

Report Control

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1. INTRODUCTION

- 1.1.1 This Environmental Impact Assessment (EIA) Scoping Report is submitted by Boyer on behalf of Sandvik Osprey (referred to hereafter as the ‘applicants’) who intend to submit a full planning application for land off J38 of the M4, Margam, (the “proposed development site”) for a metal processing facility, offices, amenity building (Use Classes B1, B2 and B8) and other associated infrastructure.
- 1.1.2 The proposed development site is located at a Strategic Employment Site just off J38 of the M4 within Neath Port Talbot Council and forms part of the Strategic Employment Site known as Junction 38 (M4), Margam EC1/2 in the Local Development Plan (January 2016).
- 1.1.3 The Neath Port Talbot Council LDP states that the site should only be used for B1, B2 and B8 which are the use classes that this development will be comprised of.
- 1.1.4 The site area extends to circa 6ha as shown at **Appendix 1**. This site area represents the parameters of the site for the purposes of the EIA Scoping process, within which the proposed development will be delivered. The precise proposal for development at this location will be informed by the pre-application process, community engagement and reflect site specific analysis, responding positively and sensitively to the context of the site.
- 1.1.5 Due to the significant scale of the proposed development, a screening opinion has not been requested from Neath Port Talbot Council as the proposal clearly constitutes EIA development under the thresholds set by Schedule 2 and Schedule 3 of the Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 i.e. the development will be a metal processing plant over 1,000 square metres.
- 1.1.6 Having established that EIA is required in accordance with thresholds set under relevant regulations, the applicant with regard to the ‘EIA Regulations 2017 (Wales)’ must compile the information reasonably required to assess the likely significant effects of the proposed development on the environment in the form of an Environmental Statement (ES).
- 1.1.7 In accordance with regulation 14(1) of the EIA Regulations 2017 (Wales), persons minded to make an EIA application may ask the local planning authority (LPA) for their formal written scoping opinion as to the information to be provided in the ES. This Scoping Report is submitted to Neath Port Talbot Council (‘the LPA’) for this purpose.
- 1.1.8 In accordance with regulation 14(2) of the EIA Regulations 2017 (Wales), this Scoping Report includes:
 - A plan sufficient to identify the land (Appendix 1);
 - A brief description of the nature and purpose of the development including its location and technical capacity (Section 2 and Section 8);
 - An explanation of the likely significant effects on the environment (Section 8); and
 - Such other information or representations as the person making the request may wish to provide or make (Sections 8-10).

- 1.1.9 Regulation 14(5) of the EIA Regulations 2017 (Wales) requires the LPA to provide its scoping opinion within 8 weeks of receipt of this scoping request.

2. PROPOSED DEVELOPMENT

2.1.1 This section describes the nature and purpose of the proposed development.

2.2 Nature of the Proposed Development

2.2.1 The site comprises approximately 6ha of agricultural land to the south of Margam forming the allocation 'Junction 38 (M4), Margam EC1/2' in the Neath Port Talbot Council LDP. For the purpose of this Scoping Report the proposed description of development is provided below:

2.2.2 "The development of a metal processing facility comprising of 18,250 sq. m of operational buildings, an additional 1,848 sq. m of administration, HR and support buildings and up to ca. 300 parking spaces on-site."

2.2.3 Industrial processes to be carried out on site would consist of the melting and atomising of raw materials to manufacture metal powder for use in other industry. Metals on-site include (but not limited to) stainless steels, nickel alloys, cobalt alloys, aluminium alloys and copper.

2.2.4 There would be between ca. 2-10 HGV vehicle movements per day. The site would be operational for 24 hours a day between 6 and 7 days a week.

2.2.5 The then finished products are to be sieved and air classified. There would be no external emissions or effluent.

2.2.6 Waste powder metals are recycled on-site, while waste alloys are recycled off-site and supplied back as clean material. Refractory waste is sent off-site for recycling. Other waste is sorted and sent for recycling.

2.2.7 An illustrative site layout plan is provided at **Appendix 2**. This indicates that there will large scale production buildings, with an adjoining services building. There will also be a number of office buildings as well as an amenity building. The maximum heights of the buildings would be approximately 19m.

2.3 Purpose of the proposed development

2.3.1 The proposed development provides a positive and deliverable Strategic Employment Site within Neath Port Talbot, in a manner that is supportive of the Local Development Plan and growth agenda for the Council. The proposed development accords with allocation 'Junction 38 (M4), Margam EC1/ 2' in the Local Development Plan (Policy EC1 Employment Allocations).

2.3.2 The site is recognised in the Local Development Plan as providing a key strategic employment led opportunity in response to local and strategic growth needs for a suitable and sustainable addition to Margam.

2.3.3 Approximately 150 full-time equivalent (FTE) staff would be employed at the site on both shift and standard working patterns.

3. SITE AND SURROUNDINGS

- 3.1.1 The development site comprises of approximately 6ha of agricultural land to the south of Margam (**Appendix 1**), accessed from the A48 direct from the M4 Margam Interchange Junction 38. The site is irregular in shape and contains a number of fields, hedgerows and trees.
- 3.1.2 The land varies in agricultural value, varying between 2 and 3b, with a patch of non-agricultural land in the middle (based upon review Predictive Agricultural Land Classification (ALC) Map 2). In the northern part of the site some of it is in flood Zone B with a small patch of Zone C2.
- 3.1.3 The site is allocated under two different designations. As mentioned previously, it is designated under 'Junction 38 (M4), Margam EC1/ 2 in the Local Development Plan (Policy EC1 Employment Allocations). It is also designated in the Local Development Plan under 'Junction 38 (M4), Margam W1/ 1(b)' (Policy W1 In-Building Waste Treatment Facilities).
- 3.1.4 In terms of the immediate surroundings, the A48 and the M4 are to the east. At the north eastern boundary is a property at Tyn Y Caeau and agricultural. The southern boundary is defined by Heol Cae'r-Bont, beyond which is a combination of Glan Afon Comprehensive School Playing Fields and 2 no. residential dwellings. To the west is Western Wood Energy Plant and Margam Green Energy Plant.
- 3.1.5 In the wider context, Margam Country Park lies eastwards across the other side of Junction 38, M4, with Tata Steel Works to the west. Both Margam and Port Talbot are located to the north west.

4. ALTERNATIVES AND SCHEME EVOLUTION

- 4.1.1 This section outlines the main alternatives considered and the main reasons for selecting a preferred option, taking into account the environmental effects of the proposed development.
- 4.1.2 As noted above, the site is identified in the current Local Plan for a strategic employment allocation or an In-Building Waste Treatment Facilities. It forms a key role in the vision for growth and prosperity within the Neath Port Talbot area, with the site being key to delivering jobs to the borough.
- 4.1.3 The site was selected as part of the Neath Port Talbot Council LDP allocation following a rigorous consideration of alternative deliverable options to meet the objectively assessed need. The process concluded that the site is a suitable location for development of the scale proposed and, moreover, integral to the ability for the Plan to deliver the required number of jobs and growth.
- 4.1.4 Accordingly, this ES will not consider alternative options for the strategic development proposal. Similarly, and in this context, a 'do nothing' scenario will not be considered in this ES as a consequence of the site being identified within the LDP as an allocation for a strategic employment use development. This approach is considered to be appropriate in this context and will form the basis of discussion as part of the Scoping process. The only exception(s) to this are where such a scenario is required in particular technical assessments to quantify the changes arising from the proposal compared to the baseline. On this basis, an alternative disposition of uses will not be considered in this ES.

4.2 Site Selection

- 4.2.1 The site is allocated under the Neath Port Talbot Council LDP Policy EC1 Employment Allocations and Policy W1 In-Building Waste Treatment Facilities. To reach the point of allocation it was considered suitable under the Council's own assessments including Employment Land Review (2013) and the Sustainability Appraisal (SA) of the adopted Plan.
- 4.2.2 The LDP evidence base has assessed the site against alternative options and has found the site and its allocation for strategic employment land under Policy EC1 to be sustainable.
- 4.2.3 Therefore, the land at J38 of the M4, Margam has been selected as one of the preferred options for growth due to being a strategic site capable of delivering significant jobs and growth.

4.3 Design Options

- 4.3.1 The design of the proposed development is an iterative process informed by site specific circumstances. The design process will respond sensitively to the site and surrounding context and will be informed by the a comprehensive technical evidence base, the pre-application process, community consultation/engagement and the findings of the EIA process in terms of impacts and associated mitigation.

5. PLANNING POLICY

- 5.1.1 Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that planning applications are to be determined in accordance with the Development Plan unless material considerations indicate otherwise. The 'Development Plan' in this case comprises the Neath Port Talbot LDP adopted January 2016. Both Planning Policy Wales (2021) and Future Wales: The National Plan 2040 (2021) for the national guidance.
- 5.1.2 Within the Development Plan, the site is allocated under two different designations. It is designated under 'Junction 38 (M4), Margam EC1/ 2 in the Local Development Plan (Policy EC1 Employment Allocations). It is also designated in the Local Development Plan under 'Junction 38 (M4), Margam W1/ 1(b) (Policy W1 In-Building Waste Treatment Facilities).
- 5.1.3 The site is described by Policy EC 1 Employment Allocations as the following:
- "The strategic employment allocation at J38 lies to the south of Harbour Way and adjacent to the A48 and M4 and thus benefits from excellent road transport links. The site is near to a number of existing employment and industrial operations.*
- Harbour Way passes to the north of the allocation improving the transport linkages to the site. It is anticipated that the site will be delivered over the short term.*
- Both Baglan Bay and Junction 38 (M4) have been assessed and are identified as the preferred locations for in-building waste treatment facilities (refer to Policy W1)."*
- 5.1.4 The site is earmarked as a strategic employment site throughout the Neath Port Talbot LDP (2016) with it being viewed as key to prosperity in the borough to provide local employment (Policy SP 11 – Employment Growth).
- 5.1.5 The site has several statutory designations in accordance with the Neath Port Talbot Council LDP. The site lies within a Mineral Safeguarding Area (Policy M1 - Safeguarded Coal Resource). However the site is within a settlement protection zone (Policy M2 Surface Coal Operations) which means surface coal operations would be considered unacceptable.

6. ENVIRONMENTAL STATEMENT

- 6.1.1 The ES will be sufficiently comprehensive to ensure that a decision on the project is made in the full knowledge of the likely significant effects of the proposed development on the environment. The ES will be proportionate and not be any longer than is necessary to assess those effects properly.
- 6.1.2 There is no statutory provision as to the form of an ES and thus the structure set out in this chapter will be followed.

6.2 Structure of the ES

- 6.2.1 This section sets out the proposed structure of the ES, which will comprise:

- Volume 1 - Non-Technical Summary
- Volume 2 - Main ES Report
- Volume 3 - Technical Appendices

Volume 1 – Non-Technical Summary

- 6.2.2 The NTS will follow the structure set out in Table 1 below.

Table 1 - NTS Structure

Chapter No.	Structure	Scope	Consultant
1	Introduction	Proposed development, application site, explanation of EIA and the role and structure of an ES.	Boyer
2	Proposed Development	A description of the nature and purpose of the proposed development as well as phasing of the development.	Boyer
3	Site and Surroundings	A description of the site and surrounding area.	Boyer
4	Alternatives and Scheme Evolution	Outlines the main alternatives considered and the main reasons for selecting a preferred option.	Boyer (Planning) SLR (Design)
5	Main Findings	Reports the results of the EIA, setting out the impacts and the significance of effect of the proposed development on the environment as well as the mitigation proposed and remaining residual effects.	All Specialist Consultants

6	In-Combination and Cumulative Effects	The findings of the in-combination and cumulative effects assessments are summarised.	All Specialist Consultants
7	Conclusion	Overall summary and conclusions of the assessment.	Boyer

6.2.3 The 'Main Findings' section of the NTS which will be drafted by specialist consultants for each topic area and will follow the structure set out in Table 2 below.

Table 2 - Structure of 'Main Findings' for Specialist Consultants

Structure	Content
Baseline	A brief description of the key baseline information.
Impact Assessment and Significance of Effect.	A description of the main predicted impacts both positive and negative and their significance of effect on the environment.
Mitigation	A description of the mitigation measures designed-in to the proposed development or proposed to avoid, reduce or remedy the effects of the development on the environment.
Residual Effects	The main residual effects, both positive and negative, on the environment caused by the proposed development are described.
Summary	The overall effect of the development on the topic area will be summarised.

Volume 2 - Main ES Report

6.2.4 The anticipated structure of Volume 2 of the ES is set out at Table 3. The environmental topics 'scoped in' to the EIA are included within the table and a brief summary of each chapter's scope is provided. Environmental topics considered insignificant or 'scoped out' are discussed in Section 8 of this Scoping Report.

Table 3 - Structure of Volume 2 – Main ES Report

Chapter No.	Chapter Title	Summary of Scope
1	Introduction	An overview of the application site, proposed development, requirement for EIA, scope and structure of the ES.
2	Proposed Development and Phasing	A description of the nature and purpose of the proposed development as well as phasing of the development.

3	Site and Surroundings	A description of the site and surrounding area.
4	Alternatives and Scheme Evolution	Outlines the main alternatives considered and the main reasons for selecting a preferred option.
5	Planning Policy Context	Provides an overview of the local and national planning policy framework.
6	Methodology	Outlines the general methodology used for each topic chapter within the ES unless specific legislation, policy or good practice guidance dictates otherwise.
7	Air Quality	Provides an assessment of potential impacts related of the proposed development on local air quality.
8	Agricultural Land and Soils	This section will assess how much would Agricultural land will potentially be affected.
9	Archaeology and Cultural Heritage	An assessment of archaeology and cultural heritage assets within the application site parameters are assessed and any relevant mitigation measures are provided.
10	LVIA	An assessment of the landscape and visual effects of the proposed development.
11	Noise and Vibration	The noise and vibration impact of the proposed development, including construction and operation, within the vicinity of the site.
12	In-Combination and Cumulative Effects and Mitigation	Presents the findings of in-combination effects (with other topic areas) assessments and cumulative effects (with other developments) in consideration of appropriate mitigation.
13	Conclusion	Provides a summary of the assessment of effects described in Chapters [7 – 16] during the construction, operation and decommission / demolition phases, where applicable.

6.3 ES Chapter Structure

6.3.1 To ensure consistency throughout the ES Chapters 7 to 11 will follow a standard structure as set out in Table 4 below.

Table 4 - Structure and Scope of Topic Chapters

Structure	Scope
Introduction	Outlines the purpose and scope of the chapter and nature of environmental impacts to be considered.

Study Area	Identification of the study area for the topic specific assessment.
Legislative and Planning Policy Context	Provides a summary of legislation, planning policies and guidance relevant to the topic area being considered.
Methodology	The methodology used for the topic specific assessment will be set out under the following sub-headings: • Assessment Methodology – only to be included in this section if the methodology in Chapter 3 cannot be followed by a particular topic area.] • Data Collection Methodology (fieldwork undertaken / consultation undertaken / sources of information).
Baseline Conditions	Refers to the existing environmental conditions of the study area and relevant surroundings.
Impact Assessment and Significance of Effects	Identification of likely impacts and whether those impacts occur during the construction, operation and occupation. Methodology relating to sensitivity of receptors and magnitude of the impact. Identifying the 'significance of effects', which relies on the interaction between the sensitivity of the receptor or resource and the magnitude of the impact, for all likely project impacts. Inherent mitigation should be considered prior to assessing the 'significance of effects' as it is a type of mitigation which is designed-in to the proposed development.
Additional Mitigation	Additional mitigation measures are identified to reduce or remedy environmental impacts. Two strands of mitigation measures will be considered at this stage of the process - standard and actionable.
Residual Effects	Refers to potential effects which could occur as a result of the project after additional mitigation measures have been implemented.
In Combination and Cumulative Effects	In-combination and cumulative effects will be considered as follows: • In-combination effects - combined action of a number of different environmental topic-specific effects upon a single receptor or resource. • Cumulative effects - combined action of a number of projects, cumulatively with the project being assessed on a single receptor or resource.
Conclusions	Overall summary and conclusions of assessment.

