported to the Project Manager and Snr Environmental Advisor. The Environmental Advisor shall contact the Project Director, their line manager and the client (using their internal reporting processes and forms) and the Environment Agency/NRW. This project has an Escalation Reporting Matrix, which details the process for reporting of incidents. The Client also has a reporting process called the 'Rule of 2' which is a mechanism to ensure the prompt reporting & investigation of accidents/incidents. Within 2 hours, the DCWW Programme Manager and DCWW Environment Manager must be notified immediately of incidents, within 2 DAYS, An initial report is to be compiled and issued to the Programme Manager and DCWW Environment Manager and within 2 WEEKS - the full incident investigation report must be completed and issued to the Project Director/ Programme Managers and the DCWW Environment Manager.
- **ALL MAJOR INCIDENTS** must be reported to Natural Resources Wales/ Environment Agency and/ or Natural England; the Skanska Environmental Advisor must be informed prior to EA/NRW notification.
- 24-hour Emergency Hotline

For reporting all **MAJOR** environmental incidents relating to air, land and water in the UK when contact cannot be made via the local office:

- NRW 0800 807060
- Environment Agency 0800 807060
- Natural England 0300 060 3900

Details of incident control can be found in the environment section of the IMS. These may be linked with the Health and Safety, Fire and Emergency Plan. All environmental incidents and near misses shall be logged on the Environmental, Health and Safety database (OSHENS). For appropriate incidents, an Immediate Action Notification shall be sent to the Environmental Advisor for further distribution to the Environmental team.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	31

## 13 Appendices

### 13.1 Environmental Management Controls

This Plan addresses a range of environmental issues; the most relevant in relation to this Contract/ Project being listed in the table below alongside relevant management controls. Environmental Management Control Measures are in place to manage and mitigate the impacts as listed in the Project Risk and Opportunities Register.

The following controls are to be used as a guide, as on certain schemes a higher level of control may be required depending upon risk, consent/ assent conditions (which can be abnormal, shut down/ start-up or Emergency) for example

Ref	Item	Management Control
A	Design	<p>Throughout the design process following issues needs to be considered in conjunction with the Design Procedures in the IMS:</p> <ul style="list-style-type: none"> <li>• Buildings and infrastructure shall be designed to be efficient in their use of energy and raw materials, reduce life cycle costs and environmental impact over its lifetime</li> <li>• Buildings and infrastructure shall be designed to reduce operational and embodied carbon levels</li> <li>• Some aspect of design may require planning consents which must be sought from the Local Authority – ensure construction</li> <li>• Drawings and planning drawings are identical</li> <li>• Ecological habitat and biodiversity shall be incorporated into the design.</li> <li>• Waste shall be minimised through the design process and also allow for the segregation of operational waste</li> <li>• Buildings and infrastructure shall where possible be designed and built using processes that limit dust, water and noise pollution, and the amount of waste produced</li> <li>• Audit trails shall be established for all COSHH materials specified at design stage.</li> <li>• Hazardous materials shall be designed out and avoided wherever possible</li> <li>• Design for an energy efficient building and energy efficient services</li> <li>• Heating</li> <li>• Cooling</li> <li>• Lighting</li> <li>• Ventilation</li> <li>• Ecological survey to be carried out, if applicable i.e. during breeding bird season and areas of special conservation / protection, where possible avoid site clearance of bushes, trees, hedgerows by adjusting design.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	32



Ref	Item	Management Control
B	Site clearance and Excavation	<p><b>Check with the Environmental Advisor before any clearance commences to ensure no designated sites, protected species, invasive plants, protected trees or hedgerows, conservation areas and listed buildings, archaeology, landscaping, contaminated soil, watercourses, noise or odour restrictions or works are subject to planning permission constraints are associated with the works</b></p> <ul style="list-style-type: none"> <li>• Site staff are to check daily for signs of badger and other protected species before commencing work – and to report any observations to the Environmental Advisor</li> <li>• Carried out with minimal noise. If required for future landscaping, surplus excavated material and stripped top soil must be stored separately and sealed.</li> <li>• Follow NJUG Vol 4 and BS 5837 guidelines when working near trees or hedgerows – check their protected status before hand</li> <li>• Comply with Wildlife and Countryside Act by taking measures to avoid degradation of local habitat and fauna.</li> <li>• Control the spread of invasive plant species if present in areas of works, specialist Contractor to be used for removal. Undertake soil testing prior to excavation as a necessary to determine possible contaminants and degree of contamination if area known to be contaminated, should unknown contaminated ground be encountered cease work and arrange for sampling. Safely segregate any contaminated land found on site and stored under controlled conditions or correctly disposed of in accordance with Waste Disposal Regulations.</li> <li>• Undertake suitable precautions to reduce dust, e.g. damping down.</li> <li>• Do not remove any waste found on site previously, unless instructed otherwise – may be contaminated.</li> <li>• All practicable steps to be taken to ensure that groundwater arising from site activities is adequately settled or filtered before final discharge to any surface water or controlled water drain. Consents will be required for discharge.</li> </ul>
C	Site access roads/tracks	<ul style="list-style-type: none"> <li>• Location of all routes to be agreed with Client and local Authority.</li> <li>• Identify and communicate any green travel arrangements.</li> <li>• Avoid excessive dust by damping down of the roads and controlling speeds of vehicles, particularly during dry weather.</li> <li>• Maintain all site access roads are in a clean, mud free condition.</li> <li>• Ensure adequate control when routes cross or join the public highway.</li> <li>• Ensure adequate traffic management plan arrangements are in place as per NRSWA requirements.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	33

Ref	Item	Management Control
D	Removal of Hard standing concrete and dealing with Concrete/ cement washout activities	<p><u>Hardstanding Concrete</u></p> <ul style="list-style-type: none"> <li>• Ensure minimal noise and dust emission during the removal of existing hard standings and concrete access roads.</li> <li>• Damping down and noise suppression of plant, if required.</li> <li>• Remove for recycling, vacuum excavation to be reused where practical.</li> </ul> <p><u>Concrete/ Cement Activities</u></p> <ul style="list-style-type: none"> <li>• Concrete/ cement washout activities must be carried out in a designated bunded area away from drains and watercourses</li> </ul>
E	Noise	<p><u>General Noise Issues</u></p> <p>Noise from construction operations and all other sources shall be kept to a minimum at all times. The following general controls are to be applied on site to minimise the effect of the construction activities on the hospital and local residents:</p> <ul style="list-style-type: none"> <li>• No shouting on site</li> <li>• No stereos/radios</li> <li>• Do not leave plant idling – switch off engines</li> <li>• Do not leave plant running over night without permission from Skanska Communities</li> <li>• Keep plant well maintained and fit plant with silencers</li> <li>• Control along path of noise from source to receiver e.g. Barriers, screening, location of plant;</li> <li>• Control at Source e.g. Silencers, vibration dampers, enclosure, construction method;</li> <li>• Control at receiver</li> </ul> <p>For Further Information see the Noise and Vibration <a href="http://ims.sip.skanska.co.uk/SIPIMS.aspx?Link=EMS-013">http://ims.sip.skanska.co.uk/SIPIMS.aspx?Link=EMS-013</a> Procedure, found in the Environment Section of the IMS.</p> <p><u>Working Hours</u></p> <ul style="list-style-type: none"> <li>• Work shall conform to agreed site operational hours.</li> <li>• Concerned stakeholders shall be informed of any periods of excessive or unusual noise outside operational hours.</li> </ul> <p><u>Noise Monitoring</u></p>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	34

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>Each Project shall regularly monitor noise levels at the site boundary where it is deemed necessary. The Environmental Advisor shall collate and analyse the results of noise monitoring. In the event of noise levels exceeding the expected levels for a significant period of time, advice shall be sought from the Noise Consultant</li> <li>Any equipment used for monitoring (including hired equipment) shall be maintained and calibrated according to the manufacturer's instructions and records of this kept in the Project Environmental File.</li> </ul>
<b>F</b>	<b>Vibration Control</b>	<p>Vibration from construction operations and all other sources shall be kept to a minimum at all times. The following general controls are to be applied on site to minimise the effect of the construction activities on local stakeholder:</p> <ul style="list-style-type: none"> <li>Evaluate the potential for vibration and thereby damage;</li> <li>Monitor conditions before works start;</li> <li>Inform neighbours;</li> <li>Minimise effects during works</li> <li>Monitor vibration levels during the works;</li> <li>Monitor conditions after works are completed</li> <li>Adequate maintenance of plant and equipment</li> </ul> <p>For Further Information see the Noise and Vibration <a href="http://ims.sjp.skanska.co.uk/SIPIMS.aspx?Link=EMS-013">http://ims.sjp.skanska.co.uk/SIPIMS.aspx?Link=EMS-013</a> Procedure, found in the Environment Section of the IMS</p>
<b>G</b>	<b>Waste</b>	<p>The project operates in line with the Site Waste Management Plan which is available on Ty Awen P: Drive, and on the Environmental Advisors desk.</p> <p>The Dŵr Cymru AMP 6 Alliance aims to minimise waste being generated and disposed of by:</p> <ul style="list-style-type: none"> <li>Using re-usable packaging</li> <li>Ensuring suitable storage of materials.</li> <li>Re-using materials both on and off site</li> <li>Segregating waste materials on site for recycling</li> <li>Implementing the waste hierarchy</li> <li>Aiming for 100% diversion from landfill</li> </ul> <p>Skanska must obtain copies of environmental permits/ exemptions or waste management licenses and carrier licenses prior to removing waste off site. All waste shall be disposed of in accordance with the Duty of Care and all other relevant environmental</p>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	35

Ref	Item	Management Control
		<p>legislation. Periodic audits will be undertaken to ensure compliance with the Duty of Care. The waste transfer note/ consignment note must contain the following information:</p> <ul style="list-style-type: none"> <li>• Name and Address of the waste producer, waste carrier and final destination (transfer station, reuse site or land fill site)</li> <li>• Description of the waste including the European Waste Classification Code(s)</li> <li>• Container type and quantity; size/ volume/weight</li> <li>• Date waste removed from site</li> <li>• Signatures of the driver and approved person from site</li> <li>• Hazardous Waste Premises Code (hazardous waste only)</li> </ul> <p>Each Contractor must produce a Waste Management Plan prior to commencing work on site that contains predicted quantities of waste for each waste stream.</p> <p>The site must be registered with the NRW/ EA should the site produce above 500kg of hazardous waste in one calendar year.</p> <p>For Further Information see the Waste Procedure and associated documents, found in the Environment Section of the IMS</p>
<b>H</b>	<b>Dust</b>	<p>Where it is not possible to eliminate or reduce dust/odour/fume emissions then use the following guidelines:</p> <ul style="list-style-type: none"> <li>• A means of containment must be put in place for example enclosing the areas where dust is created;</li> <li>• Dust suppression measures e.g. Damping down,</li> <li>• Maximum 5 mph speeds on haul roads;</li> <li>• Installing a wheel wash;</li> <li>• Minimising grinding;</li> <li>• Using Local Exhaust Ventilation systems which filter pollutants out of the air;</li> <li>• Covering waste skips if there is a likelihood of dusts etc. Escaping</li> <li>• Maintenance of plant and equipment with regular servicing and report any dark smoke coming from vehicle/plant exhausts.</li> </ul> <p>For Further Information see the Pollution Air Procedure, found in the Environment Section of the IMS</p>
<b>I</b>	<b>Storage of oils and chemicals</b>	<p>All chemical and fuel containers on site shall be correctly labelled, fit for purpose, protected against unauthorised use, stored on impervious surfaces, clearly identified and securely stored to prevent them being damaged or accidentally spilt.</p> <ul style="list-style-type: none"> <li>• Oils and oil type substances are covered by The Control of Pollution (Oil Storage) (England) Regulations 2001. (Refer to PPG01 Oil Storage Guidelines for further details). Ensure the following:</li> <li>• The bund must be sufficient to contain 110% of the maximum contents of any oil container of 200 Litres or more.</li> <li>• Tanks, drums or other containers must be strong enough to hold the oil without leaking or bursting.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	36

