Waste Recycling Facility
TG Enviro
Cefn Graianog Quarry
Llanllfni
Caernarfon
North Wales
LL54 6SY

Environmental Management System

2025

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1.0 GENERAL CONSIDERATIONS

1.1 Site operator/ licence holder

1.1.1 TG Enviro operate a quarry and waste management recycling facility located at Cefn Graianog Quarry, Llanllfni, Caernarfon, North Wales, LL54 6SY. The site is intended to allow TG Enviro to run a waste recycling business and increase the amount of waste recycled/ recovered whilst preserving virgin material. It is intended that the site will accept waste from commercial, industrial and domestic customers.

1.1.2 This Environmental Management System has been produced for TG Enviro as a means of providing a management structure to meet the requirements of an Environmental Permit.

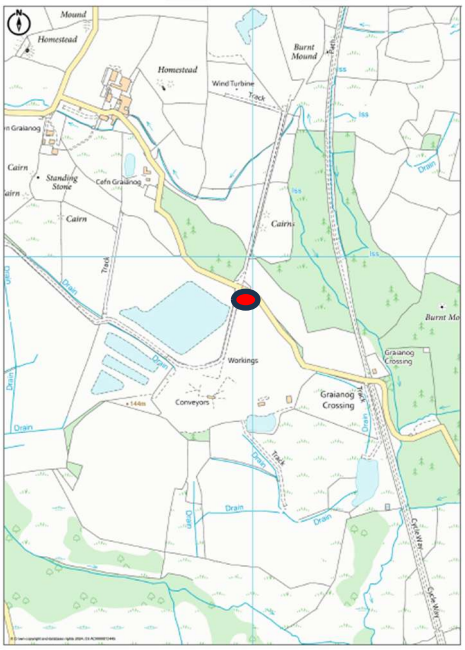
1.1.3 Developments in legislation have increased the effectiveness and scope of operations for waste transfer, recycling and recovery operations. This facility is intended for the recycling or recovery of suitable waste materials into soil, soil substitutes and aggregate through treating, sorting and storage prior to recycling or recovery.

1.1.4 The registered office address for TG Enviro is:

Tudor Griffiths Limited
Wood Lane
Ellesmere
Shropshire
SY12 0HY

1.2 Site location and history

1.2.1 The site is located on land at Cefn Graianog Quarry, Llanllfni, Caernarfon, North Wales, LL54 6SY, National Grid Reference SH459488 as shown below.



1.2.2 The site is currently an operational sand and gravel quarry with the waste activity taking place on a previously extracted area, prior to the site open/ agricultural land.

1.3 Waste management operations

1.3.1 The green line boundary and area which is the subject of this Environmental Management System is shown on Drawing No. *K0642-1003*. All references to 'the site' in this Environmental Management System shall mean this area and the infrastructure, plant and equipment associated within the site.

1.3.2 The EP permits; sorting, separation, screening and blending of waste for recovery as a soil, soil substitute or aggregate.

1.3.3 Specified waste management operations will include the waste recovery operations listed in Annex I and Annex II of the revised Waste Framework Directive. They are in summary:

R13: Storage of waste pending recovery (Storage of waste pending any of the operations numbered R1 to R12 [excluding temporary storage, pending collection, on the site where it was produced])
R5: Recycling/reclamation of other inorganic materials
R3: recycling or reclamation of organic substances which are not used as solvents.

1.4 Hours of operation

1.4.1 The operation of the facility will be during the hours listed below and in line with the current planning permission.

Site Operations	
Monday to Friday	07.00 to 17.00
Saturday	08.00 to 12.30
Sunday	No operations
Public and Bank Holidays	No operations

1.4.2 Any proposal to conduct site operations outside the hours listed in 1.4.1 will be subject to prior notice to the Environment Agency and Local Planning Authority.

1.5 Waste types and quantities

1.5.1 The waste types to be accepted at the site will be non- hazardous waste as listed in *Appendix 1*.

1.5.2 Excluded wastes – the following wastes will not be accepted.

Hazardous waste as defined under the Hazardous Waste (England and Wales) Regulations 2005. Liquid wastes, sludges and wastes consisting mainly or solely of loose fibres/ powders.

1.5.3 Waste delivered to the site will principally be from vehicles operated by TG Enviro, although third parties will be allowed to bring on material subject to Duty of Care checks.

1.5.4 Waste delivered to the site will be contained predominately within skip vehicles and 8-wheel tippers. The maximum quantities to be tipped at the site in any one working day will be 1,000 tonnes.

A running total will be kept ensuring compliance.

1.5.5 The maximum amount of waste to be stored on site at any time is 20,000 tonnes. The maximum duration of unprocessed waste is 12 months.

1.5.6 If the maximum storage capacity of the site is reached, then no further waste will be accepted until waste has been processed and removed from the site.

1.5.7 The maximum annual throughput is 50,000 tonnes per annum.

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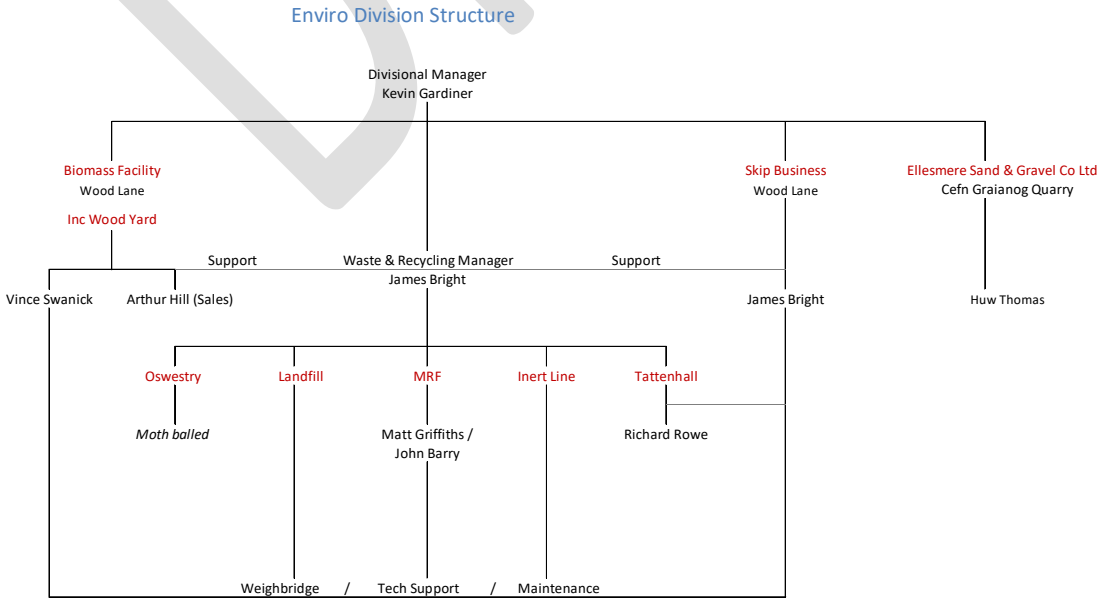
1.6 Staffing and management

1.6.1 The management structure for TG Enviro is shown in the organisational chart below.



1.6.2 Management hold weekly operations meeting, where any complaints and non-conformances will be discussed along with a review of the effectiveness of any mitigation measures. Additionally, there is a quarterly strategy meeting.

1.6.3 The management system will be reviewed as a minimum every 4 years. However, reviews will also take place in the event of.

- Change in site operations
- Change in plant/ equipment that affects the activities covered by the permit
- A permit variation is applied for
- After any accident, complaint or breach of permit
- If a new environmental problem emerges and additional control measure have been implemented

1.6.4 The site will be open for the receipt and processing of waste and for other essential operations during the hours listed in Section 1.4.

1.6.5 Positions in bold italic print below are the minimum staff requirements when the site is open for the reception and treatment of waste:

Position	***No.***	***Responsibilities***
Site Operative	***1***	***Overall site management (conversant with the waste acceptance and emergency procedure requirements of the Environmental Management System)***

1.6.6 A training needs assessment as shown in *Appendix 2* will be carried out for all staff and will be reviewed annually.

1.6.7 Additional staff employed by TG Enviro will also be utilised on site during busy periods to carry out waste operations, site maintenance works and plant maintenance.

1.6.8 Technical competence – this will be met through meeting the requirements of technical competence of a Wamitab scheme. Additional technical competence may be achieved through the use of a third party holding the correct level of award upon approval by Natural Resources Wales.

1.6.9 Continuing competence will be demonstrated every 2 years through the WAMITAB continuing competence scheme.

1.6.10 The current technically competent managers for the site are shown in the table below.

Name	*Award achieved*	*Facilities covered*
Kevin Gardiner	LS4	Non-hazardous landfill
	TSS4	Inert Processing
	TMS4	Inert Processing
		Biomass
		MRF

1.6.11 All staff will undergo training as determined by their role. A record of the training will be kept in their personnel files. As a minimum all staff will have induction training.

1.7 Health and Safety

1.7.1 All operations on site will be carried out in accordance with the relevant requirements of the Health and Safety at Work Act 1974.

2.0 SITE INFRASTRUCTURE

2.1 Access and parking

2.1.1 Access to the site is gained from the A487. The site entrance is shown on Drawing No. *TGE/36/A.*

2.1.2 Parking - adequate space is available on the site for the parking of all vehicles associated with the operational activities as the site forms part of a larger quarry operation with associated infrastructure.

2.2 Notice board and signs

2.2.1 A notice board will be positioned at the site entrance and will display the following information:

- The site operator's name, address and telephone number including emergency contact details
- Statement that the site is permitted by Natural Resources Wales
- The hours of operation of the site
- The Environmental Permit reference number
- Natural Resources Wales national telephone number including emergency response (0300 065 3000)

Additional signs will be displayed where relevant to highlight any information required for compliance.

2.3 Site security

2.3.1 Gates - Gates are erected on the main access as shown on Drawing No. *TGE/36/A* The gates are made from metal. The gates will always be padlocked when the site is unmanned.

2.3.2 Fencing – The green line boundary is not fenced as it sits within an overall larger facility. The larger quarry facility is fenced.

2.3.3 CCTV – The site has the benefit of a CCTV system with cameras located around various parts of the site. Every Manager has access to a computer, laptop and phone which enables viewing of the CCTV system as well as control over some of the cameras.

2.3.4 Security – Outside of operational hours the site is randomly visited once per night between 9pm and 5am by a security company who carry out visual checks. If something suspicious is detected by the security company, then there is a call out procedure in place.

2.4 Site office

2.4.1 The TG Enviro site office is located as shown in Drawing No. *TGE/37/A*.

2.4.2 The site records detailed throughout this Environmental Management System will be maintained in the site office and will be made available for inspection by Natural Resources Wales on request. Records will be kept for a minimum of 6 years unless stated otherwise. The list below details the relevant site documents.

- Environmental Permit (life of the site)
- Environmental Management System (life of the site)
- Waste Assessments (soil analysis from potentially contaminated sites/ Site Investigation Reports)
- Site Diary
- Environment Agency inspection reports (life of the site)
- Duty of Care Waste Transfer Notes (retain for 2 years)
- Hazardous Waste Consignment Notes (retain for 3 years, non-conforming waste only)
- Waste delivery tickets (where applicable)
- Weighbridge tickets
- Visitor Book
- Accident book
- Site Condition Report (life of the site)
- Records of outputs from WRAP processed material
- Environmental incidents (life of the site)

2.5 Weighbridge

2.5.1 All loads are weighed and report to the weighbridge clerk for initial verification. The weighbridge is fitted with a camera that allows the contents of open skip vehicles and 8-wheeler tippers to be visually assessed.

2.5.2 In absence of power to the site then manual tickets will be produced using average weights.

2.5.3 The weighbridge is calibrated annually, records of current calibration will be kept on site.

2.6 Fuel storage/ chemical storage

2.6.1 There is no fuel stored within the operational area of the Construction and Demolition Waste Processing Facility. A refuelling station is used to fuel up machinery which is located within the quarry area and outside the permitted area.

2.6.2 Any liquids/ chemicals stored on site will be in double skinned containers, stored within bunded areas or on drip trays. The location may vary with operational need.

2.7 Drainage

2.7.1 The site is located on a hard standing, drainage arrangements are shown in Drawing Number *K0642-1003* which shows drainage runs through topographical profiling which allows water to drain into a temporary surface water collection point within the permitted area. This water is then pumped to the quarry's settlement ponds and surface water management system for reuse as process water for washing/ grading of aggregates, as well as dust suppression. There is no discharge of surface waters from the larger (quarry) site to surface water. The surface water system is a closed loop system.

2.7.2 A weekly visual inspection will be conducted and recorded in the site diary checking for the presence of any oil films on the surface and odour. This is not expected as the waste types accepted are inert materials. If oil films and/ or odour are noted then no water shall be pumped from the permitted area pending a further investigation.

2.7.3 There is no foul drainage for this part of the site.

2.8 Waste Transfer & Storage

2.8.1 All waste operations will take place within the green line boundary as shown on Drawing No. *K0642-1003* and *TGE/37/A.*

2.8.2 Area for the deposit of unauthorised wastes - an enclosed container/ area is to be allocated for the quarantining of unauthorised waste, which cannot be removed from the site immediately. The location of this container/ area may be varied as operating conditions permit.

2.9 Vehicles, plant and equipment

2.9.1 The site has access to the following plant and equipment which is integral to the operations of TG Enviro.

- Screens
- Excavator
- Dumpers
- Loading shovel
- Weighbridge

2.9.2 Additional plant will be hired to cover any busy periods.

2.9.3 Records of plant maintenance and plant inspections are kept in the site office or workshop.

3.0 SITE OPERATIONS

3.1 Preliminary procedures

3.1.1 Guidance will be given by the site management to all employees, sub-contractors, other waste carriers and customers regarding waste types that are acceptable at the site. The waste arriving on site will predominantly be brought in by vehicles operated by TG Enviro or delivered by other hauliers who hold current waste carrier's registration certificates. Details will be taken for all new haulage operators bringing waste to the site and the details will be periodically checked with Natural Resources Wales and the Environment Agency to ensure registration.

3.1.2 As the waste accepted will principally be from TG Enviro own vehicles then staff will check the load prior to uplift to ensure that the contents are in line with the Duty of Care Waste Transfer Note and in line with those permitted by the Environmental Permit and *Appendix 1* of this Environmental Management System.

3.1.3 Any non-conformances will be recorded (see 4.12), will follow the procedure for waste rejection in 3.2.3 and a waste rejection form completed (*Appendix 3*), if the non-conformance is deemed to cause/ potentially cause significant pollution of have a significant adverse environmental effect then Natural Resources Wales will be contacted immediately, and a written response given within 24 hours.

3.1.4 Any soils with the List of Waste Code 17 05 04 and from potentially contaminated sites will need to be approved prior to acceptance. Approval will consist of chemical analysis and assessment which demonstrates that the material is suitable for the intended use without significant risk of pollution. Records demonstrating compliance will be maintained.

3.2 Checking in and inspection of loads

3.2.1 All incoming vehicles are required to report to the weighbridge. The details of the load will be recorded, and the duty of care note/ company documentation will be checked by the operator, to ensure that the load is acceptable. A visual inspection of the load by CCTV camera will also be undertaken. Any deviation from the procedures or problems with any load will be reported to the manager.

3.2.2 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. If the more detailed description of the waste reveals that the waste is not permitted at the site, then the customer will be advised to contact Natural Resources Wales to find an alternative site.

3.2.3 If unauthorised waste is discovered, then the following courses of action are available:

(i) If the vehicle is still on site, then load the vehicles with the non-conforming waste and get the vehicle to tare off on the weighbridge so that an accurate record of the amount of waste accepted is available. The vehicle can then take the waste back to the producer.

(ii) Where the producer of the load cannot be contacted or where the removal off site of the waste may cause further problems then the waste will be stored in the quarantine area provided for unauthorised wastes. Natural Resources Wales will then be contacted to agree a course of action.

3.3 Waste Processing

3.3.1 The purpose of this recycling facility is to allow specified non-hazardous waste streams to be stored, treated and blended to produce soil, soil substitutes and aggregate. This will reduce the need for landfill and for the use of virgin materials. This will occur through the following processes.

3.3.2 Once a load has been accepted for deposit (in accordance with 3.2.1) and is found to comply with the conditions of the environmental permit the following outline procedure will apply.

(i) The driver will be directed where to deposit the load to help increase the recycling efficiency as shown in Drawing No. *TGE/37/A.*

(ii) The load will be visually inspected by the loading shovel driver who will oversee the tipping operation and push the waste up into the relevant stockpile.

(iii) Waste will be screened using a screener into soil/ sand and various size aggregates such as 80mm and 40 to 20mm depending on demand. The soil/ sand fractions will go into stockpiles.

(iv) Any waste not suitable for recycling/ recovery will be stored on the site prior to removal off site, using a registered waste carrier and sent to a suitably authorised waste management facility.

A flow chart showing this procedure can be found in the WRAP QMS in *Appendix 4*

3.3.3 If the maximum storage capacity of the site is reached, then no further waste will be tipped until waste can be removed from the site and taken to a suitably licenced or exempt waste management operation.

3.3.4 Unsorted non-hazardous waste will be stored for a maximum of 12 months.

3.3.5 TG Enviro operates under a WRAP approved scheme for processing inert material into products such as recycled MOT, 6F2 and 6F5. A copy of the Quality Management System and Factory Production Control can be found in *Appendix 4*.

3.4 Waste collection

3.4.1 The potential waste types produced by the recycling process includes.

Waste Types	*Classification*
General waste (plastic, wood, rubber)	non-hazardous
Scrap metal (ferrous)	non-hazardous
Scrap metal (non-ferrous)	non-hazardous

3.4.2 The waste produced above will be removed from site, using a registered waste carrier and sent to a suitably authorised waste management facility.

3.4.3 All waste carriers and disposal outlets will be checked for suitability against Duty of Care requirements (*Appendix 5*).

3.5 Site Closure

3.5.1 In the event that the site ceases to operate, a permit surrender application will need to be submitted to remove the requirements of the environmental permit. To achieve this the following procedure will be implemented.

- TCM to contact the current Natural Resources Wales Enforcement Officer and inform them that the site is planning to cease operations.
- TCM to confirm with Natural Resources Wales that waste acceptance has ceased.
- TCM to assess the amount of unprocessed and processed waste and provide a timetable for clearance.
- After full implementation of the timetable and following removal of all infrastructure and mobile plant from the site a site investigation will be undertaken to assess the ground current conditions.
- This will be compared with the Site Condition Report (see 5.2)
- A surrender application will then be made to Natural Resources Wales permitting team for determination.

4.0 ENVIRONMENTAL CONTROL, MONITORING AND REPORTING

4.1 Breakdowns and spillages

4.1.1 In the event of breakdown of the loading plant an alternative loading shovel will be brought on site until it is repaired unless the repair can be carried out quickly without causing the operations of the site to breach any conditions. Mobile and static plant is on R&M contracts and older equipment is serviced and maintained by the T&G workshop.

4.1.2 Any spillage will be cleared immediately by using the spill kit located in the workshop as shown in Drawing No. *TGE/37/A* or sand on the affected area. The area will be cordoned off to contain the spillage. The garage contains a spill kit suitable for dealing with engine oil, hydraulic oil and coolants. If the spill is large, then sand can be used from the readily available sand stocks on the larger site. The sand or absorbents will then be placed in a container prior to being taken to a suitably licenced site for recovery/ disposal. Records of spillages will be kept in the site dairy and Site Condition Report.

4.1.3 Any breakdown of plant that could lead to a breach of permit conditions and any spillage which has caused/ is causing or may cause significant pollution; and any significant adverse environmental effects will be reported to Natural Resources Wales without delay.

4.2 Site inspections and maintenance

4.2.1 The inspection schedule for maintenance/ housekeeping is listed in *Appendix 6***.** The inspection will be completed by the Waste & Recycling Manager or a person who is familiar with the requirements of the Environmental Management System and Environmental Permit. All details of defects, problems and repairs carried out will be recorded in the site diary on the day that each event occurs.

4.2.2 Any major defects found during the daily site inspection which are likely to lead to a breach of conditions will be repaired by the end of the working day in which they are found, where possible. If a repair is not possible by the end of the working day Natural Resources Wales will be contacted to agree a suitable timescale for repair.

4.3 Control of mud and debris

4.3.1 Mud on roads – The surfacing of the entire operational area of the site is hardstanding and is not expected to create mud in volumes that would cause an amenity issue.

4.3.2 There is no requirement under the planning permission for a wheel wash facility as debris on the road is not considered to be an issue.

4.3.3 The site is swept on a regular basis using a road sweeper.

4.3.4 If mud was to become an issue, then the mud would be cleaned by the end of the working day.

4.3.5 Road vehicles will not track through waste. However, the deposit of material on the public highway will be treated as an emergency and will be cleaned with a mechanical vacuum sweeper, or similar, immediately.

4.4 Control and monitoring of dust

4.4.1 All site operations will be carried out to minimise the creation of dust. It is not envisaged that dust will become an issue due to the management procedures in place. If fugitive dust emissions are observed, then the process giving rise to the operation will be suspended and an investigation carried out to ascertain the reason.

4.4.2 Screening will be a regular occurrence and the drop height from chutes will be kept to a minimum and chutes/ conveyors covered where possible.

4.4.3 A tractor and bowser is available for use to dampen down roads if required. There are various surface water ponds located within the quarry where water can be used.

4.5 Odour control

4.5.1 All incoming waste will be subject to the acceptance procedures as detailed in section 3.2.1. If any waste exhibiting offensive odours is deposited on site, it will be deposited in the quarantine area for rejected waste or removed from the site immediately to a suitable disposal site. Waste will be visually inspected before uplift by TG Enviro to ensure compliance with the permit.

4.5.2 It is not perceived for odours to be a problem due to the nature of the waste types accepted on site. Odours can be mitigated using good operational techniques. Should odour become an issue then the following action will be taken:

- Investigate the source of the odour
- Investigate operations management
- Investigate other potential sources exterior to the site
- Investigate complaint

4.5.3 If odours are detected within the site, then action will be taken to improve site operations. If this is not sufficient then alternative control methods will be employed such as odour masking sprays.

4.6 Litter control

4.6.1 The site surface will be inspected daily when the site is in operation however due to the nature of the waste types accepted litter is not perceived to be an issue.

4.6.2 Any litter which does escape and is arrested by the site boundary will be removed within 24 hours after it is discovered.

4.7 Control of pests, birds and other scavengers

4.7.1 Vermin/ insect/ bird control - It is unlikely that vermin will present a problem because of the waste types handled at the site but a recognised pest control contractor will be brought in if any problems are encountered.

4.7.2 The site will be inspected as part of the weekly site inspection and the presence of vermin would be noted in the site dairy with a description of the action taken and its effectiveness.

4.8 Control of Fire

4.8.1 A Fire Prevention Plan is not required due to the waste types processed.

4.8.2 Naked flames and smoking are not allowed on site, other than in designated areas.

4.8.3 No waste material shall be burned within the boundaries of the site.

4.8.4 Any fire at the site will be regarded as an emergency and immediate action shall be taken to extinguish it with the appropriate fire extinguisher, provided that the person feels competent to tackle the fire.

4.8.5 In the event that the fire cannot be tackled with the equipment provided the Fire Brigade should be called.

4.8.6 All outbreaks of fire shall be notified forthwith to Natural Resources Wales.

4.9 Control and monitoring of noise and vibration

4.9.1 It is not anticipated that site operations will cause a noise and vibration nuisance because of the scale and location of the operation. Activities likely to give rise to noise will be those operations associated with screening, plant/ machinery, reversing alarms from vehicles and unloading/ loading operations.