6.4 Volume 3 – Technical Appendices

- 6.4.1 Volume 3 of the ES will contain technical assessments undertaken as part of the EIA by specialist consultants and referred to in the Main ES (Volume 2).

- 6.4.2 The scope of these technical assessments will be informed by the Scoping Opinion and Scoping Report.
- 6.4.3 The structure of these technical assessments is that deemed appropriate by the specialist consultants.

7. METHODOLOGY

7.1 Introduction

- 7.1.1 The main focus of the EIA process is the identification and evaluation of impacts and the assessment of 'significance of effects' of a project on the environment. The results and credibility of an EIA depend largely on the methodology used to assess and determine the environmental effects of a project.
- 7.1.2 The methodology outlined in this section will form the basis of each topic chapter within the ES unless specific legislation, policy or good practice guidance dictates otherwise. In circumstances where a different methodology is required this will be set out in the relevant chapter.

7.2 Identification of Impacts and Assessment of Significance of Effects

- 7.2.1 As a result of the scale of development, the proposed development has the potential to create a range of 'impacts' and 'effects' with regard to the physical, biological and human environment. It is therefore necessary to ensure that the potential effects are understood in order to identify appropriate mitigation and avoidance strategies to ensure that the proposed development can be delivered in a sustainable manner.
- 7.2.2 The term 'impact' is used within this assessment to define a change that is caused by an action. For example, excavating foundations for new houses (action) during construction leads to increased levels of noise, dust and traffic (impact). Potential impacts will be identified within each chapter relevant to that environmental topic.
- 7.2.3 Impacts can be categorised as direct, indirect, secondary or cumulative. They can have positive or negative impacts on the environment. The temporary or permanent nature of an impact and the duration of that impact in the short, medium or long-term can also be relevant to an impact's overall effect. Table 5 provides definitions used to describe the nature of identified impacts.
- 7.2.4 The term 'effect' is used in this assessment to express the consequence of an impact. For example, excavating foundations for new houses (action) during construction leads to increased levels of noise, dust and traffic (impact), with the potential to disturb noise sensitive receptors such as people or ecological receptors (effect) or congest the local highway network (effect). This is referred to in the ES as the 'significance of effect' and relies on the interaction between:
- The sensitivity of the receptor or resource; and
 - The magnitude of the impact.

Table 5 - Definition of Terms Used to Describe Nature of Impacts

Term	Definition
Positive	Those impacts which have a beneficial impact on the environment.
Negative	Those impacts which have an adverse impact on the environment.
Indirect	Impacts caused by the project later in time or farther removed in distance, but are still reasonably foreseeable.
Secondary	Socio-economic or cultural changes which may be experienced at a point in time that is removed from both direct and indirect impacts.
In-Combination	The impact on the environment can result from individually minor but collectively significant environmental factors on the same receptor or resource.
Cumulative	The impact on the environment can result from individually minor but collectively significant projects taking place over a period of time.
Temporary	An impact where recovery is possible naturally over a short period of time or where mitigation measures can be effective at reversing the impact.
Permanent	An impact where recovery is not possible within a reasonable timescale or where mitigation measures cannot reverse it.
Short-term	Impact is measurable up to 1 year.
Medium-term	Impact is measurable between 1 and 5 years.
Long-term	Impact is measurable greater than 5 years.

7.3 Defining Sensitivity of the Receptor and Magnitude of the Impact

Sensitivity of the Receptor

- 7.3.1 Receptors are defined as the physical or biological resource or user group that would be affected by the development; this can be informed by the baseline data.

7.3.2 Each chapter of the ES will define specific scales in relation to the sensitivity of each receptor in a way that is relevant to that topic assessment. These topic-specific scales will draw upon relevant guidance and specialist knowledge relevant to the topic area. When assessing the sensitivity of a receptor or resource the following are taken into account:

- Scale of the receptor or resource - international, national, regional, district, local.
- Vulnerability of the receptor or resource - the susceptibility of a receptor to change.
- Recoverability of the receptor or resource - ability of the receptor to revert to a state close to that which existed pre-development.
- Value of the receptor or resource - importance of the receptor in terms of environment, social or economic.

7.3.3 The sensitivity of a receptor will be categorised in each environmental chapter according to the following scale:

- Negligible
- Low
- Medium
- High
- Very High

Magnitude of the Impact

7.3.4 A magnitude will be assigned to all impacts identified in the ES and depends on the degree and extent to which the project changes the environment. In this project impacts are associated with the construction and operational phases of development

7.3.5 Each chapter of the ES will define specific scales of magnitude of impact in a way that is relevant to that topic assessment. These topic-specific scales will draw upon relevant guidance and specialist knowledge relevant to the topic area. Factors considered in determining impact magnitude include, but are not limited to:

- Spatial extent - the size of the area affected;
- Deviation from baseline conditions – the degree of change as a result of the impact;
- Timing - projects that occur during periods of sensitivity have greater impacts, for example nesting season;
- Duration – duration of the impact is often proportional to the lifespan of the project;
- Frequency of the impact - how often the impact would occur; and
- Reversibility – whether the impact is reversible.

7.3.6 In order to ensure consistency of approach in the assessment of ‘significance of effects’ the magnitude of impact will be categorised in each environmental chapter according to the following scale:

- No Change
- Negligible
- Low

- Medium
- High

7.4 Assessing Significance of Effect

- 7.4.1 The 'significance of effect' relies on the interaction between the sensitivity of the receptor or resource and the magnitude of the impact.

Inherent Mitigation

- 7.4.2 Mitigation will usually take place in a continuous cycle as the proposals for development are refined. Mitigation at this stage of the process aims to avoid or reduce environmental impacts.
- 7.4.3 Specialist consultants are required to consider three strands of mitigation measures; inherent, standard and actionable. Only inherent (avoid or reduce) mitigation should be considered and included before determining the 'significance of effect'. Inherent mitigation is 'designed-in' to the scheme and is certain to be delivered i.e. what is proposed by parameter plans and the quantum of development.

Significance of Effect

- 7.4.4 In order to ensure a consistent approach to this assessment throughout the EIA and to assist the decision-making process a matrix approach has been adopted at Table 6.

Table 6 - Matrix Used for Assessment of Significance Effect

Sensitivity of Receptor	Magnitude of Impact				
	No Change	Negligible	Low	Medium	High
Negligible	Negligible	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	Negligible	Negligible	Negligible or Minor	Minor	Minor or Moderate
Medium	Negligible	Negligible or Minor	Minor	Moderate	Moderate or Major
High	Negligible	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
Very High	Negligible	Minor	Moderate or Major	Major or Substantial	Substantial

7.4.5 The significance of effect can be identified for all project impacts using the matrix as negligible, minor, moderate, major or substantial. Where a choice of significance of effect has been identified, for example negligible or minor, a view based on professional expertise must be taken to assess which outcome is likely to be closer to the actual significance level.

7.4.6 Typically, a significance of effect of moderate or greater is considered 'significant' in EIA terms and will normally trigger the need for additional mitigation if that effect is negative. The definition of each significance level is shown in Table 7 below.

Table 7 - General Significance Criteria

Significance	Definition
Negligible	No effects or effects too small to be noticed, within a normal range of variation or within the margin of forecasting error. These effects will not have an influence on the decision making process.
Minor	These positive or negative effects are generally, but not exclusively, raised as local factors. They are unlikely to influence the decision making process, but when identified can be used to enhance the subsequent design of the project. When combined with other effects they could have a more material influence.
Moderate	These positive or negative effects may be important, but are unlikely to be key decision-making factors. The in-combination effects and cumulative effects of such factors may influence decision-making if they lead to an increase in the overall positive or negative effect on a particular receptor or resource with different environmental topic-specific effects or different projects.
Major	These positive or negative effects are considered to be very important considerations and are likely in isolation to be material in the decision making process.
Substantial	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a most damaging impact and loss of receptor or resource integrity. However, a major change in a site or feature of local importance may also enter this category.

7.5 Additional Mitigation Measures

7.5.1 Following the assessment of significance of effect additional mitigation measures aim to reduce or remedy environmental impacts where:

- an environmental effect is deemed 'significant' when including designed-in mitigation, but there are additional mitigation measures available to reduce the level of effect; or
- mitigation has been proposed, but has not yet been confirmed as agreed mitigation (i.e. sign off from regulators, stakeholders etc.).

7.5.2 Specialist consultants are required to consider standard and actionable mitigation measures within each topic chapter.

Table 8 - Types of Mitigation

Type of Mitigation	Definition
Standard (reduce)	Standard mitigation reduces the severity of an impact which cannot be avoided entirely. For example, construction mitigation with a high degree of certainty over delivery i.e. measures to be included in a Construction Environmental Management Plan (CEMP).
Actionable (remedy)	Actionable mitigation acknowledges that some adverse effects will stem from the development, but provides a means by which the condition can be improved or compensated for. For example, a controlling mechanism or legal undertaking controlled by the applicant, Council, or statutory bodies with a good degree of certainty over delivery such as planning conditions, s106 and s278 agreements.

7.6 Residual Effects

- 7.6.1 The residual effects assessment provides a description and assessment of the magnitude and significance of any effects that will remain after the proposed mitigation measures are applied to the application site. These effects may be negative or positive or both.
- 7.6.2 Residual effects will conclude with a summary table of identified effects during construction and operation. The residual effects will be described as being of negligible, minor, moderate, major or substantial significance.

7.7 In-Combination Effects and Cumulative Effects

- 7.7.1 There are no formal definitions within the EIA Regulations 2017 as to what constitutes a 'cumulative effect' and no prescribed methodology on how to assess such interactions between environmental topic areas or other development sites.
- 7.7.2 In-combination effects and cumulative effects assessments are limited to a consideration of those residual effects resulting from any phase of the proposed development (construction or operation). Individual effects to be considered 'Minor' or above will be considered as part of these assessments.
- 7.7.3 In-combination and cumulative effects are defined as follows:
- In-combination effects - the combined action of different environmental topic specific impacts upon a single resource/receptor (e.g. how environmental topics including noise, air and visual intrusion impact upon humans (residential)); and
 - Cumulative effects - the combined action of a number of different projects, cumulatively with the project being assessed, on a single resource/receptor (e.g. how four developments within 2km of the application site effect a listed building).

In-Combination Effects

7.7.4 Specialist consultants will be asked to agree a list of resources/receptors and to confirm whether their environmental topic area would impact on that resource/receptor.

7.7.5 Specialist consultants will agree an approach to assessing those interactions.

Cumulative Effects

7.7.6 The projects to be considered as part of the cumulative effects assessment will be agreed with the LPA. The cumulative effects assessment will be undertaken in three steps:

- Firstly, each specialist consultant will undertake a desk study to establish the Zone of Influence (ZOI) for each environmental topic.
- Boyer and each specialist consultant will then undertake a desk study of 'other development' for which consent has been sought or granted, those in existence and those which are considered reasonably foreseeable (for example, allocated sites in the development plan) within each ZOI.
- Each specialist consultant will then create a shortlist of 'other development' for their environmental topic area by applying inclusion / exclusion criteria. This shortlist of 'other development' will then be considered as part of their cumulative effects assessment.

7.7.7 The significance criteria used to assess likely cumulative effects considers the capacity of environmental resources and receptors to accommodate changes that are likely to occur. The factors considered in assessing the significance of cumulative effects and capacity of the environmental receptor or resource are essentially the same as those used to consider the magnitude of impact and sensitivity of receptor respectively; these factors are set out in preceding paragraphs.

Mitigation as a Result of In-Combination Effects or Cumulative Effects

7.7.8 If any in-combination effects or cumulative effects are identified as being significant, both standard and actionable mitigation measures must be considered and implemented.

8. SCOPE OF EIA

8.1 Introduction

- 8.1.1 This section sets out the scope of each environmental topic where it is considered that significant environmental effects could occur.
- 8.1.2 A full consultant team has been established to undertake technical assessment by topic area. The full project team and the topic areas they cover are as follows:
- Air Quality Consultants Ltd - Air Quality;
 - Reading Agricultural Consultants - Agricultural Land and Soils;
 - Terra Firma - Geotechnical Desk Study- Non-residential Mining Report;
 - Cotswold Archaeology - Archaeology and Cultural Heritage;
 - Apex Transport Planning Ltd – Transport;
 - Soltys Brewster Consulting – Ecology;
 - Soltys Brewster Consulting – Arboriculture;
 - Soltys Brewster Consulting – LVIA; and
 - Hunter Acoustics – Noise.
- 8.1.3 Not all of the above topics are considered to be required for EIA, and these will be addressed in Section 9.

8.2 Air Quality

Introduction

- 8.2.1 It is proposed that the ES will include a chapter on Air Quality. This section of the report sets out the potential methodology for the assessment of the air quality effects of the proposed development.
- 8.2.2 The proposed development will generate additional road traffic during operation, emissions from which may impact on air quality at existing sensitive locations, along with emissions from the metal processing activities. Additionally, the construction phase will require extensive earthworks and construction activities, and will potentially generate a relatively large volume of additional traffic on the local road network. It is, therefore, judged that there is the potential for significant air quality effects, thus it is considered that the Environmental Statement (ES) will need to include an air quality chapter.
- 8.2.3 The air quality chapter will consider the key air quality effects associated with the proposed development. It is anticipated that it will address the following:
- the impacts of the construction of the proposed development on dust soiling and concentrations of PM₁₀ during the construction period;

- the impacts of emissions from road traffic generated by the development on concentrations of nitrogen dioxide, PM₁₀ and PM_{2.5} at sensitive locations along the local road network, including the Kenfig/Cynffig Special Area of Conservation (SAC) and Eglwys Nunydd Reservoir Site of Special Scientific Interest (SSSI);
- the impacts of emissions from the industrial processes within the development on local air quality conditions and air quality conditions within the development itself; and
- whether any additional mitigation measures will be required to address any significant air quality effects.

Baseline Conditions

- 8.2.4 The proposed development site is located to the west of the M4 Junction 38, approximately 4.5 km to the south east of Port Talbot town centre. The site is bounded by the M4 slip road to the east, Hoelcae'r-Bont to the south and the Western Wood and Margam Green Energy Plants to the west.

Industrial Sources

- 8.2.5 A search of the UK Pollutant Release and Transfer Register¹ identified the following significant industrial emission sources that are likely to affect the proposed development, in terms of air quality:

- Margam Green Energy Plant;
- Western Wood Energy Plant;
- Port Talbot Steel Works; and
- Harsco Metals Port Talbot.

Air Quality Management Areas

- 8.2.6 Neath Port Talbot Council (NPTC) has investigated air quality within its area as part of its responsibilities under the LAQM regime. In July 2000, an Air Quality Management Area (AQMA) was declared for an area covering the majority of land and properties between the Corus Steel Works and the M4 motorway for exceedances of the 24-hour mean particulate matter (PM₁₀) objective. The declared AQMA is shown in Figure 1.

¹ Defra (2021) UK Pollutant Release and Transfer Register, Available: <http://prtr.defra.gov.uk/map-search>.