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>• The oil container must be positioned away from any vehicle traffic to avoid damage from collision – fuel bowsers must be kept locked, level and secure at all times.</li> <li>• A bund or drip tray must be provided to catch any oil leaking from the container or its ancillary pipework and equipment.</li> <li>• Where more than one container is stored, the bund should be capable of storing 110% of the largest tank or 25% of the total storage capacity, whichever is the greater.</li> <li>• The bund base and walls must be impermeable to water and oil and checked regularly for leaks.</li> <li>• Any valve, filter, sight gauge, vent pipe or other ancillary equipment must be kept within the bund when not in use.</li> <li>• All valves / hoses shall be turned off and securely locked within the bund when not in use;</li> <li>• An above ground oil store or filling location must not be located within 10 metres of a watercourse or 50 metres of a well or borehole.</li> <li>• Drip trays must be used and spill kits and drain covers kept in close proximity</li> <li>• Drip trays shall be protected to avoid any water entering them. If full of water, drip trays must be emptied in a suitable manner as agreed with the Snr Project Environmental Advisor. No contaminated water can at any circumstances enter any drains.</li> <li>• Empty containers are to be stored in the same way and safe disposal arranged for.</li> <li>• All hazardous materials/substances (such as empty containers/ used spill kit waste) to be packaged, stored, handled, used and disposed of in strict accordance with the COSHH regulations 2002 and a clearly identifiable and separate enclosed skip is to be provided and maintained if COSHH materials are to be stored on site.</li> </ul> <p><u>Cement &amp; Concrete</u></p> <ul style="list-style-type: none"> <li>• Designated controlled areas shall be used for minimal cleaning of chutes only. Water from concrete or cement washing-out will not be allowed to enter any drains.</li> <li>• Cleaning and washout water disposal methods must be agreed with the Environmental Advisor before concrete/cement arrives on site.</li> </ul> <p><u>Plant/ Vehicle Movements</u></p> <ul style="list-style-type: none"> <li>• Ensure all plant, vehicles, are fit for purpose and report all leaks immediately</li> </ul> <p>For Further Information see the Fuel and Chemical Storage guidance, found in the Pollution Land Environment Section of the IMS</p>
<b>J</b>	<b>Refuelling plant and the general use of static plant</b>	<p>Refuelling must only take place in a designated area where the risk of contamination to watercourses and entering surface water gullies (including mains and foul sewers) can be minimised.</p> <ul style="list-style-type: none"> <li>• Drip trays/ plant nappies must be used and spill kits and drain covers kept in close proximity</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	37

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>• Static plant (generators, pumps, compressors etc.) If not internally bunded must be stored within a drip tray/ plant nappy or placed on top of an oil interceptor unit</li> <li>• Arrangement must be in place to deal with any drip tray waste – i.e. PIG Oil/ Water Separator Unit</li> </ul> <p>For Further Information see the Contaminated Land Procedure, found in the Environment Section of the IMS</p>
K	Ecology and designated sites	<p><u>Discovery of Protected Species or Habitats (bats, all species, great crested newts, hazel dormice, otters, badgers, water voles, wild birds, reptiles, invertebrates, protected plants, ancient woodland and veteran trees, freshwater fish, natter jack toads, white-clawed crayfish)</u></p> <ul style="list-style-type: none"> <li>• <b>A Development Licence from the NRW is required due to the presence of dormice. Ensure compliance with any instruction from the Licenced Ecologist undertaking any clearance work.</b></li> <li>• Site staff are expected to check daily for badgers and other protected species before construction starts. If a protected species or a suspected protected species is discovered after works have begun, the work should be stopped, the area cordoned off and access restricted, and the Environmental Advisor shall be informed immediately.</li> <li>• The locations of any protected species will be identified on the constraints plan which will indicate protected/ exclusion areas which must remain outside the working area. Site staff must be aware of the specialist working conditions.</li> </ul> <p><u>Bats</u></p> <ul style="list-style-type: none"> <li>• All buildings to be demolished or trees that need felling shall be inspected by specialist ecologists for evidence of bat roosts prior to demolition/ felling. If the inspections indicate the presence of a roost, a licence is needed from Natural Resources Wales/ Natural England to destroy the roost.</li> </ul> <p><u>Nesting Birds</u></p> <ul style="list-style-type: none"> <li>• All buildings, trees and shrubs shall be inspected for nesting birds prior to carrying out any works that may affect the nest site. Where the presence of a nest is suspected, the Environmental Advisor shall be informed and specialist ecologists brought onto site if necessary.</li> <li>• A working method statement for works in the vicinity of protected species has been produced and is attached:</li> <li>• Protected species licences have been granted for xxx</li> <li>• Ensure specialist working methods are carried out &amp; that all site staff aware of the conditions / working methods relating to protected sites through a toolbox talks.</li> <li>• Ensure works avoid exclusion areas.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	38

Ref	Item	Management Control
		<p data-bbox="577 229 2136 288"><u>Designated Sites (national parks, areas of outstanding natural beauty, sites of special scientific interest (SSSIs), special areas of conservation (sacs), special protection areas (spas), RAMSAR wetlands, local sites</u></p> <ul data-bbox="577 328 2136 603" style="list-style-type: none"> <li data-bbox="577 328 2136 419">• A strip of land in the west of the site is within Cog Moors Site of Special Scientific Interest (SSSI), although no development is proposed within this part of the site. Land adjacent to the east of Cog Moors WwTW is designated as Cog Moors Site of Importance for Nature Conservation. This area would be directly affected by proposed Development;</li> <li data-bbox="577 424 1823 451">• Ensure that land within the designated site is not used as a working compound, for access or storage.</li> <li data-bbox="577 456 1809 483">• The extent of any works within the protected site should be clearly demarked with protective fencing.</li> <li data-bbox="577 488 2136 547">• If changes to the scheme are proposed and working within the designated site is required contact Environmental Services prior to work commencing, consent will be required.</li> <li data-bbox="577 552 2136 603">• Temporary dewatering from excavations within 500m of an SAC, SPA, and SSSI or within a site designated for nature conservation may require an Environmental Permit from the EA. Contact the EA/ NRW to discuss.</li> </ul> <p data-bbox="577 647 1151 675"><u>Invasive species have been identified on the site</u></p> <ul data-bbox="577 715 1659 742" style="list-style-type: none"> <li data-bbox="577 715 1659 742">• Contact the Environmental Advisor immediately should invasive plants be found on site.</li> </ul> <p data-bbox="577 786 636 813">AND</p> <ul data-bbox="577 853 1883 912" style="list-style-type: none"> <li data-bbox="577 853 1883 880">• The invasive plant species Indian (Himalayan) Balsam and Japanese Knotweed are present within the site;</li> <li data-bbox="577 885 1711 912">• Ensure that all waste containing invasive species is classified and disposed of appropriately.</li> </ul> <p data-bbox="577 952 1196 979"><u>Trees on site to be protected / retained during works</u></p> <ul data-bbox="577 1019 2136 1171" style="list-style-type: none"> <li data-bbox="577 1019 1323 1046">• There are trees that require removal and protecting on site.</li> <li data-bbox="577 1051 1823 1078">• Observe NJUG VOL 4 and BS5837 guidelines for all trees. Observe root protection zones at all times.</li> <li data-bbox="577 1083 1173 1110">• Do not store plant and equipment under trees.</li> <li data-bbox="577 1115 2136 1171">• Ensure specialist working methods are carried out &amp; that all site staff aware of the conditions / working methods relating to protected sites</li> </ul> <p data-bbox="577 1211 1173 1238"><u>Hedgerows to be protected/ removed during works</u></p> <ul data-bbox="577 1278 1032 1305" style="list-style-type: none"> <li data-bbox="577 1278 1032 1305">• No hedgerows are to be removed.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	39

Ref	Item	Management Control
		For Further Information see the Ecology and Wildlife Procedure, found in the Environment Section of the IMS
L	Archaeology	<ul style="list-style-type: none"> <li>N/A</li> </ul>
M	Heritage / Conservation areas (Listed Buildings etc.)	N/A
N	Visual Intrusion	<p>Lighting should be designed to provide for efficient working of the site but also to prevent or minimise light spillage into the neighbouring houses and other buildings. Consideration must be given to: -</p> <ul style="list-style-type: none"> <li>The use of appropriate directional lighting;</li> <li>Direct light downwards wherever possible;</li> <li>If the above is not possible, try to use lighting designed to minimise light spread above the horizontal;</li> <li>If up-lighting is unavoidable use baffles to keep light spill to a minimum;</li> <li>Take particular care in positioning floodlights to avoid light spill outside the compound unless it is for lighting roads as part of the project.</li> <li>The site perimeter should be suitably defined by barriers to reduce any negative visual impact of the site for the site neighbours</li> </ul> <p>For Further Information see the Pollution Air Procedure, found in the Environment Section of the IMS</p>
O	Traffic	<p><b><i>Brief details of Traffic Management required for the Project, please review the CTMP</i></b></p> <p>For Further Information see the Noise and Nuisance Procedure, found in the Environment Section of the IMS</p> <ul style="list-style-type: none"> <li>Bulk material deliveries - Delivered materials are to be stored and stockpiled in an appropriate manner with bulk material deliveries phased so as to avoid traffic congestion.</li> <li>Delivery wagons are to switch off their engines wherever possible whilst waiting on site.</li> <li>Ensure minimal dust emission during spreading and compaction of imported hard core.</li> </ul>
P	Working within a flood plain and/ or Source Protection Zone,  Site Drainage, Control of Surface	<p><u>Dewatering of Excavations</u></p> <ul style="list-style-type: none"> <li>Temporary dewatering discharges should be discussed with the local NRW officer beforehand.</li> <li>Temporary construction discharges must not be released into this watercourse without an Environmental Permit.</li> <li>If temporary discharges from excavations are required – of which the following options are viable: <ul style="list-style-type: none"> <li>Pump to vegetated areas/ field – contact landowner and NRW</li> <li>Pump to foul sewer – contact Sewage Undertaker for consent – DCWW</li> </ul> </li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	40



Ref	Item	Management Control
	<b>Water and Water Discharges</b>	<ul style="list-style-type: none"> <li>• Pump to surface drain – contact EA/NRW for discharge consent</li> <li>• Pump to tanker – ensure Contractor has a waste carrier licence</li> </ul> <ul style="list-style-type: none"> <li>• The NRW must be contacted prior to any discharging of excavation waters into a watercourse, or within 500m of an SAC, SPA, and SSSI or within a site designated for nature conservation. An Environmental Permit may be required.</li> <li>• Ensure that any surrounding watercourses (incl. Watercourses, gullies and drains) are protected during construction against accidental pollution and construction related runoff.</li> <li>• All discharges of water to either foul or surface water drains, watercourses or onto land require prior authorisation from the Environmental Advisor, who will seek permission from the appropriate authority (NRW/ Landowner) prior to discharging commencing.</li> <li>• All ground water arising from excavations or rainwater ingress into excavations, must be pumped into settlement tanks or filtered before being discharged into any drains or controlled watercourses.</li> </ul> <p><u>Potable Water</u></p> <ul style="list-style-type: none"> <li>• Ensure water is fully de-chlorinated before it is discharged onto ground/ watercourses/ gullies following sterilisation of water mains</li> </ul> <p><u>Other Water Sources</u></p> <ul style="list-style-type: none"> <li>• Water in existing manholes/chambers should be inspected for silt and/or other contaminants prior to disposal - no water or silt is to be disposed of in the public side drainage system. Dirty water/silt either to be removed off site by pumping into a tanker or sufficient settlement techniques prior to discharge.</li> <li>• Methods for management and monitoring of water discharges and prevention of pollution shall be included in method statements.</li> <li>• Under <u>no</u> circumstances is discoloured or contaminated water allowed to enter surface water drains or watercourses. All reasonable precautions shall be taken to prevent contamination of surface water drains.</li> <li>• Contamination includes, but is not limited to: <ul style="list-style-type: none"> <li>• Oily residues,</li> <li>• Chemicals and paints,</li> <li>• Concrete washout water,</li> <li>• Mud / silty water</li> </ul> </li> <li>• Flushing out of pipe work during commissioning</li> </ul> <p><u>Control of Surface Water Run off</u></p> <ul style="list-style-type: none"> <li>• Sediment from the erosion of exposed soils is a cause of pollution.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	41

