



Energy from Waste, Combined Heat and
Power Facility
North Yard, Devonport
**Environmental Permit Application
(Application EPR/WP3833FT/A001)**

Closure Management
June 2011



Prepared for



Revision Schedule

Closure Management Report June 2011

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1 Report Context

Scott Wilson Ltd has been commissioned by MVV Environment Devonport Ltd (MVV hereafter) to prepare an application for an environmental permit for an Energy from Waste, Combined Heat and Power Facility located at Devonport Dockyard, Plymouth (Devonport EfW/CHP hereafter).

Within the Site, as defined in planning terms, and the Installation, as defined in permitting terms, the proposed facility will principally comprise:

- Tipping Hall;
- Waste Bunker Hall with Waste Handling Cranes;
- Bale Store/Baling System;
- Turbine Hall with Steam Turbine Generator;
- Boiler House with Grate, Boiler and Ancillary Systems;
- Flue Gas Cleaning System and Chimney;
- Air Cooled Condensers;
- Water Treatment Plant;
- Bottom Ash Handling System.
- Administration Block; and
- Workshop and Stores

This report has been prepared to support an application for an environmental permit and details the closure arrangements proposed for the facility. The report should be read in conjunction with the other supporting application reports and risk assessments.

2 Introduction

This section of the permit application provides evidence of a closure management plan that has sufficient scope to allow the effective environmental management of the installation during decommissioning and closure, to the standard indicated by the Environment Agency SGN 5.01 “Guidance for the Incineration of Waste and Fuel Manufactured From or Including Waste” (Section 2.12).

2.1 Regulatory Context

The Environmental Permitting Regulations 2010 (EPR hereafter) require that:

- An Applicant submits a site report describing the condition of the site at application; and that
- The regulator can only accept the surrender of an Environmental Permit if it is satisfied that the necessary measures have been taken to:
 - I. avoid any pollution risk resulting from the operation of the regulated facility; and
 - II. return the site of the regulated facility to a satisfactory state, having regard to the state of the site before the facility was put into operation.

To meet these requirements, the Environment Agency requires that, in addition to a site condition report, the operator provides a closure management plan at the time of application. This must demonstrate that due consideration has been given to the site’s closure and the surrender of the environmental permit, such that it satisfies the regulatory requirements.

Table 2.1: Site Considerations

Indicative BAT Requirement	Site Justification
Design and Build Stage	<ul style="list-style-type: none"> • Underground tanks and pipes are avoided where possible • Facilities have been designed to enable draining/cleaning of vessels, pipes and drains where required • Construction materials have been selected where possible that: <ol style="list-style-type: none"> a. Minimise dust or other hazard during dismantling; and b. Are recyclable.
Operational Phase	<ul style="list-style-type: none"> • The installation operations are designed to incorporate measures to prevent pollution wherever possible • Where this cannot be guaranteed, risk minimisation is provided through the use of appropriate control measures • In the event of an accident/incident, there are site procedures detailing the mitigation measures required to minimise any impact • Procedures are in place that detail the requirements for recording and investigating any accidents/incidents
Site Closure Plan	<p>Proposed closure arrangements for the installation are included in Section 5 of this report, and these include:</p> <ul style="list-style-type: none"> • Plans are provided showing underground structures (e.g. drainage) • Vessel/pipeline emptying and cleaning • Structure demolition considerations • Minimising the quantity of material disposed of via landfill • Minimising the amount of hazardous materials to be managed • Any requirements for monitoring pre- and post closure

Specific detailed information on each of the above elements is described in Sub-sections 3 to 5 below.

