ASH RESOURCE MANAGEMENT (CAMBRIAN QUARRY) LTD 2304/426/MS/01

Environmental Management System

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Oaktree Environmental Ltd

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1·0 SUMMARY

1.1 This document represents the Environmental Management System for Cambrian Quarry Restoration Scheme, operated by ASH Resources (Cambrian Quarry) Ltd and has been prepared in accordance with best practice current at the time of writing. It is submitted as part of an application to the Environment Agency for an Environmental Permit for a 'Recovery operation' as agreed with Natural Resources Wales.

1.2 The Application is for the deposit of non-putrescible waste into or onto land. The applicant intends to restore an area referred to as Cambrian Quarry Void with suitable fill restoring the area to levels agreed in Planning Permission Ref No. 050695 granted by Flintshire Council on 15th January 2014.

1.3 The application site is located within Cambrian Quarry, a dormant limestone quarry located 300 metres south of Gwernymynydd and 2.5km south west of Mold, Flintshire. The quarry covers a total of 7.3 hectares and can be divided into two distinct areas.

1.4 The Old Quarry Area (an area of old mineral workings which included quarrying, underground lead mining and underground silica mining). Most of the old Quarry Area now comprises woodland, scrubland and calcareous grassland that have regenerated. The majority of the Old Quarry Area is outside the proposed development area. To the south of the Old Quarry Area is the Cambrian Quarry Void. This covers approximately 2.8 hectares and was worked for limestone and silica stone between 1950's and 2000. The base void rises from around 266 metres above Ordnance Datum (AOD) in the north to around 280 metres AOD in the south. The quarry floor and shallower quarry faces have started to naturally re-vegetate, mainly with calcareous grassland.

1.5 Planning has recently been granted for the importation of suitable material for restoration of Cambrian Quarry void and for the recycling of inert materials using mobile plant. The recycled soils and aggregates will be either used in the restoration scheme or may be exported off site to be used in the construction industry.

1.6 The following key elements were all considered as part of the planning application and were subject to detailed assessment by specialist consultants And all mitigation measures recommended during the assessment have been incorporated into the development proposals:-

- Ecology
- Traffic and Highways
- Land contamination
- Geology and Stability
- Hydrology and Hydrogeology
- Restoration and Afteruse
- Landscape and Visual Impact
- Noise, Dust, Odour, Litter and Lighting
- Recreation and Cultural Heritage

Proposed Development

1.7 It is proposed to construct a new internal access road which will run parallel to Glyndwr Road and will link up with the existing Quarry access road to the west of the current access road.

1.8 The restoration scheme and proposed recycling facility will involve the importation of solid, dry, non-hazardous soils, subsoils, clays, stone, concrete, bricks, tiles and rubble. A major part of ASH's business involves earthworks contracting where these types of materials are excavated and removed from construction sites, utility trenches, highway works etc. In addition, inert residues from the onsite recycling plant and some clean soils form ASH's waste transfer station at Bretton will be used in the restoration of Cambrian Quarry. All materials will be tightly controlled and monitored, from the point of collection to the final placement in the Quarry Void, to ensure that only suitable materials as allowed under the Environmental Permit are used in the restoration.

1.9 The restoration and slope stability scheme will consist of the importation of approximately 477,000m3 of restoration materials to progressively restore the quarry void in five phases and over a period of up to ten years. Phases 1-4 are regarded as a 'Recovery operation' by Natural Resources Wales. This application is therefore for phases 1-4 which consists of approximately 410,000m3 to be imported for restoration.

1.10 The completed restoration will provide a shallow landform that will be used for agriculture and nature conservation. Advance landscape planting and ongoing management of the land with the overall Cambrian Quarry will not be affected by the proposed development and it has been agreed the management of the restored Quarry Void and surrounding land will be continue for a period of 15 years from the date of completion of the restoration.

1.11 It has been estimated an overall total of between 145,000 to 200,000 tonnes of material is likely to be imported into Cambrian Quarry per annum, (with a figure of 100,000 to 140,000 tonnes per annum estimated to be deposited as part of the restoration scheme and 45,000 to 60,000 tonnes being recycled and exported from the site as aggregate and topsoil). Therefore the proposed annual tonnage requested being 200,000 tonnes.

Treatment of Waste: Physical

1.12 The treatment facility is to be located within the quarry void but the actual location will vary as the restoration scheme progresses. The recycling plant will consist of a mobile crusher, three way mobile screen and a vibrating table. A hydraulic excavator and a loading shovel will be used for loading and unloading of materials. The imported material which will contain materials such as stone, concrete, brick and soil will undergo waste acceptance procedures to ensure its suitability for treatment and or deposit as part of the site restoration. All material will be assessed for suitability prior to acceptance on site and all the relevant test data checked. If suitable for acceptance under the environmental permit the material will be transported to site. All the paperwork will then be checked against the load. If it meets all the checks, the material will be unloaded, inspected and then processed through the on site crusher and screener. The material is then sampled for testing to meet the required materials specification. Acceptable material is then stockpiled

awaiting collection for use on site. If the material is suitable for restoration without processing it will be taken directly to the restoration area.

Infilling Operations

1.13 A temporary office, weighbridge and wheel wash will be installed to the north of the Quarry Void. Materials accepted at the quarry will either be deposited at the infilling face or if suitable for recycling within the recycling area.

1.14 Infilling will progress in phases 1-4 (recovery operation) and phase 5 the final restoration phase. Phase 1working from north to south, phase 2 infilling will move south to north. Infilling will progress against the eastern quarry faces during phase 3 and then against the western quarry face during phase 4.

1.15 The final phase will involve infilling the steep central valley feature created during phases 3 and 4 to create a shallower valley landform that is in keeping with the surrounding area.

1.16 The proposed quantities and waste types to be accepted at Cambrian Quarry are detailed in Appendix B.

Exempt Activities

1.17 Should the site require, the operator will notify Natural Resources Wales of any activities they wish to carry out under Schedule 3 of the Environmental Permitting (England & Wales) Regulations 2010 (or any subsequent revisions).

2·0 INTRODUCTION

2.1 BACKGROUND

2.1.1 The Management System identifies the measures that will be taken to prevent or, where this is not practicable, to reduce emissions from the site, throughout references are given to relevant Reports and the various specific management plans submitted with the permit application, many of which will form part of this Management System when the site becomes operational. This Management System should be read in conjunction with the following documents submitted with the application or prepared prior to the commencement of operations:

- The Fugitive Emissions Management Plan (2304/426/C)
- The Noise and Vibration Management Plan (2304/426/K
- Waste types (2304/426/B)
- Hydrological Hydrogeological Impact Assessment (2304/426/G)
- Environmental Impact Assessment / Ecology Report (2304/426/F)
- Site Condition Report (2304/426/L);
- Environmental Risk Assessments (2304/426/M)
- Stability Risk Assessment (23034/426/H)
- WAMITAB Certificate (2303/426/A)
- Planning Consent (2304/426/D)*.
- Surface Water Details (2304/426/I)
- Drawings (Located in Appendix O)

2.1.2 The above documents will be appended to the Management System.

2.1.3 This Management System has been produced prior to the site development and will therefore be reviewed on commencement of operations to ensure it reflects best practice and actual operations.