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>• Soil stripping and vegetation removal can increase surface water erosion of exposed soils.</li> <li>• Any run off containing soil / silt must be controlled and should not be allowed to enter watercourses and drains. (For all schemes).</li> <li>• Consider the topography of the site, compound, haul roads and surrounding area. Where possible, locate temporary compounds to minimise the possibility of surface water run-off entering watercourses, highway drains or other sensitive receptors.</li> <li>• If the site entrance, easement or haul road slopes into the highway, it may be necessary to install a method of controlling sediment run off (e.g. French drain and soakaway chamber) across the entrance to stop silty run off leaving site and entering highway drains and / watercourses.</li> <li>• Consider erosion and sediment control measures appropriate to the site and Project in order to prevent pollution. These may include: <ul style="list-style-type: none"> <li>• Minimising the amount and duration of exposed ground / only remove vegetation from the area that needs to be exposed in the near future</li> <li>• Seed or cover long term stockpiles</li> <li>• Use silt fences at the toe of slopes to reduce silt movement</li> <li>• Collect run-off in lagoons and allow suspended solids to settle before disposal.</li> <li>• Soil stockpiles shall be roll sealed and suitable management techniques shall be employed to prevent silty water run-off. Silt fences should be erected to prevent silty surface water runoff exiting site or entering sensitive areas.</li> <li>• Waste water from the wheel wash shall not be allowed to enter any site drains that are connected to the foul or surface water drainage systems.</li> <li>• Silt / sludge that may be contaminated by oil, concrete or other substances shall be disposed of through licensed waste contractors.</li> <li>• Where water is removed by pumping to tanker, checks shall be made to ensure the tanker has a valid waste carriers licence.</li> </ul> </li> </ul> <p>For Further Information see the Pollution Water Procedure, found in the Environment Section of the IMS</p>
Q	<b>Contaminated Land</b>	<p>There is the possibility that areas of the site may be contaminated and not identified at the pre-construction phase. Contaminated land may be indicated by areas of: -</p> <ul style="list-style-type: none"> <li>• Discoloured soil (e.g. Chemical residues);</li> <li>• Fibrous texture to the soil (e.g. Asbestos);</li> <li>• Presence of foreign objects (e.g. Chemical/oil containers);</li> <li>• Evidence of previously worked soil;</li> <li>• Evidence of underground structures, tanks etc.;</li> <li>• Waste pits;</li> <li>• Old drain runs, tanks, flues, etc.;</li> <li>• Evidence of liquids or solid wastes.</li> <li>• Odour</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	42

Ref	Item	Management Control
		<p>If any or all the above have been discovered, stop work immediately, identify the potentially contaminated area and prevent access. Contact the site environmental advisor who will carry out further investigation. Do not move the material until formally told by Skanska.</p> <p>Contaminated materials shall either be contained on site or removed from site to ensure the risk of spreading the contamination.</p> <p>Excavated contaminated ground must be disposed of appropriately (either as active or hazardous waste depending on level of contamination), and relevant documents completed and retained.</p> <p>For Further Information see the Contaminated Land Procedure, found in the Environment Section of the IMS</p>
<b>R</b>	<b>Supplier issues</b>	<p>All site staff are responsible for the management of environmental issues under their control and ensuring that Suppliers under their direction/supervision are aware of the environmental issues relating to their work package and comply with the requirements set out in this Programme/ Project Environmental Management Plan and related documents.</p> <p>Suppliers shall provide an overview of their management controls for environmental issues prior to commencing work on site. Environmental issues shall be included as an agenda item in meetings with Suppliers. <i>Suppliers shall nominate a point of contact on site for environmental issues prior to commencing work on site.</i></p> <p><u>Method Statements and Risk Assessments</u></p> <ul style="list-style-type: none"> <li>• All Suppliers shall provide evidence, for example a risk assessment and associated method statement, to show how they will control any construction risks, which includes environmental risks that may arise from their works. Environmental risk assessments and method statements must be provided for any works that include any of the following activities:</li> <li>• Over-pumping of water or discharge of any waste/surface water into drains/land;</li> <li>• Working within 2 metres of any retained trees or hedges;</li> <li>• Excavation work to a depth of 2 metres or more;</li> <li>• Storage of fuel or oil-based substances in quantities of 200 litres or more;</li> <li>• Use of cement or concrete.</li> </ul> <p>The Environmental representative shall review and authorise relevant sections in the method statements containing any of the above activities.</p> <p>For selection of Suppliers an Environmental Questionnaire has to be sent out with the enquiry. Further details can be found on the Procurement procedure in the IMS.</p>
<b>S</b>	<b>Procurement of materials</b>	<p>All potential Suppliers and suppliers of materials shall complete an environmental questionnaire as part of the procurement process. The returned questionnaire shall be assessed to determine the environmental management performance of the trade contractor and/or the environmental risks associated with the materials supplied. All parties shall be a part of improving environmental</p>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	43

Ref	Item	Management Control
		<p>performance.</p> <p>Throughout the procurement process following issues needs to be considered:</p> <ul style="list-style-type: none"> <li>• The procurement process must meet the required standards in BREEAM / LEED / CEEQUAL</li> <li>• Environmental performance of materials shall be evaluated in order to develop, find alternatives and use materials with lower environmental impact over its lifetime in accordance with BREEAM / LEED / CEEQUAL</li> <li>• Projects to procure Green Energy tariff during construction where available</li> <li>• All timber must be certified to FSC or PEFC. Timber certificates from suppliers will be collected by Skanska together with a letter confirming compliance prior to any appointments being made</li> <li>• Substances that are listed on the Skanska Restricted Substance list shall be avoided whenever possible. Buyer and designers must ensure compliance. The following substances may not be used in any element of the building or equipment: Acrylamide (containing more than 0.5%), Asbestos, CFCs, Halon, and PCBs</li> <li>• Hazardous materials shall be designed out and avoided wherever possible</li> <li>• Upon request Suppliers will provide Skanska with information on recycled content in building materials and investigate the possibility of increasing the recycled content.</li> <li>• Procure materials from sustainable sources</li> <li>• Procure the correct amounts – DO NOT OVER ORDER</li> <li>• Vehicles, plants and forms of transportation and fuel shall be used that minimises pollution and CO2 emissions</li> <li>• Fuel consumption from deliveries and plants on site shall be monitored and reported to Skanska monthly</li> <li>• Suppliers shall look into the possibility of reusable packaging and use reusable packaging solutions wherever feasible.</li> <li>• All Suppliers must comply with Skanska Waste Management Plan, work to minimise waste and follow the Waste Hierarchy</li> </ul> <p>All materials should be procured through the Procurement department.</p>
<b>T</b>	<b>General Material Storage</b>	<ul style="list-style-type: none"> <li>• When storing materials on site, choose a location that minimises the risk of your materials being damaged by plant or Pedestrian traffic, stolen or vandalised</li> <li>• Protect materials from being damaged by the elements i.e. Cover wood and plasterboard – implement the waste hierarchy</li> <li>• Ensure that there is good access to the storage area. This will aid in minimising damage caused to materials from mechanical handling equipment and people climbing over materials trying to get what they need as well as being a Health and Safety issue.</li> <li>• Make sure the storage area is kept clear. Remove all waste packaging and redundant material etc.</li> </ul>
<b>U</b>	<b>Sustainability Champions</b>	<p>Throughout the Projects Sustainability Champions meeting will take place where Skanska, Suppliers and various stakeholders will be invited to participate. The events are an opportunity to share best practice and find a way to work together during the Contract. Opportunities for reducing carbon and energy use are:</p>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	44

Ref	Item	Management Control
		<p data-bbox="577 229 786 256"><u>Within the Offices</u></p> <ul data-bbox="577 300 2078 512" style="list-style-type: none"> <li>• Think before you print – can you use electronic documents</li> <li>• If you need to print can it be done double-sided</li> <li>• Turn off all lights and equipment (printers &amp; computers etc.) When they are not in use, or if you are the last to leave at night</li> <li>• Reuse paper as scrap</li> <li>• Put waste into the right bins – there are paper recycling &amp; mixed dry recyclable bins available</li> <li>• Ensure office thermostats are maintained at 18°C at all times</li> <li>• Report any faults with building systems</li> </ul> <p data-bbox="577 555 757 582"><u>Driving to Sites</u></p> <ul data-bbox="577 625 1554 837" style="list-style-type: none"> <li>• Drive at an appropriate speed and car share where possible</li> <li>• Less stopping and starting means less CO<sub>2</sub></li> <li>• Over-revving accelerates emissions</li> <li>• Idling is wasting fuel</li> <li>• Pump up your tyres to cut down on CO<sub>2</sub></li> <li>• Less clutter in your car means less CO<sub>2</sub> and,</li> <li>• Take up the Shell fuel save Challenge today and see how fuel efficient you are</li> </ul>
V	<b>Community Issues</b>	<p data-bbox="577 879 2134 938">The behaviour and language of all those on site shall reflect the sensitivity of the site and show consideration and respect for all our site neighbours. Disciplinary action will be taken against anyone found to be behaving inappropriately.</p> <p data-bbox="577 970 792 997"><u>Works Notification</u></p> <ul data-bbox="577 1040 2134 1189" style="list-style-type: none"> <li>• Works are to be carried out in advance to nearby properties, where required and if deemed necessary by the Operations Manager / Client. The format of any letter drop is to be agreed in advance with the Client.</li> <li>• Posting of information relating to the works on site notice board as agreed with the client.</li> <li>• Notification of any night time working is to be given, where required, to the local authority Environmental Health Officer, or nominee, and copied to the Client.</li> </ul> <p data-bbox="577 1232 763 1259"><u>Visual Intrusion</u></p> <ul data-bbox="577 1302 2128 1359" style="list-style-type: none"> <li>• Barriers to reduce any negative visual impact of the site for the site neighbours shall be suitably placed along the site perimeter.</li> <li>• Screening shall be regularly inspected for damage and maintained in good order.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	45

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>Lightings shall enable efficient and safe working conditions but also to prevent or minimise light spillage into neighbouring houses and other buildings.</li> </ul> <p><u>Traffic, Deliveries &amp; Parking</u></p> <ul style="list-style-type: none"> <li>Delivery times shall be defined and planned to reduce nuisance to the local neighbours. Suppliers and Skanska shall ensure that site-related traffic and deliveries do not block local roads.</li> <li>Parking is strictly limited to designated parking areas. Disciplinary action will be taken against anyone found to be parking on local roads without prior authorisation. Car/vehicle sharing shall be encouraged wherever possible.</li> </ul> <p><u>Commendations &amp; Complaints</u></p> <ul style="list-style-type: none"> <li>A Commendations and Complaints Register is established and maintained by the Environmental Advisor.</li> <li>Complaints are recorded and, where applicable, actions taken to rectify the source of the complaint in accordance with the Skanska Community Relations procedure in the environment section in the IMS. Skanska will aim to respond to complaints within 24 hours.</li> </ul>
W	Public Rights of Way	<p><u>PROWs</u></p> <ul style="list-style-type: none"> <li>LDE agreed PROW access with Public rights of way officer.</li> <li>Access must be maintained <b>XXXX</b> details and diversion orders in place.</li> <li>Closure to <b>XXXX</b> Public Right of Ways is necessary.</li> <li>Site Manager to confirm with LDE any agreed diversions or working conditions</li> </ul> <p>Ensure diversion orders are in place prior to works commencing.</p>
X	Reinstatement	<p><u>Landscaping</u></p> <ul style="list-style-type: none"> <li>A landscaping plan has been completed and is attached. The landscaping may be a condition of planning permission.</li> <li>Planting will be carried out during the first planting season following completion of works.</li> <li>Specialist reinstatement is required <b>XXXX</b> details.</li> <li>The landowner requires specialist reinstatement to <b>XXXX</b> details. Further information is attached.</li> <li>Contact Environmental Advisor on completion of construction to arrange landscape planting.</li> <li>Ensure specialist reinstatement measures are carried out as agreed with landowner (and/or CC/NE).</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	46

