Neath Port Talbot County Borough Council

Local Development Plan 2011 - 2026

Pollution

Supplementary Planning Guidance

(October 2016)

www.npt.gov.uk/ldp

Neath Port Talbot
Castell-nedd Port Talbot
County Borough Council Cyngor Bwrdeistref Sirol

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Appendices

Contents

Note to Reader

This document supplements and explains the policies in the Local Development Plan (LDP). The LDP was adopted by the Council on 27th January 2016 and forms the basis for decisions on land use planning in the County Borough up to 2026.

This Supplementary Planning Guidance (SPG) has been prepared following a public consultation exercise that was undertaken in the Summer of 2016 and the guidance was adopted by the Council's Economic and Community Regeneration Cabinet Board on 28th October 2016.

While only policies in the LDP have special status in the determination of planning applications, the SPG will be taken into account as a material consideration in the decision making process.

This SPG is also available in Welsh, either to download or by request. Should you need this document in another format, then please contact the LDP team at **ldp@npt.gov.uk** or **[01639] 686821**.

Note to Reader

1 Introduction

1.0.1 This Supplementary Planning Guidance (SPG) gives information about pollution issues in Neath Port Talbot and sets out the relevant matters that will need to be taken into consideration when developments are being planned in the County Borough.

1.0.2 The Council's planning policy in relation to the various types of pollution is set out in the Neath Port Talbot Local Development Plan (LDP)[1] Strategic Policy SP16 (Environmental Protection) and detailed policies EN8 (Pollution and Land Stability), EN9 (Developments in the Central Port Talbot Area) and EN10 (Quiet Areas). This SPG should be read in the context of these LDP policies and explanatory text.

1.0.3 Chapter 2 outlines the national and local planning policy approach, while Chapters 3 to 7 considers each type of pollution in turn and indicates the issues that need to be considered and the steps that will be required to ensure compliance with the relevant policies. Chapter 8 briefly outlines the Plan's development allocations in respect of Habitats Regulations Appraisal (HRA) requirements.

1 Neath Port Talbot County Borough Council Local Development Plan (2011-2026) Adopted January 2016.

1 . Introduction

2 Planning Policy Approach

2.0.1 The overall approach to be taken in relation to pollution matters is set out in Planning Policy Wales (PPW) Chapter 13[2]. It is emphasised that the role of the planning system is to determine whether a development is an acceptable use of land rather than to seek to control the processes or substances used in any particular development. Matters of water and air pollution and land contamination are controlled by other agencies and planning authorities will need to ensure that planning conditions do not duplicate or contradict measures more appropriately controlled under these regimes. In relation to noise matters, additional detailed advice is given in Technical Advice Note 11[3].

2.0.2 In accordance with this overall approach, the LDP policies relating to environmental protection and pollution seek to ensure that development proposals are appropriate and will not have significant adverse effects rather than seeking to control pollution in a way that would duplicate other controls. The relevant LDP policies are set out below.

Policy SP 16

Environmental Protection

Air, water and ground quality and the environment generally will be protected and where feasible improved through the following measures:

1. Ensuring that proposals have no significant adverse effects on water, ground or air quality and do not significantly increase pollution levels;
2. Giving preference to the development of brownfield sites over greenfield sites where appropriate and deliverable;
3. Ensuring that developments do not increase the number of people exposed to significant levels of pollution.

LDP Objectives: OB 2, OB 16 and OB 17

2.0.3 LDP Strategic Policy SP16 (above) sets out the strategy relating to environmental protection, including the approach to be taken to pollution issues. This strategic policy is implemented through detailed policies, with policies EN8, EN9 and EN10 being specifically relevant to pollution matters.

2 Planning Policy Wales Edition 8 (2016) - Welsh Government.
3 Technical Advice Note 11: Noise (1997) - Welsh Government.

Policy EN 8

Pollution and Land Stability

Proposals which would be likely to have an unacceptable adverse effect on health, biodiversity and/or local amenity or would expose people to unacceptable risk due to the following will not be permitted:

- Air Pollution;
- Noise Pollution;
- Light Pollution;
- Contamination;
- Land Instability;
- Water (including groundwater) Pollution.

Proposals which would create new problems or exacerbate existing problems detailed above will not be acceptable unless mitigation measures are included to reduce the risk of harm to public health, biodiversity and/or local amenity to an acceptable level.

2.0.4 Policy EN8 covers all types of pollution that are relevant to the development process and is a widely applicable policy that requires developments to ensure that they do not cause significant pollution or exacerbate any existing problems. Chapters 3 to 7 consider each pollution type in turn.

Policy EN 9

Developments in the Central Port Talbot Area

Developments in the central Port Talbot area that could result in breaches of air quality objectives during their construction phase, will be required to be undertaken in accordance with a Construction Management Plan submitted as part of the planning process and agreed by the Council.

2.0.5 In relation to the Air Quality Management Area (AQMA) at Taibach / Margam, there are additional concerns about operations during the construction phase of developments causing the generation of smoke and dust that could result in exceedences of air quality objectives relating to particulates. Policy EN9 addresses this issue specifically in relation to the central Port Talbot area.

Policy EN 10

Quiet Areas

In order to protect areas of tranquillity within urban areas, the following 'Quiet Areas' have been identified:

Reference	Quiet Area
EN10/1	Neath Abbey Ruins, Neath
EN10/2	Mount Pleasant Park, Neath
EN10/3	Skewen Park, Neath
EN10/4	Shelone Woods, Neath
EN10/5	Victoria Gardens, Neath
EN10/6	Church Place, Neath
EN10/7	Talbot Memorial Park, Port Talbot
EN10/8	Vivian Park, Port Talbot
EN10/9	Baglan Park, Port Talbot
EN10/10	King George V Park, Pontardawe

Development proposals that would have unacceptable impacts on the characteristics that led to the designation will be resisted.

2.0.6 The Quiet Areas listed were designated by the Welsh Government under the Environmental Noise (Wales) Regulations. They are public open spaces located within urban areas that have local amenity value that warrants protection from noise intrusion and are relatively quiet by urban standards in actual and perceived terms.

2.0.7 Policies EN8 and EN10 in particular relate to ecological and biodiversity issues as well as human impacts. Pollution can have a variety of impacts upon the biodiversity of the county and development proposals will need to consider and address any such adverse impacts. This should include assessing impacts upon:

- Statutory designated sites such as Special Areas of Conservation (SACs), Ramsar sites, Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs);

- Non-statutory designated sites such as Sites of Interest for Nature Conservation (SINCs);
- The wider biodiversity resource including ecosystems and their functioning, habitats and species listed as of principal importance for conservation in Wales or as listed under the Local Biodiversity Action Plan.

3 Air Pollution

3.0.1 Concerns about air quality relate largely to two main areas: direct impacts on human health and amenity and ecological impacts affecting natural habitats and species. This section outlines the background and main issues relating to these two aspects in turn.

3.0.2 Good air quality is a basic requirement and is fundamental to good health. Its importance has been recognised by the World Health Organisation which originated the air quality standards adopted by the EU, UK and devolved administrations.

3.0.3 The Council is required to assess certain air pollutants relating to UK air quality objectives, as part of Local Air Quality Management (LAQM) under the Environment Act 1995. Where objectives are not met, Air Quality Management Areas (AQMAs) must be declared and Air Quality Action Plans produced in order to restore compliance. The Council's Air Quality Strategy: 'Airwise - Clean Air for Everyone'[4] sets out the Council's strategy for achieving clean air across the County Borough.

3.0.4 Assessing air quality is a continuous process that follows guidance from the Welsh Government. The air quality objectives for LAQM in Wales are set out in Appendix A. Failure to comply with EU limit values can result in heavy fines for the Welsh Government.

3.1 Causes and Impacts of Air Pollution

3.1.1 Air quality objectives relating to benzene, 1,3-butadiene, carbon monoxide, lead and sulphur dioxide are complied with in Neath Port Talbot and do not raise any particular concerns in relation to human health. The remaining main air pollutants of local concern in the Neath Port Talbot area are set out below.

Particulates

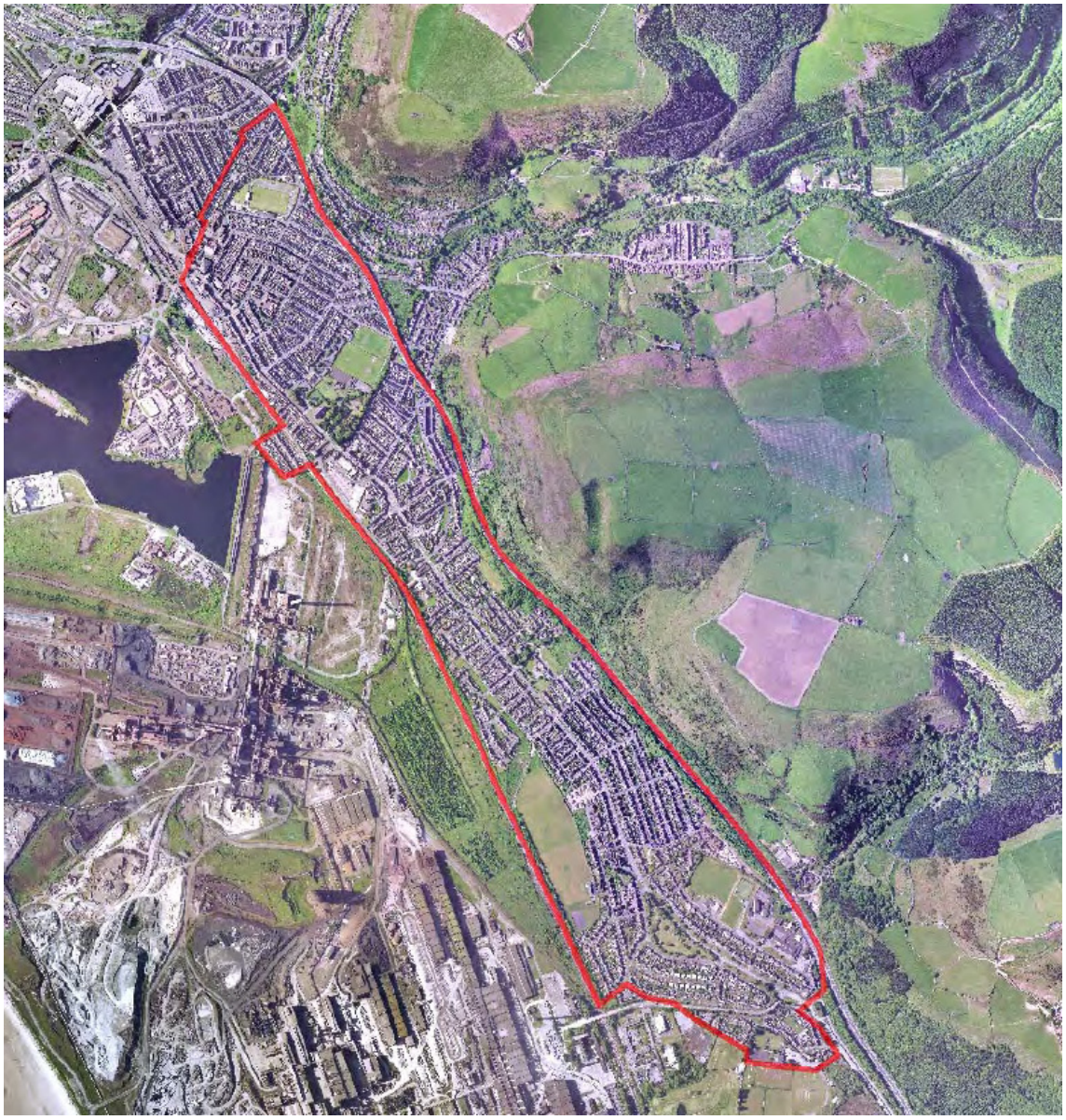
3.1.2 Fine particulates in the air can penetrate deep into the lungs and potentially affect health. $PM_{2.5}$ are very fine particulates of less than 2.5 microns in diameter. Sources include combustion and industry, with significant potential for transboundary effects, with pollution potentially travelling many thousands of kilometres. Current standards are met in relation to this pollutant in Neath Port Talbot.