4.9.2 The nearest receptors for noise will be residential/ farming properties, campground located 325 to 780 m to the W-NW and residential property located on the access track to the quarry some 205m to the ESE (taken from ayesa Environmental Risk Assessment submitted with the permit application).

4.10 Local Receptors

4.10.1 A copy of the ayesa Environmental Risk Assessment submitted with the permit application can be found in *Appendix* 7, this shows the location of the facility relevant to its surroundings and highlights commercial, industrial, residential properties, protected areas and public open spaces.

4.11 Natural Resources Wales reporting mechanism

4.11.1 Any incidents involving the following will be reported to Natural Resources Wales as soon as is practicably possible either through a direct line or using the national 24-hour line where out of normal office hours.

- any malfunction, breakdown or failure of equipment or techniques, accident or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution
- the breach of a limit specified in these standard rules
- any significant adverse environmental effects.

4.12 Actual or potential non-compliance reporting mechanism

4.12.1 Any actual incidents or potential non-conformances will be raised to management who will undertake an investigation to establish; if justified, date/ time location of incident, person reporting, root cause, review of procedures and risk assessments (environmental and H&S) covering the activity, recommendations for improvement and review of improvements at a later date to assess benefits.

4.12.2 This procedure will cover health & safety incidents or potential non-conformances, environmental incidents or potential environmental non-conformances and complaints from neighbours/ regulators.

4.12.3 The form in *Appendix 7* will be completed and used to store the information and allow quick access and review of any previous complaints.

4.13 Complaints procedure

4.13.1 Complaints will be treated as actual or potential non-conformances (see 4.12).

4.13.2 Complaints from the public will be investigated by either the Divisional Manager, Waste & Recycling Manager, Estates Manager or Quarry Manager.

4.13.3 The form in *Appendix 7* will be completed and used to store the information and allow quick access and review of any previous complaints.

4.14 Climate change risk assessment

4.14.1 Due to the potential for climate change and in accordance with regulator guidance a risk assessment has been undertaken to determine the effects of climate change on site operations. The potential scenarios, risks and mitigation measures are summarised in the table below.

Hazard	Description	Impact	Mitigation/ control measures
Summer daily maximum temperature	This may be around 7°C higher compared to average summer temperatures now, with the potential to reach extreme temperatures as high as over 40°C with increasing frequency based on today's values.	Potential for increased risk of fire on mobile plant/ screeners due to higher ambient temperatures and higher engine running temperatures. Risk of electrical failure due to exposure of wires to direct sunlight, plastic shrouding may become brittle due to exposure to more UV light.	Look to shield wires from direct exposure to sunlight, look to increase air flow around mobile plant engines. Regular inspection of wiring looms as part of pre-start checks.
		Increased dust emissions from stockpiles, during processing, road surfaces. Potential for issues for site staff and property on access road approx. 205m to the ESE of the waste operation.	Increased use of tractor and bowser for dust suppression. Increased use of road sweeper to clean the main access road, install spray bars on screener, use of wetting agents on stockpiles to prevent wind whipping. Collection of more surface run off from the whole site (waste and quarry operations). Remote location will mean that this is not a major issue.
		Prolonged dry periods could reduce the amount of water available for dust suppression.	Look to see if collection of more surface run off from the whole site (waste and quarry operations) is possible. Collect clean rainwater from office and workshop buildings. Look to see if feasible to install groundwater abstraction well(s).
Winter daily temperatures	This could be 4°C more than the current average with the potential for more extreme temperatures, both warmer and colder than present.	Lower winter temperatures could result in an increased risk of pipe work freezing.	Regular inspection and preventative maintenance of site, plant and equipment. Insulating exposed water carrying pipes.
Daily extreme rainfall	Daily rainfall intensity could increase by up to 20% on today's values.	Increased potential for surface water flooding/ ponding on operational areas, with the potential to generate greater mud quantities. Worst case scenario is that 'flooding' would halt operations (non-critical for the business).	Ensure surface water ponds are available with capacity for storing additional water. Drainage systems inspected as part of site checks.

Hazard	Description	Impact	Mitigation/ control measures
Average winter rainfall	Average winter rainfall may increase by over 40% on today's averages.	Increased potential for surface water flooding/ ponding on operational areas, with the potential to generate greater mud quantities. Worst case scenario is that 'flooding' would halt operations (non-critical for the business).	Ensure surface water ponds are available with capacity for storing additional water. Drainage systems inspected as part of site checks. Ensure pumps are sufficient in capacity to cope with additional quantities of water.
Sea level rise	Sea level rise which could be as much as 0.6m higher compared to today's level.	Not considered an issue due to location.	Not considered an issue due to location.
Drier summers	Summers could see potentially up to 40% less rain than now.	Increased dust emissions from stockpiles, during processing, road surfaces. Potential for issues for site staff and property on access road approx. 205m to the ESE of the waste operation. Remote location will mean that this is not a major issue.	Increased use of tractor and bowser for dust suppression. Increased use of road sweeper to clean the main access road, install spray bars on screener, use of wetting agents on stockpiles to prevent wind whipping. Collection of more surface run off from the whole site (waste and quarry operations).
	Prolonged dry periods could reduce the amount of water available for dust suppression.	Prolonged dry periods could reduce the amount of water available for dust suppression.	Look to see if collection of more surface run off from the whole site (waste and quarry operations) is possible. Collect clean rainwater from office and workshop buildings. Look to see if feasible to install groundwater abstraction well(s).
River flow	The flow in the watercourses could be 50% more than now at its peak, and 80% less than now at its lowest.	NRW flood maps show that the site is not located within an area at risk from river flooding.	NRW flood maps show that the site is not located within an area at risk from river flooding.

Hazard	Description	Impact	Mitigation/ control measures
Storms	Storms could see a change in frequency and intensity. The unique combination of increased wind speeds, increased rainfall, and lightning during these events provides the potential for more extreme storm impacts.	Potential for high winds to cause greater dust issues due to increased wind whipping. Dust will have the ability to travel greater distances. Increased dust emissions from stockpiles, during processing, road surfaces. Potential for issues for site staff and property on access road approx. 205m to the ESE of the waste operation. Remote location will mean that this is not a major issue.	Increased use of tractor and bowser for dust suppression. Increased use of road sweeper to clean the main access road. Install spray bars on screener. Use of wetting agents on stockpiles to prevent wind whipping. Collection of more surface run off from the whole site (waste and quarry operations). Profiling of stockpiles to reduce effects of wind whipping.
		Potential for lightning strikes to buildings and mobile plant	Mobile plant fitted with rubber tyres (loading shovel/ dumpers), also cab will act as barrier to lightning strikes and will go around plant to earth. Screener not manned therefore risk is from fire and downtime associated with any damage. These are non-critical for the business and so would not cause a major issue.

Based on the following guidance issued by the Environment Agency
Non-hazardous and inert waste treatment: examples for your adapting to climate change risk assessment - GOV.UK (www.gov.uk)

5.0 SITE RECORDS

5.1 Records

5.1.1 Documented procedures and records for the identification, collection, storage and disposal of waste have been established.

5.1.2 The following details will be recorded for every load accepted at the site:

(i) The following details will be recorded for every load deposited at the site:
(ii) The date of delivery
(iii) Origin of the waste
(iv) The type, nature and quantity of waste (in tonnes or cubic metres)
(v) The List of Waste Code
(vi) sic code for the process giving rise to the waste
(vii) Vehicle registration number

5.1.3 The details may be entered into a computer system to assist with the production of auditable records of waste inputs.

5.1.4 The following details will be recorded for all deposits of unauthorised waste at the site:

(i) Date and time of deposit.
(ii) A description of the waste.
(iii) The quantity of waste (type and number of containers).
(iv) Name, address and telephone number of waste producer.
(v) The carrier's name, registration number and vehicle registration.
(vi) Reason for the rejection of waste and action taken.

The details will be recorded on a Rejected Waste Form *Appendix 3*

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

(i) The date and time of removal.
(ii) The type, nature and quantity of waste (in tonnes or cubic metres).
(iii) The destination site.
(iv) The name and registration number of the carrier removing the waste.

5.1.6 The details will be recorded on dockets and/ or a waste transfer note and may be entered into a computer system to assist with the production of auditable records of waste outputs.

5.1.7 Every quarter a quarterly return will be submitted to Natural Resources Wales detailing the amount of waste received on the site and the amount of waste removed from the site. The quarterly returns will be submitted by the end of the month following the quarterly return period as shown in the Table below.

Quarter	Period covered	Last date for submission
Q1	January to March	30th April
Q2	April to June	31st July
Q3	July to September	31st October
Q4	October to December	31st January

Electronic Waste Returns should be submitted to.

waste.returns@cyfoethnaturiolcymru.gov.uk

5.1.8 Site diary - The outcome of all inspections of site infrastructure will be recorded in the site diary including any action taken or proposed along with a review of the effectiveness of the action. Site Diary records shall include.

- Construction work
- Maintenance
- Breakdowns
- Emergencies
- Problems with waste received and action taken
- Site inspections and consequent actions carried out by the operator
- Technically competent manager attendance on site, date, time on, time off site
- Despatch of records to Natural Resources Wales
- Severe weather conditions
- Complaints and actions taken
- Environmental problems and remedial actions

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

5.1.10 In the event of a review/ change in the management system then the log in *Appendix 8* shall be completed, giving a date, description of the change, EMS reference to which the change refers, approved by and date approved.

5.1.11 The management system will be reviewed as a minimum every 4 years. However, reviews will also take place in the event of.

- Change in site operations
- Change in plant/ equipment that affects the activities covered by the permit
- A permit variation is applied for
- After any accident, complaint or breach of permit
- If a new environmental problem emerges and additional control measure have been implemented

5.1.12 A copy of Environmental Permit and EMS shall be kept available on site.

5.1.13 Document retention will be as follows.

Document	*Retention Time*	*Reason/ comment*
Environmental Permit	Life of the Site	Includes all modifications to aid surrender
Environmental Management System	Life of the Site	Required with permit
Waste Assessments (soil analysis from potentially contaminated sites)	Life of the Site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Site Diary	Life of the Site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Environment Agency inspection reports	Life of the Site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Duty of Care Transfer Notes	2 years	As long as electronic record available containing the details – keep for life of the site to aid permit surrender
Hazardous Waste Consignment Notes	3 years	Non-conforming waste only
Weighbridge tickets	2 years	As long as electronic record available containing the details – keep for life of the site to aid permit surrender
Site Condition Report	Life of the site	Required to be kept up to date for permit surrender
Records of outputs from WRAP processed material	2 years	As long as electronic record available containing the details – keep for life of the site to aid permit surrender
Waste Return	6 years	To allow review of the EMS by NRW As long as electronic record available containing the details – keep for life of the site to aid permit surrender
Records generated by NRW reporting mechanism	Life of the site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Records generated by actual or potential non-compliance	Life of the site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Complaints	Life of the site	Will be required for permit surrender to demonstrate no contamination of land/ groundwater
Other records required by this EMS will be kept for a minimum of 6 years to allow review of the EMS by NRW		

5.2 Site Condition Report

5.2.1 A Site Condition Report (SCR) is a requirement of the Environmental Permitting Regulations for waste permits. This report is designed to record the condition of the land (including groundwater) on the site.

5.2.2 The SCR should be kept up to date throughout the life of the permit (first section is to be completed at permit application, second stage is to be completed during the operational life of the site and the third stage is to be completed at permit surrender) to aid any future surrender application. The types of information that should be included in the report are.

- Details of any historic spills or contamination and any response (prior to permit issue).
- Evidence of the effectiveness of any measures taken to protect land and/ or groundwater since permit issue.

The SCR for the site has been partially completed, as required, as part of the permit application process.

6.0 CONTINGENCY PLANNING

6.1 Breakdowns

6.1.1 In the event of breakdowns then the Waste & Recycling Manager will be contacted as soon as is practically possible and informed of the problem. They will then arrange for a repair to be carried out either through any R&M contracts in place (newer equipment) or through contact with the workshop on site.

6.1.2 In the event that a repair cannot be affected in a timely manner then the following options are available.

- Store the material on site (max. storage time and quantities apply)
- Cancel third party contractors
- In the extreme event send material to alternative suitably authorised sites.

6.2. Enforced shutdowns

6.2.1 In the event of an enforced shutdown the procedure in 6.1 will be followed.

6.3 Flooding/ extreme weather

6.3.1 With the impacts of climate change, it is likely that extreme weather events will become more frequent and more severe.

6.3.2 The site is not located within a flood zone and so the risk of flooding is minimal from rivers. There remains the potential for flooding caused by infiltration in excess however this unlikely as the surrounding superficial geology is Glaciofluvial Deposits, Devensian - Sand and Gravel.

6.3.3 The risk of high winds will not cause excessive littering due to the types permitted at this part of the facility (soil and rubble).

APPENDIX 1

WASTE TYPES

TG ENVIRO
FEBRUARY 2025

Appendix 1 – Waste Types

Permitted waste types and quantities	
Maximum quantity	**The total quantity of waste accepted at the site shall be less than 50,000 tonnes a year.**
Waste code **01**	**Description** Wastes **resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals**
01 04	**wastes from physical and chemical processing of non-metalliferous minerals**
01 04 08	waste gravel and crushed rocks other than those mentioned in 01 04 07
01 04 09	waste sand and clays
Waste code **17**	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	**concrete, bricks, tiles and ceramics**
17 01 01	concrete
17 01 02	bricks
17 01 03	tiles and ceramics
17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06
17 05	**soil (including excavated soil from contaminated sites), stones and dredging spoil**
17 05 04	soil and stones other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
Waste code **20**	Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions
20 02	Garden and park wastes (including cemetery waste)
20 02 02	Soil and stones

APPENDIX 2

TRAINING NEEDS ASSESSMENT

TG ENVIRO
FEBRUARY 2025

TG Environmental

		Training Required																							
		Management				Environmental Awareness				Maintenance/ operations											Accidents & Emergency					
Facility	Position	Certificate of Technical Competence	Supervision of waste management sites	Permit to Work	IOSH Managing Safely	Permit awareness	EMS Awareness	Waste receipt including Duty of Care	Waste separation and storage	Tele- handler	Loading shovel	Grab	Picking line	Mobile Plant maintenance requirements	Static Plant maintenance requirements	Shredder	Screener	All metal separator	IEC boiler operation & maintenance	Kiverco blower & shaker	Fire procedure – Fire Prevention Plan	Fire training (full day course)	Spill response procedure	Waste Rejection	Dust Suppression procedure	Detecting hotspots
Biomass	Manager																								
	Supervisor																								
	Operative																								
MRF	Manager																								
	Supervisor																								
	Loading shovel driver																								
	Grab driver																								
	Pickers																								
Inert	Manager																								
	Supervisor																								
	Operative																								
	Pickers																								
All	Weighbridge Operator																								

Date: _____ Next review: _____

Manager: _____

Signature: _____

Review Date: 03/06/25

Training Needs Assessment - Cefn Graianog Quarry

Training Summary – points to be covered by either formal training, toolbox talks or one to one training

Environmental & Permit Awareness training to cover

- What is an environmental permit?
- What is the EMS and how does this relate to the environmental permit?
- What are the main pitfalls on a daily basis?
- What is the best way to avoid prosecution?
- Waste acceptance procedures (Section 3.1 and 3.2 of the EMS)

Waste receipt including Duty of Care Waste Transfer Note Training

- Waste acceptance procedures (Section 3.1 and 3.2 of the EMS)
- Legal impacts of Duty of Care Waste Transfer Note
- How to complete a Duty of Care Waste Transfer Note

Waste separation and storage

- How to store in accordance with permit (Section 3.2, 3.3 of the EMS)

Fire Procedure

- How to raise the alarm
- Where is the muster point?
- Correct fire extinguisher for the correct fire

Review Date: 03/06/25

Training Summary – points to be covered by either formal training or toolbox talks

Waste Rejection procedure

- Where is the quarantine area?
- Who do I notify?
- Section 3.2 of EMS

Spill Response Procedure

- Types of spill
- Spillage procedure
- Location of spill kit
- Section 4.1 of EMS

Dust Suppression

- When is it required?
- Who do I contact?
- What techniques can we use to stop/ reduce dust?
- Section 4.4 of EMS

Contingency Planning

- What to do in the event of a breakdown?
- Who do I contact?
- Who is responsible for knocking off third party loads?

Mobile Plant maintenance requirements

- What daily, weekly, annual maintenance do I need to do? (see maintenance schedule)
- How do I report any defects?
- What is the service schedule of the mobile plant?
- What is excessive idling?

Review Date: 03/06/25

Static Plant maintenance requirements

- What daily, weekly, annual maintenance do I need to do? (see maintenance schedule)
- How do I report any defects?
- What is the service schedule of the mobile plant?

Review Date: 03/06/25

Training Record

Employee Name	Job Title Site Manager

Training Required	Date due	Date done	Passed as competent? yes/no	Reviewers Signature	Date for Refresher	Comments
Supervision of waste management sites						Through day to day operations
Environmental & Permit Awareness						
Waste receipt including Duty of Care Waste Transfer Note Training						
Waste Separation and storage						
Mobile Plant maintenance requirements						
Static Plant maintenance requirements						
Fire Procedure						
Fire training (full day course)						
Spill Response Procedure						
Waste Rejection Procedure						
Dust Suppression						

Review Date: 03/06/25

Training Record

Employee Name	Job Title Supervisor

Training Required	Date due	Date done	Passed as competent? yes/no	Reviewers Signature	Date for Refresher	Comments
Supervision of waste management sites						Through day to day operations
Environmental & Permit Awareness						
Waste receipt including Duty of Care Waste Transfer Note Training						
Waste Separation and storage						
Mobile Plant maintenance requirements						
Static Plant maintenance requirements						
Fire Procedure						
Fire training (full day course)						
Spill Response Procedure						
Waste Rejection Procedure						
Dust Suppression						

Review Date: 03/06/25

Training Record

Employee Name	Job Title Operative

Training Required	Date due	Date done	Passed as competent? yes/no	Reviewers Signature	Date for Refresher	Comments
Environmental & Permit Awareness						
Waste receipt including Duty of Care Waste Transfer Note Training						
Waste Separation and storage						
Mobile Plant maintenance requirements						
Static Plant maintenance requirements						
Fire Procedure						
Spill Response Procedure						
Waste Rejection Procedure						
Dust Suppression						

Review Date: 03/06/25

Training Record

Employee Name	Job Title Picker

Training Required	Date due	Date done	Passed as competent? yes/no	Reviewers Signature	Date for Refresher	Comments
Environmental & Permit Awareness						
Waste receipt including Duty of Care Waste Transfer Note Training						
Waste Separation and storage						
Fire Procedure						
Spill Response Procedure						
Waste Rejection Procedure						
Dust Suppression						

APPENDIX 3

WASTE REJECTION FORM

TG ENVIRO
FEBRUARY 2025

TG Enviro Services

Waste Acceptance/ Non-conformance Reporting Form

Conformance Report (anyone can complete then hand to Waste & Recycling Manager)

Customer: Waste Carrier:

Waste Carrier Licence No.: Expiry Date:

Waste Source: Date: Time:

Description of Waste:

Action taken (if any)

Signed: Name: Position: Date:

Non-conforming Waste Report (Waste & Recycling Manager, Divisional Manager to complete)

Reason for non-conformance?

Signed: Name: Position: Date:

Corrective Action (Waste & Recycling Manager, Divisional Manager to complete)

Signed: Name: Position: Date:

Corrective Action (Waste & Recycling Manager, Divisional Manager to complete)

Date of Action Implementation:

Review of Corrective Action (did it meet the expected outcome? lessons learnt):

Signed: Name: Position: Date:

Comments

APPENDIX 4

WRAP QMS

TG ENVIRO
FEBRUARY 2025

Quality Management System – Production of Soil, Soil Substitutes and Aggregates

TG Enviro
Cefn Graianog Quarry
Llanllfni
Caernarfon
North Wales
LL54 6SY

2025

TABLE OF CONTENTS

1.0 GENERAL CONSIDERATIONS

1.1 TG Enviro operates a waste recycling facility using suitable wastes to create soil, soil substitutes and recycled aggregate.

1.2 This document is designed to meet the requirements of the WRAP Quality Protocol as well as meet the require of TG Enviro for producing soil and soil substitutes.

1.3 The facility runs under a bespoke permit.

1.4 It is proposed to operate under this Quality Management System (QMS) to allow inert waste to be turned into a product and therefore no longer be classed as a waste, operating under the guidance of WRAP. This quality management system will be the factory production control document and will include the method statement of production.

1.5 This QMS will provide customers with the confidence that products are manufactured in accordance with the requirements of production and use of aggregates from inert wastes and supersedes “Quality Protocol for the production of aggregates from inert waste”, revised edition (ISBN 1-84405-217-6).

1.6 The QMS aims to;

i. Clarify the point at which waste management controls are no longer required.

ii. Provide users with confidence that the aggregate they purchase conforms to an approved industry specification defined in accordance with an appropriate European aggregate standard.

iii. Provide users with confidence that the aggregate is suitable for a use within a designated market sector(s) including by conforming with the industry standard.

iv. Protecting human health and the environment (including soil)

v. Describe acceptable good practice for the transportation, storage and handling of aggregate.

1.7 Due to potential changes in case law and guidance by DEFRA the point at which waste ceases to be waste may change in the future.

1.8 Products have to be fit for purpose and meet customer requirements. The customer will determine if any additional testing or analysis for end use is required as they hold the technical expertise to make that judgement (customers base includes engineering and construction companies).

1.9 If a recovered aggregate meets a specification which is fit for purpose and does not pose a threat to the environment as stated in 1.6 IV above, then it should be considered a product as long as the procedures highlighted in this QMS are adhered to.

2.0 WASTE ACCEPTANCE

2.1 To achieve the standards required under the WRAP Quality Protocol it is proposed that the following waste types as shown in **Appendix A** are only accepted for the production of aggregates from inert waste.

2.2 Waste is considered to be inert if;

i. It does not undergo any significant physical, chemical or biological transformations.

ii. It does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health.

iii. Its total leachability and pollutant content and the ecotoxicity of its leachate are insignificant and, in particular, do not endanger the quality of any surface water or groundwater.

2.3 The process of turning waste material into a product is classified as a waste recovery operation and is subject to the waste management controls set out in the Waste Framework Directive and domestic legislation.

2.4 The waste acceptance criteria will be crucial in aiding the achievement of the quality management system and as such the flow chart in Appendix B for the acceptance and processing of inert waste will be followed.

2.5 It is proposed that suitable waste as defined by the List of Wastes Code (Appendix A) and after visual inspection, to check for contamination such as plastic, metal, wood etc. are placed into the aggregates source stockpile for processing.

2.6 Non-conforming material will be quarantined and placed in skips/ containers.

2.7 Waste from mixed inerts/ soils (Aggregate Source Stockpile) will be screened to remove fines/ soil contamination. Soils will be kept separate. Some clean source segregated soil that is received directly may or may not require processing.

2.8 Waste from the aggregate source stockpile will pass through a screen to remove fines. This process will act as the waste acceptance criteria for input materials for aggregate production. All staff used for the production of aggregates from inert waste will be trained in the requirements of this Quality Management System.