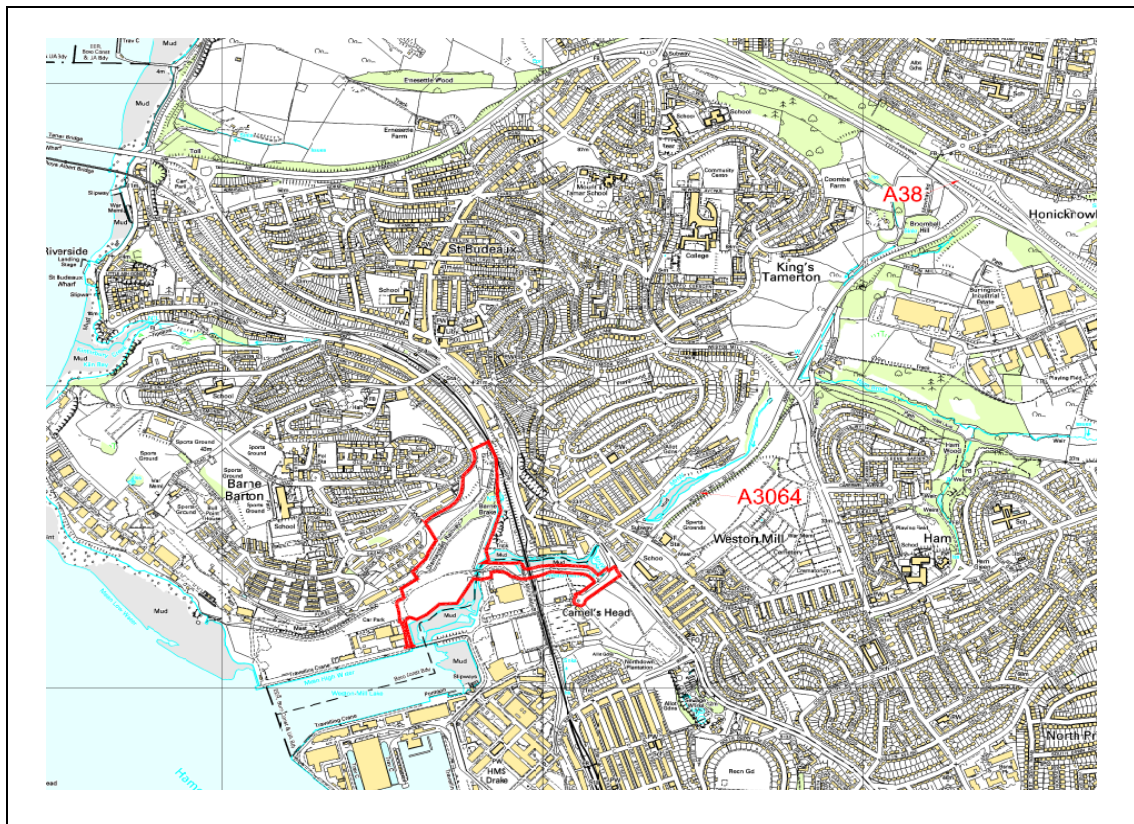
3 Site Considerations

3.1 Site Description

The site is located in the northern section of Her Majesty's Naval Base, Devonport dockyard, Plymouth, and extends to approximately 7 hectares in area. The land is the ownership of the Ministry of Defence (MoD) and will be leased by the MoD to MVV.

The general location of the site is shown in Figure 1 below with the site boundary shown in red

Figure 1: Site Location



The central part of the site on which the EfW CHP facility building will be constructed was until recently used by a firm called Ashcroft to process demolition rubble created from different construction projects throughout the naval base and dockyard. Some piles of rubble and skips remain on site and the MoD is in the process of disposing of these appropriately prior to making the site available for MVV.

The site also includes a large portion of Blackies Wood. This will not be the subject of built development but will be subject to landscape and ecological management.

At the south-western end of the site is a raised area of land which is known colloquially by the MoD as 'Table Top Mountain'. It is used by the MoD for storage of equipment, but will be used by MVV as the construction compound. There is a general shortage of external storage space within HMNB Devonport and this area is required long term by the MoD for storage purposes so at the end of the construction period it will be returned to MoD.

Access to the site is from the Camel's Head junction of Weston Mill Drive and Wolseley Road, through parts of HMNB Devonport. Weston Mill Drive is a Principal Road and provides the

highway link between HMNB Devonport/Devonport dockyard and the trunk road network (A38). The A38 is situated approximately 1.5km to the northeast of the site. The first part of the access road will be around the edge of an existing car park to the north of the main Camel's Head access road. A tarmac access road crosses Weston Mill Stream at two points to access the central part of the site and a new bridge will be built to replace the existing bridges.

