MANNOR HOMES

Evaluation of Proposed Residential Development off Cefneithin Road, Gorslas

Report Number 2081r1v1d0920

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1 INTRODUCTION

A scrap and vehicle breakers yard off Cefneithin road, Gorslas, has been in existence since the early 1960s. Over the years residential development has encroached, with more development planned. The land owner now wishes to stop operating the scrapyard, demolish the buildings, remediate the land, and replace with a modern housing development. As part of the proposed development, the surrounding undeveloped areas, which have a recognised ecological value, will be offered to the Council as an area of enhanced ecological protection.

1.1 Objective of Report

This report is to be submitted to Carmarthenshire County Council as part of their consultation on the Local Development Plan (LDP) for 2018-2033 which, currently does not include the proposed residential development. This summary report has been independently prepared to provide an assessment of the proposed change of use, from scrap yard to residential land use, on a range of environmental aspects. If the proposed residential development allocation is not successful then on expiry of the current lease agreement (2021), the scrap yard will recommence operation.

A plan of the proposed development is provided in Appendix 1.

2 CHANGE OF USE PROPOSALS

2.1 Current Scrapyard

As shown by the aerial image below, the 2.75 acre scrapyard is located close to residential properties and open space characterised by mixed marshland, grassland, scrub, mature trees, hedgerows, ephemeral ponds and small streams.

The scrapyard benefits from a Permit issued by Natural Resources Wales (NRW). This allows the site operator an annual throughput of up to 150,000 tonnes of waste each year. There are no time limits controlling when the operator should cease operating the scrapyard, and during operations there are no planning conditions restricting days or hours of operation or the height of waste storage.

The Permit allows the operator to store and treat a range of hazardous and non-hazardous waste, some of which are combustible, explosive and potentially harmful to human health and the environment. These wastes include:

Wide range of waste metals

- Polluted End of Life Vehicles (ELV) i.e. scrap cars containing explosive air bags, oil, fuel etc.
- Tyres
- Oils

- Fuels
- Printing toner containing dangerous substances
- Brake pads containing asbestos
- Oil filters
- Waste electrical and electronic equipment (WEEE) containing chlorofluorocarbons, HCFC, HFC and PCBs
- Batteries – including lead acid and mercury containing
- Cables containing oil, coal tar and other dangerous substances
- Fluorescent tubes and other mercury-containing waste

Treatment of the wastes involves depollution of waste motor vehicles, sorting, separation, grading, baling, shearing, compacting, crushing, cutting, shredding and granulating. These activities require a range of heavy plant and industrial processes including the use of:

- De-pollution equipment
- Large plant and equipment (e.g. conveyors, grabs, screens, shredders, magnets, eddy current separators, drum screens, sieves, shears, baling machines and drying equipment)
- Hot works involving the use gas cylinders
- Small, hand- held plant and equipment
- Dust extraction infrastructure
- Water sprays
- On- site vehicles (e.g. loading shovels, forklift trucks)
- Weighbridge
- All associated ancillaries, including areas for vehicle turning, reversing and parking

Under normal operating conditions, vehicle movements are estimated to involve 128 Heavy Goods Vehicles (64 in and 64 out) and 250 cars and Light Goods Vehicles (125 in and 125 out).

The scrap yard operation will re-commence at the end of the current lease period (late 2021), if the land is not allocated for residential development in the interim.

2.2 Proposed Residential Development

The indicative site layout submitted proposes up to 120 units spread over 10.40 acres (60% of the whole site), and 7.1 acres of land set aside for ecological protection and enhancement (40% of the site). Additional provision would be made for a fully equipped play area if required. The scheme is outlined in Appendix 1 with schematics presented below.

Ahead of the development, the brownfield areas of the site would first need to be subjected to detailed evaluation and remediation as required. The ecological area would also be subject to detailed design so that habitat creation provides optimum benefit.

The development does not require the development of good quality agricultural land and is easily accessible off Cefneithin Road with good road access to the M4 and is close to a range of local facilities, employment centres and utility connections. An estimated 532 car movements is estimated for a development of this nature and scale.

3 EVALUATION OF PROPOSED CHANGE OF USE

3.1 Assessment Methodology

This report considers the effect of the proposed change of use on the following aspects:

- Land Quality
- Controlled Water
- Landscape
- Noise and Vibration
- Fire
- Air Quality
- Odour and Pests
- Litter and Mud on Road

Highways and transport impacts and matters of ecological interest are dealt with in detail in separate, specialist reports.