2.9 Processing will involve the screening of the waste to form an aggregate.

2.10 When the waste arrives on site a record will be made of;

i. Waste type (Duty of Care Waste Transfer Note)
ii. Waste quantity by weight (weighbridge record) or volume
iii. Date (weighbridge records)
iv. Source/ Place of origin (Duty of Care Waste Transfer Note)
v. Supplier/haulier (Duty of Care Waste Transfer Note)
vi. Method of acceptance (visual inspection)

3.0 Waste Processing

3.1 All material from stock areas will be visually inspected for suitability and degradation prior to processing. If any material is found not to comply then it will be rejected with the material being placed in the skip/ container onsite for non-conforming material.

3.2 Waste will be screened (where applicable) to produce aggregate (unbound mixtures).

3.3 It is proposed that following the quality management system will allow the following outputs to be produced:

- 6F2 – Selected granular material (coarse grading)
- 6F3 – Selected granular material
- 6F5 – Selected granular material (coarse grading)
- Various bespoke products prepared to customer requirements i.e. crusher run, 40mm down

3.4 Products produced will be stocked in clearly defined stockpiles. Stockpiles of differing material will not be allowed to be cross contaminated.

3.5 Only personnel trained in this system will be allowed to operate within the areas of the site covered by this QMS.

3.6 Stockpile locations and product locations maybe clearly marked on a diagram kept within the plant used for the production of the aggregate and/ or through use of signage/ noticeboards.

3.7 A record of all waste processing activity including hours of operation will be kept in the site diary. This will be used to determine the factory production hours and allow sampling and testing to be carried out in accordance with section 4.

3.10 Plant used in the production of aggregate will be;

- 360-degree excavator(s)
- Loading shovel
- Screener

4.0 Inspection & Testing

4.1 The output material that will be produced will be sold as recycled aggregate and/ or to a specified standard resulting in the need to use less virgin products and dispose of less material.

4.2 The inspection and testing regime takes into account the material end use and factory production time periods. 1 production week equals the period of time taken to complete 5 full production days (60 hours), 1 production month equals 4.5 weeks x 60 hours equals 270 hours, 1 production year equals 12 x production months equals 3240 hours (12 x 270 hours).

4.3 It is therefore proposed that the following minimum test frequencies and parameters are applied as shown in Table 2. The actual testing regimes will vary depending upon the product to be produced and are shown in Appendix B. Additionally specific testing regimes may be produced with customer approval for certain jobs.

4.4 All sampling and testing will be carried out in accordance with the recommendations of the testing house who may have specific requirements for certain test parameters.

4.5 All testing will be carried out by test houses who hold suitable accreditation i.e. UKAS

4.6 Any product stockpile found not to comply with the relevant standards in Appendix B will not be used and will be sent to the feedstock area for reprocessing. A note will be made in the site diary.

5.0 Dispatch

5.1 All products going off site will have the following records kept;

i. Date
ii. Product
iii. Quantity
iv. Location
v. Customer

5.2 On the delivery document form there will be a note saying that the product has been produced under a quality protocol.

6.0 Management

6.1 Huw Thomas will have overall responsibility for the Quality Management System even though some aspects maybe delegated for operational reasons.

6.2 Huw Thomas will be responsible for ensuring that the procedures outlined in this quality management system are fully implemented.

6.3 Huw Thomas will be responsible for ensuring that testing is carried out according to the specification of the products produced.

6.4 Huw Thomas will be responsible for ensuring administration of documentation, to include;

i. Duty of Care waste transfer notes (kept for a minimum of 2 years)
ii. Waste carriers registration/ certification
iii. Completion of the site diary including production hours/ tonnage
iv. Copies of all test results
v. Copies of all delivery documentation

6.5 A review of this Quality Management System will be undertaken periodically or if there is a major change in operations/ standards. The review will look to check that the Quality Management System is still relevant and will be checked against the requirements of WRAP producers' compliance checklist (**Appendix D**).

6.6 Sub-contractors if any that will be used for any part in the production process including generation of input materials will be instructed in the relevant procedures of this Quality Management System and a record kept in the site diary.

6.7 Equipment involved in the production process will be maintained in good working order and in accordance with the manufacturer's recommendations. Any work carried out on equipment will be recorded in the site diary.

6.8 Screen size may be altered to produce different outputs by changing the screen mesh. Any changes will be carried out in accordance with the manufacturer's recommendations and a record made in the site diary.

6.9 Prior to carrying out any work with equipment the equipment will be checked by the operator for defects. If any defects are found, then Huw Thomas will be contacted immediately, and the equipment will not be used until the problem has been rectified. A note will be made in the site diary.

6.10 Input and output materials will be stocked in a controlled manner and in clearly identifiable locations.

6.11 Records of results from the testing regime including historical will be made available to purchasers upon request.

Appendix A

Acceptable Waste Types

Table 1 – Acceptable inert material for the production of aggregates from inert waste

Wastes from physical and chemical processing of non-metalliferous minerals	
Types and exclusions	**Waste code**
Waste gravel and crushed rocks other than those mentioned in 01 04 07 *May include excavation from mineral workings*	01 04 08
Waste sand and clays *Waste sand only* *Must not include contaminated sand*	01 04 09
Construction and demolition waste – concrete, bricks, tiles and ceramics	
Types and exclusions	**Waste code**
Concrete *Must not include concrete slurry*	17 01 01
Bricks	17 01 02
Tiles and ceramics	17 01 03
Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	17 01 07
Construction and demolition waste – soil (including excavated soil from contaminated sites), stones and dredging spoil	
Types and exclusions	**Waste code**
Soil and stones other than those mentioned in 17 05 03 *Must not contain any contaminated soil or stone from contaminated sites*	17 05 04
Dredging spoil other than those mentioned in 17 05 05 *Allowed only if;* *Inert aggregate from dredgings.* *Must not contain contaminated dredgings.* *Must not contain fines*	17 05 06
Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	
Types and exclusions	**Waste code**
Garden and park wastes (including cemetery waste) – soil and stones *Must not contain contaminated stones from garden and parks waste*	20 02 02

Appendix B

Waste Processing Flow Chart

Cefn Graianog Quarry Waste Processing Flow Chart

Contaminants removed to authorised waste management facility

Clean soils stockpile

Visual Inspection

Weighbridge – Duty of Care Check, visual inspection using CCTV

Visual Inspection

Aggregate source stockpile

Screen

Sample/ test according to product to be produced

Output

Unbound mixtures

Product such as recycled MOT, 6F2

Dispatch from site of production for storage and use in a designated market sector

Fail

Stockpile

Contaminants removed

Key

Operations covered by Environmental Permit

Operations covered by WRAP Quality Management System – Factory Production Control

Point at which material ceases to be a waste

Records available

Job tickets

Waste Carrier registrations

Duty of Care Waste Transfer Note

Site Diary (Quarantine material)

Records available

Site Diary (record of operating hours)

Plant inspection/ maintenance

Test analysis results

Weighbridge calibration certificates

Records available

Dispatch documentation

Appendix C

Product Testing Regime

Table 2 – Testing Regime

End Use	Standard and Specifications	Test	BS test reference	Minimum test frequency
All end uses	BS EN 13242 BS EN 1260	Particle Size Distribution	EN 933-1	1 per week
		Particle Density	EN 1097-6	1 per month
		Resistance to fragmentation (LA)	EN 1097-2	2 per year
		Classification of constituents	EN 933-11	1 per month
		Water soluble sulfate	EN 1744-1	1 per month
End Use	**Standard and Specifications**	**Specification**		**Quality Controls**
Unbound recycled aggregate: granular fill, general fill, capping	BS EN 13242	Highways Agency Specification for Highways Works: series 600 HAUC: Specification for the reinstatement of openings in highways (SROH) BS EN 13285: Unbound mixtures specifications		BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROH: Compliance with SHW
Unbound recycled aggregate: Pipe bedding Drainage	BS EN 13242	Highways Agency Specification for Highways Works: series 500 HAUC: Specification for the reinstatement of openings in highways mixtures specifications (SROH)		BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROH: Compliance with SHW
Unbound recycled aggregate: sub-base	BS EN 13242	Highways Agency Specification for Highways Works: series 600 HAUC: Specification for the reinstatement of openings in highways (SROH) BS EN 13285: Unbound mixtures specifications		BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROH: Compliance with SHW

Appendix D

WRAP Producers Compliance Checklist

Material change for a better environment

Quality Protocol for the production of aggregates from inert waste

Producers' compliance checklist

This is a self-assessment checklist for producers of aggregates wishing to test and demonstrate the compliance of their process to the WRAP Quality Protocol for production of aggregates from inert waste.

Please consider your process and activities and tick "Yes" or "No" as applicable for each question. Refer to the accompanying Guidance Notes for further details as required.

Your process is fully compliant with the Quality Protocol for production of aggregates from inert waste only if you respond "Yes" to all questions.

Measures to correct areas of non-compliance (where ticks have been scored in the "No" column) must be identified and implemented to achieve compliance with the Quality Protocol. Recycled aggregates that are produced by a process not fully compliant with the Quality Protocol are likely to be a waste and subject to Environmental Permitting Regulations (England & Wales) or Waste Management Licensing Regulations (Scotland & Northern Ireland).

Checklist and Summary Guidance[i]	YES	NO
Waste management requirements (QP ref* 3.4.1, 3.4.4, 3.6.1 and 3.7.1) Does your recycling operation have the required environmental permit/waste management licensing/exemptions and is the Duty of Care applied? *NOTE: You must demonstrate that you meet the statutory and regulatory requirements, including use of registered waste carriers and Waste Transfer Notes (WTNs). Please consult the Guidance Notes for further details.*	☐	☐
Acceptance of incoming waste (QP ref 3.4.1 to 3.4.4 and App C) Do you have site/location specific Acceptance Criteria procedures for the incoming waste?	☐	☐
Do your Acceptance Criteria include a description of the types of waste accepted and a description of the method of acceptance? *NOTE: List Of Waste Regulations/ European Waste Code for consistency with the WTNs must be used. You must demonstrate that only inert waste is accepted for production of aggregates to the Quality Protocol. Inspection at receipt and at tipping must be carried out.*	☐	☐
Are material input records kept? *NOTE: A record of each load received and accepted must be kept.*	☐	☐
Do you have a procedure for non-compliant waste? *NOTE: You must demonstrate how you are dealing with non-conforming incoming waste. Please consult the Guidance Notes for further details.*	☐	☐
Production and Standards/Specifications requirements (QP ref 3.1 to 3.3 and 3.5) Have you set up a Factory Production Control (FPC) system, which includes a Method Statement of Production (MSP), describing the waste recovery process and the range of products? *NOTE: FPC is mandatory for production of aggregates to BS EN Standards and common industry specifications and it is a requirement of the Quality Protocol. The MSP may be represented by a flow chart. All materials produced must be listed. Implementation of the FPC must be demonstrated using the detailed list of requirements within the guidance notes.*	☐	☐
Do you produce to established specifications and/or standards? *NOTE: Aggregates must be produced to be fully compliant to established specifications and/or standards.*	☐	☐

Checklist and Summary Guidance[i]	YES	NO
Testing (QP ref 3.6, 3.6.1 and 3.6.2)		
Have you defined what testing to undertake, and how often, for each material you produce? *NOTE: Any material produced to a FPC must have a defined testing procedure and sampling and testing frequency. Please refer to the Guidance Notes for examples of minimum testing frequencies.*	☐	☐
Does your testing regime comply with the requirements of the standards and specifications for the aggregates you are producing? *NOTE: Aggregates produced to standards and specifications must be tested to demonstrate compliance to those standards and specifications.*	☐	☐
Do you have a procedure for dealing with non-conforming products? *NOTE: You must demonstrate that non-compliant products are dealt with in accordance to the FPC.*	☐	☐
Documentation (QP ref 3.7.2, 3.7.3, 3.8 and 3.9)		
Do you keep a record of all the appropriate documents, in accordance with the FPC, and specifically of the results of the tests undertaken as required by the standards and specifications? *NOTE: A list of records that must be kept in accordance to the FPC is provided within the Guidance Notes.*	☐	☐
Does the delivery ticket of your product contain the description of the material in accordance with the industry or client specification and does it include a statement that the aggregate was produced to a quality scheme meeting the Quality Protocol? *NOTE: Details on the delivery ticket must be provided in accordance with the FPC. The statement that the aggregate was produced to a quality management scheme conforming to the Quality Protocol can only be inserted if no "No" cells have been ticked in this self-assessment form.*	☐	☐

The competant authority for Environmental Permitting (England and Wales) Regulations is the Environment Agency, for Waste Licensing Regulations in Scotland is the Scottish Environment Protection Agency and in Northern Ireland is the Department of the Environment (Environment and Heritage Service). These agencies are able to confirm or provide information on permits, licences and exemptions to third parties if required. They are also able to require documentary proof of the compliance to the Quality Protocol from recycled aggregate producers who claim to be operating to the Quality Protocol.

* QP refs. are for numbered sections in the three versions of the WRAP Quality Protocol for the production of aggregates from inert waste covering England & Wales, Scotland, and Northern Ireland.

Copies are available from http://www.aggregain.org.uk/quality/quality_protocols/index.html

For additional information on Quality Management Systems go to: http://www.aggregain.org.uk/quality/index.html

[i] Expanded guidance notes are available in a separate document called: Guidance Notes to the Producers' compliance checklist for the Quality Protocol for the production of aggregates from inert waste

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recycle

APPENDIX 5

DUTY OF CARE

TG ENVIRO
FEBRUARY 2025

TG Enviro - Duty of Care Spreadsheet

Incoming Waste

Haulier	Waste Carrier Registration Number	Expiry Date

Outgoing Waste

Haulier	Waste Carrier Registration Number	Expiry Date	Company	Disposal Site	Permit/ exemption Number	Waste Type

Note: Red items = not currently used

APPENDIX 6

INSPECTION SCHEDULE

TG ENVIRO
FEBRUARY 2025

Item requiring checking	How often? (tick the appropriate box)							Where are maintenance instructions?	Who is responsible ?
	Day	Week	Month	6 monthly	Year	2 years	4 years		
Check for spills on surfaced areas (clean up if required)	✔							EMS (office)	HT
Condition of access roads including cleanliness	✔								HT
Condition of yard/ building - housekeeping	✔								HT
Weather conditions	✔								HT
Minimum staffing requirements met	✔							EMS (office)	HT
Hours reading for loading shovel	✔								HT
Waste types within permit	✔							EMS (office)	HT
Hours of operation	✔							EMS (office)	HT
Storage of liquids (drip trays)	✔							EMS (office)	HT
Dust -check bowser availability	✔							EMS (office)	HT
Noise	✔							EMS (office)	HT
Odour	✔							EMS (office)	HT
Litter	✔							EMS (office)	HT
Pests – birds, vermin and insects	✔							EMS (office)	HT
Plant inspection	✔							EMS (office)	HT
Storage of waste according to Permit		✔						EMS (office)	HT
Check state of fences and gates – (to avoid vandals or children getting in and, for example, letting liquids out of a drum).		✔						EMS (office)	HT

Item requiring checking	How often? (tick the appropriate box)							Where are maintenance instructions?	Who is responsible ?
	Day	Week	Month	6 Monthly	Year	2 years	4 years		
Availability of Environmental Permit, Planning Permission, EMS		✔							HT
Visitor book		✔							HT
Provision of quarantine area		✔							HT
Transfer notes and carrier registration		✔						EMS (office)	HT
Mobile and static plant maintenance checks completed		✔							HT
Permitted quantities of waste		✔						EMS (office)	HT
Surface Water lagoon for presence of oil									HT
Plant maintenance schedules			✔					Office	HT
Site records as required by Permit			✔					EMS (office)	HT
Site Identification Board				✔				EMS (office)	HT
Review EMS							✔	EMS (office)	HT

HT = Huw Thomas

APPENDIX 7

COMPLAINTS FORM

TG ENVIRO
FEBRUARY 2025

APPENDIX 8

ENVIRONMENTAL RISK ASSESSMENT

TG ENVIRO
FEBRUARY 2025

Gefn Graianog Quarry – Bespoke Permit Application
Environmental Risk Assessment

Client: TG Group

Ref No.: K0642-ENV-R002-03
Date: April 2025

Document control

Revision	Revision/ Review Date	Details of Issue	Authorised		
			Prepared By	Checked By	Approved By
00	May 2024	Draft	O Smith	J Baxter	J Baxter
01	June 2024	Updated following comments from Client	O Smith	J Baxter	J Baxter
02	July 2024	Updated following meeting with NRW	O Smith	J Baxter	J Baxter
03	April 2025	Updated for resubmission to NRW	O Smith	C Heward	J Baxter

Disclaimer: Please note that this report is based on specific information, instructions, and information from our Client and should not be relied upon by third parties.

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Content

Appendices

1 Introduction

1.1 Report Objectives

This report has been produced by Ayesa on behalf of TG Group (the Operator) in support of a new bespoke permit application for a proposed soil recycling / recovery activity in an area within Cefn Graianog Quarry located in Llanllfni, Caernarfon, North Wales, LL54 6SY.

The National Resources Wales (NRW) horizontal guidance on risk assessments for environmental permits currently follows the Environment Agency (EA) guidance[1].The guidance referenced identifies the following step process to risk assessments which can be summarised as:

- Identify risks;
- Identify receptors;
- Identify possible pathways
- Assess relevant risks; and
- Control risks.

The guidance indicates that the following parameters require assessing:

- Any discharge;
- Accidents;
- Odour;
- Noise and vibration;
- Fugitive emissions;
- Visible emissions; and
- Release of bioaerosols.

The guidance requires that receptors are considered with regard to the proximity of the Site. Table 1 of this report identifies the most likely sensitive receptors adjacent to the Site and has been compiled using information available through internet-based searches.

This Environmental Risk Assessment is in support of a bespoke permit application for a site located within 500 m (415 m south, downgradient) of a Site of Special Scientific Interest (SSSI).

The following key documents and data sources have been consulted in the preparation of this variation application report including:

- Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

[1] Risk assessments for your environmental permit - GOV.UK (www.gov.uk)

- Magic Map Application (defra.gov.uk)
- Online maps & routes for walking, cycling and running | OS Maps
- Google Earth
- Data - Met Office
- Wind Forecast - United Kingdom - WillyWeather
- First Nature Website for Cors Gyfelog Nature Reserve (https://www.first-nature.com/waleswildlife/n-nnr-corsgyfelog.php)

The guidance requires that receptors are considered with regard to the proximity of the Site. Table 1 of this report identifies the most likely sensitive receptors adjacent to Site and has been compiled using information available through internet-based searches.

The guidance also requires information to be presented in the form of risk assessment tables, one table for each actual or possible hazard identified. Identification of accident scenarios and their prevention through operational management should also be detailed. Each table should identify the hazard, the process that causes the hazard, the potential receptors and the pathway from the hazard to those receptors. In addition, the tables should also include the preventative risk management practices to be employed along with an assessment of the mitigated risk.

1.2 Site Details

The proposed permit area covers an area of land comprising approximately 0.54 hectares and is located at an approximate Grid Reference SH459488 at the Cefn Graianog Quarry, an active sand and gravel pit operated by TG Aggregates, approximately 4.4 km south/southwest of Penygroes village centre. The north/eastern boundary of the Site is bordered by an access track and the western boundary of the Site is defined by a conveyor, and beyond this, a large surface water lagoon. The southern boundary is undefined by surface features and comprises quarry workings and the quarry yard/offices further south. Farmland surrounds the Site in all directions and a forested area lies just 65 m northeast of the Site. Several residential and farming buildings are located in the area surrounding the Site, the nearest residential property of which is situated approximately 205 m east/southeast of the Site, on the track to the Site entrance. The other properties are located over 450 m away from the Site.

1.3 Assessment of Environmental Risk

The NRW/EA guidance requires that everyone applying for a new environmental permit (other than a standard permit) should present information in the form of risk assessment tables, one table for each actual or possible hazard identified. Identification of accidents scenarios and their prevention through operational management should also be detailed. Each table should identify the hazard, the potential receptors and the pathway from the hazard to those receptors. In addition, the tables should also include the preventative risk management practices to be employed along with an assessment of the mitigated risk.

2 Scope of the Assessment

2.1 Current Operations

There are currently no permitted activities taking place on the proposed permit area or the wider Cefn Graianog Quarry Site. The proposed permit area is located within the north of the active quarry site, just east of a large surface water lagoon, and approximately 130 m north/northwest of the quarry offices and yard area. This area is currently used as a stocking area.

2.2 Proposed Operations

It is understood that the proposed activity would fit the criteria of the Standard Rules permit SR2010 No. 12 (treatment of waste to produce soil, soil substitutes and aggregate – up to 75,000 tonnes) apart from the proximity of the Cors Gyfelog SSSI and Corsydd Eifionydd/Eifionydd Fens Special Area of Conservation (SAC) to the Site, both 415 m south of the proposed permit boundary. Hence, a bespoke permit application which considers the specific risks to the SSSI/SAC is required, and are consequently considered in more detail in Section 3 of this report.

TG Group wishes to apply for a bespoke environmental permit for the following:

- Dry processing, limited to screening and associated handling of material within the proposed permit boundary;
- Treating up to 50,000 tonnes per year with up to 20,000 tonnes (~10,000 m^3) stored at any one time within the permit boundary;
- Waste types are proposed to include the following:
    - 01 04 08 waste gravel and crushed rocks;
    - 01 04 09 waste sand and clays;
    - 17 05 04 soil and stones other than those mentioned in 17 05 03;
    - 17 01 01, 17 01 02, 17 01 03 concrete, bricks, tiles and ceramics;
    - 17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06;
    - 17 03 02 road base and road planings (other than those containing coal tar) only;
    - 17 05 06 dredging spoil other than those mentioned in 17 05 05, and,
    - 20 02 02 soil and stones.
- The activity is proposed to be undertaken on permeable hardstanding; and,
- Surface water run-off from the permitted area is to be contained and drained into a small lagoon located within the east of the permitted area, which will then be pumped into a larger lagoon to the west of the permit boundary.

The primary entrance to the Site is from the signposted track just off the A487.

2.3 Potential Hazards

2.3.1 Odour

The proposed wastes received at the facility for processing at the Site are very unlikely to be a significant source of odour. The low or negligible organic content results in negligible landfill gas generation and no production of malodorous leachate or smell.

Nevertheless, the risk of odours will be reduced to as low as practicably possible by the following operational management techniques:

- Waste Acceptance Protocols and very limited range of wastes accepted effectively removes odour potential;
- All incoming waste will be checked for particularly malodours waste and any particularly odours wastes will be rejected and dispatched from Site as soon as practical;
- Regular olfactory monitoring will be conducted and will take account of meteorological conditions and potential impacts of odour (however unlikely) on receptors; and,
- A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's Environmental Management System (EMS).

The risks associated with fugitive odour emissions are detailed in Table 2 and will continue to be managed in accordance with the Sites EMS.

2.3.2 Noise and Vibration

The dry processing will be limited to screening and the associated handling of material. The risk of noise and vibration emissions associated with the activity will include the transport and handling of waste, in addition to movement and operation of site plant during screening and processing using a mechanical screener. Screening is currently undertaken onsite for site won sand material and imported sand material with the activity being applied for to allow limited to the importation of similar wastes material (e.g. waste sand).

Receptors are identified in Table 2.6 with noise sensitive receptors considered to be residential and public use receptors. The closest residential property (>200 m) is located on the quarry haul road and is owned by the quarry operator therefore this has been factored in when considering the potential impact on the residential property from noise and vibration emissions. The other properties are located over 325 m away from the Site.