3.1.3 PM_{10} are fine particulates of less than 10 microns in diameter which arise mainly from industry, traffic and more distant sources (transboundary pollution). There are concerns about levels of PM_{10} in Port Talbot and this is currently measured at eight sites in the central Port Talbot area.

3.1.4 Exceedences in PM_{10} in the Margam / Taibach area led to the declaration of an Air Quality Management Area (AQMA) in 2000, the extent of which is illustrated below.

4 Airwise - Clean Air for Everyone (Neath Port Talbot CBC 2013)

Figure 3.1 Margam / Taibach Air Quality Management Area

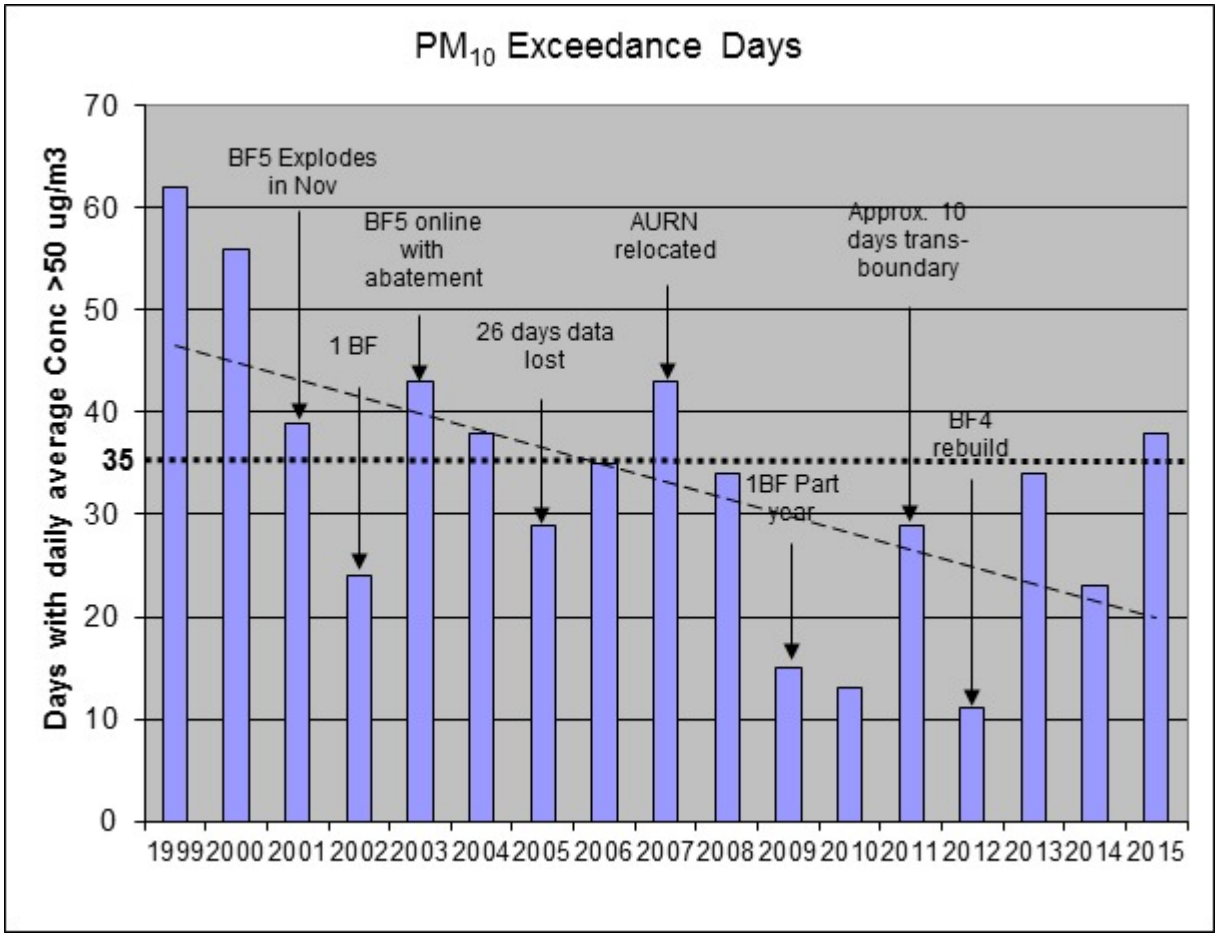


3.1.5 Sources of PM_{10} include local industrial and domestic combustion processes, fugitive dust from industrial and construction processes, traffic and transport including shipping and rail, sea salt, forest and grass fires, and dust from outside of the area including transcontinental sources on some occasions.

3.1.6 Although the long-term air quality objective relating to PM_{10} (annual average = 40 $\mu g/m^3$) is complied with in Port Talbot and the number of exceedences of the short-term objective level (daily average >50 $\mu g/m^3$) have decreased since the AQMA was declared in 2000, there are still some concerns about PM_{10} in central Port Talbot. European standards state that no more than 35 exceedences are permitted during a calendar year and there has been a general improvement over recent years (refer to Figure 3.2 below[5]).

5 The results for 2013 are FDMS. Partisol results for 2013 produced 34 exceedences

Figure 3.2 Monitored Levels of PM10



3.1.7 The figure for 2007 is a combination of the results from the monitoring site at Groeswen Hospital and Port Talbot Fire Station since it was re-located that year. The higher number of exceedences in 2011 were attributed to a combination of transboundary effects and local construction works, in particular related to Harbour Way (Peripheral Distributor Road). There are consequently concerns that further construction works in the central Port Talbot area could have similar effects on air quality in the area and could potentially result in further exceedences in particulates, especially in the AQMA. This concern led to the inclusion in the LDP of a specific policy (EN9) to address this issue. Further information is given in Section 3.3.

Nitrogen Dioxide (NO_2) and Sulphur Dioxide (SO_2)

3.1.8 Nitrogen dioxide (NO_2) is one of a group of highly reactive gases known as "oxides of nitrogen", or "nitrogen oxides" (NOx). NO_2 forms quickly from emissions from cars, trucks and buses, power plants and off-road equipment. In addition to contributing to the formation of ground-level ozone and fine particle pollution, NO_2 is linked with a number of adverse effects on the respiratory system. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects including airway inflammation in healthy people and increased respiratory symptoms in people with asthma.

3.1.9 Both nitrogen dioxide and sulphur dioxide are formed by combustion processes including waste incineration and power stations. They are oxidised in the atmosphere to form other compounds that can travel long distances and be deposited in wet or dry form. In addition to effects on human health, this deposition can have ecological impacts on vulnerable habitats and species. This aspect is considered further below.

3.1.10 Assessments of traffic-related air pollution have been carried out regularly at sites across the County Borough, and two areas in particular have been identified where levels are approaching EU thresholds. These are at Victoria Gardens in Neath and Swansea Road, Pontardawe. These sites have been monitored for a number of years, but recent results suggest a worsening situation which is being more closely assessed. Mitigation measures may be required for new developments in the vicinity of these sites, or which could significantly increase traffic levels in the area.

Nickel (Ni)

3.1.11 Nickel occurs naturally in the environment at low levels but is also used in industrial processes such as electroplating and the manufacture of batteries and machinery parts, and this can result in releases to the environment. Nickel exposure has been linked to dermatitis and respiratory effects.

3.1.12 In Neath Port Talbot, nickel pollution has been associated with the Wall Colmonoy plant at Pontardawe and Vale Nickel in Clydach which use significant quantities in the manufacturing process. Nickel is monitored at a number of sites in the locality and levels have decreased substantially since monitoring started in 2009.

Ozone (O_3)

3.1.13 Ozone is an irritant gas that can cause inflammation in the lungs. It is formed by the action of sunlight on oxides of nitrogen and organic compounds in the air. The source of the pollution can be many miles from the affected area and it is consequently not a Local Air Quality Management (LAQM) pollutant as local authorities may not be able to directly affect levels within their areas.

3.1.14 Ozone is measured in central Port Talbot and the UK air quality standard is occasionally exceeded although the trend is for decreasing exceedences.

Polyaromatic Hydrocarbons (PAH)

3.1.15 PAH are organic substances produced by incomplete combustion, including from vehicle engines and in Port Talbot from processes within the steelworks including coke ovens. Levels are monitored in central Port Talbot and the EU target value of 1ng/m^3 is complied with, although the UK air quality standard of 0.25 ng/m^3 is not currently met. Natural Resources Wales (NRW) as regulator of the steel works, has required the operator to use Best Available Techniques (BAT) for fugitive releases from the coke ovens.