Ref	Item	Management Control
		<ul style="list-style-type: none"> <li>All planting areas should be provided with a minimum of 400mm of good-quality unconsolidated topsoil. Please contact Environmental Advisor to arrange a site inspection at the stage when soil reinstatement has been completed to ensure that the planting scheme can be delivered.</li> </ul>
<b>Z</b>	<b>Planning Permission</b>	<p>Planning Permission has been granted for <b>XXXXX</b>.</p> <ul style="list-style-type: none"> <li>Conditions are associated with the planning permission: <b>XXXX</b> details e.g. working hours, traffic mgmt. Etc.</li> <li>The planning drawings, consent and conditions are attached.</li> </ul> <p>OR</p> <p>LDE to send notification of works letter to <b>XXXX</b> DC/CC.</p> <ul style="list-style-type: none"> <li>Summarise planning conditions here <b>XXX</b>. See consent doc for full details.</li> <li>Ensure construction drawings comply with planning drawings.</li> <li>Ensure the following planning conditions are met <b>XXXX</b>.</li> <li>Ensure all conditions of planning permission are fulfilled prior to site handover to DCWW Operations.</li> </ul>

Document Number: EHS030-F02	11/01/2018
Revision No: 01	47

### 13.2 Environmental Risk and Opportunities

The purpose of the assessment register is to identify environmental risks and opportunities that may arise from construction activities carried out within the scope of the Contract works and can be found in the Appendix of this Programme/ Project Environmental Management Plan (held on the Environmental Advisors Desk and on Ty Awen P: Drive).

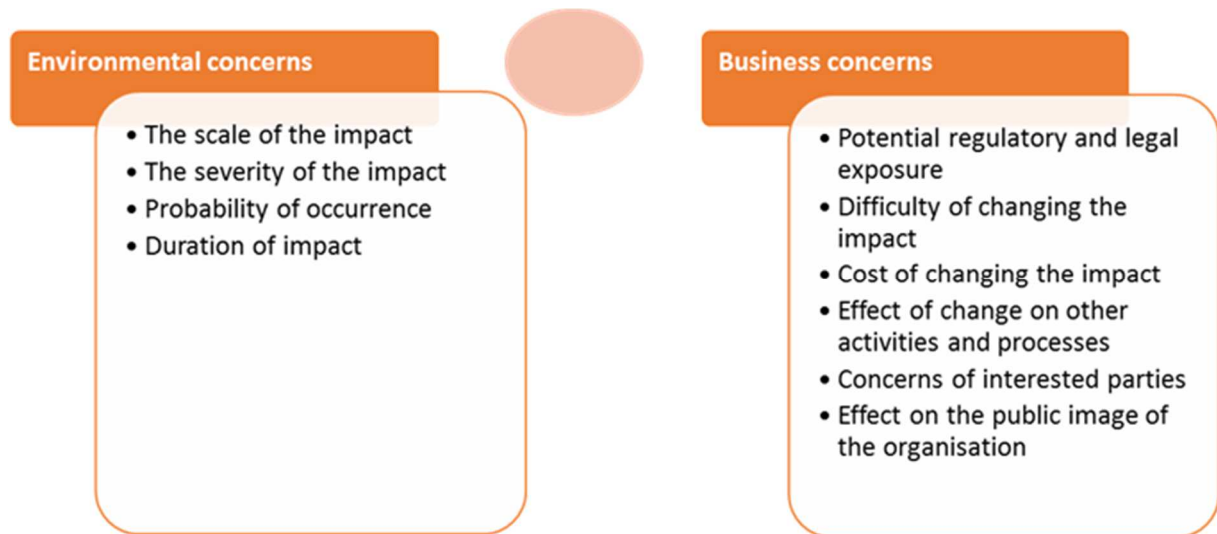
The Environmental Risk and Opportunities matrix identifies potential environmental risks caused by certain site activities and assigns a level of possible impact. The matrix identifies:

- Specific activities;
- Environmental risks;
- Environmental risk level: low, medium or high
- Environmental opportunities

The Register of Significant Environmental Impacts lists those activities identified in the above matrix which may have significant risk to the environment and details the control measures required to be in place to limit the risk and the relevant company procedures that apply. The matrix tabulates:-

- activity description & environmental aspect
- control measures in place
- name of person(s) responsible for ensuring controls are in place
- Skanska procedure reference that applies to the activity
- whether legal consent is required or not

Judgements on the significance of each aspect/impact will be based on the following factors:-



Reference will be made to any assent/ consent recommendations, Skanska's and Dŵr Cymru Welsh Water environmental management procedures, and the Skanska Environment team will incorporate the recommendations and observations into the Project risk and opportunity register. From this initial assessment the Project Snr Environmental Advisor will ensure that further assessments will be carried out at each site prior to Contract commencement.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	48





### 13.4 Environmental Pollution Incident Control Sheet

Pollution incident control sheets

Definitions: For the definition of Minor, Intermediate and Major Incident Severity see EHS 020

Please see table below to identify relevant contact when using the Pollution Incident Control Sheets.

Code	1	2	3	4
Role	Snr Environmental Advisor	Health & Safety Advisor	Sustainability Manager	Project Director
Name	Simon Hazel	Stuart Robertson	TBC	Chris Thomas
Contact No.	07823 353671	07866 7774000	TBC	07789 986967

#### Outside normal working hours

Security/ Callout	TBC
Duty Manager	TBC
Civils Service Centre (Skanska's Near Miss Line)	0845 605 0477
Environment Agency	0800 80 70 60
Emergency Spill Response Company (Adler & Allan)	0800 592 827
Sewerage Company	0800 085 3968
Police	101 (non-emergency) 999 (emergency)

Document Number: EHS030-F02	11/01/2018
Revision No: 01	50

## Incident: Pollution of Watercourse (Accidental Spill or Discharge)

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
<b>Fuel oil, petrol, other oils, liquid chemicals and fluids.</b>	<p>Isolate source and divert spill away from water.</p> <p>Deploy boom to contain floating pollutants. Use granules sand or pads if spill on adjacent ground.</p> <p>Take fire precautions.</p> <p>Follow COSHH recommendations.</p> <p>Notify immediate supervisor.</p> <p>Remove all contamination from area adjacent to the watercourse as soon as possible.</p> <p style="color: red;"><b>Report to 1 &amp; 2</b></p>	<p>Isolate source and divert spill away from water.</p> <p>Deploy boom to contain floating pollutants.</p> <p>Use granules sand or pads if spill on adjacent ground.</p> <p>Take fire precautions.</p> <p>Follow COSHH recommendations.</p> <p style="color: red;"><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Environmental Advisor to notify EA/ NRW</p> <p>Remove all contamination from area adjacent to river as soon as possible.</p>	<p>Isolate source and divert spill away from water.</p> <p>Deploy boom to contain floating pollutants. Use granules sand or pads if spill on adjacent ground.</p> <p>Take fire precautions.</p> <p>Follow COSHH recommendations.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Alert police (if hazardous).</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify EA/ NRW and Senior Manager (Environment).</p> <p>Remove all contamination from area adjacent to river as soon as possible.</p>
<b>Solid contaminants including contaminated soils.</b>	<p>Isolate source.</p> <p>Deploy boom to contain floating pollutants.</p> <p>Remove solid pollutants if possible.</p> <p style="color: red;"><b>Report to 1 &amp; 2</b></p> <p>Report to immediate Supervisor.</p> <p>Follow COSHH recommendations.</p> <p>Remove all contamination from area adjacent to river as soon as possible.</p>	<p>Isolate source.</p> <p>Deploy boom to contain floating pollutants.</p> <p>Remove solid pollutants if possible.</p> <p>Follow COSHH recommendations.</p> <p style="color: red;"><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Remove all contamination from area adjacent to river as soon as possible.</p>	<p>Isolate source.</p> <p>Use boom to contain floating pollutant and straw bales or similar to contain solids.</p> <p>Remove solid pollutants if possible.</p> <p>Follow COSHH recommendations.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Alert police (if hazardous).</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify EA/ NRW, and Senior Manager (Environment).</p> <p>Remove all contamination from area as soon as possible.</p>

**Incident: Pollution of Watercourse (Accidental Spill or Discharge) Continued**

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
<b>Concrete cement or other cementitious material.</b>	<p>Isolate source.</p> <p>Remove solid pollutants if possible without spreading cement.</p> <p><b>Report to 1 &amp; 2</b></p> <p>Report to immediate supervisor.</p> <p>Remove all contamination from area adjacent to river when hardened.</p>	<p>Isolate source.</p> <p>Remove solid pollutants if possible without spreading cement or use straw bales or similar to contain solids.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Environmental Advisor to notify EA/ NRW.</p> <p>Remove all contamination from area adjacent to river when hardened.</p>	<p>Isolate source.</p> <p>Remove solid pollutants if possible without spreading cement or use straw bales or similar to contain solids.</p> <p><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify EA/ NRW and Senior Manager (Environment).</p> <p>Remove all contamination from area adjacent to river when hardened.</p>
	<b>Chemical Powders (other than cement).</b>	<p>Isolate source.</p> <p>Remove solid pollutants if possible without spreading chemical.</p> <p>Follow COSHH recommendations.</p> <p><b>Report to 1 &amp; 2</b></p> <p>Report to immediate supervisor.</p> <p>Remove all contamination from area adjacent to river.</p>	<p>Isolate source.</p> <p>Remove solid pollutants if possible without spreading chemical, or use straw bales or similar to contain solids.</p> <p><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Environmental Advisor to notify EA/ NRW.</p> <p>Remove all contamination from area adjacent to river.</p>

**Incident: Pollution of Watercourse (Accidental Spill or Discharge) Continued**

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Suspended solids (in runoff from construction activities).	<p>Divert source to a settling or filtering area (vegetation or gravel) if possible.</p> <p>Intercept flow or create a dam with sandbags, straw bales, silt fences or sediment mats.</p> <p>Deploy boom to contain floating pollutants if mixed with runoff.</p> <p><b>Report to 1 &amp; 2</b></p> <p>Report to immediate supervisor.</p> <p>Remove sediment retained by dam as soon as possible.</p>	<p>Divert source to a settling or filtering area if possible.</p> <p>Intercept flow or create a dam with sandbags, straw bales, silt fences or sediment mats.</p> <p>Deploy boom to contain floating pollutants if mixed with runoff.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Remove sediment retained by dam as soon as possible.</p> <p>Treat retained water by settlement and discharge clean water as soon as possible.</p>	<p>Divert source to a settling or filtering area if possible.</p> <p>Intercept flow or create a dam with sandbags, straw bales, silt fences or sediment mats.</p> <p>Deploy boom to contain floating pollutants if mixed with runoff.</p> <p><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify EA/ NRW and Senior Manager (Environment).</p> <p>Remove sediment retained by dam as soon as possible.</p> <p>Treat retained water by settlement and discharge clean water as soon as possible.</p>