2.1.4 The System will also be subject to continuous review and revision. The Regulator (Natural Resources Wales NRW) will be supplied with details of revisions on a regular basis.

2.1.5 Major revisions will be subject to prior approval by NRW.

2.2 THE OPERATOR

2.2.1 The application is being made by ASH Resource Management (Cambrian Quarry) Ltd, a subsidiary of the ASH Group (ASH) which comprises two operating companies: ASH Waste Services Ltd and Alan's Skip Hire Ltd. The ASH Head Office is located at Bretton, near Broughton in Flintshire. Tel 01244 660422

2.2.2 ASH Waste Services Ltd carries out a range of waste collection, recycling, site clearance and restoration operations throughout North Wales and North West England. As part of these operations, ASH Waste Services operates two modern waste transfer and recycling facilities located at Bretton and Wrexham, both in North Wales. ASH Waste services also carries out earthworks contracting and the production and supply of topsoil and recycled aggregate, which is currently recycled at a temporary facility based in Deeside.

2.2.3 Alan's Skip Hire is a substantial skip hire business operating throughout North Wales and the North West. It provides skip hire services to commercial and residential customers. All materials collected by the skip hire business are sorted and recycled at the two waste transfer/recycling facilities operated by ASH Waste Services.

2.2.4 ASH Resource Management (Cambrian Quarry) Ltd Leases Cambrian Quarry from the landowners who are Valeway Ltd and Jennings Building and Civil Engineering Ltd.

2.3 TECHNICAL COMPETENCE

2.3.1 The operations on site fall within the scope of a relevant waste operation as defined in the Environmental Permitting Regulations 2010. There is therefore a requirement for an appointed holder of a suitable Certificate of technical Competence (COTC) or other such Technically Competent Manager (TCM) to be available for the site.

2.3.2 The TCM for the site will be Neil Hassall. A copy of the WAMITAB certificate will be placed in Appendix A (document ref. 2304/426/A)

2.3.3 The site will be operated by competent staff with relevant knowledge in their area of work. The site will be led by management who will be aware of operating procedures and requirements at the site, including:

- The Environmental Permit;
- This Management System; and
- Current and relevant legislation and guidance
- Health & Safety Requirements

2.3.4 Management duties will include the undertaking of inspections of the site and keeping of the appropriate records as detailed in the sections and appendices of this Management System.

2.4 SITE STAFFING

2.4.1 Adequate staff will be available on site to operate the facility. This will include a Site Manager, a tipping area supervisor, machine drivers and plant operators, supervisors for the wheel washes and administrative staff. The Technically Competent Manager will attend site to achieve the level of supervision required in EA/NRW guidance.

2.5 STAFF TRAINING

2.5.1 New employees will be given full induction training by site managerial staff or other appropriately qualified persons. The site managerial staff or other appropriately qualified persons will monitor the progress and assessment of competences of all staff.

2.5.2 The training programme will seek to maintain staff awareness of the following:

- Regulatory implications of the Environmental Permit and their specific work activity;
- All potential environmental effects from operations under normal and abnormal circumstances;
- The requirements for monitoring the environmental impact of the site including assessment of dust and the operation of noise meters;
- The need to report deviations from the Environmental Permit;
- Prevention of accidental emissions and action to be taken should accidental emissions occur. and
- Making and keeping legible records using the paper or electronic formats provided.

2.5.3 Records will be kept of all staff qualifications and training in relation to operation of the site, emergency procedures and the content and requirements of the Environmental Permit and Management Plan.

2.5.4 Site operatives will be trained in the safe operation of all plant which they are expected to operate.

2.5.5 All equipment will be subject to testing and commissioning in accordance with the manufacturer's procedures and recommendations. Records of testing and commissioning will be maintained in the site control office.

2.5.6 Should plant or equipment for any reason become unserviceable or inoperable, its replacement, repair or arrangements for its repair will be carried out as a priority. Natural Resources Wales will be advised of any site closure of greater than 21 days.

2.5.7 Details of routine maintenance and unplanned maintenance will be kept in the maintenance record system.

2.6 SITE LOCATION

2.6.1 The site is located within Cambrian Quarry, Glyndwr Road, Gwernymynydd, Flintshire NGR: SJ 21456 62160 (Centre of site). The location of the site is shown on Drawing Nos ASH-CQ-01. Drawing No ASH-CQ-10 shows the proposed Permit Boundary.

2.6.2 The Quarry lies 2.5 km south west of Mold and 300 metres south of Gwernymynydd. The A494(T) Mold to Ruthin road runs 200 metres to the north of the Quarry. The current access to the Quarry is onto the minor Glyndwr Road, which runs to the north and east of the Quarry. The current access to the Quarry is located 200 metres west of the junction where Glyndwr Road meets the A494.

2.6.3 The closest residential properties to the Quarry are located on Glyndwr Road to the east and on the A494 to the north of the Quarry. The nearest properties to the Cambrian Quarry Void, which is the area that is proposed to be infilled and restored, are located on the western side of Glyndwr Road. There are 14 properties along this stretch of Glyndwr Road, lying between 80 metres and 125 metres from the eastern Quarry boundary. The intervening land slopes steeply upwards from Glyndwr Road to the Quarry boundary, rising by 20 – 40 metres. These properties are shown on Drawing No. ASH/CQ/02A.

Statutory Designations

2.6.4 The boundary of the Clwydian Range Area of Outstanding Natural Beauty (AONB) runs through the northern part of the Quarry Void (see Drawing No. ASH/CQ/02A). The Old Quarry Area is not, therefore, within the AONB but virtually the whole of the Quarry Void lies within the AONB.

2.6.5 The Site lies within the Cambrian Quarry Site of Special Scientific Interest (SSSI) which was confirmed as an SSSI in November 2011. The SSSI covers 23 hectares (see Drawing No.ASH/CQ/05) and was designated because of its special biological interest for its large population of hibernating lesser horseshoe bats.

2.6.6 The bats use the silica mine workings that run beneath the north eastern part of the Old Quarry Area and beneath the fields to the east. Outside of Cambrian Quarry, the majority of the SSSI is woodland which lies to the east, north and west of the Old Quarry Area. This woodland is used for foraging by the lesser horseshoe bats.

