NEVILL'S DOCK, LLANELLI, CARMARTHENSHIRE

APPLICATION TO VARY
PERMIT REFERENCE EPR/BM2381IQ

ENVIRONMENTAL RISK ASSESSMENT

APPLICATION REFERENCE EPR/BM2381IQ (V007)

ECL Ref: ECL.008.01.02/ERA
Date: July 2018
Version: 1

ENVIROMENTAL RISK ASSESSMENT

TABLE OF CONTENTS

List of Abbreviations/Acronyms

AMG	AMG Resources Limited
AMP	Accident Management Plan
CCTV	Closed Circuit Television
ECL	Environmental Compliance Limited
EMP	Emissions Management Plan
EMS	Environmental Management System
EP	Environmental Permit
FPP	Fire Prevention Plan
GLC	Ground Level Contamination
LNR	Local Nature Reserve
MAGIC	Multi-Agency Geographic Information for the Countryside
NNR	National Nature Reserve
NRW	Natural Resources Wales
NVMP	Noise and Vibration Management Plan
PMP	Pest Management Plan
PPMR	Planned Preventative Maintenance Regime
RAMSAR	Ramsar Site
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest

1. INTRODUCTION

1.1. OVERVIEW

1.1.1. Environmental Compliance Limited ("ECL") has been appointed to vary the current Environmental Permit ("EP") held by AMG Resources Limited ("AMG"). The scope of the variation is to remove the operation of electrochemical tin recovery and replace it with AMG's main operations of the physical sorting, compaction, and baling of scrap metals at AMG's Llanelli site, hereafter referred to as the installation.

1.1.2. An Environmental Risk Assessment has been undertaken in accordance with the relevant requirements of the current version of the Environment Agency's online Horizontal Guidance (as required by Natural Resources Wales ("NRW")), in order to:

- identify potential risks that site operations may present to the environment;
- screen out any insignificant risks;
- assess potentially significant risks in detail; and
- decide on the appropriate control measures.

1.1.3. Accordingly, the assessment has addressed the potential risks relating to the operation of the proposed facility, namely:

- amenity and accident risks;
- discharges to surface water; and
- discharges to groundwater

1.1.4. The proposed activities do not involve any emissions to air or discharges to land or groundwater, therefore, no assessment has been undertaken.

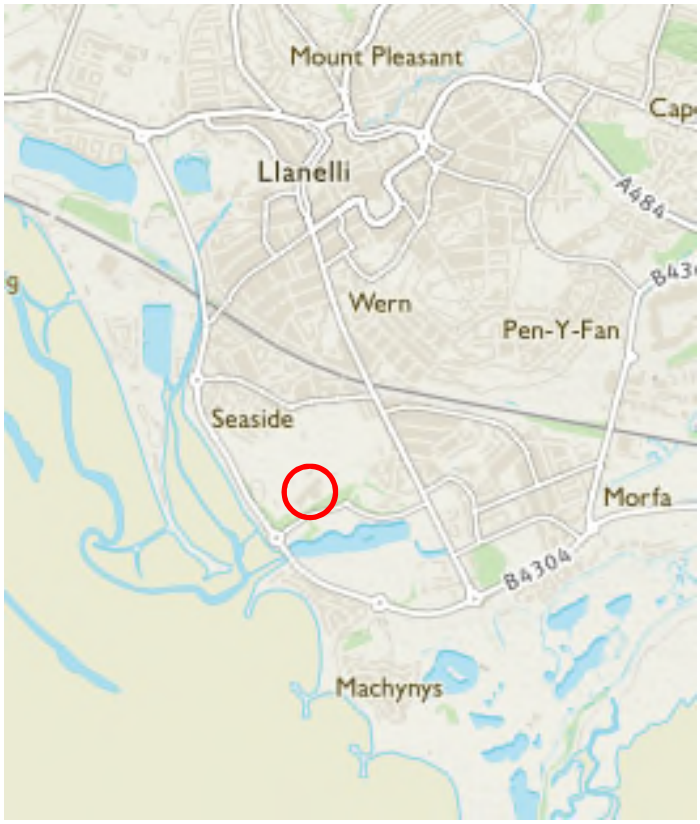
1.1.5. The findings of the various assessments are presented below.

