

POLLUTION PREVENTION PLAN

IN RESPECT OF THE PROPOSED RESIDENTIAL DEVELOPMENT OF 16 DWELLINGS (INCLUDING 3 AFFORDABLE), ON LAND OPPOSITE LLANDDAROG VILLAGE HALL, LLANDDAROG, CARMARTHENSHIRE.

FOR D.H.W. DAVIES LTD.

SWO 02/05/2019

Introduction.

This Pollution Prevention Plan has been prepared to provide details of the provisions for the management and prevention of pollution throughout the construction phase of the proposed residential development on land opposite Llanddarog Village Hall, Llanddarog, Carmarthenshire.

The principal contractor for the works will ensure that the actions contained in this Pollution Prevention Plan (PPP), are fully complied with throughout the construction process.

The development site is of approximately 0.88 hectares, and adjoins the north western boundary of Cysgod y Llan, a detached property on the southern flank of the B4310 as it runs in a northerly direction out of the village of Llanddarog. The rectangular parcel of land is currently in rough pasture but has mature hedgerow around its periphery. In terms of topography, the land falls gently from the road frontage to the southern boundary.

Outside the site to the west and south lie open fields, whilst to the east beyond Cysgod y Llan runs a minor road with significant residential development along either flank. On the opposite, northern frontage of the B4310 lies the historic core of Llanddarog, grouped around the Church of St. Twrog, and including the post office/general store, two public houses/restaurants, and directly opposite the application site, the village hall.

Pollution Prevention

Pollution may be defined as the introduction of a contaminant into **air, land** or **water**, resulting in an impact (generally negative), to the ecosystem into which the substance is released.

Pollution may arise as a result of poor planning and implementation of management procedures associated with traffic, plant and materials handling, waste management, surface water and drainage management, and concrete management.

An environmental incident which pollutes the local environment will typically be, but not limited to, the following examples:

- Minor oil spills away from watercourses.
- Not working in accordance with specific environmental procedures designed to prevent pollution during works.
- An event or series of events which contribute towards causing environmental harm e.g. oil spillage leading to an adjacent watercourse.
- A breach of consent or planning conditions.

There are a number of potential sources of pollution from construction works which may adversely impact upon both terrestrial and aquatic ecosystems:

- Run off from exposed ground, excavations or materials stockpiles (silt).
- Cement and cement wash from concrete batching plants, storage areas, and other areas where cement, grout or concrete is being applied.
- Plant washing and vehicle wheel wash areas.
- Fuel and chemical storage/refuelling areas.
- Leaking/vandalised plant and equipment.
- Sewage and waste water from construction compound.

Pollution from fuels, cement run-off, other chemicals, silt or other particulate matter can pose a significant risk to both terrestrial and aquatic habitats, potentially resulting in direct mortality of fish, fowl, animals, invertebrates and vegetation, as well as longer term effects on fresh water and ecology.

Construction Dust & Air Pollution Management

The objective is to carry out the works in such a way that emissions of dust and other pollutants, including odour, are limited, and that best practice means are employed to avoid the creation of a statutory nuisance and risks to human health, and to avoid unnecessary impacts on sensitive habitats.

The measures outlined below may be taken as representing the Dust and Air Pollution Management Plan required by the Code of Construction Practice (April 2016)(as amended).

Key construction activities with the potential to create dust include:

- Subsoil stripping.
- General excavations.
- Importation of materials.
- Handling of aggregates.
- Materials storage.

Due to the topography of the site, presence of tree lines, and distances involved, together with the nature and scale of build - the risk of dust nuisance likely to be experienced by all receptors within a 50 metre radius of the site boundaries is considered to be low, whilst the dust nuisance potential for receptors within 100 metres and within 200 metres is considered to be non existent.

- Management & Mitigation Measures.

The following commitments relating to dust and air pollution during construction will be made and delivered by implementation of this Plan.

- Throughout the construction process, Best Practice Measures will be implemented to prevent pollution.
- The Principal Contractor will implement and employ Best Practicable Means to control dust and air quality pollution.
- The Principal Contractor will implement this Dust and Air Quality Management Plan to limit dust and air pollution from the transportation and storage of materials, and to limit emissions from construction plant and vehicles.

- Traffic routing, site access points, and hours of operations will be discussed and agreed by the Principal Contractor to minimise potential impacts on local receptors.
- Where required during periods of dry weather irrigation measures will be implemented on stockpiled materials.
- Where there is risk of fugitive dust arising from site works, water spray systems may also be set up near the site boundary.
- Work areas will be planned to locate machinery and dust causing activities away from sensitive receptor locations, where reasonably practical.
- Construction Plant and Vehicles.