The site is outside the MoD's dockyard explosive safeguarding zone and so no additional measures are required for building design. A Warships in Harbour Risk Assessment, Nuclear Safety Case Risk Assessment and Helicopter Flight Path Risk Assessment have all been carried out by the MoD and no restrictions on the proposed EfW CHP facility have been identified.

The site is situated in an area that comprises a mix of residential, commercial and industrial properties. Receptors adjacent to the site boundaries include:

- To the north and north-west of the site lies the residential area of Barne Barton, which already has a generally industrial outlook;
- There are further residential properties to the east, north-east and south-east of the site, at Weston Mill, St. Budeaux, King's Tamerton, Camel's Head, North Prospect and Keyham, as well as further a field in Saltash to the north-west, Wilcove to the west and Torpoint to the south-west;
- The Weston Mill Viaduct is close to the eastern boundary of the site, and this forms a bridge carrying the railway line over the nearby entrance to HMNB Devonport and provides some screening from residential areas to the east; and
- To the west of the site is a car park, and to the south lies Weston Mill Lake, beyond which the majority of the dockyard facilities are located; to the south-east is the existing Devonport Distribution Facility (DDF) which stands approximately 8m high and is bordered to the north and south by large areas of tarmac used as loading bays and service yards.

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- To the west of the site is a car park, and to the south lies Weston Mill Lake, beyond which the majority of the dockyard facilities are located; to the south-east is the existing Devonport Distribution Facility (DDF) which stands approximately 8m high and is bordered to the north and south by large areas of tarmac used as loading bays and service yards.

3.2 Site Location

3.2.1 Geology

The British Geological Survey, 1:50,000 scale area map, Sheet 348 Plymouth, indicates that the site is underlain by a bedrock which consists of the Saltash Formation, a mixture of slate & siltstone, with superficial deposits of Tidal River or creek Deposits, typically clay & silt.

The Landmark Group data sheets (September 2009, Appendix A) confirm that the site is not located in an area likely to be affected by coal mining activities but may require radon protection measures, as the application site is in a radon affected area where 5%-10% of homes are above the action level.

An intrusive Ground Investigation (GI) was carried out in July 2010 by GHA Livigunn Ltd and a summary of ground conditions that were found is presented in table 3.2.1 below.

Strata	Depth Range (mBGL)	Depth Range (mAOD)	Generalised Description
Made Ground	GL – 13.10	13.68 to -3.80	Grey silty sandy gravel with occasional cobbles. Gravel and cobbles of brick, concrete, limestone, flint with metal, wood and plastic fragments.
Alluvium	6.60 – 22.30	0.32 to -14.57	Soft grey sandy, gravelly SILT/CLAY. Gravel of slate. Occasional wood and partially decomposed organic material and shells.
Saltash Formation	2.70 – 29.80	10.98 to -14.77	Extremely weak grey brown occasionally bluish SLATE. Occasionally interbedded with strong light grey tuff.

3.2.2 Hydrogeology

The site is shown on the Environment Agency 'Groundwater Vulnerability' map as not being located in a groundwater source protection zone. However, there is one groundwater

abstraction point located approximately 1,600 metres to the north-east, licensed to Coombe Farm, Plymouth for 'General Farming and Domestic' use.

In respect of flood potential, the Environment Agency Flood Map identifies that the new built development area of the site is located within Flood Zone 1 of the Tamar Estuary (low probability of tidal flooding). Some parts of the access road, where the road runs parallel to the Weston Mill Viaduct fall within Flood Zone 2. Mitigation measures will be available for the area within Flood Zone 2.

Tidal Still Water Levels sourced from the South West Region Extreme Tidal Level Report 3 for the 1 in 200 year event for Devonport, of 3.68 mAOD, have been compared with the topographic survey for the site, which shows ground levels are predominately 6 mAOD. Allowing for the effects of climate change on sea level rise up to 2070 and a 300mm freeboard, the finished floor levels of the building, road and bridge should all be above 4.47 mAOD.