2. IDENTIFICATION OF RECEPTORS

2.1. SITE SETTING

2.1.1. The Site Location Plan (Drawing Reference ECL.008.01.02-001) detailing the permit boundary is provided in Appendix I of this document. Figure 1 shows the location of the Installation (circled in red) in relation to the surrounding area.

Figure 1: Site Location Map

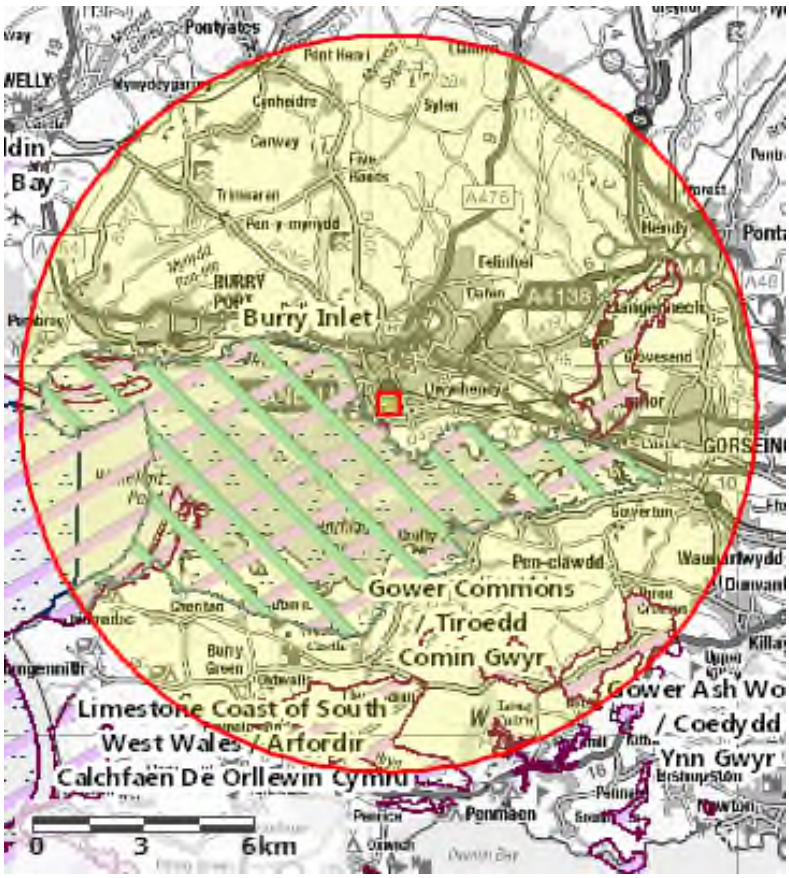


2.1.2. The site is located at Nevill's Dock, Llanelli within 1km of Burry Inlet. To the north and east of the site lie the principally residential areas of Llanelli whilst to the south is the Machynys Peninsula. To the west are the mud and sand flats of the River Lliedi and the Burry Inlet.

2.2. POTENTIALLY SENSITIVE ECOLOGICAL RECEPTORS

2.2.1. A review of the area using the Multi-Agency Geographic Information for the Countryside ("MAGIC") website[1] identified that the Installation is located within 1km of Burry Inlet, a designated Ramsar Site, Site of Special Scientific Interest ("SSSI") and Special Protection Area ("SPA"). Also located within 1km of the site is the Carmarthen Bay and Estuaries Special Area of Conservation ("SAC") and the Machynys Ponds SSSI. Gower Commons, Gower Ash Woods, and Carmarthen Bay dunes, designated SACs are located further from the site but within the 10km of the installation. (See Figure 2 – Ramsar green hatching, SACs purple hatching, and SPAs blue dots).

Figure 2: MAGIC Map of the SPAs, Ramsar Sites and SACs within 10km of the Site



2.2.2. The grid references of the potential ecological receptors within 10km are listed in Table 1, together with their distance and heading from the Installation.