## Incident: Pollution of Ground (Accidental Spill) Including Adjacent to Watercourse

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Fuel oil, petrol, other oils.	<p>Isolate source.</p> <p>Contain spill.</p> <p>Use absorbent material.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourses.</p> <p>Report to immediate supervisor.</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source.</p> <p>Contain spill.</p> <p>Use absorbent material.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourses.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source &amp; contain spill.</p> <p>Use absorbent material and/or create bund.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourses.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Alert police.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment) and EA/ NRW if serious threat to watercourses and sewerage/drainage company if serious threat to drains.</p> <p>Remove all contamination as soon as possible.</p>
Concrete & cementitious materials.	<p>Prevent from entering drains and watercourses.</p> <p>Report to immediate supervisor.</p> <p>Remove when hardened.</p>	<p>Prevent from entering drains and watercourses.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM</p> <p>Remove when hardened.</p>	<p>Only likely to be a Major Incident if material enters drains or watercourses.</p> <p style="color: red;"><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Remove or contain spill if practical.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment) and Operations Manager to notify EA/ NRW if serious threat to watercourses and sewerage/drainage company if serious threat to drains.</p> <p>Remove when hardened.</p>

**Incident: Pollution of Ground (Accidental Spill) Including Adjacent to Watercourse continued**

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Cement powders.	<p>Isolate source.</p> <p>Contain spill.</p> <p>Prevent from entering Drains and watercourses.</p> <p>Report to immediate supervisor.</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source.</p> <p>Contain spill.</p> <p>Prevent from entering drains and watercourses.</p> <p>Dampen down cement if danger of windblown pollution.</p> <p>For other powders follow COSHH recommendations.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source and contain spill.</p> <p>Prevent from entering drains and watercourses.</p> <p>Dampen down cement if danger of windblown pollution.</p> <p>For other powders follow COSHH recommendations.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment), EA/ NRW if serious threat to watercourses or sewerage/drainage company if serious threat to drains.</p> <p>Notify Police if hazardous.</p> <p>Remove all contamination as soon as possible.</p>
Paint, primers, solvents and other chemicals.	<p>Isolate source.</p> <p>Contain spill.</p> <p>Prevent from entering drains and watercourses.</p> <p>Report to immediate supervisor.</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source.</p> <p>Contain spill.</p> <p>Prevent from entering drains and watercourses.</p> <p>Follow COSHH recommendations.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Remove all contamination as soon as possible.</p>	<p>Isolate source and contain spill.</p> <p>Prevent from entering drains and watercourses.</p> <p>Follow COSHH recommendations.</p> <p><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment), EA/ NRW if serious threat to watercourses or sewerage/drainage company if serious threat to drains.</p> <p>Notify Police.</p> <p>Remove all contamination as soon as possible.</p>

## Incident: Accidental Spillage from Vehicles on Public Roads and Footpaths

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
	<b>In all cases the first priority is the safety of other road users. Unnecessary risks must not be taken.</b>		
Solid materials	<p>Warn other road users.</p> <p>Remove spill and clean up if safe to do so.</p> <p>Prevent from entering drains.</p> <p>Report to immediate supervisor.</p>	<p>Warn other road users.</p> <p>Remove spill if safe to do so.</p> <p>Prevent from entering drains.</p> <p>Report to immediate supervisor, request additional assistance.</p> <p>Cordon off area if materials are hazardous &amp; notify police.</p> <p>Report to PM/PEM immediately.</p> <p>Clean up when safe to do so.</p>	<p>Warn other road users &amp; notify police.</p> <p>Prevent from entering drains, ditches &amp; watercourses.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Cordon off area if materials are hazardous.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment) and EA/ NRW if serious threat to watercourses or sewerage / drainage company if serious threat to drains.</p> <p>Clean up when authorised by police.</p>
Liquids and powders.	<p>Warn other road users.</p> <p>Use spill kit to contain spill.</p> <p>Prevent from entering drains.</p> <p>Report to immediate supervisor.</p> <p>Ensure area is left in a clean and safe condition (consider skidding risk in the event of rain).</p>	<p>Warn other road users.</p> <p>Use spill kit to contain spill.</p> <p>Prevent from entering drains.</p> <p>Report to immediate supervisor, request additional assistance.</p> <p>Cordon off area if materials are hazardous &amp; notify police.</p> <p>Report to PM/EM immediately.</p> <p>Clean up when safe to do so &amp; ensure area is left in a safe condition (consider skidding risk in the event of rain).</p>	<p>Warn other road users and notify police.</p> <p>Prevent from entering drains, ditches &amp; watercourses.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Cordon off area if materials are hazardous.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment) and EA/ NRW if serious threat to watercourses or sewerage/drainage company if serious threat to drains.</p> <p>Clean up when authorised by police.</p> <p>Ensure area is left in a safe condition (consider skidding risk in the event of rain).</p>



**Incident: Accident on Site Involving Vehicles or Plant**

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
<p><b>In all cases the first priority is the safety of those involved in the accident. All Health and Safety Procedures must be adhered to. Unnecessary risks must not be taken.</b></p>			
Fuel oil, petrol, other oils and fluids from vehicles.	<p>Contain spill using spill kits or other absorbent material.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourse.</p> <p>Report to Immediate supervisor.</p> <p>Remove all contamination as soon as possible.</p>	<p>Contain spill using spill kits or other absorbent material.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourses.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM.</p> <p>Remove all contamination as soon as possible.</p>	<p>Contain spill using spill kits or other absorbent material and/or create bund.</p> <p>Take fire precautions.</p> <p>Prevent from entering drains and watercourses.</p> <p><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to notify Senior Manager (Environment), EA/ NRW if serious threat to watercourses or sewerage/ drainage company if serious threat to drains.</p> <p>Ensure area is left in a clean and safe condition (consider risk in the event of rain).</p>
Fire of vehicle and/or contents.	Refer to Site Emergency Procedures.		
Spillage of contents of load (solids).	Refer to the Pollution Incident Action Sheets on: Pollution of the ground. Pollution of watercourse. Accidental spillage from vehicles.		
Spillage of contents of load (liquids and powders).	Refer to the Pollution Incident Action Sheets on: Pollution of the ground. Pollution of watercourse. Accidental spillage from vehicles		

## Incident: Flooding on Site

Action		
Minor Incident	Intermediate Incident	Major Incident
In all cases the first priority is the safety of personnel and the public. All Health and Safety Procedures must be adhered to. Unnecessary risks must not be taken.		
<p>Remove all plant and potentially polluting materials away from flooded area.</p> <p>Deploy booms to contain floating contaminants.</p> <p>Report to immediate supervisor.</p> <p>Prevent contaminants escaping as floodwater subsides.</p> <p>Do not pump out contaminated water (including suspended solids) until measures are in hand to deal with it.</p> <p>Assess possibility of further flooding &amp; take preventative action.</p> <p>Clean up any remaining contamination after flooding.</p>	<p>Remove all plant and potentially polluting materials away from flooded area.</p> <p>Deploy booms to contain floating contaminants.</p> <p style="color: red; font-weight: bold;">Call for assistance from 1, 3 &amp; 4</p> <p>Report to PM/PEM</p> <p>Environmental Advisor to alert EA/ NRW if necessary.</p> <p>Prevent contaminants escaping as floodwater subsides.</p> <p>Do not pump out contaminated water (including suspended solids) until measures are in hand to deal with it.</p> <p>Avoid trapping aquatic creatures. If they are trapped, contact Environmental Advisor.</p> <p>Assess possibility of further flooding &amp; take preventative action.</p> <p>Clean up any remaining contamination after flooding.</p>	<p>Remove all plant and potentially polluting materials away from flooded area.</p> <p>Deploy booms to contain floating contaminants.</p> <p style="color: red; font-weight: bold;">Call for assistance from 1, 3 &amp; 4</p> <p>Report to PM/PEM.</p> <p>Environmental Advisor to alert and co-ordinate actions with EA/ NRW &amp; drainage company and, if necessary, the police.</p> <p>Prevent contaminants escaping as floodwater subsides.</p> <p>Do not pump out contaminated water (including suspended solids) until measures are in hand to deal with it.</p> <p>Notify Environmental Advisor if aquatic creatures are stranded or trapped by receding floodwater or if other wildlife is threatened.</p> <p>Assess possibility of further flooding &amp; take preventative action.</p> <p>Clean up any remaining contamination after flooding.</p>

## Incident: Accidental Discharge to Surface Water Drain

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Fuel oil, petrol, other oils and fluids including water contaminated with chemicals, oils and suspended solids.	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p>Locate point of discharge of drain to river or stream and deploy boom and/or sediment mats if necessary.</p> <p>Report to immediately supervisor.</p>	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Isolate manhole or length of pipe if practical.</p> <p>Locate point of discharge of drain to river or stream and deploy boom and/or sediment mats if necessary.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to alert EA/ NRW &amp; drainage company if necessary.</p> <p>Clean up any temporary containment areas.</p>	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p>Take fire precautions.</p> <p style="color: red;"><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Isolate manhole or length of pipe.</p> <p>Locate point of discharge of drain to river or stream and deploy boom and/or sediment mats if necessary.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to alert and co-ordinate actions with EA/ NRW &amp; drainage company and. If necessary, the police.</p> <p>Clean up any temporary containment areas.</p>
Water with suspended solids only (i.e. no Chemical contamination).	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p>Locate point of discharge of drain to river or stream and deploy sediment mats or similar.</p> <p>Report to immediate supervisor.</p> <p>Do not recommence consented discharge until authorised by the Environmental Advisor.</p>	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p style="color: red;"><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Locate point of discharge of drain to river or stream and deploy sediment mats or similar.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to alert EA/ NRW &amp; drainage company if necessary.</p> <p>Do not recommence consented discharge until authorised by the Environmental Advisor.</p> <p>Clean up any temporary settling areas.</p>	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p style="color: red;"><b>Call for assistance from 1,3 &amp; 4</b></p> <p>Locate point of discharge of drain to river or stream and deploy sediment mats or similar.</p> <p>Report to PM/PEM immediately.</p> <p>Environmental Advisor to alert and co-ordinate actions with EA/ NRW &amp; drainage company.</p> <p>Do not recommence consented discharge until authorised by the Environmental Advisor.</p> <p>Clean up any temp settling areas.</p>

## Incident: Accidental Discharge to Foul Water Sewer

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Fuel oil, petrol, other oils and fluids including water contaminated with chemicals, oils and suspended solids.	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p>Report to immediate supervisor.</p>	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Isolate manhole or length of pipe if practical.</p> <p>Report to PM/PEM immediately.</p> <p>Operations Manager to alert sewerage company.</p> <p>Clean up any temporary containment areas.</p>	<p>Stop discharge or if not possible, divert to a safe temporary storage area (sump or bunded lagoon).</p> <p>Take fire precautions.</p> <p><b>Call for assistance from 1,3, &amp; 4</b></p> <p>Isolate manhole or length of pipe if practical.</p> <p>Report to PM/PEM immediately. Environmental Advisor to alert and co-ordinate actions with sewerage company.</p> <p>Clean up any temporary containment areas.</p>
Water with suspended solids only (i.e. no Chemical contamination).	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p>Report to immediate supervisor.</p> <p>Do not recommence consented discharge until authorised by the Operations Manager.</p>	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM immediately.</p> <p>Operations Manager to alert sewerage company.</p> <p>Do not recommence consented discharge until authorised by the Environmental Advisor.</p> <p>Clean up any temporary settling areas.</p>	<p>Stop discharge or if not possible, divert to a safe temporary settling area.</p> <p><b>Call for assistance from 1, 3 &amp; 4</b></p> <p>Report to PM/PEM immediately. Environmental Advisor to alert and co-ordinate actions with sewerage company.</p> <p>Do not recommence consented discharge until authorised by the Operations Manager.</p> <p>Clean up any temporary settling areas.</p>

### Incident: Accidental Discharge of Dust or Smoke

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Dust from construction activities.	Stop works if dust cannot be controlled		
Fumes or smoke from vehicles and plant.	If fumes or smoke cannot be controlled. Stop works and quarantine the affected vehicle or plant and call out repair company		
Smoke from accidental fires.	Refer to site emergency procedures.		