The measures to be implemented to limit emissions from construction plant and vehicles will include the following, as appropriate.

- The Principal Contractor will operate construction plant in accordance with the manufacturer's written recommendations.
- All vehicles and plant will be switched off when not in use.
- Vehicle and construction plant exhausts should be directed away from the ground where possible, and be positioned at a height which facilitates appropriate dispersal of exhaust emissions.
- The movement of construction traffic around the site will be kept to the minimum reasonable for the effective and efficient operation of the site and the construction project.
- Construction plant will be located away from site boundaries which are close to sensitive receptors where reasonable and practicable.
- The Principal Contractor will avoid use of diesel or petrol powered generators by using mains electricity or battery powered equipment where reasonable and practicable.
- Cutting and grinding operations will be conducted using equipment and techniques which reduce emissions and incorporate appropriate dust suppression measures.
- The Principal Contractor will employ appropriate measures to keep roads and accesses clean.

- Transportation, Storage and Handling of Materials.

The measures to be implemented to limit pollution from the transportation and storage of materials include the following, as appropriate.

- The Principal Contractor will employ measures such as covering materials deliveries or loads entering/leaving the construction site, by a fixed cover or sheeting appropriately fixed and suitable for the purpose of preventing materials and dust spillage.
- Vehicles transporting materials within or outside the construction site are not to be overloaded.
- Where appropriate, stockpiles and mounds will be kept away from the site boundary, root protection zones, sensitive receptors, watercourses and surface water drains, and sited to take into account the predominant wind direction.
- Stockpiles and mounds will be at a suitable angle of repose and avoid sharp changes in shape to prevent material slippage.
- Materials stockpiles will be enclosed, or securely sheeted, or kept watered under the supervision of the Principal Contractor, as appropriate.
- The Principal Contractor will cover any long term stockpiles which may give rise to a risk of dust or air pollution, with appropriate sheeting, or will stabilise the surface of the stockpiles.
- Where reasonably practicable, and where appropriate storage in accordance with the requirements for covering materials set out above is not practicable, or cannot be implemented, then all fine dry material (under 3mm particle size) will be stored inside buildings or enclosures.
- The number of handling operations for materials will be kept to the minimum practicable.
- The Principal Contractor will use appropriate measures such as watering facilities to prevent or reduce escape of dust from, and on to, the site boundaries.
- Mixing of grout or cement based materials will be undertaken using a process suitable for the prevention of dust emissions.

- Haul Routes.

The measures undertaken to construct and maintain haul routes include the following, as appropriate.

- The surfacing of haul routes will be appropriate to avoid dust emissions as far as practicable, taking into account the intended level of trafficking. This will be primarily through the lay down of 100mm stoned “run out” areas leading up to points of access on to the public highway. This will serve to loosen and remove material and mud from plant and vehicles before they reach the carriageway.
- The Principal Contractor will maintain the surface of haul routes in use in a condition appropriate to the surface material, and fit for the purpose of suppressing dust emissions.
- The Principal Contractor will carry out regular and frequent inspections of all haul routes, and promptly carry out any repair that may be required.
- Whenever reasonably possible the Principal Contractor will reuse haul route surfacing materials if the location of the haul routes change during the construction process.
- The Principal Contractor will provide areas of hardstanding at site access and egress points, for the use of waiting vehicles.
- The Principal Contractor will use all reasonable and appropriate methods to clean and suppress dust on haul routes and in designated waiting areas. The frequency of cleaning will be suitable for the purposes of suppressing dust emissions on, and adjacent to site boundaries.

e)Excavation and Earthworks Activity.

The measures to limit dust pollution from excavations and earthworks activities include the following as appropriate.

- The timing of subsoil stripping shall be as close as is reasonably practicable to the period of excavation or other earthwork activities in order to minimise risks associated with run off or dust generation.

- Drop heights from excavators to vehicles involved in the transport of excavated material will be kept to the minimum practicable to control dust generation associated with the fall of materials.
- The Principal Contractor will use all appropriate and practicable methods to suppress dust emissions during excavation and earthworks.
- The Principal Contractor will compact deposited materials, with the exception of topsoil, as soon as possible after deposition.

f) Processing Materials Delivered Activities.

The measures to limit dust pollution associated with the processing of delivered materials within the development site will include the following, as appropriate.

- The Principal Contractor will comply with the requirements of Code of Construction Practice (April 2016) (as amended).
- Drop heights from delivery vehicles, from excavators to any crushing plant, and from crushing plant to stockpiles will be kept to the minimum practicable in order to minimise and control dust generation associated with the fall of materials.
- All appropriate measures will be undertaken in relation to any processing, cutting or grinding activities on site, in order to minimise dust pollution.