2.6.7 The Alyn Valley Woods Special Area of Conservation (SAC)/SSSI lies at its closest point 600 metres to the west of the Site.

2.7 SURROUNDING LAND USE

2.7.1 The proposed site lies within a rural catchment and the proposed end use of the quarry will be in keeping with the surrounding land.

2.8 PLANNING PERMISSION

2.8.1 Cambrian Quarry and the surrounding area have been subject to extensive mining and quarrying operations. Lead mining started in the area in the early 18th Century and was at its height in the 1800's. There are a number of shafts associated with the lead mines located around the Quarry.

2.8.2 Lever Brothers took over the ownership of the Quarry in 1905 and started mining silica stone for use as an abrasive agent in Vim. The silica stone was extracted using pillar and stall working methods which has resulted in a network of mine workings beneath the eastern part of the Old Quarry Area and under the adjoining fields to the east. The opencast quarrying of limestone and silica stone at Cambrian Quarry started in the 1800's and this was subsequently brought under planning control in 1951.

2.8.3 The Cambrian Quarry Void is covered by one planning permission for '*Quarrying at Cambrian Quarry'*, granted in 1951 under Permission Ref. H51/279. This permission covers 3.7 hectares and is shown on Drawing No. ASH/CQ/02A. This permission was subject to review under the 1995 Environment Act and an Application for the Determination of New Conditions was submitted in January 1997. This review application has not been determined as an Environmental Statement is now required to be submitted under EIA Regulations introduced in 2009. The permission was formally suspended in 2011, under these Regulations, and mineral extraction operations cannot recommence until an Environmental Statement has been submitted and the review application is finally determined.

2.8.4 Cambrian Quarry has operated on an intermittent basis since the 1951 permission was granted. It last re-opened in 1994 when it was operated by Jennings Plant Services until 2000. During this time production reached a maximum of 250,000 tonnes per annum. Limited reserves of mineral remain to be worked at the Quarry. There were formerly no approved restoration scheme for the Cambrian Quarry Void. The 1997 Review Application proposed that, upon completion of mineral extraction, the Void would be left to naturally regenerate.

2.8.5 There are three extant planning permissions for the disposal of industrial waste associated with Cambrian Quarry: It is understood that tipping commenced in these areas in 1963 and took place intermittently until 1993. A number of waste management licences were issued in relation to these tipping permissions, between 1974 and 1987, but were surrendered in 1993.

2.8.6 The planning application submitted in 2013 for the restoration of Cambrian Quarry involved the following:-

- The construction of a new internal access road and entrance on to Glyndwr Road, together with associated landscape works;
- The importation of approximately 477,000m3 of inert restoration materials to progressively infill the Quarry Void over a period of 6½-9 years;
- The recycling of inert restoration materials that are brought into the site and contain materials such as stone, concrete, brick and soil that are suitable for re-use;
- The restoration of the Quarry Void to a shallow valley landform that will be used for agriculture and nature conservation;
- Advance landscape planting and ongoing management of the land within Cambrian Quarry that will not be affected by the proposed development;
- The management of the whole of Cambrian Quarry, including the restored Quarry Void, for a period of 15 years from the completion of restoration.

2.8.7 Planning Permission was granted subject to relevant conditions on 15th January 2014 (Ref No. 050695) for the Restoration of Cambrian Quarry by the Importation and Recycling of inert materials. Copy of the Planning Notice will be placed in Appendix D.

2.9 SITE INFRASTRUCTURE

2.9.1 The site infrastructure associated with the restoration of Cambrian Quarry and the recycling operation will briefly comprise:

- Site entrance roads and fencing.
- Site office (portacabin)
- Weighbridge
- Internal site roads temporary and permanent
- Wheel Wash facilities.
- Secure barrier (which includes newt fence) erected along eastern edge of office/weighbridge area, to ensure no vehicles to the east of the barrier and over the old mine workings and prevent newts from entering the operational area.

2.10 HOURS OF WORKING

2.10.1 The proposed hours of working for all operations at the Site, including the transport of materials into and out of the Site, are 7am to 5pm Monday to Friday and 7am to 1pm on Saturdays. The Site will not operate on Sundays or Public Holidays.

2.10.2 No operations will take place within the Quarry Void during the early morning or late afternoon when it is dark within these working hours. This additional restriction on working hours is proposed to ensure that there is no requirement for artificial lighting or for the use of lights on mobile plant within the Quarry Void. This will ensure that the bats using Entrance No.3 within the Quarry Void are not adversely affected by artificial lighting

3.0 SITE RECEPTION

3.1 WASTE DELIVERY

Each incoming delivery of waste will be checked to confirm that it complies with the description of the waste provided and the categories of wastes permitted for acceptance under the Environmental Permit as described in document ref. 2304/426/B Waste Types at appendix B. Any waste that, upon arrival at the site, is found to be unacceptable under the conditions of the permit and Waste Acceptance Criteria, will be rejected. If non-conforming waste is discovered after deposit it will either be immediately reloaded and returned to the waste producer or stored in a designated quarantine area.

3.2 REJECTED WASTE

Records of rejected waste and details of their removal from the site will be kept and maintained within the site log and will be available for inspection by NRW.

3.3 HAZARDOUS WASTE

Wastes that are rejected and that exhibit any hazardous properties will be stored in containers that are appropriate to the hazardous properties that they possess. Should any hazardous wastes be identified that may present a serious and immediate risk of harm to the environment and/or human health then NRW will be notified immediately and asked for advice on appropriate actions. These wastes will be dealt with in a manner agreed with NRW and arrangements made as soon as possible for their removal off site to a suitably permitted facility.

3.4 INCORRECT PAPERWORK

Any wastes that are rejected from the site due to insufficient/incorrect paper work will be sent back to the waste producer for them to arrange disposal.

3.5 UNAUTHORISED WASTES

Occasional items may be removed from delivered waste, for example pieces of metal, plastic, wood or vegetation, these will be placed in an unauthorised waste skip for transport to a suitably authorised site for treatment.

3.6 UNAUTHORISED WASTE RECORDS

Whenever unauthorised materials arise on site a note will be made in the site diary, of the type and nature of the waste and the actions taken in relation to it. If there is a consistent pattern of unauthorised waste from a particular source the producer will be asked to make more rigorous checks. Failure to address problems with unauthorised items will result in waste producers being given a written warning advising that failure to deal with the problem will result in waste being directed to other facilities.

4.0 INFRASTRUCTURE, PLANT AND EQUIPMENT

4.1 PLANT AND EQUIPMENT

The plant and equipment employed on site will consist of:

- Hydraulic Excavator
- Tracked Bull Dozer
- Mobile crusher
- Three way mobile screen and vibrating table
- Loading shovel
- Wheel Wash
- Pressure washers
- Roadsweeper
- Water Bowser(s)
- Brushes shovels etc.