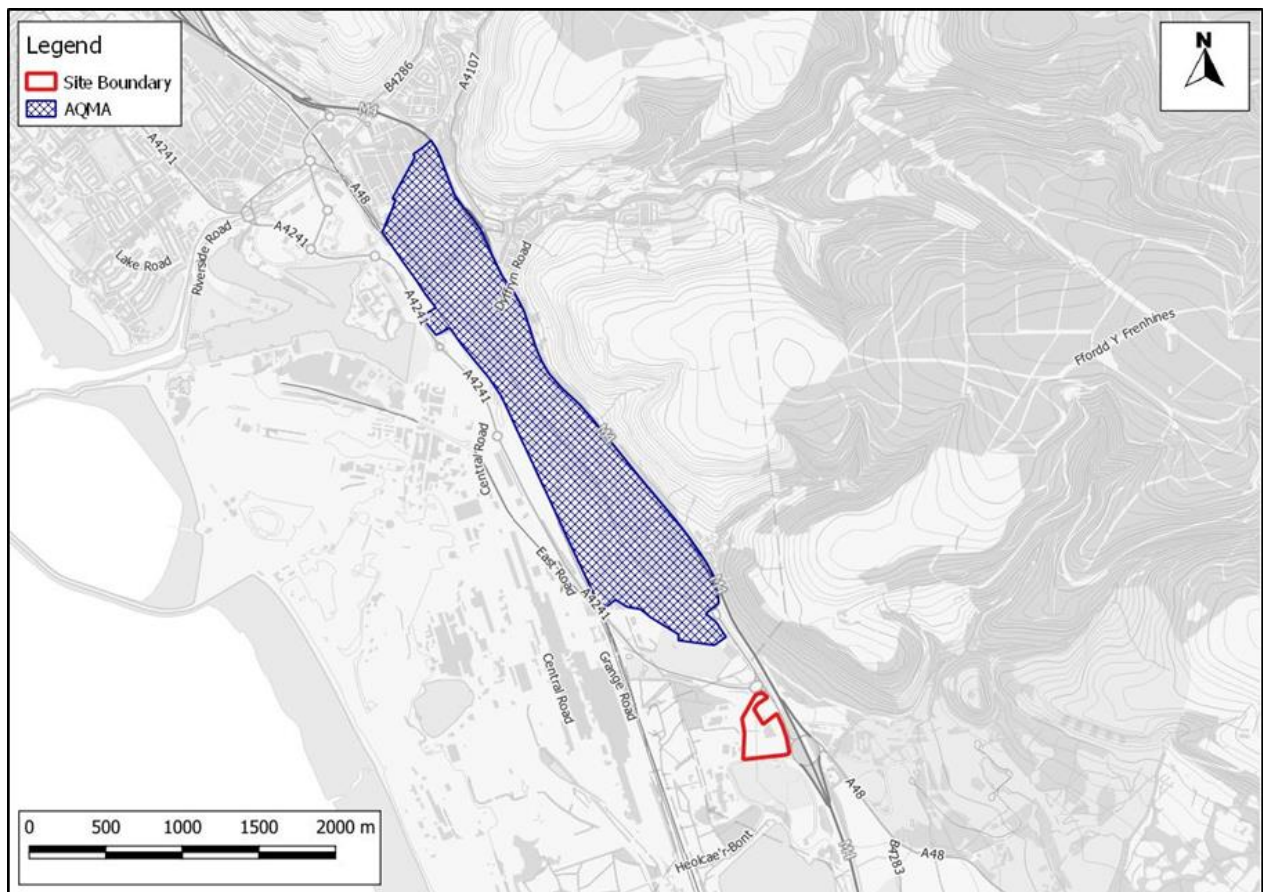


Figure 1 - Declared AQMA

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Local Air Quality Monitoring

- 8.2.7 NPTC operates six automatic monitoring stations within its area, five of which are in proximity to the proposed development site, although only one measures nitrogen dioxide concentrations. The Council also operates a number of nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Socotec (using the 50% TEA in acetone method). These include three deployed in proximity to the proposed development. Results for the years 2015 to 2019 are summarised in Table 9 and the monitoring locations are shown in Figure 2.

Table 9 - Summary of Nitrogen Dioxide (NO₂) Monitoring (2015-2019). Data taken from the NPTC 2020 Air Quality Progress Report (Neath Port Talbot Council, 2020).

Site No.	Site Type	Location	2015	2016	2017	2018	2019
Automatic Monitors - Annual Mean (µg/m³)							
PT2	Industrial	Port Talbot Fire Station	17.0	21.0	16.0	15.0	15.0
Objective			40				
Automatic Monitors - No. of Hours > 200 µg/m³							
PT2	Industrial	Port Talbot Fire Station	0	0	0	0	0
Objective			18 (200)				
Diffusion Tubes - Annual Mean (µg/m³) ^d							
3	Urban Background	11 College Green, Margam	14.5	14.0	13.2	12.1	12.9
19	Industrial	Port Talbot Fire Station	16.6	16.8	15.6	13.7	15.7
25	Roadside	Old Fire Station, Water Street	24.2	26.8	26.4	24.1	27.7
Objective			40				

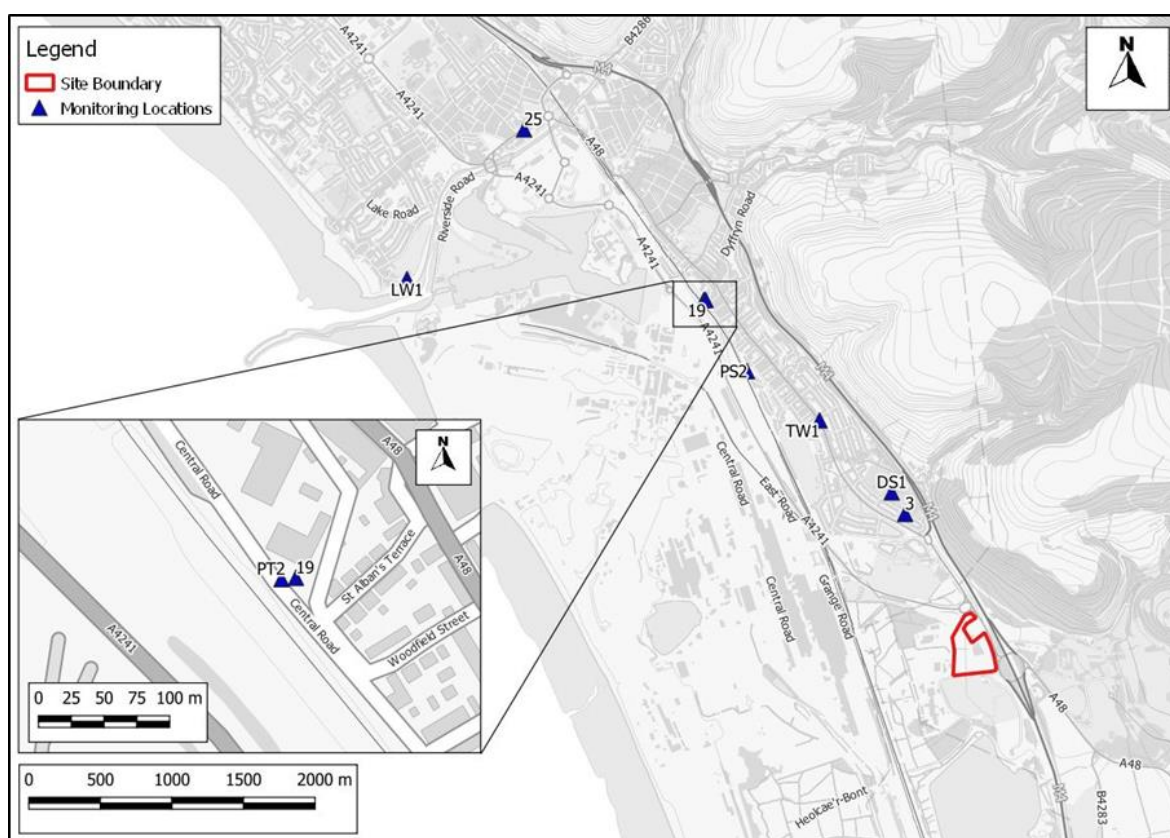


Figure 2 - Monitoring Locations

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- 8.2.8 Measured annual mean nitrogen dioxide concentrations remained well below the objective between 2015 and 2019 at all nearby monitoring stations. There were also no exceedances of the 1-hour mean NO₂ objective recorded at the PT2 automatic monitor. There were no clear trends in concentrations between 2015 and 2019.
- 8.2.9 The five nearby automatic monitoring stations all measure PM₁₀ concentrations and two stations also measure PM_{2.5} concentrations. Measured annual mean PM₁₀ and PM_{2.5} concentrations remained well below the objective at all nearby monitoring stations between 2014 and 2019, and there were no recorded exceedances of the 24-hour PM₁₀ objective. Results for the years 2015 to 2019 are summarised in Table 10.

Table 10 - Summary of PM10 and PM2.5 Automatic Monitoring (2015-2019). Data taken from the NPTC 2020 Air Quality Progress Report (Neath Port Talbot Council, 2020). The PM_{2.5} objective, which was to be met by 2020, is not in the Air Quality Regulations but is listed as a statutory standard in the Air Quality Standards Regulations.

Site No.	Site Type	Location	2015	2016	2017	2018	2019
PM ₁₀ Annual Mean (µg/m ³)							
PT2	Industrial	Port Talbot Fire Station	27.0	22.0	23.0	23.0	21.0
DS1	Industrial	Dyffryn School	20.0	18.0	21.0	-	22.0
TW1	Industrial	Twll-yn-y Wal Park	26.0	24.0	21.0	21.0	21.0
LW1	Industrial	Port Talbot Little Warren	24.0	21.0	21.0	21.0	20.0
PS2	Industrial	Prince Street	-	23.0	25.0	23.0	20.0
Objective			40				
PM ₁₀ No. Days >50 µg/m ³							
PT2	Industrial	Port Talbot Fire Station	28	8	17	11	12
DS1	Industrial	Dyffryn School	5	0	2	-	2
TW1	Industrial	Twll-yn-y Wal Park	10	4	3	9	10
LW1	Industrial	Port Talbot Little Warren	15	9	16	9	9
PS2	Industrial	Prince Street	-	9	18	12	8
Objective			35 (50)				
PM _{2.5} Annual Mean (µg/m ³)							
PT2	Industrial	Port Talbot Fire Station	10.0	9.0	10.0	11.0	11.0
PS2	Industrial	Prince Street	10.0	10.0	10.0	9.0	9.0
Objective			25 ^b				

Background Concentrations

National Background Pollution Maps

8.2.10 Estimated background concentrations at the proposed development site have been determined for 2019 and the opening year (2023) using Defra's background maps². The background concentrations are set out in Table 11. The background concentrations are all well below the objectives.

Table 11 - Estimated Annual Mean Background Pollutant Concentrations in 2019 and 2023 (µg/m³). The PM_{2.5} objective, which was to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

Year	NO _x	NO ₂	PM ₁₀	PM _{2.5}
2019	27.4	18.4	13.3	8.3
2023^a	23.2	15.9	12.8	7.9
Objectives	-	40	40	25^a

Background Deposition and Acidity

² Defra (2021b) Local Air Quality Management (LAQM) Support Website, Available: <http://laqm.defra.gov.uk/>.

- 8.2.11 Background nitrogen deposition fluxes to the SAC and SSSI have been taken from the APIS website (APIS, 2018). Background nutrient nitrogen deposition rate exceeded the critical load in this period at the Kenfig/Cynffig SAC but remained below the critical load at the Eglwys Nunydd SSSI. Background acid nitrogen deposition rates were below the critical loads at both sites.

Table 12 - Estimated Annual Mean Background Nitrogen Deposition

Site	Nutrient Nitrogen Deposition (kgN/ha/yr)	Critical Load	Acid Nitrogen Deposition (keq/ha/yr)	Critical Load
Kenfig/Cynffig SAC	12.7	8	0.91	1.053
Eglwys Nunydd Reservoir SSSI	10.4	20	0.7	- ^a

^a No critical load. Habitat not sensitive to acidification.

Summary of Baseline Conditions

- 8.2.12 NPTC have declared an AQMA for exceedances of the 24-hour mean objective near to the proposed development site. However, Table 10 and 11 show that annual mean nitrogen dioxide, PM₁₀ and PM_{2.5} concentrations near to the proposed development remained below the objective at all monitoring locations since 2015, and that 1-hour mean nitrogen dioxide and 24-hour mean PM₁₀ concentrations also remained below the objectives. Nonetheless, the road traffic and industrial process emissions associated with the operation of the proposed development have the potential to cause significant impacts on air quality at nearby sensitive receptors, including within the AQMA and designated ecological sites.

Scope of Assessment

Policy Context and Assessment Criteria

- 8.2.13 A summary of all relevant national and local policy and guidance will be provided. Any local policies or guidance (e.g. Supplementary Planning Guidance (SPG)) relating to air quality will also be considered. Relevant air quality standards and assessment criteria will also be set out.

Construction Dust Assessment

- 8.2.14 Given the size of the development, it is anticipated that a construction dust assessment will be required as part of the air quality chapter of the ES. The assessment methodology will follow that set out in the Institute of Air Quality Management's (IAQM) Guidance on the Assessment of Dust from Demolition and Construction³. It will identify the potential for dust to be generated and the sensitivity of the surrounding area and will combine these to determine the risk of dust impacts without appropriate mitigation. This information will then be used to determine the appropriate level of mitigation required to ensure that there are no significant effects.

³ IAQM (2016) Guidance on the Assessment of Dust from Demolition and Construction v1.1, Available: <http://iaqm.co.uk/guidance/>.

Road Traffic Emissions Assessment

- 8.2.15 The proposed development is located adjacent to the busy M4 and will generate additional traffic on the local road network that could affect air quality conditions at existing roadside receptors, thus it is anticipated that a detailed air quality assessment will be required, to be presented within the air quality chapter of the ES.
- 8.2.16 The development and its traffic generation will initially be screened against the criteria set out in the Environmental Protection UK (EPUK) and IAQM guidance document on Planning for Air Quality⁴. Where necessary, roadside pollutant concentrations, and the impacts of the development-generated traffic, will be predicted using the ADMS-Roads dispersion model. The model will be verified against local monitoring data.
- 8.2.17 Impacts will be predicted at a number of locations close to the proposed development. Receptors will be selected to represent worst-case exposure; usually these will be at the roadside façade of properties along the local road network where the development-generated traffic increases will be greatest, and at locations where concentrations are expected to be highest, such as near to junctions. Designated ecological sites which may be affected by increased road traffic emissions generated by the proposed development will be identified in relation to Natural England's published guidance⁵. Specific receptors cannot be selected at this stage as their selection will depend upon the layout of the scheme and the changes in traffic flows predicted in the traffic data upon which the assessment will be based, which are not yet available.
- 8.2.18 The model will be used to predict existing baseline pollutant concentrations and the likely concentrations in the year of first operation of the development, both without and with the development. If relevant, a sensitivity test will be applied to consider the potential for higher nitrogen dioxide concentrations associated with road traffic emissions than are predicted when using Defra's standard tools.
- 8.2.19 Construction works are expected to generate significantly fewer traffic flows than the operational development. Therefore, it is expected that no road traffic emissions dispersion modelling during the construction phase will be required, as the modelled impacts in the first year of occupation will represent the worst-case impacts of the scheme in either the construction or operational phase. The additional trip generation will initially be screened against the EPUK/IAQM criteria, however.

Energy Plant Emissions Assessment

⁴ Moorcroft and Barrowcliffe et al (2017) Land-Use Planning & Development Control: Planning For Air Quality v1.2, IAQM, London, Available: <http://iaqm.co.uk/guidance/>.