Nuisance Dust

3.1.16 Industry, demolition and construction activities among other things are potential sources of nuisance dust. It can also arise from transboundary sources and can be deposited noticeably locally. There are no official standards for nuisance dust, but it is measured at a number of locations around the County Borough, and generally higher levels of dust are found in areas closer to industrial processes.

Ecological Impacts of Air Pollution

3.1.17 As well as adverse effects on human health, the above types of air pollution can all have detrimental effects on the natural environment through affecting species directly, or their habitats. An additional concern in respect of the health of ecosystems is the deposition of acid and nitrogen (resulting from emissions of sulphur dioxide (SO_2) and nitrogen oxides (NO_x)) on vulnerable habitats which can affect a range of species and habitats and encourage the growth of more competitive species leading to a change in the character and diversity of sites of interest. This is likely to be a particular concern in relation to sites that have local, national or international designations as a result of their biodiversity interest, such as Sites of Interest for Nature Conservation (SINCs), Sites of Special Scientific Interest (SSSIs) or Natura 2000 sites (see below). However, it applies also to the wider biodiversity resource including ecosystems and their functioning, habitats and species listed as of principal importance for conservation in Wales or as listed under the local biodiversity action plan. National and international biodiversity sites are shown on the LDP proposals map and further details about all designations will be available in the Biodiversity Supplementary Planning Guidance.

3.1.18 Development proposals that could lead to significant impacts on biodiversity as a result of air pollution will need to comply with Policy EN8. In addition, any proposed development that could cause air pollution affecting a Natura 2000 site designated under the Habitats Directive[6] will need to be the subject of a Habitats Regulations Appraisal (HRA) to ensure that no adverse effects are caused. Further details about HRA are given in Chapter 8.

3.2 Implementation of Policy EN8 & Avoidance/Mitigation Measures

3.2.1 In relation to air pollution, the explanatory text to Policy EN8 refers to the Air Quality Strategy for England, Scotland, Wales and Northern Ireland and its objectives and indicates that development proposals that could result in, or contribute to, breaches of any air quality objective will not be acceptable unless measures can be taken to prevent this. In addition, the policy refers to effects on biodiversity and, as outlined above, proposals that would have an adverse effect on any Natura 2000 site [for example any Special Area of Conservation (SAC)] will not be acceptable.

6 Conservation of Habitats and Species Regulations 2010 (EC Habitats Directive 92/43/EEC).

Complying with Policy EN8

3.2.2 All proposals throughout the County Borough will be required to comply with Policy EN8. This requires that proposals should have no unacceptable adverse effects on health, biodiversity or amenity through causing pollution, including air pollution. The explanation to the policy indicates that development proposals that could potentially result in or contribute to breaches of any air quality objective will be required to demonstrate that any adverse impacts can be avoided through the implementation of mitigation measures. The policy also applies to proposals that would expose people to unacceptable risk, for example through increasing the numbers of people living or working in an area of poor air quality.

3.2.3 Possible impacts on the natural environment as a result of air pollution caused directly or indirectly by development proposals will also need to be taken into account through the application of Policy EN8. In particular, the potential for additional nitrogen and acid deposition on any vulnerable habitats (in particular any designated sites) will need to be assessed and if necessary mitigation measures may be needed to reduce emissions to ensure that they are below any threshold that could have an effect. More specifically, any proposed development that could affect a Natura 2000 site will need to be the subject of a Habitats Regulations Appraisal (HRA).

3.2.4 Potentially polluting developments that could affect Natura 2000 sites will be required to meet the provisions of the Habitats Regulations and to show that no adverse effects will be caused. Further information is given in Chapter 8 and in the LDP Habitats Regulations Appraisal[7] and developers proposing schemes in the relevant locations set out in Chapter 8 are advised to contact the planning department at an early stage to discuss these requirements.

3.3 Implementation of Policy EN9 & Avoidance/Mitigation Measures

3.3.1 While all developments will be required to comply with Policy EN8, Policy EN9 applies only to developments in the central Port Talbot area that could result in any breaches of air quality objectives. As outlined above, the main concern in central Port Talbot in the vicinity of the AQMA is levels of PM_{10}.

Effects of Demolition and Construction Works on PM_{10} Levels

3.3.2 The effects of development works on PM_{10} levels in the locality will depend on a number of factors, including:

- Nature and duration of the works that are being undertaken;
- The size of the site;
- Local situation including the proximity to sensitive areas and receptors;
- Materials being used and their storage and transportation;

7 LDP Habitats Regulations Appraisal (2013) - Neath Port Talbot CBC.

- Meteorological conditions including amount of rainfall and wind speed and direction;
- Vehicles and machinery used, including methods of working and maintenance standards; and
- The adequacy of mitigation measures applied to reduce or eliminate dust.

3.3.3 These factors are considered in more detail below.

Nature, Extent and Duration of Works

3.3.4 All types of construction work, from site clearance to final landscaping, have the potential to increase the amount of dust generated and hence affect PM_{10} levels in the immediate vicinity. The nature of the project will have a significant influence, including the amount of excavation and land forming works, demolition and building activities, all of which will generate dust but can be managed to reduce this to a minimum. The larger the site area (including the area of land being worked and the level of construction activity) and the longer works continue, the greater the potential for dust generation and the greater the consequential effects on air quality. While the site size and duration of works may not be easily changed, these aspects will need to be taken into account if the effects are to be minimised.

Local Situation

3.3.5 The local topography and the presence of natural barriers such as areas of woodland, buildings and structures will affect amounts of airborne dust and the distance that the dust travels. The proximity of sensitive receptors to the site will also influence the effects of pollution.

3.3.6 Receptors that should be taken into account include 'human receptors' (any location where a person or property may experience adverse effects from airborne dust) and 'ecological receptors' (any sensitive habitat affected by dust soiling). The nearer the receptor to the site boundary, the more likely the risk of PM_{10} exceedences, especially if combined with PM_{10} from other sources such as major roads.

Material Types, Storage and Transportation

3.3.7 Loose materials and stockpiled soils or sand etc can be liable to create dust, and the ways in which materials are transported and handled can exacerbate this. Whether loads are covered or sheeted and methods used to move them on to and around a site will all have an effect.

Meteorological Conditions

3.3.8 Dust levels will be directly affected by the amount of rainfall, with dry weather increasing the amount of dust in an area generally as well as that from construction sites. Wind speed and direction will also have a significant influence. Weather conditions at the time when construction activities are being undertaken cannot be predicted, and adverse

impacts can occur in any direction from a site, but effects are more likely downwind of the prevailing wind direction, near to the site boundary. Drier weather will generally lead to more significant dust impacts since rainfall will help to suppress dust.

3.3.9 Consequently, impacts will tend to differ between summer and winter months. However, normally construction works cannot be guaranteed to take place only in a certain season due to the range of factors influencing the start and progress of construction.

Vehicles, Machinery, Methods of Working and Maintenance

3.3.10 The ways in which vehicles and machinery are operated, including how long they are left running and sometimes the speed of operation and methods used can all influence air pollution levels. The condition and maintenance of machinery is also an important consideration.

3.3.11 Construction and delivery vehicles crossing unpaved ground can have an important effect, and this will be related to the silt content of the soil, as well as the speed and weight of the vehicle, soil moisture content, distance covered and the frequency of vehicle movements.

Areas Affected and Types of Development / Development Activity Covered by Policy EN9

3.3.12 The Margam / Taibach Air Quality Management Area (AQMA) was declared in 2000 due to exceedences of the short term air quality objective level for PM_{10}. Policy EN9 is intended to address the possible generation of smoke and dust in the vicinity of the AQMA, and consequently for the purposes of the policy, "Central Port Talbot " is defined as being either within the Margam / Taibach AQMA (or any replacement AQMA) (refer to Figure 3.1) or within 500 metres of its boundary. This is in accordance with the screening criteria set out in the guidance from the Institute of Air Quality Management[8].

3.3.13 Developments within the defined area that are likely to result in any significant dust or smoke generation during the construction stage will be required to be undertaken in accordance with a Construction Management Plan (CMP). Developers are encouraged to use the Council's pre-application services so that such matters can be discussed at an early stage. Policy EN9 will be applicable to proposals which relate to:

- operational development, not solely for change of use; and
- a site area of more than 0.1 hectare or propose more than one residential dwelling.

3.3.14 Developers proposing such schemes will need to undertake a Construction Impact Assessment (CIA) in order to assess the likely impacts on local dust levels and identify necessary mitigation measures.

8 Guidance on the Assessment of Dust from Demolition and Construction - IAQM (Feb 2014)

Construction Impact Assessment

3.3.15 The Construction Impact Assessment (CIA) should be undertaken in accordance with the IAQM guidance. Any proposals that are not screened out by the steps outlined above will need to be the subject of a CIA. This will consist of an assessment of the risk of dust impacts and the identification of appropriate site-specific mitigation measures. The CIA / Dust Assessment Report should be submitted with the planning application for the site and, where a CMP is required, should identify those measures which will need to be incorporated into the CMP.

Assessing the Risk of Dust Impacts

3.3.16 The IAQM guidance recommends a staged assessment of dust impacts, combining an assessment of the *potential dust emission magnitude* from the site with an assessment of the *sensitivity* of the area. Because of the existence of the AQMA and concerns about breaches of air quality objectives, it can be assumed that the area concerned (defined above for the purposes of Policy EN9) has a *high sensitivity* for dust. In relation to the *potential dust emission magnitude*, the recommended method for assessment is set out in the IAQM Guidance.

Dust Assessment Report

3.3.17 The findings of the Construction Impact Assessment should be set out in a Dust Assessment Report, including details of the approach taken to the assessment, the information used, the findings on dust emission magnitude, the risk of impacts without mitigation measures and the recommended mitigation measures to be taken. The report should be site-specific and set out why particular choices have been made. This will then inform the contents of the Construction Management Plan.

Construction Management Plan

3.3.18 The Construction Impact Assessment / Dust Assessment Report should be submitted with the planning application for the site. Any mitigation measures identified in the Dust Assessment Report should be incorporated into a Construction Management Plan (CMP) setting out how the development will be undertaken and how adverse effects will be dealt with. Subject to the findings of the assessment, the submission of a CMP is likely to be a matter that can be made the subject of a condition imposed on the planning consent for the site, requiring the CMP to be submitted and agreed with the Local Planning Authority prior to work starting on site. Planning permission for the development will be subject to the requirement that the development must be undertaken in accordance with the agreed CMP.