3.2.3 Surface Waters

The Landmark Group information (Application Volume 2 – Site Condition Report) has identified that the closest surface water features are:

- Two small watercourses (Camels Head Creek and Weston Mill Creek) that can be found adjacent to the southern site boundary, which feed into Weston Mill Lake, which is connected to the dock and the Tamar Estuary, via a box culvert; all of these water features are tidally influenced;
- Barne Barton stream, which was re-routed during the land reclamation in the 1980's to run down the eastern side of the application site, and also flows into Weston Mill Lake;
- The River Tamar (Hamoaze), which lies to the west of the site; and
- The Tamar Estuary is located to the south-west of the site.

Prior to the land reclamation in the 1980's, the site itself was part of Weston Mill Lake, and comprised mainly of mud flats associated with the lake.

There are 2 licensed water abstractions within 500m of the site, both licensed to Devonport Royal Dockyard for 'non-evaporative cooling', and a further 27 abstractions within 1km of the site.

3.3 Site History

The following history of the site and surrounding area has been deduced from historical mapping obtained from the Landmark Information Group *Envirocheck Report* (Ref: 28953943_1_1) purchased for the Scott Wilson LQA October 2009.

The earliest available map from 1867 to 1870 shows the site to comprise the northern section of Weston Mill Lake and a viaduct of the Great Western Railway aligned north-south adjacent to the far east of the site. The site is bordered to the north by undeveloped fields and a small wooded area known as Barne Brake. An approximately 100m long quay (Barne Quay) is present in the centre of the site running approximately north-south into the lake. Several quarries are shown including Barn and Moor quarry approximately 100m to the north and an 'old' quarry approximately 100m to the west.

Few changes occur until the 1907 to 1908 shows that the Royal Naval Barracks have been developed to the south of Weston Mill Lake.

By 1919 a recreation ground has been developed on reclaimed land to the north of the Naval Barracks.

By 1972 the land to the north of the site has been developed into the residential area of Barne Brake and the large dockyard to the west of the Naval barracks has been developed.

The 1982 to 1985 mapping indicates that the land has started to have been reclaimed and large areas of the site are labelled as refuse tips.

The 1991 to 1993 map shows the site to be largely as it is seen today. The site and the area to the west has been fully reclaimed and developed with travelling cranes, sports courts and unlabelled buildings. A track / road runs approximately east-west across the site.

The 1999 map shows that a small amount of development has taken place and an unlabelled structure is present in the north of the site.

According to the Nuclear Decommissioning Authority (NDA) Website, nuclear operations at Devonport Dockland started in the early 1970's.

The Environmental Science Group Phase I report (2005) was undertaken within the area known as Blackies Wood. Blackies Wood is approximately 4 ha in area and is located in the north-western part of the site. The ESG report identified that Blackies Wood historically was a quarry to the north and south, that later become allotments. Part of Blackies Wood was also described as an 'incinerator area' and rail sidings were noted. In 1993, Blackies Wood was subject to an extensive ordnance clearance operation when over 35,000 pieces of ordnance were removed. These were originally collected from the site and surrounding area following extensive WWII bombings and buried in Blackies Wood.

3.4 Process Considerations

It is planned to operate the installation at Devonport for a period of at least 25 years before closure of the facility is envisaged. It is recognised that the operation of the facility may present a risk to the environment, over time, and as such the following issues have been considered.

Process Inputs

The primary feedstock for the process is principally non-hazardous residual municipal waste, delivered to the facility in enclosed vehicles. The physical nature of the waste, and the proposed mechanisms for its transport and handling at the site, should minimise any risk to the environment.

Raw materials that are required are principally required for pollution control purposes and include:

- Powders – activated lignite carbon and sodium bicarbonate for pollution control systems;
- Liquids – urea solution, hydrochloric acid solution and sodium hydroxide solution associated with pollution control and water treatment systems; and
- Fuels – a light fuel oil is used as an auxiliary fuel.