4.2 DESIGN, CONSTRUCTION AND QUALITY ASSURANCE

The technical specifications for all aspects of engineering, storage, drainage and buildings shall include engineering and environmental risk assessments. Suitable pollution prevention and control measures will be designed and implemented accordingly.

4.3 VEHICLE RECEPTION AREAS AND SITE ROADS: DESIGN, CONSTRUCTION AND MAINTENANCE

4.3.1 The new site entrance/exit road location and design has been approved by the local authority and will be constructed according to the specification submitted with the recent planning application and will allow easy passage of lorries in both directions. The new internal access road is to be constructed with asphalt or concrete for its full length and the drainage scheme for the new access road will include measures to prevent surface water run-off from draining onto the public highway. The existing site tracks will be cleared of any vegetation and will hard surfaced consisting of compacted crushed aggregate.

4.3.2 The exit road from the wheel wash will be constructed from tarmacadum or concrete with a hardcore base. Road surfaces will be checked at least twice per day for wear and tear and the presence of deposited mud or dust.

4.4 WHEEL WASH EQUIPMENT

4.4.1 The site will be equipped with a wheel washing system to ensure mud is not carried out of the site onto the public highway on vehicles underbody, wheels or chassis. All tipping vehicles will pass through the wheel wash, prior to being allowed to exit the site.

4.4.2 The waste types handled on site and the fact that the main vehicle running surfaces are hard surfaced and separate to the waste handling areas, reduces the likelihood of mud or debris being carried onto the industrial estate roads. The public highway is also a considerable distance from the tipping area. A mobile road sweeper will be used by the

site operator to remove any mud and debris the access road from outside the site entrance to the highway. Additional procedures proposed, such as the washing down of vehicle tyres by the use of a jet wash and avoidance by vehicles of stockpile area, may be put in place to ensure that mud and debris are not tracked onto the exit road and the public highway

4.4.3 Details of the wheel washing facilities their supervision and mud and dust management as a whole form part of the fugitive emissions plan contained in Appendix C document 2304/426/C.

4.5 DRAINAGE

4.5.1 The site will continue to drain naturally through the limestone base as detailed in the Hydrology and Hydrogeological Report.

4.5.2 Details of the Surface water collection measures are detailed in Drawing No.P103 Rev A which is attached to Appendix I.

4.6 DESIGN AND CONSTRUCTION OF STORAGE TANKS

4.6.1 To contain any leakages, whether resulting from minor leaks or catastrophic failure of a tank, all tanks containing potentially polluting liquids will be bunded to the following specification:

- Tanks will comprise either a double skinned tank, the outer skin having a capacity of 110% of the capacity of the inner tank; or
- Any single skinned tank will be contained within an impermeable bunded area of not less than 110% of the capacity of the tank. If more than one tank is stored within the bund, the system will be capable of storing 110% of the biggest container's capacity or 25% of the total tank capacity within the bund, whichever is the greater.
- There will be no drain valves through the outer skin of the tanks or bund walls. All tanks will be fitted with a label that will detail the contents and the maximum capacity of the tank.

4.7 SITE IDENTIFICATION BOARD

4.7.1 An identification board of durable material and minimum size 1 metre by 1 metre will be erected and maintained in a prominent position at the site entrance. The board will display the following information:

- Site name and address;
- Permit holder and Operator name;
- Environmental Permit number;
- Emergency contact name and telephone number;
- Statement that the site is permitted by Natural Resources Wales
- Days and hours site is open to receive waste; and
- Natural Resources Wales contact numbers; 0300 065 3000
  Incident hotline 0800 807 060

4.8 SITE SECURITY

4.8.1 The permitted area will be fully enclosed with an appropriate site security fence, to prevent unauthorised access to the site. At all site access points, gates of a suitable width and height will be provided, these shall be of a similar construction and height as the fencing provided to the site boundary. The access gates will be locked whenever the site is unmanned. Appropriate signage to discourage trespassers will be erected at the site entrance.

4.8.2 Maintenance and inspection of the site fencing and gates will be undertaken on a routine basis and temporary repairs will be implemented either upon identification during the inspection, or by the end of the day that the defect is found. A note of the inspections and repairs will be kept at the site and will form part of the site log.

4.8.3 Permanent repairs to the fencing and gates will be carried out within 5 working days and again a note will be made in the site log to this effect.

4.9 LIGHTING

4.9.1 The office will have downward facing floodlights attached to the top of the building in order to light up the office/weighbridge area during hours of darkness/poor light when the site is operating. The lights will be switched off when the site is closed.

4.10 STORAGE OF FUEL, OIL AND OTHER LIQUIDS

4.10.1 Storage tanks will not be positioned near watercourses, general traffic movement areas or alongside access roads. Appropriate storage will be provided for substances with special requirements e.g. flammability or sensitivity to light. Covered storage and additional protection from vandalism will be arranged where appropriate. Storage tanks will be bunded in accordance with Section 4.7. A responsible person will supervise all deliveries to the site. The quantity of fuel in storage will be checked, by using a sight glass or by dipping prior to a fuel delivery being made and the maximum residual capacity of the tank will be determined prior to the commencement of re-filling, so as to prevent overfilling.

4.10.2 Hydraulic and lubricating oils, will be stored in a secure lockable container. The container will be provided with a spillage containment tray, to prevent the leakage from the container of any materials that might leak from any of the drums contained within it. Filling and emptying procedures will be adopted to minimise the risk of spillages.

4.10.3 All drums and similar containers stored within the facility will be clearly marked with their contents and capacity. Drum openings will be securely sealed before being moved to prevent spillages. All storage facilities will be kept locked at all times when not in use.

5.0 SITE OPERATION

5.1 OUTLINE OF OPERATIONS

5.1.1 The importation operations will be controlled by the site operator and operations will be carried out in compliance with the planning permission and the conditions of the environmental permit.

5.1.2 The importation of material in order to achieve suitable infill material for stabilising and restoring the quarry may be deposited directly if suitable or the material may need to be produced to the required specification using mobile plant (screener and crusher). Material processed by the mobile plant on site under an Aggregates Protocol may be sold to the local construction industry as a product to help finance the restoration scheme.

Recovery operation to stabilise quarry face and Restoration Cambrian Quarry Void.

5.1.3 The scheme for the stabilisation of the quarry faces and the associated restoration scheme will be carried out as detailed in the agreed Waste Recovery Plan.

5.1.4 Once incoming waste has been checked and verified it will be deposited either at the working face or deposited in the stockpile to await processing. If it is to be used directly in the restoration activity it will be pushed over the working face and compacted or if working from the front of the face pushed up the face and compacted. Lifts will be no more than 2m and compaction layers will be kept as thin as practicable. Compaction will be achieved by at least three passes of the machine spreading the waste or a dedicated compactor. Wastes which are to be treated will be directed to the processing storage area and when required will be screened or crushed.