The impact of the scrap yard and proposed residential development on each aspect are presented alongside each other in a series of tabulated matrices to provide the reader with a ready means of direct comparison. This is achieved by identifying risks using the conventional source-pathway-receptor model, evaluating risks as either non-existent, low, medium or high and providing an overall assessment of the proposed change of land use. This latter aspect is categorised according to the criteria summarised in Table 3-1.

Table 3-1 Overall Impact Ranking

Predicted effect of change of use	Symbol
Positive – residential development would have an overall positive impact	++
Neutral – change of use would not strongly influence current impact	+/-
Negative – residential development would have an overall detrimental impact	--
Uncertain – further assessment required	?

The focus of the assessment is on a comparison of potential long-term effects as the change of use would be implemented using conventional construction methodologies and would be short-term and temporary.

3.2 Land quality

3.2.1 Scrapyard Operation

The site was first identified as a metal breakers yard in 1962, and apart from short periods it has essentially been in continuous operation since this time. Prior to the site being used as a scrap yard the site was a greenfield site.

The site is currently level and is mostly surfaced with concrete. The material used to create this level platform is of unknown origin and during the life of the operation, since the 1960's, scrap metal processing activities have occurred on gravel hardstanding that is largely permeable to fluids such as rain water, oils and fuels. As environmental regulations have tightened over the years then the site has become increasingly protective of land quality.

The current brownfield site is likely to be underlain by infill of unknown origin that is likely to have been impacted, to some extent, by the scrap metal operations that have occurred over the past six decades. Incidents of oil spillage and leakage are known to have occurred. Details of several known incidents are summarised in Table 3-2. These are logged by Natural Resources Wales (NRW).

Table 3-2 Known Incidents

Year	Details
April 1991	Heavy fuel oil leakage (minor incident)
September 1991	Unknown spillage (significant incident)
2001	Unknown spillage (significant incident)
2002	Fire water run-off incident (significant incident)
2011	Oily residue observed. Perhaps historic contamination at the site
2013	Oil and grease visible
May 2013	Visible oil identified in the ditch outside permit boundary
July 2014	Oil residue in the dry ditch upstream of the oil interceptor discharge point. No obvious source identified. Perhaps historic contamination at the site

3.2.2 Residential Development

The proposed residential development would require the existing brownfield land underlying the scrap yard to be investigated and appropriately remediated, as required, to ensure that it is suitable for use and no longer poses a risk to the environment. Once constructed, the proposed development would not pose a significant risk of land contamination.

A comparison of the proposed change of use on land quality is summarised in Table 3-3.

Table 3-3 Evaluation of proposed change of use on land quality

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability**	**Consequence**	**Magnitude of risk**	**Justification**	
Land quality	Infilled ground of unknown origin	Contamination of land	Placement of fill materials	High	Medium	High	There is likely to be infilled ground and there are known to have been pollution incidents	Low	Low	Low	Residential development will not typically generate significant land pollution. Brownfield land would be made suitable for use as part of proposals.	++
Land quality	Spillage and leakage from scrap yard	Contamination of land	Seepage through ground	High	Medium	High		Low	Low	Low		++

3.3 Controlled Water

The nearest surface water feature is a stream just to the southwest of the site. This tributary stream joins the Gwendraeth Fawr approximately 150 metres to the south of the site.

The geology beneath the site is classified as a Minor Aquifer with soils of low permeability drift deposits with low leaching potential. Shallow ground water present beneath the site may be in hydraulic continuity with the local surface watercourses.

There are no licensed abstractions in the vicinity of the site.

3.3.1 Scrapyard Operation

Over the past 10-20 years improvements to surface water drainage at the site have resulted in surface water now passing through an oil/water interceptor in the southwest corner of the site before the emission drains to the surface water stream. High suspended solids and oils and greases have been observed in the discharge at times along with the incidents identified in Table 3-2.

3.3.2 Residential Development

The residential development will incorporate Sustainable Urban Drainage Systems (SUDS) to ensure rainfall run-off water quality and volumes are controlled. Each property will be connected to mains sewer.

A comparison of the proposed change of use on controlled water is summarised in Table 3-4.