These materials are managed on-site via dedicated storage facilities, each with appropriate containment provision and filtration equipment.

Process Outputs

The principal outputs consist of:

- Bottom ash and residue from the combustion and air pollution control processes; and
- Rejected or untreatable waste, such as bulky items, etc.

These materials are managed using designated storage arrangements, such as enclosed bunkers, silos or other suitable containers, and are covered during transport.

Conceptual Model

A conceptual model, based on the principles of risk assessment, comprising the Source-Pathway-Target linkages identified as 'known' or 'potentially present' from the activities proposed for the site has been prepared and is summarised below:

Table 3.4: Conceptual Model

Potential Sources	
1 On-site contamination	<ul style="list-style-type: none"> • On-site contamination – from historic land use
2 Leakage/spillage from point sources	<ul style="list-style-type: none"> • Potential from above-ground storage, but containment present to mitigate this risk – the risk of leakage/spillage will be reduced by the site being ISO14001 audited and subject to risk assessments
Potential Pathways	
1 Migration to surface water	<ul style="list-style-type: none"> • The likelihood of any potential contamination reaching local surface water is considered very low due to the robust containment system proposed for the site
2 Groundwater	<ul style="list-style-type: none"> • The site will have storage areas with sealed concrete slabs as appropriate. This will present a barrier that is relatively impermeable to spillage
3 Man-made channels (drains, service ducts, etc.)	<ul style="list-style-type: none"> • Man-made channels at the site comprise surface water drainage arrangements and lead directly to the discharge point via an appropriate interceptor
4 Direct (dermal) contact, inhalation, adsorption and ingestion	<ul style="list-style-type: none"> • The risk of direct contact with any contaminants will be reduced by the site being ISO14001 audited, and compliant, and the implementation of appropriate storage, containment, handling and spillage control procedures will reduce such risks to an acceptable minimum
Potential Receptors	
1. Site staff	<ul style="list-style-type: none"> • Suitably qualified site operatives will work at the site • Appropriate control measures and procedures will be put in place to minimise potential risk • Members of staff are trained in relevant systems • Appropriate PPE is provided • The Site will be ISO 14001 compliant, and audited
2. General public	<ul style="list-style-type: none"> • The closest residential properties are <50m from the site • The nearest industrial units are to the north and west, and are approximately 20m from the Installation boundary at their closest
3. Surface water	Water courses/bodies which are in close proximity to the site include the: <ul style="list-style-type: none"> ▪ Camels Head and Weston Mill Creeks adjacent to the southern site boundary; ▪ Barne Barton stream, adjacent to eastern side of the site and also ▪ Weston Mill Lake, which is connected to the dock and the Tamar Estuary, via a box culvert.

	<ul style="list-style-type: none">▪ River Tamar (Hamoaze), which lies to the west of the site; and▪ Tamar Estuary, which is located to the south-west of the site
4. Groundwater	<ul style="list-style-type: none">▪ The site is located on a minor aquifer.

4 Issues for Consideration At Closure

4.1 Design and Build Considerations

4.1.1 Infrastructure

This comprises several structures that can be renewed and/or replaced to ensure effective plant operation with time. The relevant construction features associated with the plant are:

- Above-ground tanks, and similar vessels, for the storage of raw materials;
- Below-ground pipes and sumps for the management of drainage water;
- Concreted surfaces, used for roads, parking or other non-waste related activities;
- Concreted surfaces, used for waste processing areas;
- The development of the site without deep excavation and with minimum underground infrastructure;
- The provision of containment for storage of liquids (e.g. auxiliary fuels or water treatment chemicals); and
- The use of materials in construction that can be readily recycled.

4.1.2 Site Security

MVV's facility will occupy a site discrete from HMNB Devonport within which it will have full security control, without disruption by or to MoD activities.

A new security fence will be established such that the site and its access route falls outside of the secure area of HMNB Devonport. This new fence will be one of the first activities of the construction phase and there will be no significant presence on the site until this fence is complete and taken over by the MoD as acceptable for their ongoing security purposes.