The Site is located within the active sand and gravel quarry, with plant operating onsite and lorries arriving and departing through currently consented hours. The north/eastern boundary of the Site is bordered by an access track and the western boundary of the Site is defined by a conveyor, and beyond this, a large surface water lagoon. The southern boundary is undefined by surface features at present and comprises quarry workings and the quarry yard/offices further south. Farmland surrounds the Site in all directions and a forested area lies just 65 m northeast of the Site.

As the proposed activity will use the same/similar plant and machinery to what is already used as part of the quarrying operation, the noise emissions produced by the proposed soil recycling/recovery activity are unlikely to have any impact on noise and vibration emissions and consequently on noise sensitive receptors than those already are produced by the processes involved in the current quarrying activity. The proposed activities are consistent with those currently undertaken at the quarry and additional noise mitigation is to be implemented consequently.

Therefore, it is considered that a separate noise risk assessment is not required as part of the application.

A number of standard noise mitigation measures are implemented to ensure operations will not impact significantly upon the amenity of the area in general and the nearest sensitive receptors in particular. These can be summarised as follows:

- all operations are carried out in adherence to the hours stipulated by the Site's planning permission;
- the proposed surface water retention bund along the southern permit boundary will join the existing eastern boundary bund, which will be enhanced to improve both visual and noise screening between the processing area and the potential noise receptor (residential property along the quarry access road);
- noise limits specified and monitoring required by the planning permission;
- plant and vehicles are checked at the recommended service intervals and maintained in accordance with the manufacturer's instructions, particular attention is given to the condition of any fitted silencers;
- where reversing alarms are employed onsite on mobile plant and equipment, only broadband multi-frequency sound alarms (white sound) shall be used;
- as part of the procurement of additional plant and equipment, consideration is given to noise emission specifications;
- site roads are maintained with smooth pothole free surface;
- vehicles are subject to speed limits, and where practicable engines will be switched off when not in use;
- drop heights of materials are minimised where possible;
- site personnel are instructed to carry out all routine operations in a manner that does not cause unnecessary levels of noise; and,
- where reasonably practicable, select quiet working methods should there be a suitable alternative with a lower noise impact.

A complaints procedure is in place and all complaints and remedial action will be recorded in accordance with the site's EMS. The risks from noise emissions and proposed management measures are discussed further in Table 3.

2.3.3 Fugitive / Visible Emissions

Only the permitted waste types listed in Section 2.2 above will be accepted for processing at the Site. These are very unlikely to contain materials which could present a risk of windblown litter. They are also unlikely to contain anything to attract pests or vermin. Litter, pests and vermin will not be considered further in this ERA.

2.3.3.1 Dust

The existing onsite quarry activity has the potential to generate fugitive emissions. A Dust and Emissions Management Plan has been prepared by Ayesa for the Site (K0642-ENV-R005) and is

attached as Appendix 1 The activity is proposed to encompass the dry processing including screening and associated handling of waste which could potentially generate dust.

Particulate emissions can arise from the deposit of potentially dry or dusty wastes, uncovered dusty waste deposits, un-vegetated areas vehicle movements on unpaved or dusty roads and settlement of surface water run-off laden with suspended solids. A number of measures are in place onsite to manage dust including:

- The operator will continue to enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes;
- All site haul roads are maintained and cleaned as necessary to minimise the accumulation of mud or dusty materials;
- All vehicles onsite shall not exceed the onsite speed limit;
- All vehicles are sheeted so as to prevent spillage or dust blowing from their loads;
- Drop heights are minimised where possible;
- Site staff will check departing vehicles for mud and vehicles will be cleaned on site if necessary;
- A road sweeper will be employed as necessary;
- A water bowser will be maintained onsite at all times to supress dust on roads and surfaces during periods of dry and / or windy weather conditions;
- All site staff will receive appropriate training in order to ensure that employees are conversant with the Site Dust Action Plan;
- During meteorological conditions that are likely to lead to fugitive dust emissions, suitably trained site staff will monitor the Site at least once per day to ensure that dusty conditions do not prevail; and,
- If a dust nuisance is identified an investigation will be undertaken to identify the source and remedial measures put in place in accordance with the Site's EMS (e.g. reduce / suspend activities, additional dust suppression, additional wheel cleaning, additional use of road sweeper).

A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS. The risks from fugitive emissions of dust and proposed management measures are discussed further in Table 4.

2.3.3.2 Mud

The main access road from the A487 to the main site and yard area is currently surfaced with tarmac. The haul road to the west of the Site is also surfaced with tarmac. Internal unpaved roads will be regularly graded and surfaced with suitable hardcore so that it does not become a source of mud and debris on the wheels of site traffic. Any holes of soft spots that develop will be repaired immediately.

Traffic on the roads will be directed to and from entrance to the point of discharge or receipt of material. Vehicles leaving the Site will be inspected for mud and wheels will be cleaned on site if necessary.

Notwithstanding this, the Site's access routes will be inspected daily and should there be evidence of mud and debris being carried onto the public highway, it will be removed using a road sweeper as soon as practical.

A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS. The risks from fugitive emissions for mud and proposed management measures are discussed further in Table 5.

2.3.4 Accidents

There is potential for accidents to occur during the operation of the landfill which may have a detrimental environmental impact. This can include spillages of fuels or other polluting liquids; fires causing damage to containment measures or generating contaminated liquid; or deliberate vandalism resulting in pollution similar to the aforementioned. The risks of pollution occurring from accidents and the proposed management measures are discussed further in Table 6.

2.3.5 Migration of Contaminants into Controlled Waters

The proposed activity will be undertaken on an area of permeable hardstanding, as indicated on Drawing K0642.1003. The management of surface water is also illustrated on the drawing. The wastes proposed to be accepted at the site are listed within those accepted in the standard rules SR2010 No.12 permits. The proposed wastes have low to negligible leachability potential and the primary potential pollutant within waters at the site will be suspended solids.

2.3.5.1 Surface Water

Any surface water run-off from the permitted area is to be contained within a collection point within the east of the permitted area. Water from this collection point will be pumped into a larger existing quarry settlement lagoon to the west of the permitted area. The existing lagoon has raised embankment bunds around the perimeter, of which the inner slopes are lined with clay/silt to minimise water losses from system and is managed in accordance with the Site's EMS. Water from the larger settlement lagoon will be re-used on the wider quarry site (e.g. washing / grading of aggregates, as well as dust suppression). There will be no releases of surface water outside of the quarry. The lagoon forms part of the wider quarry silt and surface water management system. The Site has a current discharge licence which allows pumped groundwater to be discharge into the Afon Dwyfach to the south of the quarry. However, the Operator states no water has been discharged at this discharge point in over a decade.

The existing bund located to the southeast of the permitted area is to be extended northwest and east along the south of the proposed permit boundary. This will ensure surface water is contained within the collection point and will not drain off site into drainage ditches or surrounding water courses.

Surface water management procedures are in place and detail the inspection requirements of the infrastructure and equipment used to manage surface water on site. Inspections of the lagoons and pipework are required on a daily basis, when in use, as part of the wider quarry safety inspections, of which the check sheets are attached as Appendix 2. Following these inspection procedures will ensure leaks within the pipework during pumping do not occur unnoticed and any repairs can be made in good time.

2.3.5.2 *Groundwater*

The activities are to be undertaken on permeable hardstanding. There is limited potential for rainwater/surface water to permeate through the hardstanding and migrate into the underlying superficial sands and gravels, and siltstone bedrock (Secondary B Aquifer). Cors Gyfelog Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) is located 415 m south and down hydraulic gradient of the proposed permit area. NRW historically conducted monitoring of boreholes installed along the southern perimeter of the quarry which has demonstrated that the groundwater levels in Cors Gyfelog are charged independently from Bwlch Mawr to the west rather than the quarry. This is discussed further in Section 3.2.

Given the waste types proposed to be accepted and processed at the Site are inert soils and gravels originating from dredging, excavation and demolition activities (detailed in Report Ref: K0642-ENV-R003-01, Waste Acceptance Criteria Report), it is very likely these materials will contain low or negligible concentrations of potentially polluting substances. Hence there is a low likelihood for contaminants to leach out of the waste into groundwater.

The site is not located within a Source Protection Zone (SPZ). The standard rules SR2010 No.12 Section 2.4 (Operating Techniques) allows for permitted wastes to be stored treated on hardstanding when the permit area is located outside of any SPZ.

No further mitigation is required with respect to risk to groundwater.

2.4 Potential Hazard Pathway

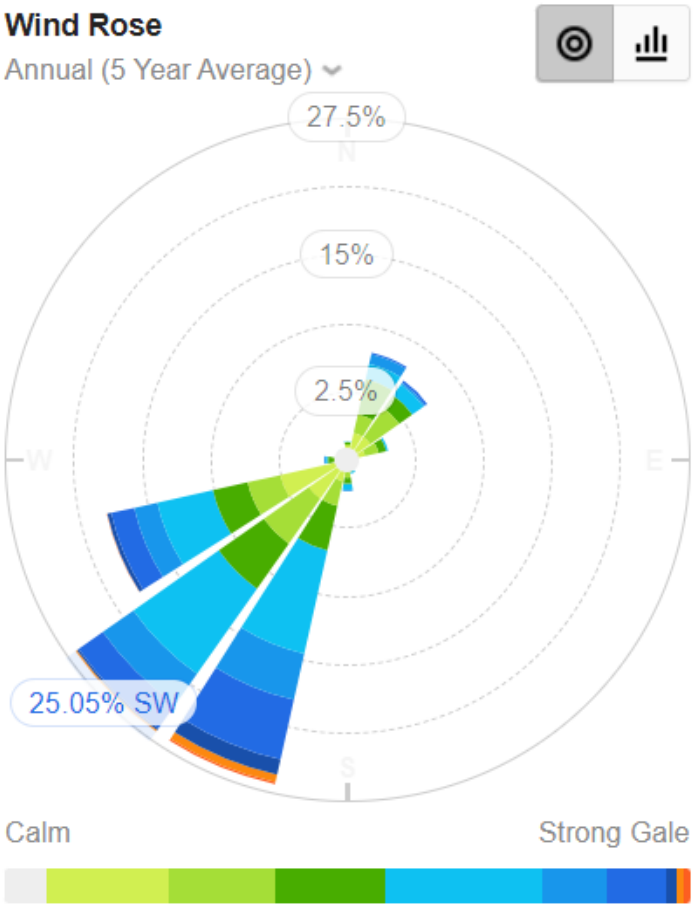
When identifying the receptors, the closest and the most sensitive (if different from the closest) have been considered in each direction from the hazard. Account has been taken of the mechanism of transport to the sensitive receptor e.g. proximity to highway access / egress points for mud and wind direction for airborne dust. Recent wind direction data has been used to establish hazard pathways to adjacent to the Site.

2.4.1 Meteorological Conditions

Weather and wind statistics are taken from Porthmadog Weather Station[2] located 14.9 km southeast of the Site. The windrose shows that the dominant wind direction is from the southwest blowing towards the northeast (Figure 1).

[22] https://wind.willyweather.co.uk/wl/gwynedd/porthmadog.html

Figure 1 Windrose Diagram for Porthmadog



2.5 Probability of Exposure

Probability of exposure is determined by the distance of the receptor to the Site and the likelihood of the hazard reaching the receptor i.e. frequency of prevailing wind in that direction. The probability of exposure is irrespective of the type of hazard presented.

2.6 Hazard Receptors

Table 1 identifies the most likely sensitive receptors adjacent to the Site, this has been compiled using information available through internet-based searches. The locations of these receptors are indicated on drawing K0642-1002.

Table 1 Sensitive Receptors within 1000m

Receptor Number	Receptor	Receptor Type	Approx. Distance from Site Boundary (m)	Direction from Site	Freq (%) Prevailing Wind Direction
1	Residential/farming properties/campground	Residential / Agricultural	325 – 780	W - NW	0.3 - 0.5
2	Residential property located on access track to quarry	Residential / Agricultural	205	ESE	0.8
3	Properties off A487	Residential / Agricultural	780 - > 1000	NE - SE	0.9 - 25.1
4	Cors Gyfelog	Site of Special Scientific Interest	415	S	1.4
5	Corsydd Eifionydd/Eifionydd Fens	Special Area of Conservation	415	S	1.4
6	Cors Gyfelog	National Nature Reserve	455	SSE	0.0
7	Public Footpath	Public Footpaths	140	S	1.4
8	Public route of access	Public route of access	Along northeastern boundary of the Site	NE	25.1
9	Traffic free off-road cycle route along old railway track	Cycle route	150	E	1.8
10	Ancient Semi Natural Woodland	Ancient Semi Natural Woodland	892	NW	0.3
11	Unnamed roads and A487	Highways	0 - 1000	All directions	0.3 – 7.3
12	Silt Lagoons associated with quarry	Waterbody	30 – 220	W	0.5
13	3 No Inland river not influenced by tidal action	Watercourse	205 - 241	N - NE	2.4 – 25.1
14	4 No Inland river not influenced by tidal action	Watercourse	119 - 229	E - SE	0.9 - 1.8
15	2 No Inland river not influenced by tidal action	Watercourse	157 - 235	S - SW	1.4 – 7.3
16	1 No Inland river not influenced by tidal action	Watercourse	205	N	2.4
17	Afon Desach	Watercourse	800	WNW	0.3 - 0.5
18	Purple moor grass and rush pastures	Protected Habitat	57	NE	25.1
19	Graianog North Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	19 - 300	NNW	1.1
20	Cefn Graianog Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	145 - > 1000	NNE - SSE	0.0 - 25.1

3 Risk Assessments and Accident Management Plans

3.1 Risk Assessment

The site specific risk assessments completed for odour, noise and vibration, dust and mud are detailed in Tables 2 to 5 below. Where there is an inter-relationship between the specific risk assessment and meteorological conditions, this has been identified. The pathway is determined by the location of the receptor relative to the Site, the distance from the boundary (m) and the frequency (likelihood) the prevailing wind will blow in the direction of the receptor (%) as determined by historical wind rose data for Porthmadog Weather Station located 14.9 km southeast of the Site boundary.

The mitigated risk is the residual risk presented by the hazard after control measures have been implemented. This is the most realistic representation of the risk as effective controls will be maintained under the requirements of the environmental permit, planning consent and management procedures set out in the Operator's EMS.

3.2 SSSI/SAC

The Cors Gyfelog Site of Special Scientific Interest (SSSI) which is also classified as a Special Area of Conservation (SAC) and contains a National Nature Reserve is located 415 m south and down hydraulic gradient of the proposed permit area.. This is a lowland site containing a wide range of habitats, including wet woodland and wet acid heath with one of the largest strands of transition mire and quaking bog habitats in Wales. This area is home to mature willow carr Salix cinerea, supporting lichen and some very rare wildflowers such as Hammarbya puludosa and the Marsh Helleborine Epipactus palustris, among many other species. Several rare species of insects such as the Silver Fly Acrometopia whalbergi, Scabious Sucissa pratensis and the semi-aquatic weevil Bagous frit.

The following measures have been employed to mitigate any impact on the SSSI/SAC.

Surface water from the proposed waste processing and storage area will be contained and drained into a collection point within the permit boundary (see drawing K0642-1003 Site Layout and Drainage Plan). This collected water will then be pumped west into the existing silt lagoons. A bund will be put in place along the southern permit boundary to contain the surface water within the permit boundary. Therefore, there will be very little/no surface water running downslope towards the SSSI, hence there is no pathway for suspended solids originating from the proposed activity to enter the SSSI. Mitigation measures are in place as part of the wider quarry works which include a below ground clay barrier constructed to the south of the Water Management Pond (No. 1) along the southern boundary of the site, regular monitoring of boreholes installed along the southern perimeter of the site by NRW to prevent any potential contaminated groundwater from entering the adjacent Cors Gyfelog SSSI and SAC. Groundwater within the quarry is independent from groundwater within the Cors Gyyfelog SSSI and SAC as demonstrated by data published by RIGARE on behalf of NRW.

Active dust control measures are proposed and the prevailing wind direction for the area is from southwest towards the northeast. The SSSI is located 415 m south of the proposed permit area, therefore if any dust is produced from the activity it is unlikely to be carried towards the SSSI (frequency of the wind blowing southwards is 1.4%). Therefore, this is not considered a feasible pathway for any dust originating from the proposed activity to reach the SSSI. Nevertheless, during periods of higher risk (i.e. dry and strong winds towards the south) waste processing operations will cease, until more favourable conditions prevail.

The proposed small-scale activity is very unlikely to contribute any more noise than is currently being produced by the mineral activities with the quarry. In addition, the SSSI/SAC/Nature Reserve is

mainly designated for rare species of plant life and insects, which are less sensitive to noise. Therefore, noise is unlikely to pose any further risk to the SSSI when compared to the present mineral operations.

3.3 Protected Habitat and Sites of Importance for Nature Conservation (SINCs)

Following the feedback (PAN026461, annex 1) from the first submission of this application, NRW informed us of additional sensitive receptors within a nearby proximity to the proposed permit area, of which were not picked up in the original screening from the available sources. The following SINCs (otherwise known as Local Wildlife Sites) were identified:

- Graianog (north), 19 m north/northwest; and,
- Cefn Graianog, 145 m northeast.

In addition to this, one protected habitat was identified:

- Purple moor grass and rush pastures, 57 m northeast.

Plans illustrating the locations/extents of the abovementioned SINCs and protected habitat from the basic NRW habitats and conservation screening have been attached as Appendix 2. Any further information regarding these receptors is not publicly available.

The following mitigation measures have been employed to mitigate any impact on the protected habitat and SINCs.

Surface water from the proposed waste processing and storage area will be contained and drained into a collection point within the permit boundary (see drawing K0642-1003 Site Layout and Drainage Plan). This collected water will then be pumped west into the existing silt lagoons. A bund will be put in place along the southern permit boundary and the existing bund will be extended toward the northwest to contain the surface water within the permit boundary. Both the SINCs and protected habitat lie upgradient of the proposed permitted area and therefore it is unlikely that any water will migrate upwards towards these receptors.

Active dust control measures are proposed, detailed in Table 4. The prevailing wind direction for the area is from southwest towards the northeast.

The Graianog (north) SINC is located north/northwest of the Site, therefore any dust produced from the activity is unlikely to be carried towards this receptor (frequency of wind blowing north/northwest is 1.1%). Therefore, there is not considered a feasible pathway for any dust originating from the proposed activity to reach the Graianog (north) SINC.

However, both the protected habitat and part of the Cefn Graianog SINC are located northeast of the proposed permitted area, in the prevailing wind direction. The frequency of wind blowing in the northeast direction is 25.1%. To reduce the likelihood of any dust generated during the activity travelling toward these receptors, during periods of higher risk (i.e. dry and strong winds towards the northeast) waste processing operations will cease, until more favourable conditions prevail. Additionally, materials in stockpiles within the storage area will be dampened down/sheeted If weather conditions deem it necessary.

The proposed activity will use the same/similar plant and machinery to what is already used as part of the quarrying operation. The dust produced by the proposed soil recycling/recovery activity are unlikely to have any impact on the total dust emissions produced by the quarrying activity,

consequently there is unlikely to be any further impact on nearby sensitive receptors regarding dust than those already produced.

3.4 Environmental Accidents

The Agency guidance requires the completion of an Accident Risk Assessment Management Plan. This should assess potential hazards associated with the proposed activity not described in the sections above.

An accident management plan is detailed in Table 6.

Table 2 Odour Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Odour through the Air: from exposed waste and wastes received	1	325 – 780	W - NW	0.3 - 0.5	Low – no source & distant	High – odour annoyance (residential)	Medium	Waste Acceptance Protocols ensure wastes have low organic content and therefore negligible gas / odour potential. Regular olfactory monitoring will be conducted and will take account of meteorological conditions and potential impacts of odour (however unlikely) on receptors. A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS.	Low
	2	205	ESE	0.8	Low – no source	High – odour annoyance (residential)	Medium		
	3	780 - > 1000	NE - SE	0.9 - 25.1	Low – no source & distant	High – odour annoyance (residential)	Medium		
	4	415	S	1.4	Low – no source	Low – not sensitive to odour (SSSI)	Low		
	5	415	S	1.4	Low – no source	Low– not sensitive to odour (SAC)	Low		
	6	455	SSE	0.0	Low – no source	Low – not sensitive to odour (nature reserve)	Low		
	7	140	S	1.4	Low – no source	Low – transient odour annoyance (footpath)	Low		
	8	Along northeastern boundary	NE	25.1	Low – no source	Low – transient odour annoyance (public route)	Low		
	9	150	E	1.8	Low – no source	Low – transient odour annoyance (cycle path)	Low		
	10	892	NW	0.3	Low – no source & distant	Low – not sensitive to odour (ancient woodland)	Low		
	11	0 - 1000	NW-SW	0.3 – 7.3	Low – no source	Low – transient odour annoyance (road)	Low		
	12	30 – 220	W	0.5	Low – no source	Low – not sensitive to odour (lagoon)	Low		
	13	205 - 241	N - NE	2.4 – 25.1	Low – no source	Low – not sensitive to odour (rivers)	Low		
	14	119 - 229	E - SE	0.9 - 1.8	Low – no source	Low – not sensitive to odour (rivers)	Low		
	15	157 - 235	S - SW	1.4 – 7.3	Low – no source	Low – not sensitive to odour (rivers)	Low		
	16	205	N	2.4	Low – no source	Low – not sensitive to odour (rivers)	Low		
	17	800	WNW	0.3 - 0.5	Low – no source & distant	Low – not sensitive to odour (river)	Low		

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Odour through the Air: from exposed waste and wastes received	18	57	NE	25.1	Low – no source	Low – not sensitive to odour (protected habitat)	Low	As above.	Low
	19	19 - 300	NNW	1.1	Low – no source	Low – not sensitive to odour (SINC)	Low		
	20	145 - > 1000	NNE - SSE	0.0 - 25.1	Low – no source	Low – not sensitive to odour (SINC)	Low		

Table 3 Noise Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc.**	**Freq (%)**					
Noise through air: from dry processing and screening	1	325 – 780	W - NW	0.3 - 0.5	Medium – moderate proximity to Site	High – noise annoyance (residential)	Medium	Activity is unlikely to generate noise in excess of current quarrying activity. Onsite speed limits will be enforced and internal site roads will be maintained. Bund construction along southern boundary and southeast corner along with raising and thickening of existing bund along eastern boundary will provide noise screening between the processing area and closest potential sensitive noise receptor. Appropriate maintenance of site plant / vehicles in accordance with the manufacturer's or supplier's instructions, particular attention will be given to the condition of any fitted silencers. As part of the procurement process consideration will be given to the noise emission specifications. Where reversing alarms are employed onsite on mobile plant and equipment, only broadband multi-frequency sound alarms (white sound) shall be used. Planning condition restricts site operational hours. Where practicable, engines to be switched off when not in use.	Low
	2	205	ESE	0.8	Medium – moderate proximity to Site	High – noise annoyance (residential)	Medium		
	3	780 - > 1000	NE - SE	0.9 - 25.1	Low – distant from Site	High – noise annoyance (residential)	Medium		
	4	415	S	1.4	Medium – moderate proximity to Site	Medium – potential to disturb wildlife (SSSI)	Medium		
	5	415	S	1.4	Medium – moderate proximity to Site	Medium – potential to disturb wildlife (SAC)	Medium		
	6	455	SSE	0.0	Medium – moderate proximity to Site	Medium – potential to disturb wildlife (nature reserve)	Medium		
	7	140	S	1.4	High – close proximity to Site	Low – transient noise annoyance (footpath)	Medium		
	8	Along north eastern boundary	NE	25.1	High – close proximity to Site	Low – transient noise annoyance (public route)	Medium		
	9	150	E	1.8	Medium – moderate proximity to Site	Low – transient noise annoyance (cycle path)	Low		
	10	892	NW	0.3	Low – distant from Site	Low – not sensitive to noise (ancient woodland)	Low		
	11	0 - 1000	NW-SW	0.3 – 7.3	High – close proximity to Site	Low – transient noise annoyance (road)	Medium		
	12	30 – 220	W	0.5	High – close proximity to Site	Low – not sensitive to noise (lagoon)	Medium		
	13	205 - 241	N - NE	2.4 – 25.1	Medium – moderate proximity to Site	Low – not sensitive to noise (rivers)	Low		