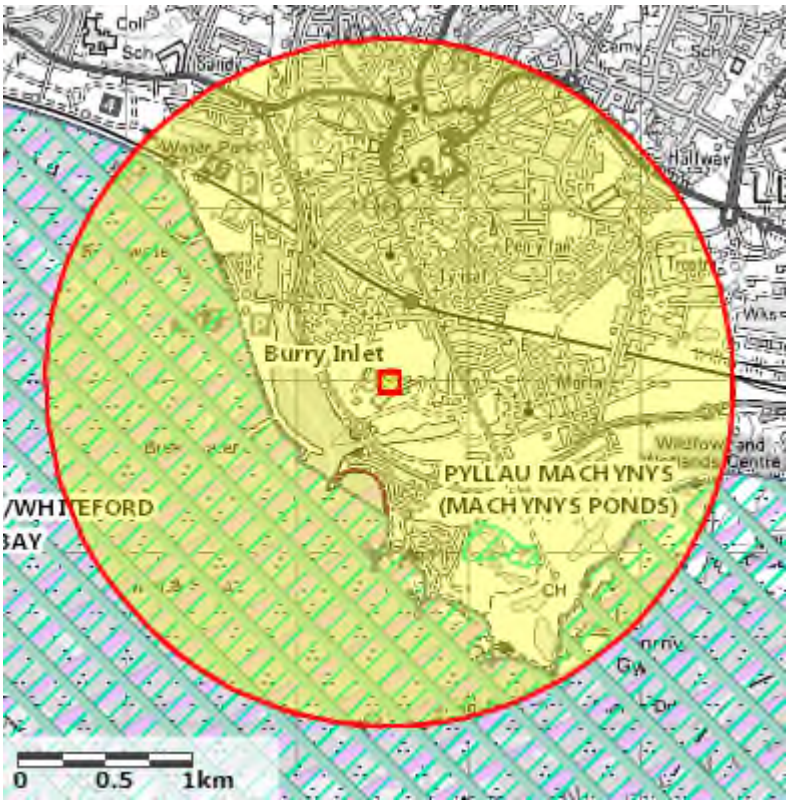
[1] http://magic.gov.uk/MagicMap.aspx, accessed July 2018

Table 1: Specific Sensitive Habitat Receptors Considered for the Assessment

Ref	Location	Type	Easting	Northing
E1	Burry Inlet	SPA, Ramsar	248970	196887
E2	Carmarthen Bay	SPA	235700	199100
E4	Carmarthen Bay and Estuaries	SAC	235700	199100
E5	Carmarthen Bay Dunes	SAC	228500	207400
E6	Gower Ash Woods	SAC	257400	188200
E7	Gower Commons	SAC	249700	190000

2.2.3. Within 2km of the site lie the previously mentioned Burry Inlet Ramsar and SPA site and the Carmarthen Bay and Estuaries' SAC. The Installation is not located within 2km of any National Nature Reserves ("NNR'S") but is located within 2km of the Burry Inlet Local Nature Reserve ("LNR"), in addition to the SSSIs of Burry Inlet, Loughor Estuary and Machynys Ponds (See Figure 3 – turquoise hatching).

Figure 3: MAGIC Map of SSSIs, NNRs and LNRs within 2km of the Site



2.2.4. The grid references of the potential ecological receptors within 2km are listed in Table 2, together with their distance and heading from the Installation.

Table 2: Specific Sensitive Habitat Receptors Considered for the Assessment

Ref	Location	Type	Easting	Northing
E1	Burry Inlet and Loughor Estuary	SSSI	248970	196887
E2	Machynys Ponds	SSSI	251250	198050
E3	Burry Inlet	Ramsar, LNR, SPA	248970	196887
E5	Carmarthen Bay and Estuaries	SAC	235700	199100

2.2.5. In addition to the SACs, SPAs, RAMSARs, NNRs, LNRs and SSSIs, other potentially sensitive land uses within 1km of the site were also considered. A review of the area using the MAGIC[1] site check and Lle-Geo-Portal for Wales[2] indicates that none of the following sensitive land uses are located within a 1km radius of the site:

- Areas of Outstanding Natural Beauty;
- Groundwater Source Protection Zones;
- Marine Conservations Zones;
- Marine Nature Reserves;
- National Nature Reserves;
- National Parks; and
- Nitrate Vulnerability Zones.

2.3. POTENTIALLY SENSITIVE HUMAN RECEPTORS

2.3.1. Within 2.5km of the site, potentially sensitive human receptors surrounding the installation have been considered. These comprise residential properties, schools, surface water features, and places of worship (See Table 3).