⁵ Natural England (2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations (NEA001) Available: <http://publications.naturalengland.org.uk/publication/4720542048845824>

8.2.20 The development is not expected to incorporate any centralised energy plant, such as Combined Heat and Power (CHP) and/or boiler plant, and will instead utilise heat pump technology for the provision of heat and hot water. Therefore, an assessment of the emissions from energy plant will not be required within the air quality chapter of the ES.

Industrial Emissions Assessment

8.2.21 The proposed development will potentially include several point sources of emissions to air, likely consisting of particulate matter and metals associated with the melting, atomisation and collection of metal powders, as well as combustion products from the melting stage (NO_x, CO, PM₁₀ and PM_{2.5}). The proposed development will represent a Schedule 1, Section 2.2, Part B listed activity under the Environmental Permitting (England and Wales) Regulations 2016⁶ as amended⁷, requiring an Environmental Permit from NPTC to operate. This will require the proposed development to meet the emission control measures and emission limits prescribed in Process Guidance Note 6/35(13)⁸. These limits, as detailed in Table 13, will be used as the basis for assessing the impacts of point source emissions to air.

Table 13 - Metal powder manufacture Emission Limits

Pollutant	Emission Limits (mg/m ³)
Total particulate matter	20
Chromium	15
Nickel	15
Copper	7.5
Cobalt	3
Lead	5

8.2.22 The Best Available Techniques (BAT) summarised in Process Guidance Note 6/35(13) require the operator to contain emissions and treat them in either a bag filter, or cyclone and wet scrubber dependent on the source of emission. While these control techniques will reduce emissions from the metal processing, residual emissions are expected and have the potential to impact on air quality at existing sensitive locations. Therefore, it is anticipated that an assessment of the associated impacts on air quality at receptors close to the proposed development will be required, to be presented within the air quality chapter of the ES. This assessment will be performed using the ADMS-5 dispersion model.

6 The Environmental Permitting (England and Wales) Regulations 2016 Statutory Instrument 2016 No.1154 (2016), Available: <https://www.legislation.gov.uk/uksi/2016/1154/contents/made>

7 The Environmental Permitting (England and Wales) (Amendment) Regulations 2018 Statutory Instrument 2018 No.110 (2018), Available: <http://www.legislation.gov.uk/uksi/2018/110/contents/made>.

8 Defra (2013) Process Guidance Note 6/35(13), Available: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/582717/metal-powder-and-other-thermal-spraying-processes-process-guidance-note-6-35-13_.pdf

Likely Significant Effects

- 8.2.23 The Institute of Air Quality Management's Guidance on the Assessment of Dust from Demolition and Construction³ advises that, with appropriate mitigation in place, the effects of construction dust will be 'not significant'. The assessment will thus focus on determining the appropriate level of mitigation to be applied so as to ensure that effects will normally be 'not significant'.
- 8.2.24 Once operational, the key air quality effects of the proposed development can be expected to be related to both road traffic and industrial process emissions. Predicted concentrations at existing nearby sensitive receptors will be compared with the relevant air quality objectives and the significance of impacts at individual receptors will be determined following the Environmental Protection UK and Institute of Air Quality Management guidance on Planning for Air Quality⁴. The overall significance of the air quality effects will then be determined following this guidance. Where necessary, appropriate mitigation measures will be recommended to ensure that there are no significant effects.

8.3 Agricultural Land and Soils

Introduction

- 8.3.1 The ES chapter will identify the likely significant effects of the Proposed Development on agricultural land quality and soil resources. As part of this, the ES will identify areas of Best and Most Versatile (BMV) agricultural land and will assess how much would potentially be affected. Effects would occur through the construction phase and potentially cumulatively with other local schemes.

Policy and Legislation

- 8.3.2 Paragraphs 3.58 and 3.59 of Planning Policy Wales (2021) indicate that BMV quality land "should be conserved as a finite resource for the future" and that, in planning decisions, "considerable weight should be given to protecting such land from development, because of its special importance. Land in Grades 1, 2 and 3a should only be developed if there is an overriding need for the development, and either previously developed land or land in lower agricultural grades is unavailable, or available lower grade land has an environmental value recognized by a landscape, wildlife, historic or archaeological designation which outweighs the agricultural considerations. If land in grades 1, 2 or 3a does need to be developed, and there is a choice between sites of different grades, development should be directed to land of the lowest grade".
- 8.3.3 There is no reference to development of agricultural land in the *Neath Port Talbot Local Development Plan*.

Baseline Conditions

- 8.3.4 Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on its agricultural use. Grade 1 land is excellent quality agricultural land with no or very minor limitations to its agricultural use. Grade 5 is very poor quality land, with severe limitations due to adverse soil, relief, climate or a combination of these factors. Grade 3 land is divided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). BMV land is defined as Grades 1, 2 and 3a.
- 8.3.5 The Site extends to approximately 6ha agricultural land. The Site is shown on the Welsh Government's Predictive Agricultural Land Classification (ALC) Map 2 as Grade 2 in the north and Grade 3 in the south (Figure 1). However, the Predictive ALC maps are intended only for strategic planning purposes and cannot be used to assess the quality of individual sites, for which a detailed soil and ALC survey is required. There is no existing detailed ALC survey data available for the Site.
- 8.3.6 The mapped soil types include deep, stoneless fine and coarse silty and clayey soils with groundwater controlled by pumps in the north and west (Tanvats association) and, contrastingly, deep, well drained coarse loamy and sandy soils locally over gravel in the east and south (Wick 1 association).
- 8.3.7 The agricultural land at the Site appears to be farmed as one unit.
- 8.3.8 A detailed soil and ALC survey will be undertaken as part of the preparation of the ES to determine the quality of agricultural land within the Site.

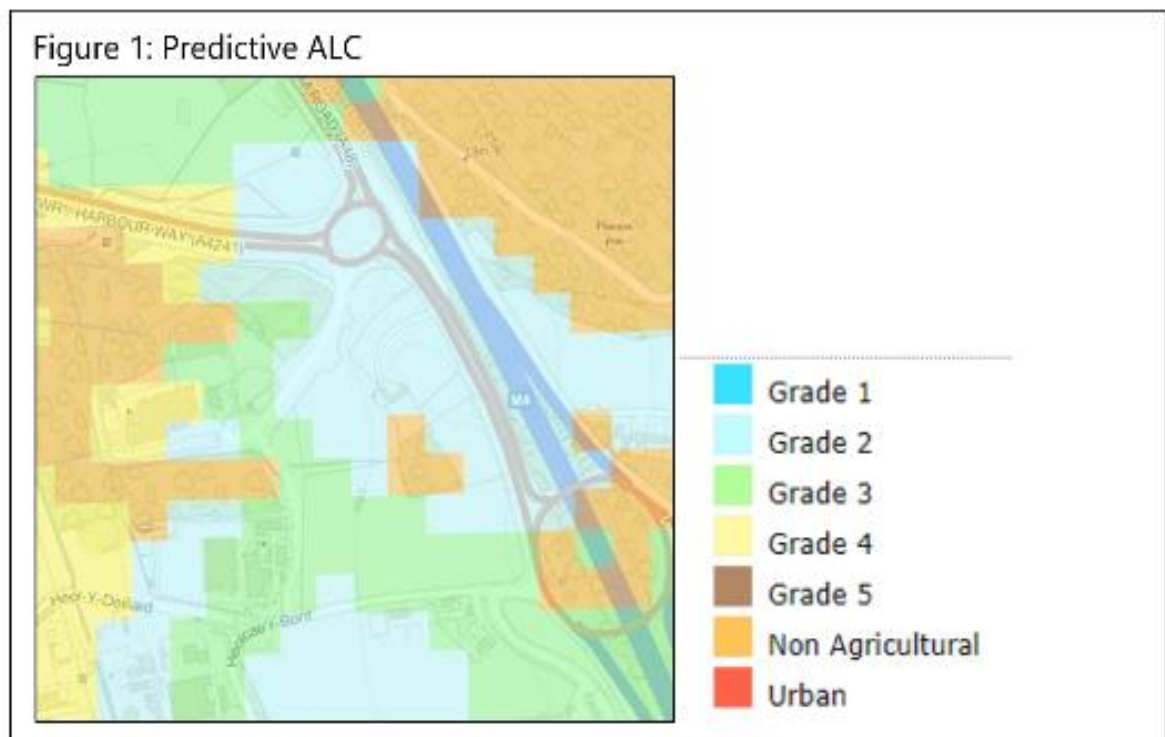


Figure 3 - Predictive ALC

Receptors

- 8.3.9 The potential receptors are BMV agricultural land and agricultural soils.

Assessment of Effects

- 8.3.10 The scope of the agriculture assessment will include:

- an initial desk-based assessment, involving the collation and interpretation of published data including geological, topographical, soil and agro-climatic information, and
- a detailed ALC survey carried out across the Site in accordance with the established methodology for classifying the quality of agricultural land, as issued by the Ministry of Agriculture, Fisheries and Food (MAFF) . During the survey, soil profiles will be examined using hand-held augers and spades at a density of one observation per hectare. Samples will be taken for laboratory analysis of particle size distribution to confirm hand texturing in the field, pH, organic matter content and major nutrients. The soil characteristics will then be described and analysed in terms of the MAFF guidelines to confirm the grade of agricultural land.

Construction Phase

- 8.3.11 The assessment of potentially significant effects on soils and agricultural land receptors will consider the sensitivity of the receptor and the magnitude of change to determine the level of significance of effect.
- 8.3.12 The sensitivity of agricultural land will be related to its ALC grade, whilst the sensitivity of the soil resource will be related to its susceptibility to damage from disturbance, storage and movement, which will be determined primarily by the textural characteristics of soils.
- 8.3.13 The magnitude of change to agricultural land will be related to the area permanently or temporarily removed from agricultural production, whilst the magnitude of change on soil resources will take into account the continued ability of the soil to fulfil its primary ecosystem functions.

Completed Development

- 8.3.14 All of the effects on agricultural land and soil resources will occur during the construction phase. There are no anticipated ongoing effects following completion of the development.

Cumulative Impacts

- 8.3.15 There is a potential for a cumulative effect arising from the progressive loss of BMV agricultural land. Effects on soil resources do not occur cumulatively.

8.4 Archaeology and Cultural Heritage

Introduction

- 8.4.1 The Archaeology and Cultural Heritage chapter will assess all elements of the Historic Environment, including:

- Below-ground archaeological remains
- The historic landscape
- The setting of historic assets

Extent of Survey

- 8.4.2 A 2km 'study area' will be utilised to inform the chapter. This comprises the area illustrated on the accompanying figure.

Heritage statute and policy

- 8.4.3 The chapter will be prepared within the context of the heritage policies of the Neath Port Talbot Local Development Plan (2011-2026). The key policy with regard to heritage comprise Policy SP21 'Built Environment and Historic Heritage'.

- 8.4.4 The chapter will be prepared within the context of national statute and policy, including:

- Historic Environment (Wales) Act 2016
- Planning (Listed Buildings and Conservation Areas) Act (1990)
- Ancient Monuments and Archaeological Areas Act (1979)
- Planning Policy Wales (Welsh Government, Edition 11, 2021)
- Technical Advice Note 24 ('TAN24' Welsh Government 2017a)

Professional Guidance

- 8.4.5 The chapter will be guided by the approaches set out in current professional best-practice, including:

- Standard and Guidance for Historic Environment Desk-Based Assessment (Chartered Institute for Archaeologists 2020)
- Setting of Historic Assets in Wales (Cadw 2017)
- Guidance for the Submission of data to the Welsh Historic Environment Records produced by the Welsh Archaeological Trusts (2018)
- Conservation Principles (Cadw 2011)

Research Framework

- 8.4.6 The chapter will be produced within the context of the Research Framework for the Archaeology of Wales.

Informing Sources

- 8.4.7 Key sources informing the chapter will include:

- A search will be requested for records on the Historic Environment Record held by GGAT in Swansea
- The National Monuments Record of Wales
- Cadw records

- West Glamorgan Archives Service in Swansea (for historic mapping and documentary sources)
- Historic Landscape Characterisation information for the Registered landscapes assessed, as well as the Natural Resources Wales Landmap Historic Landscape (Evaluation) for the application site itself
- Online historic mapping
- Examination of historic aerial photographs
- The results of previous archaeological investigations and assessments including published and unpublished archaeological reports and journals
- Available information on previous impacts into the archaeological sequences of the area will be assessed and reported
- Available information from geotechnical works
- Site inspection
- Inspection of the site environs to inform the assessment of 'settings'. This will be conducted from public rights of way

8.4.8 It should be noted that all external tasks, including site works and archives research, will be subject to a project Risk Assessment and current safe-operating procedure and government guidance.

Key Issues

8.4.9 The Site lies on the edge of the broad Margam inter-tidal zone. During the prehistoric and Roman periods there would have been periods of marine transgression and regression, and intermittent land stabilisation. Archaeological works elsewhere in the inter-tidal zone have identified sealed land surfaces within the alluvial sequence, represented by lenses of inter-leaved peat which formed during such periods of stabilisation and plant colonisation. These deposits may occasionally be associated with evidence of early settlement and exploitation of the environment, and may on occasion provide palaeoenvironmental information.

8.4.10 The Site likely lies in the area of the ownership of Margam Abbey in the medieval period, probably farmed from Morfa Mawr Grange. The monastery undertook extensive reclamation of the inter-tidal zone, although many parts remained within a salt marsh environment into the 20th century. The key issue regarding potential physical impacts on archaeology will be to research the site history and previous nearby excavations. Available ground investigation records will be very informative.

8.4.11 The Site lies within a part of the Margam Moors landscape area. The historic values of this form of remnant landscape, specifically with regard to archaeology and cultural heritage, will be assessed.

8.4.12 The building of Ty'n-y-caeau (Historic Environment Record Ref 09515w) lies outside of the application site, immediately to its east, is illustrated on Ordnance Survey maps in the later 19th century. Any contribution that the application site makes to the historical significance of the house, including its setting, will be assessed. The modern course of the A48 to the east of the Site may potentially represent the course of the Roman road (road RR60c described in 'Roman Roads in South-East Wales', Sherman and Evans 2004). Some four archaeological trial trenches were excavated to the west of the Site, which recorded no significant archaeological finds (Historic Environment Record Ref E005024). To the east of the Site, the hamlet of Groes (Historic Environment Record Ref 01079w) is recorded as having been removed during construction of the M4, and the medieval well of Fynnon Pedr (Historic Environment Record Ref 00746w) lies on the edge of the woodland north of the motorway junction.

The Setting of Historic Assets

8.4.13 A further objective will be to establish any contribution that the Site makes to the setting and significance of historic assets in the wider environs, and any effects of development proposals upon these. Of key relevance are the highly-graded historic assets on the other side of the motorway at Margam Park. Historic assets within a 2km 'study area' from the centre of the application site will be identified, and assessed. These historic assets are summarised on the figure, and include:

- Margam Mountain Historic Landscape
- Margam Park Registered Park
- Margam Park Conservation Area
- Listed buildings within the 2km study area, as illustrated on the figure. A particular focus of assessment, will be those at Margam Park, including Margam Castle, the ruined Abbey, the church and other buildings. The listed Margam Crematorium, to the south of the application site, will also be a particular focus
- Scheduled Monuments within the 2km study area, including Mynydd y Castell Camp; Half Moon Camp; and Ergyd Isaf Round Barrows.

8.4.14 Merthyr Mawr, Kenfig and Margam Burrows Historic Landscape lies just beyond the 2km study area, but will also be included within the assessment.