Table 3-4 Evaluation of proposed change of use on controlled water

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
All surface waters close to and downstream of site.	Spillage/ leakage of liquids, contaminated rainwater run-off from waste	Acute and chronic effects on water quality and ecology	Direct run-off through site or discharge from drainage system	Low	High	Medium	Most of site currently concrete and drainage passes through oil/ water interceptor	Low	Low	Low	Quantities of potentially hazardous materials present will be low in residential development. Little risk of significant spillage/ leakage. Properties will be served by sewer.	++
Groundwater below site	Spillage/ leakage of liquids, contaminated rainwater run-off from waste	Groundwater pollution	Infiltration through underlying ground	Low	Medium	Low	Site mostly covered by concrete and underlain by soils of potentially low permeability. Groundwater is a minor aquifer.	Low	Low	Low		++

3.4 Landscape

3.4.1 Scrapyard Operation

The scrap yard is located off Cefneithin Road which runs between Gorslas Square and Cefneithin. Apart from the stretch of road immediately alongside the scrap yard, the road is fronted by residential development of various depth off the road. In the immediate vicinity, the site is directly opposite open greenfield agricultural land to the north. This greenfield land is a proposed residential allocation in the Draft LDP and will be directly opposite the scrap yard and its access / exit. The greenfield land allocated for housing forms part of a larger greenfield area that runs for many miles north and includes Llyn Llech Owain Country Park and wider open countryside / good agricultural land. To the east, south and west of the site is mixed scrub and mature trees providing local habitat. This triangular wedge of land is constrained in the west by the A48, which runs at short distance along the full western boundary at an elevated position, and residential properties to the south and east.

The scrap yard is the only waste operation comprising heavy machinery in the area and the only large commercial operation off the Cefneithin road. The site, stockpiles of metals, processing sheds and heavy machinery would be directly visible off the A48 (as they were for many years), and within 100m of residential properties, with others proposed to be constructed directly opposite on greenfield land.

3.4.2 Residential Development

The proposed development would comprise a mix of residential properties and a 7.1 acre ecological area intended to preserve and enhance the current habitat.

A comparison of the proposed change of use on the landscape is summarised in Table 3-5.

Table 3-5 Evaluation of proposed change of use on landscape

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
Visual landscape	Piles of metal, processing sheds, heavy machinery and vehicle movements alongside greenfield areas and residential properties	Nuisance / visual impact compared to surroundings	Visual impact	Medium	Medium	Medium	Scrap metal operation is unique in local residential / agricultural area and in close proximity to residents / A48.	Low	Low	Low	Residential development would be in keeping with other local land uses	++

3.5 Noise & Vibration

3.5.1 Scrapyard Operation

During the operation of a scrapyard the generation of noise is unavoidable due to the heavy plant required for handling, tipping, cutting and crushing, machinery required for processing, plant manoeuvring and the nature of the metal wastes. In addition, the delivery and off-take of the materials requires a range of vehicles entering and leaving for site, each generating noise. There are estimated to be over 120 HGV movements passing the residential neighbours each day.

These vehicle movements and operations can occur from early in the morning until evening, and at weekends. Noises associated with such activities includes impulsive noise, such as hammering, tapping and clattering and continuous noise, like the drone of machinery, throughout the working day. Despite the operation being subject to the legal controls of a Permit, apparently noise complaints have been made in the past.

3.5.2 Residential Development

The proposed residential development would comprise residential properties, gardens, access roads, and an ecology enhancement area. In such a setting, noise sources would typically include street noise, children playing, people moving in and around their homes and properties - closing doors / gates / garages / cutting lawns, and wildlife. There would also be temporary domestic renovation / construction work.

Beyond 2035, diesel cars are expected to be phased out and to be replaced with quieter electrical / hybrid vehicles.

A comparison of the proposed change of use on noise is summarised in Table 3-6.

Table 3-6 Evaluation of proposed change of use on noise

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
Local residents	Noise and vibration associated with materials handling, processing and trafficking	Nuisance, loss of amenity, loss of sleep.	Noise through the air and vibration through the ground.	Medium	Medium	Medium	Residents often sensitive to noise. Some residents <100m away from site boundary with many along traffic routes. No constraints on hours of operation or number of traffic movements.	Low	Low	Low	Modern residential development not likely to be significant source of nuisance noise level under normal conditions.	++

3.6 Fire

3.6.1 Scrapyard Operation

Operators of scrap metal facilities are required to operate their facility in accordance with a Fire Prevention and Mitigation Plan. Such plans are intended to set out the measures taken to avoid a fire starting in the first instance and the actions to be taken to bring an incident under control. Measures will include separating different wastes, keeping stockpiles small, properly housing certain combustible / flammable / explosive wastes, ensuring only permitted waste is accepted for storage and ensuring all plant and machinery is properly maintained.