Table 3: Potentially Sensitive Human Receptors

Ref	Receptors	Direction
R1	Residential, schools including Ysgol Pen Rhos, places of worship, Sandy Water Park, Town Hall, Library	North
R2	Residential (Morfa), schools, places of worship, Trostre Retail Park	East
R3	New Dafen River, residential (Machynys), Machynys Peninsula Golf and Country Club	South
R4	Playing fields, the Millenium Coastal Park	West

[2] http://lle.gov.wales/home?lang=en, accessed July 2018

3. IDENTIFICATION OF THE RISKS

3.1. AMENITY RISKS

3.1.1. Taking into account the nature of the activities that will be undertaken at the proposed Installation, the main amenity risks identified are as follows:

- fugitive emissions to air (dust);
- noise emissions;
- fugitive emissions to water; and
- general amenity risks (litter, mud, pests).

3.2 ACCIDENT RISKS

3.1.2. The main accident risks have been identified as are:

- fire;
- loss of mains electrical power; and
- vandalism.

3.3 DISCAHRGES TO SURFACE WATER

3.3.1 Identification of Risks

3.3.1.1 There will be no direct process-related releases - i.e. process contributions - to surface water from the activities that are associated with the permit variation.

3.3.1.2 Storm water run-off from the building will pass through directly into the installation's surface water drainage system.

3.3.2. Assessment of Risks

3.3.2.1 Only roof water and clean yard water will be discharged from the Installation to the existing surface water drainage system.

3.3.2.2 Any potentially polluting spillages at the Installation which could potentially enter surface water drainage will be subject to the Installation's robust spill management procedure as outlined within the Environmental Incident Procedure –EAP05, which would prevent such an occurrence.

3.3.3 Results of Assessments

3.3.3.1 Given the risk management measures detailed above that have been implemented at the Installation, and the low volume of the discharge, it can be concluded that there will not be a significant risk to the surface sewer resulting from the operation of the Installation

provided that it is operated and managed in accordance with the proper, documented procedures.

3.4 DISCHARGES TO GROUNDWATER

3.4.1. Identification of Risks

3.4.1.1. There will be no direct process-related releases - i.e. process contributions - to groundwater from the activities that are associated with the permit variation as booms and penstock valves will prevent emission to the soakaway.

3.4.1.2. All processing and storage areas will be on concrete hardstanding with an emergency action plan in place to respond to spillages and prevent any run off from entering the groundwater.

3.4.2. Assessment of Risks

3.3.3.1 Any potentially polluting spillages at the Installation which could potentially enter groundwater drainage will be subject to the Installation's robust spill management procedure as outlined within the Environmental Incident Procedure –EAP05, which would prevent such an occurrence.

3.4.3. Results of Assessments

3.4.3.1. Given the risk management measures detailed above that have been implemented at the Installation, it can be concluded that there will not be a significant risk to the groundwater resulting from the operation of the Installation provided that it is operated and managed in accordance with the proper, documented procedures.

4 ASSESSMENT OF RISKS

4.1.1 METHODOLOGY

4.1.1. The risk assessments have been undertaken using the following approach for amenity and accident risks:

- identification of hazards associated with the risk that have the potential to cause harm;
- identification of potential receptors i.e. what is at risk (for the purposes of this assessment, typical potential receptors have been identified)?
- pathway i.e. how can the hazard get to the receptor?
- risk management measures employed to reduce the risk to an acceptable level;
- probability of exposure i.e. how likely is this contact?
- consequence i.e. what is the harm that can be cause? and
- assessment of overall risk.