LDP Allocations

3.3.19 The LDP has a number of allocations for development within the central Port Talbot area. Proposals for development within the following allocations will need to comply with the terms of Policy EN9:

Table 3.3.1 Housing Allocations

Ref:	Site Name	Estimated Number of Units	Site Area (ha)
H1/15	Neath Port Talbot College (Margam Campus)	70	1.8
H1/16 (CCRS1/2)	Glanafan Comprehensive School	50	0.8
H1/17 (SRA2)	Harbourside	385	10

Table 3.3.2 Employment Allocations

Ref:	Site Name	Size (ha)	Use Class
EC1/2	Junction 38 (M4), Margam	6	B1, B2 and B8
EC1/4 (SRA2)	Land within Harbourside SRA	7	B1

Table 3.3.3 Retail Allocations

Ref:	Site Name
R1/2 (CCRS 1/2)	Glanafan Comprehensive School
R1/3 (SRA2)	Harbourside

Table 3.3.4 Transport Proposals

Ref:	Site Name
TR1/5	Harbour Way (PDR)
TR1/6	Integrated Transport Hub (Port Talbot)

3.3.20 In addition, much of the central Port Talbot area lies within settlement limits where development is likely to be acceptable in principle provided that it accords with the role and function of the settlement (Policy SC1). Policy EN9 will apply to all proposed developments that meet the criteria set out in paragraphs 3.3.12 and 3.3.13, whether or not they are on allocated sites.

4 Noise Pollution

4.0.1 Environmental noise, is defined by the Environmental Noise Directive[9] as *'unwanted or harmful outdoor sound created by human activities, is a significant pollutant that can have impacts on people's health and well-being and on biodiversity'*.

4.0.2 Generally developments where noise may be an issue fall into one of two main categories:

1. The introduction of a noise sensitive use such as a residential, hospital or school development into an area near to a significant source of noise (e.g. a major transport route or noisy industry or commerce); or

2. The introduction of potentially noise-generating developments into areas close to existing noise sensitive land uses.

4.0.3 The following sections outline the background and planning approach that will be taken to noise issues.

4.1 Causes and Impacts of Noise Pollution

Impacts of Environmental Noise

Human Impacts

4.1.1 Environmental noise affects people in a variety of ways, but essentially the main impacts relate to health and well-being. A study commissioned by Defra in 2009[10] identified that there was evidence to suggest a link between noise and general annoyance factors, cardiovascular effects, sleep disturbance, cognitive development and hearing impairment. However, other impacts can follow on from these health effects, such as economic and social changes, due to the undesirability of a noisy environment.

4.1.2 The negative impact of noise mostly takes the form of sleep disturbance, minor disruption and annoyance, including its ability to mask and detract from the enjoyment of positive sounds. This can contribute to increased stress levels and raised blood pressure and consequently more significant health impacts. Even low levels of noise can spoil people's enjoyment of tranquil natural environments since quietness can be an important part of the character of some areas, for example areas of open space, countryside and designated quiet areas within the urban agglomerations (as listed in Policy EN10).

Economic Impacts

4.1.3 Economic impacts include adverse effects on tourism (e.g. due to increased noise levels in the natural environment undermining the attractiveness of rural areas); effects on house prices; reduced achievement at school; absence from work; tiredness at work;

9 2002/49/EC relating to the assessment and management of environmental noise.
10 http://archive.defra.gov.uk/environment/quality/noise/igcb/publications/healthreport.htm

distractions or poor communication in the workplace. Putting a full monetary value on the impacts of particular types of noise however, such as domestic noise, may not always be possible.

Wildlife / Biodiversity

4.1.4 The Environment (Wales) Act 2016 requires every public authority to maintain and enhance biodiversity in the exercise of its functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions. The extent to which this principle may be applied in practise will increase as scientific understanding of the effects of noise on wildlife improves.

4.1.5 The audible range of frequencies and the extent to which hearing is relied upon to survive and thrive varies from species to species. A number of animal and plant species found in the wild are protected at a European and UK level from being harmed or disturbed. If an activity is needed to be undertaken that is likely to disturb a protected species, such as development of a site, there may be a need to obtain a licence before carrying out that activity. If the development is likely to disturb a species within a Natura 2000 site[11], a Habitats Regulations Assessment might also be needed.

Causes of Environmental Noise

4.1.6 TAN 11[12] (as updated[13]), identifies the main sources of environmental noise and gives guidance on the assessment of noise from various sources. The following information should be read in conjunction with the TAN.

Road Traffic Noise

4.1.7 The amount of noise generated by road traffic depends on the interaction of a range of factors. These include:

- The volume of sound generated by individual vehicles themselves, which will depend on design and legislative requirements, tyre choices, types of propulsion (e.g. proportion of electric vehicles) and driver behaviour;
- The speed and density of traffic using the road;
- Weather conditions (wet or windy conditions will alter the perception of noise from traffic);

11 Sites designated under the Habitats Directive either as Special Areas of Conservation (SACs) for their habitats and species or Special Protection Areas (SPAs) for the protection of birds.
12 Technical Advice Note 11: Noise (1997) - Welsh Government.
13 WG Ministerial Letter CL-01-15 Updates to TAN 11 Noise - Noise Action Plan (2013-18) Commitments (November 2015).

- Road surface types and surface degradation (e.g. concrete road surfaces, such as the A465 dual carriageway between Aberdulais and Cwmgwrach, will give rise to higher levels of noise, while low noise road surfacing has been employed in some areas, including the A465 between the M4 and Neath); and

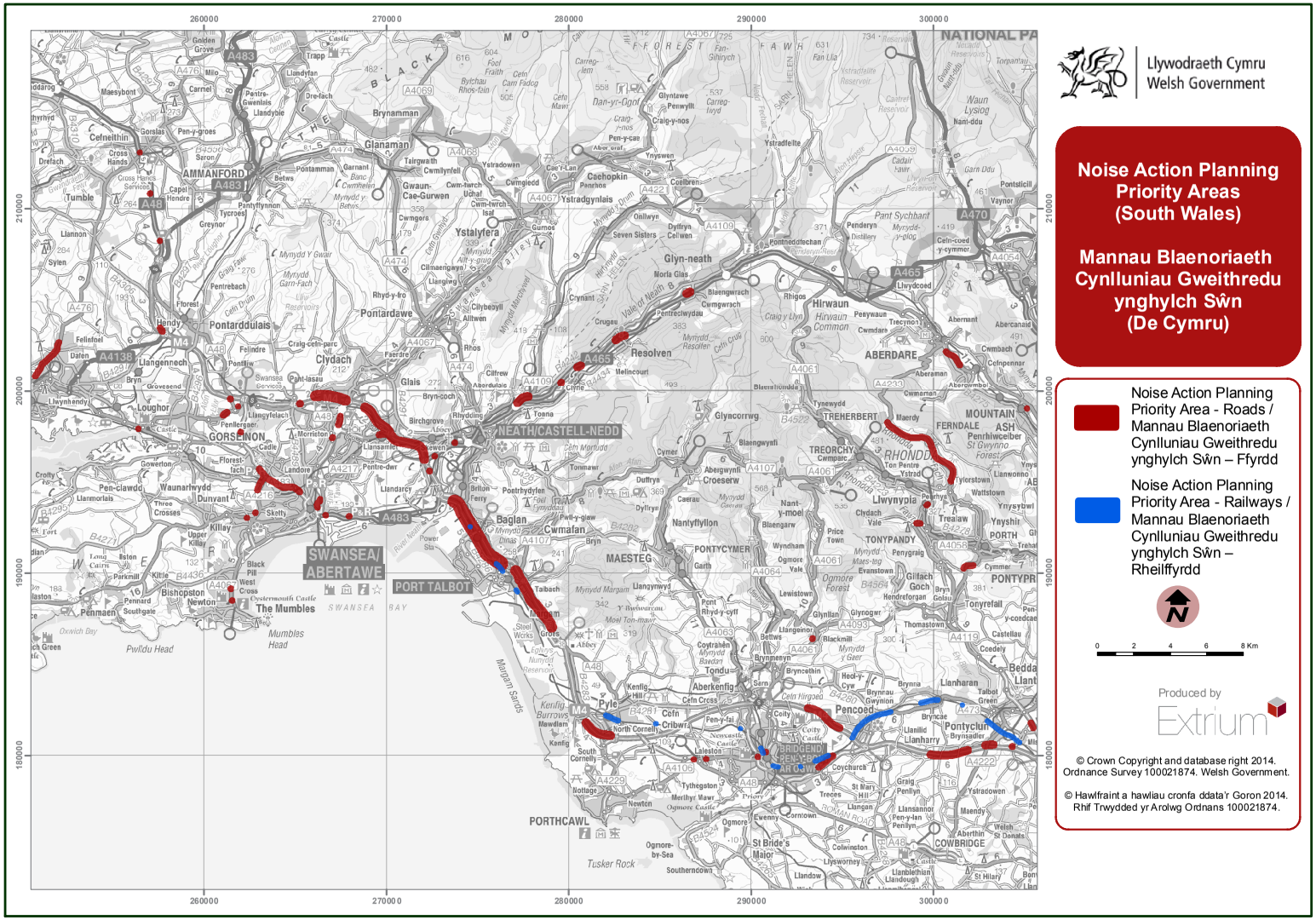
- Natural and man-made features alongside roads (e.g. general topography, vegetation or buildings which can provide noise screening).

4.1.8 Overall, it is likely that busier main roads are likely to cause the most issues, with those located in urban areas likely to affect the most people. The LDP Proposals Map identifies the County Borough's primary and core road networks and the Welsh Government's Noise Action Plan for Wales[(14)] identifies 'Noise Action Planning Priority Areas' (NAPPAs). The priority areas were updated in 2014, with 11 identified priority areas for road traffic noise identified within Neath Port Talbot. These are shown in Fig 4.1.

4.1.9 The location and likely impacts of noise priority areas will need to be taken into account if noise sensitive development is being proposed in the locality. Where significant noise impacts are likely, development proposals may need to be accompanied by Noise Surveys and a Noise Management Plan. In such cases, developers are encouraged to use the Council's pre-application services so that such matters can be discussed at an early stage.