5.1.5 Material will be stored on site prior to being processed on site or processed material stored until deposited under the waste recovery or restoration scheme or taken off site for re-use else where.

5.1.6 If soils are stored in excess of 6 months, the storage mound will be seeded to prevent erosion and weed growth. Soils will be placed into storage using a machine with low ground pressure to avoid compaction and damage to the soil structure.

5.1.7 Any soils stored will be in a manner which protects soil structure and organic content, avoiding compaction and development of anaerobic conditions within the soil mass**.**

Method and Phasing of Infilling

5.1.8 HGVs transporting restoration materials to the site will stop at the office/weighbridge where the load and its paperwork will be checked. The HGVs will then travel into the Quarry Void and either deposit the materials at the infilling face or (if suitable for recycling) within the recycling area. A hydraulic excavator and dozer will be used to spread the restoration materials and a compaction roller will be used on an intermittent basis to compact areas of infill.

5.1.9 The Quarry Void will be infilled progressively and, in order to demonstrate how it will progress, the infilling has been divided into five phases which are illustrated on Drawing Nos. ASH/CQ/08a-e and described further below.

Phase 1 – infilling the Quarry floor to the 282m AOD level

5.1.10 The lowest part of the Quarry floor is in the north where it is at 266m AOD at its lowest point. Infilling will progress from north to south to create a level base across the Quarry Void at 282m AOD. The recycling plant will be located on the Quarry floor in the south of the void during this phase. When infilling comes close to the recycling plant it will be relocated to the northern part of the Quarry Void. Phase 1 has a volume of approximately 75,000m3 and will take 12-17 months to infill.

Phase 2 - infilling to 10 metres below Eastern Quarry rim

5.1.11 The recycling plant will be relocated to the north of the Quarry Void, sitting a ta level of 282m AOD, prior to the start of infilling in Phase 2. With the Quarry Void infilled to a level base during Phase 1, the deepest part of the Void will be in the south. Infilling will progress from south to north to create a base that slopes from around 310m AOD in the south to 282m AOD in the north. These levels are approximately 10 metres below the eastern rim of the Quarry. Properties to the east will be screened (in terms of noise and visual impact) by the Quarry face throughout Phase 2. Phase 2 has a volume of approximately 180,000m3 and will take 29-41 months to infill.

Phase 3 – infilling eastern area to stabilise eastern quarry faces

5.1.12 During this phase infill materials will be placed against the upper eastern quarry faces to create a stable landform at a gradient of around 1:3. The existing 2-3 metre high screen mound, which runs immediately east of the top of the southern part of the eastern quarry face, will be extended further north during this phase. The upper north eastern Quarry face has an entrance to the old silica mine workings (Entrance No.3), with the base of the entrance located at 281m AOD. Infilling in this area will be restricted to 2 metres below the base of this mine entrance. The restoration landform slopes down in this corner of the Quarry and has been designed, in conjunction with the surface water drainage scheme, to ensure that surface water will not drain into the mine entrance. Phase 3 has a volume of approximately 74,000m3 and will take 12-17 months to infill.

Phase 4 – infilling western area to stabilise western quarry faces

5.1.13 During this phase infill materials will be placed against the upper western quarry faces to create a stable landform at a gradient of around 1:3. The recycling plant will be removed from site towards the end of Phase 4 when the area occupied by the plant needs to be infilled as part of the final restoration. Phase 4 has a volume of approximately 55,000m3 and will take 9-12 months to infill.

Phase 5 – final infilling to achieve natural restoration landform

5.1.14 This is the final phase of infilling, where the steep central valley feature created during Phases 3 and 4 will be infilled to create a shallower valley landform that is in keeping with the surrounding area. The upper 1 metre of the restored landform will comprise soils. Phase 5 has a volume of approximately 92,000m3 and will take 15-20 months to complete. Phase 5 however does not form part of the current environmental permit application. The Waste Recovery Plan only applies to Phases 1-4.

Waste Treatment activities

5.1.15 In addition to the direct importation of restoration materials, it is proposed to operate a mobile recycling plant within the Quarry Void. This plant will take materials such as: clean construction and demolition waste; hard core from the ASH waste transfer station at Bretton; inert railway track ballast; and highway drainage stone for crushing, screening and re-use as aggregate or topsoil. Residues from the recycling process that cannot be re-used, which will be mainly clay and subsoil, will be used in the restoration of the Quarry Void.

5.1.16 It is proposed to operate the following plant:-
Processing equipment-Single crusher, a three way mobile screen and a vibrating table, a hydraulic excavator and a loading shovel for loading and unloading materials. Materials suitable for recycling will be transported to the recycling plant by HGV and deposited in stockpiles close to the plant. Recycled materials will also be stockpiled adjacent to the recycling plant and loaded on to HGVs for transport from the Quarry.

5.1.17 The recycling plant is mobile and will initially be located on the current Quarry floor at the southern end of the Quarry Void. It will then be relocated to the northern part of the Quarry Void when infilling has reached 282m AOD in the north. It will remain in this location and at this level until it has to be removed to enable infilling to be completed in this area. Retaining the recycling plant at this level will ensure that it is located at least 14 metres below the level of the eastern rim of the Quarry, in order to minimise noise and visual impact.

5.1.18 The maximum height of the crusher and screens is 5 metres and all stockpiles of materials associated with the recycling operation will be no more than 5 metres high.

5.1.19 The recycling plant and HGVs serving the plant will operate within the proposed working hours (see below) but these hours will be restricted further so that recycling operations only take place during hours of daylight. This restriction is being proposed so that there will be no need for artificial lighting within the Quarry Void, which will prevent any potential adverse impact from lighting on the bat population using the Quarry Void.

5.1.20 The processing operation will be carried out as follows:

a) The feed hopper of the screening plant will be loaded using a 360^{o} tracked excavator or a 4 wheel loading shovel equipped with a bucket.

b) The material loaded into the feed hopper of the crusher then passes into the crushing chamber which uses hydraulically operated jaws to reduce the size of the material.

c) Small feed/fines pass through the grid bars/mesh at the base of the crushing chamber and out of the plant via a small side conveyor with a discharge height ofapproximately 1.5 - 3.0 metres. The larger crushed material falls onto the delivery conveyor which will discharge the material in one of two ways: either onto a conveyor feeding the grid of the mobile screen or onto the ground to form a stockpile.

d) Before the crushed material exits the delivery conveyor (discharge height of up to 4.0 metres) metal is extracted using a permanent overband magnet.

e) If the material requires further grading after crushing the mobile screening plant used will have up to 3 discharge conveyors, forming 3 stockpiles of different product.

f) The screening plant utilises a vibrating grid with evenly spaced vertical bars to separate out the different fractions within the crushed material. Such screens have interchangeable mesh screens to permit the production of a wide range of product sizes (<3 mm to 20 mm). The trommels work on a similar principle, using a perforated rotating drum to size segregate the waste.