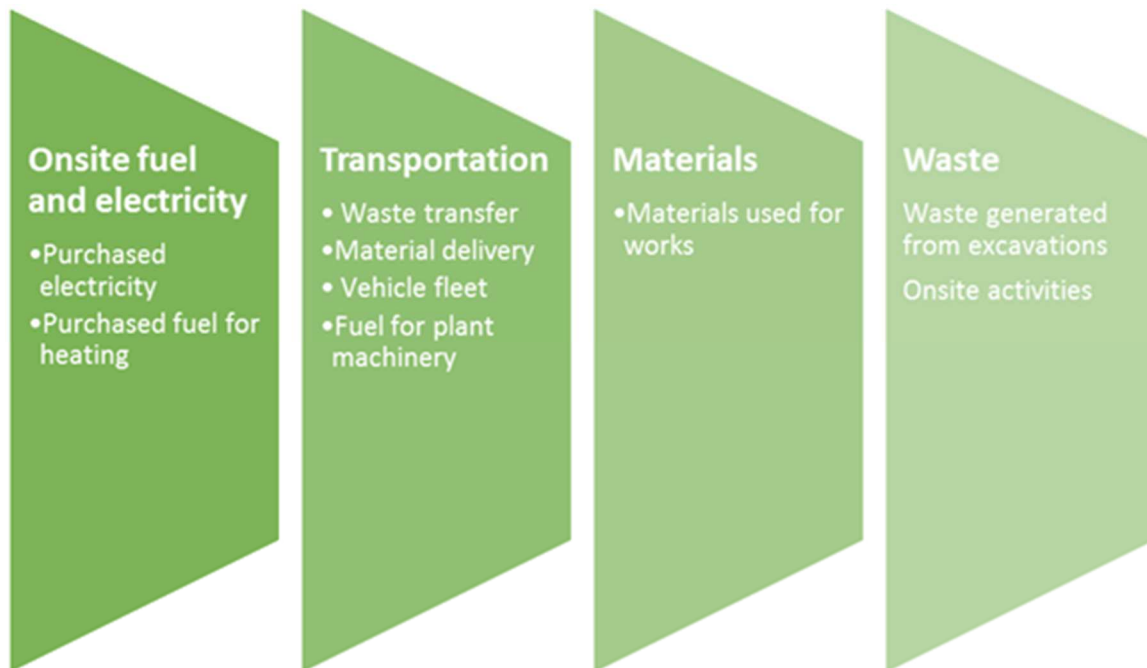
### Incident: Noise Pollution

Pollutant	Action		
	Minor Incident	Intermediate Incident	Major Incident
Emergency overrun of Section 61 or Section 61 amendment/ dispensation consented hours.	Notify local authority EHO & review working methods & Programme.	N/A	N/A
Non-emergency overrun of Section 61 or Section 61 amendment/ dispensation consented hours.	N/A	Stop activities immediately. Report to Environmental Advisor. Environmental Advisor to notify local authority EHO. Ensure future compliance.	
Non-compliance with conditions imposed in Section 61 Consent (e.g. controls on working methods, noise and vibration suppression measures and number & type of plant).	Stop or amend working method to ensure compliance. Report to Environmental Advisor. Apply for Section 61 amendment if necessary (taking account of BPM).		

### 13.5 Carbon reduction plan

The key focus areas which have been identified due to the nature of the activities for this Contract/ Project are:

- Onsite fuel and electricity
- Transportation
- Materials
- Waste



#### Onsite fuel and electricity

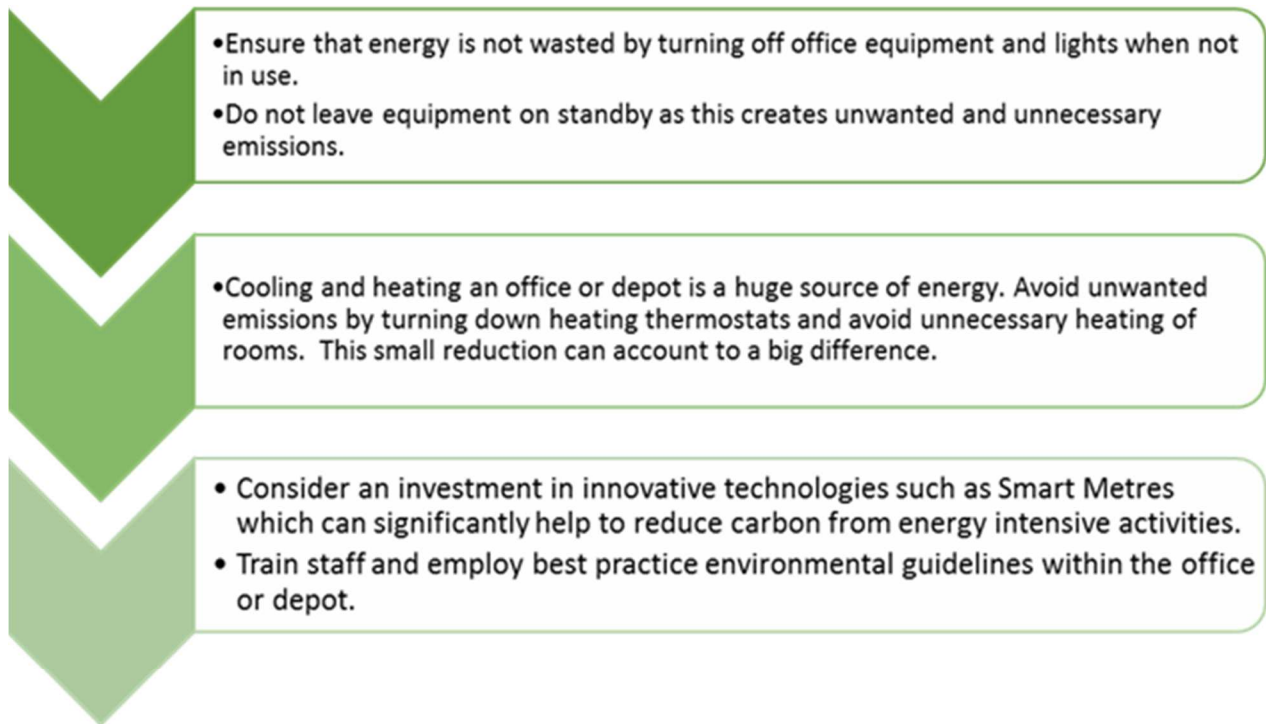
Onsite fuel and electricity encompasses the use of purchased electricity at depots, offices and onsite as well as the use of purchased fuel for heating at offices and depots. These will fall under Scope 2 and are required within carbon reporting.

Depots and offices are energy intensive and often high emitting areas. Simple and effective steps can be followed to ensure the reduction of harmful greenhouse gas emissions associated with onsite energy use.

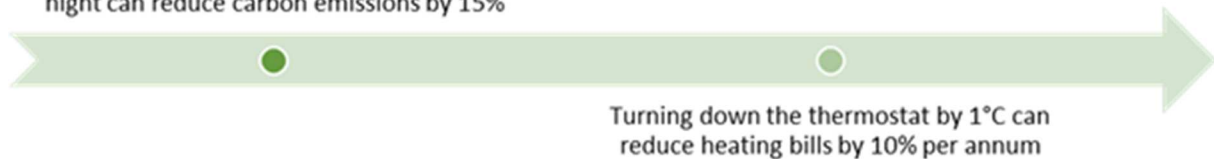
The advantage of greening offices and depots is not limited to the environmental benefits. It has positive economic impacts due to reduction in energy bills. It also portrays environmental best practise and responsibility.

The following reduction measures should be employed in all offices, depots and onsite activities in order to reduce carbon emissions.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	62



Turning off lights when you leave the office at night can reduce carbon emissions by 15%



Turning down the thermostat by 1°C can reduce heating bills by 10% per annum

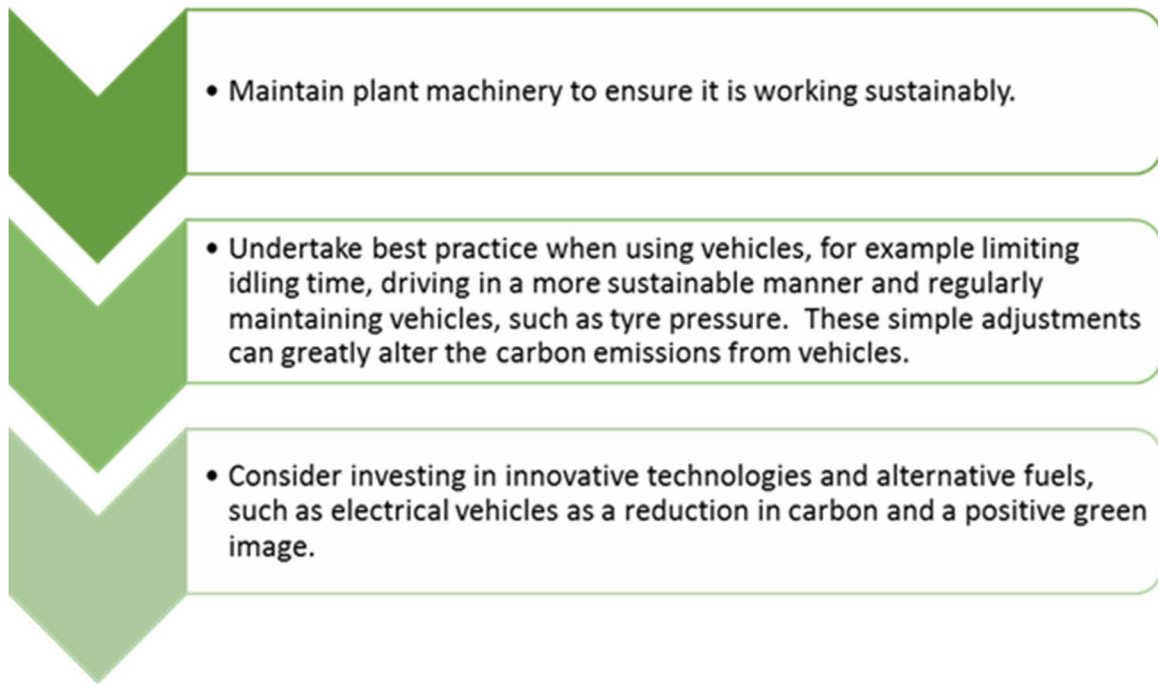
## Transportation

Transportation takes into account all activities involving the combustion of fuel due to vehicle movement such as direct employee journeys, material movements, waste transfers and fuel used for plant machinery.

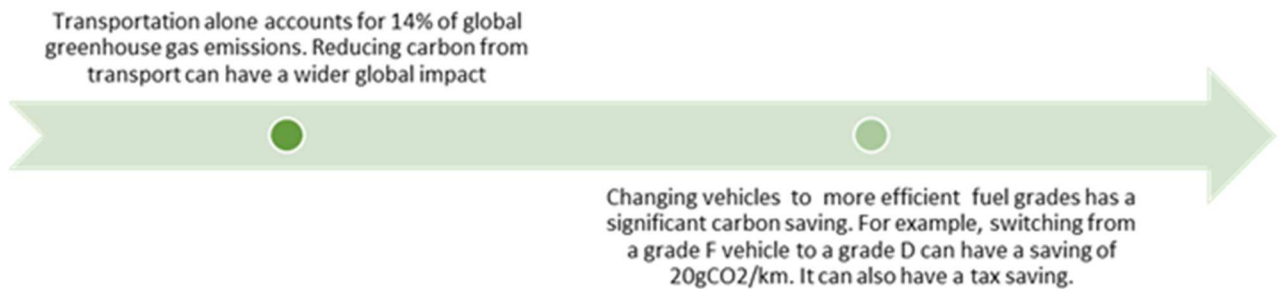
The use of fuel is often the highest emitting entity within carbon reporting in this sector. It is therefore an imperative area to decrease and receive significant results from the reduction.