14 A Noise Action Plan for Wales 2013 - 2018 (Dec 2013) - Welsh Government

Figure 4.1 Noise Action Planning Priority Areas



Noise from Railways

4.1.10 The Great Western Main Line from London Paddington to Swansea passes through Neath Port Talbot, with main line stations at Neath and Port Talbot and local stations at Skewen, Briton Ferry and Baglan. Other lines within the County Borough are freight only and comprise lines in the Neath and Dulais valleys which link through to Crymlyn Burrows and Swansea docks and links to the freight lines west to Pontarddulais and east to Aberkenfig/Tondu. There are also railway sidings at Tairgwaith (linked by a freight line to Ammanford) and sidings serving Baglan Energy Park and the Tata steelworks.

4.1.11 Factors influencing noise generation and perception of noise from railway operations include the following:

- Noise from passing trains, including engine/traction and rolling/aerodynamic noise;
- Frequency and times of train services;
- Route gradients and signalling affecting traction loading;
- Shunting/marshaling activity at depots and sidings;
- Horns;
- Stations and associated activities; and
- Squeal from wheels/rail.

4.1.12 Three rail noise priority areas are identified along the main line through Port Talbot and Baglan where the largest concentrations of people exposed to noise from railways are located[(15)] (See Fig 4.1). The same approach should be taken to developments in the locality of rail noise priority areas as outlined above for road noise priority areas (see para 4.1.9). Electrification of the Great Western Main Line to Swansea is proposed, which should bring benefits in terms of noise impacts due to the quieter running of electric trains[(16)].

Noise from Aircraft

4.1.13 Aviation related environmental concerns, including non-military noise issues, are dealt with by the Civil Aviation Authority. Civil aviation does not currently cause significant noise issues in Neath Port Talbot. Military aviation activities may have an impact in parts of the county borough, most likely through low flying training flights since the whole area lies within Low Flying Area 7, however this is not currently a frequent issue within the County Borough.

15 Locations where the top 1% of all the people predicted to be exposed to an $L_{Aeq.18h}$ of 50 dB or greater reside and the $L_{Aeq.18h}$ is at least 68 dB.

16 The Welsh Government intends to review the location of the designated priority areas in light of the anticipated changes following electrification.

Ports

4.1.14 With the changing nature of port activities, docks, wharfs and harbours may be used for different purposes and by differing types of vessels and transport modes, with areas frequently becoming disused, changing or being redeveloped. This can often give rise to a mix of industrial, commercial, residential, leisure and other uses, with significant potential for noise impacts.

4.1.15 Within Neath Port Talbot, there are active port facilities along the River Neath at Giants Grave and Neath Abbey Wharf, and at Port Talbot docks and deep water harbour. Port activities at Swansea docks may also give rise to noise issues within the County Borough.

4.1.16 Port functions are normally 24 hour operations and ports are frequently prime locations for the establishment of industries that can take advantage of the close proximity of import and export facilities for materials and produce (e.g. The steelworks at Port Talbot). Noise impacts can arise from port operations including loading and unloading and transport by road and rail, ships and shipping movements and associated works such as dredging.

4.1.17 The introduction of noise sensitive developments within or near to working ports will therefore need careful consideration to ensure that adverse impacts do not result. Within Neath Port Talbot this is likely to apply in particular to proposals for developments within the Harbourside Strategic Regeneration Area (LDP Policy SRA2) which will need to take account of the proximity of port operations.

Industrial & Commercial Developments

4.1.18 From industrial sites, noise impacts vary depending on the nature of the activity on site. Generally, noise from industrial sites can be more noticeable than a similar level of road traffic noise. In particular, low frequency noises, impact noise and machinery operation can cause disturbance, especially at night. In addition, associated activities and equipment such as extraction flues, fan noises, vehicle movements, alarms and radios can cause disturbance. Where these occur continuously or loudly, or when they are new noises introduced into an area, they can be very annoying. As a result of this sensitivity, industrial noise is generally assessed relative to existing background sound levels, since higher levels of background noise (e.g. traffic noise) render industrial sounds less noticeable or distinguishable while quite low levels of industrial noise may be noticeable or intrusive in a very quiet area.

4.1.19 This implies that it may be less harmful to introduce industrial noise where traffic noise is high, despite this meaning a higher overall noise level. However, there are dangers that this could lead to progressively increasing noise levels in some areas which would not be acceptable bearing in mind the health and well-being impacts of high overall noise levels.

4.1.20 Noise from commercial premises (e.g. restaurants/takeaways, night clubs, public houses, theatres and cinemas) needs to be carefully considered before such uses are introduced into residential areas or residential development is proposed near to such uses. Entertainment uses that include live or non-live music may give rise to unwelcome noise

in the area from their operational functions, while there will often be noise associated with uses that serve alcohol and attract people to come and go or congregate at unsociable hours. There is an expectation that such uses should be located in town or retail centres, where a level of such noise may be expected, but such considerations will need to be taken into account when developments are proposed which would result in commercial uses in proximity to residential or other noise sensitive uses.

4.1.21 Other commercial activities that may raise noise issues if located close to noise sensitive uses include garages, scrap yards, filling stations, taxi businesses and amusement centres all of which may give rise to noticeable or intrusive noise levels.

Wind Turbines & Wind Farms

4.1.22 Information and guidance in relation to noise from wind turbines and wind farms is set out in TAN8[17]. This indicates that noise levels from turbines are generally low and, under most operating conditions, it is likely that turbine noise would be completely masked by wind-generated background noise. Guidelines for the assessment of turbine noise is also set out in 'The Assessment and Rating of Noise from Wind Farms'[18]. TAN8 indicates that 500 metres is considered a typical separation distance between a wind turbine and residential property to avoid unacceptable noise impacts, but suggests that this should not be applied in a rigid manner.

Minerals & Landfill Waste Disposal Sites

4.1.23 Mineral extraction operations and waste landfill sites can generate significant levels of noise including from underground and surface working and from associated operations and developments. This can include mineral processing operations and blasting operations.

4.1.24 The LDP defines buffer zones (Policy M3) to provide areas of protection around mineral workings where new noise sensitive development such as dwellings, hospitals or schools will be resisted. The buffer zones have a width of 500, 200 or 100 metres depending on the mineral type. In addition, the LDP defines settlement protection zones (under Policy M2) of 500 metres around all settlements within which new surface coal operations will not generally be acceptable.

4.1.25 There is one existing waste landfill site within Neath Port Talbot, at Pwllfawatkin near Cwmgors and no new sites are proposed. The site is located outside settlement limits where any new development would be restricted under LDP Policy SC1, but any new sensitive developments in the locality should take into account the possibility of noise associated with the site.

17 TAN8: Planning for Renewable Energy (2005) - Welsh Government.
18 The Assessment and Rating of Noise from Wind Farms (ETSU-R-97)

4.2 Implementation of Policy EN8 & Avoidance/Mitigation Measures

4.2.1 In relation to noise issues, Policy EN8 states that all proposals which could have unacceptable adverse effects or expose people to unacceptable risk will not be acceptable the effects can be mitigated to an acceptable level. The explanation to the policy indicates that in order to comply with this requirement, potentially noisy proposals should not be located close to existing sensitive uses and conversely new noise-sensitive developments should not be located near to existing noisy uses. If this is not possible, it will need to be demonstrated that adverse effects can be dealt with through mitigation measures incorporated into the design. Additional information may be required from developers in cases where noise levels are likely to be a significant issue, to demonstrate that no unacceptable adverse effects are likely to be caused through increased noise levels at sensitive locations if the development proceeds.

Assessing Potential Effects on Health, Biodiversity & Amenity

TAN Method

4.2.2 TAN11 (Noise) sets out the approach to be taken to dealing with noise issues. In relation to cases where introducing residential developments are proposed in an area with an existing noise source, the TAN sets out the following steps:

1. The levels of noise on the site from road, rail, or air traffic or from mixed sources should be assessed;

2. The Noise Exposure Category (NEC) for the site can be derived (categories A to D - see Table 2 in TAN11 Appendix A);

3. The suitability of the site for residential development is then indicated by Table 1 in TAN 11 Appendix A.

4.2.3 Noise will generally not need to be considered as a determining factor for sites falling within NEC A, while those in NEC C and D should normally be refused permission on noise grounds. Sites falling in NEC B will need more consideration and will often require specific measures (e.g. the imposition of noise conditions) if development is to proceed.

4.2.4 The TAN indicates that other types of noise sensitive development (e.g. offices, hospitals and schools), should be assessed in accordance with guidance on internal noise standards (BS 8233).

4.2.5 With regard to the introduction of potential sources of noise into existing residential areas, the TAN indicates that the effects will have to be individually assessed, but that the options to control noise are likely to be more limited. In such cases it will therefore need to be demonstrated that there will be no detrimental effects if the proposal is to proceed.

4.2.6 Full details of this recommended approach are given in TAN11 (Noise).

Noise Designations

4.2.7 As indicated above, 11 'Noise Action Planning Priority Areas' have been identified in Neath Port Talbot, relating to road and railway noise. These give an indication of locations where noise is likely to be an issue from these sources (although other areas may also be affected). Any noise sensitive developments being considered near to a designated priority area will need to pay special attention to this aspect, for example by taking measures to ensure that the overall design and layout of the development minimises noise exposure to sensitive areas (refer below).

4.2.8 In addition to noise priority areas, 'Quiet Areas' have been designated within urban agglomerations under the Environmental Noise Directive. Within Neath Port Talbot, 10 Quiet Areas have been designated (Policy EN10). These are public open spaces within urban areas that have been identified as having significant local amenity value and are relatively quiet by urban standards. In order to comply with Policy EN8, new developments should not unacceptably affect their identified amenity value through additional noise intrusion. Further information about Quiet Areas is set out below in Section 4.3.

Construction Noise

4.2.9 Developments that could have unacceptable adverse effects through noise generation during their construction phase may be required to submit a noise impact assessment to cover this issue. Normally this will need to include an assessment of the likely noise generation and its impacts during the construction phase, together with proposed measures to address these issues, generally as part of a construction management plan. Further information on these requirements can be obtained from the council.

Biodiversity Impacts

4.2.10 Policy EN8 requires developments to have no unacceptable adverse effects on biodiversity through noise pollution. Particular attention will need to be given where sensitive or protected species may be present in the locality, for example where development sites are located near to undeveloped areas, natural features and habitats. This is likely to include (but is not limited to) areas that have formal biodiversity designations (such as Sites of Importance for Nature Conservation (SINCs), local or national nature reserves, Sites of Special Scientific Interest (SSSIs) or Natura 2000 sites)[19]. The effects that increased noise levels may have on species will depend upon the type of noise involved and the particular sensitivities of the species in question. Special consideration will be needed for developments likely to affect sites that have been designated as Natura 2000 sites[20]. Further information is provided in Chapter 8.