4.1.2. The assessments for the amenity and accident risks identified above are presented in Tables 4 and 5 respectively.

Table 4: Amenity Risk Assessment

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Fugitive Emissions to Air (Dust)						
Dust/particulate emissions from delivery and storage of waste materials, during main operations and processing (shredding and baling material in hammer mill) and loading of product.	Human population in surrounding area.	Release to air – windblown dispersion in atmosphere	Materials will be delivered to site in enclosed vehicles and will be offloaded within the dedicated tipping areas which are located a significant distance from the site boundary to prevent any fugitive emissions to air reaching sensitive receptors. Finished product, as well as resultant waste from the processing operations, will also be stored within separate dedicated areas located a significant distance from the site boundary. A daily visual inspection monitoring fugitive emissions will be undertaken with water suppression techniques are employed if necessary, depending on weather conditions etc. An Emissions Management Plan ("EMP") (ECL.008.01.02/EMP) has been prepared which outlines all mitigation measures implemented on site.	Unlikely. Risk management measures should prevent any release from reaching the identified receptors.	Dust nuisance.	Not significant.
Noise Emissions						
Site plant and equipment related noise.	Human population in surrounding area.	Site is close enough to receptors for noise to be potentially audible.	All site plant and equipment will be covered by the planned preventative maintenance regime ("PPMR") to ensure that it is kept in good operational condition. Daily operations cease at 5pm and the site does not operate on weekends or bank holidays. The vehicle route has been designed to limit the need to reverse on site. External vehicles which tip waste or collect RDF may sound reversing beepers for 5-20 seconds, this is intermittent and vital for the health and safety of all workers. A Noise and Vibration Management Plan ("NVMP") (ECL.008.01.02/NVMP) has been prepared which outlines the mitigation measures implemented on site.	Unlikely. Noise emissions could potentially occur during operational hours. Risk management measures should prevent any significant noise emissions from reaching the identified receptors.	Noise nuisance.	Not significant.

Table 4: Amenity Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
General Amenity Risks (Litter, Mud, Pests)						
Litter releases, pests moving off site and mud on roads.	Human population in surrounding area.	Releases to air/windblown or air and land (flies/vermin).	Daily inspections of site will be undertaken to ensure strict housekeeping standards and any observed litter will be removed. Waste piles will be processed quickly to ensure prevention of pest habitat formation. A Pest Management Plan ("PMP") (Document Reference ECL.008.01.02/PMP) forms part of AMG's EMS and the daily inspections will also monitor for presence of pests, if found, a pest control will be appointed.	Unlikely. The risk management measures should prevent any litter, mud or pests reaching the identified receptors.	Possible adverse health effects and nuisance.	Not significant.

Table 5: Accident Risk Assessment

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Fire						
Fire at the site.	Human population in the surrounding area.	Releases of gases/vapour to air.	The site will operate in accordance with Fire Prevention Plan ("FPP") (ECL.008.01.02/FPP) contained within this permit variation submission. During operation, staff are present in the used can plant. Waste pre-acceptance and acceptance procedures ensure that contamination in the incoming material is kept to a minimum. If particularly high levels of paper/card/plastic contaminants are observed, water sprays can be used to minimise the risks. Explosion can occur mainly due to unsuitable materials in the used can raw material i.e. gas canisters. The pre-acceptance and acceptance procedures ensure no foreign materials are present. Any that are identified are removed and quarantined. Fire detection alarm systems installed, maintained and tested according to Fire and Rescue Service recommendations. Permit to Work system in place to control high risk activities including hot works. Preventative maintenance on all electrical equipment. Designated smoking areas. Emergency procedures are in place and reviewed as part of Company's EMS and FPP. Training will be provided to all site personnel in relation to preventing fires and identifying fire risks on site with provision of manual extinguishers and firefighting training provided to nominated personnel.	Unlikely. Risk management measures should prevent any release from reaching the identified receptors.	Smoke, localised nuisance.	Not significant if procedures adhered to.

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Fire/Explosion						
Releases of potentially contaminated firewater.	Local watercourse network.	via site drainage system/directly via groundwater	Firewater will be contained using booms and/or sandbags and the firewater would be tankered off site to an appropriately licensed facility. Downpipes are sealed ensuring there is no possibility of surface water entering the drainage system.	Unlikely. Risk management measures should prevent any release from reaching the identified receptors	Contamination of controlled water(s).	Not significant if procedures adhered to.
Spillage of Potentially Polluting Substances (i)						
Loss of containment of diesel during transfer from bulk tanker.	Initially the concrete pad surrounding the tank.	Downward migration through made ground.	During any transfer of any diesel, checks are undertaken to ensure all transfer equipment is intact and that there is sufficient capacity in the tank to which diesel oil is being transferred. A member of AMG will supervise the unloading of fuel at all times. The filling coupling is also located within the bunded area, ensuring any small leaks (i.e. due to inadequate seals) would be captured. All other pipework associated with the storage tank is located within the bund. Integrity checks and maintenance of pipework, tank and bund will be undertaken as part of the Company's PPMR. Site personnel are trained in spill response procedure as outlined in the AMP and EMS. Spill kits are well stocked and placed in strategic locations on site. A concrete pad with drain and three part interceptor is in place to prevent any contamination from entering the soakaway.	Unlikely. Risk management measures should prevent any release from reaching the identified receptors.	Contamination of ground and groundwater.	Not significant if procedures adhered to.