5.1.21 The stockpiled material which is discharged from the crushing and screening plant will be transferred to the appropriate storage areas by loading shovel.

5.1.22 A crusher may be used on site to produce aggregates for the construction industry under the WRAP protocol.

Waste/product removal and export

5.1.23 The operational outputs and residues produced by the site and the disposal or recovery routes envisaged are detailed as follows:

a) Brick/rubble - for crushing to produce aggregate replacements for on -site or off site use.

b) Fines - exported for use as landfill cover or as material for site restoration works on site.

c) Soils - used on site or exported for site restoration works and other suitable uses.

Rejected wastes:

5.1.24 Due to the strict acceptance criteria rejected wastes will be kept to a minimum but if present in a load, Light waste (non-recyclable) - taken to permitted landfill Green waste - sent to composting sites or shredded at authorised facility. Wood - forwarded to chipboard/mdf manufacturer via a third party.

5.2 WASTE ACCEPTANCE PROCEDURES

5.2.1 Guidance will be given by the site operator to all employees, sub-contractors, other waste carriers and customers regarding the waste types which are acceptable at the site i.e. a copy of the Planning Permission and Environmental Permit. It is the intension of the applicant to use in-house hauliers. If waste is brought in under sub-contract or is delivered by other known hauliers then the carrier registration details will be taken. Any new haulage operators bringing waste to the site will be periodically checked with Natural Resources Wales to ensure that theyare still registered. The procedures below are followed prior to the receipt of loads on site.

5.2.2 For the protection of the operator and site supervisor any loads containing material from an industrial site/area must be accompanied by written documentation to demonstrate that it is not contaminated. To ensure that only clean loads are accepted the following information will be requested from waste producers (if relevant) at the start of each contract to ensure compliance with the requirements (basic characterisation of the waste). The operator reserves the right to refuse such loads and contact Natural Resources Wales where necessary (prior to acceptance of the loads) to ensure that the load is acceptable.

- A site investigation report, including borehole logs (if available).
- Waste analyses (if available), including leachability tests.
- Name and address of the site from which the waste was excavated/produced.
- Detailed waste description, including EWC code and transfer note.

5.2.3 When a driver employed by the permit holder/operator arrives at the customer's site to pick up a consignment of waste he will inspect the load for conformity with relevant regulations and safety procedures.

5.2.4 If the load is satisfactory the driver will sign the relevant paperwork (Duty of Care transfer note/skip ticket) and remove the load from the customer's premises.

5.2.5 If the waste does not meet the description stated on the controlled waste transfer note the customer will be advised to check the note and give a more detailed description of the waste.

5.2.6 If the more detailed description of the waste reveals that the waste is not permitted then the customer will be advised that the waste must be taken to a suitably authorised site.

5.2.7 The driver may also report back to the site manager for instructions.

5.2.8 No top soil or restoration material will be imported on site until it has been checked for contamination and assessed for its suitability.

5.2.9 All incoming vehicles upon arrival are required to report to the person in charge of waste acceptance at the site. The details of the load will be recorded and the duty of care note/company documentation will be further checked by the operator to ensure that the load is acceptable at the site, including a visual check prior to the vehicle proceeding to the tipping area. Any deviation from the procedures or problems with any loads will result in tipping facilities being suspended for the offending company. Loads which are not acceptable within the above terms will be rejected as stated below.

5.2.10 The nature of bulk loads makes full inspection difficult until the load is deposited. If unauthorised waste is discovered the load will not be tipped and will be rejected by the operator and returned to the producer.

5.2.11 Materials which are suitable for acceptance on site will be deposited in accordance with the waste recovery plan for deposit under the slope stability and restoration scheme and or for processing using the mobile plant.

5.2.12 The following details will be recorded for every load deposited at the site

- The date and time of delivery.
- The name and address of the waste producer.
- The type and quantity of waste (in tonnes or cubic metres) including EWC code.
- The carrier's name and address
- Driver's name, signature and vehicle registration No.
- Signature or initials of person accepting/ inspecting the waste
- Reference to the waste hierarchy and the SIC code
- Additional handling details/notes made by the driver after inspection of the load

5.2.13 The following details will be recorded for all deposits of non conforming waste at the site and will be forwarded to NRW, where required:

- Date and time of deposit.
- A description of the waste including EWC codes.
- The quantity of waste (in tonnes or cubic metres).
- Name, address and telephone No. of waste producer.
- The carrier's name, registration number and vehicle registration.
- Reason for the rejection of waste and action taken.

5.2.14 The following details will be recorded for every load of waste leaving the site:

- The date and time of removal.
- The type and quantity of waste (in tonnes) including EWC codes.
- The destination waste management site or exempt facility.
- The name and registration No. of the carrier or employee removing the waste (if
- applicable) and vehicle registration No.
- Reference to the waste hierarchy and the SIC code

5.2.15 A summary of waste types and quantities deposited at and removed from the site will be forwarded to NRW at intervals specified in the Environmental permit for the site.

5.2.16 The outcome of all inspections of waste types, hardstanding areas, roads, drainage channels etc. will be recorded on site inspection form and detailed comments will be entered into the site diary (including action taken or proposed).

5.2.17 Visitors to the site will sign the visitor's book upon arrival and exit stating the purpose of their visit and whom they represent.

5.3 SITE RESTORATION AND AFTERCARE

5.3.1 Cambrian Quarry Void will be progressively restored as approved by the Local Planning Authority as part of the Planning Permission. Details of the specification of the stability restoration and proposals are detailed in the Drawings attached in Appendix J.

5.3.2 The Restoration Masterplan (Drawing No. ASH/CQ/09) shows the habitats that are proposed to be created on the area of the restored Quarry Void. These proposals have taken account of the recommendations of the Ecological Impact Assessment (EcIA) and the Landscape & Visual Impact Assessment.

5.3.3 Around 2 hectares of the Site will be restored to calcareous grassland and areas of woodland will be established within and adjacent to the restored area, in the locations shown on the Restoration Masterplan.

5.4 SITE COMPLETION

5.4.1 The office, weighbridge and wheel wash will be removed upon completion of restoration or earlier if no longer required. The vehicle barrier and newt fence located to the east of the office/weighbridge area will also be removed. The new internal access road and the western access track will be retained to provide access to the restored site and to maintain access for the existing building materials storage business in the Old Quarry Area.