19 Further information on the location of such sites will be available in the Council's 'Biodiversity and Geodiversity' SPG.

20 Sites designated under the Habitats Directive either as Special Areas of Conservation (SACs) for their habitats and species or Special Protection Areas (SPAs) for the protection of birds.

Mitigating Adverse Effects

4.2.11 Mitigation can be achieved through a number of different types of measure depending on the development being proposed. These measures fall into three categories:

- The reduction of noise at source;
- Addressing noise transmission pathways through noise barriers or screening; and
- Noise control at the receiver.

Controlling Noise Emissions at Source

4.2.12 If it is not possible to avoid noise issues by locating new noisy developments in areas away from sensitive uses, measures will be required to either control or reduce noise levels emitted from the site or to mitigate the impact of the noise to an acceptable level. If the noise impact cannot be made acceptable through separation, noise control or other mitigation measures, planning permission for the development will normally need to be refused.

4.2.13 Technological solutions may be available to reduce noise levels at their source (e.g. through improved designs of machinery or processes), while barriers to noise can be employed either through improved machinery enclosures or buildings or the erection of more distant noise barriers. Controls on times of operation may also make an otherwise unacceptable development feasible. Certain types of industrial / commercial noise is regulated by Natural Resources Wales (NRW) under the provisions of the Environmental Protection Regulations 2010, but the overall noise impacts of a development will be assessed and taken into account by the Local Planning Authority, in consultation with NRW where relevant.

Control of Noise on the Transmission Path

4.2.14 The main factors which control noise levels at any point within a site are the distance between the noise source and the receiver, the nature of the intervening ground cover and the height of the receiver:

- ***The location and height of buildings within the site*** - distance attenuation is greatest where the receiver is nearest to the ground. Low-rise housing can therefore generally be built nearer to a noise source than high-rise.
- ***Screening*** - this can be provided by existing features (such as a railway cutting or embankment), purpose designed features (such as a solid boundary fence or earth mound), a purpose-designed feature of the building (such as a courtyard), or a purpose designed building (such as a barrier block[21]). Screening is most effective when

21 A building or block of buildings which itself forms a noise barrier.

located close to a source or receiver, protects low-rise housing better than high-rise, is generally more effective when higher and should usually extend beyond the boundaries of the site to be fully effective.

- ***Building form and orientation*** - in a low-rise development, buildings closest to the noise source can shield the remainder of the development; courtyard housing with windowless outer walls can provide visual and acoustic privacy; rooms facing a noise source can be given some protection by an external balconies; the siting of barrier blocks close to and parallel to the noise source can be effective if sufficiently tall; careful consideration should be given to the design and noise screening of amenity areas.

Control of Noise at the Receptor

4.2.15 Modifications to the building envelope itself to attenuate noise transmitted to the interior is the final line of defence against environmental noise. This does not address noise experienced in public areas and private gardens, and has the additional drawback that normally, maximum sound insulation will only be achieved when all windows are closed. This would consequently require alternative ventilation provision, and to avoid this every attempt should be made to design the building so that noise requirements are met with windows open. Sound insulation of the building envelope should be considered only as a last resort.

4.3 Implementation of Policy EN10 & Avoidance/Mitigation Measures

4.3.1 Policy EN10 requires development proposals not to have unacceptable impacts on any of the 10 designated 'Quiet Areas' in the County Borough. The impacts referred to are further defined as being significant increases in noise or other impacts that would adversely affect the criteria under which the areas were designated.

4.3.2 One of the main aims of the European Environmental Noise Directive[(22)] is to protect environmental noise quality where it is good. In order to meet this requirement, Quiet Areas were put forward by the Council and have been designated by the Welsh Government under the Environmental Noise (Wales) Regulations 2006, to be protected through planning policy. The designated Quiet Areas in Neath Port Talbot are listed in Policy EN10 and shown on the LDP Proposals Map.

4.3.3 Welsh Government policy relating to Quiet Areas is that areas should be assessed not only on overall noise levels, but in terms of a broader concept of tranquillity, bearing in mind that sites within built-up areas may not meet noise standards that would be achieved in more rural areas. Rather than being based on a defined noise level standard, a relative approach was therefore used in order to identify Quiet Areas, tailored to reasonable and realistic expectations within urban areas. This included consideration of positive sounds and visual features that can make a place seem quieter or more tranquil. Following this approach and work undertaken elsewhere (including Westminster) the concept of urban tranquillity was defined in terms of five 'pillars', or criteria:

22 Directive 2002/49/EC.

a. Sound;

b. Presence of nature;

c. Visual/aesthetic qualities;

d. A sense of personal safety; and

e. The culture and freedom of the place.

4.3.4 The 'pillars' of tranquillity are divided into those which directly relate to perceived quiet (the first three criteria), and those which do not directly relate to perceived quiet but which may nonetheless detract from the health and well-being benefits otherwise conferred by quiet and tranquillity.

4.3.5 Development proposals will be expected to demonstrate that they will have no significant adverse effects on any designated Quiet Area in terms of the five pillars of tranquillity. Proposals will need to be assessed to establish whether or not any effects are likely. This will depend on the nature of the proposal and its proximity to any Quiet Area and the parameters will vary on a case by case basis. If significant effects are likely, the following points should be addressed:

1. The following potential effects should be assessed, relating to the five pillars of tranquillity:

    a. Noise generation and transmission from the development site;

    b. The potential effects of the development on the Quiet Area and its surroundings in relation to natural features (e.g. trees, bushes, open areas, water features etc.)

    c. Inter-visibility between the new development and the Quiet Area and the impact on the visual character of the Quiet Area and its locality;

    d. Potential impacts of the development on the numbers of people using the Quiet Area and the wider area including access routes;

    e. Possible effects of the development on the character of the locality around the Quiet Area (e.g. changes in character from a residential area to a mixed/industrial or social/entertainment area etc).

2. If potential adverse effects are possible, mitigation measures should be identified. In relation to the five pillars of tranquillity these could include:

    a. Measures to attenuate noise and noise transmission (refer to Section 4.2.10 above);

b. Planting and landscaping schemes to maintain a natural character in the area. This should be considered in the context of any separate open space and biodiversity requirements;

c. Amendments to the siting, design and layout of the development, provision of screening or planting as in (b) above;

d. Attention to the design and layout of the development or off-site works and improvements;

e. As (d) above.

4.3.6 The scheme should be designed as far as possible to take into account the findings of the assessment. However, it may be possible to deal with some of the above issues through the imposition of conditions on a planning permission.

4 . Noise Pollution

5 Light Pollution

5.0.1 Light pollution can be defined as the effect of over-lighting resulting from poorly designed lighting schemes and excessive levels of light. Broadly, it can be divided into three categories:

1. *Sky glow* caused by the scattering of artificial light by dust particles and water droplets/mist and cloud. It is closely related to the upward light waste ratio of lighting installations in the vicinity.

2. *Glare* is caused by the uncomfortable brightness of a light source when viewed against a darker background.

3. *Light trespass* is the spill of light beyond the boundary of the property on which a light is located.

5.0.2 The following sections outline the background and planning approach that will be taken to light pollution issues.

5.1 Causes and Impacts of Light Pollution

Causes of Light Pollution

5.1.1 Artificial lighting is introduced for a range of reasons, which include:

- Safety of movement;
- Security of property;
- Extension of working hours or sporting/leisure activities;
- Advertising;
- Enhancing horticultural or farming production; and
- Enhancing the amenity value of important buildings and settlements.

5.1.2 Light pollution can result from the introduction of artificial lighting, especially when this occurs in otherwise dark rural areas. Lighting generally only becomes a problem where it is excessive, poorly designed or badly installed.

Impacts of Light Pollution

Effects on People

5.1.3 The following impacts and problems can be caused by the three main categories of light pollution:

1. *Sky Glow* - glow in the sky from artificial light can be stronger than natural moonlight and can weaken or obliterate views of the stars and night sky. This can have an adverse effect on overall perceptions of tranquillity and the appreciation of not only astronomical features and phenomena, but also night time landscapes. Orange sodium street lighting has a particularly intrusive impact, and can lead to an urbanising effect impacting on a wide rural hinterland.

2. *Glare* - can have a blinding effect with safety implications for drivers and cause disturbance and disruption to perceptions of tranquillity.

3. *Light trespass* - can upset the balance of exterior lighting within an area and may cause disturbance and anxiety for neighbouring home owners and adversely affect privacy or the perception of privacy.

Ecological Effects

5.1.4 The effects of increased lighting levels on the ecology of an area are not yet fully understood. There is some evidence of adverse effects on nocturnal animals, the reproduction cycle of some birds, and some types of plant growth. Bats are likely to be particularly sensitive to changes in lighting: the introduction of intrusive lighting may be an offence under the Habitats Regulations. The advice of a qualified ecologist should always be sought when new lighting is proposed in the countryside or other predominantly dark areas.

Landscape Character Effects

5.1.5 The nature and character of the landscape should be taken into account when new lighting schemes are proposed. Remoter dark landscapes and places within designated Special Landscape Areas will need special consideration as the introduction of unsympathetic, excessively bright or poorly designed new lighting has the potential to be particularly intrusive and may be contrary to LDP Policy EN2 (Special Landscape Areas) or BE1 (Design).

5.2 Implementation of Policy EN8 & Avoidance/Mitigation Measures

5.2.1 Policy EN8 requires all proposals to have no unacceptable effects on health, biodiversity or amenity through causing additional light pollution. The explanation to the policy acknowledges that concerns about light pollution will need to be balanced against the positive benefits of lighting proposals (e.g. enhanced security and extended hours of use of sporting facilities). It is indicated that where lighting proposals could cause adverse effects, mitigation measures will be required to minimise these impacts.

5.2.2 In general terms, proposals in more remote rural areas are likely to have potentially greater impacts through light pollution than those within urban areas. However, although less likely to have landscape or visual amenity impacts, proposals within existing developed areas (i.e. broadly within settlement limits) can still have significant ecological effects or impacts on people.