Traffic will not be required to pass any MoD security checks, and will have unfettered access to the road approaching the EfW CHP facility weighbridge. It will enable MVV to accept delivery of waste even at times of heightened HMNB Devonport security, with only the publicly accessible MoD land on the approach to the Camel's Head gate being used by EfW CHP facility vehicles. A remotely operated security gate will be positioned on the new access road at the boundary with the existing HMNB Devonport car park and the road will be monitored by CCTV cameras. The weighbridges and gate house will be positioned on the access road immediately east of the new bridge crossing. The gatehouse will be manned at all times that the EfW CHP facility is open to accept waste deliveries and vehicles on the weighbridge will be monitored by CCTV.

4.2 Plant Operational Considerations

As outlined throughout the application documents, procedures and practices will be implemented which are intended to protect the site from environmental deterioration. Such operational considerations include:

- Process control mechanisms, such as alarms, level indicators, etc., coupled with operational control procedures that enable effective monitoring of the process, and therefore minimise the risk of an environmental incident occurring;

-
- Planned, preventative maintenance, strategies, to ensure all plant, especially that which can have a significant environmental impact, is maintained to a level which minimises the risk of accidental release through plant failure/breakdown; and
 - Accident management practices and procedures, to minimise the risk of an accident occurring, coupled with appropriate mitigation controls, to minimise the environmental impact, should an accident occur.

5 Closure Management Plan

At the time of preparing this closure plan, current general best practice has where possible, been used to define actions to be taken in the event of closure. It should be noted however, that:

- The final options will only be finalised at the time of closure, taking into consideration relevant regulatory and other requirements – for the purpose of this plan, it is assumed that the site will be levelled and all concrete bases will be left in-situ, for any follow-on use(s); and
- While this plan is indicative of current best practice, it will need to be reviewed and verified at the time of closure, to reflect any changes required for legal reasons or to take into account the final end use of the site.

Based on the information provided through the design process, it is believed that the site can readily be decommissioned, cleared and restored, as necessary, to its pre-licensed condition without any attendant pollution risk.

However, to provide more up-to-date information at the time of closure, the current document system will be used before closure work commences, to identify, assess and minimise the environmental risks and hazards of accidents and their consequences. This review will cover potential impacts on air, land and water, as well as assessing risks associated with noise, vibration and odour.

All contracted third parties will be required to complete an evaluation of risk associated with its/their activities before undertaking any work.

5.1 Management Plan

5.1.1 Personnel

The closure process will be managed by sufficient persons who are suitably qualified, experienced, trained and supervised in respect of any closure operations. These persons may be employed directly by the operator, or by specialist contracted third parties.

5.1.2 Documentation

During the closure period, the Operator will ensure that there is:

- Provision of appropriate written instructions for all closure activities that are accessible at the place of work – these will be a combination of the operator's own procedures and/or specific method statements prepared by contracted third parties in order to complete a specific item of work;
- Relevant records, made readily available, including operating records, maintenance records, service and calibration records, analysis/measurement records and training records; and
- Site plans and drawings, showing the site's status at time of closure, along with historical drawings and maps of earlier plant/structures that may have an impact on the site post-closure.

5.1.3 Equipment

The Operator will ensure that all plant, equipment and technical means used in the closure process is maintained in good operating order to prevent fugitive releases, leaks and spillage. Maintenance, inspection and cleaning procedures will be retained at the site office for all closure activities, in order to minimise the risk of pollution.

5.1.4 Resource Utilisation

The Operator will aim to employ high standards and operational controls in order to optimise resource utilisation, namely use of electricity and water. Controls will include the:

- Minimisation of energy consumption, by ensuring plant and lighting is switched off when not in use; and
- Minimise water use through the identification and reporting of leaks; this will be followed by the use of prompt corrective action to rectify them should they occur.