Despite these control measures, fires at waste sites, including scrap metal sites, are not uncommon and the site at Cefneithin is no exception as fires are known to have occurred on several occasions over the past 20 years. This includes a major incident that required a large number of fire tenders, caused disruption to local residents, and temporary closure of the A48. Fire water also escaped the controls of the site. There was a fire at the site as recently as 2020, considered to be linked to unauthorised access and arson.

3.6.2 Residential Development

Fire in the proposed development would likely be limited to a single dwelling or vehicle. Further, all modern homes are fitted with sprinkler systems.

A comparison of the proposed change of use on fire risk is summarised in Table 3-7.

Table 3-7 Evaluation of proposed change of use on fire risk

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
Local residents	Release of dust and smoke.	Harm to human health (respiratory irritation and illness).	Air transport and inhalation	Medium	Medium	Medium	Significant fires have occurred at site but control measures in place. Residents are in close proximity	Low	Low	Low	Likelihood of major fire incident lower in residential development	++
Local residents	Release of dust and smoke.	Nuisance e.g. dust on car, clothes. Told to stay inside.	Air transport then dust fall out	Medium	Medium	Medium		Low	Low	Low		++
Local habitat	Release of dust and smoke.	Nuisance and smothering e.g. dust on plants	Air transport then dust fall out	Medium	Low	Low		Low	Low	Low		++

3.7 Air Quality

The site is not within an Air Quality Management Area.

3.7.1 Scrapyard Operation

Most of the plant operating at the scrapyard will typically generate localised particulate matter and diesel emissions. All vehicles delivering and removing materials would also produce emissions.

During a fire incident, air quality would also be temporarily impacted.

3.7.2 Residential Development

Residential vehicles will likely be the main source of emissions from the proposed residential development. There is increasing demand for diesel cars to be phased out by 2035.

A comparison of the proposed change of use on air quality is summarised in Table 3-8.

Table 3-8 Evaluation of proposed change of use on air quality

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
Local residents	Exhaust emissions from vehicle movements and on-site heavy machinery	Nuisance. Harm to human health (respiratory irritation and illness).	Air transport and inhalation	Medium	Medium	Medium	Range of heavy machinery and vehicles used in operation close to residential properties.	Low	Medium	Low	Less emissions estimated for residential development as there will be no heavy machinery and vehicle movements dominated by cars.	

3.8 Odour and Pests

3.8.1 Scrapyard Operation

Under normal operating conditions, nuisance from odour and pests is not commonly associated with scrap metal operations. Exceptions can occur if biodegradable waste is incorporated with the waste stream. This could occur when post-consumer steel cans (containing residual food) or waste electrical goods, such as a fridge containing waste food, are accepted. These wastes can be accepted at the site.

3.8.2 Residential Development

Odours are not normally associated with residential developments. Exceptions can occur if there are delays in refuse collection, if some properties are not well maintained or if dog foul bins are not routinely emptied.

A comparison of the proposed change of use on air quality is summarised in Table 3-9.

Table 3-9 Evaluation of proposed change of use on odour and pests

Maintain current position - operate scrapyard								Adopt proposed residential development				Overall
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	
Local residents.	Biodegradable waste fraction	Nuisance, loss of amenity.	Air transport then inhalation (odour). Off-site migration of pests.	Low	Low	Low	Local residents often sensitive to odour and pests, however permitted waste types have low odour / pest potential.	Low	Low	Low	Residential development not likely to be a significant source of odour / pests	+/-

3.9 Litter and Mud on Road

3.9.1 Scrapyard Operation

Due to the heavy nature of most metals, light fraction litter that can be wind-blown off-site is not normally a significant cause for concern. Exceptions can, however, occur when light fraction fluff and residues are removed from polluted End of Life vehicles and wastepaper / card packing from some metallic waste streams. As with mud and fine residues, these can be tracked off-site during vehicle movements.

3.9.2 Residential Development

Significant litter and mud problems would not be expected in most residential areas, with roads subject to sweeping and play areas provided with refuse bins.

A comparison of the proposed change of use on air quality is summarised in Table 3-10.