5.2.3 Where lighting could have an adverse impact upon nocturnal species, such as bats in particular, the lighting scheme of a development will be required to be designed to avoid and minimise impacts upon such species. Such lighting designs are a common requirement and standard techniques to address such impacts are well understood and simply applied.

5.2.4 For sustainability and economic reasons, the question of whether lighting is really necessary on new development should be addressed in the first instance. The following questions should be considered:

1. Is lighting essential to the safety, security or viability of the scheme?

2. Are there any alternatives to lighting? (e.g. improved site layout or use of alternative security measures).

5.2.5 If lighting is considered to be necessary or desirable, appraisal of the scheme will need to take into account its location, its purpose and its impacts.

5.2.6 The Institute of Lighting Professionals (ILP)[23] has produced a classification which identifies environmental zones for exterior lighting control which broadly identify the sensitivity of areas to light pollution.

Table 5.2.1 Environmental Zones for Exterior Lighting Control

Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically dark	National Parks, Areas of Outstanding Natural Beauty etc
E2	Rural	Low district brightness	Village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Small town centres or suburban locations
E4	Urban	High district brightness	Town/city centres with high levels of night-time activity

5.2.7 Significant areas of Neath Port Talbot could be considered to fall within zone E1, being intrinsically dark areas of forest or moorland that are remote from any significant size settlement. There are no designated Areas of Outstanding Natural Beauty within Neath Port Talbot, but the administrative area borders on to the Brecon Beacons National Park which has been designated a 'Dark Sky Park' by the International Dark Sky Association (IDA).

23 Guidance Notes for the Reduction of Obtrusive Light (2011) - Institute of Lighting Professionals.

5.2.8 Within intrinsically dark areas, or areas where lighting could have an impact on the National Park, special emphasis will be put on the impacts of lighting schemes. In these locations, lighting schemes that are not strictly necessary or (if shown to be necessary) that do not take all reasonable steps to minimise light pollution, are unlikely to be acceptable under Policy EN8.

5.2.9 Generally within rural parts of the County Borough (i.e. all areas within zones E1 and E2), light pollution can have an adverse impact on landscape and rural character, as well as ecological and human impacts. Lighting schemes should take this into account and be designed accordingly taking account of existing levels of artificial light in the locality. Proposals within Special Landscape Areas will need to pay particular regard to the visual impacts of artificial lighting in complying with LDP Policy EN2 (Special Landscape Areas).

5.2.10 Within Zones E3 or E4, regard will need to be given to the sensitivities of the locality and the likely impacts in particular on human and ecological interests.

5.2.11 Further detailed advice is available in the ILP Guidance Notes[24], which sets out (in Table 2) the light limitations recommended for each environmental zone and provides detailed advice about lighting design and the approaches that should be taken.

24 As above.

6 Land Contamination

6.0.1 Land contamination can arise from a range of man-made or natural sources. Typical causes of land contamination include previous industrial or commercial uses, mining and land filling. However, common domestic activities such as the storage of heating oil or the use of asbestos for buildings can also lead to contamination. Legislation relating to contaminated land is primarily embodied in the Environmental Protection Act 1990 (as amended) and the Contaminated Land (Wales)(Amendment) Regulations 2012. The Environmental Protection Act[25] defines contaminated land as:

> *'...any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:*
>
> *(a) Significant harm is being caused or there is the significant possibility of such harm being caused; or*
>
> *(b) Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused.'*

6.0.2 Detailed guidance on the determination of (a) what harm or pollution of controlled waters is to be regarded as "significant" and (b) whether the possibility of significant harm or of significant pollution of controlled waters being caused is "significant" is given in the Contaminated Land Statutory Guidance document[26]

6.0.3 The planning system takes a broader view of land contamination, since it needs to ensure not only that there is no significant possibility of significant harm, but that a site is fully suitable for the proposed use and will remain suitable after development. In relevant cases, developers will be required to demonstrate that there is a low risk of any harm from contamination.

6.0.4 It is the responsibility of the developer to identify the nature, scale and extent of land affected by contamination and, if required, to undertake remediation work. However, land contamination is a material planning consideration that must be taken into account by the Local Planning Authority when determining planning applications. If land within an application site is known to be contaminated, contamination is suspected or the site has previously been employed for uses that could have given rise to contamination, any planning application will need to be accompanied by an appropriate risk assessment.

6.0.5 The following sections outline the background and planning approach that will be taken to land contamination issues.

25 Environmental Protection Act 1990 (as amended).
26 Contaminated Land Statutory Guidance (Welsh Government 2012).

6.1 Causes and Impacts of Land Contamination

Causes of Land Contamination

6.1.1 Land may become contaminated through the presence of a range of different substances including metals, organic substances, ground gases and through a raised or lowered level of acidity. For an area to be classified as contaminated land under the EPA, there has to be a source of contamination, a pathway by which the contaminant reaches the receptor and the presence of a receptor (living organisms, ecological systems or property which may be harmed). Development proposals may result in changes to any part of this source-pathway-receptor model, and consequently in dealing with planning applications, a broader consideration needs to be given to contamination than the formal EPA definition of contaminated land.

6.1.2 The presence of contamination is most often a result of past human activities although it can be due to natural processes. The following sections outline some of the more common causes of land contamination.

Industrial Uses

6.1.3 Within Neath Port Talbot there is a long history of heavy industry including the coal industry, metal working and production and petrochemical industries. The re-use of land that was previously part of an industrial site is common and will very often give rise to contamination issues, but such uses can also affect nearby land beyond the boundaries of the original premises. This can occur through the migration of contaminants through wind or water transmission and other mechanisms.

Commercial Uses & Utilities

6.1.4 The use of land for a variety of commercial purposes may give rise to contamination issues. Such uses include the storage of fuel or gas, petrol filling stations, road or rail depots and vehicle parking or gasworks. Sewage works, scrap yards, abattoirs and food processing activities may also have an impact.

Importation of Material including Tips, Dumps & Landfill

6.1.5 Waste materials may be brought into a site for storage, treatment or incineration, or in order to raise levels or infill voids (e.g. quarries or disused docks). Where this has occurred in the past or has not been adequately controlled, there may be no records of any previous contaminative use.

Agricultural Activities

6.1.6 In rural areas, many of the contaminants common in an urban context may also be found, particularly in relation to agricultural activities, including fuel storage and the storage and use of pesticides, fungicides and herbicides, the presence of sewage sludge and farm waste.

Domestic / Residential

6.1.7 Within residential areas contamination may be less prevalent, but potentially could arise within areas used for vehicle parking, fuel storage or from the use of asbestos and other building materials.

Natural Contaminants

6.1.8 As indicated above, not all land contamination is a result of human activity. There may be naturally occurring radioactivity in some areas, including radon, the presence of metals within the soil and methane and carbon dioxide arising from wetlands or former wetlands and peat moors and bogs.

Impacts of Land Contamination

6.1.9 As indicated above, receptors of land contamination are defined as living organisms, ecological systems or property which may be harmed.

Living Organisms & Human Health

6.1.10 *Uptake of contaminants by food plants grown in contaminated soil.* Some contaminants including heavy metals and some pesticides may accumulate in food plants to concentrations that could be hazardous to humans or animals.

6.1.11 *Ingestion and inhalation.* Substances may be directly ingested (e.g. by the consumption of plants which have absorbed contaminants or are contaminated with soil or dust). This can also happen through contaminated water supplies, or through the inhalation of dust or vapours

6.1.12 *Skin contact*. Skin irritation can be caused by direct contact with soil containing tars, oils or corrosive substances. Some substances (e.g. phenols) may be absorbed into the body through the skin or via cuts and abrasions.

6.1.13 *Irradiation*. Radioactive materials emitting gamma rays can have an effect at a distance from the material as well as through being inhaled or absorbed through the skin.

6.1.14 *Fire and explosion.* Materials including coal, coke, oil, tar, pitch, rubber, plastic and domestic waste are combustible and may ignite and burn underground producing toxic or flammable gases. Methane and other gases may explode if they accumulate in confined spaces.

Property & Buildings Impacts

6.1.15 *Fire and explosion*. Underground fires may cause ground subsidence and cause structural damage or damage building services. The accumulation of flammable gases in confined spaces leads to a risk of explosion.

6.1.16 *Chemical attack on building materials and services*. Sulphates may attack concrete structures, while acids, oils and tarry substances may accelerate the corrosion of metals or attack plastics or rubber used in pipe work or as jointing seals or protective coatings.

6.1.17 *Physical impacts*. Some materials including blast furnace or steel making slag may expand if ground conditions are changed by development. Infilled areas may settle or collapse if there is a degradation of materials or voids caused by buried tanks or drums collapse.

Ecosystems Impacts

6.1.18 *Phytotoxicity (prevention/inhibition of plant growth)*. Some metals that are essential for plant growth at low levels are phytotoxic at higher concentrations. Gases such as methane may deplete the oxygen content in the plant root zone, giving rise to phytotoxic effects.

6.1.19 *Contamination of water resources*. While soils can absorb, degrade or attenuate the effects of pollutants, if this capacity is exceeded, polluting substances can enter surface or groundwater.

6.1.20 *Ecotoxicological effects*. Contaminants in soil may affect microbial, animal and plant populations. This can affect individual species or ecosystems.

6.2 Implementation of Policy EN8 & Avoidance/Mitigation Measures

6.2.1 Policy EN8 requires all proposals to have no unacceptable effects on health, biodiversity or amenity as a result of contamination. The LPA will need to be satisfied that the proposal does not result in or allow the continuation of unacceptable risk from land contamination. Any significant existing or potential risks of harm from land contamination should be eliminated by removing the pollution source, blocking the pathway and/or ensuring there are no receptors that could be affected.

6.2.2 The explanation to the policy indicates that where contamination is likely or is found to be present, information will be required to show the level and type of contamination present together with proposals for remediation and mitigation to show that no adverse effects will be caused at any stage of development within or outside the site. The potential for land contamination is a material planning consideration but it is the developer's responsibility to ensure that any proposed development is safe and suitable for the use proposed.

6.2.3 In order to assess whether land contamination is likely to be an issue, the following points should be considered:

- The historic and existing uses of the site;
- The current circumstances of the land;
- The proposed end use; and
- The potential for contamination to be encountered during development works.

6.2.4 Consideration should also be given to the condition of adjoining land and the possibility of leachate entering the site from external sources. Developers are advised to contact the council for pre-application advice in order to ensure that all matters are addressed.