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc.**	**Freq (%)**					
Noise through air: from dry processing and screening	14	119 - 229	E - SE	0.9 - 1.8	High – close proximity from Site	Low – not sensitive to noise (rivers)	Medium	As above.	Low
	15	157 - 235	S - SW	1.4 – 7.3	Medium – moderate proximity to Site	Low – not sensitive to noise (rivers)	Low		
	16	205	N	2.4	Medium – moderate proximity to Site	Low – not sensitive to noise (rivers)	Low		
	17	800	WNW	0.3 - 0.5	Low – distant from Site	Low – not sensitive to noise (river)	Low		
	18	57	NE	25.1	High – close proximity from Site	Low – not sensitive to noise (protected habitat)	Low		
	19	19 - 300	NNW	1.1	High – close proximity from Site	Low – not sensitive to noise (SINC)	Low		
	20	145 - > 1000	NNE - SSE	0.0 - 25.1	Medium – moderate proximity to Site	Low – not sensitive to noise (SINC)	Low		

Table 4 Fugitive (Dust) Emissions Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc.**	**Freq (%)**					
Dust through Air: from vehicle movements, deposits/stock piles of wastes and dust generated from dry processing	1	325 – 780	W - NW	0.3 - 0.5	Medium – moderate proximity to Site, infrequently downwind	High – dust annoyance (residential)	Medium	No excessively dusty wastes to be accepted at the Site. Site staff will be appropriately trained and enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes. All vehicles transporting materials to and from Site will be sheeted and will be regularly maintained in accordance with the manufacturer's instructions. Onsite vehicle speed limit enforced to ensure that vehicle movements do not generate excessive dust. Dampening of site roads/surfaces as necessary using a tanker/bowser during dry periods. Daily visual inspection by appropriate site staff at suitable locations taking account of the prevailing wind direction. All vehicles will be inspected prior to leaving site for mud and wheels cleaned if necessary to prevent mud / dust being trailed onto adjacent roads and creating a hazard / nuisance.	Low
	2	205	ESE	0.8	Medium – moderate proximity to Site, infrequently downwind	High – dust annoyance (residential)	Medium		
	3	780 - > 1000	NE - SE	0.9 - 25.1	Medium – distant from Site but frequently downwind	High – dust annoyance (residential)	Medium		
	4	415	S	1.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential to deposit on sensitive wildlife (SSSI)	Medium		
	5	415	S	1.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential to deposit on sensitive wildlife (SAC)	Medium		
	6	455	SSE	0.0	Low – moderate proximity to Site, never downwind	Medium – potential to deposit on sensitive wildlife (nature reserve)	Low		
	7	140	S	1.4	High – close proximity to Site, infrequently downwind	Low – transient dust annoyance (footpath)	Medium		
	8	Along north eastern boundary	NE	25.1	High – close proximity to Site, frequently downwind	Low – transient dust annoyance (public route)	Medium		
	9	150	E	1.8	Medium – moderate proximity to Site, infrequently downwind	Low – transient dust annoyance (cycle path)	Low		
	10	892	NW	0.3	Low – distant from Site, infrequently downwind	Medium – potential to deposit on sensitive trees (ancient woodland)	Low		
	11	0 - 1000	NW-SW	0.3 – 7.3	High – close proximity to Site, occasionally downwind	Low – transient dust annoyance (road)	Medium		
	12	30 – 220	W	0.5	High – close proximity to Site, infrequently downwind	Low – not sensitive to dust (lagoon)	Medium		

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc.**	**Freq (%)**					
Dust through Air: from vehicle movements, deposits/stock piles of wastes and dust generated from dry processing	13	205 - 241	N - NE	2.4 – 25.1	Medium – moderate proximity to Site, frequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium	A street sweeper will regularly clean site access road of any mud trailed on from site vehicles. Drop height of materials will be minimised. Site to be kept tidy and hard standings to be kept clean to minimise dust. A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS. Materials in stockpiles within the storage area will be dampened down/sheeted If weather conditions deem it necessary.	Low
	14	119 - 229	E - SE	0.9 - 1.8	High – close proximity from Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium		
	15	157 - 235	S - SW	1.4 – 7.3	Medium – moderate proximity to Site, occasionally downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium		
	16	205	N	2.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (river)	Medium		
	17	800	WNW	0.3 - 0.5	Low – distant from Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Low		
	18	57	NE	25.1	High – close proximity from Site, frequently downwind	High – potential for dust accumulation in protected habitat	High		
	19	19 - 300	NNW	1.1	Medium – close proximity to site, infrequently downwind	High – potential for dust accumulation at SINC	Medium		
	20	145 - > 1000	NNE - SSE	0.0 - 25.1	Medium – moderate to distant from site, infrequently to frequently downwind	High – potential for dust accumulation at SINC	Medium		

Table 5 Fugitive Emissions (Mud) Risk Assessment and Management Plan

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Fugitive mud emissions generated by: Vehicle movements and handling of waste onsite	1	325 – 780	W - NW	0.3 - 0.5	Medium – moderate proximity to Site access roads	High - mud on highway causing annoyance and hazardous road conditions.	Medium	Internal roads will be maintained and cleaned as necessary. Exit length has been maximised to reduce the risk of debris deposition on the public highway. Site staff will check departing vehicles. Vehicles will be cleaned if necessary. A road sweeper will be employed as necessary. A daily visual inspection will be made of the public highway and recorded and any remedial action undertaken will be recorded. Procedures will be put in place to allow local residents to report any unsatisfactory road conditions. A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS.	Low
	2	205	ESE	0.8	Medium – moderate proximity to Site access roads	High - mud on highway causing annoyance and hazardous road conditions.	Medium		
	3	780 - > 1000	NE - SE	0.9 - 25.1	Medium – moderate proximity to Site access roads	High - mud on highway causing annoyance and hazardous road conditions.	Medium		
	4	415	S	1.4	Low – No physical connection	Low – no impact	Low		
	5	415	S	1.4	Low – No physical connection	Low – no impact	Low		
	6	455	SSE	0.0	Low – No physical connection	Low – no impact	Low		
	7	140	S	1.4	Low – No physical connection	Moderate – Mud on footpath causing annoyance	Low		
	8	Along northeastern boundary	NE	25.1	High – access road running past northeastern boundary of the site	Moderate – Mud on footpath causing annoyance	Medium		
	9	150	E	1.8	Low – No physical connection	Moderate – Mud on cycle route causing annoyance	Low		
	10	892	NW	0.3	Low – No physical connection	Low – no impact	High		
	11	0 - 1000	NW-SW	0.3 – 7.3	High – close proximity to access roads	High - mud on highway causing annoyance and hazardous road conditions.	High		
	12	30 – 220	W	0.5	Low – No physical connection	Low – no impact road conditions.	Low		

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Fugitive mud emissions generated by: Vehicle movements and handling of waste onsite	13	205 - 241	N - NE	2.4 – 25.1	Low – No physical connection	Low – no impact	Low	As above.	Low
	14	119 - 229	E - SE	0.9 - 1.8	Low – No physical connection	Low – no impact	Low		
	15	157 - 235	S - SW	1.4 – 7.3	Low – No physical connection	Low – no impact	Low		
	16	205	N	2.4	Low – No physical connection	Low – no impact	Low		
	17	800	WNW	0.3 - 0.5	Low – No physical connection	Low – no impact	Low		
	18	57	NE	25.1	Low – No physical connection	Low – no impact	Low		
	19	19 - 300	NNW	1.1	Low – No physical connection	Low – no impact	Low		
	20	145 - > 1000	NNE - SSE	0.0 - 25.1	Low – No physical connection	Low – no impact	Low		

Notes: * approximate distance via road

Table 6 Accident Management Plan

Hazard	Receptor	Pathway	Probability	Consequence	Overall Risk	Risk Management	Mitigated Risk
Fuel / engine oil Leak or damage to portable fuel bowser, static fuel storage tank or site vehicles	Groundwater	Base of quarry	Low	High - pollution of groundwater	Medium	Fuel and engine oils will be stored with appropriate secondary containment and spillage contingencies. Site vehicles and plant subject to regular preventative maintenance in accordance with EMS procedures.	Low
Fire Accidental fire associated with plant and equipment.	Groundwater	Base of quarry	Low	High - pollution of groundwater through firewater run-off or leaks from damaged equipment	Medium	Wastes to be accepted at site will have a low organic content and are inherently non-combustible in nature. Site vehicles and plant subject to regular preventative maintenance in line with site EMS procedures. Fire control equipment will be on hand as marked on K0642.1003, with major incidents to be dealt with by the Fire Brigade in accordance with site EMS Procedures. No smoking except in designated areas.	Low
	Receptors listed in Table 1 above	Airborne	Low	Medium - smoke / odour annoyance	Medium		
Explosion Compressed gas cylinders, combustion of gas or fuel storage tank	Site staff	Airborne	Low	High - danger of serious injury	Medium	Fuel is stored in appropriate containers with appropriate controls to prevent fire or explosion (i.e. no smoking onsite). Compressed gases not required and therefore not present for operation. Low organic content of waste will generate negligible volumes of landfill gas and will not present an explosion risk .	Low
	Groundwater	Base of quarry	Low	High - pollution of groundwater through leaks from damaged equipment	Medium		
Vandalism Damage to site vehicles, fuel bowsers, gas or leachate extraction pipework	Groundwater	Base of quarry	Low	High - pollution of groundwater through leaks from damaged equipment	Medium	Existing site security will prevent access by unauthorised persons. Vehicles will be kept overnight in a secure area with appropriate security measures. Wastes not expected to require exposed active gas or active leachate control infrastructure which could be subject to damage.	Low
	Receptors listed in Table 1 above	Airborne	Low	Medium - odour annoyance	Medium		

4 Conclusions

The operational hazards associated with the proposed permit application have been considered in the tables above. It has been concluded that with the use of appropriate mitigating controls where necessary, the operation does not present a significant risk to surrounding receptors.

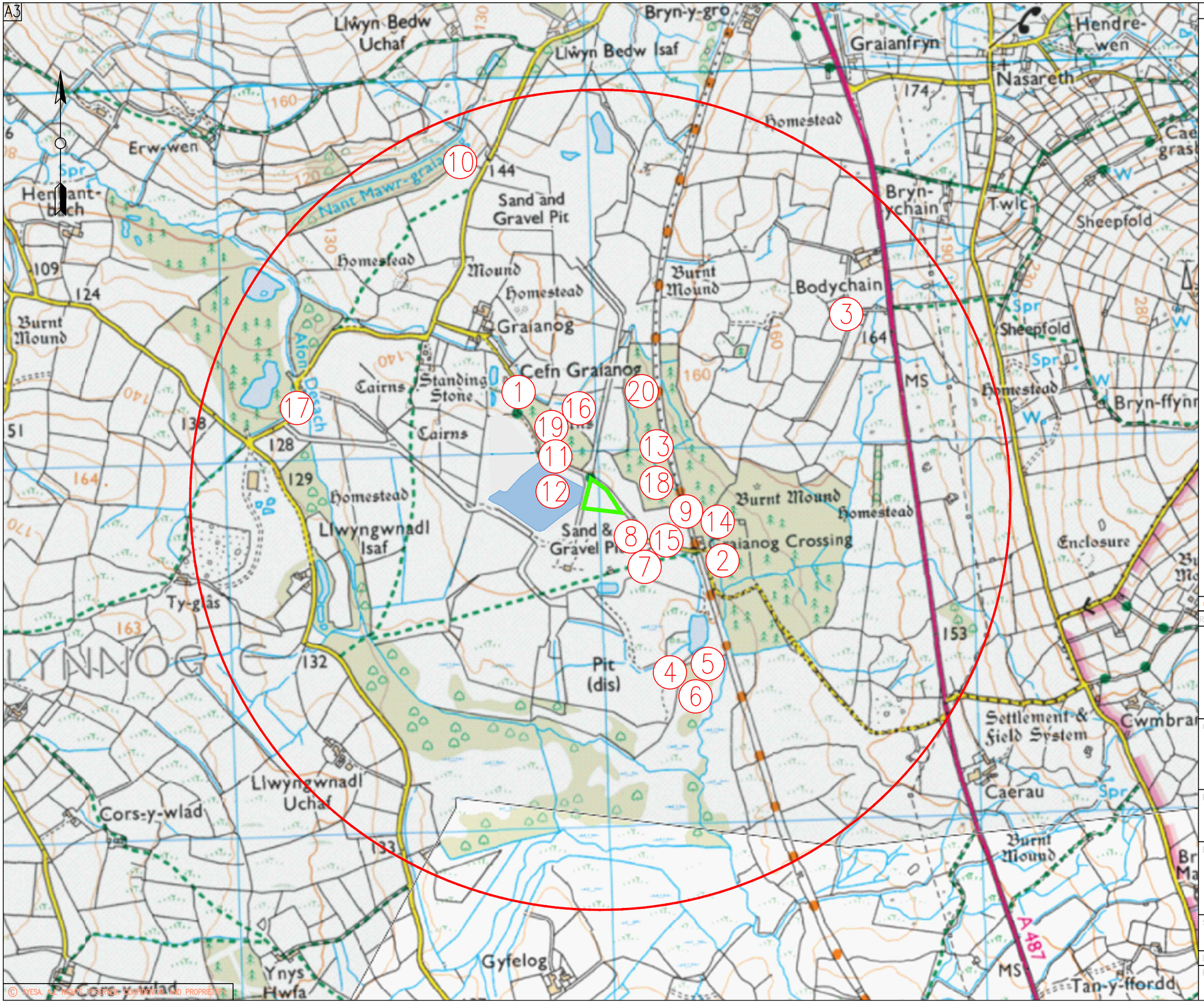
The potential hazards for emissions to groundwater and surface water, odour, noise, dust, mud and accidents have been considered and the risks associated have been reduced and managed as far as reasonably practicable. The most sensitive receptors have been identified and their impacts of any emissions from the Site have been addressed with mitigation measures in place. As a result, it is considered that any emissions from the Site will not have a detrimental impact on the sensitive receptors identified.

5 Drawings

Drawing No. K0642-1002 (Site Receptor Plan)

Drawing No. K0642-1003 (Site layout and Drainage Plan)

A3



GENERAL NOTES

GENERAL NOTES:

1. DO NOT SCALE OFF DRAWING.
2. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
3. ALL LEVELS IN METRES (ORDNANCE DATUM) UNLESS OTHERWISE NOTED.

LEGEND

- PERMIT BOUNDARY
- 1000m BUFFER ZONE
- (1) RECEPTOR MARKER

Rev	Date	Description	By	Chk	App
01	24.02.25	AMENDS	JM	OS	JB

ayesa

CLIENT

TG GROUP Established 1874

PROJECT

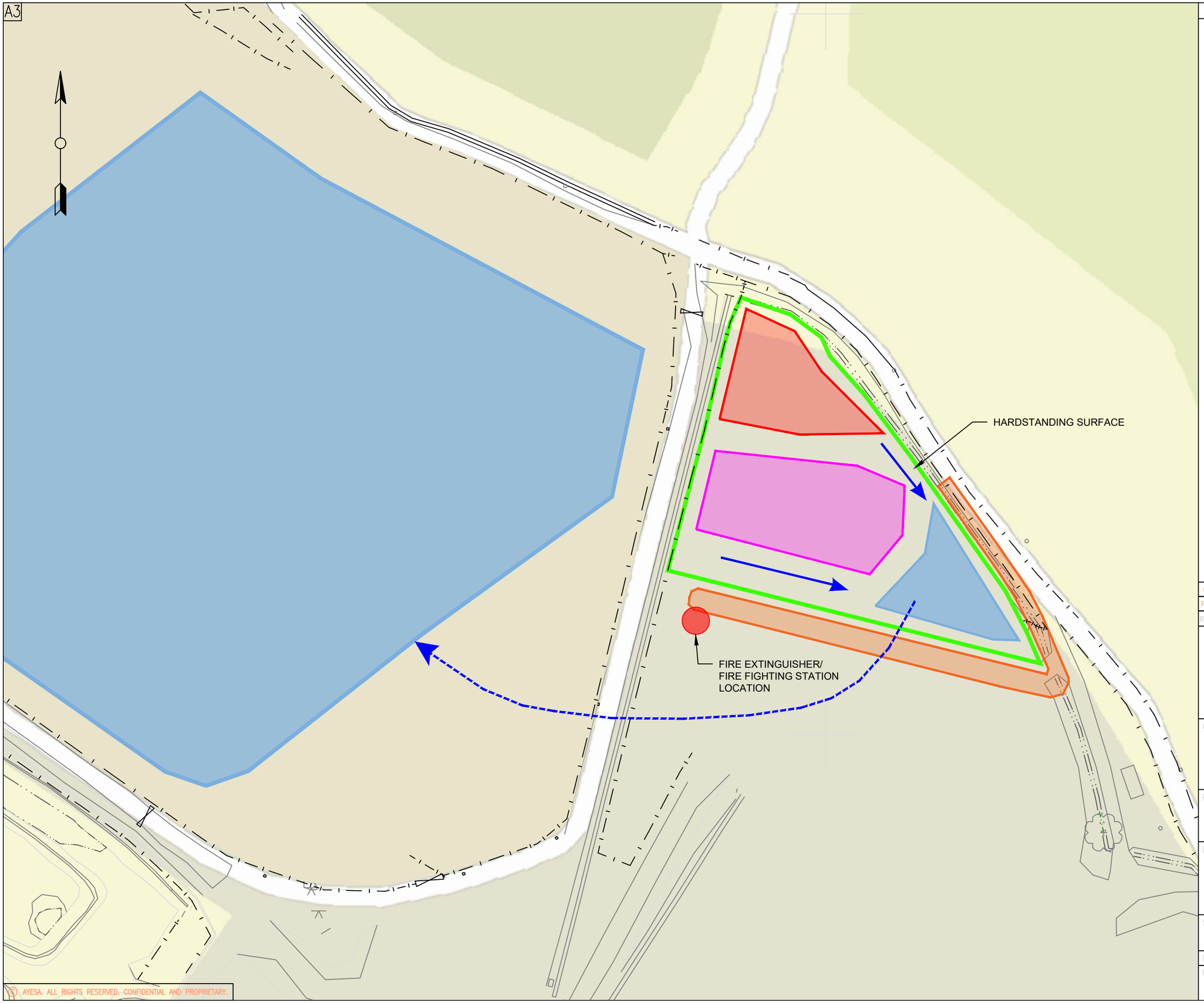
CEFN GRAIANOG QUARRY
PERMIT APPLICATION

DRAWING TITLE

SITE RECEPTOR PLAN

STATUS				SUITABILITY
FINAL				–
Date: 17/05/24	Scale: 1:10,000	Drawn: JM	Chk: OS	App: JB
Project No: K0642	Drg. No: K0642–1002			Rev: 01

A3



GENERAL NOTES

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1. DO NOT SCALE OFF DRAWING.
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3. ALL LEVELS IN METRES (ORDNANCE DATUM) UNLESS OTHERWISE NOTED.

LEGEND

- PERMIT BOUNDARY
- STOCKPILE AREA
- PROCESSING AREA
- SURFACE WATER COLLECTION POINT
- SURFACE WATER CONTAINMENT BUND
- DIRECTION OF SURFACE WATER DRAINAGE
- DIRECTION OF SURFACE WATER PUMPED FROM COLLECTION POINT INTO EXISTING LAGOONS

Rev	Date	Description	By	Chk	App
03	24.02.25	AMENDS	JM	OS	JB
P01	19.04.24	FOR REVIEW	GH	OS	JB

ayesa

CLIENT

TG GROUP Established 1874

PROJECT

CEFN GRAIANOG QUARRY
PERMIT APPLICATION

DRAWING TITLE

SITE LAYOUT AND DRAINAGE PLAN

STATUS	SUITABILITY
FOR REVIEW	–

Date: 17/05/24	Scale: 1:1'000	Drawn: JM	Chk: OS	App: JB

Project No:	Drg. No:	Rev:
K0642	K0642–1003	03

Appendix 1

Dust and Emissions management Plan

Cefn Graianog Quarry
Dust and Emissions Management Plan

Client: TG Group

Ref No.: K0642-ENV-R005-02
Date: April 2025

Document control

Revision	Revision/ Review Date	Details of Issue	Authorised		
			Prepared By	Checked By	Approved By
00	June 2024	Draft	O Smith	C Heward	C Heward
01	July 2024	For Issue to NRW	O Smith	C Heward	C Heward
02	April 2025	Updated for resubmission to NRW	O Smith	C Heward	J Baxter

Disclaimer: Please note that this report is based on specific information, instructions, and information from our Client and should not be relied upon by third parties.

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Content

Appendices

Drawings

1 Introduction

1.1 Background

This Dust and Emissions Management Plan has been prepared in support of a permit application for a proposed soil recycling and recovery activity at Cefn Graianog Quarry. The Site is located in Llanllfni, Caernarfon, North Wales (LL54 6SY).

The proposed permit area (referred to as 'Site' hereafter) is located within the greater quarry area of Cefn Graianog Quarry, an active sand and gravel quarry. The site surfacing will comprise hardstanding. The north/eastern boundary of the Site is bordered by an access track and the western boundary of the Site is defined by a conveyor, and beyond this, a large surface water lagoon. The southern boundary is undefined by surface features and comprises quarry workings and the quarry yard/offices further south. Farmland surrounds the Site in all directions and a forested area lies just 65 m northeast of the Site. Several residential and farming buildings are located in the area surrounding the Site, the nearest residential property of which is situated approximately 205 m to the east/southeast, on the track to the Site entrance. The other properties are located over 450 m away.

The purpose of this Dust and Emissions Management Plan is to identify which aspects of the soil recycling and recovery activity are likely to cause a potentially harmful emission of uncontrolled dust and how these emissions will be minimised.

A copy of this Dust and Emissions Management Plan will be included in the site's Environmental Management System (EMS) held at the Site Office and all members of staff will have access to this document.

In the absence of any template available from National Resources Wales (NRW), this report makes reference to the dust and emissions management plan template provided by the Environment Agency, specifically the following sections:

- Dust and Particulate Management:
    - Responsibility for Implementation of the dust management plan;
    - Sources and control of fugitive dust;
    - Potential pathways and receptors to fugitive dust;
    - Fugitive dust risk assessment;
- Visual and Quantitative Monitoring; and,
- Community Engagement, Reporting and Contingencies.

2 Dust and Particle Management

2.1 Responsibility for Implementation

The Site Manager would be responsible for implementing the dust management plan. Additional support will be provided by the Technical Competent Manager (TCM) within TG Group. Provision of an appropriate TCM is necessary to demonstrate to NRW that the applicant is a fit and proper person, a test all prospective environmental permit holders must pass to be granted a permit. The Site Manager and/or TCM would be responsible for the training of site staff.