The Prevention of Ground or Water Pollution

In conjunction with the foregoing Dust and Air Pollution Management Plan, the following measures will be undertaken to prevent ground or water pollution or adverse affect on matters of ecological interest. If a **source** of pollution becomes an inevitability, then planned prevention can interrupt the **pathway** to the **receptor**.

General Pollution Prevention Measures

- Any material or substance which could cause pollution, including silty water, will be prevented from entering surface water drains, soakaways, and any swales or rain gardens on, or adjacent to, the development site (there are no watercourses in the proximity of the development). This by the use (and

appropriate placement of), straw bales, silt fences, cut off drains, silt traps and drainage vegetated areas, as appropriate.

- Dwelling roof and drive/parking area surface water run off will be collected via on plot gravity sealed piped networks and discharged into soakaway pits constructed within the rear garden area of each dwelling (see Drainage Strategy report).
- Surface water from the adoptable carriageways and footpaths will be collected via gully pots with silt traps whilst all private driveways will be porous.
- A 20 metre buffer zone from all mature trees is to be maintained from any refuelling or storage site. Drip trays/spill kits are to be available at all these sites, and positioned to prevent the downward percolation of contaminants to natural soils and groundwater.
- Any storage of fuel/oil/chemicals is to be contained within a bund of 110% capacity with an impervious base. Rainwater shall not be allowed to accumulate to compromise the stated capacity.
- Any site compounds, parking and turning areas, or vehicle and equipment washing areas are to be sited at least 20 metres from any mature tree.
- All waste and stockpiled materials will be stored in designated areas and isolated from any surface water drains or soakaways.
- The use of cut off ditches, silt fences, silt traps and drainage to vegetated areas will be employed as required or appropriate in areas of excavation, exposed soils, stockpiling, dewatering and plant and wheel washing.
- In the event of a pollutant spillage on site, the material will be contained, using an absorbent material such as sand or soil or commercially available booms, and thereafter disposed of as contaminated waste
- During construction activities there is potential for hydrocarbon pollution to be present from plant machinery. It will be the responsibility of the contractor to ensure all plant is appropriately serviced and inspected daily. The Principal Contractor will ensure that sufficient numbers of spill kits will be positioned at all risk areas. These are to be checked daily by the Site Manager and recorded on the site's environmental checklist form. The spill kits will be clearly labelled and the materials (contents) listed and kept up to date, along with the spill procedure details. All spill kits are to be labelled on a location plan which is to be updated regularly to reflect any changes.

- Used materials from spill kits will be disposed of appropriately and replaced immediately. Appropriate waste facilities will be available for contaminated materials. These will be kept separate from any other non contaminated wastes.
- The construction site will, where possible, use double bunded plant or equipment. Where this is not available, there will be an additional method of containment to ensure no pollution or spillages occur. This may be in the form of plant nappies and/or drip trays. Where drip trays are used, suitable methods for emptying will be employed, such as by hand held pump, with the containment water disposed of correctly. The trays will be checked daily (more often during wet weather), to ensure there is no build up of contained water overspill from the tray.
- Any bulk fuel tanks will be adequately protected (including concrete bund), to prevent major spillage in the event of hose failure or other equipment malfunction. The protection will include the use of sandbags and booms to create a protective barrier around the equipment. Alternatively, proprietary bunded tanks will be used.
- Initial plant set up will be checked. The amount of fuel in tanks on arrival will be recorded. Only authorised personnel may have access to generator enclosures and they must be kept locked at all times.
- A wheel wash facility will be installed as required. All vehicles carrying waste away from the site must be covered.
- A Personnel Site Induction and on going Tool Box Talks will make specific reference to required pollution prevention measures as detailed above. All works will be carried out in accord with best practice and will aim to prevent damage to any trees, avoid any ground contamination, prevent deterioration in the ecological status of surface waters and to avoid compromising the restoration potential of such waters.
- An emergency preparedness and response procedure (to be defined by the Principal Contractor), will be followed in the event of an emergency on site. The emergency preparedness plan will ensure that the relevant staff are aware of their responsibilities and the processes to be followed in the event of a possible, probable, or actual incident involving pollution on the land or into the adjacent watercourse.
- The Site Manager will undertake weekly Health, Safety, and Environmental Inspections to ensure the procedures listed above are followed.

The primary reference in the preparation of this document has been;

Net Regs

Guidance for Pollution Prevention GPP5 Version 1.2. (February 2018).

Section 2 Silt

Section 3 Concrete, Cement & Grout

Section 4 Oil and Chemicals

The Principal Contractor will be mindful of the guidance therein, throughout the development process.