8.4.15 It should be noted that as the application site is outside of the Historic Landscapes, and an 'ASIDOHL2' assessment is not within the proposed scope of assessment.

Consultation, Further Study and Mitigation

8.4.16 The scope set out within this Scoping Report and advice received from subsequent Scoping Opinion will inform the scope of works carried out to inform the chapter.

8.4.17 Consultation will be carried out with the GGAT planning archaeologist at the commencement of assessment, to identify whether a Written Scheme of Investigation (WSI) for the assessment works is required (in addition to the present Scoping Chapter). If it is, then a WSI will be prepared and agreed with GGAT.

- 8.4.18 It is noted that, depending on the results of the assessment work for the chapter, there a requirement for additional heritage surveys may be identified. In particular, a requirement for additional archaeological field investigation within the Site may be identified. The archaeological potential of the application site will be discussed with the planning archaeologist at GGAT once assessment has been completed, and the requirement for, and timing of, any such further survey work and/or mitigation measures will be discussed.

8.5 Landscape and Visual

Introduction

- 8.5.1 Soltys Brewster were commissioned by Sandvik Osprey Ltd in May 2021 to provide a scope for LVIA assessment as part of EIA in relation to proposed industrial development on a site adjacent to Junction 38, M4, Margam.

Methodology

- 8.5.2 The methodology for the LVIA chapter will adopt a methodology developed in accordance with the following current guidance:
- Guidelines for Landscape and Visual Impact Assessment, Third Edition. Landscape Institute with the Institute of Environmental Management and Assessment (2013), and
 - NRW Guidance Note 046, 'Using LANDMAP in Landscape and Visual Impact Assessments, (LVIA), January 2021.
- 8.5.3 The methodology for the LVIA, including criteria for determining sensitivity of receptors, magnitude and significance of effects on landscape character and visual amenity, is outlined below. However, in accordance with the above guidance and current best practice, a less prescriptive approach will be adopted by the LVIA through an emphasis on creating a narrative approach to describing the landscape and visual effects and the judgements made on the significance of any effects.
- 8.5.4 The effects will be classified into one or more of the following:
- Positive effects that have a beneficial influence, negative effects that have an adverse influence;
 - Temporary effects that persist for a limited period only, due for example to construction activities;
 - Permanent effects that result from an irreversible change to baseline landscape and visual receptors or which persist for the foreseeable future;
 - Direct effects that arise from activities that form an integral part of the proposed development;
 - Indirect/secondary effects that arise from activities not explicitly forming part of the proposed development; and

- Cumulative effects that arise from the combination of different impacts at a specific location, the recurrence of impacts of the same type at different locations, the interaction of different impacts over time, or the interaction of impacts arising from the scheme in conjunction with other development projects.

Landscape Character Significance

- 8.5.5 The significance of effects on landscape character will be determined in part by combining the sensitivity of the Landscape Character Area (LCA) with the magnitude of change that would occur. The criteria for informing the sensitivity, magnitude and the significance of effects on landscape character are demonstrated in the following tables:

Table 14: Landscape Sensitivity

Sensitivity	Description
High	A landscape highly sensitive to development of the type/size proposed, by virtue of the inherent physical form and elements, aesthetic and perceptual qualities that form its character. The landscape will be unique, rare, contain valued features and will be designated at a national or local level. The landscape may be highly susceptible to change and considered to be of high value.
Medium	A landscape where development of the type/size proposed may be accommodated to some degree without affecting overall character, by virtue of its inherent physical form and elements, aesthetic and perceptual qualities. The landscape may display some characteristics and features that are of high susceptibility and/or value and may be designated at a local level, although not exclusively so.
Low	A landscape where a development of the type/size proposed may be more readily accommodated, by virtue of its inherent physical form and elements, aesthetic and perceptual qualities that form its character. The landscape may be of generally low susceptibility to change and of low value.

Table 28.2: Magnitude of Landscape Effects

Magnitude	Description
High	The proposed development would result in substantial loss or major alteration to key elements to the extent that there is a fundamental and permanent change to landscape character. The change may occur over an extensive area.
High -medium	The proposed development would result in major loss or alteration to key elements to the extent that there is a considerable change. The change may occur over a wide area and for a duration extending into the foreseeable future.
Medium	The proposed development would result in the loss or alteration to key elements to the extent that there is a partial change to landscape character that may have a duration extending from the medium term or into the foreseeable future. The change may occur over a notable area.
Medium - Low	The proposed development would result in minor loss or alteration to key elements to the extent that there is a slight change to landscape character. The change may be temporary or occur over a limited area.
Low	The proposed development would result in such a minor loss or alteration to key elements that there would be no fundamental change.

Table 28.3: Significance of Landscape Effects

Significance	Description
Major	The development would have direct effects upon characteristic landscape features, altering elements of the landscape that contribute toward distinct character. The proposed development is likely to become a defining landscape element across a significant proportion of the LCA. Characteristic features affected or substantially influenced may include topography, woodland, prominent hedgerows or other dominant land cover features. The development is likely to become the defining landscape element.
Major-Moderate	The development is likely, although not exclusively, to have direct effects upon characteristic landscape features, resulting in changes to elements of the landscape that contribute toward its distinct character. The proposed development is likely to become a prominent, but not necessarily defining landscape element across a wide area of the LCA.
Moderate	The proposed development may be a characteristic component of landscape character, the alteration of which may influence key attributes to the extent that changes to the character of the landscape are noticeable. The development, however, would not become a defining landscape element. Effects may be direct or indirect and extend across a notable proportion of the LCA. Landscape character may be equally defined by the development and other existing landscape attributes.
Moderate-Minor	Where the proposed development can be integrated into the existing landscape, without the loss of key underlying landscape attributes. Effects are likely to be indirect and extend across a limited area of the LCA. The proposed development would have little, or no effect on existing landscape character.
Minor	The development would be integrated into the existing landscape without having a material effect upon the distinctive and valued landscape characteristics.

8.5.6 There is no statutory definition of what constitutes a significant effect. A significant effect may be broadly defined as an effect which, either in isolation or combination with others, should be taken into account in the decision-making process. Landscape effects determined to have major or major/moderate landscape significance will be considered to be **significant**. Conversely, where it is determined that effects are moderate/minor or minor, these will be considered **not significant**.

8.5.7 Where effects are determined to be of moderate significance, whether these effects are significant or not significant will depend on the individual and specific mitigating circumstances and the professional opinion of the landscape specialist will determine this.

Visual Amenity Significance

8.5.8 The significance of effects on visual amenity will be determined by combining the sensitivity of the visual receptors with the magnitude of visual change that would occur. The criteria for informing the sensitivity, magnitude and the significance of effects on visual amenity are demonstrated in the following tables:

Table 15 - Sensitivity of Visual Receptors

<i>Sensitivity</i>	<i>Description</i>
<i>High</i>	<i>Receptors highly responsive to new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors would be highly susceptible to change and considered to be at a location that may be valued for its views. Receptors would typically include occupiers of residential properties and people engaged in recreational activities in the countryside such as using public rights of way, country parks or heritage assets.</i>
<i>Medium-high</i>	<i>Receptors responsive to new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors would be susceptible to change and considered to be at a location that may be valued for its views. Receptors would typically include people engaged in recreational activities in the countryside such as using public rights of way, country parks or heritage assets.</i>
<i>Medium</i>	<i>Receptors are able to accommodate new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors may be susceptible to change, although may not be at a location valued for its views. Receptors would typically include people engaged in outdoor sporting activities and people travelling through the landscape on minor (B and below) roads and trains.</i>
<i>Medium-low</i>	<i>Receptors are able to accommodate a degree of new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors are unlikely to be susceptible to change, or at a location valued for its views. Receptors would typically include people engaged in outdoor sporting activities and people travelling through the landscape on minor (B and below) roads and trains.</i>
<i>Low</i>	<i>Receptors are able to accommodate a high degree of new visual elements of the type proposed, by virtue of their location, nature and/or existing visual qualities and elements. Receptors are unlikely to be highly susceptible to change or at a location of valued for its views. Receptors would typically include people at place of work and people travelling through the landscape on A roads and motorways.</i>

Table 16 - Magnitude of Visual Effects

Magnitude	Description
High	The proposed development would be an immediately apparent feature that would occupy a wide proportion of the view, contrasting with existing built features within the view. It would affect and change the overall appearance of the view and to which other features would become subordinate. Development is likely to be visually dominant. Views of the development are likely to be from close distance and long in duration.
High -medium	The proposed development would be an apparent feature that is likely to occupy a significant proportion of the overall view. The development may contrast with existing features within the landscape. The proposed development is likely to be visually prominent to the extent that it would affect and change the appearance of a number of key existing elements within the view. Views are likely to be medium to short distance and long in duration.
Medium	The proposed development would form a recognisable new element within the overall view and would be readily observed without changing the overall nature of the view. Overall quality of the view may remain intact. Development is likely to be visible although not prominent. Views are likely to be medium distance and moderate in duration.
Medium - Low	The proposed development would form a component of the wider view that might be missed by the casual observer. Awareness of the development would not have a marked effect on the overall quality of the view. Development may be visible although not prominent. Views are likely to be medium to long distance and glimpsed or brief in duration.
Low	The proposed development would be barely perceptible, or imperceptible, and would have no marked effect on the overall quality of the view. Development is unlikely to be visible or restricted to long distance views that would be glimpsed or very brief in duration.

Table 17 - Significance of Visual Effects

Significance	Description
Major	The proposed development would affect existing views to the extent that defining visual elements would become subservient within the view. When viewed within the context of the landscape, the proposed development is likely to be seen to conflict with existing visual amenity. Receptors are likely to be categorised as being of high sensitivity.
Major - Moderate	The proposed development would be visually prominent, which may lead to the loss of some essential landscape features which contribute to the visual character or quality of the view. Receptors are more likely to be categorised as being of medium or high sensitivity.
Moderate	The proposed development would result in some alteration to landscape features which contribute to the existing visual character or quality, but the overall integrity of the landscape and its visual qualities are maintained. The proposed development may be suitably absorbed or accommodated within the view alongside existing visual elements. Receptors are likely to be categorised as being of medium sensitivity.
–Moderate - Minor	The proposed development would be visually integrated within the existing landscape without the loss of essential landscape features which contribute to the visual character or quality of the view. Receptors are more likely to be categorised as being of medium or low sensitivity, although not exclusively so.
Minor	The development would be integrated into the existing landscape without having a material effect upon the distinctive and valued characteristics of the view. Receptors are likely to be categorised as being of low sensitivity.

8.5.9 Viewpoint locations from where effects are determined to have **major** or **major - moderate** visual significance will be considered to be **significant**. Conversely any locations where it is determined that visual effects are **minor** or **moderate - minor**, visual effects will be considered as not significant.

- 8.5.10 Where effects are determined to be of moderate significance, whether these effects are significant or not significant will depend on the individual and specific mitigating circumstances relating to each viewpoint and the professional opinion of the landscape specialist will determine this. For example, effects from a particular viewpoint may be considered to be of moderate visual significance. However, the broad nature of the view in which the proposed development would be seen may reduce these effects to an extent where effects would still be considered to be moderate though not considered to be significant.

Scope of Assessment

Study Area Overview

- 8.5.11 The proposed development site is located on pastoral agricultural land, situated between the M4 motorway and heavy industry, including the green biomass energy plants, BOC Gas Plant and the steel works beyond. The wider landscape extending west is flat and much dissected by railway lines and pylons, with some irregular fields lined with drainage ditches and scrub. To the south of the site, recreational sports pitches, the Crematorium and the Eglwys Nunydd Reservoir further dilute the coherence of the landscape.
- 8.5.12 Beyond the M4 motorway to the east and south-east, the landform rises to highpoints at Mynydd Margam, and elsewhere, and includes Margam Country Park, an area of designed parkland, mosaic grazed land and mixed woodland. The area is focussed on Margam Castle and Margam Abbey, set in wooded parkland below the sharply incised scarp slope forming the edge of the Mynydd Margam uplands. The country park is a significant tourist attraction offering a range of recreational and cultural activities. Beyond Margam Country Park, rolling mixed farmland with small-scale development and recreational uses extends to the south-east. This landscape contains mature hedges and small blocks of woodland and copses that combine with the rolling landform to restrict views, adding to a feeling of intimacy. The area contains scattered dwellings and small settlements such as Eglwys Nunydd and Coed Hirwaun, but is predominantly well-managed farmland with limited access. The northern and eastern fringes of this area falls into the Landscape of Historic Interest (NPTCBC Policy SP21C).
- 8.5.13 To the south, beyond the large-scale industry, Kenfig Burrows comprises an expanse of marram dunes centred around Kenfig Pool. This area possesses a strong sense of place due to the distinctive landform and vegetation patterns, augmented by the coastal setting. The area is also a popular visitor attraction with a range of informal paths and facilities, including a visitor centre.

Landscape and Visual Effects - Scope

- 8.5.14 The Landscape and Visual section of the EIA will assess direct effects on the physical landscape within the site boundary, together with the indirect effects on the wider landscape character and visual amenity within the study area.

- 8.5.15 Landscape and visual assessments are separate, although linked, procedures. Landscape effects derive from changes in the physical baseline landscape, which may give rise to changes in its character and how this is experienced. Visual effects relate to changes that arise in the composition of available views as a result of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity.
- 8.5.16 Preliminary baseline survey work, including a desk-based review of landscape related designations, policy and LANDMAP was carried out in May 2021 to identify the likely scope of the LVIA (i.e. areas, features and visual receptors of potential sensitivity to change as a result of the proposed development). The preliminary baseline studies will be supplemented with sufficient data to enable a robust assessment, appropriate to the nature and scale of the proposed development.
- 8.5.17 A 3km radius study area from the centre of the site is considered appropriate for the scale and nature of the development. Based on desktop study and initial site assessment four number sensitive receptor viewpoints are proposed within this study area at a range of locations identified for their potential sensitivity to change. Figure 1.2 illustrates the approximate visual envelope in relation to the study area and also indicates the positions of the four viewpoints identified.
- 8.5.18 A site visit was undertaken to ensure suitability of the viewpoint's locations selected. As a result of the desk-based review and site visit representative landscape and visual receptors that could sustain positive or negative impacts as a result of the proposed development have been identified and will be considered in detail within the LVIA.

Landscape Effects

- 8.5.19 Direct landscape impacts comprise changes to the physical baseline landscape resulting directly from the development itself. These will likely arise as a consequence of changes to the existing pattern of landform, vegetation, habitats and other features through the imposition of buildings, hardstanding's and other associated infrastructure. Effects will be assessed using a combination of relevant site-based investigations and surveys to inform the baseline study and field work.
- 8.5.20 Indirect landscape impacts result from consequential change resulting from the development and are often produced away from the site of the proposed development or as a result of a complex pathway or secondary association and will include changes to the landscape character within the study area. Landscape character will be assessed using LANDMAP and site assessment field work, supplemented by Landscape Character Assessments where these are available.

- 8.5.21 The LVIA will include a review of available LANDMAP data, including all five aspect layers (i.e. Geological Landscapes, Landscape Habitats, Historic, Cultural, Landscape and Visual). Aspect areas evaluated as outstanding or high overall will be described and considered in more detail to enable the LVIA to focus on pertinent matters. An appendix will also be provided of all aspect areas within the study areas to supplementary information to the focus of the assessment. Landscape Character Areas (LCAs) will then be identified to form a baseline against which to assess effects as a result of the development of the proposed development.

Landscape Designations

National

- Margam Park – Grade 1 status Registered Parks and Gardens of Special Historic Interest in Wales (RPG).