TG Group has produced an Environmental Management System (EMS) for the site, it is intended that the dust management plan would form part of the EMS.

All staff to be employed on site would be given training and instruction on implementing the dust management plan. Training will be part of the initial induction process and reviewed annually.

All site staff would be responsible for visual monitoring of dust and would be instructed on appropriate reporting and actions.

All third-party contractors would be required to be inducted; the induction process would include their responsibility concerning compliance with the dust management plan.

2.2 Proposed Operations

The proposed permit area is part of the larger Cefn Graianog Quarry which is an active sand and gravel quarry operated by TG Aggregates. Sand and gravel has been extracted from this quarry since the 1970's (Report No. K0642-ENV-R001-02). The proposed permit area is shown with respect to the wider quarry on the drawing refenced K0642-1000, attached to this report.

This permit application proposes to recycle and recover inert waste primarily arising from dredging, excavation and demolition activities by means of physical treatment, limited to screening and the associated handling of material, to produce a non-waste aggregate in accordance with the WRAP quality protocol. The Site currently processes on-site material therefore the proposed activities are similar to the activities currently undertaken at the Site but proposes the use of imported wastes. The proposed activity will be undertaken on hardstanding.

It is understood that the proposed activity would fit the criteria of the Standard Rules permit SR2010 No. 12 (treatment of waste to produce soil, soil substitutes and aggregate – up to 75,000 tonnes) apart from the proximity of the Cors Gyfelog SSSI and Corsydd Eifionydd/Eifionydd Fens Special Area of Conservation (SAC) to the Site, both 415 m south of the proposed permit boundary. Hence, a bespoke permit application which considers the specific risks to the SSSI/SAC is required

The proposal summary is as follows:

- Dry processing, limited to screening and associated handling of material within the proposed permit boundary;
- Treating up to 50,000 tonnes per year with up to 20,000 tonnes (~10,000 m^3) stored at any one time within the permit boundary;
- Waste types are proposed to include the following:
    - 01 04 08 waste gravel and crushed rocks;
    - 01 04 09 waste sand and clays;
    - 17 05 04 soil and stones other than those mentioned in 17 05 03;
    - 17 01 01, 17 01 02, 17 01 03 concrete, bricks, tiles and ceramics;
    - 17 01 07 mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06;

  - 17 03 02 bituminous mixtures other than those mentioned in 17 03 01;
  - 17 05 06 dredging spoil other than those mentioned in 17 05 05, and,
  - 20 02 02 soil and stones.
- Surface water run-off from the permitted area to be contained and drained into a small lagoon located within the east of the permitted area, which will then be pumped into a larger lagoon to the west of the permit boundary.

The primary entrance to the Site is from the signposted track just off the A487.

3 Potential Dust and Emission Sources

3.1 On-site Dust Emission Sources

The proposed activities utilising waste also has the potential to generate fugitive emissions. The wastes to be received will include inert dredgings construction and demolition wastes.

A summary of the waste deposit treatment is shown below in Table 1 with the approximate tonnage (per year).

Table 1 Destination Waste Types

General Waste Description	Waste soils to be treated	Soils to be stored on site at any one time	Location
Inert waste soils originating from dredging, excavation and demolition activities	50,000 t/y	20,000 t/y	Within proposed permit area, indicated on drawing referenced K0642-1003 (Site Layout and Drainage Plan)

Under certain environmental conditions, i.e. dry and windy, such wastes can present a risk of fugitive dust emissions during transit and deposition and following placement. Fugitive dust emissions can potentially arise from the following site activities:

- Transport of waste to and upon the Site;
- Unloading of waste soils to stockpile area awaiting treatment;
- Treatment of waste soils via dry processing, limited to screening and associated handing;
- Wind-blown dust accumulated on site surfaces and stockpiling area;
- Placement of waste by on-site plant; and,
- Vehicle movements on dusty roads.

Fugitive dust may present a dust nuisance to surrounding human receptors or cause an adverse impact if excessive deposits settle on sensitive habitats and smother sensitive plant life or surface water receptors as accumulated sediment.

3.2 Off-site Dust Emissions Sources

The Site is located within an active sand and gravel quarry which has the potential to generate dust emissions. Other sources of off-site dust include the surrounding roads.

The farmland surrounding the Site in all directions also has the potential to generate dust.

3.3 Control Measures for On-site Dust Emissions

3.3.1 Waste Delivery

Wastes would be delivered to the Site by third party standard road-going HGV tipper wagons, which will be subject to appropriate emission standards and regulated as would be required by all road-going HGVs.

The transport of waste is regulated by Duty of Care code of practice issued under section 34(7) of the Environmental Protection Act 1990, this code requires that waste is stored securely to prevent escape during transport. Consequently, the vast majority of vehicles will arrive at site with sheeted covers which will be removed to allow inspection of wastes by site staff.

The HGVs will (unless the waste is rejected) transport the waste along internal roads to the deposit treatment area where a second inspection will be undertaken by site staff prior to the placement of the waste by site plant.

Site staff will enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes. All waste will be subject to pre-acceptance checks to confirm suitability before the waste arrives on site (this will be regulated by the environmental permit). On site verification checks will confirm acceptability, these checks will consist of reviewing associated paperwork and inspection of the load. It is unlikely that any specific dusty loads will be received, however if the load is identified as unsuitable prior to deposit it will be rejected. If the load is identified as having the potential to generate dust at the point of deposit it would be damped with water spray prior to placement or reloading or rejection. In both cases all subsequent loads from the same source will be suspended until confirmed suitable.

All hauliers would be informed of the Site rules at the point of entry to the Site, these would include measures to minimise dust and emissions including limiting vehicle speeds, no vehicle engine idling when stationary for prolonged periods to reduce exhaust emissions and appropriate locations to deposit wastes.

3.3.2 On-site Transport

The main access road from the A487 to the main site and yard area of the quarry is currently surfaced with tarmac. The haul road to the west of the Site is also surfaced with asphalt/tarmac. Internal unpaved roads will be regularly graded and surfaced with suitable hardcore so that it does not become a source of mud and debris on the wheels of site traffic. Any holes of soft spots that develop will be repaired immediately. The hard surfaced areas would allow sweeping by mechanical sweeper on a regular basis. A tractor and bowser will be available to dampen down roads if necessary.

All vehicles on site shall not exceed the speed limits on site. Speed limits will be clearly displayed using signage around the Site.

HGVs may be re-sheeted following waste acceptance checks prior to internal transit if the wastes are identified as potentially dusty or if the weather conditions dictate (e.g. dry/windy conditions). This would be required if instructed by site staff if they deem it necessary.

The Site Manager or appointed deputy would be responsible for imposing restrictions or measures on the transport of waste during weather conditions that could generate dust (e.g. dry/windy conditions). These include:

- Reducing speed limits on site;
- Re-directing site traffic to limit transit on unmade surfaces; and
- Damping down roads and operational areas using sprayed water from a mobile bowser towed by tractor.

Mud or other particulates may accumulate on site surfaces through the course of normal operations. Dry sediment may also build up where water ponds after rainfall events. High winds can mobilise accumulated dust or it can be disturbed by passing traffic. Consequently, all site haul roads and access roads will be regularly maintained and cleaned to prevent the accumulation of mud and dusty material. Haul and access road inspections will be increased if necessary and the frequency of proactive maintenance increased accordingly.

3.3.3 Waste Deposit in Stockpile Area and Waste Soil Treatment

Site operatives supervising deposit of the incoming waste material in the storage area prior to treatment will be in constant communication with the site office to advise on the current conditions at the storage/stockpile area. Supervising site operatives will also advise the site office if dusty loads incorrectly described by the supplier have been accepted.

The site surfacing of the permitted area in which the stockpile area and waste soil treatment will be undertaken will be surfaced with suitable hardstanding, so this does not become a source of mud and debris on the wheels of site traffic. Any holes of soft spots that develop will be repaired immediately. The hardstanding would allow sweeping by mechanical sweeper on a regular basis. A tractor and bowser will be available to dampen down roads if necessary.

Waste drop heights are to be minimised, it may be necessary for other site plant to be present by the HGVs (e.g. excavator) to help implement this. These vehicles will be subject to the same operational controls to reduce the risk of dust emissions.

The above applies to materials that have been treated on site and stored in the storage area pending removal/export.

The Site Manager or appointed deputy will be responsible for imposing additional restrictions or measures on the stored materials on site with regard to weather conditions (e.g. dry/windy conditions). These include:

- Dampening down waste at point of deposit in the storage area;
- Selecting deposit areas within storage area that are sheltered from the wind;
- Dampening down stockpiles using bowser with spray nozzle or potentially covering them with sheeting;
- Restricting waste types that can be deposited (i.e. not accepting wastes with a high dust generation potential); and
- Suspending waste acceptance operations.

The treatment activities (dry processing) will include use of similar plant to what is already used in the quarrying activity. Treatment of waste soils should cease if the activity is producing exceptionally dusty conditions.

3.3.4 Vehicles Leaving the Site

The main access road from the A487 to the main site and yard area of the quarry is currently surfaced with tarmac. The haul road to the west of the Site is also surfaced with asphalt/tarmac. This will allow a distance for vehicles leaving the site to travel from depositing waste in the storage area to the exit allowing mud to drop off before leaving site. Vehicles will be inspected prior to leaving site and wheels will be cleaned if necessary.

3.3.5 Dust Suppression Water Management

Clean water from the various surface water ponds located on site will be used for dust suppression, using a bowser towed by a tractor, and cleaning of wheels if required.

3.3.6 General Maintenance / House Keeping

All internal roads including the hard surfaces will be inspected daily by site staff and recorded by the Site Manager.

Road surfaces would be maintained to prevent and repair potholes with repair actioned within 72 hours of identification of damage.

Road surfaces would be cleaned as necessary to minimise the accumulation of mud or dusty materials and reduce the amount of mud or dusty materials tracked off-site. The Site Manager or appointed deputy will ensure dry dusty waste and dusty haul roads are wetted down to reduce wind whipped dust. Wetting of haul roads would be undertaken as a preventative measure if it is suspected that dust from the haul roads may be a problem.

Any vehicles leaving site would be required to be inspected prior to site egress and wheels may have to be cleaner to remove mud or debris which may cause fugitive dust emissions on the public highway.

Site staff at the will be vigilant to excessive mud tracked from the site by visiting HGV's and site plant. Any vehicles observed to be carrying mud in their tyres would be directed to have their wheels cleaned. Drivers will be reminded as part of the site induction of their responsibility to maintain clean vehicles and not to track mud onto the public highway.

The asphalt access/egress road and haul road to the west may be swept by a standard mechanical road sweeper, the type that commonly operates safely on public highways adjacent to footpaths.

All systems involving water usage for dust management including dampening down of roads and on site wheel cleaning would be operational throughout the waste soil recycling and recovery activity, and maintained accordingly.

Monitoring and appropriate maintenance of the site access will form part of the EMS for the site.

The Site Manager (or nominated deputy) will be responsible for assessing predicted meteorological conditions each day, which would determine the type of dust suppression methods required on all or some operational areas of the site.

All personnel employed on site will undertake visual monitoring for dust.

Any problems observed will immediately be reported to the Site Manager (or nominated deputy) who will be responsible for investigating the cause and implementing any necessary remedial plan.

All plant would be maintained in accordance with the manufacturer's instruction, critical spacers would be retained on site and hire arrangements would be in place for short term replacement of critical items of plant including such as bowser and road sweeper.

Dust generation is not expected to increase materially as the waste soil recycling and recovery activity is carried out alongside the quarrying activity. It is considered unlikely that significant dust emissions will be generated from this activity alone.

3.4 Remedial Actions for On-site Dust Emissions

In the unlikely event that unacceptable dust emissions arise from the site, one or more of the following remedial actions will be undertaken:

- Operations identified as generating unacceptable emissions of dust will be reduced or suspended until effective remedial actions have been taken or weather conditions resulting in the fugitive emissions have moderated;
- Additional dust suppression may be employed by spraying water onto affected areas;
- Where practicable on-site vehicle movement routes may be reconsidered with regard to location (i.e. relocating further from the receptor at risk), speed limits may be further reduced, or surfaces and gradients altered;
- All vehicles leaving the site will be inspected prior to egress and wheel cleaning may be employed if required, such as using a mobile pressure washer, brush and bucket, etc;
- Waste handling procedures may be altered and waste acceptance procedures reviewed, such as covering dusty wastes upon deposit, or stopping accepting problematic wastes; and,
- Quantitative monitoring may be implemented, if complaints are received and the corrective actions above have not resolved the problem, as discussed further in Section 7.

A record relating to the management and monitoring of dust will be maintained in the site log. This record will include the following details: a record of all dust events including date, time and the cause of the problem; a record of all complaints; details on the corrective action taken and any subsequent changes to operational procedures.

4 Potential Pathways

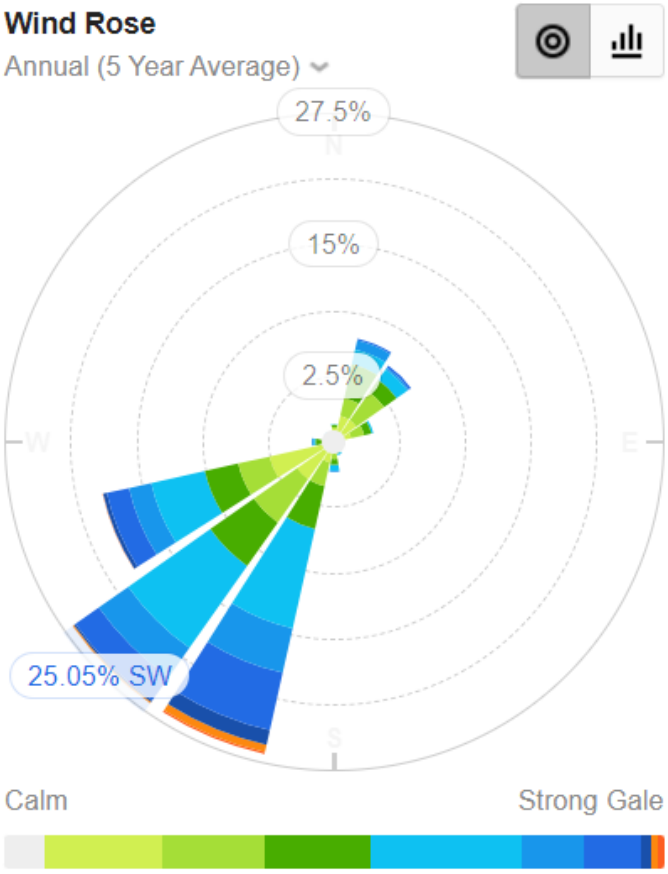
4.1 Airborne Pathways

The potential pathways for dust and particulates to reach sensitive receptors are via the air or over land, namely via the wind. Transit of airborne emissions will be determined by the prevailing wind direction and physical obstructions.

Wind statistics have been referenced from data obtained at Porthmadog Weather Station[1] located 14.9 km southeast of the Site. The frequency the wind blows toward potentially sensitive receptors is detailed in Table 2.

The relevant wind rose is presented below in Figure 1, this data shows a statistical representation of data obtained between 2019 and 2025. Predominant wind direction is from the southwest blowing towards the northeast at ~22% (Figure 1).

Figure 1 Porthmadog Wind Direction Distribution % (2019 – 2025)



4.2 Overland Pathways

Transit of emissions which could travel overland will primarily be limited by the distances to receptors from site and the locations of receptors in relation to the prevailing wind direction and less so by physical barriers such as the trees.

[11] https://wind.willyweather.co.uk/wl/gwynedd/porthmadog.html

5 Potential Sensitive Receptors

5.1 Receptor Locations

When identifying the receptors, the closest and the most sensitive (if different from the closest) have been considered in each direction from the hazard. Account has been taken of the mechanism of transport to the sensitive receptor e.g. proximity to highway access / egress points for mud and wind direction for airborne dust. Recent wind direction from Porthmadog has been used to establish hazard pathways to adjacent receptors.

Probability of exposure is determined by the distance of the receptor to the site and the likelihood of the hazard reaching the receptor i.e. frequency of prevailing wind in that direction. The probability of exposure is irrespective of the type of hazard presented.

A review of the sensitive receptors has been completed in relation to the site; a list of receptors is shown in Table 2. The nearest sensitive receptors to the site are identified in drawing referenced K0642-1002, of which the most susceptible to dust are the following:

- Cors Gyfelog Site of Special Scientific Interest (SSSI) and Corsydd Eifionydd/Eifionydd Fens Special Area of Conservation (SAC);
- Graianog (north) Site of Importance for Nature Conservation (SINC);
- Cefn Graianog SINC;
- Purple moor grass and rush pastures protected habitat; and,
- Nearby residential/farming properties and campground.

Wind statistics have been referenced from data obtained at Porthmadog Weather Station (14.9 km to the southeast) for a 5-year period and details provided in Table 2 with reference to the relevant receptors identified in the vicinity of the site. The wind rose is reproduced as Figure 1.

The Environment Agency (Agency) guidance template for dust management requires consideration to be given to the impact of dust emissions on receptors within a 1km of the site boundary. Although Table 2 identifies potential receptors within a greater distance beyond 1km from the site boundary, these are considered to be at low risk.

A review of other local sources of dust and particulates has been completed in relation to the site and an assessment of each receptor type (in regard to sensitivity to dust) has been summarised in Table 3. Greatest sensitivity relates to habitats, residential, recreational, commercial uses, and public amenity.

Table 2 Sensitive Receptors

Receptor Number	Receptor	Receptor Type	Approx. Distance from Site Boundary (m)	Direction from Site	Freq (%) Prevailing Wind Direction
1	Residential/farming properties/campground	Residential / Agricultural	325 – 780	W - NW	0.3 - 0.5
2	Residential property located on access track to quarry	Residential / Agricultural	205	ESE	0.8
3	Properties off A487	Residential / Agricultural	780 - > 1000	NE - SE	0.9 - 25.1
4	Cors Gyfelog	Site of Special Scientific Interest	415	S	1.4
5	Corsydd Eifionydd/Eifionydd Fens	Special Area of Conservation	415	S	1.4
6	Cors Gyfelog	National Nature Reserve	455	SSE	0.0
7	Public Footpath	Public Footpaths	140	S	1.4
8	Public route of access	Public route of access	Along northeastern boundary of the Site	NE	25.1
9	Traffic free off-road cycle route along old railway track	Cycle route	150	E	1.8
10	Ancient Semi Natural Woodland	Ancient Semi Natural Woodland	892	NW	0.3
11	Unnamed roads and A487	Highways	0 - 1000	All directions	0.3 – 7.3
12	Silt Lagoons associated with quarry	Waterbody	30 – 220	W	0.5
13	3 No Inland river not influenced by tidal action	Watercourse	205 - 241	N - NE	2.4 – 25.1
14	4 No Inland river not influenced by tidal action	Watercourse	119 - 229	E - SE	0.9 - 1.8
15	2 No Inland river not influenced by tidal action	Watercourse	157 - 235	S - SW	1.4 – 7.3
16	1 No Inland river not influenced by tidal action	Watercourse	205	N	2.4
17	Afon Desach	Watercourse	800	WNW	0.3 - 0.5
18	Purple moor grass and rush pastures	Protected Habitat	57	NE	25.1
19	Graianog North Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	19 - 300	NNW	1.1
20	Cefn Graianog Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	145 - > 1000	NNE - SSE	0.0 - 25.1
1	Residential/farming properties/campground	Residential / Agricultural	325 – 780	W - NW	0.3 - 0.5

Receptor Number	Receptor	Receptor Type	Approx. Distance from Site Boundary (m)	Direction from Site	Freq (%) Prevailing Wind Direction
2	Residential property located on access track to quarry	Residential / Agricultural	205	ESE	0.8
3	Properties off A487	Residential / Agricultural	780 - > 1000	NE - SE	0.9 - 25.1
4	Cors Gyfelog	Site of Special Scientific Interest	415	S	1.4
5	Corsydd Eifionydd/Eifionydd Fens	Special Area of Conservation	415	S	1.4
6	Cors Gyfelog	National Nature Reserve	455	SSE	0.0
7	Public Footpath	Public Footpaths	140	S	1.4
8	Public route of access	Public route of access	Along northeastern boundary of the Site	NE	25.1
9	Traffic free off-road cycle route along old railway track	Cycle route	150	E	1.8
10	Ancient Semi Natural Woodland	Ancient Semi Natural Woodland	892	NW	0.3
11	Unnamed roads and A487	Highways	0 - 1000	All directions	0.3 – 7.3
12	Silt Lagoons associated with quarry	Waterbody	30 – 220	W	0.5
13	3 No Inland river not influenced by tidal action	Watercourse	205 - 241	N - NE	2.4 – 25.1
14	4 No Inland river not influenced by tidal action	Watercourse	119 - 229	E - SE	0.9 - 1.8
15	2 No Inland river not influenced by tidal action	Watercourse	157 - 235	S - SW	1.4 – 7.3
16	1 No Inland river not influenced by tidal action	Watercourse	205	N	2.4
17	Afon Desach	Watercourse	800	WNW	0.3 - 0.5
18	Purple moor grass and rush pastures	Protected Habitat	57	NE	25.1
19	Graianog North Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	19 - 300	NNW	1.1
20	Cefn Graianog Site of Importance for Nature Conservation (SINC)	Site of Importance for Nature Conservation (SINC) / Local Wildlife Site	145 - > 1000	NNE - SSE	0.0 - 25.1

Frequency stats from Black Rock Sands, Porthmadog, Gwynedd - WillyWeather. The prevailing wind direction is the direction / frequency towards the receptor.

Table 3 Types of Receptors

Receptor Type	Sensitivity to Dust
Habitats / Watercourses	High
Residential	High
Recreational	High
Commercial	High
Public Amenity	High
Public Highways / Railways / Footpaths	Moderate
Industrial / Agricultural	Low to Moderate

5.2 Receptor Types

Habitats and Watercourses

The Cors Gyfelog SSSI and Corsydd Eifionydd/Eifionydd Fens SAC are located 415 m south of the Site, the Cors Gyfelog National Nature Reserve is situated 455 m south/southeast of the Site, the Graianog (north) SINC lies 19 m north/northwest and an Ancient Semi Natural Woodland is located 892 m northwest of the Site. It is noted that none of these receptors are located downwind of the prevailing wind direction, which is from the southwest toward the northeast (Figure 1).

The Cefn Graianog SINC is located 145 m northeast and the protected habitat for purple moor grass and rush pastures is located 57 m northeast of the Site, in the prevailing wind direction. The control measures discussed in Section 3 will be implemented to reduce the likelihood of any dust generated from the activity travelling towards these receptors, including ceasing operations during periods of higher risk (i.e. Dry with strong winds towards the northeast) until more favourable conditions prevail.

There are 3 No. rivers located 205-241 m north to northeast, 4 No. rivers located 119-229 m east to southeast, 2 No. rivers located 157-235 m south to southwest, one river located 205 m north of the site and the Afon Desach, located 800 m west/northwest of the Site. The 3 No. rivers located 205-241 m north to northeast and the Afon Desach (however distant) are located downwind of the prevailing wind direction.

Residential, recreational, industrial and commercial premises

The potential emissions from the Site are likely to have a similar impact on persons occupying residential and recreational premises (campground). Exposure of emissions to persons at agricultural premises may be lower as they are more likely to be inside during the working day or they may be transient visitors to the premises. Certain agricultural premises may generate similar emissions similar to the Site and the employees may be desensitised as a result.