A reduction strategy to adhere to is outline below.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	63



**Potential Savings**



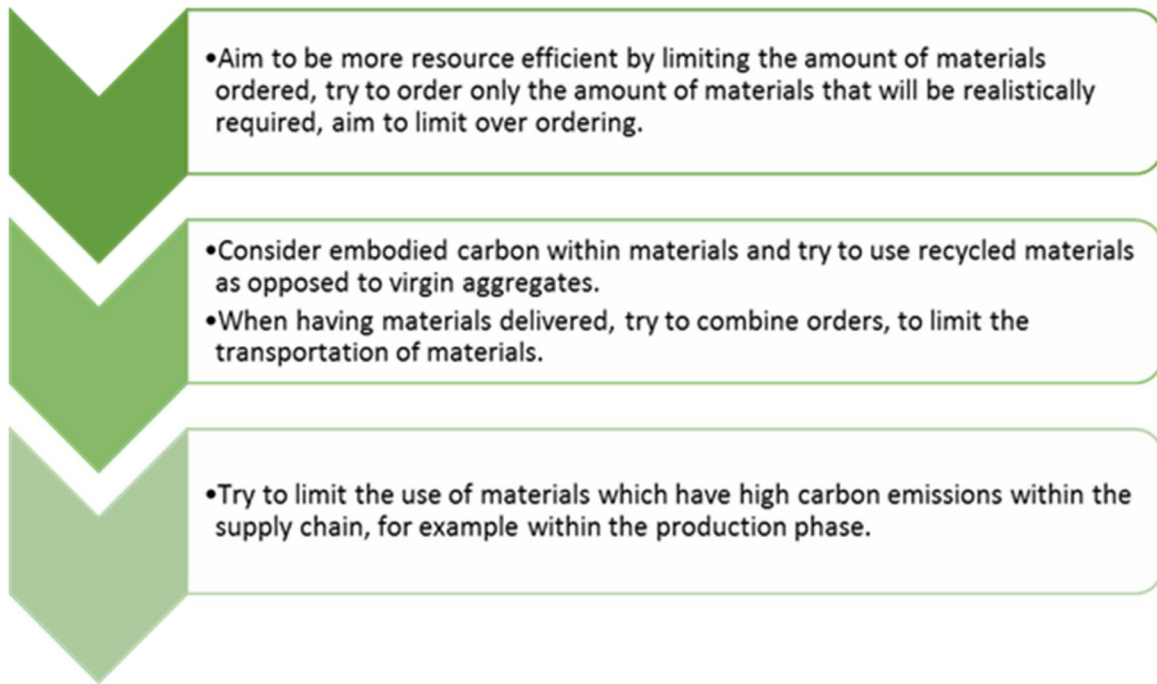
Accounting for materials is extremely important in order to reduce carbon. Materials have a high number of associated emissions produced from the supply chain, for example during extraction, production and transportation. Materials often have high embodied carbon, however this is challenging to reduce as some aspects can be beyond the scope of control.

Carbon associated with materials is measured by weight and has a differing conversion factor depending on the type of material it is. Therefore the type of material used within Projects can have a large anchoring on the amount of harmful emissions produced.

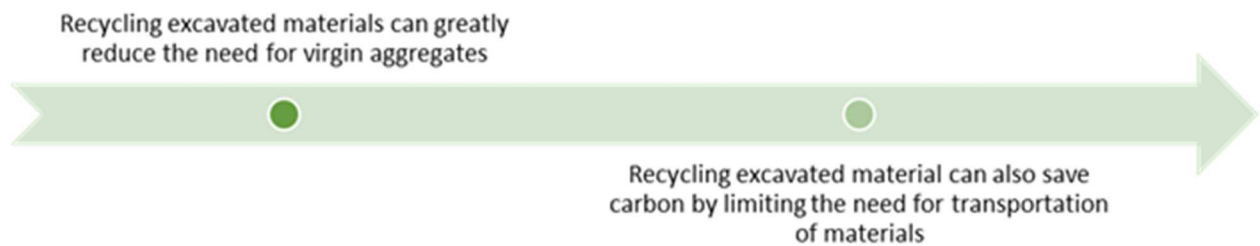
Reducing carbon associated with materials is a challenging area but one that is essential to pursue. A plan to reduce carbon emissions associated with materials is presented below.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	64





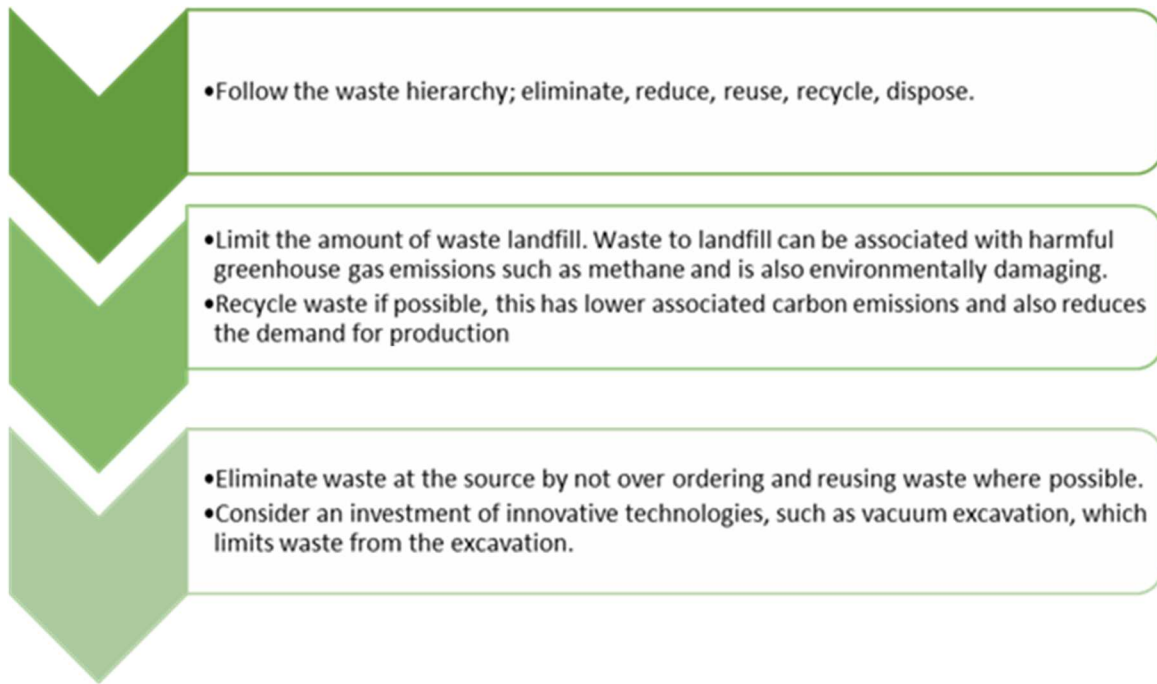
### Potential Savings



### Waste

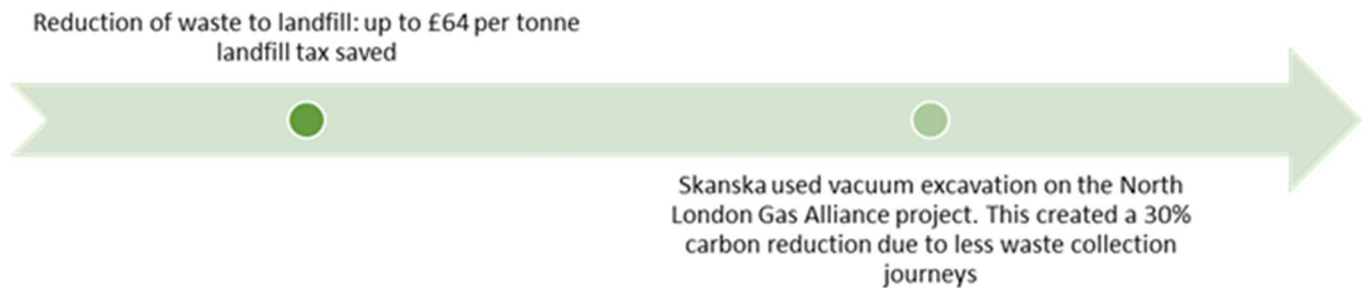
Due to the nature of the planned works, waste is an important area to minimise carbon. Waste can emit carbon when it is disposed, the emissions level will vary depending on how it is disposed, e.g. sent to landfill, recycled or combusted. It is important to choose the appropriate path for the waste to take in order to minimise emissions.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	65



Depending on the type of waste, the associated carbon factor varies. The conversion factors also changes depending on the how the waste is to be disposed. It is measured by weight of waste. (This section should be read in conjunction with the Site Waste Management Plan).

**Potential Savings**



Document Number: EHS030-F02	11/01/2018
Revision No: 01	66

### 13.6 Water reduction plan

Water is an essential resource and the wastage of water should be minimised. Guidance to reduce consumption of water on site is outlined and measures to improve the efficiency of water usage within activities undertaken. Reduction in water can also reduce operational costs and the organisations carbon footprint.



Document Number: EHS030-F02	11/01/2018
Revision No: 01	67

# 13.7 2018 Environmental management plan

DCWW Skanska Arcadis Environmental Plan 2018		DCWW	Skanska	Arcadis	Responsible	Start	End	Frequency	Status
General	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04
	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05
	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.08
	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Regulatory	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01	2.01
	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02	2.02
	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03
	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04	2.04
	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05	2.05
	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06	2.06
	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07	2.07
	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08	2.08
	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10	2.10
Operational	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01	3.01
	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02
	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03	3.03
	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04	3.04
	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05	3.05
	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06
	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07	3.07
	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08	3.08
	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09	3.09
	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10	3.10
Monitoring	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01
	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02
	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03	4.03
	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04	4.04
	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05
	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06	4.06
	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07	4.07
	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08	4.08
	4.09	4.09	4.09	4.09	4.09	4.09	4.09	4.09	4.09
	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10	4.10
Reporting and Compliance	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01	5.01
	5.02	5.02	5.02	5.02	5.02	5.02	5.02	5.02	5.02
	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03	5.03
	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04	5.04
	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05
	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06	5.06
	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07	5.07
	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08	5.08
	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09	5.09
	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
Annual	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02
	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03	6.03
	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04	6.04
	6.05	6.05	6.05	6.05	6.05	6.05	6.05	6.05	6.05
	6.06	6.06	6.06	6.06	6.06	6.06	6.06	6.06	6.06
	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07	6.07
	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08
	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09	6.09
	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10

## 13.8 Office Environmental Management Plan

### 13.8.1 Introduction

Skanska recognises the importance of environmental management and the provision of information, instruction and training in achieving and maintaining a high standard of environmental awareness amongst its workforce throughout the duration of work on all AMP 6 Capital Delivery Alliance projects.

For this project, environmental procedures and associated processes have been produced, and can be viewed in the PEMP. The team aims to work in a manner that reduces negative environmental impact of the buildings operation in accordance with Skanska and DCWW policy. To do this, the Office Team and all Skanska personnel working there will comply with the requirements of the Skanska Project Environmental Management Plan and the contents of this Office Environmental Management Plan (OEMP).