6.2.5 As a minimum, for sites where contamination is likely to be an issue, a Preliminary Risk Assessment (PRA) should be submitted with the planning application in order to assist with consideration. This would normally comprise a desk study to identify potential contaminants, receptors, pathways and their relationships (pollutant linkages) and the development of an outline conceptual model.

6.2.6 Depending on the circumstances, further additional information may be required prior to the grant of any planning permission. Guidance issued by the Welsh Local Government Association and Environment Agency Wales (now Natural Resources Wales)[27] gives further information on this and sets out a detailed land contamination management procedure that should be followed, including requirements for site investigations, risk assessments, remediation options appraisal, remediation strategy, implementation and verification. It may be possible to issue a planning consent subject to conditions requiring the implementation of some stages of the contamination management procedure, depending on the circumstances of the site in question, but compliance is likely to be required before any development work can start on site.

27 Development of Land Affected by Contamination: A Guide for Developers (2012) - Welsh Local Government Association / Environment Agency Wales.

6 . Land Contamination

7 Water Pollution

7.0.1 New developments have the potential to cause pollution of water bodies in a variety of ways. This can include impacts on ground contamination which can affect ground water quality, new additional discharges to sewers or water courses or changing patterns of land drainage and run-off. The LDP indicates that developments will be expected to minimise any adverse effects on water quality and will be required to ensure that no pollution is caused through drainage.

7.0.2 Pollution control is normally the responsibility of authorities and bodies other than the LPA (primarily NRW), and PPW indicates that it is not the role of the planning system to seek to control the processes or substances used in any particular development. However, the LPA will need to understand the scope and purpose of conditions that can be imposed by pollution authorities in order to ensure that planning conditions neither duplicate nor conflict with such conditions. Proposed development should be designed wherever possible to prevent or minimise any adverse effects on the water environment.

7.0.3 The following sections outline potential causes of water pollution and the measures that should be taken to avoid adverse effects.

7.1 Causes and Impacts of Water Pollution

7.1.1 Water bodies are particularly vulnerable to the effects of pollution from a range of sources. Pollution may be caused by a range of different substances being introduced into the water environment including chemicals, metals and organic materials and can include discolouration and elevated temperatures. Water quality is also linked to other forms of pollution addressed in this SPG including air pollution and land contamination, and this section should be read in conjunction with the other relevant sections above.

Causes of Water Pollution

Direct Run-off

7.1.2 Direct run-off from land adjacent to water courses can result in contaminants entering the water body. Examples include run-off from roads or parking areas (heavy metals or hydrocarbons from vehicles) or from agricultural land (pesticides / herbicides / insecticides or fertilisers etc).

Land Contamination

7.1.3 Contamination within the ground can migrate to ground waters and lead to significant water pollution. This may be occurring prior to development but can also occur as a result of development activities disturbing historic contamination or providing new pathways for the contamination to reach water bodies.

Effluent Contamination

7.1.4 Issues with sewage disposal or effluent from agricultural activities can be significant, including problems associated with the use of cess pits / septic tanks or inadequate sewer capacity or surcharging.

Deposition from Air Pollution

7.1.5 Pollutants can enter water bodies as a result of deposition from air pollution. This can be particularly significant in relation to acid and nitrogen deposition which can lead to changes in the chemical composition of water affecting the growth of flora and fauna. Alteration of water's physical chemistry can also include changes to its electrical conductivity.

Impacts of Water Pollution

7.1.6 Water pollution can have significant effects on human health as a result of toxic chemical substances and pathogens that may be in the water and can produce waterborne diseases in either humans or animals.

7.1.7 In addition, high concentrations of naturally occurring substances can have negative impacts on aquatic flora and fauna. Changes in oxygen concentrations can be caused by natural materials such as plant matter (e.g. leaves and grass) or man-made chemicals. Other pollutants may cause turbidity (cloudiness) which blocks light and disrupts plant growth, and can clog the gills of fish.

7.1.8 Eutrophication is an increase in the concentration of chemical nutrients in an ecosystem leading to an enriched environment, changing natural ecosystems. Depending on the degree of eutrophication, this can result in more sensitive species being out-competed by more common or invasive species or other negative environmental effects such as anoxia (oxygen depletion) and severe reductions in water quality, affecting fish and other animal populations.

7.2 Implementation of Policy EN8 & Avoidance/Mitigation Measures

7.2.1 Policy EN8 states that proposals will not be permitted if they are likely to have unacceptable effects on health, biodiversity or amenity as a result of water pollution. As outlined above, pollution control authorities will deal directly with water pollution issues, but the LPA will need to be satisfied that the development design is compatible with pollution control requirements and will not cause water pollution issues.

7.2.2 Developers should therefore liaise with the pollution control authorities where appropriate and ensure that all necessary measures are incorporated within the design of the proposals to address any water pollution concerns. If permission is to be granted for a development, the LPA will need to be satisfied that pollution concerns have been addressed or are capable of being dealt with under the other pollution regimes.

7.2.3 In relation to the provision of drainage for new proposals, development proposals in sewered areas will be expected to connect to the main sewer, and the developer will need to show that this is feasible. Any new sewers should be built to an adoptable standard,

and developers are advised to consult sewerage undertakers in the early stages of design and planning. Only where there is no main sewer available or connection is not feasible will the use of non-mains drainage schemes be considered acceptable.

7.2.4 Applications for proposals that incorporate non-mains sewage disposal, including septic tanks and surface water drainage schemes should be accompanied by an assessment of their effects on the environment, amenity and public health[28]. Where appropriate, Sustainable Drainage Systems (SuDS) should be used.

7.2.5 The intention of SuDS is to replicate natural systems and use cost effective solutions with low environmental impact to drain away surface water run-off through collection, storage, and cleaning before allowing it to be released slowly back into the environment, such as into water courses. This is achieved by ensuring that surface water run-off is controlled as near to the source as possible while ensuring that development does not increase the risk of flooding elsewhere or increase problems of surface water run-off. It is important to ensure that land contamination is not increased or contamination mobilised as a result of a SuDS scheme, but SuDS can be an appropriate and useful technology for both brownfield and greenfield sites. More information on SuDS is provided in TAN15[29] and the SuDS Wales website[30].

28 Further advice is given in Welsh Office Circular 10/99.
29 Technical Advice Note 15: Development and Flood Risk (July 2004) - Welsh Government.
30 http://www.sudswales.com/

7 . Water Pollution

8 Habitats Regulations Assessment

8.0.1 Under the Habitats Regulations[31], any proposal that could affect a Natura 2000 site ('European Site') must be subject to Habitats Regulations Assessment (HRA) in order to ensure that no adverse effects are caused. Natura 2000 sites are sites designated under the Habitats Directive either as Special Areas of Conservation (SACs) for their habitats and species or Special Protection Areas (SPAs) for the protection of birds. Welsh Government policy also requires sites listed under the 1971 Ramsar Convention (wetlands of international importance) to be treated in the same way.

8.0.2 There are three SACs partly within the boundaries of Neath Port Talbot and a range of others in the region that could be affected by proposals in Neath Port Talbot. There is the potential for pollution resulting from new developments to impact on the SACs. This is a particular concern in relation to water and air pollution, but could also apply to other pollution types. Pollutants from developments can have adverse impacts upon the designating features of such sites in a variety of ways, and direct, in-direct or in-combination effects will all need to be considered. Where pollutants levels could result in a significant effect upon the designating features an HRA will be required to be undertaken for a proposed development.

LDP Habitats Regulations Appraisal

8.0.3 The LDP was itself subject to a HRA[32] which concluded that while the majority of the Plan policies would have no negative effects on any Natura 2000 site, two development allocations have the potential to give rise to increased levels of nitrogen deposition as a result of air pollution at three Natura 2000 sites within or near to Neath Port Talbot: Crymlyn Bog SAC, Kenfig SAC and Cefn Cribwr Grasslands SAC. The table below gives particulars of the relevant allocations.

Table 8.0.1 Employment Allocations

Policy Ref:	Site Name	Size (ha)	Use Class
EC1/1	Baglan Bay	75	B1, B2 & B8
EC1/2	Junction 38 (M4), Margam	6	B1, B2 & B8

8.0.4 Proposals relating to development on these allocations are likely to need a detailed application stage HRA depending on the nature of the proposal, and will be required not to cause any detriment to any designated site. Developers proposing schemes in these locations, or others in proximity to any SAC should contact the planning department at an early stage to discuss HRA requirements.

31 Conservation of Habitats and Species Regulations 2010 (EC Habitats Directive 92/43/EEC).
32 Habitats Regulations Appraisal for the Neath Port Talbot Local Development Plan (NPTCBC 2013).

Appendix A: Air Quality Objectives

Table A.0.1 (1) Air Quality Objectives

Pollutant	Air Quality Objective		Date to be achieved by:
	Concentration	Measured as	
Benzene	16.25 $\mu g/m^3$	Running annual mean	31/12/2003
	5.00 $\mu g/m^3$	Running annual mean	31/12/2010
1,3-Butadiene	2.25 $\mu g/m^3$	Running annual mean	31/12/2003
Carbon Monoxide	10.0 $\mu g/m^3$	Running 8-hour mean	31/12/2003
Lead	0.5 $\mu g/m^3$	Annual mean	31/12/2004
	0.25 $\mu g/m^3$	Annual mean	31/12/2008
Nitrogen dioxide	200 $\mu g/m^3$ not to be exceeded more than 18 times a year	1-hour mean	31/12/2005
	40 $\mu g/m^3$	Annual mean	31/12/2005
Particles (PM_{10}) (gravimetric)	50 $\mu g/m^3$ not to be exceeded more than 35 times a year	24-hour mean	31/12/2004
	40 $\mu g/m^3$	Annual mean	31/12/2204
Sulphur dioxide	350 $\mu g/m^3$ not to be exceeded more than 35 times a year	1-hour mean	31/12/2004
	125 $\mu g/m^3$ not to be exceeded more than 3 times a year	24-hour mean	21/12/2004
	266 $\mu g/m^3$ not to be exceeded more than 35 times a year	15-minute mean	31/12/2005

1. Airwise - Clean Air for Everyone (NPTCBC 2013)

Appendix A: . Air Quality Objectives

Neath Port Talbot
Castell-nedd Port Talbot
County Borough Council Cyngor Bwrdeistref Sirol

Local Development Plan
Cynllun Datblygu Lleol

www.npt.gov.uk/ldp