5.4.2 On completion of the Restoration scheme the applicant will be looking to submit an application for surrender of the Environmental Permit.

5.4.3 All restored habitats will be subject to five years of aftercare, which is generally a statutory requirement for this type of development. It is then proposed to continue to manage these habitats for a further 10 years, which will provide a 15 year post restoration management period in total. This extended management period will ensure that the restored habitats are properly established and then managed to maximise their biodiversity.

5.4.4 An Outline Management Plan (OMP) has been prepared and is included with the Ecological Impact Assessment Report in Section 7 of the ES. The OMP provides for the long term management of the retained habitats and the restored habitats within the Cambrian Quarry area. Management of the retained habitats will start at the commencement of the development, take place throughout the development and then continue during the 15 year post restoration management period.

6.0 MANAGEMENT SYSTEMS

6.1 OPERATING PROCEDURES MANUAL

6.1.1 Where not already detailed in this Written Management System detailed written Technical Operating Procedures will be in place for all plant and equipment used on site.

6.2 MAINTENANCE PROCEDURES

6.2.1 Maintenance procedures will be in place for the following:

- Stationary plant and equipment;
- Mobile plant and equipment;
- Fuel and, oil tanks;
- Buildings;
- Road surfaces; and
- Gates and fencing.

6.2.2 Routine maintenance at the facility will be undertaken in accordance with manufacturer's recommendations. Details of inspections and maintenance and all remedial works undertaken for the site plant and equipment will be held in the site log.

6.2.3 Programmed maintenance of plant and equipment will generally be undertaken outside the waste delivery and dispatch hours. Routine maintenance and breakdown/emergency repairs will be scheduled by the plant management team.

6.3 SAMPLING AND TESTING

6.3.1 Sampling of loads will be undertaken as part of a routine procedure for verifying the nature of waste to be accepted at the site. Waste producers will need to include analyses when booking in waste streams for acceptance at the site. Only analyses that have been undertaken in line with MCERTs requirements where necessary and practicable will be accepted as evidence that materials are suitable for acceptance at the site.

6.3.2 Any samples that require to be sent off site for testing/monitoring will be despatched to an appropriate laboratory where suitably accredited test methods are in place.

6.4 SITE VISITORS

6.4.1 Persons visiting the plant will be required to report to the site office. A record of their identity time and reason for their visit will be recorded. Visitors entering the working areas will be briefed with respect to site safety.

6.4.2 All visitors will be made aware of the requirement for protective clothing. No person will be allowed entry to the site without the correct protective clothing. The site staff will be responsible for the Health and Safety of all visitors and will make visitors aware of the potential hazards/risks to their safety or welfare whilst at the site.

6.5 SITE INSPECTIONS

6.5.1 The site shall be inspected daily by the Site Manager (or other suitably trained and experienced member of the management team) for defects in plant, equipment or infrastructure or in any working practice that may affect satisfactory compliance with the Environmental Permit. The staff carrying out inspections will be trained and familiar with the day-to-day site operations. Machinery operators and supervisors are required to carry out daily weekly and monthly defect checks on the machine(s) for which they are responsible. Records shall be kept of all inspections and shall be made available for inspection as reasonably required by authorised officers of the EA.

6.6 AUDITING

6.6.1 In addition to daily site inspections, operational procedures will be audited annually. The audits will be used to identify non-compliance and monitor progress of corrective action. The Plant Manager and Senior Management will review details of audits. Copies of the audits will be kept in the site office.

6.7 RECORDS

6.7.1 A record of the types and quantities (in tonnes) of wastes received at the site and any unauthorised waste removed from the site will be made in accordance with the site management procedures and maintained in the site office. A summary of the types and quantities of wastes deposited at the site and removed from the site will be provided to Natural Resources Wales at an agreed frequency and in an agreed format.

6.7.2 The following events at the site will be recorded, as detailed below:

- Attendance of Technically Competent Manager(s)
- Maintenance;
- Breakdowns;
- Emergencies;
- Problems with waste received and action taken;
- Site inspections;
- Despatch of records to the Natural Resources Wales;
- Complaints received;
- Visitors to the site;

- Pest or vermin incidents;
- Rejected loads and the reason for rejecting the load; and
- Assessments of condition of the land and drainage.

6.7.3 The Plant Manager or nominated person will maintain a record of all the above information in the site log or on inspection forms, as appropriate.

6.7.4 The site log and maintenance records will be kept at the site at all times and will be available for inspection at all reasonable times by any authorised officer of Natural Resources Wales.

6.7.5 The site records will be kept in 24 hour clock format and generated as either:
- Hand generated log;
- Computer generated hard copies; or
- Electronic permanent storage media.

6.7.6 To ensure the security of records they will be housed in either locked containers or kept in offices that shall be locked when not attended.

6.7.7 The list below details the relevant site documentation which will be kept:

Environmental Permit and all attached conditions
The Management System
The Waste Recovery Plan
site diary (to record all inspections/visitors to the site)
in-house inspection sheets/recording forms
duty of care transfer notes (for 2 years minimum)
waste delivery tickets / collection notes
accident book/ RIDDOR notifications (& 1st aid kit) - to be kept on site

6.7.8 Copies of records will be kept by the Site Manager for at least 2 years, before archiving. Records of action taken where a NRW Officer notes non-conformance or failure will be kept until permit surrender.

6.7.9 Records will be disposed of in accordance with company policy, which shall ensure an appropriate but secure method of disposal e.g. shredding and recycling, where feasible.

6.8 CONTROL OF PESTS AND VERMIN

6.8.1 The nature of the waste which will be acceptable at the site is unlikely to be attractive to pests and vermin, however, vigilance will be maintained as to the presence of pests or vermin and any reports of their presence will be investigated and dealt with by a qualified pest control contractor.

6.9 COMPLAINTS

6.9.1 In the event that a complaint is received about operations on site adversely affecting a person or property outside the site boundary, the complaints procedure detailed in Appendix E will be instigated. A senior member of the site management team will carry out investigation of complaints.

7.0 SITE MONITORING

7.1 FUGITIVE EMISSIONS TO AIR

7.1.1 The Environmental Risk Assessment (2304/426/C) identified dust emissions as a possible nuisance the fugitive emissions management plan gives detailed consideration of the monitoring needed and any actions that need to be undertaken in the event of emissions being detected or complaints being made.

7.2 EMISSIONS TO SURFACE WATER

7.2.1 There are no significant watercourses near the site and there is unlikely to be significant interaction between surface water and groundwater other than within the quarry void itself. The site lies within the catchment of the River Alyn, with the nearest surface watercoursepotentially receiving drainage from the site being approximately 1 km southeast of the site and the prevailing surface water drainage direction being eastwards. The impact to off-site surface water flow is expected to be ‘low’ and the significance expected to be ‘none’.