This OEMP details the environmental risks associated with the operation of offices on all AMP 6 Capital Delivery Alliance Projects and the management controls to be followed to minimise the impact of activities on the environment. The controls detailed within this plan are to be carried out in conjunction with the applicable Environmental Control Procedures detailed within the EMS to ensure that environmental management is addressed and rigorously incorporated in all decision-making. This will promote a culture of environmental responsibility, self-regulation and encourage sustainability.

All Trade Contractors or consultants providing a product or service are required to provide evidence, to show how they will control any environmental risks that may arise from their works, e.g. within a method statement.

### 13.8.2 Tenancy Details

Waste Management:

- Skanska is responsible for the disposal of waste – this is taken off site and managed by whoever is contracted to take away any waste from site.
- Skanska are not to discharge into any pipe or drain serving the premises or any other property, any grease, oil or other deleterious matter.

Resources - gas, electricity, water, etc:

- Skanska is responsible for the supply of energy to the office, including monitoring and cost analysis.
- Skanska is responsible for reducing carbon emissions.

Building Alterations;

- Skanska are responsible for:
  - Obtaining written consent from the Landlord before undertaking any structural alterations
- Landlord is responsible for:
  - Upkeep - landscaping, pest control etc.
  - Repair and upkeep of the tenant floor (including all service media, fixtures, fittings, etc.)
  - Keeping the premises clean and tidy
  - Cleaning, painting, decorating or otherwise treating as appropriate
  - Cleansing and maintaining service media
  - Repairing or replacing any fixtures, fittings, plant, equipment etc.
  - Not obstructing any windows or light belonging to the premise
  - Not storing or brining any inflammable or dangerous substances onto the premise

Regulatory Agencies and Interested Parties:

- A list of regulatory agencies and interested parties who may have interests in this Office is identified in the PEMP.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	69

### **13.8.3 Project Environmental Objectives and Targets**

Capital Delivery Alliance Objectives and Targets:

All objectives and targets are identified in the PEMP. Compliance with these objectives will be monitored during site inspections and audits.

### **13.8.4 Compliance, Monitoring, Corrective Action and Auditing**

Continuous monitoring of environmental issues and controls are part of regular site quality checks. Monitoring will establish compliance of Skanska employees and Skanska contractors to this OEMP and the associated Work Instructions, Client requirements and all statutory obligations.

### **13.8.5 Project Environmental Monitoring and Office Inspections**

Formal auditing will as per the PEMP.

Site office inspections will form part of the project site inspections using form EHS 008-F02 Health and Safety Environment Inspection.

### **13.8.6 Environmental Legislation**

All personnel within Skanska have access to an Environmental Legal Register via OWOW. The register is regularly updated and the Environmental Manager/Advisor will issue briefings as necessary to inform staff of changes to existing legislation and new legislation relevant to parties.

### **13.8.7 Environment Agency/ Natural Resources Wales - Pollution Prevention Guidelines**

These are identified in the PEMP. Compliance with these objectives will be monitored during site inspections and audits.

### **13.8.8 Environmental Roles, Responsibilities & Useful Contacts**

These are identified in the PEMP. Clear definition and communication of environmental roles and responsibilities are required to facilitate effective environmental management.

### **13.8.9 Training Requirements**

Training is an essential part of the Environmental Management System (EMS). It is vital that all personnel are aware of their responsibilities under law, the Project and this EMS. Training requirements are identified in the PEMP.

### **13.8.10 Document and Record Keeping**

This OEMP and the documentation arising from the associated procedures must be clearly and logically referenced and kept in the Site Environmental File(s) as appropriate.

### **13.8.11 Emergency Response and Preparedness**

In the event of an environmental incident, the Project Environmental Incident Response Plan should be followed. Details of incident control can be found displayed on noticeboards and all environmental incidents and near misses shall be reported as identified in the PEMP.

### **13.8.12 Project Risk and Opportunity Register**

#### **Significant Environmental Impacts**

The project activities and associated environmental risks have been assessed and a summary of the significant environmental impacts identified for this office are detailed within the PEMP.

Document Number: EHS030-F02	11/01/2018
Revision No: 01	70

All of the key environmental issues should be annotated on the Site Plan, which is displayed on site. This plan should contain but not be limited to the following:

- Spill kit locations;
- Buried services locations;
- Site drainage;
- Environmentally sensitive / restricted areas
- The full Project Environmental Aspect and Impacts Register can be found in the PEMP.
- Details and reference numbers of any permanent and temporary assents/consents/ planning permissions, required during the project lifetime, copies of all permits that Skanska need, will be held in the Site Environmental File – or other permits that the Landlord require will be filed accordingly.

### 13.8.13 Appendices

#### Office Risk and Opportunity Register – as per the scheme PEMP

##### Ideas for Office Efficiencies

When selecting and refurbishing our offices, we have taken into account environmental and sustainability issues and have achieved a great deal, including:

In Design:

- Energy efficient heating and cooling systems
- Ozone friendly refrigerants for cooling: ozone depletion potential of zero.
- Sustainable timber from certified (FSC/ PEFC) sources
- Floor coverings have been chosen for their minimal environmental impact and recyclability
- Low solvent water based paints have been used throughout
- Movement sensors are used on lights so they automatically switch-off when not in use
- Travel by public transport whenever possible – offices are located near public transport stations and no car parking spaces are provided. Showers are available for cyclists.

In Operation:

- Stationery – the paper we purchase is 80% recycled and chlorine free.
- Resource efficiency – we have eliminated the use of unnecessary items such as plastic cups and wooden stirrers
- Fair trade products such as tea and coffee are used.
- Water coolers are used rather than using bottled water, which wastes plastic/glass, creates waste and has significant CO2 implications resulting from transportation

To help us to achieve our commitments to the environment and sustainability please:

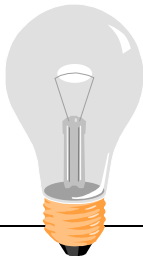

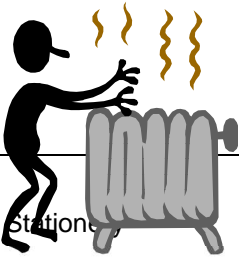

#### DO

- ✓ Think before you print – can you use electronic documents
- ✓ Print and photocopy double sided whenever possible
- ✓ Print two sheets per page when suitable
- ✓ Turn off your PC and screen when not in use – screens can be switched off at lunchtime
- ✓ Turn off lights in toilet areas
- ✓ Turn off all lights if you are the last to leave at night
- ✓ Turn off taps after use
- ✓ Reuse paper as scrap
- ✓ Put waste into the right bins:
  - Paper (Includes: Lever arch files, card, wallets, stapled or paper clipped papers, envelopes, magazines, newspapers)
  - Cardboard (flatten all cardboard boxes and stack neatly beside paper recycling bins.)
  - Plastics (plastic bottles and plastic binding combs)
  - Drinks cans (steel and aluminium)
  - Other general waste (food scraps etc.)

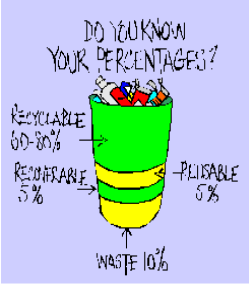
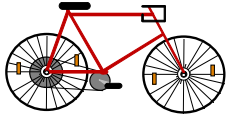
Document Number: EHS030-F02	11/01/2018
Revision No: 01	71

<input checked="" type="checkbox"/> Use public transport to commute and travel to meetings <input checked="" type="checkbox"/> Report any faults with building systems to the Office Manager
<b>DON'T</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Print or photocopy unnecessarily</li> <li><input checked="" type="checkbox"/> Leave lights on</li> <li><input checked="" type="checkbox"/> Change the temperatures on the office thermostats – they should be set at 21°C at all times</li> <li><input checked="" type="checkbox"/> Put waste in the wrong bins</li> <li><input checked="" type="checkbox"/> Ignore problems – they'll only get worse!</li> </ul>

**Office Environmental Guidelines**

<p>Energy – lighting</p> 	<ul style="list-style-type: none"> <li>• Appoint responsible persons in each area to take responsibility for switching off lighting and shared office equipment</li> <li>• Display posters and stickers to remind staff to switch off lights</li> <li>• Where lighting is upgraded specify high frequency fluorescent lighting</li> <li>• Replace diffusers in tubular fluorescent lamp luminaries with reflectors and reduce the number of tubes</li> <li>• Use local controls where available, e.g. pull cords for lights near to desks</li> <li>• Keep windows and light fittings clean to maximize light output</li> <li>• Use working areas near windows where possible to maximize use of natural light, or near radiators to maximize heat in winter</li> <li>• Monitor energy on a regular basis.</li> </ul>
<p>Energy– equipment</p> 	<ul style="list-style-type: none"> <li>• Use energy saving features on all appliances, e.g. PCs, monitors, copiers etc</li> <li>• When replacing or refurbishing equipment, seek to procure energy efficient models</li> <li>• Ensure shared equipment is switched off overnight or set to automatically power down between use</li> </ul>
<p>Energy – heating</p> 	<ul style="list-style-type: none"> <li>• Ensure you know how to use local thermostats to control temperatures</li> <li>• Check that time settings on space and water heating are set at the minimum period for seasonal conditions</li> <li>• Ensure air conditioning is set to 24 degrees or higher</li> <li>• Ensure that only occupied areas are heated if that level of control is available</li> <li>• Ensure that heating is off or at reduced load during non-working hours (DEFRA advises that thermostats should be set at 19°C for offices in use and at 10-12°C for store rooms, corridors etc.)</li> <li>• Where possible ensure that heating and cooling are not on at the same time at the same part of the building</li> <li>• Check that insulation is well-maintained and is in place for all hot water tanks and boilers and all pipe work</li> <li>• Service any boiler plant and heck combustion efficiency regularly</li> </ul>
	<ul style="list-style-type: none"> <li>• Reduce paper use by double-siding and using scrap paper for notes</li> <li>• Think about whether e-mails really need to be printed out</li> <li>• Use labels to reuse files and folders</li> <li>• Often old mice (for PC's) can be cleaned rather than replaced – they can easily be taken apart and the three rollers on which the mouse ball turns cleaned of any debris</li> <li>• If there is an office move or redesigning – do all the chairs and desks need to be replaced? If so, the used furniture may be of use to others, e.g. schools, charities, second-hand furniture stores.</li> </ul>



	<ul style="list-style-type: none"> <li>• Order recycled paper from stationary supplier.</li> </ul>
<p>Waste</p> 	<ul style="list-style-type: none"> <li>• Promote paper recycling schemes by putting posters round the office and on bins, clearly stating the types of paper that may be recycled</li> <li>• Recycling schemes should be in place for the following where possible: <ul style="list-style-type: none"> <li>• Toner cartridges</li> <li>• Metal cans</li> <li>• Plastics</li> <li>• Glass</li> <li>• Cardboard</li> </ul> </li> <li>• Ensure that cleaning staff are informed of recycling schemes and that the process for emptying of recycling containers understood as part of their project work</li> <li>• Investigate segregation of compostable food waste for collection to be taken away for composting</li> <li>• Cancel junk mail and unwanted publications</li> <li>• Avoid overproduction of marketing and publicity material by reviewing distribution lists and regularly updating databases</li> <li>• Flatten or compact any bulky waste (e.g. boxes) to make the most efficient use of disposal facilities</li> </ul>
<p>Travel</p> 	<ul style="list-style-type: none"> <li>• Sharing travel wherever possible – consider using a 'car sharing' notice board to help communication between staff</li> <li>• Using public transport to get to the office or between offices if available</li> <li>• Using bicycle facilities where available</li> <li>• Plan meetings to reduce travel</li> <li>• Using conference calls instead of face-to-face internal meetings where possible</li> <li>• If you have a company car, ensure that it is regularly serviced</li> </ul>