5.1.5 Waste Management

Waste streams generated from the closure process will be identified, where possible, before closure operations commence, based on historical and operational information available to the Operator. Any existing written procedure for the storage, handling and disposal of all wastes will be reviewed in light of this information and will be used to develop an appropriate 'Site Waste Management Plan' (SWMP) in accordance with regulatory requirements. The SWMP will detail the:

- Storage and control of waste materials on-site, including appropriate mechanisms for identification and segregation of the individual waste streams – this will include the provision of appropriate containers, bays, tanks and skips, where necessary;
- Management of waste disposal routes to ensure compliance with Duty of Care – this will include the identification/use of appropriately licensed waste carriers and disposal sites;
- Completion and maintenance of relevant waste management documentation, including transfer and consignment notes; and
- Storage and control of waste materials off-site, including the use of appropriate transport control to prevent loss of material during transit.

Where possible, waste generated will be recycled or reused, in a manner that best represents BAT.

5.1.6 Incident Management

All incidents (i.e. uncontrolled emissions to air, land or water) will be investigated and addressed without delay, in order to minimise any potential onward release.

The accident management plan will be maintained at the site, in accordance with its permit. Use of the plan will ensure the provision and maintenance of appropriate spills control/response equipment.

A record of all incidents will be retained at the site, including details of any corrective action taken.

5.1.7 Communications

It is important that good relations are established and maintained with the site's neighbours. In line with the Environmental Permit, procedures will be retained on site governing the:

- Recording, investigation and corrective action taken for any validated complaint or concern raised by a member of the public or other interested parties – copies of all such correspondence and communications should be retained in line with permit conditions;
- Management and control of work within designated working hours only; and
- Monitoring, control and maintenance of plant and equipment (including vehicles) to minimise the impact from noise and vibration within the local amenity.

5.2 Plant Decommissioning

Throughout decommissioning, best practice techniques, as outlined in the EPR guidance documents, will be employed where possible to minimise the risk of fugitive releases to air, land and water, and to control any nuisance issues associated with noise, vibration and odour. Specific controls will be employed in the following areas.

5.2.1 Above-Ground Buildings, Structures and Storage Areas

Where possible the following techniques will be employed:

- Cleaning will be undertaken in a manner that minimises fugitive releases, including utilisation of fine water mists to dampen any dusty materials; and
- All pipes, valves, and pumps should be drained in-situ and sealed/locked to prevent further use.

5.2.2 Transport

Where possible the following techniques will be employed:

- All vehicles in use will be parked on designated hard-surfacing areas, and vehicles will be maintained so as to minimise the potential for leaks;
- All loading/unloading of vehicles will be undertaken under the supervision of suitably qualified site staff;
- All loads leaving the site will be appropriately sheeted to prevent fugitive releases; and
- All vehicles will only be fuelled in designated areas.

5.2.3 Sub-surface Structures

Sub-surface structures will comprise the waste reception pit, site drainage system and sumps used for the collection of rainwater and any surface spillages. In relation to the safe decommissioning of these areas, the following will be undertaken:

- All material in subsurface sumps, pipe work and drains will be analysed and material drained to the appropriate above ground tank – where possible, this material will be treated onsite prior to operations ceasing;
- Any subsurface sumps and associated pipe work and drains will be flushed with water jets to remove any residual deposits/fluid into the system, following the cessation of site operations; and

- All removed solid and liquid waste will be sent to an appropriately permitted facility for disposal/recovery – a nominated contracted third party will undertake the work in accordance with current maintenance procedures.

5.2.4 Surfacing

All surfaces will be cleaned to remove any spillage or build-up of dust, and the site will be kept free of mud and debris to prevent transfer to the public highway. In the event of material being transferred to the highway, the operator will immediately arrange for it to be swept.

5.2.5 Services

All services will be disconnected and locked off once work in an area has been completed. This will be recorded and details retained for the site clearance phase.

5.3 Site Clearance

The majority of plant clearance work is of a specialist nature due to the potential safety risks involved, and as such will be most likely undertaken by nominated contracted third parties.