7.2.2 The site will be infilled with inert material and consequently, risks to groundwater will be negligible. The procedures and documentation of this process are identified in the Management Systems. Strict adherence to waste acceptance procedures will reduce the potential impact of infilling with inert waste from ‘moderate’ to ‘negligible.

7.2.3 As there is currently no groundwater in the quarry void, it is assumed that there will be minimal groundwater flow to disturb and that restoration of the void to a shallow valley feature which will cause surface water run-off to stay within the site. The shallow valley feature will direct surface water to the low spots where ephemeral ponds are located. On balance, it is likely that the restoration of the site will reduce the flows of water in the current void. The post-operational impact of the restoration is therefore assessed to have a sensitivity of ‘high’ (due to potential for impact on groundwater), a magnitude of impact of ‘negligible’ and a consequence significance of ‘minor’.

7.2.4 All temporary haul roads will be removed during final restoration but the main internal access road from Glyndwr Road will be retained. The void and weighbridge area will all be restored to nature conservation and agricultural use. No adverse impacts are anticipated from these measures.

7.2.5 The potential for surface water run-off causing detrimental impacts to the SSSI will be controlled by design of the site drainage system during the operational phase. After restoration, the completed landform will control the drainage entering the SSSI, with significant surface run-off within the restored void being to two ephemeral ponds.

7.2.6 Mitigation measures during the operational and post-operational periods are expected to reduce the assessed impact from ‘moderate’ (a worst case) to ‘minor’ or ‘none’. It is expected that any drainage from the site into the SSSI after restoration will be surface water run-off and that it will not have been in contact with infilled inert waste in the quarry void.

7.2.7 There are no permanent water courses present in or around the Application site. Therefore the overall risk of fluvial flooding is considered to be 'negligible' and mitigation measures not considered necessary. It is considered that the Minera Formation will continue to be drained by former mine workings and that the quarry void will not contain significant groundwater in the short or long-term following infilling. Therefore the overall risk of groundwater flooding is considered to be 'low'.

7.2.8 The site currently receives limited amounts of run-off from the surrounding area as it is situated near the top of a broad ridge. The quarry void is free-draining and is not at risk from surface water run-off. The area to the north of the void is located on a slope and surface water readily drains northwards reducing the potential for surface water accumulating and flooding occurring. The overall risk of surface water flooding is considered to be 'low'. During the restoration of the site surface water management is proposed to reduce the risk further.

7.2.9 The volume of storage required for the 1 in 100-year event for the 28-hour storm (to provide the maximum attenuation volume when discharge is limited to 6 l/s) in the restored quarry void is some 1,625 m3.

7.2.10 It is proposed to create an ephemeral wetland with a freeboard of 300 mm and a storage volume of 1,615 m3 in the north of the restored quarry void. This is sufficient to store the calculated volumes of surface water run-off during the 1 in 100-year storm event. Discharge would be to a gravel filled concrete ring soakaway allowing surface water to infiltrate to ground below the imported fill and would provide additional attenuation volume of 19 m3.

7.2.11 An additional ephemeral wetland would be created in the north east of the restored quarry void and would provide some 59 m3 of attenuation volume with an additional freeboard of 300 mm. Drainage from this area will also be via a concrete ring soakaway.

7.2.12 Operations are to be conducted on-site in a manner which prevents contamination of soil and water occurring and provides procedures and equipment for preventing dispersal if contamination occurs.

7.3 EMISSIONS TO LAND AND GROUNDWATER

7.3.1 It is intended to use a system of drainage ditches to drain impervious areas of the site where natural soak away currently occurs. Only clean surface waters will be directed to the surface water drainage system. The wheel wash system will recycle the water as far as possible with additional water being sourced from within the site whenever possible.

7.3.2 Groundwater monitoring boreholes have been installed to the west and southwest of the proposed facility with a further borehole upstream of the proposed facility. Water samples from these will be analysed at regular intervals to ensure that the permitted operations are not causing pollution of groundwater.

7.4 CONTROL OF NOISE AND VIBRATION

7.4.1 The main source of noise arise from vehicles and machinery operating within the quarry void. These will be controlled by the conditions imposed on the planning permission issued by Flintshire County Council. Machinery will be fitted with effective silencers and audible reversing warning systems will be the white noise type.

7.4.2 Noise and vibration surveys have been carried out as part of the planning submission and these along with details of noise management are contained in the noise and vibration management plan (ref 2304/426/K).

8.0 MANAGEMENT

8.1 ENERGY EFFICIENCY

8.1.1 Energy usage will be managed and reviewed annually with the purpose of reducing energy usage where possible.

8.2 EFFICIENT USE OF RAW MATERIALS

8.2.1 The operator will ensure that raw materials are used efficiently and records kept of the types and quantities used. These figures will be reviewed at least annually to consider if any changes can be made. Raw materials will be chosen that minimise environmental impact and alternative raw materials will be evaluated for their environmental impact and where there is positive feedback, substitute products will be considered. Wherever possible materials will be re-used or recycled.

8.2.2 All chemicals will be stored in drums, bags or other suitable containers on sealed surfaces in designated bunded areas to minimise environmental risks. These designated areas will be cleared labelled and the maximum storage capacities stated. Regular checks will be made on the remaining storage capacity of the containers.

INVENTORY OF RAW MATERIALS PROPOSED TO BE USED ON SITE.

Raw Material	Nature	Approximate Annual usage	Use	Hazards Environmental impact	Alternatives
Water	Recycled water	As required	Dust suppression	Run off causing flooding	n/a
Diesel	Diesel fuel	As required	For vehicles and plant – used on site	Flammable liquid Potential impact in soils and aquatic environment	Alternative's under constant review
Lubricating oil	Mineral Oil Or Synthetic oil	As required	For vehicles and plant	Mild irritant Long term exposure may cause irreversible damage. Potential impact in soils and aquatic environment.	Alternative's under constant review.
Gear oil	Mineral Oil	As required	For vehicles and plant	Mild irritant Long term exposure may cause irreversible damage. Potential impact in soils toxic in aquatic environment.	Alternative's under constant review.

8.3 HEALTH AND SAFETY POLICY

8.3.1 All site operations on site will be carried out in accordance with the relevant requirements of the Health and Safety at Work Act 1974. Conditions of site use for employee, visitors and contractors are available on site and will be shown to all site users and must be signed prior to using the site. Anyone not complying will be asked to leave the site.

8.3.2 Fire extinguishers will be kept in the site cabin (1 - carbon dioxide, 1 - water) to deal with fires as stated in the Company's emergency procedures. A first aid kit will also be kept on site and will be maintained to the required standard i.e. as stated in the Health And Safety (First-aid) Regulations 1981.