Neath Port Talbot County Borough Council (NPCBC) - Local Development Plan (2016)

- Special Landscape Area (Policy EN2);
- Green Wedge (EN3);
- SSSI (SP15/1b);
- Landscape of Historic Interest (Policy SP21/4a);
- Historic Park and Garden (SP21/4a);
- Conservation Area (SP21/4c);
- Scheduled Ancient Monument (SP21/4d), and
- Wales Coast Path (TO4/1). This extends around the southern and eastern edge of the proposed development site and seeks to improve access to the coast for local communities and visitors by creating a high-quality walking route around the coast of Wales.

Bridgend County Borough Council (BCBC) - Local Development Plan (2013) and replacement LDP (2018-2033).

- Special Landscape Area (Policy ENV3), and
- Historic Landscapes (SP5/5).

Other/non statutory

- Mynydd Margam Registered Landscape of Special Historic Interest (HLW).

- 8.5.22 The LVIA will consider visual effects from designated footpaths, bridleways and open access land. This will include the following long-distance routes within the 3 km study area:

- Wales Coast Path.
- Ogwr Ridgeway Walk.
- St Illtyd's Walk.

- 8.5.23 The LVIA will also consider effects on transport corridors, including scenic driving routes, tourist attractions, heritage areas and cycle routes. Relevant transport corridors and attractions within the study area that will be assessed will include:

- The M4 Motorway.
- 'A' roads including the A48 and A4241.

Visual Effects

8.5.24 Visual impacts relate to the changes that arise in the composition of available views as a result of changes to the landscape resulting from the proposed development. The LVIA will consider people's likely responses to the changes, and to the overall effects with respect to visual amenity. Four viewpoints will be assessed within the LVIA to enable an evaluation to be made regarding visual impacts and effects. These are listed below in Table 32, together with a brief reason for their inclusion.

Table 18 - Viewpoints

VP no.	Location.	Easting.	Northing.	Reason for inclusion.
1	Margam Park – House and Garden	280439	186285	RHP&G (Grade I), Conservation Area. Historic Landscape. Special Landscape Area. Popular visitor attraction.
2	Margam Park – Deer Park	281391	186391	RHP&G (Grade I), Historic Landscape. Special Landscape Area. Long Distance Footpath Popular visitor attraction.
3	Longlands Lane Recreation Ground	279174	185867	Public open space/recreation ground. Wales Coast Path.
4	Abbots Close, Margam	279018	186933	Residential Wales Coast Path A48 Trunk Road

8.5.25 Viewpoints 1 to 4, above, were selected following a desk-based and field-based study. At the time of assessment, each viewpoint will be visited, and the position refined to ensure adequate visibility and to take account of local conditions, including intervening vegetation, buildings and other structures. The viewpoints are intended to be broadly representative of the landscape character and visual sensitivities of the study area. They are not intended to cover all areas and receptors from where views may be possible, but are a sample designed to represent a 'balanced' range of receptors, (including footpath users, road users and residents of settlements), distances, elevations and directions from within the study area.

8.5.26 The viewpoints will illustrate:

- Areas of notable visibility, as identified on the Visual Envelope/Viewpoints plan (Figure 2). Wherever possible, viewpoints have been selected and micro-sited to display the worst-case scenario.
- Typical views from valued, designated landscapes, particularly Margam Park RHP&G.

- Key recreational routes and public footpaths across the study area, including the Wales Coast Path, St Illtyd's Way and Ogwr Ridgeway Walk.
- Residential areas including the nearby edge of Margam, at Abbots Close.

LVIA Outputs

8.5.27 The following figures will be produced to assist in assessing and illustrating any changes in the effects on landscape *character and visual amenity*.

- Statutory and Non-Statutory Landscape Designations, (see Figure 1).
- LANDMAP plans for each of the five Aspect Areas.
- Landscape Character Areas (LCA's).
- Visual Envelope (approximate, based on field assessment by an experienced Chartered Landscape Architect, and excluding local variations to visibility due to intervening vegetation and buildings) and Viewpoint Location Plan (1 to 4).
- Baseline photographs to illustrate the existing view from each viewpoint.

8.5.28 The LVIA will include the following sections:

- Introduction
- Methodology
- Baseline conditions, including landscape related planning policy.
- Assessment of Potential Effects; including direct effects and, indirect effects upon the landscape character and visual effects. This will cover the constructional and operational phases of the development.
- Presentation of significance of effects on landscape character and visual amenity in tabular format.
- Conclusion.

8.6 Noise

Introduction

8.6.1 Hunter Acoustics has been commissioned to produce an Environmental Impact Assessment Scoping Review covering noise and vibration. This scoping review included details of a long-term noise survey carried out at the site to determine the existing ambient and background sound climate at the site and the closest residential receivers.

8.6.2 Results of the survey are used to set baseline noise limits which would be used as the basis of the detailed Environmental Impact Assessment.

Legislative and Planning Policy Context

Planning Policy Wales

8.6.3 Planning Policy Wales Edition 11 (2021) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters which together with PPW provide the national planning policy framework for Wales.

8.6.4 Reference to noise is made in Paragraph 6.74: Framework for Addressing Air Quality and Soundscape, which states that:

“The planning system should maximise its contribution to achieving the well – being goals, and in particular a healthier Wales, by aiming to reduce average population exposure to air and noise pollution. In doing so, it should consider the long – term effects of current and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least, minimise population exposure to air and noise pollution”.

8.6.5 Reference to noise is made in Paragraphs 6.7.15 - 17:

“Location of Commercial, Industrial and other Potentially Polluting Development

6.7.15 For the purposes of this section, potentially polluting development includes commercial, industrial, energy and agricultural or transport infrastructure. Such development should be located in areas where there is low potential for public exposure, or where its impact can be minimised. Novel or new development types may potentially cause pollution and should be carefully considered, and where appropriate, decisions should be based on the precautionary principle.

6.7.16 Relevant considerations in making planning decisions for potentially polluting development are likely to include:

- location, including the reasons for selecting the chosen site itself;
- impact on health and amenity;
- effect of pollution on the natural and built environment and the enjoyment of areas of landscape and historic and cultural value;
- impact on groundwater and surface water quality;
- effect on biodiversity and ecosystem resilience, including where there may be cumulative impacts on air or water quality which may have adverse consequences for biodiversity and ecosystem resilience;
- the risk and impact of potential pollution from the development, insofar as this might lead to the creation of, or worsen the situation in, an air quality management area, a noise action planning priority area or an area where there are sensitive receptors; and
- impact on the road and other transport networks, and in particular on traffic generation, particularly where the proposed development is not transport infrastructure itself.

6.7.17 The location of potentially polluting development adjacent to sensitive receptors will be unacceptable where health and amenity impacts cannot be minimised through appropriate design and mitigation measures. It is the overall expectation that levels of pollution should be reduced as far as possible and for this reason the location of potentially

polluting development should be taken into account as part of overall strategies in development plans to ensure it can be appropriately located and maximum environmental benefits can be gained through measures such as green infrastructure.”

Technical Advice Note 11 (TAN11)

- 8.6.6 The below summarises the advice given TAN11 (1997) regarding new noise generating developments.

“3. This note provides advice on how the planning system can be used to minimise the adverse impact of noise without placing unreasonable restrictions on development or adding unduly to the costs and administrative burdens of business. It outlines some of the main considerations which local planning authorities should take into account in drawing-up development plan policies and when determining planning applications for development which will either generate noise or be exposed to existing noise sources.

4. Local authorities should adopt a corporate approach and ensure close co-operation between planning and environmental health departments when considering noise and noise generating developments.

Development Control - Noise generating development

8. Local planning authorities must ensure that noise generating development does not cause an unacceptable degree of disturbance. They should also bear in mind that if subsequent intensification or change of use results in greater intrusion, consideration should be given to the use of appropriate conditions.

9. Noise characteristics and levels can vary substantially according to their source and the type of activity involved. In the case of industrial development, for example, the character of the noise should be taken into account as well as its level. Sudden impulses, irregular noise or noise which contains a distinguishable continuous tone will require special consideration. In addition to noise from aircraft landing and taking off, noise from aerodromes is likely to result from engine testing as well as ground movements. The impact of noise from sport, recreation and entertainment will depend to a large extent on frequency of use and the design of facilities. Advice on assessing noise and on factors to consider in relation to the major noise sources including roads, railways, airports, industrial and recreational noise and their measurement is given in Annex B.

Noise from industrial and commercial developments

B17. The likelihood of complaints about noise from industrial development can be assessed, where the Standard is appropriate, using guidance in BS 4142: 1990. Tonal or impulsive characteristics of the noise are likely to increase the scope for complaints and this is taken into account by the "rating level" defined in BS 4142. This "rating level" should be used when stipulating the level of noise that can be permitted. The likelihood of complaints is indicated by the difference between the noise from the new development (expressed in terms of the rating level) and the existing background noise. The Standard states that, 'A difference of

around 10 dB or higher indicates that complaints are likely. A difference of around 5 dB is of marginal significance'. Since background noise levels vary throughout a 24 hour period it will usually be necessary to assess the acceptability of noise levels for separate periods (e.g. day and night) chosen to suit the hours of operation of the proposed development. Similar considerations apply to developments that will emit significant noise at the weekend as well as during the week. In addition, general guidance on acceptable noise levels within buildings can be found in BS 8233: 1987."

- 8.6.7 *Note TAN11 refers to BS4142:1997 and BS8233:1987. These have been superseded by BS4142:2014+A1:2019 and BS8233:2014.

British Standard 4142:2014+A1:2019

- 8.6.8 British Standard 4142:2014+A1:2019 "Methods for rating and assessing industrial and commercial sound", provides current guidance for the assessment of industrial noise affecting residential receivers.

- 8.6.9 This standard describes a rating method comparing LAeq noise levels from the industrial source with pre-existing background LA90 levels at the residential receiver. It advises at a difference (industrial noise - background) of:

- +10dB or higher, likely to be an indication of a significant adverse impact, depending on the context.
- A difference of + 5dB, likely to be an indication of an adverse impact, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

- 8.6.10 A sliding scale of penalties can be applied under a subjective assessment to industrial/commercial sound levels which have acoustically distinguishing characteristics, including tonality, impulsivity and intermittency.

BS 4142:2014 states under section 11;

"Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including the following.

1 The absolute level of sound. For a given difference between the rating level and the background sound level, the magnitude of the overall impact might be greater for an acoustic environment where the residual sound level is high than for an acoustic environment where the residual sound level is low.

Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night.

Where residual sound levels are very high, the residual sound might itself result in adverse impacts or significant adverse impacts, and the margin by which the rating level exceeds the background might simply be an indication of the extent to which the specific sound source is likely to make those impacts worse.”

British Standard 5228-1:2009

- 8.6.11 BS5228-1:2009 Code of Practice for noise and vibration control on construction and open sites – Part 1: Noise gives guidance on neighbourhood noise nuisance (Section 6) and significance of noise effects from construction projects (Annex E).
- 8.6.12 BS5228 states that a construction noise assessment for this kind of development would normally be undertaken for an application under the Control of Pollution Act (CoPA) 1974 [9], Section 61, “Applications for prior consent for work on construction sites”. Applications under this section of the CoPA are often found to be desirable and useful by both the local authority and the contractor. The applications would usually include (as identified in the CoPA):
- details of the works and the method by which they are to be carried out; and
 - the steps proposed to be taken to minimize noise resulting from the works.
- 8.6.13 However, it is good practice to carry out construction noise predictions to provide additional information and to determine, for projects of significant size, any eligibility for noise insulation or temporary re-housing. By gaining consent under Section 61, the contractor gains protection from action under Section 60 of the CoPA, whereby a stop or enforcement notice cannot be served on the contractor, as long as the works are carried out in accordance with the details in the application.
- 8.6.14 BS5228-1:2009 outlines methods of determining significance of construction noise based on the change in ambient noise levels. The following ‘ABC’ method sets threshold values of significant effects based on the existing ambient noise climate.

Table 19 - Table E.1 of BS 5228-1:2019

Table E.1 Example threshold of significant effect at dwellings			
Assessment category and threshold value period (L_{Aeq})	Threshold value, in decibels (dB)		
	Category A ^{A)}	Category B ^{B)}	Category C ^{C)}
Night-time (23.00–07.00)	45	50	55
Evenings and weekends ^{D)}	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE 1 A significant effect has been deemed to occur if the total L_{Aeq} noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.

NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a significant effect is deemed to occur if the total L_{Aeq} noise level for the period increases by more than 3 dB due to construction activity.

NOTE 3 Applied to residential receptors only.

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- | | |
|----|---|
| A) | Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values. |
| B) | Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values. |
| C) | Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values. |
| D) | 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays. |
-

British Standard 5228-2:2009

- 8.6.15 BS8223-2 Code of Practice for noise and vibration control on construction and open sites – Part 2: Vibration gives recommendations for basic methods of vibration control relating to construction and open sites where work activities/operations can generate significant vibration levels.
- 8.6.16 Figure 4 from BS5228-2:2009 shows Threshold Transient Vibration Guidance Values for Cosmetic Damage, in Peak Particle Velocity (mm/s) across the frequency spectrum:

Figure B.1 Transient vibration guide values for cosmetic damage

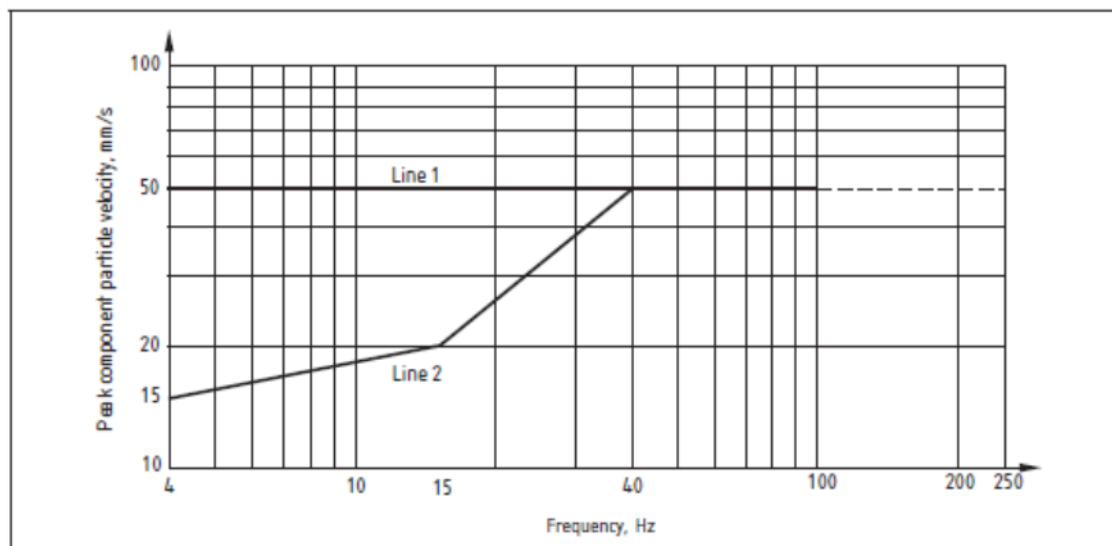


Figure 4 - BS 5228-2:2009 Vibration Criteria

- 8.6.17 The above vibration criteria from construction activities should apply at closest residences in order to reduce the likelihood of 'cosmetic' damage to residential buildings; a 50% reduction should be allowed for a continuous vibration source. At frequencies below 4Hz a maximum displacement of 0.6mm (zero to peak) should also not be exceeded.
- 8.6.18 It should be noted that recommended vibration limits (for cosmetic damage) are above the threshold of perception; i.e. vibration levels below this could be felt by residents and may therefore generate comment/complaint.
- 8.6.19 BS5228 advises: "the threshold of perception being typically in the PPV range of 0.14mm/s to 0.3mm/s. Vibrations above these values can disturb, startle, cause annoyance or interfere with work activities. At higher levels they can be described as unpleasant or even painful. In residential accommodation, vibrations can promote anxiety lest some structural mishap might occur. Vibrations, even of very low magnitude, can be perceptible to people and can interfere with the satisfactory conduct of certain activities... Vibration nuisance is frequently associated with the assumption that if vibrations can be felt, then damage is inevitable: however, considerably greater levels of vibration are required to cause damage to buildings and structures [See Proposed Criteria]... Vibrations transmitted from site activities to the neighbourhood can, therefore, cause anxiety as well as annoyance, and can disturb sleep, work or leisure activities. ...some individuals will be more sensitive to vibration than others."
- 8.6.20 It adds: "Good relations with people living and working in the vicinity of the site operations are of paramount importance. Early establishment and maintenance of these relations throughout the carrying out of site operations will go some way towards allaying people's fears."