Table 3-10 Evaluation of proposed change of use on litter and mud on road

Maintain current position - operate scrapyard								Adopt proposed residential development				
Receptor	**Source**	**Harm**	**Pathway**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Probability of exposure**	**Consequence**	**Magnitude of risk**	**Justification**	**Overall**
Local residents	Litter	Nuisance and loss of amenity	Air transport then deposition.	Medium	Medium	Medium	Local residents often sensitive to litter.	Low	Low	Low	Residential development not likely to be a significant source of litter or mud on roads	++
Local human population.	Mud / waste on local roads.	Nuisance, loss of amenity, road traffic accidents.	Vehicles entering and leaving site.	Medium	Medium	Medium	Local residents often sensitive to mud on roads.	Low	Low	Low		++

4 SUMMARY

There has been a scrap and vehicle breakers yard off Cefneithin Road, Gorslas since the early 1960s. Over the years the site has become increasingly regulated whilst at the same time, residential development has encroached, with a further proposed allocation on greenfield land directly opposite.

Despite the operation being regulated by an Environmental Permit, the site activities have impacted land and surface water quality, caused noise complaints and caused fires that have disrupted local highways and residents.

There is now an opportunity for residents to benefit from the closure of the yard as the landowner wishes to redevelop the brownfield site into a readily accessible modern housing development. As part of the proposed development, the adjoining undeveloped areas, which have a recognised ecological value, will be enhanced and protected.

This independent assessment has demonstrated that there is an overall positive impact of the proposed change of use with the housing development posing less direct risks to the environment compared with the scrap yard. This is summarised in Table 4-1.

Table 4-1 Summary Assessment of Proposed Change of Use

	Overall effect of change of use	**Potential improvement linked to change of use from scrap yard to residential**
Land Quality	++	Brownfield land made suitable for use with lower risk to environment
Controlled Water	++	No storage of potentially polluting fluids or direct discharge from scrap yard Little prospect of significant fire incident and run-off of fire water
Landscape	++	Stockpiles of metal and industrial sheds replaced by housing and associated planting
Noise and Vibration	++	Reduced noise levels due to cessation of scrap operation and less intrusive traffic movements (less HGVs)
Fire	++	Little prospect of significant fire incident in residential development
Air Quality	++	No heavy machinery with associated emissions in residential development. Vehicle movements dominated by cars rather than trucks and HGV.
Odour and Pests	+/-	Little change to risk profile as current operation not significant source of odour or pests due to nature of metal wastes
Litter and Mud on Road	++	Residential development will not be significant source of litter or mud on road

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Evaluation of Proposed Residential Development off Cefneithin Road, Gorslas

Appendix 1
Proposed Development Plan

Report Number 2081r1v1d0920

Flood zone 1

Flood zone 2

Proposed ecological zone

grassland / marsh zone

Sinks

Sinks

160m

CEFNEITHIN ROAD

pavement widened

2.4 x 90m vision splay

REALIGNED DCWW DRAINAGE LINE AND EASEMENT

pavement widened

BM 164.53m

Shelter

Dolwar

Teglan

Riverside

Hynfa

Olwerdd

Arlyn

Ardwyn

Blancatrrie

Cwm-

PHASE 1

PHASE 2

2 Bed

3 Bed

4 Bed

ACCESS ROAD

RISING MAIN

5m

2m

minor ditch diverted

existing water course / drainage ditch

10m

SW attenuation zone

pumping station

powerline redirected underground

160m

Well

Developed site area 42,270m2
60% of site area

current residential allocation

Site boundary 71,000m2
(28,730m2 non-developed
40% of site area)

Ecology 'gift' area 28,730m2
40% of site area

L.E.A.P / L.A.P removed	28.09.20	O
areas added	17.09.20	N
layout amended	15.09.20	M
areas elaborated	08.04.20	L
areas added	18.03.20	K
layout amended	11.03.20	J
new areas added	27.02.20	I
yellow boundary added	05.02.20	H
layout updated	31.07.18	G
ecology zones enlarged	15.05.18	F
layout updated	08.05.18	E
layout updated	02.05.18	D
layout updated	01 05 18	C
layout updated	25 04 18	B
drainage line added	17 04 18	A

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Project	Drawing Title	Scale	Job No.	Dwg No.	Rev
CLDP Proposed Residential Allocation on land off Cefneithin Road, Gorslas	Propsed Site Layout	1:1250 @ A3	J18/03	SK03	O

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