Throughout plant clearance, best practice techniques, as outlined in the EPR guidance documents or similar demolition standards, will be employed where possible, to minimise the risk of fugitive releases to air, land and water, and to control any nuisance issues associated with noise, vibration and odour. Specific clearance requirements have been identified below.

5.3.1 Above-Ground Buildings, Structures and Storage Areas

All material from the demolition of the buildings and structures associated with the plant will be segregated into different material types stored in temporary stockpiles.

As far as possible, all concrete rubble will be used on the site as infill material to fill voids, underground reception pits and/or generally bring the area to one level. Any material remaining will be recycled where possible or sent for disposal.

Any metal generated from the demolition process will be sent for recycling and all other materials will be segregated and sent for recycling where possible.

5.3.2 Transport

Where possible all vehicles will be removed for use at another operator facility or sold on to a third party for reuse.

Any vehicles at the end of their useful life will be managed in line with the current regulations governing their disposal.

5.3.3 Sub-surface Structures

It is proposed that all underground sumps or pits will be filled with a suitable fill material. If there is obvious contamination of the surrounding ground at the time of closure, then action to remediate the issue will be undertaken.

5.3.4 Surfacing

It is proposed that the site is left with a level concrete base until such times as redevelopment occurs.

5.4 Proposed Post-Closure Monitoring

Post-closure monitoring will be undertaken during the plant decommissioning and clearance phases. Following plant clearance, monitoring will cease unless contamination issues are identified during clearance operations that require long term monitoring.

5.4.1 Site Infrastructure

Site Inspection

A routine inspection will be undertaken to check the condition of perimeter fencing, to determine if there is any evidence of illegal tipping or vandalism, and to verify the general condition of the area.

Should an incidence of unauthorised tipping be discovered, the Environment Agency will be informed as soon as reasonably practicable, and arrangements made to have the material removed.

Damage to fencing, gates, or perimeter barriers that are found to be in poor condition will be temporarily repaired as soon as practicable, and permanently repaired within three weeks of the inspection.

Dusts and Particulates

The generation or emission of dusts and particulates following plant closure is not anticipated to be a problem, as all materials likely to cause dust will have been removed during the site clearance phase.

Any material that has been found tipped without permission likely to cause a release of dust or particulates will be removed as soon as reasonably practicable. Temporary measures to dampen or cover the material to minimise fugitive release will be taken immediately.

Odours

The generation of odour following cessation of operational activities is not likely to be a problem, as these areas will have been cleaned of such materials and in-filled.

Noise

The generation of noise is not anticipated to be a problem following site closure, as all operations including traffic movements will have ceased.

5.4.2 Pollution Control

Groundwater

The strata beneath the site is classified as a minor aquifer, with a high vulnerability soil classification.

It is proposed that on site completion, underground sumps/drains will be filled with a suitable fill material. If there is obvious contamination of the surrounding ground at the time of closure, then action to remediate the issue will be undertaken.

Surface Water

As a result of the cessation of operations and the clearance of the plant, fugitive releases to surface water are not anticipated to be problem.

Legal Compliance

There will be regular progress and environmental meetings held between the operator and any contracted third parties to discuss any concerns.

In the event of any unforeseen circumstance, or significant changes, to the closure plan, the operator will review changes in relation to environmental risks before progressing.

Audits of site activities will be scheduled throughout the closure programme, in order to determine compliance with regulatory requirements and procedures. Such audits will involve site inspection, interviews with relevant personnel and an inspection of site records. All findings will be discussed with the appointed Site Manager, and a plan of remedial action agreed.

5.5 Record Management and reporting

5.5.1 Records

- Relevant records will be made readily available during closure activities, including operating records, maintenance records, service and calibration records, analysis/measurement records, incident reports, communication logs and training records;
- Records will be held, detailing the disposal quantities and routes of all waste disposed, reused or recycled; and
- All records will be retained for a minimum of six years.

5.5.2 Reporting

Reporting of monitoring and operational data will be undertaken in accordance with permit conditions and in a manner that will allow final permit surrender.

5.5.3 Notifications

Notifications will be undertaken in accordance with permit conditions.