Design Manual for Roads & Bridges [Car Park Noise Impact]

8.6.21 There is no specific recognised methodology for assessing noise emissions from car parks, although it is a known source of potential disturbance and concern for neighbouring residents. Design Manuals for Roads and Bridges methodology is therefore referred to for assessing the impact of car parks.

8.6.22 DMRB quotes the following impact ranges for changes in road traffic noise;

Table 20 – Magnitude of Noise Impact Table

Noise Change $L_{A10,18h}$ (dB)	Magnitude of Impact
0	No change
0.1 – 0.9	Negligible
1 – 2.9	Minor
3 – 4.9	Moderate
5+	Major

8.6.23 A DMRB assessment compares (L_{Aeq}) noise levels from anticipated traffic flows with the existing measured (L_{Aeq}) noise levels. The majority of movements are likely to occur at defined periods as staff are likely to arrive and leave at defined times in line with shift patterns.

8.6.24 The scale or severity of any noise change, positive or negative, requires description to indicate the degree of impact where possible. Significance criteria are then applied to categories of change. A change threshold of 3dB(A) has commonly been used in traffic noise assessments in the UK to approximate the threshold of significance.

8.6.25 Significance criteria shown in the table below have been developed based upon DMRB guidance, to assess noise effects arising from the operation of the proposed Car Park.

Table 21 - Significance Criteria based upon DMRB

Change in noise level $L_{Aeq,T}^*$ (dB)	Magnitude criteria	Significance
>5.0	Major Adverse	Significant
3.0 to 4.9	Moderate adverse	
1.0 to 2.9	Minor Adverse	Insignificant
0.1 to 0.9	Negligible	
0	No Change	
-0.9 to -0.1	Negligible	
-2.9 to -0.1	Minor Beneficial	
-4.9 to -3.0	Moderate Beneficial	Significant
< -5.0	Major Beneficial	

*1-hour daytime, or 15min night-time period

Sound Sensitive Receivers

8.6.26 Figure 5 below shows the development site and the closest existing sound sensitive receivers (SSRs) highlighted in YELLOW in each direction. Surrounding industrial uses are also highlighted for context.



Figure 5 – Site Plan Showing Nearest SSRs

Table 22 – Nearest Sound Sensitive Receivers

Description	Approx. Distance (m)
Tyn y Caeau, 2-Storey Residential Dwelling to the North-east	Adjacent to site boundary Approx. 20m
Longland House (1 Heolcae'r Bont) 2-Storey Residential Dwelling to the South	Adjacent to site boundary Approx. 10m
Greenacres (2 Heolcae'r Bont) 2-Storey Residential Dwelling to the South	Approx. 70m from site boundary

Baseline Noise Survey

8.6.27 The site comprises 6ha and is allocated under Policy EC1/2 of the Neath Port Talbot LDP as a Strategic Employment Site. The uses of the adjacent land to the west include industrial operations:

- BOC Gas & Gear Margam (well-established)
- Western Wood Energy Plant (operational from 2008)

- Margam Green Energy Plant (constructed 2018, operational 2019)
- Tata Steel Works, 700m in the distance (well-established)

8.6.28 The A48 and M4 motorway run to the west of the site.

8.6.29 **Appendix 3** gives details of the long-term environmental noise survey undertaken at the site.

Time history charts for the entire monitoring period are shown below:

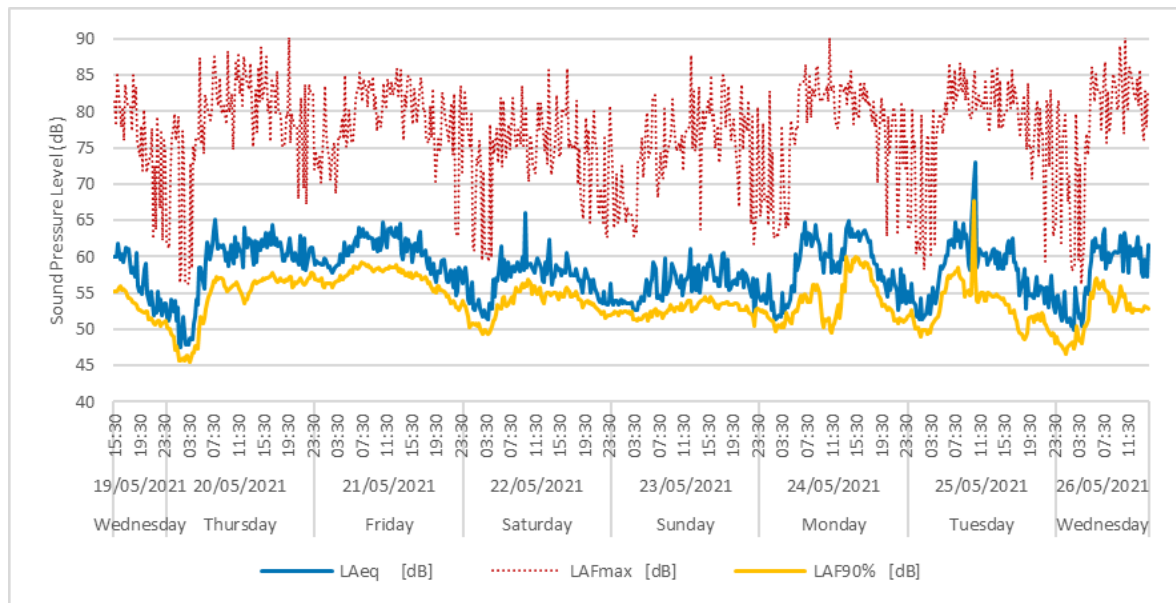


Figure 6 - Time History at Position A (Wednesday, 19 May 2021 to Wednesday, 26 May 2021)

- 8.6.30 Ambient and background levels at the SSRs are controlled by continuous industrial sources. Subjectively, the dominant sources appear to emanate from processes on the BOC site, with some contributions from chiller plant and other plant at Western Wood both during the day and night, keeping night-time noise levels elevated.
- 8.6.31 Road traffic noise from the A48 and M4 also contributes, however as there is no line of sight to the M4 as this is in a cutting, and road traffic on the A48 is not continuous, road traffic noise is not indicated significant. There are also very occasional vehicle pass-bys on Heolcae'r y Bont.
- 8.6.32 Referring to daily time history charts in **Appendix 3**, ambient and background sound levels are generally consistent during the day and night.
- 8.6.33 Ambient Noise Levels The following LAeq,15min daytime (0700-2300hrs) and night-time (2300-0700hrs) ranges were measured;

Figure 7 - Time History at Position B (Wednesday, 19 May 2021 to Wednesday, 26 May 2021)

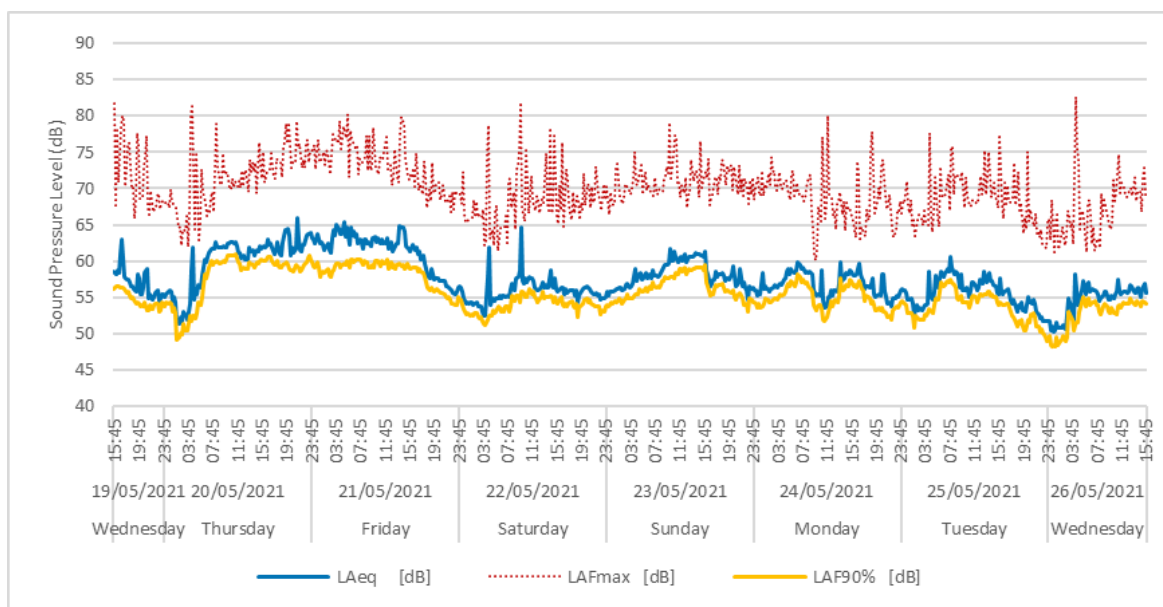


Table 23 – Summary Ambient LAeq,15min Sound Level

Period	Date	Position	
		A	B
Daytime $L_{Aeq,15min}$ (dB)	19/5	52 - 62	54 - 63
Night-time $L_{Aeq,15min}$ (dB)	19/5 – 20/5	48 - 62	52 - 60
Daytime $L_{Aeq,15min}$ (dB)	20/5	Affected by wind/rain	Affected by wind/rain
Night-time $L_{Aeq,15min}$ (dB)	20/5 – 21/5	Affected by wind/rain	Affected by wind/rain
Daytime $L_{Aeq,15min}$ (dB)	21/5	Affected by wind/rain	Affected by wind/rain
Night-time $L_{Aeq,15min}$ (dB)	21/5 – 22/5	52 - 62	52 - 56
Daytime $L_{Aeq,15min}$ (dB)	22/5	54 - 60	55 - 59
Night-time $L_{Aeq,15min}$ (dB)	22/5 – 23/5	52 - 60	55 - 58
Daytime $L_{Aeq,15min}$ (dB)	23/5	54 - 60	56 - 61
Night-time $L_{Aeq,15min}$ (dB)	23/5 – 24/5	52 - 63	55 - 59
Daytime $L_{Aeq,15min}$ (dB)	24/5	53 - 65	54 - 60
Night-time $L_{Aeq,15min}$ (dB)	24/5 – 25/5	51 - 62	52 - 59
Daytime $L_{Aeq,15min}$ (dB)	25/5	53 - 65	53 - 60
Night-time $L_{Aeq,15min}$ (dB)	25/5 – 26/5	50 - 62	50 - 58
Daytime $L_{Aeq,15min}$ (dB)	26/5	57 - 63	55 - 57

Daytime L_{Aeq} (dB) *	19/5 – 26/5/2021	58	56
Night-time L_{Aeq} (dB)	19/5 – 26/5/2021	56	56

*average value over the monitoring period

Background Noise Levels

8.6.34 The following $LA_{90,15min}$ daytime (0700-2300hrs) night-time (2300-0700hrs) minimum consistent background sound levels were measured;

Table 14 – Summary Background $LA_{90,15min}$ Sound Levels

Period	Date	Position	
		A	B
Daytime $L_{A90,15min}$ (dB)	19/5	51	53
Night-time $L_{A90,15min}$ (dB)	19/5 – 20/5	46	50
Daytime $L_{A90,15min}$ (dB)	20/5	Affected by wind/rain	Affected by wind/rain
Night-time $L_{A90,15min}$ (dB)	20/5 – 21/5	Affected by wind/rain	Affected by wind/rain
Daytime $L_{A90,15min}$ (dB)	21/5	Affected by wind/rain	Affected by wind/rain
Night-time $L_{A90,15min}$ (dB)	21/5 – 22/5	50	51
Daytime $L_{A90,15min}$ (dB)	22/5	53	54
Night-time $L_{A90,15min}$ (dB)	22/5 – 23/5	51	54
Daytime $L_{A90,15min}$ (dB)	23/5	52	55
Night-time $L_{A90,15min}$ (dB)	23/5 – 24/5	50	54
Daytime $L_{A90,15min}$ (dB)	24/5	50	52
Night-time $L_{A90,15min}$ (dB)	24/5 – 25/5	50	52
Daytime $L_{A90,15min}$ (dB)	25/5	49	51
Night-time $L_{A90,15min}$ (dB)	25/5 – 26/5	47	48
Daytime $L_{A90,15min}$ (dB)	26/5	53	54
Daytime L_{A90} (dB) *	19/5 – 26/5/2021	50	51
Night-time $L_{Aeq,8hr}$ (dB) *	19/5 – 26/5/2021	46	48

*minimum consistent value

8.6.35 Based on measured ambient noise levels the following construction noise limits are indicated, to be applied at the nearest residential SSRs, in line with BS5228-1:2009 guidance.

Table 25 – Construction Noise Limits

Period	BS5228-1 Threshold, dB L_{Aeq}
Daytime (0700-1900hrs) Saturday (0700-1300hrs)	65
Evenings (1900-2300hrs Weekdays) Weekends (1300-2300hrs Saturdays, 0700-2300hrs Sundays)	55
Night-time (2300-0700hrs)	50

Construction Vibration

8.6.36 Refer to Section British Standard 5228-2:2009

Operational Noise

8.6.37 Operational noise limits are set based on BS4142:2014+A1:2019 guidance. We would propose a noise rating level 5dB below the pre-existing background LA90 sound climate, at the SSRs.

8.6.38 This should ensure that the operational noise impact is unlikely to have an adverse impact. This should also mean that absolute LAeq noise levels are not increased – it is understood that on the neighbouring Biomass development the Local Authority specified no increase in existing noise levels.

8.6.39 Based on measured background sound levels, the following operational noise criteria are indicated, to be applied at the nearest residential SSRs:

Table 26 – Operational Noise Limits

Period	Noise Rating Level, dB L_{ArTr}
Daytime (0700-2300hrs)	45
Night-time (2300 – 0700hrs)	41

Identification of Likely Impacts

8.6.40 The following section outlines the key noise and vibration considerations, and possible constraints that would need to be addressed as part of the Environmental Statement.

Construction Phase

- 8.6.41 The ES is likely to be limited in terms of the construction noise impact, and this may not be known until the Contractor is employed and specific Section 61 Application / Consent or Construction Environmental Management Plans are in place.
- 8.6.42 The following constraints might be imposed by the planning authority and/or decision maker through the planning process, via the following:
- Local authority guidance – Local authority CoCP or Development Plans, etc.;
 - Planning conditions;
 - Development Consent Orders; and/or,
 - Acts of Parliament.

Noise

- 8.6.43 The ES chapter would need to identify key construction activities and any noisy plant / machinery and processes which may need to be used.
- 8.6.44 Details of generic or specific noise mitigation measures or noise management practices could be promoted.