Fine dust particulates may be able to travel further than larger particles that may settle on surfaces nearby. Finer particulates may elicit an unpleasant or harmful respiratory effect from sensitive individuals, whilst settlement of dust may be unsightly or damaging by smothering to sensitive flora. Dust is less likely to affect internal spaces; however, a sustained source of fine suspended particulates may eventually permeate inside buildings.

The proposed permitted activities are unlikely to generate dust in such sufficient quantities that a plume would be visible beyond the site boundary. The proposed working hours and may affect persons in residential housing, but have little effect on persons in businesses operating to normal working hours e.g. 0900 to 1700.

The closest residential property is located on the access track to the quarry, 205 m east/southeast of the Site. More residential properties are located 325-780 m west/northwest and 780 to over 1000

m northeast to southeast, off the A487. Although some of the properties along the A487 are located in the prevailing wind direction (towards the northeast), these are at a large distance and therefore dust particles are unlikely to reach these properties.

For conservatism this management plan assumes the residences are occupied during the operational hours of the Site by members of the public most sensitive to emissions from the Site.

It is likely that the combination of operational controls, distance to the receptors and the prevailing wind direction prevent most potentially harmful emissions from reaching receptors. As such these receptors noted above are considered unlikely to be sensitive to dust emissions associated with the Site.

Highways, railways and footpaths

The transitory nature of highways, cycle routes or footpaths means receptors using those locations will be exposed to potential emissions from the Site for shorter (albeit variable) periods of time than residences and agricultural premises. Pedestrians will have longer and more direct exposure to emissions compared to vehicle users who are less likely to be exposed to emissions and for significantly shorter periods of time.

Several unnamed roads lie 0-1000 m in all directions of the Site and the A487 lies 770 m east. None of these receptors lie downwind of the Site.

6 Dust Risk Assessment

6.1 Site Dust Emissions

The risk potential to each receptor as identified in Section 5 (Table 3) and shown on drawing referenced K0642-1002 from dust potentially generated from the Site is presented in Table 4 below.

This table evaluates the unmitigated risk to sensitive receptors from uncontrolled dust emissions and the control measures to be implemented at the Site in order to minimise and mitigate this risk, producing a revised residual risk to receptors.

With appropriate risk management measures in place, the overall risk from dust generated from site is considered “low” and the proposed soil recycling/recovery activity is unlikely to produce any further dust that is already produced within the quarrying activity. The effects from windblown emissions are envisaged to be minimal and not detrimental to sensitive receptors.

Table 4 Dust Fugitive Emission Risk Assessment and Management

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Dust through Air: from vehicle movements, deposits/ stockpiles of wastes and dust generated from dry processing	1	325 – 780	W - NW	0.3 - 0.5	Medium – moderate proximity to Site, infrequently downwind	High – dust annoyance (residential)	Medium	No excessively dusty wastes to be accepted at the Site. Site staff will be appropriately trained and enforce strict waste acceptance protocols to manage the deposit of potentially dusty wastes. All vehicles transporting materials to and from Site will be sheeted and will be regularly maintained in accordance with the manufacturer's instructions. Onsite vehicle speed limit enforced to ensure that vehicle movements do not generate excessive dust. Dampening of site roads/surfaces as necessary using a tanker/bowser during dry periods. Daily visual inspection by appropriate site staff at suitable locations taking account of the prevailing wind direction. All vehicles will be inspected prior to leaving site for mud and wheels cleaned if necessary to prevent mud / dust being trailed onto adjacent roads and creating a hazard / nuisance.	Low
	2	205	ESE	0.8	Medium – moderate proximity to Site, infrequently downwind	High – dust annoyance (residential)	Medium		
	3	780 -> 1000	NE - SE	0.9 - 25.1	Medium – distant from Site but frequently downwind	High – dust annoyance (residential)	Medium		
	4	415	S	1.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential to deposit on sensitive wildlife (SSSI)	Medium		
	5	415	S	1.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential to deposit on sensitive wildlife (SAC)	Medium		
	6	455	SSE	0.0	Low – moderate proximity to Site, never downwind	Medium – potential to deposit on sensitive wildlife (nature reserve)	Low		
	7	140	S	1.4	High – close proximity to Site, infrequently downwind	Low – transient dust annoyance (footpath)	Medium		
	8	Along north eastern boundary	NE	25.1	High – close proximity to Site, frequently downwind	Low – transient dust annoyance (public route)	Medium		
	9	150	E	1.8	Medium – moderate proximity to Site, infrequently downwind	Low – transient dust annoyance (cycle path)	Low		
	10	892	NW	0.3	Low – distant from Site, infrequently downwind	Medium – potential to deposit on sensitive trees (ancient woodland)	Low		
	11	0 - 1000	NW-SW	0.3 – 7.3	High – close proximity to Site, occasionally downwind	Low – transient dust annoyance (roads)	Medium		
	12	30 – 220	W	0.5	High – close proximity to Site, infrequently downwind	Low – not sensitive to dust (lagoon)	Medium		
	13	205 - 241	N - NE	2.4 – 25.1	Medium – moderate proximity to Site, frequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium		

Hazard / Pathway	Receptor				Probability of Exposure	Unmitigated Consequence	Initial Risk	Risk Management	Residual Risk
	No.	**Dist. (m)**	**Direc .**	**Freq (%)**					
Dust through Air: from vehicle movements, deposits/ stockpiles of wastes and dust generated from dry processing	14	119 - 229	E - SE	0.9 - 1.8	High – close proximity from Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium	A street sweeper will regularly clean site access road of any mud trailed on from site vehicles. Drop height of materials will be minimised. Site to be kept tidy and hard standings to be kept clean to minimise dust. A complaints procedure is in place onsite and all complaints and remedial action will be recorded in accordance with the Site's EMS. Materials in stockpiles within the storage area will be dampened down/sheeted If weather conditions deem it necessary.	Low
	15	157 - 235	S - SW	1.4 – 7.3	Medium – moderate proximity to Site, occasionally downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Medium		
	16	205	N	2.4	Medium – moderate proximity to Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (river)	Medium		
	17	800	WNW	0.3 - 0.5	Low – distant from Site, infrequently downwind	Medium – potential for dust accumulation in watercourse / waterbody (rivers)	Low		
	18	57	NE	25.1	High – close proximity from Site, frequently downwind	High – potential for dust accumulation in protected habitat	High		
	19	19 - 300	NNW	1.1	Medium – close proximity to site, infrequently downwind	High – potential for dust accumulation at SINC	Medium		
	20	145 - > 1000	NNE - SSE	0.0 - 25.1	Medium – moderate to distant from site, infrequently to frequently downwind	High – potential for dust accumulation at SINC	Medium		

7 Monitoring

7.1 Meteorological Conditions

The Site Manager will be responsible for monitoring the weather conditions on a daily basis (or more regularly if deemed necessary). This will be done in advance via online sources such as the Met Office forecast website for Caernarfon (Gwynedd)[2] or from local broadcasts on television/radio for the area. If weather conditions are dry and wind conditions are forecast over a strong breeze as defined by the Beaufort Wind Scale[3] (25-31 mph/22-27 knots) then the Site Manager will visually monitor the site activities for potential dust emissions, and if required, restrictions will be put in place such as those discussed in Section 3.3.3 (dampening down stockpiles, using sheeting to cover stockpiles, ceasing waste treatment operations if necessary, etc.).

Visual monitoring of the weather conditions may be aided by the installation of a windsock nearby to the operations to show the wind direction and strength. All site staff would be responsible for reporting any adverse weather conditions to the Site Manager or the next level of management if the Site Manager is not available.

7.2 Visual Dust Monitoring

Visually monitoring will occur once daily for dust by the Site Manager and continuously by the operatives in the course of their duties to establish whether any dust is likely to leave the Site. This will include dust arising from vehicles arriving at site.

Records will be completed for each inspection and all site staff would be responsible for reporting dust and particulate problems as soon as practicable to the Site Manager or the next level of management if the Site Manager is not available.

The following locations (illustrated on Drawing Ref: K0642.1004) will be targeted for visual dust monitoring at the frequency above with additional checks throughout the day around the SSSI:

1. Site office/weighbridge (continuous monitoring of vehicles);
2. Point of waste deposition in the storage area;
3. Materials stockpiled in the storage area;
4. Subject to prevailing wind direction (i.e. up and down wind), appropriate areas of the site perimeter.

The following information will be recorded during each round of monitoring:

- Name of assessor and position at facility e.g. weighbridge clerk etc.;
- Nature of any problem identified including location, source, date, time, duration, prevailing weather conditions and likely cause;
- On-site activities and operational condition at the time of the monitoring visit (this should include any of the abnormal events detailed in Section 7.8 below);
- Records of the likely source of any dust, even if it is not from the facility; and

[2] https://weather.metoffice.gov.uk/forecast/gckyqc8wy#?date=2025-02-24

[3] https://www.weather.gov/mfl/beaufort

- Details on the corrective action taken, realistic timeframes for remedial works and any subsequent changes to monitoring and operational procedures.

The Site Manager will be informed immediately of any findings of dust attributed to the Site and will authorise remedial measures to be taken.

Quantitative monitoring is not required at this Site.

8 Community Engagement, Reporting and Contingencies

8.1 Overview

Prevention will be viewed as the most effective means of controlling dust before an adverse impact occurs from uncontrolled emissions. The Source → Pathway → Receptor model determined above allows for the identification of the critical control points where dust can arise, how it can travel to a receptor and the likely impact.

The performance of a dust management system will ultimately be judged by the impact of the waste recycling and recovery activity on the receptors. Should complaints be received, a procedure will be in place to effectively deal with the issue in a sensitive, efficient and auditable manner.

The controls for each potential dust source are detailed in previous sections of this report. The management of those controls will be based on the on-going visual daily monitoring regime on site. The monitoring regime can work as an early warning system against potential problems (e.g. meteorological monitoring) or a diagnostic tool to establish the cause of a dust event.

8.2 Complaints Process

Any complaints received at the waste facility or via the Regulatory Bodies including the Agency and Local Authority, will be recorded using the form in Appendix 1.

This will instigate further visual dust monitoring at the location of the complaint and on-site to determine the extent and location of the dust generating materials and/or process will be identified. Where possible, as much information and detail about the complaint will be recorded, whether this is from the relevant authority or a complaint direct to the Site. This information will assist in the investigation and determining the source of the dust e.g. differentiating between potential dust from the Site or other off-site activities.

All complaints and queries will be logged in accordance within the environmental management system (EMS) as soon as is practicably possible. All complaints logged will be subject to investigation, and complainants responded to within 48 hours of receipt, where possible. All responses will be through trained and experienced staff.

In the event that a substantiated dust complaint is received arising from the facility, additional monitoring will be undertaken at the nearest sensitive receptors. The person conducting the survey shall make note of any dust at each monitoring point including those not of obvious waste facility site origin.

Complaints regarding dust from the facility will be investigated in accordance with the protocol, and appropriate records maintained which may include:

- Complaints received including name and contact details of complainant (if known), and complainants description of the dust;
- Nature of problem including date, time, duration, prevailing weather conditions and cause of the problem;
- On-site activities and operational conditions at the time of the complaint;
- Records of the likely source of the dust, even if it is clearly not from the facility;
- Details on the corrective action taken and any subsequent changes to monitoring and operational procedures; and,

- NRW will be proactively informed by TG Group of the complaint and TG Group will confirm to the best of its knowledge the information described above.

TG Group will ensure that the complainant has all the relevant contact details of the site (i.e. the Site Manager) and the officer responsible at NRW. TG Group will be in regular contact with the complainant and NRW whilst the cause of the dust is being investigated and remediated.

An evaluation of the effectiveness of the techniques used will be carried out on completion of any remedial measures, or if the complaints persist. Records of the above will be retained by site for future reference.

8.3 Means of Contact

The facility will be readily contactable to outside organisations and to members of the public. The site signage board (placed in a readily visible location) contains the necessary contact details for both the site operations and NRW. The company website also contains the necessary contact details for the Site.

https://www.tggroup.co.uk/

Any complaints received directly to site will be notified to NRW. Should an off-site issue arise, therefore, the complainant has a readily available means of getting in touch with TG Group.

8.4 Complaints Screening

As part of each dust complaint received, they will be objectively assessed against the wider environment to ensure that the source of the emission is traced back to the correct source. It is essential that the source is correctly identified in order that mitigating measures can be applied effectively and correctly. The complaint will also be assessed against previous records to place the nature of the complaint into context.

If patterns in complaints emerge, community groups or individuals (subject to their agreement) will be called upon to act as an additional dust monitoring resource.

8.5 Complaints Investigation

In the event that dust is found to be causing a problem from the site facility, as determined and confirmed by investigation into off-site complaints, or during routine monitoring, measures will be taken to determine the source of this dust and the following courses of action as detailed below shall be taken to ascertain if the dust is coming from the facility;

- Additional dust monitoring as detailed above to identify the extent of the dust emission and potential cause for the dust i.e. waste material and/or activity;
- Examination of the operational activities at the time of the dust complaint;
- Examination of the meteorological conditions at the time of the complaint;
- Carry out a review of the operational procedure and controls and instigate any control measures immediately following identification of the problem; and,
- Further visual monitoring will be carried out to ensure the issue has been addressed and to monitor the effectiveness of any control measures undertaken.

It is recognised that whilst complainants are encouraged to report valid complaints to the regulatory bodies, complaints that are received/submitted directly to the Site are able to be investigated more rapidly. As a result, complaints reported directly can be substantiated, reviewed and actioned

quicker. With the complainant still able to report the complaint to the regulatory bodies after, should it be necessary.

Nevertheless, all complaints will be investigated.

8.6 Contingency and Emergency Plans

In the event that dust is proven to be from the Site and found to be causing a problem, as determined by the investigation of off-site complaints or during routine on-site monitoring, action will be taken to determine the source and the following courses of action. Control and mitigation measures for each stage of the waste management process are as described in Section 3 and summarised in Table 4.

Abnormal Events

This Dust and Emissions Management Plan assumes that the facility will be running under expected operational conditions. There are however circumstances that could result in a dust emission from the Site if not appropriately considered in advance, discussed below.

Strong Winds

Daily visual inspection of the site infrastructure will be undertaken and recorded. Additional inspection for damage resulting from high wind events will also be undertaken and contingency actions identified below considered should high wind conditions result in escape of significant dust emissions.

Hot / Dry Conditions

The warmer the weather the greater the potential for wastes to become dry and dusty, particularly when stored outside and when agitated. Daily inspections will be undertaken of the waste to ensure waste delivered to the Site is not dusty and stockpiles of waste are kept to an operational minimum and wetted down/sheeted if required to reduce dust emissions.

During prolonged periods of hot weather inspection frequency will be increased and the surface area of stored waste will be kept to a minimum.

Implementation of the Contingency plan and / or Emergency Plan

Unavailability should only take place due to unscheduled maintenance, emergency situations and for Health and Safety reasons such as a fire at the Site (although considered highly unlikely). In such cases the site staff will initially inform the Site Manager who will in turn inform service managers, the Local Authority and NRW. Site staff will implement measures to store or divert wastes as required.

Operator's Experience with Contingency / Emergency Situations

TG Group has a policy of continuous review of emergency and contingency procedures which helps improve procedures across TG Group's operations.

Review and Update of Contingency and Emergency Plans

The Contingency Plan and Emergency Plan will be reviewed following any incident where they have had to be followed. They will be updated as necessary with any lessons learned.

8.7 Records and Reviews

Records relating to the management and monitoring of dust will be maintained as necessary and will include the following details:

- The results of inspections and visual monitoring carried out by site personnel;
- Weather conditions including atmospheric pressure, wind speed and wind direction;
- Problems including date, time, duration, prevailing weather conditions and cause of the problem;
- Complaints received including name and address of the complainant; and
- Details of the corrective action taken, and any subsequent changes to operational procedures.

The Dust and Emissions Management Plan will be reviewed on a periodic basis with the scheduled review of the Site's Environmental Management System or with every major decrease, or alteration to the dust generated at site (i.e. a change to dust source term, pathway or receptor).

8.8 Communication Tools

Stakeholders will typically include the Local Authority, NRW, Parish Councils and members of the local community. Other stakeholders may include local businesses and/or householders should the facility be deemed to impact upon them.

In addition, and as covered within the complaints section, contact details will be made available so that any complaints can be directed to site and an investigation undertaken immediately.

8.9 Remedial Actions for On-Site Dust Emissions

In the unlikely event that unacceptable dust emissions arise from the Site, one or more of the following remedial actions would be undertaken:

- Operations identified as generating unacceptable emissions of dust will be reduced or suspended until effective remedial actions have been taken or weather conditions resulting in the fugitive emissions have moderated;
- Additional dust suppression may be employed by spraying water onto affected areas;
- Where practicable on-site vehicle movement routes may be reconsidered with regard to location (i.e. relocating further from the receptor at risk), speed limits may be further reduced, or surfaces and gradients altered;
- All vehicles leaving the Site will be inspected prior to egress and wheel cleaning may be employed if required, such as using a mobile pressure washer;
- Waste handling procedures may be altered and waste acceptance procedures reviewed, such as covering or dampening dusty wastes upon deposit in the storage area, or stopping accepting problematic wastes; and,

A record relating to the management and monitoring of dust will be maintained in the site log. This record will include the following details: a record of all dust events including date, time and the cause of the problem; a record of all complaints; details on the corrective action taken and any subsequent changes to operational procedures.

9 Drawings

Drawing No. K0642-1000 (Proposed Permit Boundary)

Drawing No. K0642-1002 (Site Receptor Plan)

Drawing No. K0642-1003 (Site layout and Drainage Plan)

Drawing No. K0642-1004 (Visual Dust Monitoring Points Plan)

Appendix 1

Dust Complaint Form

Customer Details	
Customer Name	
Address Postcode	
Customer Contact Details	
Tel	
Email	
Date	
Complaint Ref Number	
Complaint Details	

Investigation Details	
Investigation carried out by	
Position	
Date & Time investigation carried out	
Weather conditions	
Wind direction and speed	
Investigation findings	
Feedback given to Environment Agency and / or local authority	
Date feedback given	
Feedback given to public	
Date feedback given	

Review and Improve	
Improvements needed to prevent a reoccurrence	
Proposed date for completion of the improvements	
Actual date for completion	
If different insert reason for delay	
Does the dust and emissions management plan need to be updated	
Date that the dust and emissions management plan was updated	

Closure	
Site Manager review date	
Site Manager signature to confirm no further action required	

Appendix 2

Quarry Inspection Sheets

Processing Plant Inspections - Weekly

Inspection Date:	

Main Field Conveyor	Item	Safe / Working Order	Defect / Comments
	Tail drum guarding	☐	
	Head drum guarding	☐	
	Conveyor drive guarding	☐	
	Take up loop guarding	☐	
	Belt scraper operation	☐	
	Lighting	☐	
	Spillage issues?	No	

Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Head drum guarding	☐	
	Conveyor drive guarding	☐	
	Spillage issues?		

Tunnel & Feeder	Item	Safe / Working Order	Comments
	Lighting	☐	
	Water ingress issues?	☐	
	Spillage Issues?	☐	
	Fire extinguisher	☐	

	Emergency escape tunnel access clear?	☐	

Tunnel Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Feeder hopper nip point guarding	☐	
	Return Roller guard	☐	
	Drive belt guarding	☐	
	Head drum belt scraper operation	☐	
	secondary belt scraper operation	☐	
	Head drum access platform handrails	☐	
	Spillage issues?		

Barrel Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Head drum guarding	☐	
	Head drum scraper	☐	
	Conveyor drive belt guarding	☐	
	Walkway	☐	
	Handrails	☐	
	Spillage issues?		

& 3rd Level	Item	Safe / Working Order	Comments
	Perimeter guarding	☐	
	Drive belt guarding	☐	

Washer Barrell	Walkway on upper level	☐	
	Handrails on upper level	☐	
	Stairway to upper level	☐	
	Spillage issues?		

	Item	Safe / Working Order	Comments
D11 Screen & 2nd Level	Screen drive belt guarding	☐	
	Screen spillage prevention mesh	☐	
	Walkway	☐	
	Handrails	☐	
	Spillage issues?		

	Item	Safe / Working Order	Comments
Beach Transfer Conveyor	Tail end guarding	☐	
	Mid-section conveyor guards	☐	
	Head drum guarding	☐	
	Drive belt guarding	☐	
	Walkway	☐	
	Handrails	☐	
	Spillage issues?		

	Item	Safe / Working Order	Comments
reen & 1st Level	Screen drive belt guarding	☐	
	Screen spillage prevention sides	☐	
	Walkway	☐	

D11 Sc			
	Handrails	☐	
	Spillage issues?		

Beach Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Head drum guarding	☐	
	Conveyor drive guarding	☐	
	Conveyor rollers	☐	
	Lighting	☐	
	Spillage issues?		

40mm Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Head drum guarding	☐	
	Conveyor drive guarding	☐	
	Lighting	☐	
	Spillage issues?		

m Transfer Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Head drum guarding	☐	
	Conveyor rollers	☐	

4/20m	Belt scraper operation	☐	
	Spillage issues?		

4/20mm Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Head drum guarding	☐	
	Conveyor drive belt guarding	☐	
	Conveyor rollers	☐	
	Spillage issues?		

Cone / Sump	Item	Safe / Working Order	Comments
	Access ladder	☐	
	Walkway	☐	
	Handrails	☐	
	Spillage / leak issues?		

8" Warman Transfer Pump	Item	Safe / Working Order	Comments
	Drive belt guard	☐	
	Shaft guard	☐	
	Spillage / leaks?		

3"Warman ourse Sand	Item	Safe / Working Order	Comments
	Drive belt guard	☐	
	Shaft guard	☐	

& C	Spillage / leaks?		

6" Warman Fine Sand Pump	Item	Safe / Working Order	Comments
	Drive belt guard	☐	
	Shaft guard	☐	
	Spillage / leaks?		

6" Yellow Pump	Item	Safe / Working Order	Comments
	Drive belt guard	☐	
	Shaft guard	☐	
	Spillage / leaks?		

Sand Plant Level 1	Item	Safe / Working Order	Comments
	Platform access ladder	☐	
	Walkway and handrails	☐	
	Tower ladder – 1st section	☐	
	Screen counter weight guards	☐	
	Spillage / leaks?		

Sand Plant Level 2	Item	Safe / Working Order	Comments
	Access ladder	☐	
	Ladder safety gate	☐	
	Walkway & handrails	☐	
	Pressure Clocks Working?	☐	
	Spillage / leaks?		

Course Sand Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Walkway & handrails	☐	
	Head drum guarding	☐	
	Walkway conveyor guards	☐	
	Primary belt scraper	☐	
	Secondary belt scraper	☐	
	Conveyor rollers	☐	
	Spillage issues?		

Fine Sand Stockpile Conveyor	Item	Safe / Working Order	Comments
	Tail drum guarding	☐	
	Hopper nip point guarding	☐	
	Walkway & handrails	☐	
	Head drum guarding	☐	
	Walkway conveyor guards	☐	
	Primary belt scraper	☐	
	Secondary belt scraper	☐	
	Conveyor rollers	☐	
	Spillage issues?		