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Spillage of Potentially Polluting Substances (ii)						
Spillage of diesel during transfer to the mobile plant.	Initially the concrete pad surrounding the tank.	Via the soakaway to groundwater.	During any transfer of any diesel, checks are undertaken to ensure that all transfer equipment is intact and that there is sufficient capacity in the tank to which diesel oil is being transferred. The diesel filling pump and associated hose is also located within the bunded area, ensuring any small leaks (i.e. due to inadequate seals) would be captured. The diesel filling pump is locked when not in use to prevent spillage and theft. Integrity checks and maintenance of pipework, tank and bund will be undertaken as part of the Company's PPMR. Site personnel are trained in spill response procedure as outlined in the AMP and EMS. Spill kits are well stocked and placed in strategic locations on site. A concrete pad with drain and three part interceptor is in place to prevent any contamination from entering the soakaway.	Unlikely. Risk management measures should prevent any release from reaching the identified receptors.	Contamination of ground and groundwater	Not significant if procedures adhered to.

Table 5: Accident Risk Assessment (Cont.)

Hazard	Receptors	Pathway	Risk Management	Probability of Exposure	Consequence	Overall Risk
Major System Failure/Loss of Mains Electrical Power						
Accumulation of raw material waiting to be processed creating potential for dust/particulate emissions	Human population in the surrounding area.	Release to air – windblown dispersion in atmosphere	AMG have pre-determined storage capacity limits which will not be exceeded in the event of major system failure/loss of electrical power. Transport companies will be contacted to ensure hauliers do not arrive at site to unload raw material. Those who cannot be contacted will be redirected to another appropriately licenced site. The PPMR includes maintenance and inspection of all process equipment to ensure good operational working order. This reduces the risk of complete failure. If major system failure or loss of power occurs, competent personnel will check all areas prior to recommencing operations. If loss of power occurs out of hours, the security company will inform the Site General Manager.	Unlikely.	Dust nuisance.	Not significant
Vandalism						
Vandalism causing any of the above.	Any of the above.	Any of the above.	The Installation is secured by a fence and large gate which is locked when the site is non-operational. A remote closed circuit television ("CCTV") monitoring system is in place. Any motion detected by the cameras is reported to a control centre where a contracted security company view the feed and determine if further action is necessary. Key members of staff are also on call to attend site on such occasions Vegetation is also cleared periodically to enable a clear view of all possible unauthorised access routes onto site.	Unlikely.	Any of the above.	Not significant.

5. SUMMARY

5.1. RESULTS OF THE ASSESSMENT

5.1.1. The results of both the Amenity and Accident Risk Assessments (Tables 4 and 5) indicate that none of the risks relating to the operations outlined in the submission for permit variation will be significant if operations are managed in accordance with the EMS.

5.1.2. To address the potential risks identified, specific management plans have been created, all of which have been submitted as part of this permit variation and are outlined below:

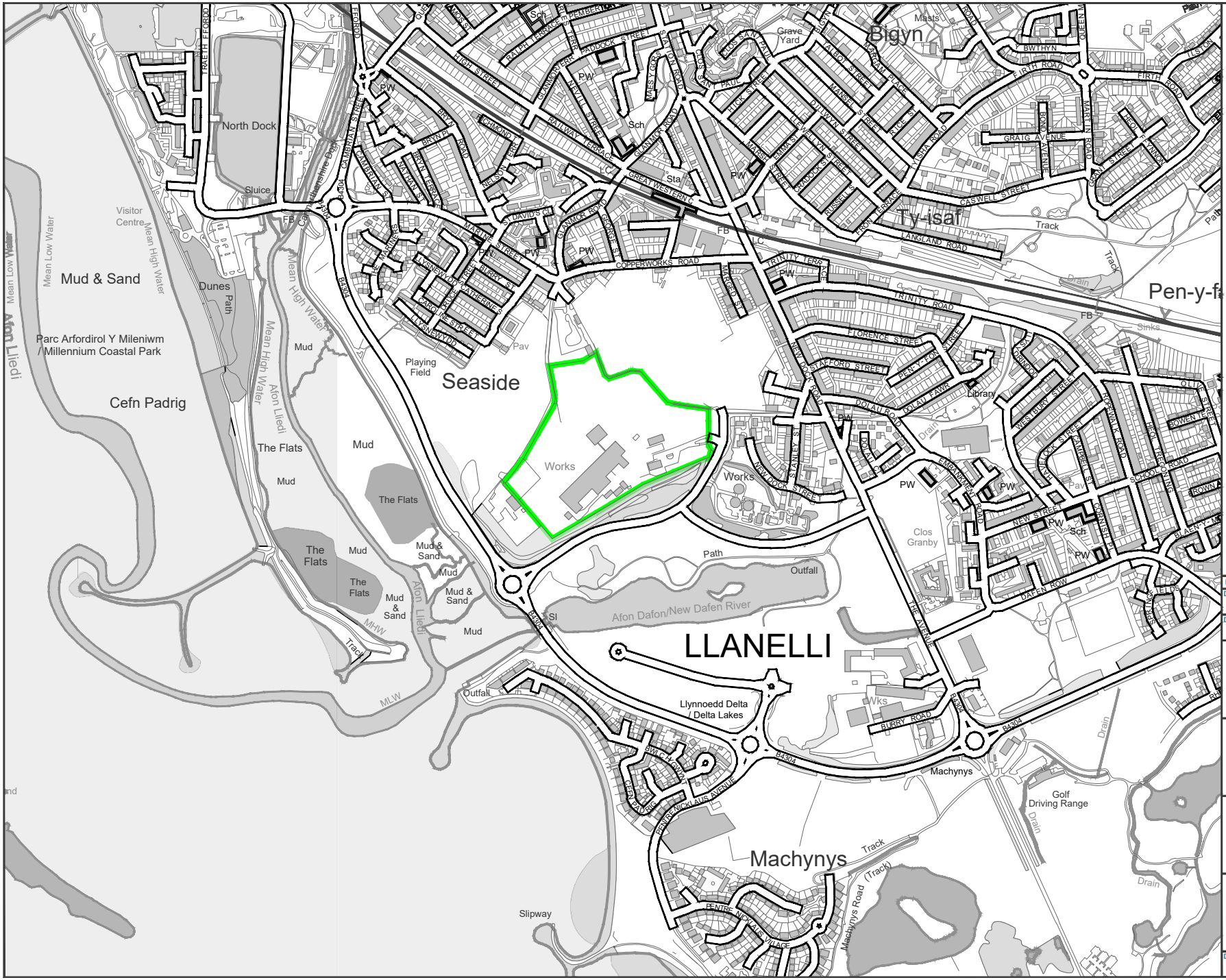
- Noise and Vibration Management Plan;
- Emissions Management Plan;
- Pest Management Plan; and
- Fire Prevention Plan.

5.1.3. Providing all of the above plans are implemented fully and adhered to, the overall risks can be considered as not significant.

5.2. CONCLUSION

The risks from the installation, in terms of accident and amenity risk can be considered not significant provided that all risk management measures are implemented.

APPENDIX I
SITE LOCATION PLAN
(ECL.008.01.02-001)



LEGEND

ENVIRONMENTAL PERMIT BOUNDARY

Rev	Date	Details	Chkd

Date	Scale	Drawn by	Checked by	Approved by
11/07/2018	1:10K @ A4	GTB	SJ	SB

Drawing Status: ISSUED

Environmental Compliance Ltd.
Unit G1, The Willowford,
Treforest Industrial Estate,
Main Avenue, Pontypridd. CF37 5YL

Tel: 01443 841760
Fax: 01443 841761
Email: info@ecl.world
Web: www.envirocompli.com

Client: A M G Resources Ltd

Project Title

AMG RESOURCES Ltd
NEVILLS DOCK
LLANELLI
SA15 2HD

Drawing Title

SITE LOCATION PLAN

Drawing Number	Rev
ECL.008.01.02-001	-