Vibration

- 8.6.45 The ES chapter would need to identify key construction activities where significant vibration may be generated close to SSRs (piling, vibratory compaction or rolling, pneumatic hammers).

Operational Phase

- 8.6.46 A detailed assessment of building noise break-out and external plant noise levels would need to be undertaken as part of the ES chapter. Full 3D noise map models are to be produced as part of the noise study.
- 8.6.47 Source sound levels for the internal processes and external plant would need to be measured at a similar facility in order to inform the study.

Production Building

- 8.6.48 Based on the proposed noise criteria, potentially high building noise levels, and the proximity (10m) of the closest SSR, the sound reduction requirements for the main production building may be significant.
- 8.6.49 Details of the internal metal processing and production activities, along with specifications for sound reduction performance figures for external cladding and doors are included in the ES.

External Plant & Processes

- 8.6.50 External plant and processes are evaluated and assessed. The noise assessment is to identify where noise mitigation measures are required.

HGV Movements

8.6.51 It is understood 2-10 HGV movements per day are likely. HGV movements are to be included in the noise model analysis.

8.6.52 To inform the study, the following would need to be considered:

- Proposed HGV Access Route
- Vehicle Types
- Number of night-time movements
- Unloading / loading procedures, including mobile plant (telehandlers, grabbers, forklifts, excavators)

Car Park

8.6.53 A detailed model of car park is to be included as part of the ES.

8.6.54 The car park assessment would cover peak usage (i.e. arriving for and leaving after shifts) for both day and night-time periods.

8.6.55 The noise assessment would identify if a significant adverse impact is indicated and any noise mitigation measures required

Conclusion

8.6.56 An Environmental Impact Assessment Scoping Review covering noise and vibration has been carried out for the proposed industrial development at Land off J38 M4, Margam. This scoping review includes details of a long-term noise survey carried out at site to determine the existing ambient and background sound climate at the site and closest residential receivers. Results of the survey are used to set baseline noise limits which would be used as the basis of the detailed Environmental Impact Assessment.

8.6.57 Overall, the existing daytime and night-time ambient and background levels can be considered moderate to high, with the soundscape controlled by continuous sound sources from existing industrial uses.

9. TOPICS SCOPED OUT

9.1 Introduction

- 9.1.1 Due to the significant scale of the proposed development there are a wide range of effects and as such there are few topic areas to be scoped out completely. Those that we can consider can be omitted from the ES, due to relevant detail being provided through other means, are outlined in this chapter. This will be subject to confirmation as part of the Scoping process.

9.2 Ecology

- 9.2.1 An ecology Scoping Note was undertaken by Soltys Brewster Ecology in June 2021 which includes the findings of a desk study and Extended Phase 1 Habitat survey identified a range of habitats at the proposed site including poor semi-improved grassland, improved grassland, dense/continuous scrub, scattered trees and scrub, wall and buildings as well as priority habitats such as hedgerows, semi-improved neutral grassland, marshy grassland and semi-natural broad-leaved woodland. The habitats at the Site were considered suitable to support foraging/commuting and roosting bats, nesting birds, priority listed terrestrial invertebrates and common reptiles. The occasional use of the Site by Badger could also not be precluded.

Badgers

- 9.2.2 There is no evidence to suggest the current use of the site by Badger was found at proposed site during the survey. However, given the number of desk study records identified within 1km, the use of the site by individual Badgers on an occasional basis cannot be precluded. Appropriate protective measures during this phase of development would include the covering of excavations overnight or the provision of a means of escape to minimise the risk to Badger and other mammals that may become trapped.

Bats

- 9.2.3 The survey identified several trees at the proposed site with potential to support roosting bats including 1 tree with high potential, 1 tree moderate potential and 3 trees with low potential. At this stage of the scheme it is not known whether development at the proposed site will require the removal of these individual trees. For trees with moderate potential two survey visits, comprising of a separate dusk and dawn survey, are recommended. Given the trees at the site are easily accessible a potential roost feature (PRF) inspection could be also undertaken to determine the presence/absence of roosting bats (dependant on health and safety restrictions). Trees assessed to have a low potential do not require any further survey work under the current guidelines. However, on a precautionary basis if any trees with low potential were to be removed appropriate mitigation measures would include a soft-felling approach, where trees/branches are section felled and cut tree limbs are carefully lowered and left grounded overnight to allow any bats present to leave (Jackson, 2015). Works should be also undertaken in winter or early spring as to avoid times when bats are most sensitive to disturbance.

- 9.2.4 In order to establish how and which bat species are using the proposed site it is recommended that further activity surveys (manual transects and automated surveys) are undertaken. The survey findings would be used to inform the final development design and any particular mitigation/avoidance measures (e.g. lighting design and habitat retention). Based on the availability of suitable habitats at the proposed site the minimum level of survey recommended in the best practice guidelines (BCT, 2016) would be considered appropriate in the first instance to achieve a representative sample of bat activity across the site³

Birds

- 9.2.5 The habitats at the proposed site were considered likely to support a number of foraging and tree/scrub nesting bird species. Appropriate mitigation measures would include the undertaking of any vegetation works (such as tree and scrub removal) outside of the nesting bird season i.e., undertaken between September – February.

Reptiles

- 9.2.6 The habitats located at the proposed site were considered to have a low potential to support common reptiles. The larger areas of grazed improved grassland and poor semi-improved grassland were considered of limited suitability for reptiles - lacking appropriate shelter and likely subject to regular disturbance from livestock. However, the smaller sections of semi-improved grassland, marshy grassland and woodland/hedgerow margins, in particular those located towards the northern extent of the proposed site, were considered of greater suitability and were considered likely to support a small/individual population of common reptiles.
- 9.2.7 The emerging layout plan indicates that the areas of the site considered most suitable to support reptiles are unlikely to be impacted by the scheme layout. Appropriate mitigation measures could include a sensitive approach to vegetation clearance at the site. This would include cutting of fringe grassland and boundary vegetation via a two-stage directional process to minimise risks to reptiles (and amphibians) that may be present.

Priority Habitats

- 9.2.8 Priority habitats include broad-leaved semi-natural woodland (lowland mixed deciduous woodland), semi-improved neutral grassland (lowland meadows) and hedgerows as well as other habitats of ecological importance such as marshy grassland. Impacts could be avoided by the retention of these features (as far as practicable) and by on-site compensation measures such as habitat creation and the incorporation of a detailed habitat management strategy.

Designated Sites

- 9.2.9 The site is located within 500m of Eglwys Nunydd Reservoir SSSI SINC and within 100m of Junction 38 Wetland Complex SINC. It is not expected that the proposed development will directly impact the SSSI site. However, there is some potential for indirect impacts to occur during the construction phase of any future development such as through changes to water and air quality via increased pollution. There is a small ditch present at the proposed site which may have hydrological links to the SSSI site. These impacts could be avoided/mitigated for through the implementation of a pollution prevention plan and drainage strategy for the site.
- 9.2.10 There is also some potential that protected and priority species associated the SSSI/SINC sites are using the habitats present at the proposed site as part of their foraging/commuting range. Further survey work will establish how bats are using this feature and inform future design and mitigation.

Invasive species

- 9.2.11 The survey found incidences of Japanese Knotweed at the proposed site. Although the area in which the stands are located is unlikely to be impacted under the proposed layout plan, there is a low potential for the species to spread during any future construction work. Avoidance and mitigation measures would include the clear demarcation of Japanese Knotweed stems during the construction phase and the control of the species at the site either through appropriate removal or by management/herbicide treatment.
- 9.2.12 A copy of the ecology Scoping Note can be made available on request.

9.3 Arboriculture

- 9.3.1 There are no significant effects anticipated in respect of arboriculture, therefore arboriculture should be scoped out of the ES. The planning application will be supported by an Arboricultural Assessment in accordance with BS 5837:2012, Trees in Relation to Design, Demolition and Construction.

9.4 Transport

- 9.4.1 A transport scoping assessment was undertaken by Apex Transport Planning in May 2021. It considered the potential significance of environmental effects of the Proposed Development with respect to transport and movement on the local highway network during the construction and operation phases of the Proposed Development.
- 9.4.2 The scoping assessment identified that the change in total traffic flows on key links within the vicinity of the site against 2019 baseline flows would increase by a maximum of 7.3%. This is below 10%/30% screening levels set out within the IEMA guidance. It is therefore considered that projected changes in total traffic flow of less than 10% create no discernible environmental effect. The scoping assessment established that there would also be no significant change to the composition of traffic as there are forecast to be a minimal level of HGVs.

- 9.4.3 As such, based on the IEMA guidance, the Proposed Development would have a negligible and not significant environmental effect in relation to transport and transport can be scoped out of the Environmental Statement.
- 9.4.4 The level of construction traffic would be lower than during the operational stage and temporary in nature. As such, the operational traffic flows are considered a robust worst case of the significance of the effects of transport. On this basis, the construction traffic would also have a negligible and not significant impact in relation to transport and a transport chapter of the ES is not considered to be required.
- 9.4.5 A Transport Assessment will be completed, as part of the planning application which will present an assessment of the impact of the Proposed Development on the network in relation to highway capacity and operation, road safety and sustainable connectivity. A travel plan will also be produced for the planning submission to promote and encourage sustainable transport to and from the site.
- 9.4.6 A copy of the Transport Scoping Assessment can be made available on request.

9.5 Waste

- 9.5.1 Both the construction and operational phases of the proposed development will generate waste. However, there is a clear understanding of what waste will arise, and how it will be managed, will therefore ensure both environmental impacts and costs are considered and minimised.
- 9.5.2 Waste powder metals are recycled on-site, while waste alloys are recycled off-site and supplied back as clean material. Refractory waste is sent off-site for recycling. Other waste is sorted and sent for recycling.

9.6 Utilities

- 9.6.1 A detailed assessment of utilities is not proposed to be provided within the ES as it is not an environmental topic. However, the EIA will be mindful of any utility works (upgrades, diversions, abandonments, etc.) required as part of the proposed development as well as the impacts of existing utilities and services on the site and the likely significant environmental effects of such works will be assessed and documented under the relevant topics in the ES as appropriate.

9.7 Energy

- 9.7.1 It is a Building Regulations requirement that an Energy Statement is produced for all major development projects so on this basis it is not considered to be a significant issue requiring consideration in an ES.

9.8 Health

- 9.8.1 There is no external emissions or effluent associated with the metal processing facility as the finished products will to be sieved and air classified. Thus a standalone health section is not required.

9.9 Socioeconomic

- 9.9.1 A Socio-Economic chapter would present the findings of the assessment of potential impacts on human beings and the economy. These socio-economic considerations include the effects of the proposed development on: population; housing need; education provision; healthcare provision; emergency services; open space requirements; community facilities and the local economy.
- 9.9.2 Due to the sites allocation within the current adopted LDP, socio-economic factors would have been considered previously by the council, which was obviously deemed acceptable.

9.10 Hydrology, Flood Risk and Drainage

- 9.10.1 Most of the site is located within flood Zone B with a small patch in Zone C2. The development use class is not classified as vulnerable development as per Technical advice note (TAN) 15: development and flood risk. In addition to this a SuDS scheme will be incorporated into the scheme to ensure its protection against fluvial flooding.

9.11 Geotechnical

- 9.11.1 A Geotechnical Desk Study has been undertaken by Terra Firma (May 2021) which has confirmed that the site has remained undeveloped farm land throughout its recorded history. The Conclusions of the study are that whilst the site is underlain by known workings in two seams at 130m to depth, they were last worked in 1913. Therefore, any ground movement associated with these seams should, by now, have ceased. Terra Firma therefore consider the overall risk to the surface stability of the site from possible unrecorded workings is considered negligible.
- 9.11.2 It is not expected that the known workings pose a significant risk of mine gas as gassing potential diminished with age after working and, given the seams depths, they will be flooded and lie at a significant depth leading to high hydrostatic pressures which also retard gas emissions from coal.
- 9.11.3 A copy of the Geotechnical Desk Study is available upon request.

10. CUMULATIVE EFFECTS

- 10.1.1 The EIA will consider in-combination effects (with other topic areas) and cumulative effects (with other developments), the outcomes of which are to be reported in the ES.
- 10.1.2 The in-combination effects i.e. the combined action of different environmental topic specific impacts upon a resource / receptor will be assessed in the ES. This is likely to include a list of agreed resources / receptors and each specialist consultant are to consider whether their topic area would be likely to have an impact on that receptor while stating the individual 'significance of effect'. From that point the in-combination effects can be concluded.
- 10.1.3 In assessing cumulative effects, desk studies are to inform relevant zones of influences (ZOI) by topic area.
- 10.1.4 Other developments will need to be considered within a reasonable ZOI. This is likely to include other nearby allocations in the emerging Local Plan Review as well as commitments (planning permissions). A desk-based assessment will take place based on the information publically available at the time of assessment.
- 10.1.5 The Scoping process will determine the specific requirements in respect of assessing the in-combination/cumulative effects.
- 10.1.6 It is important to note that the Council would have considered cumulative impacts of this site in relation to other strategic allocations in the Local Development Plan.

11. CONCLUSION

- 11.1.1 The Scoping Report identifies the extent of the issues to be considered in the EIA and reported in the ES for a metal processing facility, offices, amenity building (Use Classes B1, B2 and B8) and other associated infrastructure.
- 11.1.2 The scoping exercise informing this report has enabled a preliminary view of key predicted impacts and potential significant effects as a result of the proposed development. It also scopes out other matters that can be considered outside of the ES. It is important to note that the EIA is an iterative process, enabling matters not recognised at a preliminary stage to be addressed at a later date.
- 11.1.3 Due to the significant scale of the proposed development there is a wide range of impacts that are to be considered, the relevant topics these impacts will fall under have been assessed and reported.
- 11.1.4 For the reasons set out in this Scoping Report it is considered that the only topic areas which are likely to have a significant effect on the environment are:
- Air Quality;
 - Agricultural Land and Soils;
 - Archaeology and Cultural Heritage;
 - LVIA; and
 - Noise.
- 11.1.5 These will be set out in an ES to accompany an outline planning application.
- 11.1.6 In accordance with the EIA Regulations 2017 (Wales), Neath Port Talbot Council are therefore requested to provide a formal scoping opinion, in liaison with statutory consultees. Regulation 14(5) of the EIA Regulations 2017 (Wales) requires the LPA to provide its scoping opinion within 8 weeks of receipt of this scoping request.

APPENDIX ONE – SITE BOUNDARY

APPENDIX TWO – ILLUSTRATIVE SITE LAYOUT AND CGI VIEW

APPENDIX THREE – AIR QUALITY GLOSSARY

AADT	Annual Average Daily Traffic
ADMS-Roads	Atmospheric Dispersion Modelling System model for Roads
ADMS-5	Atmospheric Dispersion Modelling System model for point sources
AQMA	Air Quality Management Area
CHP	Combined Heat and Power
Defra	Department for Environment, Food and Rural Affairs
ES	Environmental Statement
EU	European Union
Exceedance	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
µg/m³	Microgrammes per cubic metre
NO	Nitric oxide
NO₂	Nitrogen dioxide
NOx	Nitrogen oxides (taken to be NO ₂ + NO)
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
PM₁₀	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
PM_{2.5} diameter	Small airborne particles less than 2.5 micrometres in aerodynamic diameter
SPG	Supplementary Planning Guidance
SAC	Special Area of Conservation
SSSI	Site of Special Scientific Interest
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
TEA	Triethanolamine – used to absorb nitrogen dioxide

APPENDIX FOUR – NOISE APPENDICES