Other Issues / comments	

Signed:	
Date:	

Appendix 3

NRW Screening Plans

PAN-026461 Protected habitats

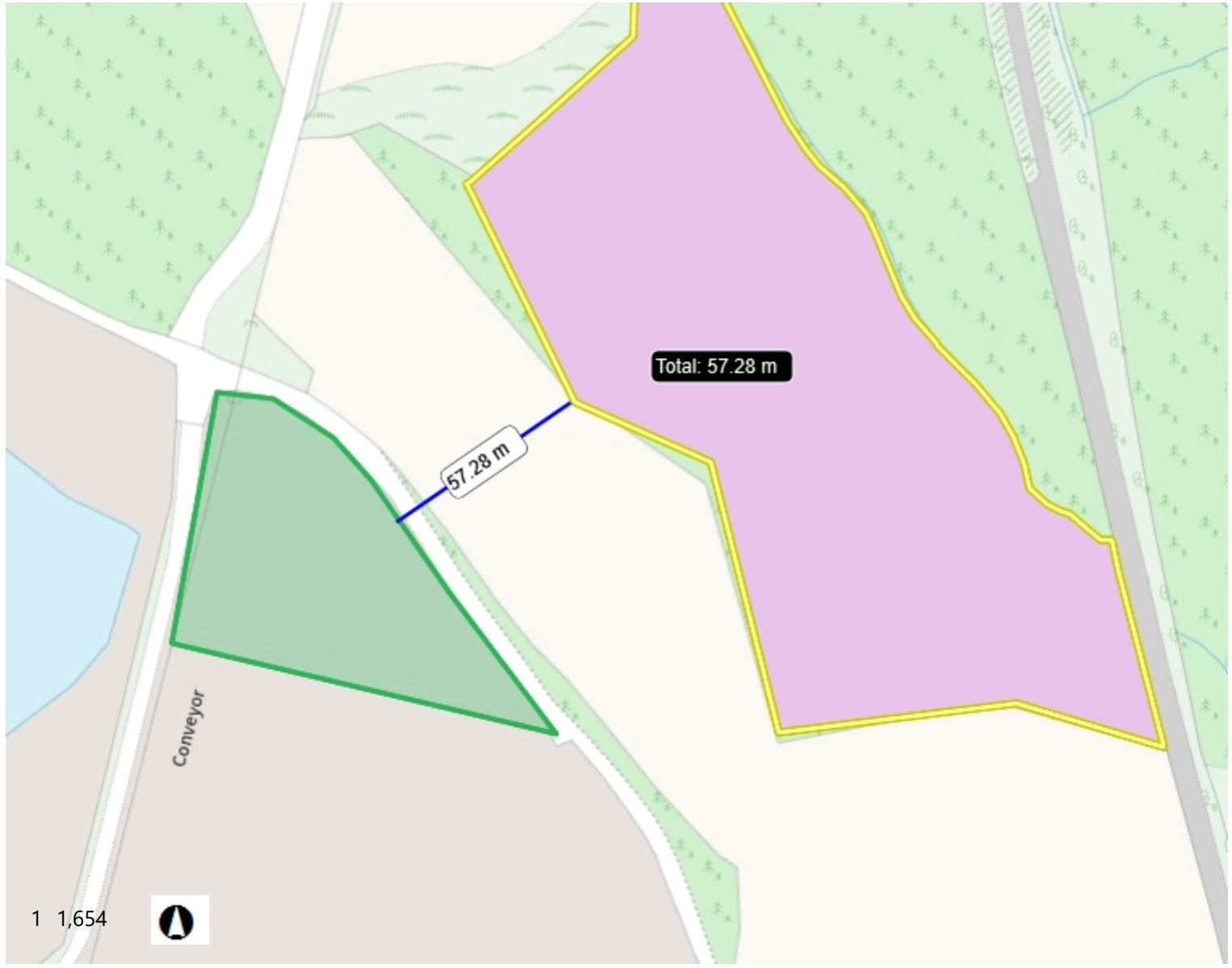
Legend

Protected Habitats for Permitting Screening

- Acquifer fed water bodies
- Blanket bog
- Coastal and floodplain grazing marsh
- Coastal saltmarsh
- Coastal sand dunes
- Deciduous woodland
- Fens
- Intertidal mudflats
- Lowland beech and yew woodland
- Lowland calcareous grassland
- Lowland dry acid grassland
- Lowland dry acid grassland and Lowland calcareous grassland
- Lowland heathland
- Lowland heathland and Purple moor grass
- Lowland meadows

Notes

Purple moor grass and rush pastures - 57 m



0.1 0 0.04 0.1 Kilometers

British_National_Grid

Cyfoeth Naturiol Cymru
Natural Resources Wales

PAN-026461 SACs, SPA, RAMSAR within 1km

Legend

- Special Areas of Conservation
- Ramsar Sites
- Proposed Special Protection Areas
- Special Protection Areas
- Proposed Special Areas of Conservation

Permit Application Point

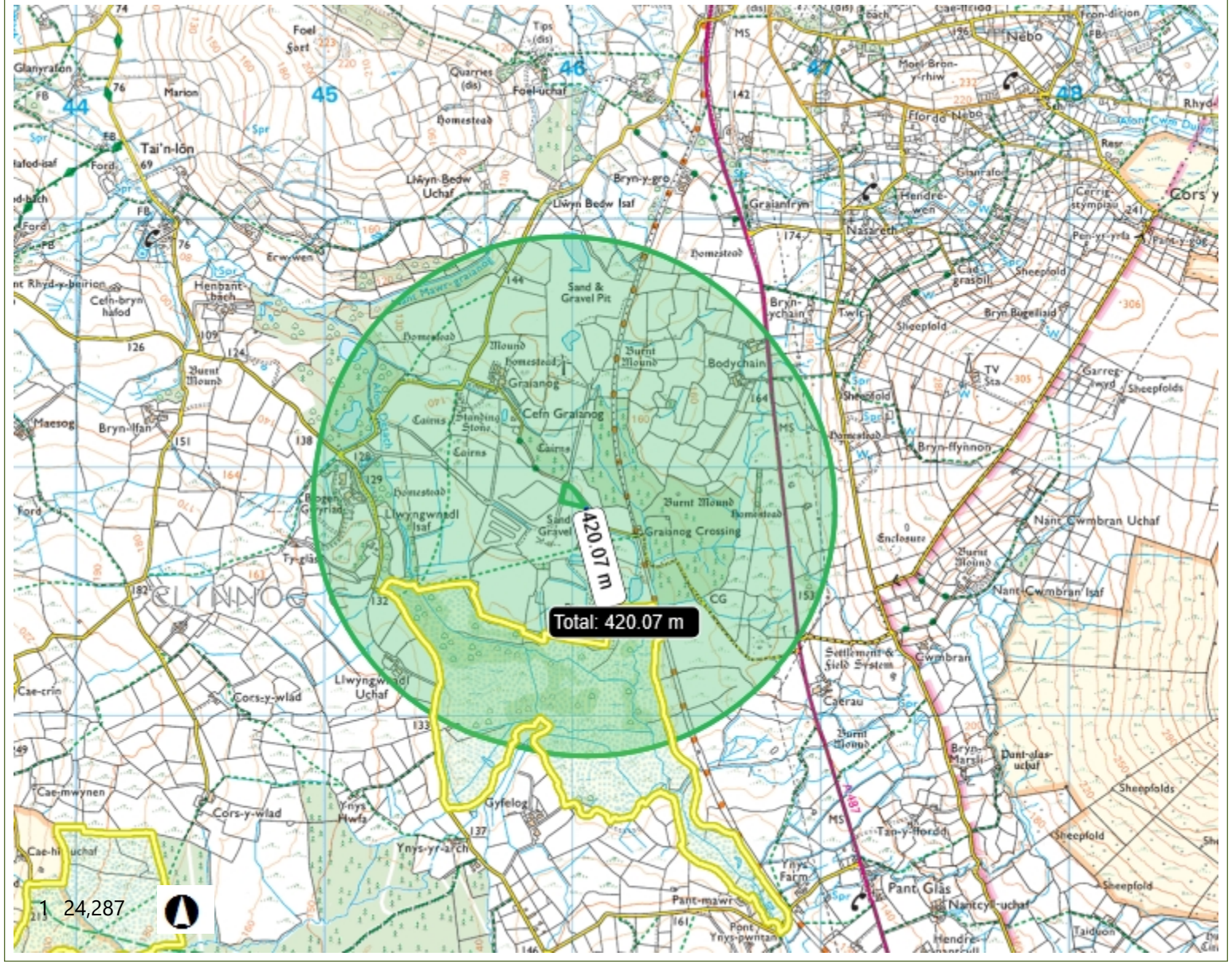
- Application
- Permit

Permit Application Line

- Application
- Permit

Notes

Elfonydd Fens - 420 m



1.2 0 0.62 1.2 Kilometers

British_National_Grid

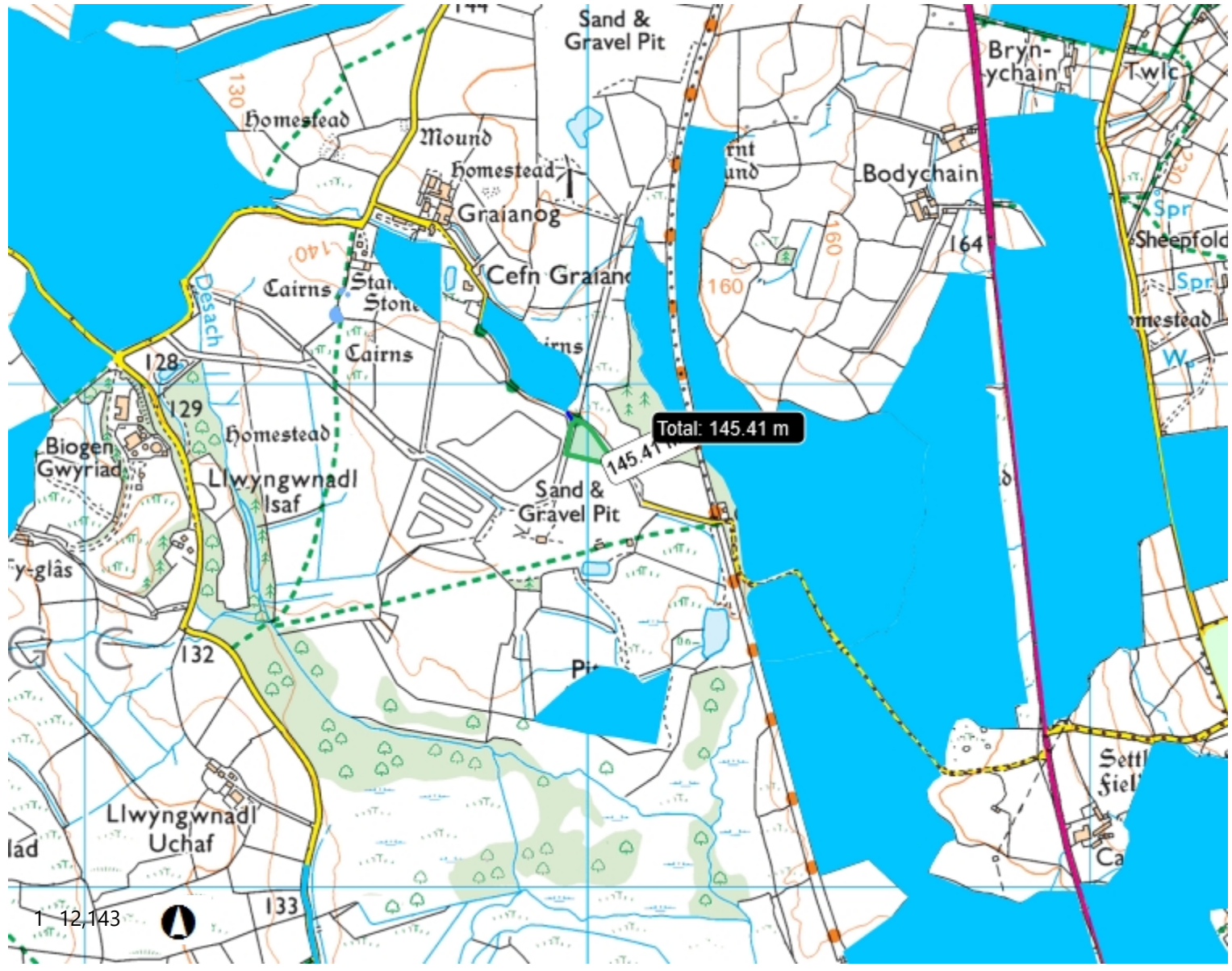
PAN-026461 MyMap report

Legend

- National Parks
- Marine Conservation Zone
- Local Nature Reserves
- Source Protection Zones Individual
  - Zone I - Inner Protection Zone
  - Zone II - Outer Protection Zone
  - Zone III - Total Catchment
  - Zone of Special Interest
- Local Wildlife Sites (SINCs)
- Areas of Outstanding Natural Beauty England
- Ancient Woodland Inventory 2011
  - Ancient Semi Natural Woodland
  - Restored Ancient Woodland Site
  - Plantation on Ancient Woodland Site
  - Ancient Woodland Site of Unknown Category
- Scheduled Monuments

Notes

Graianog (north) SINC - 19 m
Cefn Graianog - 145 m



0.6 0 0.31 0.6 Kilometers

British_National_Grid

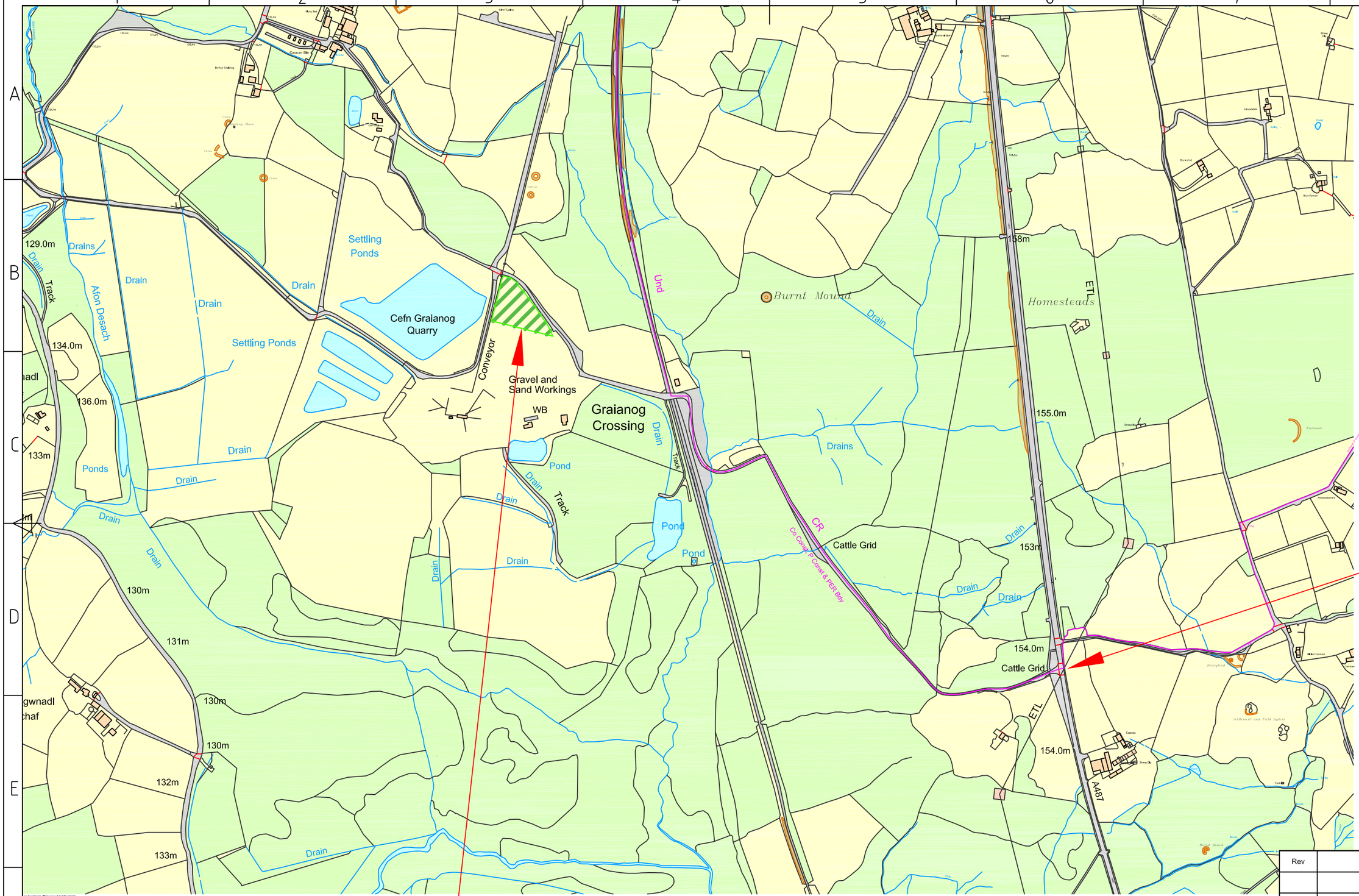
APPENDIX 9

LOG OF CHANGES

TG ENVIRO
FEBRUARY 2025

TG Enviro - Management System Change Tracker

Date	EMS Reference No.	Reason for change?	Approved by	Date Approved



Rev	Revision Note	Date

Cefn Graianog Quarry - Access

TG Enviro

4W Environmental Limited
Unit 26 Redhill House
Hope Street
Saltney
Chester
CH4 8BU

Tel: 07764 894499
Fax: 01244 661750
Email: Martin.Womack@4wenvironmental.co.uk

Date: 4th June 2024

Drawing Number: TGE/36/A	Scale n-t-s	Sheet A3

Notes

Legend and locations taken from ayesa drawing number K0642-1003

Product Stockpile

Surface Water Collection Point

Existing quarry lagoon, location may vary over time Closed loop system, no off-site drainage

Entrance to quarry/ waste recycling operations

Site offices and weighbridge

Workshop

Spill kit

LEGEND

PERMIT BOUNDARY

STOCKPILE AREA

PROCESSING AREA

SURFACE WATER COLLECTION POINT

SURFACE WATER CONTAINMENT BUND

DIRECTION OF SURFACE WATER DRAINAGE

DIRECTION OF SURFACE WATER PUMPED FROM COLLECTION POINT INT EXISTING LAGOONS

Rev	Revision Note	Date
1	Lagoon updated	17/04/25

Cefn Graianog Quarry - Site Layout

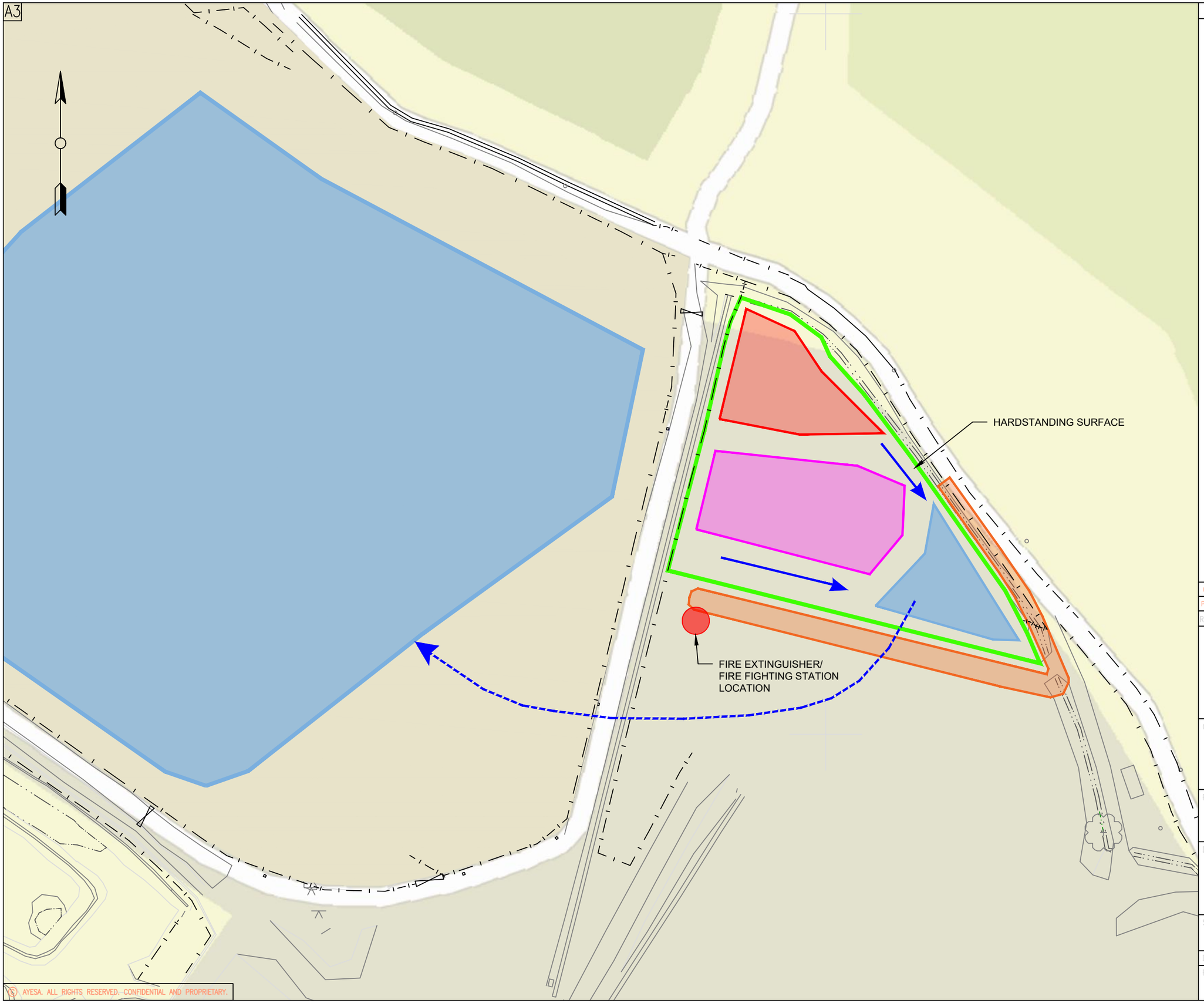
TG Enviro

4W Environmental Limited
Unit 26 Redhill House
Hope Street
Saltney
Chester
CH4 8BU
Tel: 07764 894499
Fax: 01244 661750
Email: Martin.Womack@4wenvironmental.co.uk

Date: 4th June 2024

Drawing Number: TGE/37/A	Scale n-t-s	Sheet A3

A3



GENERAL NOTES

GENERAL NOTES:

1. DO NOT SCALE OFF DRAWING.
2. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
3. ALL LEVELS IN METRES (ORDNANCE DATUM) UNLESS OTHERWISE NOTED.

LEGEND

- PERMIT BOUNDARY
- STOCKPILE AREA
- PROCESSING AREA
- SURFACE WATER COLLECTION POINT
- SURFACE WATER CONTAINMENT BUND
- DIRECTION OF SURFACE WATER DRAINAGE
- DIRECTION OF SURFACE WATER PUMPED FROM COLLECTION POINT INTO EXISTING LAGOONS

Rev	Date	Description	By	Chk	App
03	24.02.25	AMENDS	JM	OS	JB
P01	19.04.24	FOR REVIEW	GH	OS	JB

ayesa

CLIENT

TG GROUP Established 1874

PROJECT

CEFN GRAIANOG QUARRY
PERMIT APPLICATION

DRAWING TITLE

SITE LAYOUT AND DRAINAGE PLAN

STATUS	SUITABILITY
FOR REVIEW	–

Date: 17/05/24	Scale: 1:1'000	Drawn: JM	Chk: OS	App: JB

Project No:	Drg. No:	Rev:
K0642	K0642–1003	03